Anglia Square, Norwich Environmental Statement

Chapter 1: Introduction and EIA Methodology

Iceni Projects Limited on
behalf of Weston Homes PLC

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1. INTRODUCTION AND EIA METHODOLOGY

Introduction

1.1 This Environmental Statement (ES) has been prepared by Iceni Projects and a team of technical experts on behalf of Weston Homes PLC (the 'Applicant'). The ES accompanies a hybrid planning application submitted to Norwich City Council ('NCC') for the comprehensive redevelopment of land known as 'Anglia Square' and various parcels of mostly open surrounding land (the 'Site').

1.2 The Site is located in the northern part of Norwich city centre and comprises 4.6 hectares ('ha') in area. The Site location is shown within a red line on drawing '35301-ZZ-00-DR-A-01-0200' in Figure 1.1 (and at Appendix 3.1).

1.3 This chapter is accompanied by the following technical appendices:

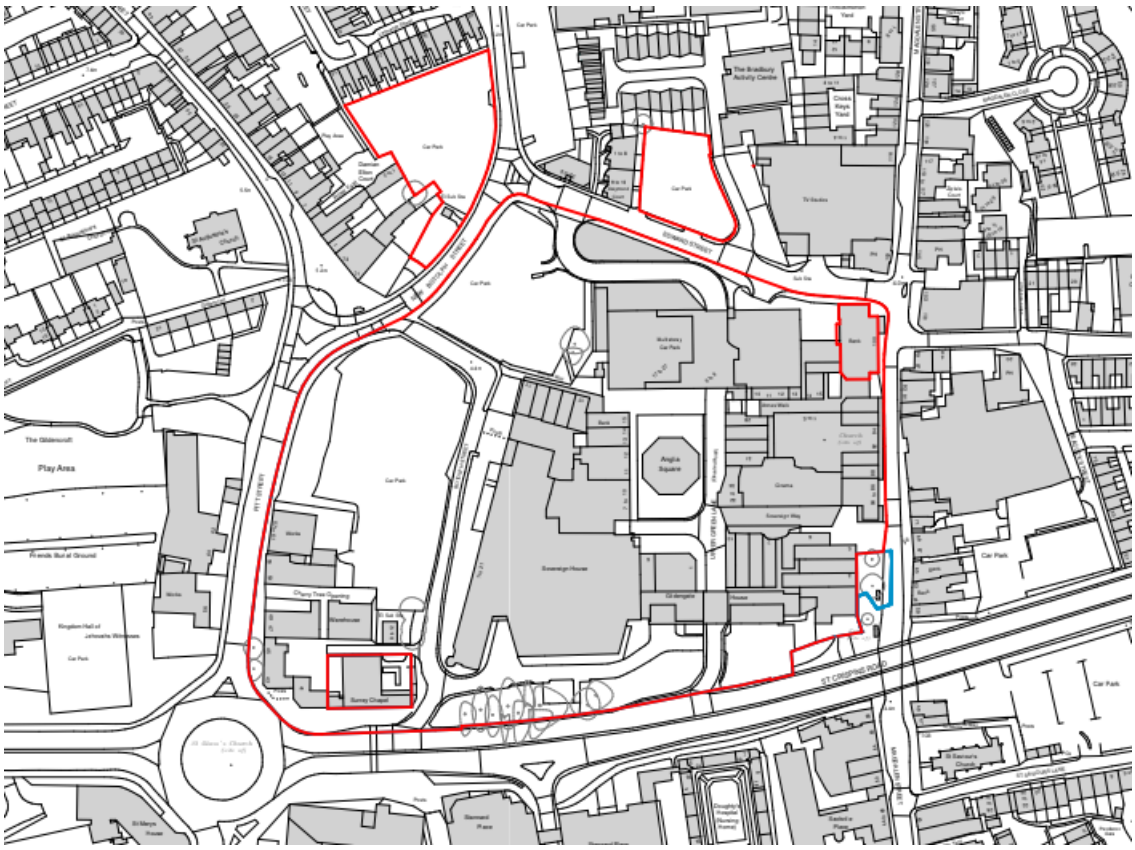
- Appendix 1.1: Location of Specified Information in the ES;
- Appendix 1.2: EIA Scoping Report (November 2021);
- Appendix 1.3: EIA Scoping Note (January 2022);
- Appendix 1.4: NCC EIA Scoping Opinion (January 2022);
- Appendix 1.5: Cumulative Schemes; and
- Appendix 1.6: Competency Statement.

Overview of the Proposed Development

1.4 The Applicant is seeking hybrid (part outline, part detail) planning permission for the comprehensive redevelopment of the Site to provide up to 1,100 dwellings and up to 8,000sqm (NIA) flexible retail, commercial and other non-residential floorspace including Community Hub, up to 450 car parking spaces (at least 95% spaces for class C3 use, and up to 5% for class E/F1/F2/Sui Generis uses), car club spaces and associated works to the highway and public realm areas (the Proposed Development).. These figures are maxima in view of the hybrid nature of the application. This proposes part of the scheme designed in full, to accommodate 367 dwellings, 5,808 sqm non-residential floorspace, and 146 car parking spaces (at least 95% spaces for residential use, and up to 5% for non-residential use), with the remaining large part of the Site for later detailed design as a "Reserved Matters" application, up to those maxima figures.

1.5 A more detailed description of the Proposed Development is provided in **Chapter 3: Proposed Development, Demolition, Construction and Description of Alternatives**.

Figure 1.1: Site Location



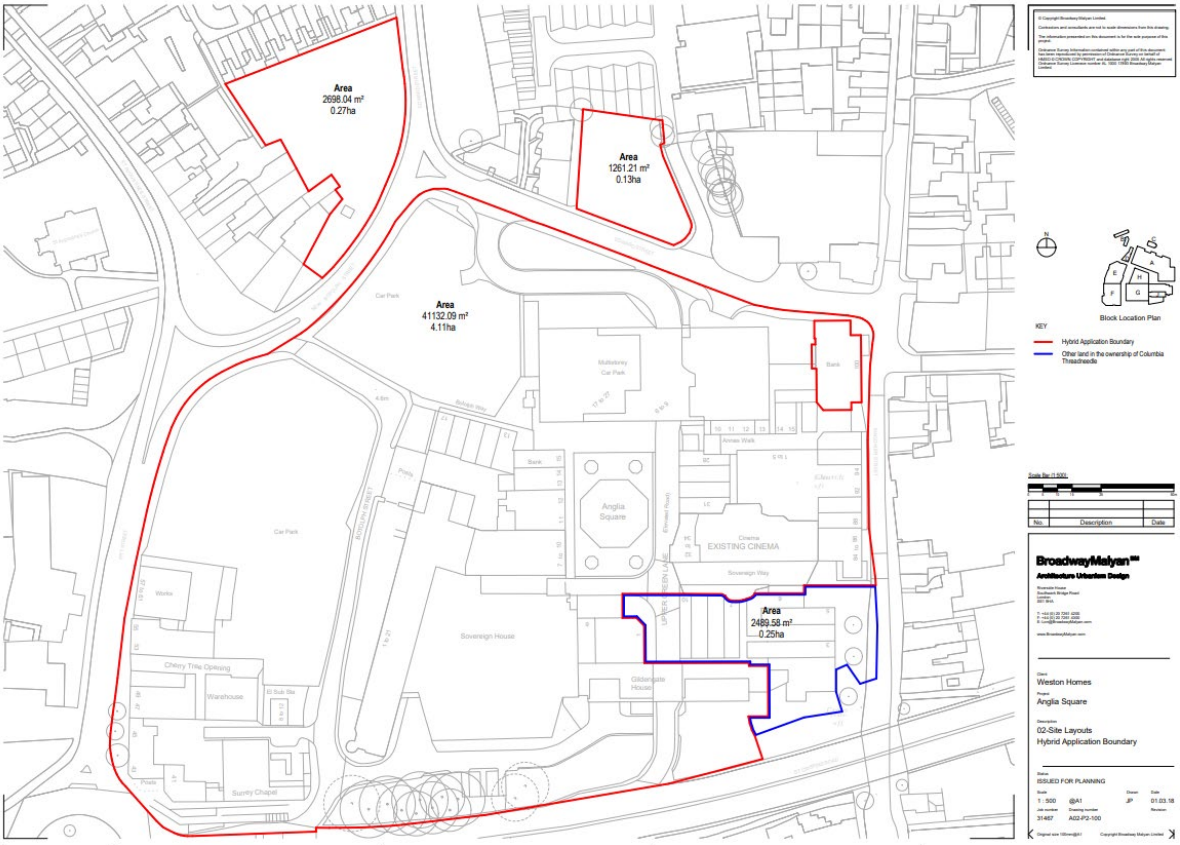
Site Background and Planning Context

The 'Call in Scheme'

1.6 The Proposed Development follows a previous application in March 2018 on a somewhat smaller development parcel, (NCC Ref. 18/00330/F) made jointly by Weston Homes Plc as development partner and Columbia Threadneedle Investments, (CTI), the Site's owner, for a residential-led mixed use scheme consisting of up to 1,250 dwellings with decked parking, and 11,000 sqm GEA flexible ground floor retail/commercial/non-residential institution floorspace, hotel, cinema, multi-storey public car park, place of worship, and associated public realm and highway works. This was subject to a Call-in by the Secretary of State (PINS Ref. APP/G2625/V/19/3225505) who refused planning permission on 12th November 2020, (the 'Call in Scheme').

1.7 The site measured 4.5 hectares and included three parcels of land, with most of the application site comprising the existing Anglia Square shopping centre and associated adjoining land. The 2018 site boundary is shown in Figure 1.

Figure 1.1 2018 Site Boundary



1.8 Regarding the Environmental Statement, the appeal decision notice (dated 12 November 2020) states "*the Secretary of State is satisfied that the Environmental Statement, and other additional information provided, complies with the EIA Regulations and that sufficient information has been provided for him to assess the environmental impact of the proposal"*.

1.9 The Call-in-Scheme is described further in **Chapter 3: Proposed Development, Demolition, Construction and Description of Alternatives**.

Progress since the Call in Scheme

1.10 In April 2021, following new negotiations with Site owner CTI, Weston Homes decided to explore the potential for securing planning permission for an alternative scheme via an extensive programme of public and stakeholder engagement, from the earliest concepts to a fully worked up scheme. The negotiations with CTI have secured a "Subject to Planning" contract to purchase the Site, (enlarged to include the southeastern part of Anglia Square fronting Magdalen Street and St Crispins Road), which has enabled a completely fresh approach to establishing a redevelopment scheme for Anglia Square. This has resulted in a different development brief for the scheme, being to create a replacement part of the larger LDC suited to the flexible needs of a wide range of retail, service, business and community uses, reflective of trends in town centre character, integrated with the

introduction of homes across the Site, within a highly permeable layout, well connected to its surroundings.

Background to the EIA Process

1.11 The ES reports on an Environmental Impact Assessment ('EIA') process, which is a systematic assessment of the likely significant effects of the Proposed Development. The EIA process is required by UK law for certain types of development projects.

1.12 The ES was prepared to comply with the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended) (the 'EIA Regulations'). These Regulations set out the statutory requirements for carrying out an EIA, the contents of the ES and the procedures for determining planning applications for 'EIA Development'. The information required for inclusion in an EIA is defined by Regulation 18(3)/(4)/(5) and Schedule 4 of the EIA Regulations. Appendix 1.1 sets out these information requirements together with their location in the ES.

1.13 In view of the nature and scale of the Proposed Development and recognition that it has the potential to give rise to significant environmental effects, the Applicant voluntarily commissioned an EIA. The proposals fall within category 10(b) of Schedule 2 of the EIA Regulations, as an *'urban development project'* of more than 150 residential units.

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

- Planning Practice Guidance ('PPG') – Environmental Impact Assessment[i]
- Institute of Environmental Management and Assessment (IEMA) Update to Guidelines for Environmental Impact Assessment (2016)[ii];
- IEMA (2011) The State of Environmental Impact Assessment Practice in the UK[iii];
- Recent EIA case law; and
- Topic specific guidance and assessment criteria, where appropriate.

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

Scoping Process

1.16 In accordance with EIA Regulations and best practice guidance, the Applicant submitted an EIA Scoping Request in November 2021 (Appendix 1.2) to determine the scope of the EIA. In response to comment from NCC and other stakeholders during the pre-application process, the Applicant

continued to progress the development proposals and planning strategy set out in the November 2021 Scoping Opinion Request. As such, a Scoping Note (Appendix 1.3) was issued to NCC in January 2022 which set out the implications of the amended description of development and planning strategy. A Scoping Opinion (Appendix 1.4) was received from NCC in January 2022, which incorporate the amended description of development. In their Scoping Opinion, NCC advised that the scope of the EIA should comprise the following:

- Air Quality;
- Archaeology;
- Ecology;
- Highways, Traffic and Transport;
- Noise and Vibration;
- Socio-Economics; and
- Heritage, Townscape and Visual Impact.

1.17 Under Regulation 5(3) of the EIA Regulations, this ES is based on NCC's EIA Scoping Opinion.

1.18 As a result of the EIA Scoping process, NCC agreed that the following topics could be scoped out of the EIA: Arboriculture; Daylight, Sunlight and Overshadowing; Wind Environment and Microclimate; Flooding, Drainage and Water Environment; Ground Conditions; Human Health; Major Accidents and Disasters; and Waste.

1.19 Although the above issues are not considered to result in significant environmental effects such that they are required to be included within the EIA, these topics will be addressed in the supporting documentation submitted as part of the planning application.

1.20 The overall quantum of development has not changed from that stated in the Scoping Note. The red line boundary has been altered slightly from that set out in the Scoping Report to exclude the surrounding roads i.e. St Augustines Street, New Botolph Street, Edward Street, Magdalen Street, St Crispins Road and Pitt Street.

Consultation

1.21 During the statutory consultation period related to the Scoping Opinion request, NCC carried out a consultation exercise with statutory consultees including Historic England, Natural England and the Environment Agency. 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 and Significance Criteria' section of each technical chapter.

1.22 Where it has been necessary for further discussion and/or consultation on comments raised as part of the EIA Scoping process, further details have been provided within the relevant ES chapter or planning application document.

1.23 The first public and stakeholder engagement meeting was undertaken in November 2021. The second was undertaken in January 2022. Further details are provided at Chapter 3.

Basis of the Assessment

1.24 The EIA has principally assessed the Proposed Development with reference to the detailed planning drawings, parameter plans and design code. Due to the level of design flexibility provided by the parameter plans as part of the outline element of the Proposed Development, the technical assessments in this ES provide an assessment of the maximum extent of the Development which would represent a 'worst-case' assessment, otherwise known as the 'Rochdale Envelope'. The basis of the worst-case approach is clearly defined in each topic assessment.

1.25 The 'Rochdale Envelope' approach is employed where the nature of the Proposed Development (in this case the outline element of the hybrid application) means that details of the whole project have not been confirmed (for instance the precise dimensions of structures) when the application is submitted, and flexibility is sought to address uncertainty. The approach allows a robust assessment of 'worst case' likely environmental effects.

1.26 A description of the Proposed Development is provided for information in **Chapter 3: Proposed Development, Demolition, Construction and Description of Alternatives**. A full set of drawings are provided in Appendix 3.1.

Assessment of Effects

Demolition and Construction

1.27 Subject to planning permission in principle being granted and the subsequent approval of matters specified in conditions, demolition and construction is expected to commence in Q2 2023, with construction expected to be completed by Q4 2030. Redevelopment will take place over four phases, as described in Chapter 3. This would represent an indicative build out period of 8 years. A different start date would not alter the ES findings related to the assessment of likely significant effects or mitigation.

1.28 Each technical assessment in the ES assumes a notional 'likely-worst case' scenario with respect to the envisaged demolition and construction methods, location (proximity to sensitive receptors) and

timing as outlined in Chapter 3. 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.

1.29 The key activities during demolition and construction 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 Chapter 3.

1.30 A CEMP will be prepared and agreed with the relevant bodies, prior to construction commencing. This will be secured by a suitably worded planning condition. The CEMP will set out the strategy, standards, control measures and monitoring procedures that will be implemented to manage and mitigate any adverse environmental effects of the construction process, including mitigation measures defined by the ES.

1.31 A Framework Travel Plan has been prepared as a guide to managing travel to and from the Proposed Development. Please see Appendix 7.2 for further details.

1.32 In-line with the IEMA best practice, 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 contractors’ practices that manage activities which have potential nuisance effects”*. As such, the CEMP forms part of the project description and was taken as read in assessing effects. The basis of the EIA is, therefore, that this form of mitigation will be delivered. As such, the CEMP is considered to be standard practice in the management of the demolition and construction works of the Proposed Development. The CEMP 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. The Framework Travel Plan would be considered as secondary (foreseeable) mitigation, which is a measure proposed to help mitigate effects identified during the assessment process.

Completed Development

1.33 The assessment of potential effects of the completed and occupied Proposed Development incorporates analysis of the permanent effects that could arise as a result of the Proposed Development. This assumes that the Proposed Development is fully occupied.

1.34 The Proposed Development is assumed to be completed in Q4 2030, this is taken as the 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.

Effect Significance and Approach to Assessment

1.35 Assessments will broadly consider the sensitivity of the resources/receptors that could be affected and the magnitude of impact to derive the classification and significance of effects. The methodology for determining effect significance considers several factors.

1.36 Where definitions are available in ES guidance, the consensus is that 'impacts' are defined as the changes resulting from an action, and 'effects' are defined as the consequences of impacts. Therefore, both terms have been used within this ES.

1.37 Terminology to describe the sensitivity of resources/receptors and magnitude of impact is as follows:

- High;
- Medium; and
- Low.

1.38 Each of the technical chapters of this ES provides further detail on the definition of each of the above terms specific to the topic in question.

1.39 Each of the technical assessment chapters of this ES also provides the criteria, including sources and justifications, for quantifying the different levels of potential impact or 'impact magnitude'. Where possible, this has been based upon quantitative and accepted criteria (for example, national standards for air quality and noise), together with the use of value judgement and expert interpretation.

1.40 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.

1.41 A generic classification of the Likely Effects Matrix is provided within **Table 1.1**. The basis for determining the classification of the likely effect takes into account the sensitivity of resource/receptor and magnitude of impact.

Table 1.1 Generic Likely Effects Matrix

Receptor Sensitivity	Magnitude of Impact			
	High	Medium	Low	Very Low
High	Major Beneficial / Adverse	Major Beneficial / Adverse	Moderate Beneficial / Adverse	Minor Beneficial / Adverse

Receptor Sensitivity	Magnitude of Impact			
	High	Medium	Low	Very Low
Medium	Major Beneficial / Adverse	Moderate Beneficial / Adverse	Minor Beneficial / Adverse	Negligible
Low	Moderate Beneficial / Adverse	Minor Beneficial / Adverse	Negligible	Negligible
Very Low	Minor Beneficial / Adverse	Negligible	Negligible	Negligible

Notes: The significance of the effect is defined by the shaded grey areas – see discussion below for definitions relating to these

Effect Significance

1.42 The general terminology used to describe the classification of effects is presented in **Table 1.2** and **Table 1.3**. This takes into account the magnitude of impact and the sensitivity of a receptor. The nature of the effect is also identified i.e. whether it is adverse or beneficial in nature.

Table 1.2 Categories of Effects Being Considered

Type of Effect	Description
Major	These effects (adverse or beneficial) may represent key factors in the decision-making process. Potentially associated with sites and features of national importance or likely to be important considerations at a regional or district scale. Major effects may relate to resources or features which are unique and which, if lost, cannot be replaced or relocated.
Moderate	These effects (adverse or beneficial) are likely to be important at a local scale and (if adverse) on their own could have a material influence on decision-making.
Minor	These effects (adverse or beneficial) are mostly local issues and may be of relevance in the detailed design of the project but are unlikely to be critical in the decision-making process.
Negligible	Effects which are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error, these effects are unlikely to influence decision-making, irrespective of other effects.

Table 1.3 Nature of Effect

Type of Effect	Description
Adverse	Detrimental or negative effects to an environmental / socio-economic resource or receptor.
Negligible	Effects which are below the levels of perception, within normal bounds of variation or within the margin of forecasting error, these effects are unlikely to influence decision-making, irrespective of other effects.
Beneficial	Advantageous or positive effect on an environmental / socio-economic resource or receptor.

1.43 Following the classification of an effect using the above summarised methodology, a clear statement is then made as to whether the effect is 'significant' or 'not significant'. As a general rule, the following criteria are applied:

- 'Moderate' or 'major' effects are deemed to be 'significant';
- 'Minor' effects are considered to be 'not significant'; and
- 'Negligible' effects are considered to be 'not significant' and not a matter of local concern.

1.44 In some instances, 'minor' effects may be considered significant. Where this is the case, it is clearly described in the technical chapter.

1.45 Professional judgement has also been applied, including consideration of whether an effect is direct or indirect, cumulative, the duration and frequency, and the likelihood of the effect occurring. Where the approach to classifying effects and/or defining significance differs from that outlined above for any of the technical assessments, this is clearly described in the relevant chapter of this ES.

1.46 Where mitigation measures have been identified to either eliminate or reduce significant adverse effects, these have been adopted in a number of ways:

- Incorporated into the Proposed Development, for example, either through an amendment to the design;
- Implemented as a monitoring/management measure during the demolition/construction phase as; or
- Operational or managerial standards / procedures and further design (i.e. through planning conditions or obligations).

1.47 This ES then highlights the 'residual' effects (those effects which remain following the implementation of suitable mitigation measures), and these are classified following the terminology defined above. The residual effects for each technical discipline are summarised within a table as part of the concluding sections of each of the technical chapters of this ES.

Cumulative Effects

1.48 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:

- The combined effect of individual impacts on a single receptor (Type 1 effects or 'Effect Interactions'); and

- The combined effects of nearby schemes, other existing or approved development which may, on an individual basis be insignificant but, cumulatively with the Proposed Development, have a likely significant effect (Type 2 effects).

Type 1 Effects

1.49 Intra-project effects from multiple topics are assessed within **Chapter 9: Residual Effects, Mitigation and Cumulative Effects**. The effect interactions assessment focused on receptors groups that have the potential to be affected by multiple effects addressed under more than one specialist topic in the EIA, as a result of the Proposed Development.

1.50 There is no consistent guidance or standardised approach to the assessment of effect interactions, however it is recognised that the Proposed 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. Some topics have taken a receptor-based approach and considered effect interactions on receptors as part of the assessment.

Type 2 Effects

1.51 A full list of schemes considered for their cumulative effects is located at **Appendix 1.5**. There is currently no guidance on how to define an appropriate study area for considering cumulative schemes.

1.52 The list of cumulative schemes set out within the EIA Scoping Request has been reviewed ahead of submission, and is based on the following criteria:

- Proposed by way of the submission of a planning application and subject to a high certainty of being delivered, permitted / with a resolution to grant planning permission or under construction;

- Located within 1km of the site boundary, spatially linked to the Site by means of the local road network or visible in views to and from the site; and

- Which are 10,000sqm in floor area or would give rise to more than 150 residential units.

1.53 Further details on the assessment of effect interactions and cumulative effects can be found in **Chapter 9: Residual Impacts, Mitigation and Cumulative Effects** of this ES.

Assumptions and Limitations

1.54 A number of assumptions have been made during the ES, which are set out below. Assumptions specific to certain environmental aspects are discussed in the relevant chapters of the ES. General assumptions include:

- The principal land uses adjacent to the Site remain as they are at the time of the ES submission, except in cases where planning permission has already been granted for development. Where relevant and appropriate, it is assumed that these developments will take place and so (where relevant) have been considered in the cumulative effects assessment;
- Information provided by third parties, including publicly available information and databases is correct at the time of publication and has not been verified as part of the assessment work undertaken to inform this ES;
- The Site or adjacent properties will not be the subject of any unforeseen events of a severe nature; and
- The construction programme associated with the Proposed Development is indicative at this stage and is anticipated to commence in Q2 2023. Assumptions specific to certain environmental aspects are discussed in the relevant ES chapters.

1.55 Assumptions specific to certain environmental aspects are discussed in the relevant ES chapters.

1.56 Generally, the ES has been subject to the following limitations:

- Baseline conditions are accurate at the time of the physical surveys but, and due to the dynamic nature of the environment, conditions may change during the demolition and construction phase and on completion and occupation of the Proposed Development; and
- The assessment of cumulative effects has been reliant on the availability of information relating to all of the identified cumulative schemes (whether submitted for planning, consented or under construction).

ES Structure and Project Team

1.57 The project team, authors of ES chapters and the structure of the ES are set out in Table 1.4.

1.58 As defined by paragraph 18(5)(a) of the EIA Regulations, this ES has been undertaken by independent qualified and competent experts. The 'Competency Statement' is included in **Appendix 1.5** of this ES.

1.59 In accordance with the EIA Regulations, the Applicant can hereby confirm that the technical consultants appointed to contribute and author this ES are competent experts and have demonstrated evidence of sufficient expertise to carry out robust assessments and reporting. This is evidenced in Appendix 1.5.

Table 1.4 EIA Team and Topic

	Chapter	Author
Volume I: Main Text		
1	Introduction and EIA Methodology	Iceni Projects
2	Description of Site, Surroundings and Background	Iceni Projects
3	Proposed Development, Demolition, Construction and Description of Alternatives	Iceni Projects
4	Socio-Economics	Iceni Projects
5	Archaeology	RPS Group
6	Ecology	Ecology Solutions
7	Highways, Traffic and Transport	Iceni Projects
8	Air Quality	Aether
9	Noise and Vibration	Stansted Environmental Services Ltd
10	Residual Impacts, Mitigation and Cumulative Effects	Iceni Projects (with input from the EIA team)
Vol II	**Heritage, Townscape and Visual Impact Assessment**	Iceni Projects
Vol III	**Technical Appendices**	Various
Vol IV	**Non-Technical Summary**	Iceni Projects (with input from the EIA team)

Planning Application Supporting Documents

1.60 Separate to the ES, the documents set out in **Table 1.5** have been submitted with this planning application.

Table 1.5 Documents Submitted with Planning Application

Planning Statement	Design Code
Retail Statement	Transport Assessment
Pre-Application Consultation Report	Energy Strategy

Design and Access Statement	Sustainable Development Scorecard Assessment
Noise Assessment	Air Quality Impact Assessment
Indicative Demolition, Construction and Waste Strategy	Preliminary Ecological Appraisal
Desk-based Archaeological Assessment	Flood Risk Assessment
Phase 1 Geo-Environmental Desktop Report	

Availability of ES Volumes

1.61 The ES and Non-Technical Summary are available to view online, via the following link:

https://planning.norwich.gov.uk/online-applications/

1.62 Hard copies have been made available for physical inspection at NCC's Planning Offices. In addition, hardcopies or electronic copies can be requested for a reasonable fee. The Non-Technical Summary can be obtained free of change in hard copy or as an electronic file. If hardcopies are required, Iceni Projects will be able to assist and can be contacted as follows:

Da Vinci House
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London
EC1N 8FH
Telephone 020 3640 8508
Email: impactmanagement@iceniprojects.com

1.63 Reasonably changes will be made for paper or electronic copies of the EIAR.

[i] Ministry of Housing, Communities & Local Government (2014). Planning Practice Guidance - Environmental Impact Assessment. ID 4, last updated: 13 May 2020. Available online at: http://planningguidance.planningportal.gov.uk/blog/guidance/environmental-impact-assessment/
[ii] Institute of Environmental Management and Assessment (IEMA), (2016); Update to Guidelines for Environmental Impact Assessment
[iii] IEMA, (2011); The State of Environmental Impact Assessment Practice in the UK.

Anglia Square, Norwich Environmental Statement

Chapter 2: Description of the Site, Surroundings and Background

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March 2022

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2. DESCRIPTION OF THE SITE, SURROUNDINGS AND BACKGROUND

Introduction

2.1 This chapter provides a summary of the existing Site and its surrounding area, including key features, designations and key sensitive receptor locations. This provide the context for evaluating the existing baseline conditions and for assessing the Proposed Development. A full description of the baseline conditions relevant to the technical assessments is provided in each technical chapter.

Site Description and Background

2.2 The Site is located in Norwich, wholly within the administrative boundary of NCC in the northern part of the city centre at National Grid Reference TG230093. The Site covers an area of approximately 4.6 hectares (ha). The planning application boundary is shown in Figure 1.1.

2.3 The Site comprises the main parcel of land (the Anglia Square shopping centre) and two adjacent land parcels. The main parcel of land (known as Anglia Square) is bound by New Botolph Street and Pitt Street to the west, Edward Street to the north, Magdalen Street to the east and St Crispin's Road to the south. The Site comprise all land within this area, except for a parcel of land with an existing building within the east of the Site, which is currently not in use, and Surrey Chapel to the south west.

2.4 The two additional parcels of land are to the northwest of New Botolph Street/west of Edward Street, and an area of land to the north of Edward Street and west of Beckham Place.

2.5 The main parcel comprises a 1960s/1970s shopping centre of retail, leisure and office buildings. The shopping centre is arranged around a pedestrian precinct and includes large format stores together with smaller units occupied by a mix of national and independent retailers. A vacant multi-storey car park fronts Edward Street. To the south western part of the Site is Surrey Chapel Free Church and premises fronting Pitt Street, which are occupied by businesses and social enterprises but excluded from the Site boundary. The buildings at Nos 43-45 Pitt Street (within the Site), are locally listed.

2.6 The two additional parcels of land comprise surface level car parking.

2.7 The Site is currently served by vehicular access points from New Botolph Street to the west, Edward Street to the north and St Crispin's Road to the south. Upper Green Lane provides vehicular access internally from the flyover to the south to the upper parts of the site (including the cinema and the entrance to the vacant multi-storey car park), above the pedestrianised shopping area below. Pedestrian access to the shopping centre is predominantly facilitated by two pedestrian routes

(Sovereign Way and Anne's Walk) from Magdalen Street to the east, and from Botolph Street to the west.

2.8 Within the wider Norwich context, the Site is located within the northern part of the city centre, within an area characterised as a transition zone between the historic and commercial core of the City to the south and the largely residential area to the north.

Environmental Context and Constraints

Introduction

2.9 Further details of the key environmental sensitivities are provided in the technical chapters (i.e. Chapters 4-9 and Volume II) and a summary is provided below.

Transport and Access

2.10 Access and egress to the Site is via New Botolph Street to the west, Edward Street to the north and St Crispin's Road to the south.

2.11 The Site is located in an area with an established network of footways and pedestrian facilities. There are a number of bus stops within the immediate vicinity of the Site, most of which are on Magdalen Street.

2.12 Norwich railway station provides services operated by East Midlands Trains and Greater Anglia and is located to the southeast of the city centre, approximately 1.5km from the Site. Trains from Norwich railway station provide a direct service to Liverpool Lime Street, including destinations such as Nottingham, Sheffield and Manchester Piccadilly. Greater Anglia provide direct services towards Great Yarmouth, Lowestoft, Sheringham and Ipswich, Colchester, and London Liverpool Street, as well as Ely, Cambridge and Peterborough.

Archaeology

2.13 The Site is located in the NCC Area of Main Archaeological Interest. The Site has been subject to previous archaeological investigations in the 1970s, in 2007, in 2010 and in 2018. These investigations have established that there are substantial surviving buried archaeological deposits and features within the Site, principally relating to the Anglo Saxon, Early and Late Medieval and Post Medieval periods.

2.14 Further details on the archaeological potential of the Site and surrounds are provided in Chapter 5: Archaeology.

Built Heritage and Townscape

2.15 There are no designated heritage assets within the Site. nor is the Site covered by any designated viewpoints. The locally listed '43-45 Pitt Street' is located within the Site.

2.16 The Site is within the Norwich City Centre Conservation Area (NCCCA). The nearest designated structure is the Grade II listed No 75 Magdalen Street, located opposite the Site. There are three further Grade I listed churches nearby, namely St Saviour's, St Martin at Oak and St Mary's Coslany.

2.17 Further details on built heritage assets and the surrounding townscape are provided in Volume II: Heritage, Townscape and Visual Impact Assessment.

Air Quality

2.18 The Site is located within an Air Quality Management Area (AQMA), designated in 2012 due to exceedances of the annual mean NO2 objective. The AQMA broadly covers the area within the inner ring road.

Water Resources and Flood Risk

2.19 There are no existing watercourses (including public foul or surface sewers) within the Site. The River Wensum flows approximately 500m south of the Site.

2.20 Based on Environment Agency flood maps, the Site is located within Flood Zone 1. This means the Site is at a very low risk of fluvial flooding (i.e. less than 1 in 1000-year probability). The Site is not shown to be at risk of significant surface water flooding according to publicly available data sources. The Site is not at risk of reservoir breach.

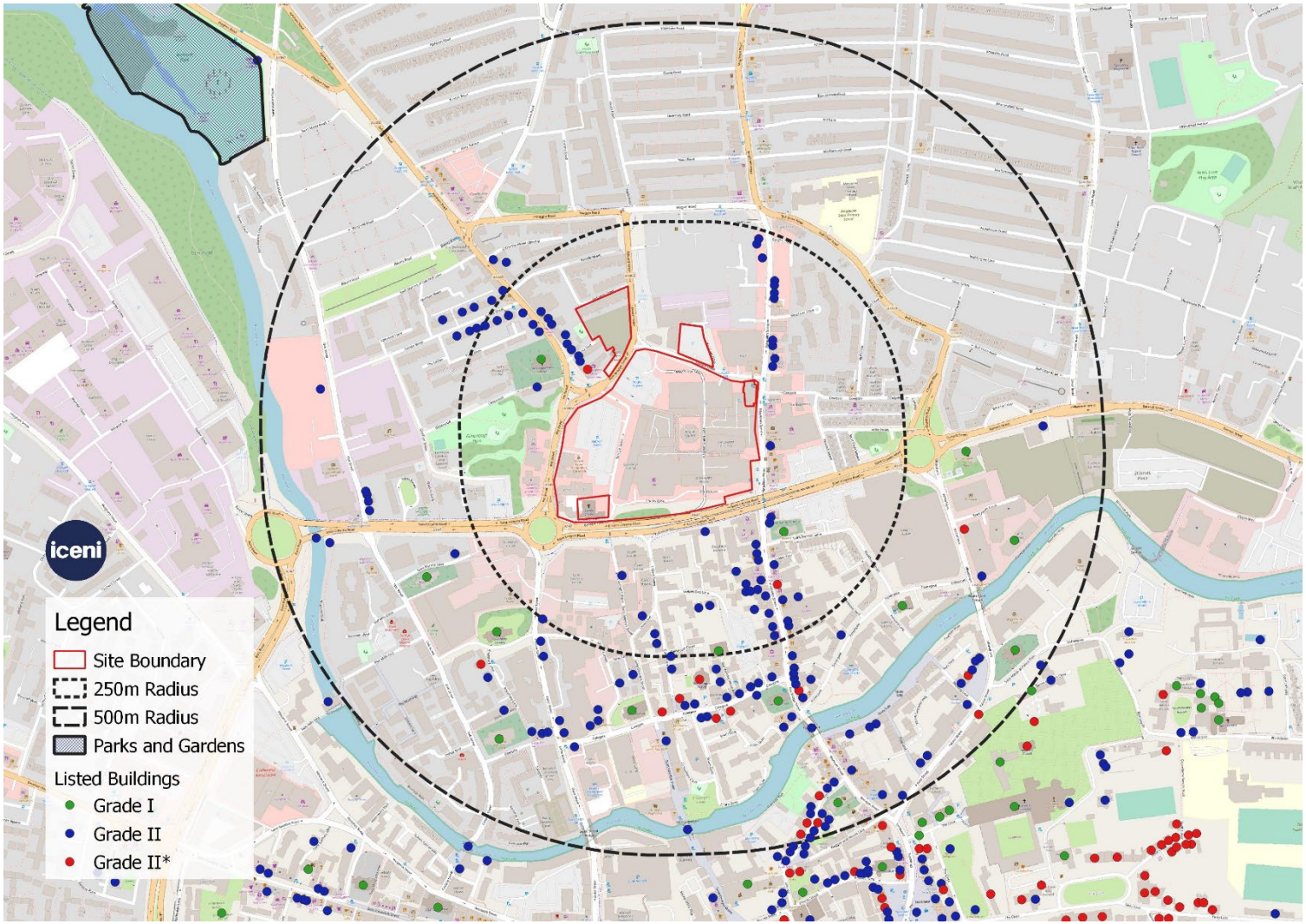
Ecology

2.21 The following European designated sites are located in the vicinity of the Site:

- Broadland SPA, Ramsar Site and SAC
- The River Wensum SAC (3.2km to the northwest at its closest point)

2.22 A number of Site of Special Scientific Interest (SSSI) designations underpin the SPA/Ramsar/SAC designations. Yare Broads and Marshes SSSI and Crostwick Marsh SSSI are around 7.5 km from the site and Bure Broads and Marshes SSSI is about 10.3 km from the site.

Figure 2.1 Site Context and Constraints Plan



Local and Regional Planning Policy

2.23 The Site comprises a significant element of the Anglia Square/Magdalen Street/St Augustines Large District Centre, (the LDC) and has been identified for redevelopment for many years within various local planning policy documents, including the Northern City Centre Area Action Plan 2010, (NCCAAP), (now expired), the Joint Core Strategy for Broadland, Norwich and South Norfolk 2014, (JCS), and NCC's Anglia Square and Surrounding Area Policy Guidance Note 2017, (PGN).

2.24 There is an emerging development plan, the Greater Norwich Local Plan (GNLP) which is being prepared by Broadland DC, South Norfolk Council, NCC and Norfolk County Council, (the Partnership), that will supersede the Joint Core Strategy for Broadland, Norwich and South Norfolk (2014) (JCS) and Norwich Site Allocations and Site Specific Policies Local Plan (2014) (NSASSP) once adopted. The GNLP Reg 19 version was submitted to the Secretary of State for examination on 30th July 2021.

2.25 The examination process is underway, for which hearing sessions took place during February and March 2022. As a result of the hearings, many policies, including the emerging allocation for the Site were subject to debate, addressing their soundness and the consequential need for amendment, alongside requests for additional information by the Inspectors. It is therefore considered likely the Council will prepare and consult upon Modifications or at least minor changes to both policy text and supporting text, relevant to this Site. This process, and the publication of the Inspectors' report may extend beyond the determination of the application that this Environmental Statement accompanies, and so final GNLP policy wording may not be available at that stage.

Anglia Square, Norwich Environmental Statement

Chapter 3: Proposed Development, Demolition, Construction and Description of Alternatives

Iceni Projects Limited on
behalf of Weston Homes PLC

March 2022

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3. PROPOSED DEVELOPMENT, CONSTRUCTION AND DESCRIPTION OF ALTERNATIVES

3.1 This chapter provides a description of the Proposed Development, construction activities and timescales. In accordance with the EIA Regulations, this chapter describes the reasonable alternatives to the Proposed Development considered by the Applicant.

3.2 This chapter is supported by the following appendices:

- Appendix 3.1: Detailed planning drawings;
- Appendix 3.2: Parameter plans and outline elevations; and
- Appendix 3.3: Design Code.

3.3 The Design and Access Statement (DAS) which accompanies the planning application includes design principles and provides a more detailed description of the Proposed Development with illustrations.

The Proposed Development

3.4 The Applicant is seeking hybrid (part outline, part detailed) planning permission for the following description of development:

"Hybrid (part full/part outline) application on site of 4.65ha for demolition and clearance of all buildings and structures and the phased, comprehensive redevelopment of the site with 14 buildings ranging in height from 1 to 8 storeys, for a maximum of 1,100 residential dwellings, (houses, duplexes and flats) (Use Class C3); a maximum of 8,000 sqm flexible retail, commercial and other non-residential floorspace (retail, business, services, food and drink premises, offices, workshops, non-residential institutions, community hub, local community uses, and other floorspace (Use Classes E/F1/F2/Sui Generis (public conveniences, drinking establishments with expanded food provision, bookmakers and/or nail bars (up to 550sqm), and dry cleaner (up to 150sqm))); service yard, cycle and refuse stores, plant rooms, car parking and other ancillary space; with associated new and amended means of access on Edward Street and Pitt Street, closure of existing means of access on Edward Street, New Botolph Street, Pitt Street and St Crispins Road flyover, formation of cycle path between Edward Street and St Crispins Road, formation of wider footways, laybys and other associated highway works on all boundaries, formation of car club parking area off New Botolph Street, up to 450 car parking spaces (at least 95% spaces for class C3 use, and up to 5% for class E/F1/F2/Sui

Generis uses), hard and soft landscaping of public open spaces comprising streets and squares/courtyards for pedestrians and cyclists, other landscape works within existing streets surrounding the site, service infrastructure and other associated work; (All floor areas given as maximum Net Internal Area);

Comprising;

Full planning permission on 2.25ha of the site for demolition and clearance of all buildings and structures, erection of 8 buildings ranging in height from 1 to 8 storeys for 367 residential dwellings (Use Class C3) (149 dwellings in Block A, 25 dwellings in Block B, 21 dwellings in Block C, 34 dwellings in Block D, 8 dwellings in Block J3, 81 dwellings in Block K/L, and 49 dwellings in Block M) with associated cycle and refuse stores), and, for 5,808 sqm flexible retail, commercial and other non-residential floorspace (retail, business, services, food and drink premises, offices, workshops, non-residential institutions, community hub, local community uses, and other floorspace (Use Classes E/F1/F2/Sui Generis (public conveniences, drinking establishments with expanded food provision, bookmakers and/or nail bars (up to 550sqm), and dry cleaner (up to 150sqm))), service yard, cycle and refuse stores, plant rooms, car parking and other ancillary space, with associated new and amended means of access on Edward Street, closure of existing means of access on Edward Street and New Botolph Street, formation of cycle path from Edward Street to St Crispins Road, formation of wider footways, laybys and other associated highway works on Edward Street, New Botolph Street, and Magdalen Street, formation of car club parking area off New Botolph Street, 146 car parking spaces (at least 95% spaces for class C3 use, and up to 5% for class E/F1/F2/Sui Generis uses) within Blocks A and B, hard and soft landscape works to public open spaces comprising streets and squares for pedestrians and cyclists, other landscape works, service infrastructure and other associated works; (All floor areas given as maximum Net Internal Areas);

and

Outline planning permission on 2.4ha of the site, with landscaping and appearance as reserved matters, for demolition and clearance of all buildings and structures, erection of 6 buildings (Blocks E – H and J) ranging in height from 3 to 8 stories for up to 733 residential dwellings, (houses, duplexes, and flats) (Use Class C3), a maximum of 2,192 sqm flexible retail, commercial and other non-residential floorspace (retail, business, services, food and drink premises, offices, non-residential institutions, local community uses and other floorspace (Use Classes E/F1/F2/Sui Generis (drinking establishments with expanded food provision, bookmakers and/or nail bars (up to 550sqm), and dry cleaner (up to 150sqm))); cycle and refuse stores, plant rooms, car parking and other ancillary space; with associated new and altered means of access on Pitt Street and St Crispins Road, closure of means of access on Pitt Street and St Crispins Road flyover, formation of wider footways, laybys and other associated

highway works on Pitt Street and St Crispins Road, a maximum of 304 car parking spaces (at least 95% spaces for class C3 use, and up to 5% for class E/F1/F2/Sui Generis uses), service infrastructure and other associated works (landscaping and appearance are reserved matters); (All floor areas given as maximum Net Internal Areas)."Hereafter, Part A is referred to as the 'Detailed Component' and Part B is referred to as the 'Outline Component'."

3.5 The area edged by a blue line is proposed to be incorporated into a larger area forming a reprovision of the public space previously known as Stump Cross. It is intended that it will form part of the larger area for a 'mobility hub' on Magdalen Street. This area, which would be between Block J3 and Magdalen Street at the entrance point into Botolph Street is not included within this hybrid planning application. Plans are still evolving at the time of this Application, and this will be subject to a separate future planning application.

3.6 Appendices 3.1 and 3.2 include the Parameter Plans and detailed planning drawings to allow readers to understand the scheme. These are listed in Table 3.1.

Table 3.1 Planning Application Drawings

Drawing Title	Drawing Reference
Detailed Planning Drawings (Appendix 3.1)	
Hybrid Application Site Plan - Block Plan on Existing OS Base	35301-ZZ-00-DR-A-01-0200
Hybrid Application - Existing Site Plan - Demo	35301-ZZ-00-DR-A-01-0201
Hybrid Application Site Plan - Block Plan on Proposed Layout	35301-ZZ-00-DR-A-01-0300
Detailed Application Plan - Block Plan on Proposed Layout	35301-ZZ-00-DR-A-01-0301
Hybrid Application - Location Plan on Existing OS Base	35301-ZZ-00-DR-A-01-1000
Masterplan - Level L00	35301-ZZ-00-DR-A-01-0100
Masterplan - Level L01	35301-ZZ-01-DR-A-01-0101
Masterplan - Level L02	35301-ZZ-02-DR-A-01-0102
Masterplan - Level L03	35301-ZZ-03-DR-A-01-0103
Masterplan - Level L04	35301-ZZ-04-DR-A-01-0104
Masterplan - Level L05	35301-ZZ-05-DR-A-01-0105
Masterplan - Level L06	35301-ZZ-06-DR-A-01-0106
Masterplan - Level L07	35301-ZZ-07-DR-A-01-0107
Masterplan - Level B01	35301-ZZ-99-DR-A-01-0099
Masterplan - Roof Level	35301-ZZ-00-DR-A-01-0199
Parameter Plans (Appendix 3.2)	

Parameter Plans - Architecture Layout - Proposed Building Heights	35301-AO1-PP-100
Parameter Plans - Architecture - Land Use - Ground Floor	35301-AO1-PP-200
Parameter Plans - Architecture - Land Use - First Floor	35301-AO1-PP-201
Parameter Plans - Architecture - Land Use - Second Floor	35301-AO1-PP-202
Parameter Plans - Architecture - Land Use - Third Floor	35301-AO1-PP-203
Parameter Plans - Architecture - Land Use - Fourth Floor	35301-AO1-PP-204
Parameter Plans - Architecture - Land Use - Fifth Floor	35301-AO1-PP-205
Parameter Plans - Architecture - Land Use - Sixth Floor	35301-AO1-PP-206
Parameter Plans - Architecture - Land Use - Seventh Floor	35301-AO1-PP-207
Parameter Plans - Architecture – Access	35301-AO1-PP-300
Parameter Plans - Architecture - Development Parcel	35301-AO1-PP-400
Parameter Plans - Architecture - Public Realm	35301-AO1-PP-500

Detailed Component

Overview

3.7 The Detailed Component will comprise Blocks A, B, C, D, J3, K, L and M across 2.25ha. The area of land within the Detailed Component is shown in Figure 3.1. A schedule of the proposed land uses and floorspace of the Detailed Component is provided in Table 3.2.

Figure 3.1 Detailed Component red line boundary (drawing reference ZZ-00-DR-A-01-0301 Rev D0-1)

Table 3.2 Detailed Component – Proposed Land Uses and Floorspace

Land Use Type	Unit
Use Class C3 - Residential	367 units
Use Class E / F1 / F2 / Sui Generis – flexible retail, commercial and other non-residential floorspace (retail, business, services, food and drink premises, offices, workshops, non-residential institutions, community hub, local community uses, and other floorspace (Use Classes E/F1/F2/Sui Generis (public conveniences, drinking establishments with expanded food provision, bookmakers and/or nail bars (up to 550sqm), and dry cleaner (up to 150sqm))	5,808 sqm NIA

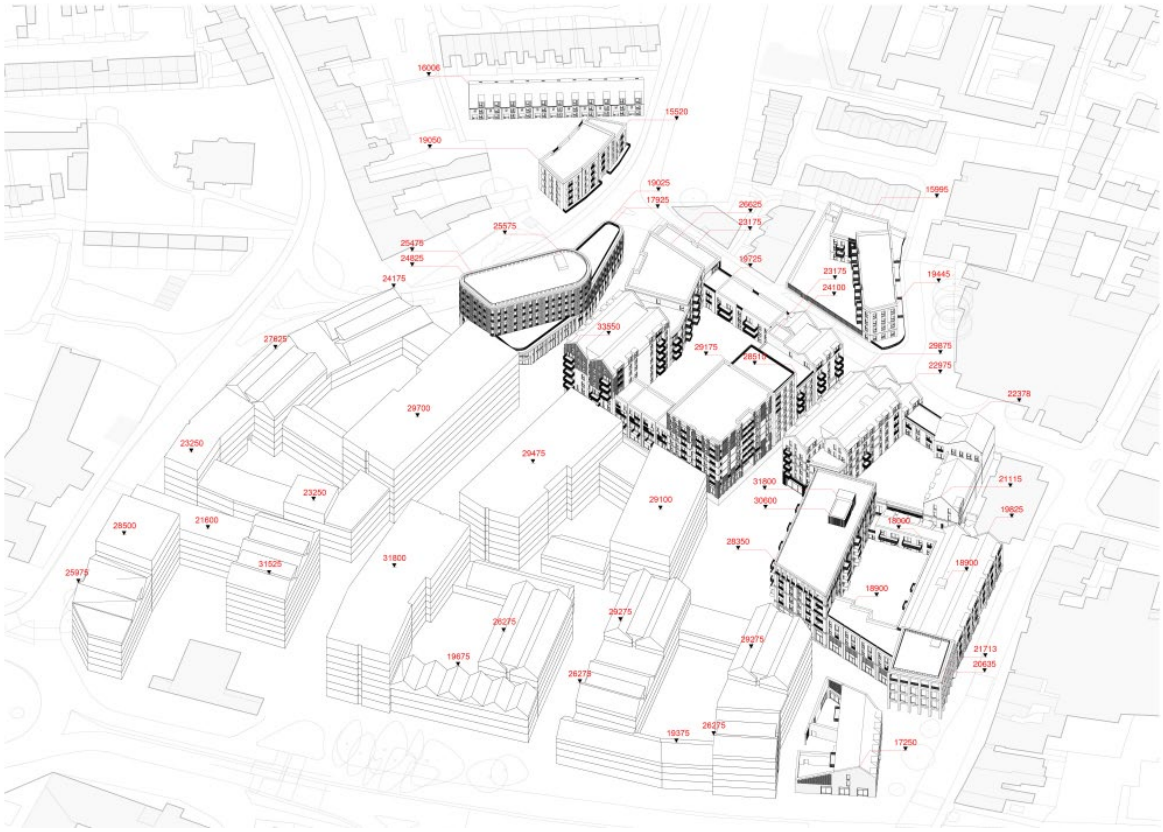
3.8 Table 3.3 sets out the key components of the Detailed Component across the eight blocks.

Table 3.3 Detailed Component – Key Components by Block

Block	**A**	**B**	**C**	**D**	**J3**	**KL**	**M**	**Total**
Residential (Use Class C3)								

No. Units	149	25	21	34	8	81	49	**367**
Non-Residential (Use Class E/F1/F2/Sui Generis)								
(sqm NIA)	1286	0	0	725.5	427.3	2773.9	595.3	**5,808**
Parking								
Car Parking	127	11	0	0	0	0	0	**138**
+ Accessible Parking Bays	8	0	0	0	0	0	0	**8**
Cycle Parking - Residents	127	36	21	58	12	121	78	**453**
Cycle Parking – Visitors	8	3	3	3	1	9	5	**32**
Building Height								
Roof mAOD	33.550	19.050	19.445	25.575	17.250	30.600	29.875	

Figure 3.2: Roof AOD Levels (drawing reference SK-DR-A-01-2199)



Building Use Layout and Height

3.9 The Detailed Component will comprise eight irregular-shaped blocks (Blocks A, B, C, D, J3, K/L and M). These are located within the northern and eastern parts of the main part of the Site, as well as the two remote land parcels on Edward Street, (Blocks B and C).

3.10 The Detailed Component will provide 367 residential units (Use Class C3), with a mix of one-, two- and three-bedroom apartments. The number of dwellings per block is listed below.

- Block A - 145 apartments and 4 duplexes
- Block B - 11 houses and 14 apartments
- Block C - 21 apartments
- Block D - 34 apartments
- Block J3 - 8 apartments
- Block K/L - 73 apartments and 8 duplexes
- Block M - 43 apartments and 6 duplexes

3.11 Table 3.4 sets out the unit and tenure mix of the Detailed Component.

Table 3.4 Unit and Tenure Mix

Block	Private	Rented	Shared Ownership	Discount Sale	Total
1B1P	4	0	0	0	4
1B2P	100	40	21	0	161
2B3P	36	0	0	0	36
2B4P	139	0	0	0	139
3B4P	0	0	0	0	0
3B5P	14	9	4	0	27
3B6P	0	0	0	0	0
4B6P	0	0	0	0	0
	293	49	25	0	367

3.12 Blocks A, J3 and M will provide commercial floorspace at ground level. Block K will provide commercial floorspace at ground, first, second and third floors. Blocks B, C and D will not provide any commercial floorspace.

3.13 Block D will provide a community hub and village hall at ground floor and a community hub on the first floor, both of which will be available for community use. The hub will offer a managed collection service to parcels and deliveries to the site.

3.14 The building heights (including ground floor) will range from 3 to 8 storeys. The tallest building will be Block B.

Appearance and Massing

3.15 The appearance of the Detailed Component is designed with recognition of the surrounding area and has drawn on the local architecture and character and materials palate, which is reflected within the proposed facade treatment of the buildings. The blocks will use appropriate materials such as brick, framed windows, lightweight cladding and metal/glass balustrades, with detailing including brick feature banding.

3.16 Figure 3.3 shows the facade treatment of Block A. The other blocks will be similarly clad.

Figure 3.3: Proposed Facade Treatment of Block M

Landscaping, Open Space and Public Realm

3.17 The Detailed Component will include the provision of significant landscaped areas and new public realm including the reconfigured Anglia Square public space, St Georges Gardens, St Georges Street (both including a segregated cycle path), Botolph Street, Beckham Place, Annes Walk, Cat & Fiddle Way, and Cat & Fiddle Yard.

3.18 Anglia Square public realm will provide a useable, hard surfaced space between shopping frontages which will including planting and trees.

3.19 The alignment of the new streets and the reconfigured public square opens new vistas of St Augustine's Church looking west from the square, and of the Anglican Cathedral spire looking southeast. This will assist in visually connecting Anglia Square itself to its historical context and its surroundings.

3.20 St Georges Gardens will provide a substantial area of planting incorporating larger trees. This will be positioned alongside the primary north/south pedestrian and segregated cycle route.

3.21 The new streets provide enhanced pedestrian and cycle routes through the Site, in all directions and will incorporate street furniture and landscaping, reached by improved crossings over the surrounding road network. Enhancements to Edward Street will include high quality paving and tree planting, and along Magdalen Street with a wider pavement along the entire frontage from Edward Street to the flyover.

3.22 The planning drawings indicate a small buffer of approximately 2-3m depth at the edges of the public realm in the Detailed Component, where it adjoins the Outline Component along St Georges Gardens and Street south of Botolph Street, the latter west of St Georges Gardens, and the west and south sides of Anglia Square and west of Cat & Fiddle Way. This allows future flexibility of landscape proposals around the blocks within the Outline Component, so as to align with the future positioning of openings on those buildings, which is to be resolved as part of reserved matters submission(s).

3.23 In addition to the proposed podia for Blocks A and M, at varying roof levels, semi-private communal roof terraces will be provided on Blocks A and D. It is anticipated that all these areas will include significant amounts of planting, high quality paving and opportunities for informal play. In addition to the podia and roof terraces, a series of green and brown roofs are provided.

Figure 3.4: Landscape Masterplan

3.24 The roof landscape will provide residential podium gardens in Blocks A, M and K/L, residential community roof terraces in Blocks D, A, M and K/L and residential private roof terraces in Blocks D, M and J3. The location of these are illustrated in Figure 3.5.

Figure 3.5: Roof Landscape

The integrated sustainable drainage strategy will incorporate permeable paving, swales, podium/roof terraces, biodiverse roofs and planting bed with infiltration kerb.

Access and Parking

3.25 The overall car parking provision on site will be up to 450 spaces, of which at least 95% will be for residents and up to 5% for non-residential uses. The Detailed Component will provide between 139-146 parking spaces located within Blocks A and B. This includes 100% electric vehicle charging point provision and 5.6% disabled parking bay provision (8 spaces).

3.26 In addition to the residential car parking, there will be 5 car club spaces located off New Botolph Street opposite Block D, which will be available for both residents and public to use. Two of these spaces would be designed to accommodate active electric charging.

3.27 The non-residential car parking in the Detailed Component is therefore limited to a maximum of 7 spaces in Block A to meet operational needs of businesses. All existing public car parking will be removed via the planning application.

3.28 The Detailed Component will provide 453 cycle parking spaces for residents and 32 cycle parking spaces for visitors.

3.29 The new streets and squares within the Detailed Component will be shared pedestrian and cycle routes except for a segregated cycle path along the entire length of St Georges Street and Gardens. Vehicular access to the main part of the Detailed Component will be limited to emergency vehicles only, except directly into the car parks and service yard, all from Edward Street.

3.30 At Block B, a revised vehicular access from Edward Street would serve all vehicle needs. Block C would have no off-street vehicular access - deliveries would be to the Community Hub. For the main parcel of land within the Detailed Component, deliveries and servicing will be undertaken along the Site periphery, utilising loading bays provided along New Botolph Street, Edward Street and Magdalen Street, along with the service yard, and for the residents deliveries would be to the Community Hub.

3.31 The service yard at the northeastern corner of the Site within Block M, which would be in the same location as the current service yard, will facilitate convenient servicing of the larger commercial units within Block M and K/L. The service yard will be accessed via Edward Street.

Outline Component

Overview

3.32 The Outline Component seeks to establish the principle of development for six further residential blocks (Blocks E-H and J) across 2.4ha. The Outline Component seeks outline planning permission for the buildings' layout and land use arrangements, scale and massing and means of access. The landscape of the areas between the buildings and on their podia and roofs will follow an outline permission, as reserved matters. An exception to this is the bulk of St Georges Street and St Georges Gardens, since they incorporate the segregated cycle route.

Table 3.5 Outline Component – Proposed Land Uses and Floorspaces

Land Use Type	Unit
Use Class C3 - Residential	Up to 733 dwellings

Use Class E / F1 / F2 / Sui Generis – flexible retail, commercial and other non-residential floorspace (retail, business, services, food and drink premises, offices, non-residential institutions, local community uses and other floorspace (Use Classes E/F1/F2/Sui Generis (drinking establishments with expanded food provision, bookmakers and/or nail bars (up to 550sqm), and dry cleaner (up to 150sqm))); cycle and refuse stores, plant rooms, car parking and other ancillary space	Up to 2,192 sqm (NIA)

3.33 Parameters for the future development of these six blocks are established to ensure that the impact of these blocks are properly assessed and considered as part of this hybrid application. These parameters are shown on the following 11 parameter plans:

- Parameters Plan 1: Proposed Building Heights;
- Parameters Plans 2-9: Land Use;
- Parameter Plan 10: Development Parcel; and
- Parameter Plan 11: Public Realm and Access.

3.34 These parameter plans are listed in Table 3.1 and are provided in Appendix 3.2. Further details are provided in the sections below.

3.35 In addition to the parameters plans, Design Codes are established to provide greater certainty on the quality and appearance of the buildings. This provides for

Parameter Plan 1: Proposed Building Heights

3.36 Parameter Plan 1 fixes maximum building heights within each plot. All heights are provided in storeys (including ground level).

3.37 The new buildings will have a range of heights, which will give variety in the form of the Development. The final design of all proposed buildings within each zone will not exceed the maximum parameters shown on this parameter plan and will be subject to the design principles included in the Design Code. Details will be provided at reserved matters stage.

3.38 Parameter Plan 1 should be read alongside the Design Code, which provides further guidance on maximum building heights.

3.39 The tallest buildings in the outline element are generally positioned towards the centre of the Site, oriented north-south to reduce overshadowing, as well as in the less sensitive area close to St Crispins Road along the southwestern frontage, but away from the Pitt Street corner. Thus, these

taller buildings are 7 storeys, with two 8 storey buildings on the current site of Sovereign House and to the north of Surrey Chapel. Lower buildings are proposed in the areas that are more sensitive, elsewhere along St Crispins Road and Pitt Street up to St Augustines Street, where 4-6 storeys are proposed with one 7 storey part of Block F. The lowest buildings form the east-west street frontages, to allow sunlight penetration, and so are 3 – 5 storeys.

Parameter Plans 2-9: Land Use

3.40 Parameter Plans 2-9 identifies land uses permitted across each storey of the Outline Component.

3.41 The ground floor frontages of Block E, H and J fronting onto Botolph Street and Anglia Square public space, and the southwest corner of Block F adjacent to the St Crispins Road / Pitt Street roundabout will accommodate a range of potential retail/ commercial and other Main Town Centre uses.

3.42 The ground floor frontages of Blocks E, E/F, F, G, H and J along Pitt Street and the new streets (indicatively named as Tooley Lane, St Georges Street / St Georges Gardens, Cherry Lane and Sovereign Way) and courtyards (indicatively named Burrows Yard, Cherry Tree Yard, Sovereign Yard, Calvert Yard) will be residential. The upper floors of all these blocks will accommodate residential use.

Parameter Plan 10: Development Parcel

3.43 Parameter Plan 10 identifies where permission for built development is sought within the Site by plot, as well as the maximum extent of built footprint within each plot.

Parameter Plan 11: Public Realm and Access

3.44 Parameter Plan 11 sets out the parameters for future public and realm to be proposed via reserved matters application(s). This primarily public realm / access zones where no built development will be permitted.

3.45 For the outline Component, it indicates the pedestrian and segregated cycle access points off St Crispins Road to the south, heading onto St Georges Street, still with a segregated cycle route, towards Edward Street in the full element to the north, Magdalen Street to the east, in the full element, leading to the three routes east-west in and bordering the outline element, and from Pitt Street to the west.

Design Code

3.46 In addition to the development parameters set out above, the Design Code provides greater certainty on the quality and appearance of the buildings. This provides a code for the design of future phases of development for the proposed reserved matters application(s).

3.47 Much of the design detail is reserved for later consideration. The Design Code submitted alongside this application will be secured via a condition. This will control the elevational treatment and other design elements of future phases of the Outline Component.

Landscaping, Open Space and Public Realm

3.48 The Outline Component includes the provision of additional landscaped areas and new public realm including Burrows Yard, Cherry Tree Yard, Sovereign Yard, Calvert Yard, Tooley Lane, Cherry Lane and Sovereign Way.

3.49 All residential dwellings in Blocks E-J will have access to amenity space in the form of either private balconies or communal podium gardens and the yards.

Car Parking

3.50 Up to 304 spaces will provided within the Outline Component. The majority of parking spaces will be located within undercroft car parks within Blocks E, G and J, with some limited off-street parking bays available within the streets and courtyards.

3.51 Appropriate cycle parking on the same basis as within the detailed element will also be provided in the subsequent phases, with details set out in the Reserved Matters application(s).

3.52 Vehicular access into the outline element will be from St Crispins Road (via amendments to the existing Botolph Street junction) to provide access for residents' car parks, delivery / servicing vehicles to blocks in the southern section of the Site, and for emergency vehicles to travel through the site as detailed in the TA. Additionally, vehicular access to residents' car parking is taken from Pitt Street.

3.53 Servicing for the small commercial units and residential units will be from Cherry Lane and loading bays along Pitt Street. Details of the servicing strategy are set out in the Design and Access Statement.

Infrastructure and Services

Drainage

3.54 The application is accompanied by a Flood Risk Assessment and Drainage Strategy.

3.55 The development parcels have been split into 8no. drainage catchments. Each catchment has a restricted outfall to the adopted surface water sewer network and attenuation designed to accommodate a 1:100yr + Climate Change Storm Event. Suitable water treatment stages, in line with CIRIA SuDS Manual are proposed and will provide an improvement to the existing situation, where waters enter the adopted sewer network, untreated.

3.56 Due to the surface water flood risk within the city of Norwich, it is proposed that the attenuation tanks will have capacity sensors and alarms fitted within them which monitor how full they become during storm events. The attenuation tanks will likely collect run-off from both roof and hardstanding areas and it is not possible to prevent any exceedance surface water run-off flows from off-site from entering the proposed drainage systems. The alarm would trigger in the Anglia Square management office, and it would be the management's responsibility to distribute the warning to each of the ground floor and retail, commercial and leisure uses. This would allow them time to evacuate, safeguard and close their premises.

3.57 Maintenance of the attenuation features will remain the responsibility of the site owner or an appointed management company, and will not be offered for adoption. The Anglian Water sewers that pass through the site will remain the responsibility of Anglian Water.

3.58 The proposed surface water drainage strategy, covering 8no catchments will significantly reduce surface water runoff, provide significant attenuation volumes and improve water quality, biodiversity and amenity.

Utilities

3.59 Connection points for site-wide utility infrastructure have been identified and consultation with the respective service providers has been conducted to ensure that the local networks have adequate provision to service the Proposed Development

Energy and Sustainability

3.60 The proposed design includes for the integration of renewable technologies in the form of Air Source Heat Pumps (ASHP).

Waste and Servicing

3.61 The management of waste has been provided for through the design of the Detailed Component, with bin storage provided on the ground floor of blocks. The waste strategy to support future development in the Outline Component will be confirmed via reserved matters application(s).

Demolition and Construction of the Proposed Development

3.62 This is a descriptive section only. Assessment of demolition and construction impacts of the Proposed Development are provided in each technical chapter of this ES (i.e. Chapters 4-9 and Volume II). In addition, each technical chapter assesses the cumulative impacts of construction of the Proposed Development in conjunction with other schemes in the vicinity.

3.63 A CEMP is submitted with the planning application (Appendix 3.4). The CEMP includes details of which British Standards demolition and construction practices will adhere to.

Indicative Demolition and Construction Programme

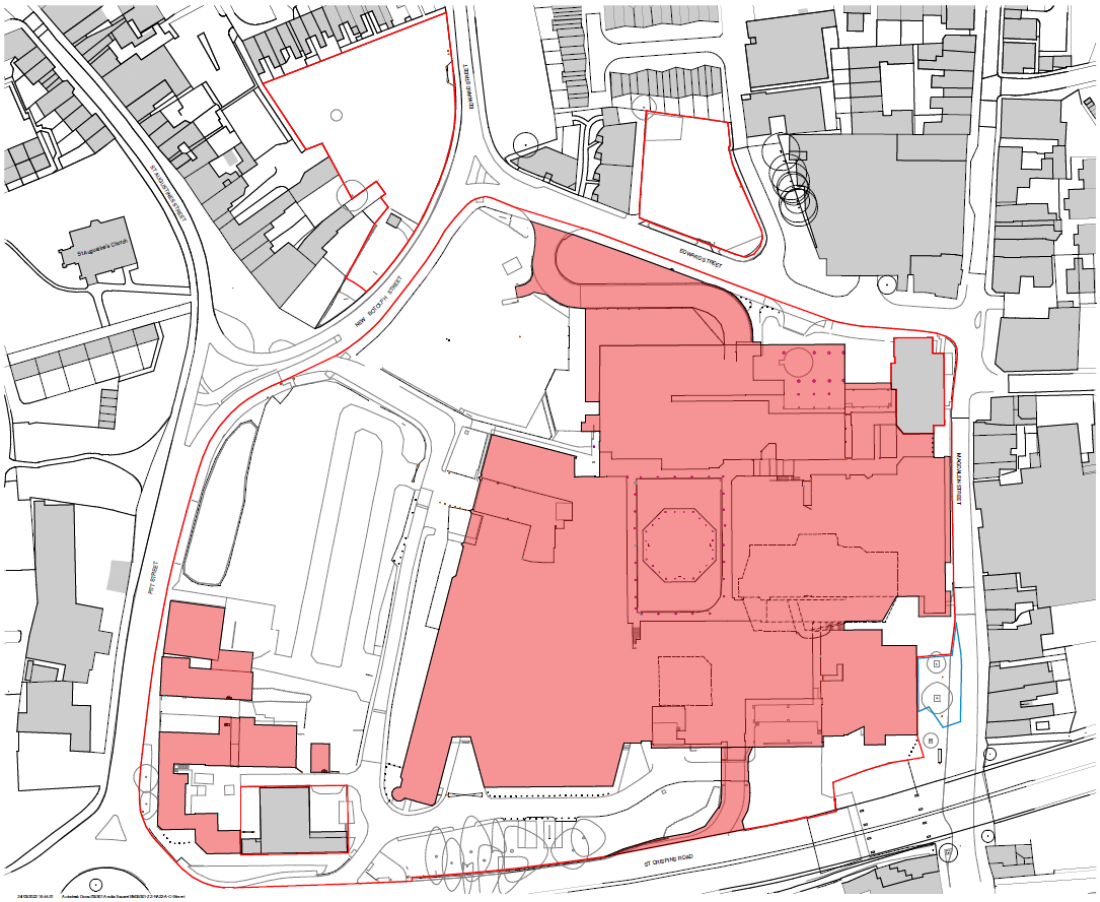
3.64 The indicative delivery programme for the Proposed Development is estimated to be approximately 8 years. Subject to planning permission being granted, construction is anticipated to commence in December 2022 and be completed in December 2030. The demolition and construction will comprise four phases as set out in Table 3.6.

Table 3.6 Demolition and Construction Programme

Phase	Duration
Phase 1 (December 2022 – September 2024)	19 months
Phase 2 (July 2024 – June 2026)	24 months
Phase 3 (April 2026 – March 2028)	24 months
Phase 4 (April 2028 – December 2030)	33 months

3.65 Demolition and construction of the Proposed Development is likely to take place continuously over an 8 year period, albeit at different levels of intensity. Works will commence will demolition of the multistorey car park and the single storey commercial building. Crushed concrete, brick and mortar produced as a by-product of demolition would be a period of 1-0-12 weeks should the Site be demolished as a whole. There is at least 25,000m^3 crushed concrete to be realised.

Figure 3.6 Existing Structures to be Demolished



Hours of Work

3.66 The prescribed hours of work would be agreed with NCC. It is anticipated that the core working hours will be as follows:

- 08:00 – 18:00 hours weekdays;
- 08:00 – 13:00 hours Saturday; and
- No working on Sundays or Bank Holidays.

3.67 The following activities are expected to be permitted to take place within the period before and after normal working hours as outlined above:

- Arrival and departure of workforce on-site;
- Deliveries and unloading;
- Check and examinations of plant and machinery (including test running) and the carrying out of essential repairs / maintenance to plant and machinery;
- Site inspections and safety checks; and
- Site clean-up.

3.68 These hours will be strictly adhered to unless or in the event of:

- An emergency demands continuation of works on the grounds of safety;
- Minor internal works are being carried out within the confines of the building envelope; or
- Completion of an operation that would otherwise cause greater interference with the environment / general public if left unfinished.
- Approval from NCC will be required for any works beyond the above that need to be undertaken outside of permitted hours.

Construction Traffic

Construction Vehicle Movements

3.69 During demolition and construction, although some traffic may travel on residential roads in proximity to the Site, the majority of the journeys will be via the local 'A' roads, with the Site benefitting from good connections to these initially via St Crispins Road.

3.70 The number of HGV movements resulting from the demolition and construction work is anticipated to vary from phase to phase, dependent on the build out rate of residential / commercial units, and other infrastructure activities. The likely maximum anticipated for any one Phase of the construction period will be 55 vehicles per day, although it is noted that there will be some overlap between the phases during which time there may be a higher number of daily movements depending on when the peak construction traffic is for each phase. The average number of vehicles arriving to the construction site per day will be up to 40 during each of the phases.

3.71 Of all the construction traffic arriving to the Site, approximately 80% will be HGVs and the remaining 20% will be Light Goods Vehicles (LGVs). The vehicle movements will be spread over the course of the working day, with the prescribed hours of work to be agreed with NCC.

3.72 A full assessment of the demolition and construction vehicle movements on the surrounding road network is presented in Chapter 7: Highways, Traffic and Transport and within Appendix 7.1: Transport Assessment.

Environmental Management and Mitigation Measures

Construction Environmental Management Plan

3.73 A CEMP is submitted with the hybrid planning application and is appended to the ES (Appendix 3.4). The CEMP sets out the strategy, standards, control measures and monitoring procedures that will be implemented to manage and mitigate any adverse environmental effects of the demolition and construction process, including mitigation measures defined by the ES.

3.74 The CEMP will remain a live document to ensure that it is specific to the works and processes that are to be employed during construction site activities. The CEMP will include details on roles and responsibilities, control measures and activities to be undertaken to minimise environmental effects, as well as monitoring and record-keeping requirements. It will also provide a framework for engaging with local residents and communities and their representatives throughout the construction period.

3.75 The CEMP will include a Construction Method Statement (CMS) and will be subject to approval by NCC.

Construction Traffic Management Plan

3.76 A Construction Traffic Management Plan (CTMP) will be prepared to control traffic during the temporary period of construction, which is expected to be secured by planning condition.

3.77 The CTMP will ensure that a strategy for planning of the construction access routes will be implemented to take into account current legislation, police, fire authority and Health and Safety Executive guidance, local authority transport schemes and neighbourhood lorry restrictions.

3.78 The CTMP would enable and manage all types of HGVs to and from the Site during construction. This would improve the safety and reliability of deliveries to the Site, reducing congestion and minimise the environmental effects.

3.79 Directional signage will be implemented to ensure that construction traffic utilises designated routes to minimise the effect on the surrounding road network. Locations for temporary signage for the approved route will be discussed with the NCC Highway Officers.

3.80 HGV movements will be restricted as far as reasonably possible to avoid peak traffic flow periods (i.e. from 08h00-09h00 and 17h00-18h00). All construction traffic entering and leaving the Site will be closely controlled and during delivery times traffic marshals will be positioned, as necessary, at the entry and exit points to control and record entry and exit movements.

Archaeology

3.81 The presence of and significance of below ground archaeological remains has been sufficiently determined through various phases of archaeological fieldwork such as evaluation trenching and boreholes undertaken over the years across the site (see 'Archaeological Impact Assessment' Appendix 5.1).

3.82 The impact on undesignated buried archaeological remains on the site will be either mitigated through design changes to allow preservation of important remains in situ or offset through a comprehensive programme of archaeological investigation, recording and dissemination, designed in consultation with the Archaeological Advisor to NCC to ensure its acceptability.

Dust, Air Quality, Noise and Vibration

3.83 Dust emissions escaping the work area may cause nuisance through, for example, surface soiling, loss of visibility due to deposition, and effects on nearby flora and fauna. Since it is difficult to suppress dust once it is airborne, it is optimal, where possible to prevent dust from being generated at source and good practice site mitigation measures, such as covering of stockpiles, on-site traffic management, wheel washing and good plant and vehicle maintenance, will be employed to minimise these effects as far as practicable.

3.84 Potential sources of noise and vibration include (but are not restricted to) plant and usage of heavy machinery, piling activities, crushing activities and vehicles movements. The Principal Contractor will implement the necessary management and operational controls on-site in order to minimise adverse noise and vibration impacts on nearby sensitive receptors from construction site activities.

3.85 Good practice site measures will seek to minimise potentially adverse noise and vibration effects that result from these activities. Should a complaint be received regarding noise and/or vibration, the Principal Contractor will consider installing monitoring equipment to measure the level of vibration

being caused and, if it is deemed necessary, additional mitigation measures will be implemented to further reduce these impacts.

3.86 Further details on these potential effects and mitigation measures can be found in Chapter 8: Air Quality and Chapter 9: Noise and Vibration.

Water Resources and Land Pollution

3.87 Surface water, groundwater and land will be protected from polluting materials through the construction process through adequate bunding, provision of spill kits, implementation of correct storage measures and adherence to washing down and refuelling procedures. Contractors will adhere to GPP13: Vehicle Washing and Cleaning and GPP22: Dealing with Spills to mitigate potential adverse effects during the construction phase. In the incidences of a spill work will be halted and the Site Manager will be notified.

Description of Alternatives

3.88 In line with the EIA Regulations, this chapter describes the 'reasonable alternatives' to the Proposed Development studied by the Applicant, prior to selection of the final design and provides an indication of the main reasons for selecting the final chosen option, including a comparison of the environmental effects.

3.89 Information on the need for the Proposed Development is provided in the Planning Statement and Planning Benefits documents, which accompany the planning application and is not reprovided within the ES.

3.90 The alternatives that are considered in this chapter include:

- Option 1: Alternative Sites / Site Boundaries;
- Option 2: 'Do Nothing' Alternative;
- Option 3: Call-In Scheme; and
- Option 4: Alternative Designs (e.g. layout, heights, massing and other aspects).

Option 1: Alternative Sites / Site boundaries

3.91 No alternative sites were considered by the Applicant due to their 'subject to planning' ownership of the full Site area. Minor amendments have been made to the red line boundary since an EIA Scoping Opinion was submitted, as detailed in Chapter 1.

Option 2: 'Do Nothing' Alternative

3.92 In line with best practice, this section broadly outlines the consequences of no development taking place at the Site and it remaining in its current state. Chapters 4-9 and Volume II set out the baseline conditions of the Site together with the future baseline conditions which are likely to arise in the absence of the Proposed Development. These are not repeated here.

3.93 In the absence of the Proposed Development, it is reasonable to assume that the Site would largely remain in its present condition i.e., the existing Anglia Square shopping centre and associated land.

3.94 The Site has been identified for redevelopment for many years within various local planning policy documents, including the Northern City Centre Area Action Plan 2010, (NCCAAP), (now expired), the Joint Core Strategy for Broadland, Norwich and South Norfolk 2014, (JCS), and NCC's Anglia Square and Surrounding Area Policy Guidance Note 2017, (PGN). The Site forms the principal part of an allocation (GNLP 0506) in the emerging Greater Norwich Local Plan (GNLP). Should the Applicant not redevelop the Site, this would mean the Site would not achieve the allocation and would be contrary to the objectives set out in the aforementioned planning policy documents.

3.95 Inevitably, the adverse environmental effects related to demolition and construction would not occur, for example disruption relation to construction traffic with relation to diver delay, pedestrian amenity and construction noise. However, these effects have been found by the EIA process to be not significant.

3.96 In the absence of development, leaving the Site in its current state would avoid potential adverse significant environmental effects associated with the completed and operational Proposed Development, such as:

- Moderate adverse impacts on the Church of St Augustine (Grade I).

3.97 In the absence of the Proposed Development, the significant environmental benefits of the scheme would not be realised:

- Moderate beneficial socio-economic effects (operational employment, expenditure by residents and crime)
- Major/moderate beneficial socio-economic effects (deprivation experience by existing populations); and
- Moderate heritage impacts on 71 Botolph Street, Former church of St Saviour and Former Church of St James.

Option 3: Call-In Scheme

3.98 As detailed in Chapter 1, this planning application follows a previous application on the Site (the 'Call-In Scheme'). Table 3.7 provides a comparison of the environmental effects between the Proposed Development and those of the 'Call-In Scheme' ES.

Table 3.7 Comparison of the environmental effects of the Proposed Development compared to the Call in Scheme ES.

Topic	Call In Scheme	This ES
Transport	Demolition and Construction No significant effects identified. Completed Development Major adverse driver delay & severance on Edward Street Moderate beneficial for pedestrian & cycle delay and amenity	Demolition and Construction No significant effects identified. Completed Development No significant effects identified.
Built Heritage and Townscape	Demolition and Construction Moderate Adverse effect on the setting of: • 75 Magdalen Street, • Cat and Fiddle Public House • Doughty's Hospital • Rear of Nos. 13 and 15, St Augustine's Street • 107 and 109, Magdalen Street • 1, 5, 7, 9, 11, 21, 23, 25, 27-29 St Augustine's Street • 2-12 Gildencroft • 22, 24, 26-30, 32, 34, 36 and 36A St Augustine's Street • Church of St Augustine • 43/45 Pitt Street	Demolition and Construction No significant effects identified.
	Completed Development Moderate Beneficial effect on the setting of: • 75 Magdalen Street, • Cat and Fiddle Public House • 113, 115, 117 Magdalen Street • Former Church of St Saviour Moderate Adverse effect on the setting of: • Doughty's Hospital	Completed Development Moderate beneficial heritage effects on: • 71 Botolph Street • Former Church of St Saviour • Former Church of St James Moderate adverse heritage effects on: • Church of St Augustine

Topic	Call In Scheme	This ES
	• 1, 3, 5, 7, 9, 21, 22, 23, 24, 25-30, 32, 34, 36, 36A, 42-52 St Augustine's Street • Church of St Augustine • 2-12 Gildencroft • The Catherine Wheel Public House • 2-9, Octagon Court • Church of St Clement • The Cathedral of the Holy and Undivided Trinity • City walls and towers Moderate beneficial effect on the following views: • Angel Road (next to school entrances) • Motram Monument, St James' Hill (wider angle) • Ketts Heights (Armada beacon) (wider angle) • Aylsham Road (outside no 22 on path) • Junc St Augustine's Street / Magpie Road • Junc St Augustine's Street / Sussex Street • Junc Edward Street / Magpie Road • Outside St James Church • Junc Wensum Street / Elm Hill • Jun Oak Street / St Martin's Lane • Junc St Crispin's Road / Oak Street • Seating area in northwest corner of St Augustine's Churchyard • Junc Cowgate / Bull Close • Muspole Street (in front of Woolpack Yard Inn) • Corner of 59 Magdalen Street • Doughty's Hospital courtyard (south end) • South east corner Duke Street / St Crispin's / Pitt Street roundabout	

Topic	Call In Scheme	This ES
	• Anglia Square character area • Colegate character area	
Archaeology	Demolition and Construction No significant effects identified. Completed Development No significant effects identified.	Demolition and Construction No significant effects identified. Completed Development No significant effects identified.
Noise	Demolition and Construction No significant effects identified. Completed Development No significant effects identified.	Demolition and Construction Moderate adverse vibration effects during demolition to residents on opposite side of Edward Street (intermittent only). Completed Development No significant effects identified.
Air Quality	Demolition and Construction No significant effects identified. Completed Development No significant effects identified.	Demolition and Construction No significant effects identified. Completed Development No significant effects identified.
Socio-Economics	Demolition and Construction Moderate beneficial effect: • Construction employment Completed Development Moderate beneficial effect: • Operational employment • Resident expenditure • Housing targets to the wider impact area • Crime Major to moderate beneficial effect: • Deprivation • Housing targets for the local impact area.	Demolition and Construction Moderate beneficial effect: • Construction employment Completed Development Moderate beneficial effects on: • Operational employment • Expenditure by residents • Crime Moderate to major beneficial effects on: • Deprivation experienced by existing population • Housing targets

Topic	Call In Scheme	This ES
Ecology	Demolition and Construction No significant effects identified. Completed Development No significant effects identified.	Demolition and Construction No significant effects identified. Completed Development No significant effects identified.

Option 4: Alternative Designs

3.99 The project has evolved over several iterations since June 2021 through consultation with various stakeholders and interested parties, including NCC and Historic England. Environmental testing has been undertaken to inform the design such as heritage views assessment and sunlight and daylight analysis.

3.100 The site constraints and opportunities in Table 3.8 were considered in the design evolution.

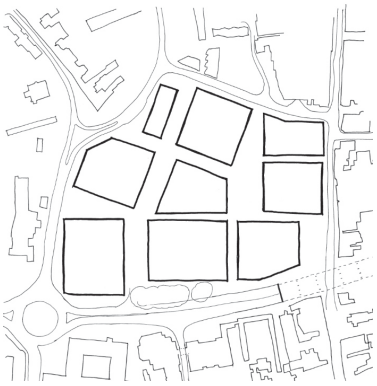
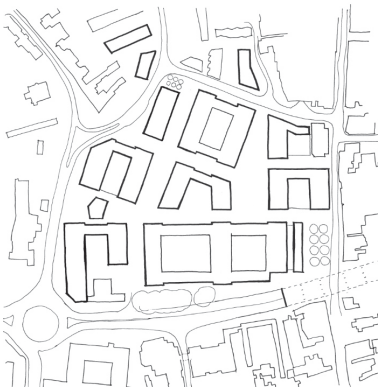
Table 3.8 Site Constraints and Opportunities Considered

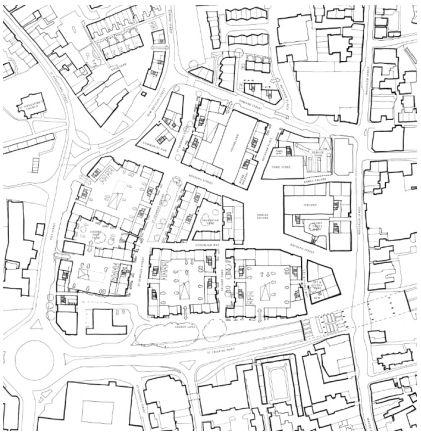
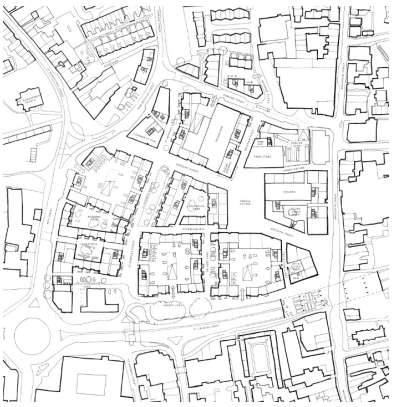
Constraints	Opportunities
The Flyover	Link to St George's Street
Surrey Chapel (not within red line boundary)	Visual connection to St Augustine's Church
Barclay's bank building (not within red line boundary)	Cycle route improvement
Heritage sensitivity	Retain trees and opportunity to add more
	Enhance retail street
	Existing infrastructure for service area
	Regeneration of hard spaces
	Connectivity to existing parks
	Retention of a public square

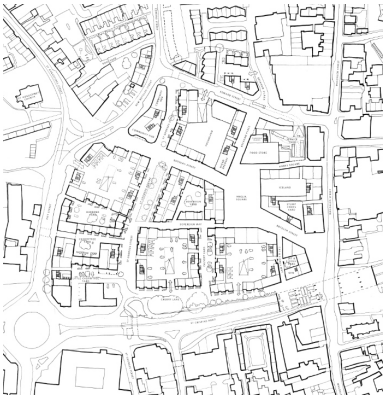
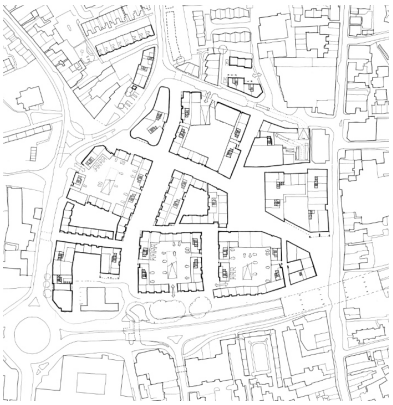
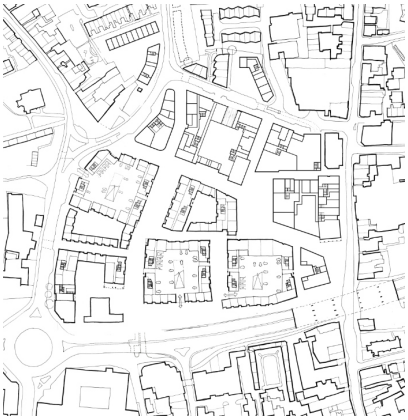
3.101 A number of alternative masterplan options were developed, as set out in Table 3.8

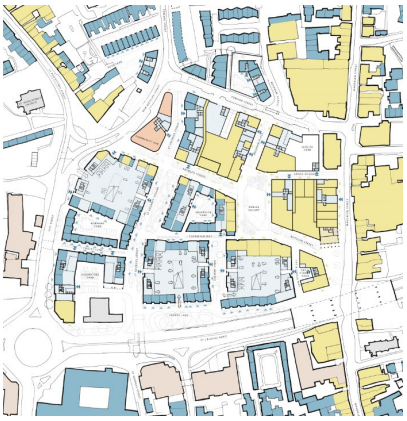
Table 3.9 Masterplan Evolution

Masterplan	Commentary
00. Concept Masterplan Sketch 	The initial sketch focusing on increased permeability across the site and creation of a finer urban grain to inform placement of built form.

	Concept sketch rationalised into a 3x3 grid of development zones
	Development zones broken down into courtyards with taller north-south oriented finger block and lower east-west orientated link to allow sunlight into amenity spaces. Defined character and scale of spaces; squares, streets, lanes, residential mews & residential courtyards Retention of Anglia Square, Creation of new residential address at St Georges Square, Reimagined Anne's Walk, Framed views to St Augustine's Church and Norwich Cathedral, Pedestrian priority routes with residential front doors.
Masterplan Iteration 02 	Building F Footprint adjusted to Surrey Chapel Addition of Pavilion Community Hub Building Between E & F to end east to west vista along Sovereign Way from Magdalen Street Adjusted east-west links to Buildings E & K East-west link added to Building M to create frontage on Edward Street Feature facade to east side of J added and Stump Cross space increased in width Arrival space to the north of Block D created
Masterplan Iteration 03 – Pre App 01, April 2021 	Spaces & Routes were too 'leaky' and lacked hierarchy Building M footprint is adjusted to form the northern face of Anglia Square Buildings G & J are split in two to form calvert yard The Community Hub is moved to a new wing in Building D, this change in footprint helps define the western connection of Botolph Street and St Augustines Street The vacated space has become a new yard between Buildings E & F with the addition of two lower north south links In Building K/L a yard off of St Annes walk is added Ground & First Floor under podium parking levels are added in Buildings A, E, G & J

Masterplan Iteration 04 – Pre App 02, July 2021 	The southern edge of Anglia Square lacked definition, Calvert Yard is moved westwards to create a stronger edge and Buildings G & J become more similar in their upper level footprints. Footprints of Buildings K/L & J are adjusted to bring Botolph Street & Stump Cross connection closer in line with its historical alignment The hierarchy of massing on the southern edge of Building G is changed to give the lower east-west element priority to form a series of townhouses along Cherry Lane Site C is re-oriented into two east-west buildings, one apartment block on Edward Street and townhouses behind sharing a communal garden space between A row of townhouses is added to form a more defined Sovereign Way route from Anglia Square to St Georges Sq and the same time this creates Sovereign Yard at the centre of Building H.
Masterplan Iteration 05 	Eastern Side of Building J is broken away to form Cat & Fiddle Way route, Yard and Building J3. The hierarchy of massing on the southern edge of Building J is changed to give the lower east-west element priority to form a series of townhouses along Cherry Lane More bends, cranks, recesses and squints are added across the masterplan North Western corner of Building A is rotated to better address the junction of St Georges Street and Edward Street Stump Cross Yard is moved to the southern half of Building K/L The southern facade of Building K/L is conceptualised as 'No 1 Stump Cross' for the first time
Masterplan Iteration 06 	Site B is reconfigured for additional houses on the terrace row and the apartment element is reduced The under podium parking within Building F is removed to become Cherry Tree Yard which now frees up space for Burrows Yard The North Western corner of Building A is rotated further to better address the north south route of Edward Street and St Georges Street

Masterplan Iteration 07 – Historic England November 2021 	Building D becomes a gateway to north west of the site, its form is adjusted to include curved edges to set it apart from the other proposed buildings The access & egress arrangements with Building A to Edward Street are adjusted The twin gable end to the Stump Cross facade of building K/L has been used for the last time
Masterplan Iteration 08 	Stump Cross Yard removed from Building K/L Cherry Tree Yard is flipped with the east-west link to form Tooley Lane a new pedestrian route connecting Pitt Street and St Georges Street The Stump Cross facade of building K/L is derived from contemporary reinterpretations of the historic faces before it, shown in plan for the first as a colonnade at ground level The vehicular entrance to Building J is moved to be from Calvert Yard freeing up the eastern half of Cherry Lane to be a shared pedestrian & cyclist route with the exception of service access to No 52-56 Magdalen St.
Masterplan Iteration 09 	Site C is redesigned following sunlight & daylight analysis results showing self shading of the communal garden amenity space between the two east-west oriented buildings in the previous iteration. A predominantly north-south oriented building is used to ensure daylight & sunlight within the redesigned amenity space

Masterplan Iteration 10 	This is the preferred development and is described in this chapter.

Summary of Alternatives

3.102 The EIA has considered the alternative scenarios of the do-nothing and the Call-In Scheme scenario, as well as design alternatives described above.

3.103 In the absence of the Proposed Development being implemented, the Site would remain in its existing condition, i.e., as a partially vacant Site in a central location. The surrounding cumulative schemes would come forward, which would leave an under-utilised quarter in an otherwise busy and vibrant city centre. It is also reasonable to say that, in the absence of the Proposed Development, the Site's physical fabric and infrastructure is likely to continue to deteriorate.

3.104 The opportunity to bring the Site back into full active use, contribute towards housing provision across Norwich and generate employment opportunities would not be realised should the Proposed Development not come forward.

Anglia Square, Norwich Environmental Statement

Chapter 4: Socio-Economics

Iceni Projects on behalf of

Weston Homes PLC

March 2022

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4. SOCIO-ECONOMICS

Introduction

4.1 This chapter of the ES has been prepared by Iceni Projects and presents an assessment of the likely significant effects of the Proposed Development with respect to socio-economics. The assessment considers the baseline conditions, before the likely socio-economic effects of the Proposed Development are considered over both the construction and operational phases. Mitigation measures are identified, where appropriate, to avoid, reduce or offset any significant adverse effects identified and/or enhance likely beneficial effects. Taking into account the mitigation measures, the nature and significance of the likely residual effects are reported.

4.2 The assessment focuses on the effect of the Proposed Development on the local population, supply of housing, provision of education and health facilities, and provision of community facilities and amenities including open space, sport and recreation facilities. The local employment and labour market impacts of the Proposed Development are also considered, as well as deprivation levels, crime and community cohesion.

4.3 This chapter is supported by a series of technical appendices compromising the following:

- Appendix 4.1 - Policy Appraisal - Comprehensive appraisal of planning policies relating to the Proposed Development;
- Appendix 4.2 - Community Infrastructure Audit - Tables and supporting maps of all data regarding education, healthcare, open space, sports and recreational and community facilities;
- Appendix 4.3 - Figures; and
- Appendix 4.4 - Glossary and Abbreviations.

Legislation and Policy Context

4.4 The following documents are considered relevant to the Proposed Development. A comprehensive policy appraisal is provided at Appendix 4.1.

- National Planning Policy Framework (2021)[i]
- Joint Core Strategy for Broadland, Norwich and South Norfolk (2011, amended January 2014)[ii]
- Development Management Policies Plan (2014)iii
- Anglia Square and Surrounding Area: Policy Guidance Note (March 2017)[iv]

- Norfolk and Suffolk Economic Strategy- Strategy for Growth and Opportunity (2017)[v]
- Open Space and Play Supplementary Planning Document (2015)[vi]
- Main Town Centre Uses and Retail Frontages Supplementary Planning Document (2014)[vii]
- New Greater Norwich Local Plan 2022 - 2038 – Regulation 19 Draft (March 2021)[viii]
- Norwich Economic Strategy 2019-2024 (2019)[ix]
- Norfolk and Suffolk Local Industrial Strategy (2020)[x]
- Norfolk and Suffolk COVID-19 Economic Recovery Restart Plan (2020)[xi]

Assessment Methodology and Significance Criteria

4.5 This section presents the methodology used to assess the potential effects of the Proposed Development in relation to socio-economics. There is no established guidance for undertaking socio-economic assessment as part of an EIA. The approach follows a desk-based assessment, supported by consultation with relevant stakeholders. The assessment also applies professional judgement.

Consultation

4.6 The Environmental Impact Assessment (EIA) Scoping Opinion received from Norwich City Council included a number of comments relating to socio-economic matters. The comments have been taken into consideration in the preparation of this chapter.

4.7 **Table 4.1** presents a summary of the comments raised in the Council's EIA Scoping Opinion and other discussions with relevant consultees with respect to socio-economics.

Table 4.1 Summary of Consultee Comments

Consultee	Comment	Response
Norwich City Council	The demolition/construction phase has the potential to result in a significant adverse impact over a number of years. Understanding the impact of each phase of construction on the functioning of the large district centre and the local population's access to both day-to-day shopping and public space, will be essential in identifying appropriate mitigation to limit these impacts.	A phasing plan and details are provided within **Chapter 3.** It details the construction phasing and is referenced to in terms of socio-economic impacts.

NHS Norwich Clinical Commissioning Group	Estimates that the proposal could result in potential impact on local services and result in additional floorspace requirements. However, a more detailed response can be provided once the provision in terms of dwelling mix and tenure is known.	The impact on healthcare provision is considered at section 4.185. Discussions with the NHS Norfolk and Waveney Clinical Commissioning Group ('CCG') will be ongoing throughout the application process.
Norwich City Council – Communities Manager	The consultation response to the previous application is still pertinent in terms of demographics.	The previous mitigation measures to achieve an inclusive community and encourage social cohesion between the new and existing communities will be retained by way of a Sustainable Community Strategy (to be secured through a legal agreement).
Norfolk County Council – Children's Services	Any additional children generated from this development should be able to be accommodated within existing provision.	This information has been taken into account in the preparation of this assessment.
Norfolk County Council – Public Health	The assessment should include active consideration of the skills levels and needs of the local population in poor employment or not in the jobs market to enable them to better access jobs. There should also be consideration of the physical or psychological barriers in accessing services within 1,600m (e.g. lighting, busy roads, safety).	Consideration of the potential impacts on local labour market such as education and employment levels, as well as unemployment rates is included. Ease of access to local services is also considered (in addition to walking distances).
Norfolk County Council – Community	Welcomes the inclusion of enhanced community facilities/ services and the specific reference to education. Both education and library contributions were previously identified as essential policy requirements and would expect funding for any additional places or services to be provided through the Community Infrastructure Levy. Also welcomes the socio-economic impacts that are factored into the EIA, particularly in relation to jobs and education.	This information has been taken into account in the preparation of this assessment.
Norfolk Constabulary	The assessment should include crime and disorder (including fear of crime and requirements for additional police resources), the effect on social cohesion (and quality of life) and the effect of high-rise development of the constabulary airwaves coverage.	This socio-economic assessment includes consideration of crime and disorder as well as social cohesion. It does not consider the effect on constabulary airwaves coverage as it is assumed these are dealt with under alternative safety regulations. Please refer to the Design and Access Statement for further details on how the scheme seeks to design out crime.

Study Area and Scope

4.8 The study area examines where the effects of the proposals are likely to be identified. This area is predominately studied at two scales:

- Local - The area immediately around the Site where impacts are more likely to be significant;
- Wider – Across the city of Norwich as a whole, acknowledging that some impacts will have wider effects.

4.9 The study area is outlined and mapped in further detail below under the sub-heading 'Impact Areas'. In some instances, comparisons with regional and national data are provided within the baseline section of this ES Chapter for context.

4.10 The scope of this chapter is to assess the social effects (including community cohesion, crime, housing, community facilities and social infrastructure) and economic effects of the Proposed Development (including employment levels, labour market, resident and employee expenditure).

Assessment Methodology

4.11 The identification and assessment of likely significant socio-economics effects of the Development uses well established models and standard procedures, alongside professional judgement. The assessment of effects considers both the demolition and construction and operational phases of the Development.

4.12 This assessment first establishes the baseline position in terms of the profile of the local population, supply of housing, provision of education and health facilities, and provision of community facilities and amenities including open space, sport and recreation facilities across the appropriate impact area(s). The local employment and economic conditions are also considered, as well as deprivation levels, crime and community cohesion.

4.13 The assessment then examines the potential effects of the Proposed Development over the construction and operational phases. The existing baseline is considered to be 2021/2022. The indicative delivery programme for the Proposed Development is estimated to be approximately 8 years. Subject to planning permission being granted, construction is anticipated to commence in Q2 2023 and be completed in Q4 2030. Details of the construction and phasing are outlined in Chapter 3: Proposed Development, Construction and Description of Alternatives.

4.14 The role of appropriate mitigation measures to reduce any adverse effects of the Proposed Development and enhance positive effects is then evaluated in further detail. This takes account any built-in elements of the scheme that will help mitigate any negative effects (e.g. on-site social and community facilities). The residual socio-economic effects of the Proposed Development are considered.

Impact Areas

4.15 It is important when undertaking an assessment of the social and economic effects, that the geographical scope of the assessment is clearly defined.

4.16 The Site at Anglia Square is located in the northern City Centre and is classified within the Norwich Local Plan as a Large District Centre. Taking account of the scale of the Proposed Development, the location in a Large District Centre as well as commuting patterns, it is very likely that some of the Proposed Development effects may be spread over a broader geographical area including the wider local authority administrative area of Norwich. On this basis, for the purposes of this assessment, this area is considered to form an appropriate 'Wider Impact Area'.

4.17 It is likely that the most significant socio-economic effects will predominantly be felt close to the Site, particularly those in relation to education provision, healthcare, open space, sport and recreation and community facilities. Spatial characteristics, walking distances, the retail hierarchy, socio-economic characteristics and the neighbourhood character area all indicate that the strongest functional relationships are most likely to be within the Norwich northern city centre area. The extent of this area is taken to form the 'Local Impact Area' for the purposes of this assessment. Discussion with Officers from Norwich City Council has confirmed that this is appropriate.

4.18 On this basis, the corresponding Local Super Output Areas (LSOAs) are used for the collection of data. **Figure 4.1** highlights the Local Impact Area (highlighted in pink), and the Wider Impact Area of Norwich (highlighted in grey). It should be noted that impact areas may vary for certain receptors following best practices or the availability of data. Where this is the case, this will be highlighted within the Chapter. In some instances, data for the East of England and Great Britain have been used for comparison purposes within the baseline section of this ES Chapter.

Significance Criteria

4.19 There is no statutory definition or Government guidance relating to the assessment of socio-economic and health effects and therefore, the effects are assessed based on the scale of the increase or decrease compared to the baseline position, as well as the nature and context of the effects, taking account of the sensitivity of the identified receptor. The location of the effects and their likely duration are considered where possible. However, in instances where effects cannot be quantified or measured, the assessment is based on qualitative factors and professional judgement.

4.20 The socio-economic and health effects of the Proposed Development are identified as 'beneficial', 'negligible' or 'adverse' and defined as follows:

- Beneficial - A positive and/or advantageous effect to a minor, moderate, or major magnitude.
- Negligible- No obvious significant effect to a receptor or environment; and
- Adverse - A negative and/or disadvantageous/ detrimental effect to a minor, moderate, or major magnitude.

4.21 In instances where beneficial or adverse effects are identified, the following definitions of significance are applied (**Table 4.2**).

Table 4.2 Significance of Effects and Criteria

Significance of Effects	Criteria
Major	The Proposed Development could be expected to have substantial effects (by extent, duration, or magnitude) of more than local significance on the key elements/ features of the baseline conditions, including the population profile, levels of employment, levels of deprivation, facility provision and housing delivery. This effect is considered to be 'significant'.
Moderate	Where the Proposed Development could be expected to have notable effects on the key elements/ features of the baseline conditions, including the population profile, levels of employment, levels of deprivation, facility provision and housing delivery. This effect is considered more likely to be 'significant' but will be subject to professional judgement.
Minor	Where the Proposed Development could be expected to have slight, short or localised effects on the key elements/ features of the baseline conditions, including the population profile, levels of employment, levels of deprivation, facility provision and housing delivery. This effect is considered less likely to be 'significant' but will be subject to professional judgement.
Negligible	Where the Proposed Development could be expected to result in very little/ no distinguishable change from the baseline conditions including the population profile, levels of employment, levels of deprivation, facility provision and housing delivery. This effect is considered to be 'insignificant'.

4.22 The sensitivity of receptors is based on the relative importance of the receptor and is considered on a scale from low sensitivity (easily adapt to change) to high sensitivity (do not easily adapt to change). In identifying the sensitivity, factors including the capacity to accept or respond to change, and the local position, local needs and priority groups are considered.

4.23 The duration of the socio-economic and health effects is considered against whether it is temporary or permanent. Due to their nature, all operational effects are permanent unless otherwise stated. In terms of temporary effects, the duration can be determined as follows:

- short term - less than 5 years;
- medium-term - 5-10 years; or
- long term - more than 10 years.

4.24 The impact significance matrix set out in **Table 4.3** below is used to determine the significance of an effect.

Table 4.3 Magnitude and Sensitivity

Magnitude	Sensitivity		
	High	Moderate	Low
Major	Major Adverse/ Beneficial (Significant)	Major – Moderate Adverse / Beneficial (Significant)	Moderate – Minor Adverse / Beneficial (Significant)
Moderate	Major – Moderate Adverse/ Beneficial (Significant)	Moderate – Minor Adverse / Beneficial (Significant)	Minor Adverse Beneficial (Not Significant)

Minor	Moderate – Minor Adverse / Beneficial (Significant)	Minor Adverse/ Beneficial (Not Significant)	Minor – Negligible (Not Significant)
Negligible	Negligible (Not Significant)	Negligible (Not Significant)	Negligible (Not Significant)

Limitations and Assumptions

4.25 Both assumptions and limitations are highlighted where relevant throughout this assessment. The assessment is based on the masterplan and plans identified within the Design and Access Statement. Government and Local Authority data has been used to inform this assessment, including the latest available statistics from the 2011 Census[1], Mid-Year Population Estimates, Indices of Multiple Deprivation, and the following published datasets and documents:

- Department for Education: Get information about schools Tool for education facilities;
- NHS Choices for healthcare facilities;
- Sport England's Active Places database for sports facilities;
- Council's evidence base for open space and community facilities.

4.26 The sources used are clearly referenced throughout. Furthermore, while the latest available data has been used, it should be noted that many data sources are frequently updated and could be subject to change since time of drafting or during the course of the planning application process.

4.27 Existing occupier information has been sought from the site owners and average employment densities, sourced from the Homes & Communities Agency (HCA) Employment Density Guide (2015) have been applied to estimate employment generation.

4.28 In terms of assessing impacts from the new population, a 'worst-case' scenario is used as the final tenure mix is not known due to the hybrid nature of the application. As such, it is assumed 10% of units will be affordable, all of which would be of social tenure. An assumption is made for assessing the outline element of the scheme using the anticipated dwelling mix from the Applicant.

Baseline Conditions

4.29 This section establishes the demographic, socio-economic and health profile, economic context and local labour market characteristics, the housing market, deprivation, crime and social infrastructure provision in the appropriate Impact Areas.

[1] Certain data is only collected by the Census, therefore where this data is used, this reflects the most recent data available across the relevant impact areas. The 2011 Census currently reflects the latest available data as the Office for National Statistics anticipate releasing the first results from the 2021 Census from May 2022 onwards.

Establishing Baseline Conditions

4.30 As outlined in the 'Limitations and Assumptions' section above, information and data has been collated from a range of online resources to establish the current baseline conditions. Sources are referenced throughout.

Baseline Conditions

Demographic Profile

4.31 The resident population in Norwich in 2020 amounted to 142,177 and has risen by 16% over the decade 2010 to 2020[2] in comparison to East of England which has risen by 8% over the decade.

4.32 Based on the ONS mid-year population estimates (2021), the population within the Local Impact Area amounted to 21,544[3] people in 2020, which was equivalent to approximately 15% of the total population of Norwich and 0.3% of East of England.

Age

4.33 Figure 4.2 provides a comparison of the population age structure in the Local Impact Area, Norwich and East of England based on Mid-2020 population estimates data.

4.34 The working age population (aged 16-64 years) of the Local Impact Area amounted to 16,395 persons or, 76% of the total population in comparison to Norwich (60% of Norwich total population) and East of England (61% of East of England total population).

4.35 Figure 4.2 highlights that there is generally a younger population in the Local Impact Area and Norwich compared with the East of England. The Local Impact Area has a lower population for ages 0-19 years in comparison to Norwich and East of England. Within the Local Impact Area, ages 20-39 years amounts to 46% of the total population in comparison to Norwich (37%) and East of England (24%). The proportion of residents aged 65+ in the Local Impact area is 13%, which is lower than Norwich (15%) and East of England (20%).

Socio-Economic Classification

4.36 Based on the Area Classification for Output Areas data[4], Norwich has a diverse socio-economic profile; the Site is classified as comprising primarily "Constrained City Dwellers", the area to the south of the Site is classified as "Cosmopolitans" and to the north of the Site is "Ethnicity Central." Within

[2] ONS Population Estimates, various years

[3] ONS Mid-Year Population Estimates (2020)

[4] ONS/ UCL Geodemographic data derived from 2011 Census Data available from:

https://maps.cdrc.ac.uk/#/geodemographics/oac11/default

the Constrained City Dwellers classification, the residents proximate to the Site are considered to be classified as “Challenged Diversity” and “Hampered Aspiration”. Constrained City Dwellers typically are classified as having the following traits;

- Lower proportion of people aged 5 to 14 years;
- Higher level aged 65 and over than nationally;
- More densely populated than UK average;
- People are more likely to be single or divorced;
- Lower representation of all the non-White ethnic groups;
- Lower proportion of households with no children;
- Households are more likely to live in flats and to live in social rented accommodation;
- Higher proportion of people whose day-to-day activities are limited;
- Higher level of unemployment; and
- No particular industries in which workers are most likely to be employed.

Ethnicity

4.37 Table 4.4 shows the ethnicity groups for the Local Impact Area, Norwich and East of England. Over 90% of the resident population in the Local Impact Area are white, which is broadly consistent with the Norwich and East of England populations. The ethnicity of the Local Impact Area population does not vary hugely in comparison to Norwich and East of England across all ethnicity groups.

Table 4.4 Ethnic group in Local Impact Area, Norwich and East of England

Ethnicity	Local Impact Area	Norwich	East of England
White	16,490 (90%)	120,380 (91%)	5,310,190 (91%)
Mixed	490 (3%)	3,040 (2%)	112,120 (2%)
Asian	840 (5%)	5,840 (4%)	278,370 (5%)
Black	280 (2%)	2,150 (2%)	117,440 (2%)
Other	170 (1%)	1,110 (1%)	28,840 (1%)

Source: ONS Table QS201EW, Ethnic Group 2011

Religion

4.38 Table 4.5 below highlights the religious profile of the Local Impact Area, Norwich and East of England. Within the Local Impact Area, there is a higher proportion of respondents reporting “no religion” (45%) in comparison to Norwich (43%) and East of England (28%). Also there is a higher proportion of respondents reporting “religion not stated” (9%) in comparison to Norwich (8%) and East of England (7%)[5].

[5] ONS Census- Religion (2011)

4.39 In addition, with the respondents that reported their religion, the Local Impact Area has a lower percentage of Christians (41%) in comparison to Norwich (49%) and East of England (60%) and a higher proportion of a variation of religious groups for example Muslims, Hindu and Buddhist[6].

Table 4.5 Religious Profile of Local Impact Area, Norwich and East of England

Religion	Local Impact Area	Norwich	East of England
Christian	7,420 (41%)	59,515 (49%)	3,448,065 (60%)
Buddhist	180 (1%)	980 (0.7%)	22,275 (0.4%)
Hindu	240 (1%)	1,020 (0.8%)	54,010 (0.9%)
Jewish	20 (0.1%)	240 (0.2%)	34,830 (0.6%)
Muslim	460 (3%)	2,610 (2%)	148,340 (2.5%)
Sikh	20 (0.1%)	170 (0.1%)	18,215 (0.3%)
Other Religion	190 (1%)	885 (1%)	24,980 (0.4%)
No religion	8,140 (45%)	56,270 (43%)	1,631,575 (28%)
Religion Not Stated	1,580 (9%)	10,830 (8%)	424,685 (7%)

Source: ONS Census (2011)- Religion. Figures rounded to the nearest 5

Disability

4.40 Census data indicates that c.18.3% of the population of the Local Impact Area have a long-term health problem or disability that limits their day-to-day activities[7]. Approximately half of these people (9.4% of the total population) are defined as "limited a little", while 8.9% are defined as "limited a lot". This is broadly similar to the proportion recorded across Norwich, but slightly higher than East of England.

4.41 **Figure 4.3** maps deprivation in terms of health and disability across the Local Impact Area and Norwich. This indicates that there is variation across the local authority area. The Site's LSOA falls within the 10% most deprived neighbourhoods in the country in terms of health and disability.

Deprivation

4.42 The English indices of multiple deprivation (IMD) measures relative deprivation using a series of data to rank every neighbourhood in England. The IMD combines information from a series of domains that varies from income to health to produce an overall relative measure of deprivation. Overall,

[6] ONS Census- Religion (2011)

[7] ONS Table QS303EW- Long Term Health Problem of Disability (2011)

Norwich is ranked 61st out of 317 authorities which means Norwich is 61st most deprived local authority in the country in 2019 and within the top 20% most deprived local authorities in England.

4.43 **Figure 4.4** maps the scale of deprivation across Norwich. It shows that the Lower Layer Super Output Area (LSOA) within which the Site is located (Norwich 007E) is in one of the 10% most deprived neighbourhoods in the country. Neighbouring LSOAs to the north and south are ranked as less deprived in comparison to the Site, with neighbouring LSOAs to the east and west ranking within the same decile[8].

4.44 Table 4.6 summarises how Norwich performs in all domains of the IMD. Norwich performs below average for all domains except for barriers to housing and services, where it is within the least 10% deprived authorities in the country.

Table 4.6 Norwich IMD ranking by domain

Domain	Ranking (out of 317)	Decile
Income	58	2nd
Employment	87	3rd
Education	59	2nd
Health	39	2nd
Crime	77	3rd
Barriers to housing and services	287	9th
Living conditions	138	5th
IMD Average	**61**	**2nd**

Source: English Indices of Multiple Deprivation 2019

Economic Context

4.45 Based on ONS Population Survey (Oct 20 - Sept 21) in Norwich, out of the 80,400 people that are economically active (those aged 16-64 years old), 77,300 are in employment. The number of people of working age (16-64 years old) in employment has increased by 21% from 64,000 (2011) to 77,300 (2021)[9] in Norwich.

4.46 Based on the mid-2020 population estimates, 16,395 persons (76%) of the Local Impact Area were of working age (aged 16-64 years) in comparison to Norwich (60% of total population) and East of England (61% of total population). This shows that there are more people within the Local Impact Area who are of working age in comparison to Norwich and East of England

[8] Indices of Deprivation 2019 - http://dclgapps.communities.gov.uk/imd/iod_index.html#

[9] ONS Population Survey, Various dates.

4.47 In 2021, Norwich had some 86,000 employee jobs (both full time and part time) which has decreased by 2,000 (2%) jobs since 2015[10].

4.48 The Business Register and Employment Survey (2020) outlines the sector split in the Local Impact Area, Norwich and East of England. Within the Local Impact Area, 89% of the total number of employees work in the private sector which is 5% higher than Norwich (84%) and East of England (84%).

4.49 Norwich's local economy is diverse, with a range of economic sectors including high-value knowledge-based enterprises, research and education, financial and professional services, healthcare, retail, creative and cultural industries, digital and public sector services[11]. The job density of Norwich (1.01) compared to the East of England (0.85) suggests that people commute into Norwich for employment[12].

4.50 The three largest sectors[13] of the economy in the Local Impact Area in 2020 were retail (18%), professional, scientific & technical (12%) and accommodation & food services (12%). In comparison, the Wider Impact Area's local economy differs slightly, with the three largest sectors being retail (13%), education (12%), followed by business administration (9%) and health (9%)[14]. The construction sector accounts for 1% of the employment in the Local Impact Area, which is lower than Wider Impact Area levels (3%).

4.51 Norwich is ranked as a top 20 UK retail centre[15] and is a part of the city's visitor offer. The Economic Strategy highlighted that due to the geographical location of Norwich, it was relatively protected from the effects of the downturn years with regards to its strong retail offer, albeit this strategy was published prior to the Covid-19 pandemic. Other dominant sectors include the financial and insurance services and business services sectors. Many companies have shared service centres, or contact centres located around the city.

4.52 Local economic activity rates in Norwich averaged 83.8% between October 2020 and September 2021, which is higher than East of England (80.5%) but Great Britain as a whole (78.5%). Between

[10] ONS Business Register and Employment Survey : open access (2021)

[11] Norwich Economic Strategy 2019-2024

[12] ONS Jobs Density (2020)

[13] Estimated by levels of employment in each sector as a proportion of total employment

[14] ONS Business Register and Employment Survey: open access (2020)

[15] Norwich Economic Strategy 2019-2024

October 2010 and September 2021, the number of economically active people in Norwich has risen by 10,500 people (15%)[16].

4.53 Between October 2020 - September 2021, unemployment in Norwich for those aged 16-64 averaged 3.9%. This equated to 3,100 unemployed people and is lower than the unemployment rate for both East of England (4.2%) and Great Britain (4.9%). This relatively lower level of unemployment does not reflect the longstanding trend of higher than average rates of unemployment in the area in comparison to East of England and Great Britain. Over the last 10 years, unemployment rates in Norwich peaked at 10.4% in the year to September 2013, significantly higher than the rates in East of England (6.4%) and Great Britain (8.0%) in the same period[17].

4.54 Median average gross weekly workplace earnings for full-time employees in Norwich were £600.70 in 2021[18]. This is slightly lower than the average for East of England (£601.90) and c. 2% lower than the Great Britain average (£612.80). Average gross weekly workplace earnings have increased from 2006 to 2021 by £189.30 (46%), compared with £161.30 (37%) in the East of England and £168 (38%) Great Britain. Furthermore, gross weekly resident place earnings[19] within Norwich (£604.40) are significantly lower than the East of England average (£628.60) and also the average across Great Britain (£613.10)[20].

4.55 Overall, these indicators point to a local economy that is performing less well in comparison to the East of England and Great Britain as a whole. Gross weekly earnings (both work place and resident) are below the averages for both East of England and Great Britain. Whilst unemployment rates are now lower than East of England and Great Britain, over the past 10 years they have been significantly higher.

Local Labour Market

4.56 Norwich has a well-educated resident population; 41% of 16-64 year olds have a qualification of NVQ level 4 and above, which is higher than East of England (39%) but lower than Great Britain (43%). In addition, 7% of the population hold no formal qualifications, which is slightly higher than East of England average (6%) and Great Britain (6%)[21].

[16] ONS Annual Population Survey (October 2020 - September 2021)

[17] ONS Annual Population Survey (various dates)

[18] ONS Annual Survey of hours and earnings- workplace analysis (2021)

[19] Median earnings in pounds for employees living in the area.

[20] ONS Earnings and hours worked, place of residence by local authority: ASHE Table 8 (2021)

[21] ONS Annual Population Survey- Qualifications (January 2020 – December 2020)

4.57 39.6% of workers within Norwich are in Standard Occupational Classification (SOC) major group 1-3 (1- managers, directors and senior officials, 2- professional occupations, 3- associate professional and technical), comparing this to the rate of East of England (45.5%) and Great Britain (49.7%), the rate is significantly lower. Norwich has a higher percentage of workers in the SOC major group 8-9 (8 Process Plant & Machine Operatives, 9 Elementary Occupations) accounting for 17.9% compared to East of England (16.1%) and Great Britain (15%)[22].

Commuting

4.58 Based on the latest commuting data, Norwich has around 48,471 persons travelling into the local authority area for work. This figure excludes those workers already residing within the area. A large proportion of in-commuters originate from Broadland (41%) and South Norfolk (28%)[23].

4.59 At the same time, 21,504 working residents within Norwich travelled to work outside the local authority area in 2011, equating to approximately 29% of all local employed residents. The majority of these out-commuting residents travelled to employment based within Broadland (36%) and South Norfolk (33%)[24].

4.60 On this basis, Norwich can be characterised as having a large net inflow of labour, with a net inflow of around 26,967 workers during 2011.

4.61 In terms of accessibility, the Site is accessible by a range of public transport options. Norwich train station is approximately 0.9 miles (c.20 minute walk) from the Site. There are also a number of bus routes along Magdalen Street, providing connectivity to many surrounding areas such as the rest of Norwich City Centre, the Airport and Fakenham.

4.62 ONS Census data indicates that the top method of travel to work of residents in this area is on foot.

Existing Uses/ Businesses/ Employment

4.63 Anglia Square is a 1960s/ 1970s shopping centre, with other commercial accommodation above. It functions well as a discount/value led, Large District Centre with a number of long-standing, successful local traders servicing the immediate local population. There are multiple retail units fronting onto all sides of Anglia Square itself, with several more vacant units at first floor podium

[22] ONS Annual Population Survey based on Standard Occupational Classification 2010 (2021)

[23] Census 2011- Location of usual residence and place of work by method of travel to work; available https://www.nomisweb.co.uk/census/2011/WU03UK/chart/1132462260 (last accessed 28/01/22)

[24] Census 2011- Method of travel to work. - https://www.nomisweb.co.uk/census/2011/wu03uk/chart (Last accessed 25/02/2018)

level. A former four-screen cinema is located within the shopping centre at first floor level along with several vacant leisure units last used as clubs. The shopping centre is dated and the retail units provide a more localised offer than other district centres within Norwich. Magdalen Street is characterised by independent retail occupiers.

4.64 The Site also includes a number of existing buildings and structures in addition to the shopping centre, including the vacant office buildings; vacant multi storey car park fronting Edward Street; additional commercial and community uses along Pitt Street and surface level car parking on the north-western part of the Site.

4.65 The majority of the ground floor commercial space within the shopping centre falls within the E use classes comprising of retail units, food stores and cafes. The former cinema and clubs are classified as a Sui Generis uses. Sovereign House and Gildengate House are vacant except for the temporary artist's studios within Gildengate House.

4.66 The existing commercial floorspace/ community floorspace amounts to 33,701sqm (GIA)[25]). In total, information obtained from the Anglia Square management indicates the Site supports approximately 255 jobs[26]. The floorspace supports lower levels of employment as much of the space is vacant and the remainder is nearing the end of its active life and does not benefit from the efficient design that more modern building do. The jobs are predominantly within the retail sector and creative industries.

Housing

4.67 In 2011, there were 60,300 households in Norwich; a 10.5% rise from 2001 (54,550)[27]. DCLG's 2014-based Household Projections[28] forecast that the number of households in Norwich is due to increase to 74,990 by 2039. This illustrates an increase of 20,441 households in Norwich in the period 2011 to 2039[29]. Table 4.8 below sets out the estimated rise in households for Norwich up to 2039.

Table 4.7 Number of Households 2017 to 2039

Year	2022	2027	2032	2039
Households	66,760	69,320	71,860	74,990

[25] Figure provided by CPW Planning derived from Experian Goad survey (September 2021) and excludes Sovereign House and Gildengate House

[26] Total headcount with approximately 175 retail and commercial jobs, as well as 80 artists within Gildengate House

[27] Table HO1 and KS020, ONS Census Data 2001 and 2011: All Households

[28] Whilst there have been more recent household projections released, the 2014-based projections have been considered to be more appropriate by Government and are used within the standard method of assessing housing.

[29] DCLG 2014- based household projections for England and Local Authority Districts

Source: DCLG 2014- based Household Projections by District

4.68 Norwich's Joint Core Strategy highlights that allocations will be made to ensure at least 36,820 new homes can be delivered between 2008 and 2026, of which approximately 33,000 will be within the NPA with c. 8,592 within Norwich. This number equates to approximately 477 new homes per annum (across the 18-year period). Policy 1 of the emerging Greater Norwich Local Plan (Regulation 19) provides for around 49,500 new homes over the plan period of 2018-2038, with Norwich proposed to deliver 26,019 new homes.

4.69 Norwich is located within the Housing Market Area (HMA) of Central Norfolk. The Strategic Housing Market Assessment (SHMA) for Central Norfolk (June 2017) concludes that the established Objectively Assessed Need (OAN) for Housing in Central Norfolk 60,350 dwellings over the period 2015-2036.

4.70 The SHMA highlights that 6,009 households are in affordable housing need in Central Norfolk and unable to afford their own housing with approximately 1704 currently occupying affordable housing that does not meet the households' need (mainly due to overcrowding). It concludes that currently there is a net need for affordable housing provision for 4,305 households who do not currently occupy affordable housing in Central Norfolk[30].

4.71 Based on ONS data (year ending March 2021), the average median house price within the Local Impact Area was £194,341 which is lower than the Norwich median (£210,000), East of England median (£318,000) and England median (£274,000).

4.72 ONS data[31] on the housing market and house prices indicates that the ratio of median house price to median earnings was 7.12 in Norwich, meaning that on average working people in Norwich could expect to pay around 7.12 times their annual earnings on purchasing a home. Ratios are calculated by dividing median house prices by the median annual earnings. Lower ratios tend to suggest greater affordability with higher ratios indicating lower affordability[32]. The Norwich average is lower than the average across the East of England (10.53) and England (9.05), meaning that housing in Norwich is generally more affordable than across the East of England and England.

[30] Central Norfolk, Strategic Housing Market Assessment, June 2017

[31] ONS, Ratio of house price to workplace-based earnings (lower quartile and median), 1997 to 2021 (2022)

[32] It should be noted that the house price data and affordability ratio data is based on different average house price data. Median affordability ratios are quoted to be consistent with the Government's proposed methodology for assessing housing need however, lower quartile ratio in Norwich is 7.09 compared with 8.91 across the East of England and 7.16 nationally.

4.73 Based on 2011 Census, Table 4.9 shows that the average household size in the Local Impact Area was 1.8 persons per household in comparison to Norwich (2.1) and East of England (2.4)[33].

Table 4.8 Average Household Size

	Local Impact Area	Norwich	East of England
Average Household Size	1.8	2.1	2.4

Source: ONS Table PHP01: Average Household Size

4.74 The DCLG 2014-based household projections indicates that average household size is likely to fall in the future within Norwich from 2.13 in 2014 to 2.08 by 2039[34]. Household projections are shown in Table 4.9 below.

Table 4.9 Household Size projections in Norwich 2014-2039

Year	2014	2019	2024	2029	2034	2039
Average Household Size in Norwich	2.13	2.13	2.11	2.11	2.09	2.08

Source: DCLG 2014-based Table 427- Change in Average Household Size, 2014-2039

4.75 Based on Census data, Norwich City Council indicates that 39,531 of the 60,319 properties in Norwich are in the private sector (owner occupied or private rented).

4.76 Within the Local Impact Area, a majority of properties are privately rented (35%), in comparison to Norwich (22%) and East of England (15%). Table 4.11 also highlights that the Local Impact Area has a lower number of dwellings that are owned outright (14%) in comparison to Norwich (21%) and East of England (33%). Table 4.10 compares the tenures for housing across the Local Impact Area, Norwich and East of England region.

Table 4.10 Household Tenures

	Owned Outright	Owned with a mortgage or loan	Shared Ownership	Rented from Local Authority	Other social rented	Private rented
Local Impact Area	1,530(14%)	2,120 (20.7%)	60 (1%)	1,533 (15%)	1,306 (13%)	3,568 (35%)

[33] Table PHP01, Census 2011. Population and household estimates for Wards and Output Areas in England and Wales

[34] DCLG 2014-based household projections for England and Local Authority Districts. Table 427

Norwich	12,460 (21%)	13,980 (23%)	433 (1%)	15,222 (25%)	4,480 (8%)	13,089 (22%)
East of England	797,020 (33%)	840,842 (35%)	17,760 (1%)	188,886 (8%)	191,445 (8%)	356,227 (15%)

Source 1: Table QS405EW, 2011 Census: Tenure- Households, local authorities in England and Wales

Crime

4.77 The Site is located within the Norwich East policing neighbourhood of the Norfolk Constabulary Force Area, which consists of Broadland, North Norfolk, South Norfolk, Breckland, Kings Lynn and West Norfolk, Great Yarmouth and Norwich.

4.78 These areas are broken down further into neighbourhood areas, of which there are four in Norwich (North, South, East and West). The boundary of Norwich East policing neighbourhood is highlighted in Figure 4.5; it covers the Site and Norwich City Centre (and broadly corresponds with the Local Impact Area). Figure 4.5 also shows the crimes reported in December 2021 across the Norwich East boundary.

4.79 **Figure 4.6** highlights the number of crimes reported in the Norwich East neighbourhood in the period December 2020 to November 2021. The highest crime levels reported were in April (160), with the lowest reported November (104). Over this period, the highest crime types recorded in Norwich East were anti-social behaviour (576), violence and sexual offences (473) and criminal damage & arson (105).

Table 4.11 Crimes by Type in Norwich East (from Dec 2020 to Nov 2021)

Type	Occurrence	Percentage
Anti-social behaviour	576	39.4%
Burglary	47	3.2%
Criminal damage and arson	105	7.2%
Drugs	35	2.4%
Other theft	61	4.2%
Public order	76	5.2%
Vehicle crime	30	2.1%
Violence and sexual offences	473	32.3%
Other crime	35	2.4%
Possession of weapons	8	0.5%
Shoplifting	5	0.3%
Robbery	5	0.3%
Theft from the person	6	0.4%

Bicycle theft	1	0.1%

Source: Police.UK Norfolk Constabulary - Norwich East; https://www.police.uk/pu/your-area/norfolk-constabulary/norwich-east/?tab=Statistics

4.80 Police statistics highlight that Norwich had a higher crime rate than the Norfolk Constabulary average; crime rates are calculated by the number of crimes over a twelve-month period per thousand residents. Figure 4.7 indicates the police recorded crimes per 1,000 population across the Norfolk Constabulary Force Area. Norwich had a crime rate of 122.74 over the twelve month period in comparison to Broadland (47.19), North Norfolk (49.08) and South Norfolk (50.64)[35].

4.81 As mentioned above, Norwich ranks within the 3rd decile in the crime dimension of the IMD, which factors in measures of crime representing risk of personal and material victimisation. However, the neighbourhood where the Site is located is within the 10% most deprived neighbourhoods in the country. Many of the neighbourhoods within the Local Impact Area, are amongst the top 30% deprived in terms of crime within the country.

Education

4.82 Any development scheme that delivers additional family housing will also have an impact on requirements for education with the main focus of these effects likely to be quite local. Norfolk County Council (NCC) is the commissioner of school places in Norwich. Norfolk Family Information Services offers advice on childcare and finding childcare, to families with children aged 0-19 (0-25 with additional needs).

4.83 This assessment uses data from Norfolk County Council's Norfolk School Finder and Gov.uk[36]; a radius of 2 miles (3.2km) is used as the Local Impact Area for education to reflect statutory standards. The schools within 2 miles (3.2km) of the Proposed Development are shown in Figure 4.8 and within Appendix 4.2.

Early Years/ Childcare

4.84 There is a wide range of Early Years and Childcare facilities within Norwich. According to the latest Childcare Sufficiency Assessment[37] there are 16 day nurseries, 13 pre-schools, 20 childminders, 3 nursery units of independent schools and 17 state-funded governor-run nurseries within Norwich which offer funded early years education. The Childcare Sufficiency Assessment states that the

[35] Crime in Norwich Compared with crime in other similar areas; https://www.police.uk/pu/your-area/norfolk-constabulary/performance/compare-your-area/?tc=F31 (Last accessed 28/01/22).

[36] Gov.uk Education Data; https://www.compare-school-performance.service.gov.uk (Last accessed 20/01/2022)

[37] Norfolk County Council, Childcare Sufficiency Assessment 2021

overall number of funded childcare places meets need in the County. Most childcare places being located within urban areas meaning greater choice of provision compared to rural areas.

4.85 There are seven children's centres within 2 miles of the Site; the closest facility is North City Children's Centre located at the Angel Road Infant School (approximately 12 minute walk along well-lit residential streets or there is on-street parking for drivers). Within 2 miles of the Site, there are also a wide variety of childminders who are registered with Ofsted or a childminding agency.

4.86 There are 11 pre-school nurseries within 2 miles of the Site offering childcare from 2 years old[38]. The closest of these nurseries is Angel Road Infant School and Nursery, which is 0.5 miles from the Site (12 minute walking distance along well-lit residential streets or there is on-street parking for drivers).

4.87 Treehouse Children's Centre is a private nursery located 0.3 miles west of the Site (accessible via a 5-minute walk through Gildencroft Park or there is a drop-off space for drivers). The Nursery provides full-time or part-time education and care for children aged 2-14 years. All children share access to a secure outside area.

4.88 As of January 2022, the Treehouse Children's Centre is registered to care for a maximum of 34 children at any one time; at the time of the Ofsted Inspection, the Nursery had 47 children on roll. The Nursery also supports children who speak English as an additional language and is able to support children with learning difficulties and/or disabilities. The Nursery was rated 'Good' by Ofsted in December 2018.

Primary

4.89 Based on Norfolk School Finder data, within 2 miles of the Proposed Development there are a total of 32 primary schools; 11 of these primary schools have a Nursery contained within them (as stated above). Data shows that 9,065 pupils were enrolled in the primary schools with an overall capacity for 10,318. This indicates that primary schools within the Local Impact Area are operating at a surplus capacity of 12%, with 1,253 places remaining available.

4.90 The five primary schools located within closest proximity to the Site include;

- Magdalen Gates Primary School (located 0.2 miles from the Site, 6 minute walking distance along well-lit commercial streets or there is school parking within the grounds);
- Angel Road Infant School (located 0.5 miles from the Site, 13 minute walking distance along well-lit residential streets or there is parking on-street or within the school grounds);
- Angel Road Junior School (located 0.5 miles from the Site, 12 minute walking distance along well-lit residential streets or there is parking on-street or within the school grounds);

[38] Norfolk Schools School Finder; http://csapps.norfolk.gov.uk/schoolfinder/default.asp (Last accessed 20/01/2022)

- George White Junior School (located 0.5 miles from the site, 12 minute walking distance along well-lit residential streets or there is parking on-street or within the school grounds);
- Mousehold Infant & Nursery School (located 0.6 miles from the Site, 17 minute walking distance along well-lit residential streets or there is parking on-street or within the school grounds).

4.91 Within these five primary schools, there are a total of 1,348 pupils enrolled. The primary schools above have a capacity of 1,486 pupils, therefore these schools currently have a 9% surplus capacity of 138 spaces.

Secondary

4.92 Within 2 miles of the Site, there are seven secondary schools of which six are academy converter or sponsor led and one is a free school[39]. There are at presently 7,117 pupils enrolled at these seven secondary schools with an overall school capacity of 8,988. This illustrates that the schools have a surplus capacity of 21% as there are 1,871 available spaces. The nearest to the Site is Jane Austen College located at Claxton House (located 0.4 miles to the south, 9 minute walking distance along well-lit commercial streets or there is paid on-street parking for drivers).

4.93 It is also worth noting that a new secondary school is earmarked for the Broadland Growth Triangle which is required to support 13,500 planned homes adjacent to the northeast of Norwich City[40]. The start date for this project is estimated to be 2025/26.

16+ Further Education

4.94 Within Norwich, there is also a variety of further education institutions. Six secondary schools within 2 miles of the Site also offer sixth form education. In addition to this, there are also two colleges; Sir Isaac Newton Sixth Form Free School (located 0.6 miles from the Site; 17 minute walking distance along well-lit commercial streets or there is on-street blue badge parking) and Norwich City College (located 1.27 miles from the Site; 32 minute walking distance along well-lit commercial and residential streets or there is on-site car parking for drivers).

[39] The statutory distance for secondary schools is normally 3 miles but taking account of urban context a shorter distance of 2 miles is considered appropriate.

[40] Norfolk Strategic Infrastructure Delivery Plan 2020 (Norfolk County Council)

4.95 University of East Anglia is located 3 miles from the Site, on a 320 acre campus west of the city centre. The University offers a wide variety of high-level specialist courses and is ranked 41st in the UK by the Guardian in 2022[41] and 13th in the Times 'Young University Rankings 2013' [42].

4.96 Norwich University College of Arts (NUA) is located on Redwell Street, 0.5 miles from the Site (9 minute walking distance along well-lit commercial streets or St. Andrew's multi-storey car park is close by for drivers) and is an independent specialist arts, design and media University offering undergraduate and postgraduate courses. The University was ranked 10th in the annual league table of the UK's higher education institutions for teaching quality, according to the 2022 edition of The Times[43]. In 2018-2019, 2,305 students were enrolled at the institution.

Healthcare Provision

4.97 Norwich is covered by NHS Norfolk and Waveney Clinical Commissioning Group (CCG), which is the statutory NHS body responsible for the planning and commissioning of health care services in the area.

4.98 According to NHS data (November 2021), there are 105 General Practices (GPs) within the CCG; a number of these operate from more than one premises. Bowthorpe Care Village provides specialist care rather than GP services. Excluding this facility, there are a total of 1,072,007 patients registered to the practices within the CCG area, which is served by 629 GPs (full-time equivalent). Broadly, this equates to a ratio of one GP to every 1,704 patients. This is approximately 5% lower than the benchmark level of provision of 1,800 patients per GP[44].

4.99 The demand for healthcare services is typically relatively localised, particularly in a city or town centre location. As seen in Figure 4.9, there are five GP practices within the Local Impact Area, with 89,371 registered patients and 62 GPs (FTE). This results in a ratio of one GP to every 1,441 patients which indicates surplus capacity in the local area.

4.100 The Gurney Surgery is the most proximate practice to the Site and is located within the Local Impact Area. It is 0.2 miles away from the Site (3 minute walking distance along well-lit commercial streets or there is paid on-street parking for drivers). It is understood that the practice is currently planning

[41] The Guardian university guide 2022 – the rankings; https://www.theguardian.com/education/ng-interactive/2021/sep/11/the-best-uk-universities-2022-rankings (Last accessed 20/01/22)

[42] Times University Rankings – UEA; https://www.timeshighereducation.com/world-university-rankings/university-east-anglia (Last accessed 20/01/2022

[43] Norwich University of Arts; https://www.nua.ac.uk/ (Last accessed 06/03/18)

[44] British Medical Association benchmark

to move to a new premises. The Gurney Surgery is part of the Castle Partnership which also comprises of the Mile End Road Surgery and the Tuckswood Surgery. The Gurney Surgery currently has 16,949 registered patients and 12 practicing GPs. This indicates a ratio of 1,412 patients per GP which does not exceed the benchmark levels of provision.

4.101 There are no hospitals located within the Local Impact Area; five hospitals are located on the Western outskirts of the city including The Norfolk and Norwich University Hospital which is a 1,200 bed teaching hospital. The Norfolk and Norwich University Hospital provides care to a population of over 1,000,000 from Norfolk, neighbouring counties and further afield[45].

4.102 Other hospitals within Norwich include Julian Hospital (a mental health hospital for the elderly), Colman Hospital (known as Centre for Specialist Rehabilitation Services), Spire Norwich (private healthcare facility) and Hellesdon Hospital (for adults over 25 with moderate severe mental health needs).

4.103 Within the Local Impact Area, there are a total of eight dental practices (as seen in Figure 4.9). There are two "mydentist" practices located in close proximity to the Site, which is Europe's largest dental care provider; one on Upper Goat Lane (located 0.8 miles from the Site, 16 minute walking distance along well-lit commercial streets or adjacent to St Giles Car Park for drivers) and one on Barrack Street (0.5 miles from the Site, 10 minute walking distance along the A147 or there is blue badge parking on-site). Details of patient list sizes are not publicly available however, both of the "mydentist" practices are accepting all new patients (children, adults and adults entitled to free dental care). In total, there are 45 dental staff including dental practitioners, oral surgeons and anaesthetist across the Local Impact Area.

4.104 A full list of GPs and Dental Practices can be found in Appendix 2 and shown in Figure 4.9.

Open space, Sport and Recreation Facilities

Open Space- Wider Impact Area

4.105 Norwich Open Space Needs Assessment (December 2007)[46] highlights a summary of the total of open spaces within Norwich and is set out in **Table 4.13**. The assessment recognises that many of the open space, sport and recreation opportunities serve local needs, so therefore have local catchments whereas strategic facilities will meet the needs of people over larger catchments.

[45] NHS; http://www.nnuh.nhs.uk/our-services/our-hospitals/norfolk-and-norwich-university-hospital/ (Last accessed 31/01/22)

[46] This represents the Council's most up to date assessment of open space.

Table 4.12 Open Space: Norwich

Site Type	Area (ha)	Per 1000 Population
Parks and Gardens	135	0.62
Natural Green Space	430	2.24
Green Corridors	29	0.22
Informal Amenity Open Space	58	0.44
Allotments	43	0.33
Sports Ground	97	0.74
Play Provision for Children	12.77	0.1
Play Provision for Teenagers	3.17	0.02

Source: Norwich Open Space Needs Assessment (December 2007)

4.106 Norwich Joint Core Strategy highlights that there are around 500 hectares of parks and open spaces in the city, including large natural spaces such as Mousehold Heath (located 1 mile from the Site, 20 minute walking distance along well-lit residential streets or there is on-site parking for drivers) and many parks such as Earlham Park, Eaton Park and Wensum Park[47].

Open Space- Local Impact Area

4.107 There is an abundance of Open Spaces within the Local Impact Area, the largest of these being Wensum Park approximately 0.5 miles from the Site (12 minute walking distance along well-lit residential streets or there is on-street parking). It occupies c.4ha sloping Site which falls between Drayton Road to the northeast and the River Wensum to the southwest[48]. Gildencroft Park is located 0.2 miles from the Site (4 minute walking distance to the west or adjacent to St Crispins Car Park) and offers playspace for young people including a children's playground, whilst also very near is the children's playground off Rose Yard.

4.108 Table 4.14 and Figure 4.10 highlights the open spaces and parks and gardens that are located within approximately 20 minute walking distance of the Site[49]. Many parks and gardens also provide Children and Young People (YP) play including playgrounds, sports pitches and courts.

[47] Norwich Local Plan- Development Management Policies (2014)

[48] Historic England Wensum Park; available https://historicengland.org.uk/listing/the-list/list-entry/1001346 (last accessed 02/03/2018)

[49] Please note- 20 minute walking distance equates to approximately 1,600m.

Table 4.13 Open Spaces and Parks and Gardens within 20-25 Minute Walking Distance of Anglia Square

Site	Distance from Site	Area (ha)	Typology	Access
Gildencroft, NR3 1DS	0.2 miles (5 minute walking distance)	0.4	Children and YP Play (including children's playground and equipment), Casual football, Basketball court	Freely Accessible
Wensum Pak, NR3 2DD	0.6 miles (12 minute walking distance)	4	Children and YP Play	Freely Accessible
Waterloo Park, NR3 3HX	0.8 miles (17 minute walking distance)	0.52	Sports pitches/ courts, Children and YP Play	Freely Accessible
Sewell Park, NR3 4BX	0.7 miles (14 minute walking distance)	0.51	Children and YP Play	Freely Accessible
Gertrude Road, NR3 4RN	1.1 miles (20 minute walking distance)	0.6	Open Space and Children and YP Play	Freely Accessible
St Georges Street, NR3 1AB	1 mile (20 minute walking distance)	0.02	Open Space, Children and YP Play	Freely Accessible
Chapelfields Gardens, NR2 1NY	1 mile (20 minute walking distance)	3.22	Open Space, Children and YP Play	Freely Accessible
Jenny Lind, NR2 2SW	1.2 miles (26 minute walking distance)	0.18	Open Space, Children and YP Play	Freely Accessible
Belvoir street, NR2 3AZ	1.1 miles (22 minute walking distance)	0.06	Football Pitch, Multi use Games Area, Children and YP Play	Freely Accessible
Westend Street Gardens, NR2 4JD	1.1 miles (23 minute walking distance)	0.5	Maintained gardens	Freely Accessible
St Batholomews, NR2 4GZ	1.2 miles (24 minute walking distance)	0.3	Open Space	Freely Accessible
Pointers Field, NR3 2RB	1 mile (20 minute walking distance)	0.04	Open Space, Children and YP Play	Freely Accessible

Source: Norwich City Council; available https://www.norwich.gov.uk/info/20230/parks_and_open_spaces

4.109 A full list of open space provision is available at Appendix 2 including parks and gardens.

Quality of Open Space

4.110 A community survey conducted to inform the Open Space Assessment (2007) highlighted that the most frequently used spaces are parks, cycle paths, footpaths and riverside walks with the least frequently used spaces being outdoor facilities for teenagers, allotments, artificial turf pitches and golf courses. More than half of people in Norwich travel less than 800m to their most used local space and over 70% less than 1,600m[50]. This can also be seen in Table 4.13 and Figure 4.10 which provides a wide range of open space and parks and gardens within 1600m of the Site.

4.111 Within the Open Space Assessment the provision of open space and recreational facilities is given in detail at sub area. The Site is located within the East sub area which consists of wards Mancroft (which the Site is in), Crome, and Thorpe Hamlet. The quality of open space in the East sub area is better than Norwich average as seen in the below Table 4.15.

Table 4.14 Quality of Open Space in Norwich East and Norwich

	Sub Area Average	Norwich Average
Parks and Gardens	69.2%	70.9%
Natural and semi natural green space	63.2%	61.1%
Informal Amenity Open Space	71.5%	69.2%
Play Provision for children and young people	80.1%	77.3%
Allotments	73.3%	68.3%
Outdoor Sports Facilities and “recreation grounds”	68.7%	73.1%
Total	70.9%	68.6%

Source: Norwich City Council; available https://www.norwich.gov.uk/info/20230/parks_and_open_spaces

4.112 Since the Open Space Assessment was published, new areas of public open space have been brought into use such as at Brazen Gate/ Southwell Road, the Bowthorpe Care Village and St Anne’s Wharf, as well as small “pocket parks” in the city centre at All Saints Green (located 1 mile from the Site, 21 minute walking distance along commercial streets or there is on-street blue badge parking) and Mountergate (located 0.9 miles from the Site, 17 minute walking distance along commercial streets or it is adjacent to Rose Lane Car Park). These parks provided an addition of 0.3 hectares of new open spaces.

[50] Norwich Open Space Needs Assessment (December 2007)

Sport and Recreation Facilities

4.113 A review of the Active Power Places website supplied by data from Sport England identifies a wide range of commercial sport and recreation facilities located in both the local and the Wider Impact Area. Sports and recreational facilities within 2 miles of the Site include;

- 9 gyms; the closest gym is Phoenix Gym located 0.4 miles from the Site (7 minute walking distance along well-lit commercial streets or there is paid on-street parking);
- 12 sports halls; the closest is Norwich School Sports Hall located 0.4 miles from the Site (8 minute walking distance along well-lit commercial streets of there is parking within the school grounds);
- 19 sports pitches/ courts; the closest is also Norwich School as above; and
- 4 swimming pools; the closest private swimming pool is located at Nuffield Health Fitness and Wellbeing Gym (0.6 miles, 13 minute walking distance along the A147 or there is on-site car parking), and the closest council-run swimming pool is Riverside Leisure Centre located 1.3 miles from the Site (25 minute walking distance along residential and commercial streets or there is car parking on-site).

4.114 University of East Anglia Sports Park is located 3 miles from the Site and is the UK's largest indoor community sports venue offering two swimming pools, 125 station fitness centre, a climbing wall, 20 badminton courts, 4 squash courts, an 8 lane athletic track, a soccer park, hockey pitches, a variety of other sports courts and also children's holiday clubs, nutrition and weight management programmes, children's party packages and a café. Appendix 4.2 provides a full list of sports and recreation facilities within the Wider Impact Area.

Community Facilities

4.115 A number of facilities for local community use are available within close proximity to the Proposed Development.

4.116 Based on data provided by Norwich Community Centres[51] there are a total of seven community centres with the Wider Impact Area of the Site. This provision includes community halls, arts centres, children's centres, community centres, youth clubs, training centres and community gardens.

4.117 The closest community centres to the Site is the Belvedere Community Centre (located 0.8 miles from the Site along well-lit commercial streets) and St Augustine's Church Hall (located 0.1 miles from the Site). The Belvedere Community Centre provides a bar and social club, kitchen, bike rack and free parking. St Augustine's Church Hall also provides a community facility (as stated in the Paragraph 4.104), which is available community, charitable groups and children's parties as well as other community based activities. Other community facilities within close proximity to the Site include

[51] Norwich Community Centres, Source: http://www.norwichcommunitycentres.org.uk/ (Last accessed 31/01/22)

Pilling Park community centre located 1.3 miles from the Site which provides a social club with secure gardens.

4.118 The Stage, is also located 0.2 miles from the Site (5 minute walking distance to the northwest). This is an adaptable space available to groups and individuals who need somewhere to hold a meeting or event, socialise, do business or get advice and information. A full list of community facilities is available at Appendix 4.2.

4.119 The locations of these various types of community facilities including open spaces, halls and sports and recreation which are identified within and around the Local Impact Area of the Site are shown in **Figure 4.10**.

Places of Worship

4.120 Within the Local Impact Area, there are a range of places of worship including Saint Augustine's Church, Russian Orthodox Church, City Church, Surrey Chapel and St Edmunds Church.

4.121 A variety of places of worship also provide a community facility including St Augustine's Church Hall (located 0.1 miles from the Site, 4 minute walking distance) which is available to hire Monday to Saturday 9am to 9pm offering a maximum capacity of 60 persons. This community hall is available for charitable groups, children's parties, toddler groups, social groups and lunch club for 50+ homeless and vulnerable people on Monday's. The Norwich Buddhist Centre, Bangladesh Islamic Centre Norwich and Greek Orthodox Church are also located within 1 mile of the Site.

4.122 Norwich Anglican Cathedral is located 0.5 miles from the Site (10 minute walking distance along well-lit commercial streets or there is parking within the grounds) and is a primary place of worship in the heart of Norfolk. As well as playing host to special civic and legal services, Norwich Cathedral is also a venue for concerts, talks, exhibitions, degree ceremonies and other community events.

Libraries

4.123 Norfolk and Norwich Millennium Library is located 0.8 miles south of the Site (approximately 17 minute walking distance along well-lit commercial streets or it is adjacent to Chantry Car Park). The library is located at the Forum, a community facility which is home to several organisations and is a focus for a wide range of learning and cultural activities in the centre of Norwich. In addition to the library, The Forum houses learning organisations, a café, a restaurant and a gift shop. The main library is open Monday- Friday 8am-10pm and Saturday 9am-5pm. The library also offers a children's library, books in foreign and community languages and printing facilities. Joining the library is free of charge.

Emergency Services

4.124 Within Norwich the police station is located on Bethel Street; 0.8 miles from the Site (15 minute walking distance along well-lit commercial streets or near to Century Car Park). The nearest fires

station is Sprowston Fire Station (1.5 miles to the northeast). East of England Ambulance Service NHS Trust is one the largest ambulance services in the UK and covers an area of 7,500 square miles. It has a base at Hellesdon Hospital located 2.9 miles to the northwest.

Receptors

4.125 **Table 4.16** sets out the existing and introduced receptors and their sensitivity. This has been informed by the baseline information and professional judgement.

Table 4.15 Sensitivity of Existing and Introduced Receptors

Receptor	Sensitivity	Justification
Existing		
Existing population	Moderate	The neighbourhood where the Site is located is within the 10% most deprived neighbourhoods in the country. Norwich experiences the highest crime rate within the Norfolk Constabulary.
Existing site occupiers	High	There are existing retail and creative uses on-site employing approximately 255 individuals (184 FTE).
Construction industry and workers	Moderate	The construction sector accounts for 1% of the employment in the Local Impact Area and 3% in the Wider Impact Area. There is lower flexibility within the labour market with 3.9% of residents within the Wider Impact Area unemployed (which is slightly lower than regional and national rates).
Demand for Housing	Moderate	The ratio of median house price to median earnings was 7.12 in Norwich, which is lower than the England ratio (9.05). This shows that housing is slightly more affordable for residents in the City. In addition, the emerging Greater Norwich Local Plan is set to deliver 26,019 of the proposed 49,492 new homes over the period 2022-2038.
The Local Economy and Labour Market	Moderate	83.8% of the Wider Impact Area are economically active which is slightly higher than the regional and national averages. However, the IMD ranks the LSOA as being within the 30% most deprived in the country in terms of employment. Norwich has a significantly lower proportion of workers within SOC major group 1-3 and higher proportions in SOC major group 8-9.
Education Facilities	Low	Education facilities may be susceptible to changes in population, albeit there is currently surplus capacity.
Primary Healthcare Facilities	Moderate	The Local Impact Area has five GP facilities with patient numbers indicating there is surplus capacity in the local area. There are eight dental practices in the Local Impact Area, with at least two of the practices accepting new patients.

Health of Residents	Moderate	The area surrounding the Site is within the 20% most deprived neighbourhoods in the country in terms of health and disability deprivation. The proportion of residents living with long-term health conditions in broadly in line with Norwich and East of England.
Open Space	Moderate	There are 12 areas of open space and gardens of a range of size within an accessible distance to the Site. 10 of these areas offer play space facilities.
Community Facilities	Moderate	There are a range of community centres, a library and places of worship within the Local Impact Area. Community facilities will become sensitive to changes as the local population increases.
Introduced		
New Residents[52]	High	New residents in the area, will increase local spending on businesses and enhance the local community. They will increase demand for the social infrastructure in the area.

Future Baseline

4.126 In the absence of the Proposed Development being implemented, the Site would remain in its existing condition, i.e., as a partially vacant Site in a central location. The surrounding cumulative schemes (detailed in sections below) would come forward, which would leave an under-utilised quarter in an otherwise busy and vibrant city centre.

4.127 The opportunity to bring the Site back into full active use, contribute towards housing provision across Norwich and generate employment opportunities would not be realised should the Proposed Development not come forward.

Assessment of Effects (Construction and Operational)

4.128 This section assesses the potential socio-economic using the criteria discussed in the Methodology & Assessment Criteria section above. The maximum parameters of 1,100 dwellings as well as 8,000 sqm flexible use commercial space (including meanwhile uses, public conveniences, community hub) have been tested.

[52] New residents will require good access to social infrastructure, amenities, and employment, and therefore are considered highly sensitive to local provision.

Effects During Construction

4.129 This section outlines the anticipated effects during the construction phase of the Proposed Development. Details of the construction and phasing are outlined in Chapter 3: Proposed Development, Construction and Description of Alternatives

Direct Employment

4.130 The Proposed Development will support on-going construction employment throughout the development phases, expected to span an eight-year period as set out above and therefore will support on-going construction employment.

4.131 The number of construction workers on-site at any one time will vary as the development phases progress, however, it is estimated that this will average **204 direct construction jobs per annum (i.e. total jobs), equivalent to 1,635 jobs over the duration of the build period**. The jobs will provide roles at a range of skill levels. Construction workers tend to be mobile, therefore it is more appropriate to consider the impact across the Wider Impact Area of Norwich. The estimated level of employment, **represents an 6.8% increase in the number of construction jobs in Norwich (currently 3,000) or 0.1% in the East of England (currently 178,000)**[53].

Indirect Employment

4.132 Multiplier effects relate to the further economic activity (such as jobs, expenditure or income) associated with additional income, local supplier purchases and longer-term effects of the Proposed Development. In terms of housing development, the scale of the multiplier effects will depend on the extent to which local sub-contractors (with their own local labour) and local suppliers (for materials and services) are used in construction. For commercial Development, multiplier effects are relevant to employment, investment and income associated with the demolition and construction phase. The direct demolition and construction employment is likely to generate further indirect employment in the supply chain.

4.133 There could also be induced employment effects arising; these effects relate to the employment supported by the wage spending of construction and supply chain workers in shops, services and other businesses through the economy and demonstrate the wide-ranging effects associated with the Proposed Development. To deduce the indirect employment effect, a medium regional multiplier of 1.5 is applied for the construction sector[54]. The multiplier has been applied to the direct jobs figure, resulting in an estimated further **207 indirect and induced jobs** being supported during the demolition and construction period each year and 1,656 in total.

[53] ONS, BRES, 2020.

[54] Assumption using regional ready reckoner from Homes & Communities Agency (2014) Additionality Guide Fourth Edition

4.134 The employment generated during the demolition and construction phase is assessed as having a **temporary, medium-term, direct and indirect, beneficial effect of minor significance** across Norwich.

Existing Uses and Employment

4.135 As outlined in the baseline section, the current land uses on the Site supports approximately 255 jobs[55] (primarily in the retail sector and creative industries) and play an important role within the community.

4.136 There are several retail tenants within Anglia Square who must continue trading throughout the construction phase, not least to ensure the continued (albeit reduced) function of the Site as a principal element of the Large District Centre. The phasing has been planned to allow parts of the shopping centre to remain open throughout the construction phase, via the relocation of certain tenants within the centre, thereby obtaining vacant possession of groups of shop units to enable demolition of the buildings within which they are presently located. The phasing plan includes opportunities for the relocation of Poundland during Phase 1, as well as Boots, Greggs and Iceland during Phase 2.

4.137 The Proposed Development will cause a net loss of approximately 25,701sqm of commercial/community floorspace resulting from the reduction in the commercial floorspace from 33,701sqm[56] to 8,000sqm[57]. However, several buildings and units are currently vacant including Sovereign House (c.11,500sqm) and 3,762sqm of units within the Anglia Square centre including the former cinema, or in temporary/flexible use such as Gildengate House (4,786sqm). Therefore, the reduction in floorspace does not necessarily lead to the displacement of occupiers. In addition, the proposed commercial floorspace will be high quality, well designed and more efficient meaning the capacity of the development to accommodate businesses will not be reduced. Furthermore, it provides opportunities for a broader mix of uses including the potential for retail, retail services, cafes, restaurants and bars office, leisure and community uses which will diversify the range of employment opportunities.

[55] Total headcount with approximately 175 retail and commercial jobs, as well as 80 artists within Gildengate House

[56] Figure provided by CPW Planning derived from Experian Goad survey (September 2021) and excludes Sovereign House and Gildengate House

[57] Note that the proposed 8,000sqm figure is NIA whereas the existing floorspace figure given for the Site is GIA. The 8,000sqm NIA figure equates to 8,889sqm GIA (based on 90% NIA:GIA ratio).

4.138 On this basis, the impact of the Proposed Development on existing uses is assessed as **short-term, temporary, minor adverse** in the Local Impact Area given that there will be some disruption and displacement of uses.

Effects Once the Proposed Development is Operational

4.139 Based on the current build out period of the Proposed Development, it is anticipated that the Proposed Development will be completed by Q4 2030. Therefore, this assessment assumes that the 8,000sqm of flexible commercial retail floorspace will be fully operational by this date.

Direct Employment

4.140 The precise number of jobs that will be supported will depend on the end-users that occupy the scheme, particularly as it is unknown to what extent current occupants of commercial space may be re-accommodated in the new development. However, it is possible to estimate employment generation by applying average employment densities to the proposed floorspace.

4.141 In gross terms, it is estimated that the Proposed Development could support **288 FTE jobs** including both part-time and full-time roles[58]. As identified above, the Site currently supports in the region of 255 jobs which equates for 184 FTE jobs under the same assumptions. On this basis, the net employment impact of the Proposed Development will amount in **an uplift of 104 FTE jobs or 57% on the Site**. The uplift in the number of jobs in Norwich (i.e. the Wider Impact Area) equates to an increase of 0.2%.

4.142 It is important to highlight that the redevelopment of the Site will ensure that existing job levels are protected and increased in the long-term. The existing condition of the space means that as leases end and/or tenants vacate, it could be expected to remain vacant not least because as it would not be viable to bring them up to the sufficient quality and standard – examples of this happening are apparent at the Site already (Sovereign House, Gildengate House). Therefore, the employment supported by the Site could be expected to fall in the short-term in the absence of redevelopment. The existing shopping centre plays an important role within the community and this role can be strengthened through the successful redevelopment of the centre. It is also worth noting the scheme includes a dedicated 'community hub' within Block D, which could facilitate a multitude of uses including of shared / flexible workspace.

Indirect Jobs

4.143 The Proposed Development could also create indirect employment through the additional spending on goods and services by the new employment and uses. The wage expenditure generated from

[58] As flexible commercial floorspace is proposed, a blended average of 1 employee per 16sqm of floorspace is used, which is equivalent to the standard of food retail employment densities, as well as a FTE ratio of 72%.

workers directly at the Site as well as those employed to provide services to the Site, would also support jobs in shops, services and other businesses within and surrounding the Proposed Development in Norwich.

4.144 In this context, it is estimated that the Site could **support a further 112 jobs** in shops, services, and other businesses within the Wider Impact Area[59] or a further 292 jobs within the East of England region[60]. As identified above, the Site currently supports in the region of 184 FTE jobs, which utilising the same assumptions, could currently support a further 72 indirect and induced jobs within Norwich or a further 186 jobs regionally. On this basis, the employment impact of the Proposed Development will amount in **an uplift of 40 indirect jobs within Norwich or 106 indirect jobs within the East of England** compared to the existing.

4.145 Taking account of both quantitative and qualitative considerations, the direct and indirect employment associated with the Proposed Development following completion is assessed as having a **permanent, minor, beneficial impact across the Wider Impact Area**. In the Local Impact Area, the impact is assessed as **permanent, moderate, beneficial**.

Population

4.146 Average household size in Norwich is projected to be 2.11 people[61]. This provides a guide for estimating the increase of population arising from the residential element of the Proposed Development. Applying this average to the 1,100 residential units would also result in a population growth of 2,321 people. This equates to a population increase of 10.7% within the Local Impact Area and 1.6% across Norwich as a whole.

4.147 As set out in the baseline, average household size in the Local Impact Area is lower than the Norwich average at 1.8 people per household. Applying this to the 1,100 residential units indicates population growth of 1,980. Given the high proportion of 1-bedroom units, it is reasonable to expect that the

[59] Considering the commuting flows into Norwich, a higher leakage rate of 60% has been applied, together with a displacement rate of 25% and a lower multiplier of 1.3 based on assumptions using Homes & Communities Agency (2014) Additionality Guide Fourth Edition

[60] Using a regional leakage rate of 10%, displacement rate of 25% and a medium regional multiplier of 1.5 based on assumptions using Homes & Communities Agency (2014) Additionality Guide Fourth Edition

[61] DCLG 2014 based Household projections for England and local authority districts (Table 427), published in 2016, indicate that average household size in Norwich is expected to decline over the period to 2039. Taking account of the build programme, average household size of 2.11 predicted for 2029 has been applied.

population arising from the Site would be more aligned with the Local Impact Area average however, the higher figure associated with the Norwich average would reflect a “worst case” scenario.

4.148 This population estimate also assumes that all residents will be new to the area however, this is unlikely to be the case. Some residential dwellings are likely to be taken-up by existing residents, such as local residents buying their first home or trading-up or down-sizing, or local residents on housing waiting lists occupying the affordable housing. Those residents who decide to move into the Proposed Development from the local area would free up their homes for occupation by others, possibly being new residents to the local area. At the same time, the overall demand for community facilities is likely to increase.

4.149 The real significance of the population effects would depend on their implications for other socio-economic factors, such as effects on community infrastructure and services provision, which largely depend on whether the current availability of such facilities can support the additional demand generated by the Proposed Development. In any case, the additional income and expenditure generated by new residents to the scheme would provide positive benefits to the local economy, including existing shops and service businesses in the Local Impact Area. These potential impacts are considered elsewhere within this assessment.

4.150 Currently, the area within which the Site is located is classified as ‘Constrained City Dwellers’. It could be assumed that the residents of the new residential units could fall within the ‘Cosmopolitan’ group; characterised as residents of densely populated urban areas, living in flats with high ethnic integration, young adults with a high proportion of single adults and households without children.

Resident Expenditure

4.151 New housing development and can lead to increased resident expenditure in the local area. Research has shown that homeowners are spending on average £5,000 - 10,000 on furnishing their homes for the first time[62]. This would indicate that the new residents could spend in the region of **£5.5 - £11 million** on comparison goods such as furniture and appliances in local shops. This spending would support new and existing business and support employment.

4.152 Furthermore, resident expenditure from the new households is estimated to be **£21.9 - 36.4 million** on convenience retail, comparison retail and leisure each year[63]. The increase in resident expenditure will therefore have a **permanent, moderate beneficial effect**.

[62] Barratt Homes, Survey of Grey Towers Farm Development.

[63] ONS (2021) Family spending workbook 3: expenditure by region – Figures calculated using the current site as ‘Constrained City Dwellers’ and assumed site as “Cosmopolitans”.

Deprivation

4.153 As described in the baseline conditions, the location of the Site displays a relatively high level of deprivation in comparison to the surrounding area; it is located in one of the 10% most deprived neighbourhoods in the country. As a result, there is scope to enhance the socio-economic conditions and to potentially deliver regeneration benefits and catalytic effects to reduce levels of deprivation within the existing community. This would be achieved through the delivery of new housing, increased resident expenditure, provision of employment opportunities and the rejuvenation of Anglia Square which is a key focal point of this neighbourhood.

4.154 The delivery of approximately 1,100 residential units as part of the Proposed Development could reduce the barriers of access to housing, by providing a mix of both market and affordable housing (c.10%) and freeing up housing stock elsewhere in Norwich. The scheme also includes a mix of dwelling sizes to meet different housing requirements.

4.155 Through proposing a mixed-use scheme, which will generate employment that will be supported through the delivery of up to 8,000sqm of commercial space, the Proposed Development will provide additional and varied prospects for local residents. In addition to this, the mixed-use development will allow residents to live in close proximity to employment, and employees to be close to housing.

4.156 Furthermore, the delivery of high quality, flexible commercial floorspace is likely to be attractive to occupiers and the new population could provide the critical mass required to support the provision of an expanded range of social facilities. The services provided through the Proposed Development could also help to improve local resident's socio-economic well-being – for example through the potential provision of accommodation for health services such as a pharmacy. Norwich has a higher crime rate than the Norfolk Constabulary average, and is within the 30% most deprived authorities in terms of crime. There is scope to reduce crime and fear of crime by promoting natural surveillance and social interaction.

4.157 The increased housing and employment opportunities that are proposed for the Site, as well as improvements to the public realm are considered as having a **permanent, moderate to major beneficial effect** in the Local and Wider Impact Areas.

Labour Market

4.158 Assuming the existing share of the population in the Local Impact Area that are aged 16 to 64 years and current economic activity rates will continue at existing levels, it is anticipated the economically active population arising from the Proposed Development would equate to 1,478 persons (assuming 76% of the new population are of working age, of which 84% would be economically active). This represents a **1.8% uplift in the number of economically active people across Norwich**.

4.159 It is likely that the impact on the labour market would be lower due to some of the new residents already living and/or working the Norwich. Nevertheless, the additional labour force would help to support business activity in Norwich and could help to the reduce the need for in-commuting.

4.160 The Proposed Development would result in an uplift of 104 FTE jobs on-site, in a range of roles requiring varying skills levels. This would provide opportunities for the unemployed to move into employment and allow the local population to move into higher-skilled roles. The Proposed Development therefore has potential to benefit the skills of the local population, particularly of the 3,100 people currently unemployed in Norwich. Improving access to employment can have positive impacts on community cohesion for existing residents. The resulting impact of the Proposed Development on the local labour market is assessed as a **permanent, minor, beneficial effect** in the Wider Impact Area.

Commuting

4.161 As outlined within the baseline, Norwich can be characterised as having a large net inflow of labour, with a net inflow of around 26,967 workers.

4.162 The Proposed Development provides a maximum of 1,100 dwellings with new employment opportunities in close proximity – provided within the Site and existing jobs located across Norwich City Centre. The Proposed Development could therefore help to support a more sustainable pattern of development, through potentially attracting workers to live within the Local Impact Area and/or Wider Impact Area of Norwich (of which 1,478 people will be economically active). This could reduce the in-migration of workers and help in reducing the dependency on car and public transport. This in turn could improve health and quality of life for workers and reduce the number of net inflow of workers from surrounding areas.

4.163 On this basis, in terms of commuting, the Proposed Development is assessed as having a **permanent, minor, beneficial effect** across both the Local and Wider Impact Area.

Housing

4.164 One of the most significant socio-economic effects of the Proposed Development would be the addition of up to 1,100 residential units to the current housing stock in the Local Impact Area and Norwich. This increase to the housing stock should be considered in the context of the housing targets as set out in the Joint Core Strategy (JCS) that allocations will be made to ensure at least 36,820 new homes between 2008 and 2026 within Norwich Policy Area of which c. 8,592 will be within Norwich[64]. The Proposed Development has the potential to deliver almost 13% of this target.

[64] Norwich Joint Core Strategy (2011); Policy 4 Housing Delivery

4.165 More recently, the New Greater Norwich Local Plan 2022-2038 sets out that Norwich is proposed to deliver 26,019 of the 49,492 new homes over the plan period. The new housing delivered as part of the Proposed Development would therefore contribute 1,100 dwellings which amounts to **4.2% of the housing target from 2022 to 2038**.

4.166 The Proposed Development would also contribute to providing a mix of dwelling sizes (providing 1, 2 and 3 bedroom units of varying sizes) and both market and affordable housing, which would enhance the quality and quantity of housing choice within the local market of Norwich. By providing an increased mix of housing, this would allow residents better choice in obtaining their desired dwelling that best meets their needs, particularly given that the proportion of privately owned houses in the Local Impact Area currently lags behind the Wider Impact Area and East of England average.

4.167 The Proposed Development is anticipated to deliver 10% of units as affordable housing. The level of affordable housing does not meet the policy aspiration of 33% affordable housing provision set out by Policy 4 of the Joint Core Strategy, however, extensive viability assessment work has been undertaken to justify a lower level of provision (as allowed by Policy 4). The Proposed Development seeks to maximise the provision of affordable housing to meet this strategic objective, as far it is viable to do so, given the various constraints, market conditions, infrastructure provision and viability considerations that the Site presents.

4.168 As set out in the baseline, the Local Impact Area has smaller average household population that the Norwich average; the population of the Local Impact Area comprises of a higher proportion of young adults (aged 20-39) who are likely to comprise of first time buyers; and, furthermore, the proportion of children is relatively low – these demographic characteristics could indicate a higher demand for smaller residential unit sizes – which the Proposed Development provides.

4.169 On balance, taking all relevant information into consideration, in terms of housing, the Proposed Development is assessed as having a **permanent, moderate beneficial impact** across the Wider Impact Area and a **permanent, moderate to major beneficial** impact across the Local Impact Area.

Crime

4.170 As discussed within the baseline, Norwich has a higher crime rate than the Norfolk Constabulary average (crime rates are calculated by the number of crimes over a twelve-month period per thousand residents).

4.171 Through the design, the Proposed Development could play an important role in preventing crime and reducing criminal activity, as well as supporting community safety within the Site and the Local Impact Area. The design has been informed by an appreciation of the principles of crime prevention strategy for example, by keeping the public to wide routes that lie on desire lines, which will be well used both

in daytime and during the evening, and placing the residential entrances throughout the scheme to maintain activity on those same pedestrian routes.

4.172 Natural surveillance has been considered through the effective design of space and the environment and the introduction of other measures including street lighting around the Site. These design measures help to create a sense of safety at all times and therefore reduce fear of crime. An increase in footfall would also act as a disincentive for crime as there would be more 'eyes on the street' which could help to discourage the most common crimes in the area (anti-social behaviour and violence & sexual crimes). The Proposed Development's contribution towards reducing opportunities for crime and discouraging offending can have positive impacts on community cohesion.

4.173 Due to the scheme being a mixed-use Proposed Development, the design ensures that it is clear that all ground level space is pubic, whilst private and communal spaces for residents are accessed only from within residential buildings. The resident access into the buildings will be evolved through design however, consideration will be given to electronic access via proximity card readers and access to individual apartments via conventional key. Visitor entry to the building will be at the main entrances using video and audio link between each apartment and main entrance.

4.174 The Proposed Development is assessed as leading to a **permanent, moderate beneficial effect** on crime in the Local Impact Area.

4.175 The EIA Scoping Response from the Norfolk Constabulary requested considered of requirements for additional police resources resulting from the Proposed development. However, there are no adopted policy guidelines on this matter and can therefore be discussed during application if required.

Education

4.176 The impact of the Proposed Development on the provision of early years and childcare and schools in the Local Impact Area depends upon the number of children of school-age that will be generated by the residential development, alongside the existing availability of pupil places in the schools surrounding the Site.

4.177 Child yield multipliers have been obtained through consultation with Norwich County Council to estimate the number of children expected from a 1,100 dwelling development. Assuming 45% of the units will comprise of 1 bedroom flats (495 units), 50% 2 bedroom flats (550 units), 5% 3 bedroom houses (55 units), with 10% affordable housing; the associated child yield is set out in Table 4.17 below. Using the NCC standard multiplier for pupil numbers, it assumes that no children will be generated from 1 bed dwellings and that children from 2+ bedroom flats count as half the usual number from a 2+ bedroom house. This is equivalent to 330 dwellings for the purposes of calculating child yield.

Table 4.16 Child Yield for Proposed Development

Education Stage	Multiplier	Child Yield (330 dwellings x multiplier/100)
Early Years	9.6	32
Primary	26.1	86
Secondary/ High School	17.3	57
Sixth Form	1.7	6

4.178 As stated within the baseline, there are a wide range of childcare facilities accessible from the Site, supplemented by private childcare provision. There are 11 pre-school nurseries within 2 miles of the Site offering childcare from 3 years old. Whilst recent data on childcare numbers in Norwich is not publicly available, the latest Childcare Sufficiency Assessment was published in November 2021. It reports on the sufficiency of the childcare market across Norfolk up to the end of August 2021. It states that fluctuations in demand in 2-4 year old childcare and in school age childcare due to Covid-19, it is impossible to predict how the local childcare market will change. In terms of funded childcare places, the report states that the overall number of places across the county meets need, with more choice available in urban areas (such as Norwich).

4.179 If it were assumed that all school-aged children supported by the Proposed Development gained admission to schools within 2 miles of the Site, this would be equivalent to an increase in primary school pupils of less than 1%. For secondary school pupils, the Proposed Development would also result in an increase of less than 1%.

4.180 However, when assessing the actual requirement for school places in the Local Impact Area as a result of the Proposed Development, it is necessary to take into account the current levels of school place capacity, any planned infrastructure, and prospects for a share of the school-aged children to undertake private schooling, travel to schools outside the Local Impact Area, or be home schooled.

4.181 The primary schools located within 2 miles of the Site are currently operating with a surplus capacity of 1,253 pupil places (12%). The nearest schools to the Site are currently operating with surplus capacity of 17 pupils at Magdalen Gates Primary School and 39 pupils at Angel Road Junior School. Furthermore, St Clements Hill Primary School recently opened providing 420 school places of which 90 are occupied. As such, it is anticipated that existing schools will be able to accommodate the

anticipated 86 primary school aged children arising from the Proposed Development at Anglia Square, whilst providing a choice of schools for pupils[65].

4.182 The secondary schools situated in the Local Impact Area are also currently operating with a surplus capacity of 1,871 pupil places (21% surplus). Jane Austen College and Sewell Park Academy are the most proximate to the Site, and are currently operating with a surplus of 52 and 151 pupil places respectively. This indicates that there is sufficient capacity to accommodate the anticipated 57 secondary school aged children arising from the Proposed Development, whilst providing a choice of schools for pupils.

4.183 These conclusions align with the pre-application consultation response from Norfolk County Council – Children's Services which anticipated that any additional children generated from the Proposed Development should be able to be accommodated within existing provision.

4.184 On this basis, the impact of the Proposed Development on education provision in the Local Impact Area is assessed to be **permanent and negligible**.

Healthcare

4.185 The Proposed Development is expected to generate a resident population of 2,321. Existing GP provision within 2 miles of the Site currently operates at a GP to patient ratio of 1: 1,599. The new resident population is likely to increase the average patient list of all the GPs as they are accepting new patients in the area (with the exception of Lionwood Medical Practice where this status is unknown). Assuming all 2,321 additional residents would register at the GP surgeries within 2 miles of the Site, the number of patients would increase to 152,667, resulting in a GP to patient ratio of 1: 1,624. This ratio is below the standard level of provision of 1,800 patients per GP, indicating there is sufficient capacity in the local area.

4.186 In terms of dental care provision, the existing number of patients per practitioner is not known as list sizes are not freely available, however a rise in the local population (2,321 persons) will increase the average patient numbers for each of the eight dental practitioners by 290 per practice. Applying the typical provision rate of 2,000 patients per dental practitioner to the arising population indicates an increase in demand for c.1.2 dental practitioners to meet additional demand.

[65] As a benchmark, it is generally recommended that local authorities in urban areas operate on the basis of 3-5% surplus to allow authorities to meet their statutory duty with operational flexibility, while enabling parents to have some choice of schools

4.187 Nevertheless, given that three of the dental practices within 2 miles are currently accepting new patients indicates that there is some capacity for this demand to be met, furthermore, some of the new residents may already be registered to nearby practices.

4.188 Taking account of the current level of provision and the relative increase in demand, it is likely that the effect of the additional population supported by the Proposed Development on healthcare provision in the Local Impact Area is assessed to be **permanent, negligible.** However, as indicated in the pre-application consultation response from NHS Norfolk and Waveney CCG, additional residents would also increase requirements for acute, mental and intermediate healthcare. As the Site includes flexible Class E floorspace, there is potential for some healthcare provision to be provided on-site if required, albeit this would be subject to further discussion and reliant on the CCG plans for the north Norwich area.

Open-space, Sport and Recreation

4.189 The additional population of 2,321 generated by the Proposed Development will place demand on open space, sports and recreation facilities.

4.190 As outlined in the baseline, there are a wide range of open spaces available within close proximity to the site and overall Norwich does not have a deficit of open space provision. It is anticipated that Waterloo Park, Sewell Park and Mousehold Heath will cater for the new residents' needs to some extent.

4.191 The scale and city centre location of the Proposed Development does not allow for large amounts of open space to be incorporated within the scheme. However, the design does provide for a significant amount of residents' communal open spaces and also public open spaces within a high quality public realm , in order to enhance the Site amenity and contribute to the open space needs of residents.

4.192 The Proposed Development will provide shared residential amenity space on accessible roof gardens with private amenity space in the form of balconies or terraces. In addition to the communal amenity space and private amenity space, the Proposed Development will provide 1.6 hectares (4 acres) of public open space in the form of public routes and squares. This represents a significant net increase over existing levels of open space provided at Anglia Square. This provision will enhance the local open space offer and will encourage social interaction and cohesion between new and existing local communities, providing a valuable recreational resource for the local residents and the residents of the Local Impact Area more widely.

4.193 In terms of playspace, Policy DM8 requires on-site provision of younger children's playspace of at least 150sqm unless there is a play area of equivalent standard within 400 meters walking distance of the Site. Gildencroft Park is located within 400m of Anglia Square and therefore it is anticipated

that it will meet resident's playspace needs. Informal opportunities for play will be facilitated within the public open spaces.

4.194 The Wider Impact Area also has a wide range of sports and recreation facilities that can help to accommodate the sport and recreation needs of the population arising from the Proposed Development. The population will also help to provide the critical mass to support the operation of the leisure facilities.

4.195 Taking account of the quantum of private and public open space and the significant public realm improvements the Proposed Development will deliver as well as the accessibility of playspace, open space and sports facilities in the area, the impact on open-space, sport and recreation is considered to be **permanent, minor, beneficial** across the Local Impact Area.

Community Facilities and Emergency Services

4.196 The estimated increase in population of 2,321 people will give rise to some additional demand for existing community facilities such as libraries, places of worship, community halls and emergency services. As indicated in the baseline section, there is a reasonable level of existing provision in the area at present.

4.197 Anglia Square is an important focal point of the local community. It provides a centre for community interaction and the flexible floorspace could potentially accommodate some community uses such as sport and recreation. A dedicated community hub containing flexible floorspace is proposed which will support the creation of the new community and provide opportunities to foster cohesion with the existing communities. The shared, publicly accessible facility located within Block D will serve both the existing and new communities. The facility could facilitate a multitude of uses, inclusive of shared / flexible workspace, community hall use, breast feeding facility etc.

4.198 The Norfolk County Council Planning Obligation Standards (April 2017) indicates that the provision of a new library is only likely to be sought on major new housing sites of 3,000 dwellings or more. However, it is recommended that 30sqm of library floorspace is provided per 1,000 population. Applying this requirement to the population impact of the Proposed Development of 2,321 people equates to 70sqm of library floorspace. The Community Infrastructure Levy (CIL) Charging Schedule was adopted by Norwich City Council on 25 June 2013 and means much of the new floorspace would be liable for CIL. When adopted, the Regulation 123 list envisioned the CIL would be used to fund community buildings, library provision, public buildings.

4.199 Given the proportional increase in the resident population (of 1.6% across the Wider Impact Area) and the role Anglia Square plays as a centre of community activity, overall, the impact of the Proposed Development is assessed as having a **permanent, minor beneficial effect**.

4.200 With this considered in combination with the provision of open space and design improvements, the Proposed Development is assessed as having a **minor beneficial effect** on community cohesion.

Mitigation Measures

4.201 The Proposed Development is expected to result in a range of beneficial outcomes, specifically in terms of generating construction employment and through the new population generating significant levels of expenditure to support the viability and vitality of Norwich. The delivery of up to 1,100 new residential dwellings, 8,000sqm commercial space and areas of public realm is expected to facilitate the regeneration of this part of the city centre. In addition to meeting housing needs, the Proposed Development will diversify both the dwelling and tenure mix and profile of residents in the area. The delivery of high-quality public realm improvements will assist in strengthening the community use of the area and could help to reduce the incidence of crime.

4.202 The new population will increase demand for social and community infrastructure, however, in the context of existing provision in the local area, the impact on most receptors is considered to be **negligible**.

4.203 It is anticipated that the displacement of employment uses on the Site during the construction phase could also lead to adverse effects, if they are not relocated following redevelopment. Nevertheless, the negative effects are considered to be minor in magnitude so only limited mitigation measures are required. In addition, there is potential to identify measures to maximise the socio-economic benefits of the scheme.

Mitigation During Construction

Construction Jobs

4.204 The construction employment opportunities to be created by the Proposed Development is expected to lead to beneficial effects. However, a number of measures or initiatives could be considered to maximise the benefits of the scheme felt locally. For instance, by providing full and fair employment opportunities, training and education opportunity for local residents; encouraging procurement opportunities for local businesses to source products and services locally where possible and practical; and, establishing links with local businesses to offer training and employment opportunities via work experience and apprentice schemes. These measures would be set out in a Training, Skills and Local Labour Strategy which will be secured by way of legal agreement as part of the planning application process.

4.205 It is also worth noting that Weston Homes currently operates a career apprenticeship programme and make annual payments to the training board.

Existing Uses/Employment

4.206 The existing uses and existing employment supported within Anglia Square will be displaced on a temporary and potentially permanent basis. These tenants have been informed of the plans for redeveloping the Site as this has been planned for some time.

4.207 The Proposed Development will lead to an overall reduction in commercial floorspace however, given that a significant proportion of the floorspace is currently vacant and the scheme will facilitate more efficient use of space, this will not necessarily result in the displacement of existing uses or occupiers. The Proposed Development includes opportunities for the relocation of existing tenants into the new floorspace once complete, with the phasing plan including the potential relocation of Poundland during Phase 1, as well as Boots, Greggs and Iceland during Phase 2. Alternatively, relocation options could include elsewhere in Norwich.

4.208 Measures will be undertaken during the construction phase in order to minimise disruption and manage the effects of the Proposed Development on existing businesses and communities. A Construction Environmental Management Plan (CEMP) will be prepared and implemented that will seek to avoid or mitigate effects on the local residents and the local community. This will include a Construction Logistics Plan (CLP) that will seek to minimise disruption to existing transport routes. These measures are explained in further detail in Chapter 3: Proposed Development, Construction and Description of Alternatives.

Mitigation Once the Proposed Development is Operational

Operational Employment

4.209 The operational employment effects of the Proposed Development will largely be positive and will not give rise to a requirement for mitigation measures. However, the positive aspects of the anticipated local economic benefits may be maximised by measures to encourage local recruitment for the new job opportunities offered in the longer-term operation of the Proposed Development. These measures would be set out in a Training, Skills and Local Labour Strategy which will be secured by way of legal agreement as part of the planning application process.

Healthcare

4.210 The increased demand for healthcare services resulting from the Proposed Development is assessed as having a potentially adverse impact on provision. As the Site includes flexible Class E floorspace, there is potential for some healthcare provision to be provided on-site if required, albeit this would be subject to further discussion and reliant on the CCG plans for the north Norwich area.

Integration and Cohesion between New and Existing Communities

4.211 The Proposed Development will provide a high-quality public realm with an enhanced retail and leisure offer as well as services to benefit all residents, where people will come to work and socialise. It is envisaged that Anglia Square will form a stronger “neighbourhood magnet” that people will value.

The new population will help to ensure that critical mass is provided to support Anglia Square and maintain the role it currently plays in providing for the needs of the existing communities. Additionally, the flexible floorspace within the Proposed Develop could potentially be used for key services.

4.212 In addition to the shared residential amenity space on podium terraces or accessible roof gardens and private communal amenity space in the form of balconies or terraces that will facilitate interaction between the new residents; Anglia Square will provide space for interaction between new and existing communities. The provision of 1.6 hectares (4 acres) of public open space in the form of public routes and squares which will form a focal point for the community to interact. These will provide enhanced pedestrian routes from this part of Norwich to the rest of the City Centre improving integration with the wider city.

4.213 As set out above, the Proposed Development will generate a new population of up to 2,321 including a new population of children and young people. It is not possible to determine the profile of new residents however, it could be expected that the scheme will create a mixed community (for example through the mix of tenures and dwelling sizes). This new population are expected to use the social and community infrastructure in the area (schools, parks, community facilities etc.) and attend community events that take place locally which will provide opportunities for community involvement and interaction with the existing communities.

4.214 In order to achieve an inclusive community and encourage social cohesion between the new and existing communities, a Sustainable Community Strategy will be secured by way of legal agreement. The strategy will include measures such as promoting a programme of community and cultural events; commitment to facilitating the use of public spaces by community groups and charities; residential management arrangements to establishment of residents association, residents' newsletters and meetings which would be open to representatives from other community groups to attend.

4.215 Provision of a mixed-use development will allow access to housing in this location where this is not an existing land use and will also provide a range of employment opportunities as well as a retail and leisure uses which will ensure that the Site is a destination for all.

Residual Impacts and Monitoring

4.216 Residual Effects are those which would remain once any proposed mitigation measures are implemented.

4.217 The residual impacts arising from the Proposed Development are summarised in Table 4.18 below.

Table 4.17 Summary of Residual Effects

Effect	Receptor (Sensitivity)	Nature of Effect and Geographic Scale	Magnitude of Impact*	Classification of Effect (Statement of Significance)	Mitigation and Monitoring	Residual Effect (including mitigation)
Construction Effects						
Construction Employment	Local labour market (construction phase – moderate)	Medium-term, temporary on the Wider Impact Area	Moderate	Beneficial	Training, Skills and Local Labour Strategy	Moderate beneficial
Existing Uses/ Employment	Local labour market (existing employment/ businesses – moderate)	Short-term, temporary on the Local Impact Area	Minor	Adverse	Relocation of existing tenants within the Proposed Development, as well as preparation of CEMP and CLP	Minor adverse
Operational Effects						
Operational Employment	Local labour market (operational phase – moderate)	Long-term, permanent on the Local / Wider Impact Areas	Moderate	Beneficial	Training, Skills and Local Labour Strategy	Moderate beneficial
Population	Existing population (moderate)	Long-term, permanent on the Local / Wider Impact Areas	~	~	None	~
Resident Expenditure	Local economy (moderate)	Long-term, permanent on the Local Impact Area	Moderate	Beneficial	None	Moderate beneficial

Effect	Receptor (Sensitivity)	Nature of Effect and Geographic Scale	Magnitude of Impact*	Classification of Effect (Statement of Significance)	Mitigation and Monitoring	Residual Effect (including mitigation)
Deprivation	Levels of deprivation experienced by existing population (moderate)	Long-term, permanent on the Local / Wider Impact Areas	Moderate to major	Beneficial	None	Moderate - major beneficial
Housing	Housing targets/ housing need (moderate)	Long-term, permanent on the Local Impact Area	Moderate to major	Beneficial	None	Moderate to major beneficial
		Long-term, permanent on the Wider Impact Area	Moderate	Beneficial	None	Moderate beneficial
Crime	Safety of population (moderate)	Long-term, permanent on the Local Impact Area	Moderate	Beneficial	None	Moderate beneficial
Education – early years, primary, secondary	Pupils and school capacity (moderate)	Long-term, permanent on the Local Impact Area	~	Negligible	CIL contributions	Negligible
Healthcare	Capacity of local services (moderate)	Long-term on the Local Impact Area	~	Negligible	Provision of on-site healthcare if demonstrated to be required	Negligible
Open space, Sport and Recreation	Provision of open space and facilities (moderate)	Long-term, permanent on the Local Impact Area	Minor	Beneficial	None	Minor beneficial

Effect	Receptor (Sensitivity)	Nature of Effect and Geographic Scale	Magnitude of Impact*	Classification of Effect (Statement of Significance)	Mitigation and Monitoring	Residual Effect (including mitigation)
Community Facilities	Provision of community facilities (moderate)	Long-term, permanent on the Local / Wider Impact Areas	Minor	Beneficial	CIL contributions	Minor beneficial
Community Cohesion	Existing population (moderate)	Long-term on the Local Impact Area	Minor	Beneficial	Sustainable Community Strategy	Minor beneficial

Notes: * incorporating environmental design and management, ** incorporating mitigation and monitoring measures

Likely Significant Environmental Effects

4.218 The vast majority of effects are considered to be beneficial of a minor or moderate magnitude, particularly in terms of jobs and housing provision. However, a minor adverse impact has been identified on for the existing uses and employment requiring mitigation.

Summary and Conclusions

4.219 Once the Proposed Development is complete it will contribute towards Norwich's housing target (including affordable provision) and is anticipated to generate an additional 2,321 residents. The additional income and expenditure generated by new residents to the Proposed Development would provide positive benefits to the local economy. The increase in population will also impact upon the availability of education, healthcare, open space, sports and recreation provision.

4.220 Mitigation measures comprising the implementation of a CEMP, CLP and Training, Skills and Local Labour Strategy during the construction phase to minimise adverse effects and enhance the benefits. Commencement of the construction phase will also trigger the payment of CIL contributions, which will be used by NCC for the provision of community facilities. A Sustainable Community Strategy will also be agreed and implemented to enhance cohesion between new and existing residents. Once the Development is completed and operational, overall it is anticipated to have a significant beneficial impact on the LIA and WIA. A summary of the likely effects following mitigation and enhancement measures are:

- Construction Employment – Moderate beneficial
- Existing Uses/ Employment – Minor adverse
- Operational Employment - Moderate beneficial
- Population – Negligible
- Resident Expenditure - Moderate beneficial
- Deprivation – Moderate - major beneficial
- Housing - Moderate to major beneficial on the LIA and moderate beneficial on the WIA
- Crime - Moderate beneficial
- Education – Negligible
- Healthcare – Negligible
- Open space, sport and recreation – Minor beneficial
- Community facilities – Minor beneficial
- Community cohesion – Minor beneficial

[i] Ministry of Housing, Communities & Local Government (Updated 2021). *National Planning Policy Framework*. Available at https://www.gov.uk/government/publications/national-planning-policy-framework--2 Last accessed July 2021.

[ii] Greater Norwich Development Partnership (2011, amended 2014) Joint Core Strategy for Broadland, Norwich and South Norfolk. Available at https://www.gnlp.org.uk/sites/gnlp/files/2021-01/JCS-adopted-doc-2014.pdf Last accessed January 2022

[iii] Norwich City Council (2014) Norwich Development Management Policies Local Plan. Available at https://www.norwich.gov.uk/download/downloads/id/2693/adopted_norwich_development_management_policies_local_plan_document.pdf Last accessed January 2022

[iv] Norwich City Council (2017) *Anglia Square and Surrounding Area: Policy Guidance Note*. Available at https://www.norwich.gov.uk/download/downloads/id/3812/anglia_square_policy_guidance_note_-_adopted_march_2017.pdf Last accessed January 2022

[v] New Anglia LEP (2017). E*conomic Strategy for Growth and Opportunity.* Available at https://newanglia.co.uk/wp-content/uploads/2020/03/New-Anglia_Norfolk-Suffolk-Unlimited_Economic-Strategy-Brochure-1-1.pdf Last accessed January 2022

[vi] Norwich City Council (2015) *Open Space and Play Supplementary Planning Document*. Available at https://www.norwich.gov.uk/download/downloads/id/2493/open_space_and_play_spd.pdf Last accessed January 2022

[vii] Norwich City Council (2014) *Main Town Centre Uses and Retail Frontages Supplementary Planning Document*. Available at https://www.norwich.gov.uk/download/downloads/id/2501/main_town_centre_and_retail_frontages_spd.pdf Last accessed January 2022

[viii] Norwich City Council (2021) *New Greater Norwich Local Plan 2022 - 2038 – Regulation 19 Draft*. Available at https://www.gnlp.org.uk/regulation-19-publication Last accessed January 2022

[ix] Norwich City Council (2019). *Norwich economic strategy 2019-2024.* Available at https://www.norwich.gov.uk/download/downloads/id/5288/economic_strategy_2019-24.pdf Last accessed January 2022

[x] New Anglia LEP (2020). *Local Industrial Strategy.* Available at https://newanglia.co.uk/local-industrial-strategy/ Last accessed January 2022

[xi] New Anglia LEP (2020). *Covid-19 Economic Recovery Restart Plan.* Available at https://newanglia.co.uk/wp-content/uploads/2020/06/New-Anglia-LEP-NSU-Recovery-Plan-2020-FINAL.pdf Last accessed January 2022

Anglia Square, Norwich Environmental Statement

Chapter 5: Archaeology

RPS group on behalf of Weston Homes

PLC Partnerships

March 2022

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5. ARCHAEOLOGY

Introduction

5.1 Chapter 5 of the Environmental Statement (ES) has been prepared by RPS Group on behalf of Weston Homes PLC and presents an archaeological impact assessment of the likely significant effects of the Proposed Development at Anglia Square, Norwich (the Site).

5.2 This chapter of the EIA will summarise the existing known archaeology present and assess the magnitude of possible impact on archaeological assets at the Site. Mitigation measures are identified, where appropriate, to avoid, reduce or offset any significant adverse effects identified and/or enhance likely beneficial effects.

5.3 Please note that impacts on the setting of Scheduled Monuments beyond the site boundary are addressed in Volume II: Heritage, Townscape and Visual Impact Assessment.

5.4 This chapter is supported by the following technical appendix:

- **Appendix 5.1:** Archaeological Impact Assessment.

Legislation and Policy Context

National Planning Policy

5.5 The National Planning Policy Framework (2021) is relevant to the Proposed Development. This can be found in full in **Appendix 5.1**.

Local Planning Policy

5.6 The adopted development plan for NCC consists of the following:

- Joint Core Strategy for Broadland, Norwich and South Norfolk (2014) (the 'JCS');
- Norwich Development Management Policies Local Plan (2014) (the 'NDMP'); and
- Norwich Site Allocations and Site Specific Policies Local Plan (2014) (the 'NSASSP').

5.7 The emerging development plan, the Greater Norwich Local Plan (GNLP) which is being prepared by Broadland DC, South Norfolk Council, NCC and Norfolk County Council, (the Partnership), that will supersede the JCS and NSASSP once adopted.

5.8 In applying the above, regard will be given to the level of importance[1] of the heritage asset.

Guidance

5.9 The following guidance is relevant to the assessment:

- Chartered Institute for Archaeologists' 2014 (updated October 2020) 'Standard and Guidance for Historic Environment Desk-Based Assessment.

Assessment Methodology and Significance Criteria

Consultation

5.10 The Proposed Development has been the subject of detailed consultation with NCC and also HE.

5.11 **Table 5.1** presents a summary of the comments raised in the Council's EIA Scoping Opinion and other discussions with relevant consultees with respect to Archaeology.

Table 5.1 Summary of Comments Raised in the Scoping Opinion

Consultee	Comment	Response
Scoping response from the Historic Environment Senior Officer Ref:21/01738/EIA2 20th January 2022	Better understanding of the depth and nature of varying impacts from previous construction across the site and more accurately map the location and extent of the 1970s excavations on Botolph Street and St Georges Street.	All points agreed and incorporated within the impact assessment. However, copies of the drawings of the current Anglia Square buildings are not allowed to be reproduced under the copyright of the plans, until 70 years after the author's death. A deposit survival plan will be prepared to show potential level of archaeological survival across the site based on the results of previous archaeological investigations undertaken and available information.

[1] Term used to denote 'significance' of archaeological assets for the purposes of the ES Chapter. The NPPF refers to the consideration of the 'significance' of heritage assets. However, in the context of an EIA, the term 'significance' is used to denote the magnitude of likely environmental effects. Therefore, to avoid confusion, when referring to the NPPF, the term 'importance' (rather than significance) is used within this assessment.

Scoping response from the Historic Environment Senior Officer Ref:21/01738/EIA2 20th December 2021	The assessment should also consider, where appropriate, the likelihood of alterations to drainage patterns that might lead to *in situ* decomposition or destruction of below ground archaeological remains and deposits	New drainage installation, as all proposed below groundwork activity associated with this development, can have a negative impact on any archaeology that may be present on site. Therefore, targeted archaeological measures will be undertaken in agreement with the Archaeological Advisor to NCC in advance of any installation works.

Study Area and Scope

5.12 The Study Area was drawn to include all designated and non-designated archaeological assets within a 250m radius of the Site boundary. This includes both the Site in its entirety and also the surrounding wider context.

5.13 The extent of the Study Area is proportionate to the scale and nature of the Proposed Development. It has also been determined to be proportionate, recognising the high density of archaeological assets within Norwich. Its extents were established through consultation with the Archaeological Advisor to NCC to ensure its acceptability.

Assessment Methodology

5.14 In accordance with the NPPF and local planning policy, an Archaeological Impact Assessment has been prepared to support the planning application and inform the preparation of this chapter. The Archaeology Impact Assessment forms **Appendix 5.1**. This ES Chapter draws on the information in the Archaeology Impact Assessment to describe the baseline conditions in terms of the archaeological significance of the identified assets and the potential impact of development on their significance.

5.15 'Receptors' comprise identified archaeological assets, including both designated (world heritage sites, scheduled monuments, Protected Wreck Sites and Registered Battlefields) and also non-designated sites and assets.

5.16 The approach outlined below has been followed to assess likely significant effects, identify outline mitigation measures, and assess likely residual effects:

1. Consideration of best practice / guidance;

2. Professional judgement;

3. Consideration of the baseline information obtained, Scheme details and issues raised through consultation with interested parties as a result of responses to the EIA Scoping Report and through post-scoping consultation (where appropriate);

4. Prediction of potential effects based on baseline information and Scheme details;

5. Identification of effects which, in particular, could be considered to be potentially significant in terms of the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (SI No 1824) (hereinafter referred to as "the EIA Regulations");

6. Identification of appropriate mitigation measures; and

7. Prediction of residual effects based on baseline information, details of the proposed development and mitigation measures.

Significance Criteria

5.17 The following section outlines the criteria that have been used to establish the sensitivity of receptors, magnitude of impact and significance of effect.

Sensitivity

5.18 The sensitivity of heritage assets to impacts depends on factors such as the condition of the site and the perceived heritage value and importance of the site. The value of the receptor (the heritage asset) is defined by its importance in terms of national, regional or local statutory or non-statutory protection and grading of the asset. Where non-designated assets are affected, reference is made to relevant designation criteria (Historic England's 'Principles of Selection for Listed Buildings and Scheduled Monuments', supported by the relevant Selection Guides). These documents provide criteria for determining the importance of specific classes of asset. **Table 5.2** presents the scale of values that have been assigned to heritage assets; this is based on guidance provided in the Design Manual for Roads and Bridges, Volume 11.3. (HA 208/07.

Table 5.2 Sensitivity / Importance of Heritage Assets

Sensitivity	Importance	Definition/Example of Archaeological Receptor
Very High	International	World Heritage Sites (including nominated sites) Assets of acknowledged international importance Assets that contribute significantly to acknowledge international research objectives

High	National	Scheduled Monuments and Areas of Archaeological Importance Archaeological sites of schedulable quality and importance Registered Battlefields Protected Wreck Sites Registered Parks and Gardens (all grades) Non-designated assets, including landscapes, of demonstrable national importance
Medium	Regional	Non-designated assets, including landscapes, of demonstrable regional importance
Low	Local	Assets with significance to local interest groups

Magnitude of Impact

5.19 'Impacts' result from change in the significance (as defined in the NPPF) of the asset attributable to the Scheme, and the magnitude of impact reflects the degree of change in the asset's significance.

5.20 Change can arise as a result of construction on below-ground archaeological assets; change can also affect the setting of an archaeological asset caused by the proximity of new structures, by noise or dust, or other elements.

5.21 Such change can be adverse or beneficial, temporary or permanent, reversible or irreversible. **Table 5.3** presents the magnitude of impact criteria related to heritage assets.

Table 5.3 Criteria for Determining the Magnitude of Impact

Magnitude of impact	Criteria for Assessing Impact Magnitude	Magnitude of Impact
Major	Total or substantial loss of the significance of an archaeological asset. Substantial harm to an archaeological asset's setting, such that the significance of the asset would be totally lost or substantially reduced (e.g. the significance of a designated archaeological asset would be reduced to such a degree that its designation would be questionable or the significance of an undesignated archaeological asset would be reduced to such a degree that its categorisation as an	**Prevention of further degradation of the asset** consistent with safeguarding its heritage significance Increase accessibility and understanding of visible assets by removal of visibly intrusive elements

Magnitude of impact	Criteria for Assessing Impact Magnitude	Magnitude of Impact
	archaeological asset would be questionable).	
Moderate	Partial loss or alteration of the significance of an archaeological asset. Considerable harm to an archaeological asset's setting, such that the asset's significance would be materially affected/considerably devalued, but not totally or substantially lost. This equates to less than substantial harm in the terms of the NPPF.	Reduce rate of current degradation Improve setting Enhance existing character
Minor	Slight loss of the significance of an archaeological asset. This could include the removal of fabric that forms part of the archaeological asset, but that is not integral to its significance (e.g. the demolition of later extensions/additions of little intrinsic value). Some harm to the archaeological asset's setting, but not to the degree that it would materially compromise the significance of the archaeological asset. Perceivable level of harm, but insubstantial relative to the overall interest of the archaeological asset. This equates to less than substantial harm in the terms of the NPPF, at the lower end of the scale.	Reintroduce accessibility to below-ground archaeological asset
Negligible	A very slight change to the significance of an archaeological asset. This could include a change to a part of an archaeological asset that does not materially contribute to its significance. Very minor change to an archaeological asset's setting such that does not affect its significance.	Reintroduce accessibility to below-ground archaeological asset

Significance of Effects

5.22 Significance of effect has been determined with reference to the sensitivity of the asset affected and the magnitude of the impact. **Table 5.4** provides a matrix to act as a guide to determining significance.

5.23 The matrix is not intended to mechanise judgement of the significance of effect, but to act as a check to ensure that judgements regarding sensitivity, magnitude of impact and significance of effect are reasonable and balanced in order to allow for professional judgement. In some cases, the matrix allows a choice of significance of effect when a magnitude of impact and a value are combined. In these cases, the individual attributes of a specific asset, along with any relevant site-specific factors and consideration of other influencing elements, have been taken into account when considering which is the most appropriate significance of effect to apply.

5.24 Based on professional judgement, a "significant" effect in terms of the EIA Regulations is considered to be one of moderate significance or above. Such effects require mitigation. All effects that are considered to be significant with regard to the EIA Regulations are highlighted in bold in **Table 5.4**.

Table 5.4 Guidelines for determining significance of effect

Heritage Value (Significance of Asset)	Magnitude of Impact			
	Negligible	Minor	Moderate	Major
Very High	Minor/ Negligible	Moderate/Major	Major	Major
High	Negligible	Minor/Moderate	Moderate/ Major	Major
Medium	Negligible	Minor	Moderate	Moderate/Major
Low	Negligible	Negligible	Minor	**Moderate**/ Minor

Limitations and Assumptions

5.25 The presence of and significance of below ground archaeological remains has been sufficiently determined through various phases of archaeological fieldwork such as evaluation trenching and boreholes undertaken over the years across the site (see 'Archaeological Impact Assessment' Appendix 5.1). Therefore, it is proposed that the impact on undesignated buried archaeological remains on the site will be either mitigated through design changes to allow preservation of important remains *in situ* or offset through a comprehensive programme of archaeological investigation, recording and dissemination, designed in consultation with the Archaeological Advisor to Norwich City Council (NCC) to ensure its acceptability.

Baseline Conditions

Establishing Baseline Conditions

5.26 Baseline data has been gathered from the Norwich Historic Environment Record (HER), the Norwich Archive, the National Heritage List for England for information on Scheduled Monuments, Registered Historic Parks and Registered Battlefields and online sources (A Vision of Britain, Archaeological Data Service, Access to Archives, Britain From Above, British Geological Survey, Google Earth, Heritage Gateway and Old Maps) in order to identify and characterise archaeological assets that may be affected by the proposed development and the potential archaeological interest of the Site.

5.27 Archaeological assets within the Site and surrounding area, and the Site's potential for the presence of additional, as-yet undiscovered, archaeological assets have been established through desk-based review of existing data sources, site inspection visits, and previous programmes of archaeological trial trenching within the Site itself.

5.28 The following sections present a summary of the baseline information gathered from these sources with particular reference to receptors which are likely to be directly impacted by the Scheme. Designated archaeological assets are referred to by their National Heritage List number prefixed 'List', undesignated assets recorded on the County Historic Environment Record are referred to by their Norfolk HER number.

5.29 There are no designated archaeological assets (World Heritage Sites, Scheduled Monuments, Protected Wreck Sites or Registered Battlefields) either within the Site or within the wider 250m study area. These categories of archaeological assets have therefore been scoped out of further consideration in this assessment.

Baseline Conditions

5.30 Baseline data from the above sources is presented in the archaeological impact assessment report (**Appendix 5.1**). This was undertaken in accordance with the Chartered Institute for Archaeologists' 2014 (updated October 2020) 'Standard and Guidance for Historic Environment Desk-Based Assessment'. **Appendix 5.1** includes mapping which shows the location of all of the identified designated archaeological assets within 250m of the Site.

5.31 A detailed assessment of the baseline conditions is provided within **Appendix 5.1**, including the historical development of the Site and its surroundings.

5.32 The Site falls within an area identified as "The Area of Main Archaeological Interest" by Norwich City Council (NCC) in their Development Management Policies in Section DM9 the Local Plan and appears on the Council's Policies Mapping. It covers the extent of the walled Medieval city and a few outlying suburbs, including the site, and provides the basis for judging any development proposal according to the significance of remains likely to be found within the site. Whilst this Area is not one of the five designated Areas of Archaeological Importance under the 1979 Ancient Monuments and Archaeological Areas Act, it nonetheless has the potential to contain significant archaeological remains of regional importance, and has been assessed accordingly.

5.33 The Site has been subject to previous archaeological investigation in the 1970s, in 2007, in 2010 and 2018. These investigations have established that there are substantial surviving buried archaeological deposits and features within the site, principally relating to the Anglo Saxon, Early and Late Medieval and Post Medieval periods.

5.34 The Norfolk HER contains no record of prehistoric finds or features within the site, and none were found during the course of previous archaeological investigations on the site. Findspots within the Study Area include an *in situ* Upper Palaeolithic or Early Mesolithic scatter of worked flints 110m to the south-east of the site (55569; ENF125580), whilst residual Mesolithic and Neolithic struck flints have been recovered from other archaeological investigations within the Study Area. On the basis of this evidence, the likely potential for the site to contain buried remains of prehistoric date is considered low.

5.35 The main concentration of Roman activity in the vicinity of Norwich comprises the Roman town of Caistor St Edmund (*Venta Icenorum)*, some 5km to the south of the site. However, a worn Roman coin has been recovered from within the Site (22) and Roman pottery was found during nearby archaeological excavations within the Study Area, whilst a bronze Roman oil lamp was also found at St Augustine's Gate in the late 18th century (648). These isolated finds suggest that there was Roman activity in the area, although the quantity of finds recovered is low. In the light of this, and the absence of any Roman finds of features identified in the previous archaeological works on the site, the archaeological potential for Roman remains to be encountered within the Site is considered low.

5.36 Norwich has its origins in the Saxon period, when it developed as a major trading centre, known as *Noruic*. It lay astride the River Wensum, and the Late Saxon defensive circuit has been identified within the site itself. These follow the eastern edge of Botolph Street before curving to the north-east at the northern end of Botolph Street and then east towards Edward Street. The eastern half of the site lies within this defensive circuit and therefore within the late Saxon town.

5.37 Evidence for the Saxon town and associated activity is abundant in close proximity to the site and includes evidence for industries such as metalworking, including both smelting and smithing, and also horn working, whilst timber built structures and numerous rubbish pits have also been found in excavation. Excavations on Oak Street, to the south-west of the site, have identified the foundations of a substantial building, possibly a church (39691).

5.38 A number of churches pre-dating the Norman Conquest are known within Norwich. Two of these appear to have lain within the site. The first of these is St Botolph's Church (587), located on the original junction of Botolph Street and Magdalen Street. Skeletal remains recovered during work in the 1960s in this area are likely to be related. St Olave's Church, established in the Late Saxon period, and recorded as being demolished in 1546 also lay within the site (452). This is depicted on historic maps and has been mapped at the south-west corner of the site, where reused material from the church has been recorded in a Post Medieval building, and numerous *in situ* disarticulated remains have been found during trenching evaluation, indicating the likely location of the churchyard. The recorded location of All Saint's Church, recorded in Domesday and taken down in 1550, is only 40m to the east of the site boundary (589), whilst St Paul's Church, also now demolished lay 150m to the east.

5.39 In the light of this evidence, the likelihood of there being Saxon remains present within the site is high. These are likely to include remains associated with the two churches, including both structural remains and associated human burials. Within the line of the Late Saxon defences there is also likely to be surviving evidence for Saxon occupation in the form of both domestic and industrial activity, whilst the defences themselves are also likely to be present.

5.40 The Saxon defensive ditch was gradually infilled in the Medieval period, being replaced by a new defensive ditch in AD 1253, which was supplemented by a new City wall between 1294 and 1343. These new defences encompassed a larger area and lay some distance to the west and north of the Site, and the Site itself lay well within the expanded Late Medieval city.

5.41 Both documentary and archaeological evidence points to Medieval occupation within the site. Archaeological excavation has identified evidence for occupation and industry along the frontage to Botolph Street, although this had seen some truncation by later cellars. Despite this a number of structures were found, along with yards, hearths, evidence for iron working, along with numerous pits and two wells. Both St Olave's and St Botolph's Churches remained in use into the early Post Medieval period, whilst there was a Medieval cross, Stump Cross, located on the boundary of the southeast corner of the site near Magdalen Street (26429).

5.42 Evidence from the surrounding area also highlights the potential Medieval occupation, with evidence for domestic settlement, rubbish pits, iron working, horn working and tanning, whilst there is also evidence for the establishment of several hospitals and almshouses.

5.43 In light of the weight of archaeological evidence, the potential for further unknown Medieval remains to be encountered within the site is considered high.

5.44 Archaeological interventions within and surrounding the site have identified further evidence for domestic and industrial activity. Along Botolph Street, surviving evidence for 15th and 16th century structures was identified, whilst a large 16th century hall-house was also identified fronting on to the east side of the former line of George Street (284). Numerous extraction pits and rubbish pits have also been identified.

5.45 Early maps of the area, including the 1696 Thomas Cleer's Map of Norwich, show the density of Post Medieval occupation, with buildings fronting onto streets with wards behind. Some areas of open ground are shown to the north, south and east of the site, but these were later developed, as is seen on later maps of the 18th and 19th century. Despite the truncation caused by later cellars, the presence of Post Medieval remains within evaluation trenches on the site indicates that there is a high potential for Post Medieval remains on the site.

5.46 Modern development on site has seen a dramatic change to the site's form. The original road layout of the Late Medieval period was retained through the Post Medieval period until the 1960s, when considerable redevelopment of the area and the establishment of Anglia Square took place. Maps of the late 19th and 20th century show much development on the site, with the construction of new buildings, including a cinema and a factory. There was major redevelopment and landscaping of the site from the 1960s onwards with the road layout altered significantly and widespread clearance of the site in advance of the construction of the new Anglia Square, with a multi-storey car park to the north and also Sovereign House to the south; whilst elsewhere more open areas were used to provide further car parking space. More recently, some of the buildings in the west of the site have been demolished and the land used as car parking.

5.47 Past developments will have had a variable impact on the below ground archaeology. Modern construction of the present multi-storey car park and retail complex will have had a severe and widespread negative impact through the cutting of foundations and services, and the excavation of any basements or cellars. The impact of the surface car parking to the north and west of the site is considered to be low. The destructive impact of 19th century cellared buildings upon below ground archaeology has already been demonstrated through previous excavation. The construction of these buildings, which occupied the former street frontages, is considered likely to have had a severe and localised impact on below ground archaeological deposits. Pre-19th century developments are considered to have a moderate and localised impact on below ground archaeology.

5.48 On the basis of this baseline assessment, it is considered that the site has a low potential for the presence of hitherto unrecorded archaeological remains of the prehistoric and Roman periods, but that the potential for Saxon, Early and Late Medieval and Post Medieval remains, including human burials, on the site is high. These remains are likely to regionally significant, and their sensitivity to impact is therefore considered to be **medium (see Table 5.5).**

Table 5.5 Summary of Potential Archaeological Assets and Significance

Period	Identified Archaeological Potential	Identified Archaeological Significance
Prehistoric	Low Isolated finds in later contexts may be encountered	Low (Local)
Roman	**Low** Isolated finds in later contexts may be encountered	Low (Local)

Saxon – Early Medieval	**High** Stuctural remains of the two churches, St Olave's and St Botolph's, including associated human burials; plus, remains of the Late Saxon defences and evidence of Saxon occupation in the form of both domestic and industrial activity.	Medium (Regional)
Medieval	**High** Potential for Medieval occupation, Medieval chiurches and burial grounds; along with evidence for domestic settlement, rubbish pits, iron working, horn working and tanning. There is also potential for the establishment of several hospitals and almshouses.	Medium (Regional)
Post Medieval	**High** Structural remains of 15th and 16th century structures fronting on to the east side of the former line of George Street and former St Botolph Street; cellars, foundations, open areas, pitting and/garden activity	Low (Local)

Receptors

5.49 Considering the baseline outlined above, **Table 5.6** summarises the possible archaeological remains that may exist on the Site and their likely sensitivity (value). These archaeological remains may be considered as receptors for the purpose of this assessment.

Table 5.6 Summary of Receptor Sensitivity

Receptor	Sensitivity (Value)
Existing	
Prehistoric remains (likely to be only residual)	Low (Local)
Roman remains (likely to be only residual)	Low (Local)
Saxon – Early Medieval remains	Medium (Regional)
Medieval remains	Medium (Regional)
Post Medieval remains	Low (Local)

Future Baseline

5.50 In the event of the Proposed Development not going ahead, the archaeological baseline would remain unchanged.

5.51 Below ground demolition and construction on other schemes in the vicinity have the potential to negatively impact any below ground archaeological remains that may be present on these sites. Those situated within the Study Area of the archaeology assessment have the potential to contain similar remains to those that may survive on the site. The following schemes that fall in the Study Area will potentially have construction impacts that will negatively impact below ground archaeological remains that may be present beneath them.

Assessment of Effects (Construction and Operational)

Effects During Construction

5.52 There are no designated archaeological assets within the Site. However, both the Archaeological Impact Assessment undertaken in support of the Proposed Development and previous archaeological fieldwork on the site have identified that there is a high potential for previously unrecorded archaeological remains of Saxon, Early and Late Medieval and Post Medieval date to be present within the site, considered to be of **medium** significance. The almost complete absence of basements as part of the Proposed Development, along with the use of dispersed pile clusters in some areas, combined with the depth of the archaeological deposits encountered to date on site will allow some archaeological remains to be preserved *in situ*. Elsewhere, localised impacts such as high density pile clusters, deep lift shaft pits, new services, landscaping have the potential to result in the complete loss of significance and an impact of **Major** magnitude. In the light of this, and using the methodology outlined above and utilising professional judgement, it is considered that this impact would range from **Minor/Moderate adverse to Moderate/Major adverse** and would extend across areas of the Site where below ground impact occurs. This would comprise a **Significant** impact in terms of the EIA regulations.

5.53 The baseline information presented above constitutes Step 1 of the five step setting assessment process recommended by Historic England. It has established that there are no designated archaeological assets sufficiently close to, or associated directly with, the site such that there is a potential for their setting (and therefore any contribution this setting makes to the asset's significance) to be impacted upon by the proposed development. It is therefore concluded that the construction phase will not affect the setting of any archaeological assets.

Effects Once the Proposed Development is Operational

5.54 Potential operational or post-construction phase potential effects are restricted to those resulting from changes to the setting of archaeological assets. As no archaeological assets were identified

which might be impacted in this way, there is no potential for the proposed development to affect the setting of designated archaeological assets during the operational phase.

Mitigation Measures

Mitigation During Construction

5.55 Significant adverse effects would result from the unmitigated loss of the archaeological assets identified or potentially present within the Site during the construction phase. Specific mitigation measures are proposed for this effect only.

5.56 The depth of the archaeological remains and design of the Proposed Development will allow the preservation of archaeological remains *in situ* in some areas. In other areas, however, there will be specific negative impacts on buried archaeological remains. In these areas, the physical loss of archaeological assets during the construction phase will be offset by a phased programme of archaeological works. This may comprise further evaluation work to verify and augment the results of the previous work on the site and to inform the scope of subsequent archaeological mitigation, which is likely to comprise archaeological excavation, recording and analysis leading to publication.

5.57 This scope and extent of these works will be agreed in advance with the Archaeological Advisors to Norwich City Council, and monitored by them throughout the phases of fieldwork and reporting. It is considered that such work could be undertaken post-consent, secured by a planning condition.

Mitigation Once the Proposed Development is Operational

5.58 No mitigation measures will be required for the operational phase of works.

Residual Effects and Monitoring

5.59 Mitigation is proposed in relation to the loss of archaeological assets within the Site. Their physical loss would either be completely prevented through design measures that would allow their preservation *in situ* or offset through their preservation by record; as there would be no perceptible loss to the historic environment and the recording and analysis would fully realise their potential as sources of archaeological data, it is considered that the latter would fully offset the physical loss of such remains. In the light of this. Following this programme of archaeological work there would therefore be a **minor/negligible** residual effect. This is **not significant** in the terms of the EIA Regulations.

5.60 No operational/post-construction impacts have been identified.

5.61 The residual effects arising from the Proposed Development are summarised in **Table 5.7** below.

Table 5.7 Summary of Residual Effects

Effect	Receptor (Sensitivity)	Geographic Scale	Magnitude of Impact*	Classification of Effect (Statement of Significance)	Mitigation and Monitoring	Residual Effect
Construction Effects						
Impact on Prehistoric remains (likely to be residual)	Impact on Prehistoric remains (Low) (Local)	Sitewide (expect for localised areas of known deep modern truncation)	Major	Moderate to Minor adverse	Archaeological evaluation (when required) followed by preservation *in-situ* / excavation / watching brief as appropriate	Minor/Negligible adverse
Impact on Roman remains (likely to be residual)	Impact on Roman remains (Low) (Local)	Sitewide (expect for localised areas of known deep modern truncation)	Major	Moderate to Minor adverse	Archaeological evaluation (when required) followed by preservation *in-situ* / excavation / watching brief as appropriate	Minor/Negligible adverse
Impact on Saxon-Early Medieval remains	Impact on Saxon-Early Medieval remains (Medium) (Regional)	Sitewide (expect for localised areas of known deep modern truncation)	Major	Moderate to Major adverse	Archaeological evaluation (when required) followed by preservation *in-situ* / excavation / watching brief as appropriate	Minor adverse

Impact on Medieval remains	Impact on Medieval remains (Medium) (Regional)	Sitewide (expect for localised areas of known deep modern truncation)	Major	Moderate to Major adverse	Archaeological evaluation (when required) followed by preservation *in-situ* / excavation / watching brief as appropriate	Minor adverse
Impact on Post-medieval remains	Impact on Post-medieval remains (Low) (Local)	Sitewide (expect for localised areas of known deep modern truncation)	Major	Moderate to Minor adverse	Archaeological evaluation (when required) followed by preservation *in-situ* / excavation / watching brief as appropriate	Minor/Negligible adverse
Operational Effects						
No impacts on archaeological remains are anticipated once the Proposed Development is operational.						

Notes: * incorporating environmental design and management, ** incorporating mitigation and monitoring measures

Likely Significant Environmental Effects

5.62 Effects to archaeological assets that may survive on the Site are limited to construction phase activity. All construction activity that has a below ground impact has the potential to adversely impact archaeological remains by causing disturbance or total or partial removal. Such activity may include, but is not limited to, below ground demolition, pile probing, piling, foundation and service excavation, ground reduction, enabling works, ground compaction, *etc.* Where significant effects are anticipated, mitigation measures will be implemented to reduce the potential for likely significant effects to occur as far as possible but in some instances the significant effects cannot be removed in their entirety.

5.63 It is not anticipated that there would be any significant environmental effects to archaeological remains once the Proposed Development is operational.

Summary and Conclusions

5.64 The Study Area was drawn to include all designated and non-designated archaeological assets within a 250m radius of the Site boundary. This includes both the Site in its entirety and also the surrounding wider context.

5.65 This assessment has established that there are no designated archaeological assets (World Heritage Sites, Scheduled Monuments, Protected Wreck Sites or Registered Battlefields) either within the site or within the wider 250m study area. It has also determined that the site lies within The Area of Main Archaeological Interest defined by Norwich City Council in their Development Management Policies in their Local Plan.

5.66 Previous archaeological works on the site, combined with an Archaeological Impact Assessment undertaken in support of the Proposed Development, have established that the site has a **low potential** for archaeology dating to the Prehistoric and Roman time and **high potential** for archaeological remains dating to the Saxon-Early Medieval, Medieval and Post Medieval periods.

5.67 The latter would include remains of Late Saxon defensive ditch and Saxon – Medieval occupation, both in the form of domestic and industrial activity. Burials associated with the Saxon and Medieval churchyard of St Olave's and potentially, more burials in association with the Church of St Botolph. Structural remains of the Church of St Olave's could also be expected along with Post Medieval, 15th and 16th century structural remains of buildings fronting on to the east side of the former line of George Street and former St Botolph Street.

5.68 These remains are likely to be regionally significant, and their sensitivity to impact is therefore considered to be **medium.**

5.69 However, past post-depositional impacts as a result of late 19th and 20th century developments are considered to have had a severe, localised negative impact on any earlier archaeology that may have been present on site, especially within the footprint of the existing Anglia Square complex and at the north-eastern end of the site, where structural/demo remains associated with a large 19th industrial building, appear to have truncated any earlier archaeology that may have been present down to natural deposits. However, good preservation of archaeological deposits has been established elsewhere within the site, especially within the north-west and west car park and in the open area south of the flyover (**Appendix 5.1).**

5.70 The proposed scheme will comprise a mixed use development of *circa* 1,100 residential units and up to 6,000sqm flexible use commercial, with associated car parking and landscaping. All proposed new buildings will not have a basement, except for “Building A” which is proposed within the location the multi-storey carpark that already has a basement that occupies the north part of the site.

5.71 However, the depth of the archaeological remains and design of the Proposed Development will allow the preservation of archaeological remains *in situ* in some areas. In other areas, instead, there will be specific negative impacts on buried archaeological remains. In these cases, the adverse impact on archaeological assets during the construction phase will be mitigated by a phased programme of archaeological works. This may comprise further evaluation work to verify and augment the results of the previous work on the site and to inform the scope of subsequent archaeological mitigation, which is likely to comprise archaeological excavation, recording and analysis leading to publication.

5.72 Effects on the archaeological assets are confined to the construction phase only.

Anglia Square, Norwich Environmental Statement

Chapter 6: Ecology

Ecology Solutions on behalf of

Weston Homes PLC

March 2022

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6. ECOLOGY

Introduction

6.1 This chapter of the ES has been prepared by Ecology Solutions and presents an assessment of the likely significant effects of the Development with respect to Ecology. Mitigation measures are identified, where appropriate, to avoid, reduce or offset any significant adverse effects identified and/or enhance likely beneficial effects. Taking into account the mitigation measures, the nature and significance of the likely residual effects are reported.

6.2 This chapter is supported by a series of technical appendices comprising:

- **Appendix 6.1:** Legislation and Policy Context;
- **Appendix 6.2:** Phase 1 Habitats Survey Report (March 2018);
- **Appendix 6.3:** Ecology Phase 2 Bat Survey Report (August 2018);
- **Appendix 6.4:** Ecological Assessment (March 2022); and
- **Appendix 6.5:** Biodiversity Net Gain Assessment (March 2022).

Legislation and Policy Context

Legislation

6.3 The following legislation is relevant to the Proposed Development:

- Wildlife and Countryside Act 1981 (as amended), which provides legal protection with respect to certain plants, animals and habitats; including SSSIs;
- Natural Environment and Rural Communities (NERC) Act 2006, which includes the “duty to conserve” priority habitats and species;
- The Conservation of Habitats and Species Regulations 2017 (“the Habitats Regulations) (as amended). This provides the framework for the legal protection of European designations and species. It historically transposed into UK law the European Union Directives 92/43/EEC and 2009/147/EC; and
- The Environment Act 2021. The new legislative framework which, amongst other things, sets out the requirements for and approach to Biodiversity Net Gain.

National Planning Policy

6.4 The following national planning policy is relevant to the assessment:

- National Planning Policy Framework (2021)[i].

Regional Planning Policy

6.5 The following regional planning policy is relevant to the assessment:

- Joint Core Strategy for Broadland, Norwich and South Norfolk (Adopted March 2011, amendments adopted January 2014)

Local Planning Policy

6.6 The following local planning policy is relevant to the assessment:

- Norwich Local Plan Development Management Policies Plan (Adopted December 2014)
- Greater Norwich Local Plan Regulation 19 Publication (July 2021)

Assessment Methodology and Significance Criteria

Consultation

6.7 **Table 6.1** presents a summary of the comments raised in the Council's EIA Scoping Opinion and other discussions with relevant consultees with respect to Ecology.

Table 6.1 Summary of Comments Raised in the Scoping Opinion

Consultee	Comment	Response
Natural England	The proposal is unlikely to adversely impact any European or internationally designated nature conservation sites (including 'habitats sites' under the NPPF) or nationally designated sites (Sites of Special Scientific Interest, National Nature Reserves or Marine Conservation Zones). The ES should consider any impacts upon local wildlife and geological sites, including local nature reserves. Local Sites are identified by the local wildlife trust, geoconservation group or other local group and protected under the NPPF (paragraph 174 and 175). The ES should set out proposals for mitigation of any impacts and if appropriate, compensation measures and opportunities for enhancement and improving connectivity with wider	Natural England's position that the proposal is unlikely to adversely impact any European or internationally designated nature conservation sites is welcomed, but this would appear to be at odds other advice on European designated sites. This point is assessed in this chapter. This chapter takes full account of the potential for the Proposed Development to affect other wildlife sites in the locality, as well as protected and notable species. Ecological enhancements are included as part of the Proposed Development.

	ecological networks. Contact the relevant local body for further information. The ES should assess the impact of all phases of the proposal on protected species (including, for example, great crested newts, reptiles, birds, water voles, badgers and bats). Natural England does not hold comprehensive information regarding the locations of species protected by law. Records of protected species should be obtained from appropriate local biological record centres, nature conservation organisations and local groups. Consideration should be given to the wider context of the site, for example in terms of habitat linkages and protected species populations in the wider area. The area likely to be affected by the development should be thoroughly surveyed by competent ecologists at appropriate times of year for relevant species and the survey results, impact assessments and appropriate accompanying mitigation strategies included as part of the ES. Surveys should always be carried out in optimal survey time periods and to current guidance by suitably qualified and, where necessary, licensed, consultants. An appropriate level habitat survey should be carried out on the site, to identify any important habitats present. In addition, ornithological, botanical, and invertebrate surveys should be carried out at appropriate times in the year, to establish whether any scarce or priority species are present.	
Environment Agency	No comments on ecological issues.	No response necessary.
Norwich Airport	Refers inter alia to landscaping proposals / birdstrike risk.	Taken on board as part of project design and landscaping proposals.

Study Area and Scope

6.8 Norwich City Council's Scoping Opinion states that *"[the Ecology] chapter will need to address the impact of development on nationally and internationally protected nature conservation interests and geodiversity sites in the area, with particular emphasis on reducing visitor pressure on and improving*

water quality in Natura 2000 sites and the wider habitats of the Broads. Your attention is drawn to the emerging Greater Norwich Plan (Policy 3), the associated Sustainability Appraisal Report and evidence documents".

6.9 Accordingly this chapter focuses on the assessment of effects on designated sites, though regard is had to effects on other ecological receptors. The study area is influenced by communications from Natural England on the Zone of Influence for relevant designations of recreational effects and nutrient neutrality issues.

6.10 The Existing Baseline is set at 2021/2022, as informed by earlier and more recent site visits and background studies. The Future Baseline considers the status of the Site at the Completed Development in Q4 2030. The indicative delivery programme for the Proposed Development is estimated to be approximately 8 years. Subject to planning permission being granted, construction is anticipated to commence in December 2022 and be completed in December 2030.

Assessment Methodology

6.11 This section presents the methodology used to assess the potential effects of the Proposed Development in relation to ecology and biodiversity. The assessment has been made with reference to the CIEEM Guidelines. This is the current industry guidance for ecological assessment. It is not considered prescriptive but provides guidance to practitioners for refining their own methodologies.

Impact Areas

6.12 The assessment comprises an initial review of the baseline data gathered and the identification of Important Ecological Features ('IEF'). The guidelines advocate an approach to valuing features that involves professional judgment based on available guidance and information, together with advice from experts who know the locality of the project and/or the distribution and status of the species or features that are being considered. IEF should then be subject to detailed assessment if they are likely to be affected by the Proposed Development. It is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts such that there is no risk to their viability.

6.13 Ecological features can be important for a variety of reasons and the rationale used to identify them is explained below. Importance may relate, for example, to the quality or extent of designated sites or habitats, to habitat/species rarity, to the extent to which they are threatened throughout their range, or to their rate of decline.

6.14 The importance of an IEF should be considered within a defined geographical context. The following geographical frame of reference is used in the assessment to define importance, as appropriate and relevant to the scale and nature of the Proposed Development:

- International (European);
- United Kingdom;
- England;
- Regional;
- County;
- Local; and
- Site.

6.15 For guidance, features of international importance are of the highest value. Those of Site value do have immediate value within the site but are not of importance in a wider context.

6.16 Features, including those evaluated to be at the Site level, are included in the assessment where their importance fits within that set out in the CIEEM Guidance. The CIEEM Guidance advises that IEFs can include:

- Statutory designated sites (such as a Site of Special Scientific Interest – SSSI);
- Habitats and species of principal importance for the conservation of biodiversity listed on Country Biodiversity Lists (Listed under S41 of the NERC Act 2006 in England);
- UK and Local Biodiversity Action Plan Habitats and Species; and
- Red Listed, Rare and Legally Protected Species.

6.17 The assessment for the potential of likely significant effects on legally protected species, regardless of their level of importance within the geographical context, have been assessed within this chapter, particularly where survey information has not confirmed their absence.

6.18 The approach adopted for the assessment will be based on professional experience and best practice, and in consideration of the policy requirements / tests set out within the National Planning Policy Framework, the adopted Local Plan and relevant legislation.

Significance Criteria

6.19 The magnitude of impact upon each receptor will then be determined by considering the predicted deviation from baseline conditions, both before and, if required, after mitigation.

6.20 The impact assessment process involves:

- Identifying the importance/sensitivity of a feature;
- Identifying and characterising impacts on species/habitats;
- Incorporating measures to avoid and reduce (mitigate) these impacts;
- Assessing the significance of any likely residual effects after mitigation;
- Identifying appropriate compensation measures to address significant residual effects; and
- Identifying opportunities for ecological enhancement.

6.21 Magnitude refers to size, amount, intensity and volume. It will be quantified where possible to do so and expressed in absolute or relative terms e.g., the amount of habitat lost, percentage change to habitat area, percentage decline in a species population. The table below sets descriptors applied to the magnitude of impacts.

Table 6.2 Magnitude of Impact Descriptions

Impact Magnitude	Descriptor
Neutral	No discernible impact.
Minor	A temporary or short-term impact on a physical resource / receptor that is localised and detectable above natural variations but not regarded as imparting an order of magnitude change. The environment will revert back to pre-impact status once the impact ceases. An effect on a species that affects a specific group of localised individuals within a population over a short time period (one generation or less), but does not affect other trophic levels or the population itself.
Moderate	A temporary or short-term impact on a physical resource / receptor that may extend beyond the local scale and may bring about an order of magnitude change in the quality or functionality of a resource / receptor. It does not, however, threaten the long-term integrity of the resource/receptor or any receptor / process dependent on it. A moderate magnitude impact multiplied over a larger area would be regarded as a major magnitude impact. An impact on a species that affects a portion of a population and may bring about a change in abundance and / or a reduction in the distribution over one or more generations but does not threaten the long-term integrity of that population or any population dependent on it. The size and cumulative character of the consequence is also important. A moderate magnitude impact multiplied over a wide area would be regarded as a major magnitude impact.

Major	An impact on a physical resource / receptor that results in an order of magnitude change on the local or larger scale that is irreversible and above any applicable limits. The change may alter the long-term character of the resource / receptor or another receptor / process dependent on it. An impact that persists after the activity ceases is a major magnitude impact. An impact on a species that affects an entire population or species in sufficient magnitude to cause a decline in abundance and / or change in distribution beyond which natural recruitment (reproduction, immigration from unaffected areas) would not return that population or species, or any population or species dependent upon it, to its former level within several generations, or when there is no possibility of recovery.

6.22 Effects will be described in the following terms:

- Major Beneficial;
- Moderate Beneficial;
- Minor Beneficial;
- Neutral or Negligible;
- Minor Adverse;
- Moderate Adverse; or
- Major Adverse.

6.23 Major and Moderate level effects would be considered Significant in EIA terms. Minor and Negligible would be considered Not Significant.

Limitations and Assumptions

6.24 There are no assumptions and limitations relevant to this assessment.

Baseline Conditions

Establishing Baseline Conditions

6.25 The ecology baseline consists of completing a desk study and extended Phase 1 Habitat Survey of the site, followed by surveys for protected and notable species, which in this case were limited to bats. Details of the approaches taken to these surveys are set out in Appendices 6.2 to 6.4.

Desk Study

6.26 An area search was conducted using the Multi Agency Geographic Information for the Countryside (MAGIC) website to ascertain whether there are any designated sites of interest, on or within 10km

of the site being surveyed. Norfolk Biodiversity Information Service (NBIS) were contacted for records of protected species and sites within 2km of the site. Information obtained from MAGIC and NBIS information is considered as part of the survey report included as Appendix 6.4.

Habitat Survey

6.27 An extended Phase 1 habitat survey of the site was originally undertaken in February 2016 with a further visit in December 2017, as detailed in Appendix 6.2. Checks were undertaken in July 2018 and subsequently, as part of the bat survey work set out in Appendix 6.3. A further check and update was completed in January 2022, as reported in Appendix 6.4. During all surveys, regard was had to the presence of protected or notable species, and to invasive non-native species.

Bat Surveys

6.28 A series of specific bat surveys was undertaken at the site in 2018, as detailed in Appendix 6.3. This included external and (where possible) internal surveys of the buildings; an emergence / activity transect survey in July 2018; and deployment of static bat detectors. The methods are set out in full in Appendix 6.3. The survey update in January 2022 included an external appraisal of the buildings to establish whether there were significant differences from the 2018 work (see Appendix 6.4).

Baseline Conditions

Designated Sites

6.29 There are no statutory sites within or directly adjacent to the Site. The closest statutory sites are St James' Pit SSSI and Mousehold Heath Local Nature Reserve (LNR), each located approximately 0.9km east of the Site. St James' Pit SSSI is designated solely for its geological rather than ecological interest.

6.30 The Norfolk Green Infrastructure and Recreational Impact Avoidance and Mitigation Strategy (GIRAMS), published in March 2021, defines Zones of Influence for various Norfolk Habitats Sites (aka European Designated Sites) with regard to recreational impacts, as set out in the table below. This position was endorsed by Natural England in its letter of 12 August 2019 (included as Appendix 1 to the GIRAMS).

Table 6.3 Zone of Influence for Norfolk Habitats Sites for recreational impacts

Area	European Designated Sites	ZoI (km)
Breckland sites	Breckland SPA Breckland SAC	26
Broads sites	The Broads SAC Broadland SPA	25
East Coast sites	Breydon Water SPA Winterton-Horsey Dunes SAC Great Yarmouth and North Denes SPA	30

North Coast sites	North Norfolk Coast SAC North Norfolk Coast SPA The Wash and North Norfolk Coast SAC	42
Roydon and Dersingham	Roydon Common and Dersingham Bog SAC Roydon Common Ramsar Dersingham Bog Ramsar	12
Norfolk Valley Fens	Norfolk Valley Fens SAC	15
The Wash	The Wash SPA The Wash Ramsar The Wash and North Norfolk Coast SAC	61

6.31 The Site is within the Zone of Influence for the following:

- Broads Sites;
- East Coast Sites;
- North Coast Sites; and
- Norfolk Valley Fens.

6.32 Natural England's advice in their August 2019 letter was that if new residential development were proposed within the Zone of Influence of these designations, Likely Significant Effect on integrity through recreation effects should be assumed. Proposals would in such circumstances need to demonstrate that adverse effects would be avoided, when considered alone and in combination with other plans or projects. Sites of 50 units or more should include provision of well-designed open space / green infrastructure, proportionate to its scale, as well as make a financial contribution per unit according to the tariff set out in the GIRAMS.

6.33 The Impact Risk Zone for River Wensum SSSI (which underpins River Wensum SAC) is defined on the MAGIC website as 4km, which covers the Site. A Zone of Influence has not been defined in the same way as the other designations noted above. The River Wensum is subject to a long term strategy, published in 2018, aimed at enabling change and regeneration through improving public access.

6.34 On 16 March 2022, Natural England issued a letter setting out advice for development proposals with the potential to affect water quality resulting in adverse nutrient impacts on habitats sites i.e. SPAs, SACs and Ramsar sites. Natural England's advice to affected Local Planning Authorities in their role as competent authority under the Habitats Regulations, which includes Norwich City Council, is to *"…carefully consider the nutrients impacts of any new plans and projects (including*

new development proposals) on habitats sites and whether those impacts may have an adverse effect on the integrity of a habitats site that requires mitigation, including through nutrient neutrality".

6.35 Table 2 in Annex C of the letter, entitled *Additional habitats sites in unfavourable condition due to excessive nutrients which require a Habitats Regulations Assessment (HRA) and where nutrient neutrality is a potential solution to enable development to proceed*, includes the following designated sites relevant to the Site:

- River Wensum SAC, with phosphorus named as an excessive nutrient; and
- The Broads SAC / Ramsar, limited to Bure Broads and Marshes SSSI, Trinity Broads SSSI, Yare Broads and Marshes SSSI, Ant Broads and Marshes SSSI and Upper Thurne Broads and Marshes SSSI, with nitrogen and phosphorus named as excessive nutrients.

6.36 The letter and the advice is considered further in the Ecological Assessment at Appendix 6.4 and will be done via a Shadow Habitats Regulations Assessment under the Habitats Regulations.

6.37 The Site is not within or adjacent to any non-statutory designated site. The closest such site is Train Wood County Wildlife Site (CWS), some 0.4km to the west of the Site at its closest point, adjacent to the River Wensum (which at this point is not designated SSSI or SAC).

Habitats

6.38 Anglia Square is located to the north of Norwich city centre. It has a mix of shops; empty and occupied offices; a disused multi-storey car park; cinema; open car parks and a group of two storey Victorian / 20th century buildings, some in use and some unoccupied. Vegetation is limited to areas on amenity grassland, amenity planting and trees on the southern boundary of the Site. Further details on these areas and the nature of the buildings present is included at Appendices 6.2 to 6.4.

Species

6.39 The Site lacks opportunities for the majority of protected and notable species. Surveys undertaken for bats (see Appendix 6.3) found no evidence of use of the structures. A very low level of activity was recorded during the activity survey, with a single Common Pipistrelle *Pipistrellus pipistrellus* and Soprano Pipistrelle *Pipistrellus pygmaeus* identified. A relatively low number of registrations were recorded during the static detector deployment, with the majority attributed to Noctule *Nyctalus noctula*, and less frequently Common Pipistrelle. The timings of the registrations recorded indicate that bats are not roosting within the Site and are occasionally commuting over the Site to forage elsewhere.

6.40 The buildings offer potential habitat for species such as Herring Gull *Larus argentatus*, Jackdaw *Corvus monedula* and Feral Pigeon *Columba livia*.

Receptors

6.41 A list of existing and future receptors are included in the following table:

Table 6.4 Existing and Future Sensitive Receptors

Receptor	Sensitivity
Existing Receptors	
Designated sites in locality (dust and pollution) and further afield (pollution)	Moderate (non-statutory designations) / High (European Designated Sites)
Habitats	Low
Bats	Low
Hedgehogs	Low
Birds	Low
Invertebrates	Low
European Designated Sites	High

Future Baseline

6.42 Were the Proposed Development not to occur, the future baseline for the site would look very similar to the existing conditions, albeit it would be expected for the buildings to become more dilapidated over time, and for invasive species such as Buddleia (recorded during survey work) to become more established in the absence of management and maintenance.

Assessment of Effects (Construction and Operational)

6.43 IEFs identified as requiring assessment are limited to the statutory designated sites identified above. As previously noted, all other elements and potential receptors have been scoped out of the assessment. The March 2022 Ecological Assessment (Appendix 6.4) confirms that the Site remains of low ecological interest with no significant opportunities for protected or notable species.

Effects During Construction

6.44 All existing buildings will be removed and a significant landscape strategy provided as part of the Proposed Development.

Designated Sites

6.45 A CEMP will be controlled via a suitable worded planning condition. The demolition process will be subject to an appropriate CEMP, which is deemed to be embedded mitigation. In the absence of a CEMP, construction dust and potential pollution events may have implications for the identified IEFs, but with its implementation such effects would be avoided. Natural England confirmed in its response to the Scoping Opinion that proposal is unlikely to adversely impact any European or internationally designated nature conservation sites or nationally designated sites.

6.46 Taking account of embedded mitigation, effects on designated sites during construction are neutral at the county / international level.

Habitats and Biodiversity Net Gain

6.47 The landscape strategy will include new ground cover shrub planting; mixed native hedging; and standard tree planting. Other elements will include podium / roof terraces, green roofs and planting beds with infiltration kerbs. These measures will all encourage greater use of the Site by wildlife, including invertebrates and birds, and potentially bats. A significant net gain for biodiversity will be delivered, relative to the existing situation. All of these measures are integral to the design of the scheme and not considered to be additional mitigation measures. While effects on habitats have been scoped out of the assessment, the effect of the proposed development in this regard is nevertheless significant. The Biodiversity Net Gain Assessment, included as Appendix 6.5, shows a significant positive net gain for both Habitat Units and Hedgerow Units.

6.48 Taking account of embedded measures, effects on habitats are considered to be moderate beneficial at the local level.

Bats

6.49 The proposed development will include a series of bat boxes to offer new roosting opportunities, and it is expected that the landscape strategy will offer new foraging resources through encouraging invertebrates. These embedded measures may encourage greater use of the Site by common bat species.

6.50 Taking account of embedded measures, effects on bats are considered to be minor beneficial at the local level.

Hedgehogs

6.51 All boundary treatments will be suitably permeable to facilitate Hedgehog Gateways. This will encourage dispersal within the Site should the species colonise.

6.52 Taking account of embedded measures, effects on Hedgehogs are considered to be minor beneficial at the Site level.

Birds

6.53 The Proposed Development will include a series of bird boxes to offer new nesting opportunities, while the landscape strategy will offer new foraging resources through encouraging invertebrates and nesting opportunities in itself. These embedded measures should encourage greater use of the Site by birds.

6.54 Taking account of embedded measures, effects on birds are considered to be minor beneficial at the local level.

Invertebrates

6.55 As noted, the landscape strategy is likely to increase significantly the opportunities for invertebrates within the Site, where habitats are currently very limited. This is likely to encourage greater use by relatively common species.

6.56 Taking account of these embedded measures, effects on invertebrates are considered to be minor beneficial at the local level.

Effects Once the Proposed Development is Operational

6.57 Natural England confirmed in its response to the Scoping Opinion that the proposal is unlikely to adversely impact any European or internationally designated nature conservation sites. However, this appears to be at odds with previous Natural England advice to Norwich City Council and other affected LPAs on the strategic approach to avoidance of recreational disturbance effects on European designated sites. This found that new residential development within an identified Zone of Influence would constitute a Likely Significant Effect on the identified designated sites through increased recreational pressure, either when considered alone or in combination with other plans or projects.

6.58 As noted above, Natural England's advice was that sites of 50 units or more should include provision of well-designed open space / green infrastructure, proportionate to its scale, as well as make a financial contribution per unit according to the tariff set out in the GIRAMS.

6.59 The Proposed Development includes a significant new green infrastructure strategy to offer recreation opportunities to both new residents of the development and existing residents from the locality. Moreover, access to new walking routes will be available for new residents to the immediate area, where existing wider public open spaces are present across the city. The Proposed Development will also make the necessary contributions under the GIRAMS.

6.60 These measures are deemed to be embedded mitigation, integral to the design of the scheme and the proposal.

6.61 Natural England's response to the Scoping Opinion does not refer to nutrient neutrality issues, as set out in its letter of 16 March 2022. Ecology Solutions has discussed the topic with EAS, the project flood risk and drainage consultant.

6.62 EAS has reported that Anglian Water has not yet responded to confirm capacity exists within the existing network for the proposed foul water flows. For the previous scheme, in 2017, Anglian Water

did undertake a hydraulic capacity check and confirmed that capacity did exist. EAS has asked Anglian Water to revisit this in light of the time that has passed and also to account for the revised scheme, but it is understood that their hydraulic analysis may still take some weeks to conclude. In 2017 Anglian Water stated: *"The (hydraulic capacity analysis) study demonstrated that the flows from the development site can be connected to the sewer network system without the need for any improvement"*. Their hydraulic capacity analysis undertaken in 2017 also states: *"Foul flows from the site drain to Whitlingham Trowse Recycling Centre (WRC) located to the south of the town"*. It is expected that foul water flows are still directed to this Sewage Treatment Works – which was improved in 2019. Since improvements have been made to the Sewage Treatment Works, EAS do not expect that capacity will be an issue for the new scheme. That being the case, adverse effects on designated sites as a result of increased nutrient levels would be avoided, that is, on the River Wensum SAC due to levels of phosphorus and The Broads SAC / Ramsar due to levels of nitrogen and / or phosphorus.

6.63 Taking account of embedded measures, effects on designated sites are considered to be neutral at the international level.

Mitigation Measures

Mitigation During Construction

6.64 No mitigation measures in addition to those deemed to be embedded are necessary during the construction phase. All potential adverse effects are addressed by embedded mitigation and avoidance measures.

Mitigation Once the Proposed Development is Operational

6.65 No mitigation measures in addition to those deemed to be embedded are necessary during the operational phase. All potential adverse effects are addressed by embedded mitigation and avoidance measures.

Residual Impacts and Monitoring

6.66 Residual Effects are as stated in the Assessment of Effects above.

6.67 The residual impacts arising from the Proposed Development are summarised in **Table 6.5** below.

Table 6.5 Summary of Residual Effects

Effect	Receptor (Sensitivity)	Nature of Effect and Geographic Scale	Magnitude of Impact*	Classification of Effect (Statement of Significance)	Mitigation and Monitoring	Residual Effect (Statement of Significance)
Construction Effects						
Dust and pollution effects	Designated sites in locality (dust and pollution) and further afield (pollution) (Moderate: non-statutory designations; High: European designated sites)	County / International	Neutral	None	Adherence to the CEMP	Neutral (Not significant)
Landscape Strategy	Habitats (Low)	Local	Moderate	Moderate beneficial (Significant)	None	Moderate beneficial (Significant)
Bat Boxes and Habitat	Bats (Low)	Local	Minor	Minor beneficial (Not significant)	None	Minor beneficial (Not significant)
Hedgehog Gateways	Hedgehogs (Low)	Site	Minor	Minor beneficial (Not significant)	None	Minor beneficial (Not significant)
Bird Boxes and Habitat	Birds (Low)	Local	Minor	Minor beneficial (Not significant)	None	Minor beneficial (Not significant)
Invertebrate Habitat	Invertebrates (Low)	Local	Minor	Minor beneficial (Not significant)	None	Minor beneficial (Not significant)
Operational Effects						

Recreational Effects	European Designated Sites (High)	International	Neutral	Neutral (Not significant)	Landscape strategy and adherence to GIRAMS	Neutral (Not significant)
Water Quality Effects	European Designated Sites (High)	International	Neutral	Neutral (Not significant)	Outflows to Sewage Treatment Works with capacity	Neutral (Not significant)

Notes: * incorporating environmental design and management, ** incorporating mitigation and monitoring measures

Likely Significant Environmental Effects

6.68 Overall, significant adverse effects as a result of the proposed development will be avoided, both during construction and operation, through good design and adherence to strategic approaches to effects on designated sites. These measures are considered to be integral to the design of the scheme and the proposal and therefore deemed embedded mitigation and avoidance measures. Though effects on other receptors (i.e. those other than designated sites) were scoped out of the assessment, the proposed development will deliver a significant measurable net for biodiversity, and enhancements for bats, Hedgehogs, birds and invertebrates. With the exception of the Biodiversity Net Gain, which is considered to be a significant moderate benefit, these measures are all considered to be minor benefits at the local level, and therefore not significant in EIA terms. They will nonetheless be beneficial in ecological terms, both for local wildlife and new and existing residents.

Summary and Conclusions

The Site is currently of negligible ecological interest, and effects on all ecological receptors other than designated sites were scoped out of the assessment. Significant adverse effects on these designations would be avoided through embedded mitigation and avoidance measures, including a landscape strategy and provision of new open space, compliance with the GIRAMS, and an appropriate waste water strategy. While scoped out of the assessment of effects, the proposed development will nonetheless deliver benefits for habitats (though a significant biodiversity net gain) and wildlife.

Anglia Square, Norwich Environmental Statement

Chapter 7: Highways, Traffic and Transport

Iceni Projects Ltd on behalf of
Weston Homes PLC

March 2022

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7. HIGHWAYS, TRAFFIC AND TRANSPORT

Introduction

7.1 This chapter of the ES has been prepared by Iceni Projects Ltd, and presents an assessment of the likely significant effects of the Development with respect to Highways, Traffic and Transport. Mitigation measures are identified, where appropriate, to avoid, reduce or offset any significant adverse effects identified and/or enhance likely beneficial effects. Taking into account the mitigation measures, the nature and significance of the likely residual effects are reported.

7.2 This chapter has been prepared alongside a Transport Assessment (TA) and has been undertaken in accordance with guidance given in the Institute of Environmental Assessment, now the Institute of Environmental Management and Assessment (IEMA) in their "Guidance for the Environmental Assessment of Road Traffic" (1993)[1]. This will be referred to as the 'IEMA Guidelines' throughout this Chapter. The chapter and TA also take account of Norfolk County Council (NCoC) and Norwich City Council (NCC) policies and guidance, where relevant.

7.3 The TA therefore supports this chapter and provides a more detailed assessment and analysis. The TA considers the impact of the Proposed Development with regard to traffic, pedestrians, cycle movements, transport environmental effects, car parking and public transport.

7.4 In addition to the TA, there are a number of other technical appendices which support this chapter. The full list of technical appendices is as follows:

- Appendix 7.1: Transport Assessment;
- Appendix 7.2: Framework Travel Plans (Residential & Commercial); and
- Appendix 7.3: Delivery and Servicing Plan.

Legislation and Policy Context

7.5 The assessment is undertaken in accordance with The Town and Country Planning (Environmental Impact Assessment) Regulations 2017[2] and IEMA Guidelines. Notwithstanding, it also has reference

[1] IEMA, (1993); Guidance for the Environmental Assessment of Road Traffic

[2] HMSO, (2017); The Town and Country Planning (Environmental Impact Assessment) Regulations 2017

to the following adopted planning policy, which is summarised below but detailed in full within the associated TA.

National Planning Policy

7.6 The National Planning Policy Framework (2021) is relevant to the Proposed Development.

Regional Planning Policy

7.7 The following regional planning policies are relevant to the Proposed Development:

- Joint Core Strategy for Broadland, Norwich and South Norfolk (2014) [3]
- Norfolk's Local Transport Plan for 2026 (2011) [4]

Local Planning Policy

7.8 The following local planning policies are relevant to the Proposed Development

- NCC New Greater Norwich Local Plan 2022 - 2038 – Regulation 19 Draft (March 2021) [5]
- NCC Local Plan (2014) [6]

Guidance

7.9 The following guidance is relevant to the Proposed Development:

- Planning Practice Guidance (2019)[7].

[3] Greater Norwich Development Partnership (2011, amended 2014) Joint Core Strategy for Broadland, Norwich and South Norfolk. Available at https://www.gnlp.org.uk/sites/gnlp/files/2021-01/JCS-adopted-doc-2014.pdf

[4] Norfolk County Council (2011) Local Transport Plan. Available at https://www.norfolk.gov.uk/-/media/norfolk/downloads/what-we-do-and-how-we-work/policy-performance-and-partnerships/policies-and-strategies/roads-and-transport/norfolk-transport-plan-for-2026.pdf

[5] Norwich City Council (2021) *New Greater Norwich Local Plan 2022 - 2038 – Regulation 19 Draft*. Available at https://www.gnlp.org.uk/regulation-19-publication

[6] Norwich City Council (2014) Norwich Development Management Policies Local Plan. Available at https://www.norwich.gov.uk/download/downloads/id/2693/adopted_norwich_development_management_policies_local_plan_document.pdf

[7] MHCLG, (2019); *Planning Practice Guidance*

Assessment Methodology and Significance Criteria

7.10 This section presents the methodology used to assess the potential effects of the Proposed Development in relation to Highways, Traffic and Transport.

Consultation

7.11 The scope of the assessment was discussed with NCoC and NCC during a series of meetings in the lead up to the application being submitted.

7.12 **Table 7.1** presents a summary of the comments raised in the Council's EIA Scoping Opinion and other discussions with relevant consultees with respect to Highways, Traffic and Transport.

Table 7.1 Summary of Comments Raised in the Scoping Opinion

Consultee	Comment	Response
NCC Public Health	Provision of car parking and reduced retail parking should consider not only impacts on traffic flows but also any consequences on accessibility for sections of the population, such as those with a disability, who are less able to make use of active/public transport options.	Despite the reduction in parking, ample disabled parking is provided for residents. Visitors and employees of the commercials space will have the benefit of local council car parking of which enhancements are proposed as part of the 'Mobility Hub' aspirations.
NCC Public Health	Similar considerations could be scoped into s.6.51 around active travel more generally and the needs of population groups such as vulnerable pedestrians, wheelchair users, those with sensory deprivation, and other mobility-limiting disabilities.	The TA considers accessibility by all and the development will be in accordance with Equality guidance.
NCC Highways	The Highway Authority will require a full Transport Assessment and Travel Plan, the details of which should be scoped with the Highway Authority in advance of any application being submitted.	Transport Assessment and Framework Travel Plan are appended to the ES and scoping has been undertaken, as detailed within the TA.
NCC Police Force Traffic Management	We need to encourage the use of more sustainable modes of travel for this development going forward as outlined in the plan. With a proposed 1,100 dwellings brings with it the associated traffic not only for the residential units but also the commercial vehicles which will be servicing them and the retail/commercial aspects of the development. Serious consideration will need to ensure the correct sustainable (non-motorised) transport	Sustainable infrastructure (cycle parking, electric charging, car club facilities etc) are proposed as part of this development – the detail of which is provided within the TA. It should, however, be noted that the Proposed Development is expected to result in a reduction in traffic compared to the extant uses on the Site given the reduction in parking. All new parking will have 100% electric provision.

Consultee	Comment	Response
	infrastructure is in place (electric charging units/hubs, secure cycle parking for example). Not forgetting that Diesel/Petrol vehicles by 2033 will have hopefully been significantly phased out.	
	The development would be on the outskirts of Norwich City which has excellent transport links. We need to ensure there is a significant reduction in car parking on the site and maybe develop it to encourage more residential units that do not require a large amount of car parking space which leads on from my sustainable transport comments above.	Agreed – proposal includes a low level of car parking as detailed within the TA.
	The report states “The Anglia Square centre currently has a total of 1,172 public car parking spaces (721 located in the multi-storey car parks and 451 across the multiple surface car parks). The proposals therefore result in a reduction of circa 800 parking spaces, so resultingly the proposed development is anticipated to have a significant reduction in vehicular traffic associated with the site”. Although I don’t doubt the correctness of this statement in respect of the number of spaces currently available, I would query whether or not they are all currently used to good effect and whether or not there will in fact be a reduction of circa 800 spaces? If this is the case it must be welcomed.	The TA provides a comparison between the extant level of car parking which could theoretically be used, and also includes survey data of the car parks currently open, against the level of car parking that is being proposed. This demonstrates that there will be a reduction in car parking (final number to be confirmed given the outline element of the application) and therefore an associated reduction in vehicular traffic.
	The site would need to include all sustainable travel options for the site including travel by bus, train, foot and cycle, as its proximity to local amenities and facilities will benefit the user of individual non-motorised transport and encourage the use of more sustainable transport options. This will include shared use foot/cycleways, toucan crossings and priority junctions for cycles etc.	Agreed, and a number of improvements are proposed to increase accessibility to these modes.

7.13 In addition to the Scoping Opinion, several other discussions have been held with officers regarding highways / transport during meetings and email discussions. Specifically, this included the use of traffic survey data. During the scoping stage, it was agreed with NCC and NCoC to undertake three independent traffic surveys in the form of automatic traffic counts (ATCs), on St Crispins Road, Pitt Street and Edward Street. The purpose of these three ATCs were to compare the observed traffic data at this present time (end of 2021), with the data collected in 2016 as part of the previous application.

7.14 The surveys were undertaken in November 2021 and showed a reduction in total vehicle movements in all three locations when compared against the November 2016 data. This was presented to the two authorities and it was thus agreed that no further surveys would be required, and the use of 2016 data would be appropriate if and where necessary.

Assessment Methodology

7.15 This assessment first establishes the baseline position in terms of the nature of the local highway network and sustainable travel infrastructure.

7.16 The assessment then examines the potential effects of the Proposed Development over the construction and operational phases. The existing baseline is considered to be 2021/2022 with an 8-year phased demolition and construction delivery programme up to the assumed completion year of 2030.

7.17 The role of appropriate mitigation measures to reduce any adverse effects of the Proposed Development and enhance positive effects is then evaluated in further detail. This takes account any built-in elements of the scheme that will help mitigate any negative effects (e.g. Travel Plan measures). The residual highways, traffic and transport effects of the Proposed Development are then considered.

Impact Areas

7.18 Given the location of the Site in the northern City Centre, it is considered that the impact area of the Proposed Development will predominantly be within the Site itself, and then the surrounding area encompassing Norwich City Centre. This is where the majority of trips will be concentrated, in both the construction and the operational phases. As traffic travels on roads further from the City Centre its impact is significantly diluted and would not be discernible from background traffic.

7.19 Notwithstanding, in the operational phase it is considered that the impact is limited to modes other than the private car as the assessments included within the TA (Section 6) have concluded that there will be a significant reduction in site-bourne vehicular traffic as a result of the Proposed Development when compared to the existing uses at the Site. As such, the trip generation assessment undertaken has been focused on a multi-modal assessment to determine the amount of trips that will be made

by alternative, sustainable modes. The impact of these trips is likely to be more concentrated within the immediate surrounding area i.e. on the local footways, cycleways and bus stops.

Significance Criteria

7.20 The magnitude and significance of effects has been determined using the criteria set out in the IEMA Guidelines. The guidelines suggest that the assessment should:

- Rule 1 – include any road links where the traffic flows or the number of Heavy Goods Vehicles (HGVs) will increase by more than 30%; or
- Rule 2 – include any other specifically sensitive areas where traffic flows have increased by 10% or more.

7.21 Notwithstanding, this chapter deals with effects detailed in **Table 7.2**.

Table 7.2 Transport Effects

Effect	Description
Changes in traffic flows	Increase or decrease in road traffic flows resulting from the development, compared to baseline conditions.
Public Transport Impact	Increase or decrease in passenger numbers resulting from the development, compared to baseline conditions.
Severance	The perceived division that can occur within a community, when it becomes separated by a major traffic artery (e.g. road).
Driver Delay	Valuation of the delay (or benefit) to drivers resulting from a new development.
Pedestrian Delay	The change in the ability of pedestrians to cross a given road link due to changes in traffic flow, speed, composition, road design.
Pedestrian Amenity	The relative pleasantness of a pedestrian's journey, influenced by traffic flow but also including consideration of the overall relationship between pedestrian, cyclist and traffic (e.g. air quality and noise).
Cyclist Delay	The change in the ability of cyclists to travel due to changes in traffic flow, speed, composition, road design.
Cyclist Amenity	The relative pleasantness of a cyclists journey, influenced by traffic flow but also including consideration of the overall relationship between cyclist, pedestrian and traffic (e.g. air quality and noise).
Fear and Intimidation	Linked to pedestrian amenity and influenced by factors including traffic flow, composition and pavement conditions.
Accidents and Safety	Increase or decrease in risk of road traffic accident resulting from changes in traffic flows and road layout.

7.22 The assessment of the likely significant effects resulting from the Proposed Development accounts for both the construction and operational phases. During the construction phases the main changes which could potentially impact on the surrounding environment and people living and working in the

area are fumes, noise and dust. When the Proposed Development is operational the potential effects will arise from vehicles accessing the Site, as well as trips made by other modes. This includes residents, visitors and staff at the Site as well as delivery and servicing trips associated with all land uses.

7.23 The resultant highways, traffic and transport effects have then been identified as either being 'beneficial' or 'adverse', which are defined as follows:

- **Beneficial** – A positive and/or advantageous effect to a minor, moderate, or major magnitude; and
- **Adverse** – A negative and/or disadvantageous/ detrimental effect to a minor, moderate, or major magnitude.

7.24 The significance level attributed to each effect has been assessed based on the magnitude of change due to the Proposed Development, and the sensitivity of the affected receptor/receiving environment to change. This is summarised in **Table 7.3**.

Table 7.3 Categories of Effects

Scale of Impact	Criteria for Assessing Magnitude
Major	Total loss or major / substantial alteration to key elements / features of the baseline (pre-development) conditions such that the post development character / composition / attributes will be fundamentally changed. Related to Transport, this means a greater than +/- 30% change to existing levels of walking and cycling, public transport and private vehicular traffic or daily construction traffic flow greater than daily development flow. For walking and cycling this may mean the majority of people in the area change their habits. For public transport this is where patronage will exceed the capacity of existing services and for private vehicles this is where changes will lead to a perceived impact on delay and congestion. With regards to construction this would also mean that most traffic passes through residential areas.
Moderate	Loss or alteration to one or more key elements / features of the baseline conditions such that post development character / composition / attributes of baseline will be materially changed. Specifically, between 10% and 30% change to walking and cycling, public transport and private vehicular traffic, or daily construction traffic flow greater than 100 vehicles on major roads or 50 vehicles on minor roads. Additionally, for walking and cycling this may mean that some people change their travel habits. For public transport this is where patronage increases without exceeding existing capacity and for private vehicles this is where changes to flows would occur but within the design capacity of roads/junctions. With regards to construction this would also mean that some traffic passes through residential areas.
Minor	A minor shift away from baseline conditions. Change arising from loss / alteration will be discernible / detectable but not material. The underlying character / composition / attributes of the baseline condition will be similar to the predevelopment circumstances / situation. Up to +/- 10% change to walking and cycling, public transport and private vehicular traffic, daily construction traffic flow less than 100 vehicles on major roads or 25-50 vehicles on minor roads, therefore the impact is considered to be 'insignificant'.
Negligible	Very little change from baseline conditions. Change barely distinguishable, approximating to a "no change" situation.

Sensitivity of Receptors

7.25 For each effect to be assessed, receptors are identified within the study area, and their sensitivity is based on the relative importance of that receptor. The sensitivity of receptors has therefore been defined as follows:

Table 7.4 Sensitivity of Receptors

Receptor Sensitivity	Receptors
High	Receptors of greatest sensitivity to traffic flow: schools, colleges, playgrounds, accident black spots, retirement homes, urban/residential roads without footways that are used by pedestrians
Medium	Traffic flow sensitive receptors including: congested junctions, doctors' surgeries, hospitals, shopping areas with roadside frontage, roads with narrow footways, un-segregated cycleways, community centres, parks, recreation facilities
Low	Receptors with some sensitivity to traffic flow: places of worship, public open space, nature conservation areas, listed buildings, tourist attractions and residential areas with adequate footway provision.
Very Low	Receptors with low sensitivity to traffic flows and those sufficiently distant from affected roads and junctions

7.26 This results in the following impact significance matrix in order to determine the significance of an effect. The significant effects are shown in **bold**.

Table 7.5 Significance of Effects Matrix

Receptor Sensitivity	Magnitude of Impact			
	High	Medium	Low	Very Low
High	**Major Adverse / Beneficial**	**Major Adverse / Beneficial**	**Moderate Adverse / Beneficial**	Minor Adverse / Beneficial
Medium	**Major Adverse / Beneficial**	**Moderate Adverse / Beneficial**	Minor Adverse / Beneficial	Negligible
Low	**Moderate Adverse / Beneficial**	Minor Adverse / Beneficial	Negligible	Negligible
Very Low	Minor Adverse / Beneficial	Negligible	Negligible	Negligible

Limitations and Assumptions

7.27 The following limitations of the study have been identified:

- No updated wider traffic modelling of local junctions has been undertaken given the reduction in site associated traffic as a result of the Proposed Development.

7.28 The following assumptions have been made in this assessment:

- An assumptions has been made that there will be a reduction in trips associated with commercial uses which will more than offset the trips associated with the new residential. This will be fully assessed within the TA;
- It has been assumed, that the local bus services and taxi operation will remain consistent to the existing (baseline) scenario; and
- With regard to construction traffic, due to the nature of the planning application (i.e. a hybrid application), a contractor has not yet been appointed to undertake a detailed assessment of construction traffic at the Site, include providing specific construction traffic details. Assumptions on the expected level of construction traffic have therefore been provided, based on experience at other similar sites. A Construction Environmental Management Plan (CEMP) will be prepared prior to commencement of development on the Site, which it is assumed will be conditioned.

Baseline Conditions

Establishing Baseline Conditions

7.29 Baseline conditions relevant to this assessment have been prepared on both a qualitative and quantitative basis. The following were carried out:

- Site visits to establish current conditions;
- Traffic surveys / use of survey data;
- Personal Injury Collision (PIC) assessment;
- Review of adopted road network;
- Review of bus and national rail services; and
- Review of pedestrian routes, crossing facilities and local cycle network.

7.30 Full information on the baseline conditions of the Site are provided within the associated TA, however, the below provides a summary for the purposes of this chapter.

Baseline Conditions

7.31 The Site is located in the northern part of the City Centre, comprising the existing Anglia Square Shopping Centre alongside its associated public realm and surface car parking, with a multi-storey car park (MSCP) located within the shopping centre (currently closed). These parcels of land are bound by New Botolph Street and Pitt Street to the west, Edward Street to the north, Magdalen Street to the east and St Crispin's Road to the south. In addition, the Site also includes a parcel of land to the northwest of New Botolph Street / west of Edward Street, and a further parcel of land to the north of Edward Street and west of Beckham Place, both of which are currently unsurfaced and used for surface level car parking.

7.32 The Site is currently served by several vehicle access points; with access provided from several different local roads as detailed below.

7.33 The A147 St Crispins Road is a dual carriageway which forms part of the Norwich Inner Ring Road and gives access to the Site via Botolph Street and Upper Green Lane, both of which are left-in only.

7.34 From St Crispins Road, Botolph Street continues one-way northbound across the Site, providing access to Cherry Lane, an internal service road, to parking associated with the Surrey Chapel and the units fronting onto Pitt Street, as well as to two surface car parks. Botolph Street then connects with New Botolph Street via a left turn only junction.

7.35 Likewise, Upper Green Lane takes access from St Crispins Road on the flyover and continues one-way northbound through the Site, providing access to the MSCP and the northern surface car park previously mentioned, before forming a two-way working priority junction with Edward Street.

7.36 Edward Street continues to run across the northern boundary of the Site (with the exception of the separate parcel of land previously mentioned) and then forms a 'left in left out' junction with Magdalen Street to the east, with the exception of buses / taxis which can turn right down Magdalen Street. To the west, Edward Street also forms a 'left in left out' junction with New Botolph Street, with Edward Street continuing northbound (i.e. the left in).

7.37 Heading south of this junction, New Botolph Street connects with the A1402 Pitt Street, which bounds the Site to the west. This road has two lanes travelling southbound towards the roundabout junction with St Crispins Road / Duke Street, and one lane travelling northbound which becomes a one-way link to St Augustines Street at the junction with New Botolph Street. A1402 Pitt Street gives access to the Outer Ring Road and A140 Cromer Road to the north towards Norwich International Airport.

7.38 Magdalen Street bounds the Site to the east, and runs one-way northbound with a southbound bus and cycle only lane from the junction with Edward Street to the junction with Colegate to the south of the Site. To the north Magdalen Street gives access to A1151 Magdalen Road, which connects to B1150 Magdalen Road and A1151 Sprowston Road, both of which give access to A1402 Outer Ring Road.

7.39 All roads in the vicinity of Anglia Square are subject to a 30-mph speed restriction.

7.40 Most of the roads previously mentioned also benefit from a good level of pedestrian infrastructure, with footways of good width provided on either side and street lighting provided. There are, however, no footways along St Crispins Road in the vicinity of the viaduct. There are also a number of dedicated crossing facilities provided within the Site providing opportunities to cross the roads. This

includes the recently installed surface level toucan crossing on St Crispins Road, just adjacent to the Botolph Street junction.

7.41 The Site is also within good access of several cycle routes which provide connections to the centre of Norwich, the train station, employment areas and other local amenities. These also provide cycle access to employment areas and amenities to the north of the city.

7.42 A shared cycleway/footway currently runs along the eastern side of Edward St, this becomes an 'on-road' route along the northern boundary of the site before joining Magdalen St where the 'Lakenham Pedalway' (upgraded December 2016) links to the City Centre with a southbound Cycle/Bus Lane. In addition, the 'Cringleford Pedalway' extends to the north along Magdalen St and also runs south into the City Centre.

7.43 A shared cycleway/footway currently also runs along the western boundary of the Site along Pitt Street which joins up with the shared cycleway/footway facilities which extend to the west along St Crispins Road, and south along Duke St.

7.44 A shared cycleway/footway also exists on the southern side of St Crispins Road which runs east west and connects Magdalen St with the Pitt St Junction

7.45 Further details on the cycle routes available are provided within the TA.

7.46 There are a high number of bus stops located within the immediate vicinity of the Site, with a full description of their location provided within the TA. These bus stops provided access to a multitude of services, providing frequent bus access to a range of destinations. The majority of the buses are concentrated on Magdalen Street, with four formal stops close to the viaduct.

7.47 Norwich Railway Station provides services operated by East Midlands Trains (Stagecoach Group) and Greater Anglia, and is located to the southeast of the city centre, approximately 1.5km from the Site.

7.48 From Norwich, East Midlands Trains provides a direct service towards Liverpool Lime Street, including destinations such as Nottingham, Sheffield and Manchester Piccadilly. Greater Anglia provide direct services towards Great Yarmouth, Lowestoft, Sheringham and Ipswich, Colchester, and London Liverpool Street, as well as Ely, Cambridge and Peterborough.

Receptors

7.49 The potential receptors for this transport and access chapter relate to journeys being made within the relevant study area as identified previously. The groups / locations that are expected to be sensitive to change in these journeys / traffic conditions are as follows:

- Local residents and employees
- Sensitive groups including children, elderly and disabled
- Sensitive locations e.g. hospitals, churches, schools, historical buildings, Norfolk & Norwich Associated for the Blind building
- Pedestrians and cyclists
- Open spaces, recreational sites, shopping areas
- Sites of ecological/nature conservation value
- Sites of tourist/visitor attraction

7.50 During the construction phase, it is considered that the main receptors will be users of local roads i.e. drivers, pedestrians and cyclists, and local residents / employees, that will be subject to construction vehicles travelling along them as they access and egress the Site. These construction vehicles are expected to use the 'A' roads, before exiting onto the local roads within the immediate area.

7.51 As such, the users of the following roads have been identified as receptors:

- St Crispins Road;
- Pitt Street;
- New Botolph Street;
- Botolph Street;
- St Augustines Street;
- Beckham Place
- Edward Street; and
- Magdalen Street;

7.52 For the operational phase, there will be a significant reduction in vehicular traffic and as such it is not considered that the users of local roads will be impacted by the Proposed Development, however, there will be some receptors as a result of trips being made by other modes.

7.53 Resultingly, the following are also considered to be receptors:

- Norfolk & Norwich Association for the Blind;
- Local rail stations – Norwich rail station;
- Local bus stops; and

- Surrey Chapel.

Future Baseline

7.54 With regards to the future baseline it is expected that, if the Proposed Development did not come forward, the traffic associated with the Site and on local roads could continue to rise year on year in keeping with local growth rates, and also as a result of the identified cumulative schemes coming forward.

7.55 It is also not unreasonable to assume the existing assets on the Site would be refurbished and re-let, such as the night clubs, cinema and office developments.

Assessment of Effects (Construction and Operational)

7.56 The following section summarises the effects of the Proposed Development during both the construction and operational phases.

Effects During Construction

7.57 The effects of construction of the Proposed Developments have been considered against the Transport Effects previously detailed. The construction programme and phasing will depend on several factors including safety, environmental considerations, economics, access and practicalities. In this regard, the type and number of vehicle movements generated during the construction period will be dependent on the type and intensity of work being undertaken at any one stage. Similarly, the phasing of the construction programme will be dependent upon how the contractor appointed to carry out the works decides to manage the construction period.

7.58 More comprehensive details of construction vehicle access to the Proposed Development will be detailed within a CEMP. It is, however, expected that construction vehicles will utilise the 'A' roads available within close vicinity, and only use the local roads where necessary to complete the final part of their route. However, until contractors are appointed it is not possible to predict exact routes as this will be dependent on where the contractors are based.

7.59 The number of HGV movements resulting from the construction work is anticipated to vary from phase to phase, dependent on the build out rate of residential / commercial units, and other infrastructure activities.

7.60 **Table 7.6** shows the extent of the construction traffic expected to be associated with the Proposed Development, based on data provided for similar, previous, developments. The table shows the understood minimum, maximum and average daily construction traffic movements for each of the distinct construction phases that will arise as elements of the Site are built out.

7.61 For simplicity, the daily trips have been shown for each phase, but it should be noted that there may be an element of overlap between each phase with the initial works for the following phase commencing while the final works (fitout and landscaping) are still being completed for the previous phase. There are also pauses in construction anticipated. This will, however, not affect the maximum construction trips per day figure as set out below.

Table 7.6 Construction Traffic – Daily Vehicle Numbers

Phase	Duration	Minimum	Maximum	Average
Phase 1 (December 2022 – September 2024)	19 months	5	50	40
Phase 2 (July 2024 – June 2026)	24 months	10	55	40
Phase 3 (April 2026 – March 2028)	24 months	10	55	40
Phase 4 (April 2028 – December 2030)	33 months	10	55	40

7.62 The likely maximum anticipated for any one Phase of the construction period will be 55 vehicles per day, although it is noted that there will be some overlap between the phases during which time there may be a higher number of daily movements depending on when the peak construction traffic is for each phase. The average number of vehicles arriving to the construction site per day will be up to 40 during each of the phases.

7.63 It should also be noted that of all the construction traffic arriving to the Site, approximately 80% will be HGVs and the remaining 20% will be Light Goods Vehicles (LGVs). Again, this is based on experience at other similar sites and is typical for a construction project like this.

7.64 Although some traffic may travel on residential roads in proximity to the Site, the majority of the journeys will be via the local 'A' roads, with the Site benefitting from good connections to these initially via St Crispins Road. As such, the percentage impact on the roads would be minor due to the high volumes of traffic on these roads and therefore the effect on the receptor would be considered low.

7.65 Notwithstanding, an assessment of the construction traffic impact has been undertaken on St Crispins Road, using the data from the 2021 ATC. This ATC illustrated a two way traffic flow of 24,459 vehicles (5 day weekday average), of which 924 were HGVs (3.8%). The estimated construction traffic will therefore result in a maximum impact of 0.23% (55 additional vehicles), and the increase in HGV vehicles based on the maximum movements would be 4.8% (44 additional HGVs).

7.66 It is therefore concluded that traffic generated during the construction period would have a negligible magnitude of change on the local road network, both in terms of network capacity and driver delay.

It is also considered that the demolition and construction activities would not have an adverse effect on public transport capacity in regard to increased demand for public transport from construction workers, or the local pedestrian and cycle infrastructure, given the relatively low levels of traffic, and therefore it is considered there will also be a Negligible effect on public transport, severance, pedestrian delay, pedestrian amenity, cyclist delay, cyclist amenity, fear and intimidation and accidents and safety.

7.67 Lastly, given this is in relation to the construction of the Proposed Development, these impacts are considered to be temporary, with construction anticipated to be finalised by 2030.

7.68 As such, and in summary, it is considered that the effects associated with the demolition and construction phase will be negligible, and therefore not significant.

7.69 Notwithstanding, through the use of the mitigation strategies outlined in this chapter (Paragraphs 7.77 to 7.31) and proactive management / policing the impact of construction traffic, in terms of delay and safety to other road users including cyclists the effect is considered to be temporary and of negligible significance.

Effects Once the Proposed Development is Operational

7.70 As agreed with NCiC and NCoC during the scoping stage, the Proposed Development is expected to result in a net decrease in vehicular traffic on the local road network given the reduction in car parking spaces associated with the Site. It is therefore considered that the Proposed Development will result in a negligible and not significant effect with regard to vehicular traffic, which includes junction capacity and driver delay. This is further assessed in the TA, which shows traffic would reduce on the network based on both the extant uses and reduced car parking.

7.71 Notwithstanding, a multi-modal trip generation assessment has been undertaken. This assessment considers travel by other modes and whether there will be any impact on public transport, walking and cycling facilities as a result of the Proposed Development coming forward.

7.72 **Table 7.7** sets out the forecast multimodal trips associated with the proposals, with full details of the methodology to calculate this outlined in **Section 5** of the TA submitted in support of the Application.

Table 7.7 Proposed Residential Multi-modal Trip Generation (based on 1,100 dwellings)

Travel Mode / Split	Development Trips					
	AM Peak			PM Peak		
	Arrive	Depart	Two-way	Arrive	Depart	Two-way
Rail / 3%	4	18	21	15	6	20
Bus / 13%	14	70	84	58	22	80

Taxi / 1%	1	6	8	5	2	7
Motorbike / 1%	1	6	7	5	2	7
Car Passenger / 6%	6	31	37	25	10	35
Bicycle / 14%	15	75	89	61	24	85
On Foot / 60%	63	319	383	263	101	364
Other / 2%	2	9	11	7	3	10
Total	106	535	640	440	168	608

7.73 The above table therefore demonstrates that the majority of trips associated with the residential element of the Proposed Development will be undertaken by sustainable modes of travel. In total, 604 two-way trips are expected in the AM peak hour, and 608 in the PM peak hour. Of these, 577 and 549 respectively are expected to be undertaken by either rail, bus, cycling or walking.

7.74 With regards to the commercial element, a first principles approach based on professional judgement has been undertake to determine that the proposed use will generate less trips than the existing commercial uses on the Site.

7.75 The Proposed Redevelopment results in a reduction in commercial floorspace provided on-site, and resultingly the associated number of trips is expected to be reduced. As per the description of development, this hybrid planning application allows a maximum of 8,000m² flexible commercial floorspace. The majority of this floorspace is expected to be of retail use, and as detailed in the TA, there is 8,981m² GIA retail space currently on-site. As such, the proposals will result in a reduction in floorspace when looking at retail use alone, and this is not considering the numerous other uses currently at the Anglia Square shopping centre.

7.76 Furthermore, given the location and type of use, the majority of trips to the proposed commercial space are likely to be made from the local area, and therefore by sustainable modes, and also be linked trips with visitors also travelling to other local services / amenities.

Mitigation Measures

7.77 It has been shown that the Proposed Development will typically result in either positive or negligible effects on the receiving environment during the construction and operational phases. Notwithstanding, it is accepted that measures can be adopted during both the construction and operational phases to reduce the reliance on the private vehicle.

Mitigation During Construction

7.78 The Applicant will work in partnership with NCC / NCoC, and their supply chain, to reduce, and in some cases / where possible eliminate, statutory nuisance of fumes, noise and dust arising from vehicular movements and this will be secured via the provision of a CEMP. Further details on mitigation are available in **Chapter 8: Air Quality** of this EIAR.

7.79 The key mitigation measures for minimising the impact of construction traffic on the surrounding roads will be the routing of the vehicles to ensure they take the shortest routes to and from the strategic network, and the times that the vehicles will access the Site to ensure these do not coincide with peak movements on the network. It is acknowledged that local roads can be congested in the peaks with queuing and delays. The CEMP will look to consider times when the network is free flowing, thus helping to reduce emissions.

7.80 The routes will be determined once a contractor is on-board, and further details on materials / supply sources are known. This will be supported by the CEMP, which would contain details of the likely size, type and frequency of vehicles visiting the Site, strategies for minimising the number of workforce trips and other measures to minimise the impact on noise, air quality and transfer of material onto the road as a result of the construction.

7.81 Working hours are anticipated to be between 08:00 and 18:00 Monday to Friday. Weekend working is not anticipated; however, Saturday morning may be required; in this instance, working hours will be restricted to between 08:00 and 13:00. This will be confirmed within the CEMP.

7.82 Vehicles should be restricted to hardstanding where possible, preventing soil compaction, dirtying of vehicles and the subsequent distribution of materials onto the surrounding road network as necessary; a wheel wash will be set up to assist. Suitable measures will be adopted by contractors to prevent site runoff of jet-wash waters. It is common practise to keep a jet wash on stand-by on site during construction. As necessary during the phases a road sweeper will be used during busy periods within the works programme.

7.83 In order to ensure that vehicles enter and exit the Site in the safest possible way, qualified traffic marshals (banks people) will be used to direct traffic and safe systems of work shall be produced to brief the traffic marshals. Traffic marshals will use a combination of physical barriers to close pavements off and stop sticks before allowing site vehicles to enter or exit Site. These will be regularly reviewed to ensure the safe traffic systems are being implemented on the Site. Particular attention will be given to ensure any temporary works / accesses avoid pedestrian confusion or tri hazards, especially given the proximity of visually impaired users.

7.84 Within the Site, construction workers and traffic shall be segregated by physical barriers and the dedicated pedestrian routes will be clearly signposted throughout the Site.

7.85 Delivery booking systems and a logistics management contractor shall be employed to ensure vehicles coming to the Site are managed effectively and efficiently in a timely manner such that any queuing on local roads is mitigated as far as practical. Contractors will enforce strict delivery collection times and limit vehicle movements to avoid contributing to congestion and risk to any vulnerable pedestrians.

7.86 The Applicant will also establish regular engagement with local residents / stakeholders (including Surrey Chapel and Norfolk and Norwich Association for the Blind) to ensure local concerns are being raised and addressed and disruption of construction traffic is reduced as far as practical. This will be particularly important during the later phases. This will form part of the CEMP.

7.87 Contractors and as far as possible their supply chain will be FORS (Fleet Operator Recognition Scheme)[8] accredited, the aim of which is to ensure best practise by meeting standards set out in FORS. The Applicant shall include this requirement in their pre-qualification process. Deliveries shall not be accepted on to delivery booking systems without contractors or haulage FORS membership numbers.

7.88 Public transport will be promoted for all operatives travelling to the Site. Details of the local bus, rail and cycle networks will be posted on Site notice boards and discussed in the induction meetings to promote the use of public transport.

7.89 Secure cycle storage will be provided to encourage operatives to travel to Site in a sustainable way. When the cycling facility reaches 80% capacity, it will be increased by 20%. This will be based on the need and revised periodically, which is likely change during phases of the construction programme.

7.90 Where operatives have to travel to the Site using private vehicles, van / car sharing will be encouraged as far as possible although it is appreciated there will be some car parking spaces provided on Site during the construction phases.

7.91 As above, the CEMP will include, and secure, all the above information.

Mitigation Once the Proposed Development is Operational

7.92 In order to mitigate the environmental impact of the Proposed Development, a number of sustainable transport measures have been included within the design of the Proposed Development. These are

[8] FORS is a voluntary accreditation scheme for fleet operators which aims to raise the level of quality within fleet operations and to demonstrate which operators are achieving exemplary levels of best practice in safety, efficiency and environmental protection. www.fors-online.org.uk/cms/

detailed further below, broken down into relevant categories, however, it should again be reiterated that there is expected to be a reduction in traffic and therefore no environmental impact is expected from the Proposed Development once operational.

Existing Residents

7.93 The Proposed Development will benefit nearby existing residents by the provision of a mix of uses on the Site, which will lead to an upgraded choice available within the local area. The redevelopment of Anglia Square will also enhance the character of the area and green spaces provided on the Site will also be able to be enjoyed by existing residents, who will also benefit from the improved pedestrian / cycling crossing facilities and routes through the Site, including a new signal controlled crossing on Edward Street near the Beckham Place junction.

People Currently Working in the Area

7.94 Given the proposed improvements to the public realm and pedestrian / cycle routes, it is considered that those working nearby will enjoy a more pleasant environment as a result of the Proposed Development given the planned increase in green space, a reduced traffic environment and an increase in recreational space / seating.

Residential Vehicle Parking

7.95 Residential car parking will be minimised across the scheme, given the excellent accessibility of the Site by all modes of sustainable travel. This low provision will ensure that the use of the private vehicle is minimised at the Site and will also ensure the reduction in overall vehicle trip generation compared to the existing uses as previously mentioned. A Travel Plan will be in place to further encourage the use of sustainable modes and resultingly reduce the reliance on the private car.

Cycle Parking Provision

7.96 Residential cycle parking will be provided in accordance with the standards including both long stay provision which will be located internally in secure and covered locations, as well as short stay cycle parking / visitor parking within the public realm areas. Commercial cycle parking for staff will be provided on-site within the respective units in accordance with standards, with adequate visitor parking located within the public realm.

Pedestrian and Cycle Access

7.97 The Site has been designed to ensure permeability for pedestrians and cyclists. The street level areas within the Proposed Development have been designed around the requirements for pedestrian and cyclist activity to prosper, and for the minimisation of impacts by vehicular movement. The key pedestrian routes will be in the form of primary footpaths and will be of sufficient width, and new cycle routes in both north / south and east / west directions are proposed.

7.98 All of the footways, cycleways and shared area routes will be open to the public. This will improve connectivity for future residents and existing residents locally, as well as if other adjacent sites come forward. The network has been designed to follow the pedestrian desire lines of accessing the residential and commercial facilities, public open areas and public transport facilities.

Residual Effects and Monitoring

7.99 The residual effects arising from the Proposed Development are summarised in 7.**8**.

7.100 With regards to monitoring, this will be undertaken through the Travel Plan process. As set out within the appended FTP, monitoring will be undertaken at regular intervals (yearly) to determine the impact of the Travel Plan and assess how travel habits to and from the Proposed Development are changing. As a result of this monitoring, revised / new measures may be proposed to further encourage the use of sustainable modes of travel, if the survey results show that this is required.

Table 7.8 Summary of Residual Effects

Effect	Receptor (Sensitivity)	Nature of Effect and Geographic Scale	Magnitude of Impact*	Classification of Effect (Statement of Significance)	Mitigation and Monitoring	Residual Effect
Demolition and Construction Effects						
All effects	High	Temporary (long term) Construction traffic on local roads and strategic network	Negligible	Adverse	Adherence to the CEMP	Negligible (Not Significant)
Operational Effects						
Motorists	Medium	Permanent Vehicles on both local roads and strategic network	Minor	Beneficial	Low level of car parking. Travel Plans to encourage alternative modes. Reduction in traffic compared to existing.	Minor Beneficial (Not Significant)
Public Transport	Medium	Permanent Increased patronage of services	Minor	Adverse	Travel Plan to monitor usage.	Negligible (Not Significant)
Pedestrians	Medium	Permanent Severance, pedestrian amenity and delay	Negligible	Beneficial	Improved walking connectivity and safer environment.	Minor Beneficial (Not Significant)
Cyclists	Medium	Permanent Fear and intimidation from increased traffic	Negligible	Beneficial	Improved cycling connectivity.	Minor Beneficial (Not Significant)

Notes: * incorporating environmental design and management, ** incorporating mitigation and monitoring measures

Likely Significant Environmental Effects

7.101 This EIAR Chapter has concluded that there are no likely significant effects as a result of Traffic and Transport.

Summary and Conclusions

7.102 This chapter has considered the likely significant effects of the Proposed Development in terms of transport and access. The conclusions are that the Proposed Development will lead to a reduction in vehicular traffic once occupied, with a resulting increase in trips made by sustainable modes. The Proposed Development will also generate a small number of construction related traffic during the construction period.

7.103 A comprehensive Transport Assessment has been prepared which accompanies this planning application and provides a detailed analysis of the Proposed Development. Framework Travel Plans have also been prepared to encourage the use of sustainable modes for travel.

7.104 The Site is located within an extremely accessible location, benefitting from numerous rail and bus services being available within close walking distance. The Site is well connected in terms of pedestrian and cycle links and the area is being enhanced as a result of proposals included within this submission, contributing to an improved pedestrian and cycle environment.

7.105 During the construction phases the main changes likely to impact on the surrounding environment and people living and working in the area are traffic fumes, noise and dust. Key mitigation measures for minimising the impact of construction traffic on the surrounding roads will include the routing of the vehicles to ensure they take the shortest routes to and from the strategic road network, and managing the times that vehicles will access the Site to ensure these do not coincide with peak movements on the network.

7.106 Once the Proposed Development is fully completed and occupied there will be a reduction in the number of vehicles on the local road network given that the proposed uses are a smaller trip generator than what is currently on the Site and the reduced car parking provision. The Site coming forward will therefore provide benefit in an environmental sense.

7.107 No significant effects to public transport services are predicted.

7.108 Impacts to the pedestrian and cycle network are not predicted to be significant with the Proposed Development enhancing walking and cycling routes for both site users and the surrounding area and should therefore be seen as a positive impact.

7.109 The committed developments are not considered to be significant both during construction and operation.

Effect Interactions and Cumulative Effects

Cumulative Effects of the Proposed Development with Other Development Schemes

7.110 This section of the chapter assesses the Highways, Traffic and Transport effects of the Proposed Development in combination with other Highways, Traffic and Transport effects of committed developments as listed within **Chapter 1: Introduction and EIA Methodology** of this ES.

Cumulative Effects During Construction

7.111 The proposed mitigation measures set out within this chapter seek to remove any effects associated with the construction of the Proposed Development, regardless of what is taking place in the local area.

7.112 Furthermore, it is anticipated that any Cumulative Schemes have also been assessed by NCC / NCoC as part of the planning application process and therefore the impact of the construction traffic has been anticipated and prepared for, so as to not impact the local highway network. Furthermore, the CEMP that will be required for these applications, including the Proposed Development, will set out mitigation measures to reduce overlap of vehicles where possible, and this is common practice for sites in developing locations such as this.

7.113 Considering the sensitivity of the receptors previously assessed as low / moderate and the magnitude of impact on the link roads (minor), the cumulative effect of overrunning construction programmes would be minor adverse. However, the effect would be temporary in nature and therefore, it is considered not significant. In addition to this, some level of consolidation between construction sites could take place further reducing this effect where practical.

Cumulative Effects Once the Proposed Development is Operational

7.114 As detailed within this chapter, the Proposed Development is resulting in a decrease in traffic flows and therefore having a beneficial impact, creating a position of betterment regardless of the above cumulative schemes. In addition, the other schemes would need to separately assess the impact in their own EIA. However, importantly, to reiterate as a result of our development traffic would decrease on the network.

Non-Technical Summary

7.115 As part of the Highways, Traffic and Transport assessment an analysis of the demands and effects of the Proposed Development on the existing transport network and its users in the area has been undertaken. This assessment has demonstrated that Proposed Development is expected to result in a reduced level of vehicular movements once occupied, given the scale of development proposed compared to the existing uses on the site, specifically in regard to car parking. As such, with the site fully occupied it is expected that the roads within the study area would experience a reduction in daily traffic flows and therefore the proposed development will result in in improvement in regard to traffic when compared to the existing scenario.

7.116 The construction of the development will, however, result in an increase in the number of HGV movement during a temporary period, both to construct the buildings and the proposed road / landscaping works. It is estimated that across a typical day there will be 40 movements associated with construction. A serious of mitigation measures will be included to minimise the disruption caused by these construction vehicles.

7.117 In order to mitigate the identified impacts of the Proposed Development a number of strategies will be implemented, including walking and cycling movement being placed at the forefront of the design principles for the Proposed Development, with the internal site layout benefitting from the provision of new links, tying into existing routes which therefore facilitate excellent opportunity for the use of sustainable modes of transport. To further encourage this, Framework Travel Plans have been prepared which will encourage the use of these modes.

Glossary and Abbreviations

Table 7.9 Glossary and Abbreviations

Term / Abbreviations	Definition
TA	Transport Assessment
FTP	Framework Travel Plan
DfT	Department for Transport
CEMP	Construction Environmental Management Plan

Anglia Square, Norwich Environmental Statement

Chapter 8: Air Quality

Aether on behalf of Weston Homes PLC

March 2022

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8. AIR QUALITY

Introduction

8.1 This chapter of the ES has been prepared by Aether Ltd and presents an assessment of the likely significant effects of the Development with respect to air quality. Mitigation measures are identified, where appropriate, to avoid, reduce or offset any significant adverse effects identified and/or enhance likely beneficial effects. Taking into account the mitigation measures, the nature and significance of the likely residual effects are reported.

8.2 This chapter is supported by a series of technical appendices:

- **Appendix 8.1:** Air quality assessment report. This will be added once the final diffusion tube survey results are available in May 2022.

Legislation and Policy Context

Air quality legislation and policy

8.3 The Government's policy on air quality within the UK is set out in the Clean Air Strategy 2019 for England, Scotland, Wales and Northern Ireland[1]. The strategy sets out the actions required across all parts of government and society to improve air quality and focuses on how emissions can be reduced from the transport, domestic, farming and industrial sectors. This built on the Air Quality Strategy (AQS)[2], which was published in 2011 and which set standards and objectives for nine key air pollutants to protect health, vegetation and ecosystems. These are: benzene, 1,3 butadiene, carbon monoxide, lead, nitrogen dioxide, particulate matter, sulphur dioxide, ozone and polycyclic aromatic hydrocarbons (PAHs).

8.4 Many of the objectives in the AQS have been made statutory through the Air Quality Standards (Amendment) Regulations 2016[3] and the Air Quality (England) (Amendment) Regulations 2002 for the purpose of Local Air Quality Management (LAQM). Local Authorities are expected to report on NO_2, PM_{10} and SO_2, but the government does not expect local authorities to report annually on benzene, 1,3-butadiene, carbon monoxide or lead as objectives for these pollutants have been met

[1] https://www.gov.uk/government/publications/clean-air-strategy-2019

[2] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69336/pb12654-air-quality-strategy-vol1-070712.pdf

[3] https://www.legislation.gov.uk/uksi/2016/1184/contents/made

for several years and are well below limit values[4]. In addition, Local Authorities do not report on ozone or PAHs as they are seen as transboundary and / or outside of their control. It should be noted that currently there is no requirement for local authorities to assess $PM_{2.5}$ concentrations as part of their statutory obligations.

8.5 The relevant air quality objectives for this assessment are provided in Table 8.1. SO_2 is not included as emissions of this pollutant arise from the burning of high sulphur fuels in industry which is not applicable to this assessment.

Table 8.1 Air quality objectives for NO2 and PM10.

Pollutant	Concentration	Measured as
Nitrogen Dioxide (NO_2)	40 µg/m^3	Annual mean for the protection of human health
	30 µg/m^3	Annual mean for the protection of vegetation and ecosystems
	200 µg/m^3	Hourly mean not to be exceeded more than 18 times per year (99.8th percentile)
Particulate Matter (PM_{10})	40 µg/m^3	Annual mean
	50 µg/m^3	24 hour mean not to be exceeded more than 35 times a year (90.4th percentile)

National Planning Policy

National Planning Policy Framework (2021)[i]

8.6 The National Planning Policy Framework[5] requires new developments to support sustainable travel and air quality improvements. A key theme of the NPPF is that "Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions and improve air quality and public health" (paragraph 105).

8.7 The NPPF also states that "Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality

[4] As outlined in the Local Air Quality Management Policy Guidance (2016). https://laqm.defra.gov.uk/documents/LAQM-PG16-April-16-v1.pdf

[5] https://www.gov.uk/government/publications/national-planning-policy-framework--2 Last updated in July 2021

Management Areas and Clean Air Zones is consistent with the local air quality action plan" (paragraph 186).

8.8 In addition, the following relevant requirements for improving air quality are outlined:

- Give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use
- Be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations
- All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed

Planning Practice Guidance (2018)

8.9 The National Planning Practice Guidance (NPPG)[6] provides guiding principles on how planning can consider the impact of new development on air quality. The guidance covers the following aspects:

- What air quality considerations planning needs to address
- The role of plan making with regard to air quality
- When air quality does need to be considered, the development of a baseline for local air quality and whether the proposed development could significantly change air quality during the construction and operational phases and whether occupiers or users of the development could experience poor living conditions or health due to poor air quality.
- How an impact on air quality can be mitigated

8.10 The guidance provides a flow chart detailing the process that should be followed in determining an application. An application should proceed to decision with appropriate planning conditions or obligations if a development with mitigation in place would not lead to an unacceptable risk from air pollution.

[6] https://www.gov.uk/guidance/air-quality--3

Local Planning Policy

Greater Norwich Local Plan (2022) [7]

8.11 The GNLP has yet to be finalised, but the following references are made to air quality in the draft plan.

8.12 Paragraph 93 of the GNLP states that mitigating the effects of climate change within the Greater Norwich area is a cornerstone of the GNLP. It then goes on in Paragraph 94 to say that "There is an Air Quality Management Area (AQMA) which covers the whole of the city centre. Figures from 2019 show nitrogen dioxide and particulate matter pollution levels are on a downward trend. Improvements in air quality are being achieved by promoting public transport use and other initiatives, including encouraging active travel (walking and cycling). However, this remains an important issue with more work to be done".

8.13 Paragraph 146 says "Air pollution levels will be reduced through a combination of better design and location of development, supported by technological changes. Improved air quality will mean that there will no longer be any Air Quality Management Areas in Greater Norwich"

8.14 Policy 2 on sustainable communities states "In terms of maintaining air quality, particular regard to this will be expected of developments within or near identified Air Quality Management Areas or main roads".

8.15 In the monitoring framework, GNLP17 states: To minimise nitrogen dioxide and airborne particulates measured at:

- Castle Meadow
- Lakenfields (proxy close to city centre)

Assessment Methodology and Significance Criteria

8.16 This section presents the methodology used to assess the potential effects of the Proposed Development in relation to air quality.

Consultation

8.17 **Table 8.2** presents a summary of the comments raised in the Council's EIA Scoping Opinion and other discussions with relevant consultees with respect to air quality.

[7] https://www.gnlp.org.uk/sites/gnlp/files/2021-10/Reg%2019%20final%20formatted_0.pdf

Table 8.2 Summary of Comments Raised in the Scoping Opinion

Consultee	Comment	Response
Norwich City Council	The development must have no more than an insignificant impact on current NO_2 levels	The Development will not have any impact on NO_2 concentrations as there will not be any on-site energy generation and traffic levels are expected to reduce as a result of the development. Further details are located within the Assessment of Effects section below.
Norwich City Council	Where NO_2 pollutant levels at the facade of any relevant receptor is calculated to be above the annual mean national objective level, mitigation measures must be recommended	The dispersion modelling results in the "with policy applied" scenario show that the air quality strategy objectives are met across the proposed development site in 2034. Therefore, no mitigation is required.
Norwich City Council	A detailed Construction & Demolition Environmental Policy is required and particulate monitoring for both PM_{10} & $PM_{2.5}$ throughout the period of demolition & construction is recommended	A Construction Environmental Management Plan (see Appendix 3.4) is being provided as part of the application. This outlines the control measures that will be put in place to control dust levels. In addition, a dust risk assessment will be produced. If this identifies any potentially elevated levels of dust soiling then PM will be monitored to ensure the effectiveness of control measures.
Natural England	The ES should take account of the risks of air pollution and how these can be managed or reduced	The risks of air pollution have been identified from the monitoring survey results (and the Council's monitoring results) and the dispersion modelling.
Norfolk County Council Public Health	Consideration of impacts during demolition/construction could be considered	See above comment on the Construction and Demolition Environmental Policy above. A dust risk assessment will be provided as part of the Construction Phase Health and Safety Plan.
Norfolk County Council Public Health	Exposure for individuals employed on the site as well the residential population could be included given there may be likely longer-term exposure during a working day and need for consideration how to avoid or mitigate this	The exposure of individuals employed on the Anglia Square site and residents has been assessed through compliance with the air quality strategy objectives.
Norfolk County Council Public Health	Given the time frame of the process, construction, and use of the site, it is suggested that scope ought to consider implications of the Environment Act 2021 and the direction of travel for new air quality targets.	The applicable air quality objectives at the time of completing this assessment have been be utilised.

Study Area and Scope

Study Area and Scope

8.18 The air quality assessment undertaken has not specifically quantitatively assessed the significance of the demolition and construction phase. Vehicle movements during this phase can provide a source of NOx emissions from the combustion of fuel; however, the construction and demolition phase is not generally considered a significant source of this pollutant. However, exposure of PM can increase due to dust generation if not properly controlled.

8.19 The IAQM have produced a document titled 'Guidance on the assessment of dust from demolition and construction'[8] which should be referred to if a detailed assessment of effects is required. A construction dust risk assessment will be provided as part of the Construction Phase Health and Safety Plan. This will cover the potential for dust arising from demolition, earthworks, construction and trackout. The measures to ensure the adequate suppression of dust and the PM monitoring protocol can be agreed with NCC via a planning condition.

8.20 For the operational phase air quality assessment, compliance with the air quality objectives for nitrogen dioxide (NO_2) and particulate matter (PM_{10}) has been assessed at relevant receptor locations across the Site. The development is not expected to result in any changes in traffic flows during its operational phase and no on-site air pollutant emitting energy is planned and therefore only receptors across the site have been modelled as there will be no discernible impact on nearby locations.

Assessment Methodology

Impact Areas

8.21 Three model runs using the dispersion model ADMS has been undertaken. Note that the without and with development scenarios will be the same due to traffic levels not being anticipated to change as a result of the development.

- The base year 2019 (this year has been selected as it is the last full calendar year prior to the impact of the Covid 19 pandemic). Diffusion tube results provided by Norwich City Council for this year have been used to provide model verification. Very good agreement was obtained between the modelled and monitoring results.

[8] http://iaqm.co.uk/guidance/

- Without / with development in 2034[9] assuming no improvement in the road traffic fleet or background concentrations from the base year

- Without / with development in 2034 assuming an improvement in the road traffic fleet as provided in Defra's latest emission factor toolkit

8.22 Current and anticipated traffic flows due to general traffic increases in the area have been obtained from the Transport Consultants. Where appropriate street canyons and traffic queues have been considered in the modelling. Meteorological data for Norwich Airport has been used in the dispersion model. Background pollutant concentrations have been obtained from the latest Defra background maps.

8.23 Model verification has been undertaken. This involves the comparison of predicted versus measured concentrations. Where there is a disparity, the first step is to check the input data and the model parameters to minimise errors. If required, the second step determines an appropriate adjustment factor that can be applied. Modelled annual mean road NOx estimates have been verified against the estimated annual mean concentrations measured at the diffusion tube monitoring sites DT9, DT16, and DT42. The adjustment factor determined for annual mean NOx concentrations was also applied to the modelled annual mean PM_{10} concentrations. This was done as no appropriate PM_{10} monitoring data was available and this approach was considered to be more robust than not applying any adjustment.

8.24 A diffusion tube survey across the site is currently being undertaken. This commenced at the start of November 2021 and will be in place for six months (i.e. until the end of April 2022). Nitrogen dioxide concentrations are being measured at nine sites across Anglia Square. In addition, three diffusion tubes have been placed at the Council's continuous monitoring site in Lakenfields so that the bias can be calculated. The location of the diffusion tubes is provided in Figure 8.1

8.25 Since the diffusion tube survey has commenced it has become apparent that traffic levels in Norwich are not currently back to pre-pandemic levels. Therefore, the results of the diffusion tube survey will be indicative only and are not relied upon when determining future air pollutant concentrations. The results of the diffusion tube survey will be presented in a separate report once available.

[9] It is worth noting that that since the modelling has been undertaken, the year of opening has now changed and is now expected to be 2030, with the first full year of occupation being 2031. Therefore, the results presented in this report are likely to be an over-estimate for the opening year as traffic levels are forecast to be approx. 2.7% higher in 2034 compared to 2031.

Figure 8.1: The location of the diffusion tube sites across the Anglia Square site

8.26 The predicted pollutant concentrations across the development site have been compared against the relevant air quality objectives as detailed in the 2010 UK's Air Quality Strategy (AQS) Regulations. As the development is not expected to impact air pollutant concentrations, no assessment at locations outside the development has been undertaken.

Significance Criteria

8.27 To assess the significance of the Proposed Development on local air quality, the Environmental Protection UK's / IAQM Air Quality Guidance Document[10] is referred to. The assessment is made up of two steps – firstly to assess the magnitude of change in concentration (for example between

[10] http://www.iaqm.co.uk/text/guidance/air-quality-planning-guidance.pdf

without and with development) relative to the Air Quality Assessment Level (AQAL) and secondly the percentage above / below the AQAL based upon the total modelled concentration at a given location or receptor. By combining these two values you can obtain the impact descriptor.

Table 8.3 Significance of change description

Long term average concentration at receptor in assessment year	1% change	2-5% change	6-10% change	>10% change
75 % or less of AQAL	Negligible	Negligible	Slight	Moderate
76-94 % of AQAL	Negligible	Slight	Moderate	Moderate
95-102 % of AQAL	Slight	Moderate	Moderate	Substantial
103-109 % of AQAL	Moderate	Moderate	Substantial	Substantial
110% or more of AQAL	Moderate	Substantial	Substantial	Substantial

8.28 Effects classified as moderate or substantial are considered 'significant' in EIA terms. Effects classified as slight or negligible in scale are considered 'not significant'.

Limitations and Assumptions

8.29 For the "with improvement" in the traffic fleet scenario, it has been assumed that Defra's latest Emission Factor Toolkit provides realistic values for 2034. The latest version (version 11) takes into account updated fleet assumptions and Euro Class compositions projected to 2050 in line with DfT and the National Atmospheric Emissions Inventory (NAEI) projections. Euro standards refer to the increasingly stringent vehicle emission exhaust standards that manufacturers have to meet. In the context of recent uncertainty over whether vehicles are complying with emissions standards, 'Real World' driving standard tests, provide more confidence that vehicles are now confirming to the required standards. Recent air quality case law has indicated that it is reasonable and robust to model future improvements in background concentrations and the vehicle fleet and to assume that it will provide a realistic estimate of pollutant concentrations in future years.

Baseline Conditions

Establishing Baseline Conditions

8.30 The dispersion model ADMS Roads has been used to estimate annual and hourly mean NO_2 and annual and daily mean particulate matter (PM_{10} and $PM_{2.5}$) concentrations at selected sensitive receptor locations across the proposed development site. These two pollutants are the ones most likely to exceed the air quality objectives.

Receptors

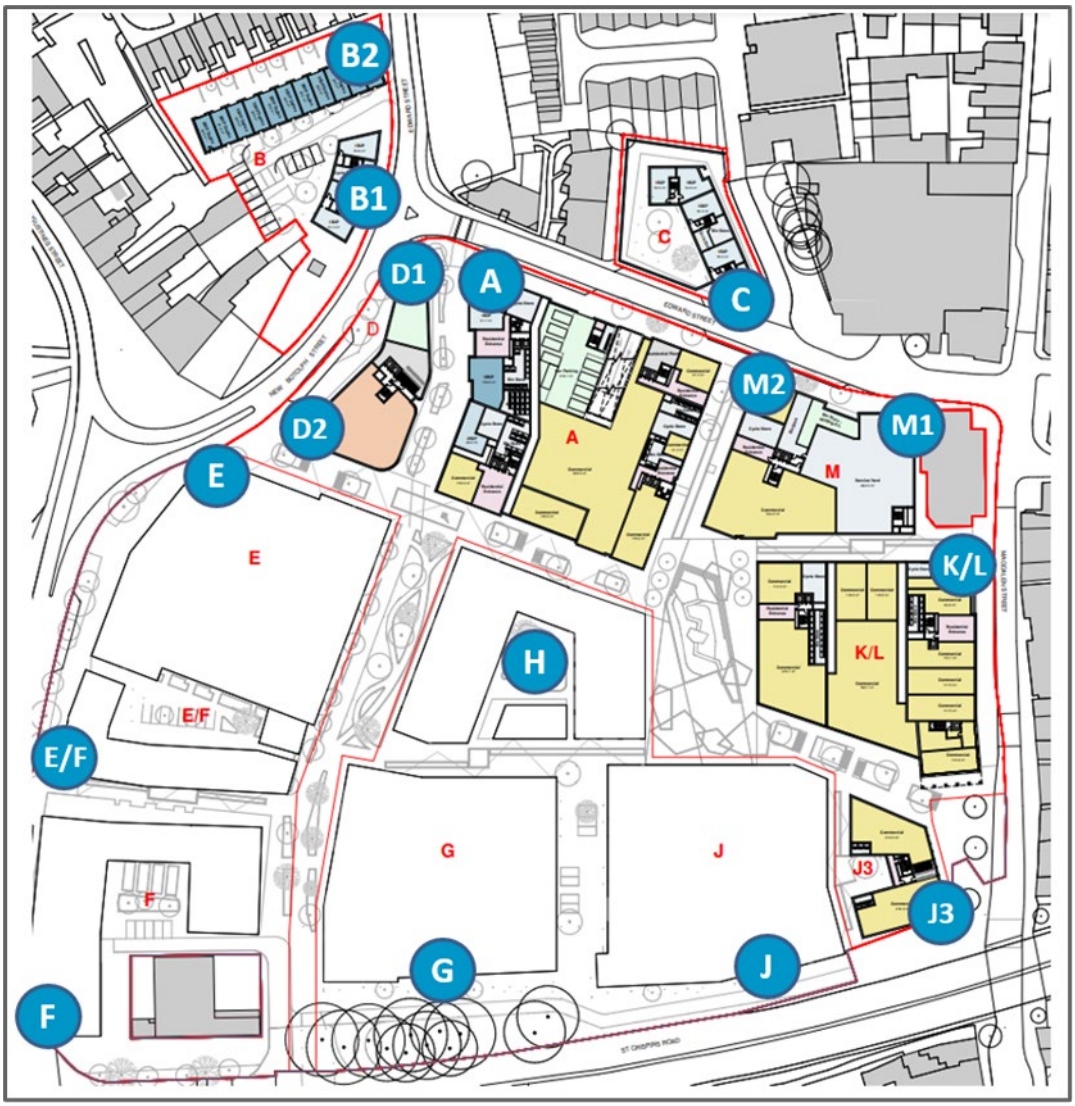
8.31 A list of the modelled receptors is provided in Table 8.4 and Figure 8.2.

Table 8.4 Sensitive Receptors[11]

Receptors – pedestrians/residents at the following points	
A: northwest corner of block A	F: southwest corner of block F
B1: east façade of block B	G: southern façade of block G
B2: northeast corner of block B	H: centre of block H, representing the drop off in concentrations with distance from the road
C: south façade of block C	J: southern façade of block J
D1: north façade of block D	J3: southeast corner of block J3, located closest to Magdalen Street at the St Crispins Road flyover
D2: southwest corner of block D	K/L: northeast corner of block K/L
E: northwest corner of block E	M1:northeast corner of block M
E/F: western façade of block E/F	M2: northwest corner of block M

[11] Note that all of these receptors are classed as having a high sensitivity as they represent residential locations depending on the floor height.

Figure 8.2: The location of the receptors around the Proposed Development used in the modelling



Baseline Conditions

8.32 In 2019 it is estimated that the annual mean NO_2 concentration exceeded the objective at the locations where building blocks C and M are to be built. However, block M will not be used for residential use and therefore the annual mean objective does not apply at this location. No exceedances of the annual or daily mean PM_{10} objectives are predicted at any locations across the proposed development site. Based on the monitoring results from the Castle Meadow and Lakenfields automatic monitoring stations, no exceedances of the annual mean $PM_{2.5}$ UK objective are predicted.

Future Baseline

8.33 In the "without policy applied" scenario in 2034 (the future year modelled), the model predicts annual mean NO_2 concentrations to be below the annual mean NO_2 objective at all modelled receptor locations on the first floor and higher floors. At ground floor level, NO_2 concentrations are estimated to exceed the annual mean NO_2 objective at modelled locations towards the east of the site at building blocks K/L, M and C. Building K/L and M at ground floor level is proposed for commercial use and therefore the annual mean NO_2 objective does not apply at this location. Receptor C will however be used for residential use and therefore the annual mean objective will apply at this location

8.34 Pollutant concentrations are however expected to decline in 2034 due to improvements in the vehicle fleet. However, this will partially be offset by the fact that traffic levels are generally expected to increase in future years. Overall though, air pollutant concentrations are predicted to decline in 2034 in the 'with policy applied' scenario compared to 2019 and no exceedances of the air quality strategy objectives are predicted in 2034 at any location across the development site.

Assessment of Effects (Construction and Operational)

Effects During Construction

8.35 As outlined in the Construction Environmental Management Plan, emissions of particulate matter will be kept to a minimum during the demolition and construction phase. This will be achieved by implementing the mitigation measures outlined in the relevant section.

Effects Once the Proposed Development is Operational

8.36 According the to Transport Assessment, the development will not result in an increase in traffic flows on roads surrounding the site. In addition, the development does not include any on-site air polluting energy generation. Therefore, the proposed development is not expected to have an impact on air quality during its operation and the impact is deemed to be negligible.

8.37 The estimated annual mean NO_2 and PM_{10} concentrations at the sensitive receptor locations are provided in Table 8.5 and Table 8.6 respectively.

Table 8.5 Estimated annual mean NO_2 concentrations ($\mu g/m^3$)

Note 1: Exceedances of the annual mean objectives are highlighted.

Annual mean NO_2 concentration ($\mu g/m^3$)					
Floor level	**Receptor**	**2019 Baseline**	**2034 Without Policy Applied**	**2034 With Policy Applied**	**Difference in 2034 without and with Policy Applied**
Ground	A	26.5	27.1	17.1	10.0
	B1	25.8	26.8	16.3	10.6
	B2	26.1	27.2	16.3	11.0

Annual mean NO_2 concentration (µg /m^3)					
Floor level	**Receptor**	**2019 Baseline**	**2034 Without Policy Applied**	**2034 With Policy Applied**	**Difference in 2034 without and with Policy Applied**
	C	**52.5**	**52.8**	34.6	18.3
	D1	25.9	26.8	16.5	10.3
	D2	24.1	24.8	15.5	9.3
	E	24.5	25.5	15.6	10.0
	E/F	24.7	26.0	15.6	10.5
	F	24.7	26.1	15.5	10.6
	G	21.6	22.2	14.5	7.8
	H	21.3	21.5	14.8	6.7
	J	22.0	22.5	14.9	7.6
	J3	25.2	25.7	16.8	8.9
	K/L	39.7	**40.0**	26.0	14.0
	M1	**46.3**	**46.6**	30.5	16.1
	M2	**56.2**	**56.4**	37.2	19.2
First	A	23.0	23.2	15.5	7.7
	B1	22.5	23.0	15.1	8.0
	B2	22.2	22.6	14.9	7.7
	C	30.5	30.7	20.6	10.1
	D1	22.6	23.0	15.2	7.8
	D2	21.7	22.1	14.7	7.4
	E	21.5	22.0	14.5	7.5
	E/F	20.8	21.4	14.2	7.2
	F	20.3	20.9	14.0	6.9
	G	20.3	20.8	14.0	6.7
	H	20.7	20.9	14.5	6.4
	J	21.5	21.9	14.6	7.2
	J3	22.9	23.3	15.5	7.8
	K/L	26.4	26.6	18.0	8.6
	M1	22.6	22.8	15.8	7.0
	M2	27.4	27.4	18.6	8.8
Second	A	20.4	20.5	14.3	6.2
	B1	20.5	20.8	14.3	6.5
	B2	20.3	20.5	14.2	6.3
	C	21.4	21.5	15.0	6.5
	D1	20.3	20.5	14.2	6.3
	D2	20.0	20.2	14.0	6.2
	E	19.7	20.0	13.8	6.1
	E/F	19.0	19.2	13.5	5.7
	F	18.4	18.6	13.3	5.3

Annual mean NO_2 concentration (µg /m^3)					
Floor level	**Receptor**	**2019 Baseline**	**2034 Without Policy Applied**	**2034 With Policy Applied**	**Difference in 2034 without and with Policy Applied**
	G	19.2	19.4	13.6	5.8
	H	19.9	20.0	14.1	6.0
	J	20.2	20.5	14.1	6.4
	J3	20.6	20.9	14.4	6.6
	K/L	20.6	20.7	14.6	6.1
	M1	21.4	21.5	15.1	6.5
	M2	20.8	20.8	14.6	6.2
Third	A	18.9	19.0	13.6	5.4
	B1	19.3	19.4	13.8	5.7
	C	19.1	19.1	13.7	5.5
	D1	19.0	19.1	13.6	5.5
	D2	18.8	19.0	13.5	5.4
	K/L	18.5	18.6	13.4	5.2
	M2	18.8	18.9	13.6	5.3
Fourth	A	18.1	18.2	13.2	5.0
	D2	18.1	18.2	13.2	5.0
	M2	18.0	18.0	13.1	4.9
Firth	A	17.6	17.6	13.0	4.6
	D2	17.6	17.7	13.0	4.7

Table 8.6 Estimated annual mean PM_{10} concentrations (µg/m^3)

Annual mean PM_{10} concentration (µg /m^3)					
Floor level	**Receptor**	**2019 Baseline**	**2034 Without Policy Applied**	**2034 With Policy Applied**	**Difference in 2034 without and with Policy Applied**
Ground	A	17.2	17.5	17.2	0.4
	B1	17.4	17.9	17.5	0.4
	B2	17.5	18.2	17.7	0.5
	C	18.3	18.6	18.1	0.5
	D1	17.3	17.8	17.4	0.4
	D2	17.2	17.5	17.2	0.3
	E	17.4	17.7	17.4	0.3
	E/F	17.5	17.8	17.6	0.2
	F	17.5	17.8	17.6	0.2
	G	17.0	17.2	17.1	0.2
	H	16.6	16.8	16.6	0.2
	J	16.9	17.1	16.9	0.2

Annual mean PM_{10} concentration (µg /m^3)					
Floor level	**Receptor**	**2019 Baseline**	**2034 Without Policy Applied**	**2034 With Policy Applied**	**Difference in 2034 without and with Policy Applied**
	J3	17.0	17.2	17.0	0.2
	K/L	17.5	17.7	17.4	0.3
	M1	17.8	18.1	17.7	0.4
	M2	18.4	18.6	18.2	0.5
First	A	16.8	17.1	16.8	0.3
	B1	16.9	17.3	16.9	0.3
	B2	16.9	17.4	16.9	0.5
	C	17.0	17.3	17.0	0.3
	D1	16.9	17.2	16.9	0.3
	D2	16.8	17.1	16.8	0.2
	E	16.8	17.1	16.9	0.2
	E/F	16.8	17.0	16.9	0.2
	F	16.8	16.9	16.8	0.1
	G	16.8	16.9	16.8	0.1
	H	16.6	16.7	16.6	0.2
	J	16.8	17.0	16.9	0.1
	J3	16.9	17.1	16.9	0.2
	K/L	16.8	17.0	16.8	0.2
	M1	16.6	16.8	16.6	0.2
	M2	16.9	17.1	16.8	0.2
Second	A	16.6	16.8	16.6	0.2
	B1	16.6	16.9	16.6	0.3
	B2	16.6	17.0	16.6	0.4
	C	16.6	16.8	16.6	0.2
	D1	16.6	16.8	16.6	0.2
	D2	16.6	16.8	16.6	0.2
	E	16.6	16.8	16.6	0.2
	E/F	16.5	16.7	16.5	0.1
	F	16.4	16.5	16.4	0.1
	G	16.5	16.7	16.6	0.1
	H	16.5	16.7	16.5	0.1
	J	16.6	16.8	16.7	0.1
	J3	16.7	16.8	16.7	0.1
	K/L	16.5	16.6	16.5	0.1
	M1	16.6	16.7	16.5	0.2
	M2	16.5	16.7	16.5	0.2
Third	A	16.4	16.6	16.4	0.2
	B1	16.5	16.7	16.5	0.2

Annual mean PM_{10} concentration (µg /m^3)					
Floor level	**Receptor**	**2019 Baseline**	**2034 Without Policy Applied**	**2034 With Policy Applied**	**Difference in 2034 without and with Policy Applied**
	C	16.4	16.6	16.4	0.2
	D1	16.4	16.6	16.4	0.2
	D2	16.4	16.6	16.4	0.2
	K/L	16.4	16.5	16.4	0.1
	M2	16.4	16.6	16.4	0.1
Fourth	A	16.3	16.5	16.4	0.2
	D2	16.3	16.5	16.4	0.1
	M2	16.3	16.5	16.3	0.1
Firth	A	16.3	16.4	16.3	0.1
	D2	16.3	16.4	16.3	0.1
	M2	16.3	16.4	16.3	0.1

Mitigation Measures

Mitigation During Construction

8.38 As outlined in the Construction Environmental Management Plan (CEMP), the following best practice control measures will be implemented to control dust levels:

- Ensure all wagons and stockpiled material are covered
- Stockpiled materials and waste to be piled no higher than the hoarding level
- Exposed soils to be dampened down during dry weather periods
- Limit the quantities of dusty materials received
- Minimise handling and drop heights for waste
- Avoid idling mobile plant and ensure generator exhausts and flues do not point directly to the ground and/ or placed near sensitive receptors
- Wheel washing at entry and exit point of site to avoid ‘trackout’
- Run-off from water suppression or wheel washing prohibited from entering local and/ or highway interceptors
- Vehicle movements on site are controlled by a site speed limit of 5mph
- Dust suppression netting (monaflex) to be used on areas of scaffolding
- Cutting of silica-based materials will be contained within enclosures with continuous dust suppression
- Welfare area to be swept to avoid a build of debris
- Temporary hardstanding (ideally asphalt) site haul/ tracking routes to be put in place and routinely swept
- Materials and waste to be covered to avoid airborne debris

- Ensure plant such as generator exhausts and flues do not point directly to the ground

Mitigation Once the Proposed Development is Operational

8.39 Based on the ADMS results under the “with policy applied” scenario, no mitigation to reduce resident’s or employee’s exposure to air pollutant concentrations is required as it is predicted that the air quality strategy objectives will be met across the site. These findings are in accordance with the results of the diffusion tube surveys.

Residual Effects and Monitoring

8.40 The residual impacts arising from the Proposed Development are summarised in **Table 8.7** below.

Table 8.7 Summary of Residual Effects

Effect	Receptor (Sensitivity)	Nature of Effect and Geographic Scale	Magnitude of Change	Classification of Effect (Statement of Significance)	Mitigation and Monitoring	Residual Effect
Construction Effects						
Dust arising from demolition and construction	Existing nearby residents and pedestrians (high)	Local	Negligible	Slight	In agreement with NCC, the mitigation measures outlined in the CEMP will be implemented. If required, appropriate PM monitoring will be undertaken to identify if / when elevated levels occur, and appropriate action then taken. If the above is implemented, then the air quality impact is considered negligible	Negligible
Operational Effects						
NO_2, PM_{10} and $PM_{2.5}$ concentrations	Existing nearby residents (high)	Local	Negligible	Negligible	None required	Negligible
NO_2, PM_{10} and $PM_{2.5}$ concentrations	New residents living in the proposed Anglia Square development (high	Local	Negligible	Negligible	None required	Negligible

Likely Significant Environmental Effects

8.41 As identified previously, there is no anticipated air quality impact of the development due to no traffic increases being forecast and no on-site air pollutant emitting energy generation being planned. Therefore, the assessment is concerned with the currently elevated air pollution levels, rather than needing to assess the impact of the development. However, the results show that the air quality strategy objectives will be met across the proposed development site and therefore there is no significant air quality effect.

Summary and Conclusions

8.42 The air quality assessment has been undertaken in support of a hybrid (part full /part outline) planning application, submitted to Norwich City Council for the comprehensive redevelopment of Anglia Square and various parcels of mostly open surrounding land. The development includes the redevelopment of the existing site to provide up to 8,000 sq m Net Internal Area, flexible commercial and other non-residential floorspace and up to 1,100 new residential dwellings.

8.43 The construction phase can potentially elevate local PM concentrations. By following the guidance provided by the IAQM, developers can successfully mitigate these effects. Measures will be implemented as set out in the Construction Environmental Management Plan and agreed with NCC prior to commencement. It is also proposed that if recommended by the dust risk assessment (which will be undertaken as part of the Construction Phase Health and Safety Plan), continuous particulate matter monitoring will be undertaken at suitable locations around the Proposed Development site. This will help identify if / when elevated levels occur and then appropriate action can be taken.

8.44 The proposed development during its operational phase is not expected to impact air pollution as there is no anticipated increase in traffic flows and no on-site energy generation planned.

8.45 Two future scenarios for the future baseline have been modelled using the ADMS dispersion model. The first (without policy applied) uses a worst case approach in that no improvement in the pollutant background concentrations or road transport emission factors has been assumed between the base year (2019) and the future year (2034). The second future scenario (with policy applied) utilises Defra's projected improvements in pollutant background concentrations and road transport emission factors in 2034.

8.46 Predicted concentrations have been compared with the air quality objectives. The results of the assessment indicate that in the future "with policy applied" scenario, annual mean nitrogen dioxide (NO_2) concentrations are below the objective in 2034 (with and without policy applied scenarios) at all locations and therefore no mitigation is required. Concentrations of particulate matter (PM_{10} and $PM_{2.5}$) are also predicted to be below the annual and daily mean objectives.

Non-Technical Summary

8.47 This Air Quality Assessment (AQA) has been prepared by Aether on behalf of Weston Homes Plc (the Applicant) in support of a hybrid (part full /part outline) planning application, submitted to Norwich City Council for the comprehensive redevelopment of Anglia Square and various parcels of mostly open surrounding land (the Site).

8.48 This application follows a previous application on a somewhat smaller development parcel, (NCC Ref. 18/00330/F) made jointly by Weston Homes Plc as development partner and Columbia Threadneedle Investments, (CTI), the Site's owner, for a residential-led mixed use scheme consisting of up to 1,250 dwellings with decked parking, and 11,000 sqm GEA flexible ground floor retail/commercial/non-residential institution floorspace, hotel, cinema, multi-storey public car park, place of worship, and associated public realm and highway works. This was subject to a Call-in by the Secretary of State (PINS Ref. APP/G2625/V/19/3225505) who refused planning permission on 12th November 2020, (the 'Call in Scheme'). An AQA with subsequent revisions was undertaken in respect of the Call in Scheme. The Secretary of State concluded at paragraph 60 of his decision letter that he "agrees with the Inspector that the information before him is sufficient for air quality to be properly taken into account in this decision." Thus, he endorsed the methodology of that AQA, which has been followed, with updates as set out below, in respect of this AQA.

8.49 This AQA provides Norwich City Council with an assessment of the impact the Proposed Development will have on air quality of the Site and surrounding area.

8.50 The Transport Assessment establishes that the Proposed Development will not result in any increase in traffic flows on the surrounding road network in 2034, the first full year of occupation. In addition, there will be no air pollutant emitting on-site energy generation. Therefore, the assessment is concerned with the current air pollutant concentrations across the site and does not assess the impact of the development as there is none.

8.51 The assessment utilises local monitoring data (undertaken by Norwich City Council and the Applicants own diffusion tube survey) and dispersion modelling to estimate the nitrogen dioxide (NO_2) and particulate matter (PM_{10}) pollutant concentrations and their compliance with Air Quality Strategy objectives at relevant receptor locations across the Site in 2034 under two scenarios – a "without policy applied" scenario and a "with policy applied" scenario. The former assumes no improvements in the road transport fleet between 2019 (the base year) and 2034, whereas the latter assumes the expected emission improvements in the vehicle fleet due to the increasing stringent Euro standards that vehicles have to meet and the increasing uptake of electric vehicles.

8.52 In the "without policy applied" scenario, the model predicts annual mean NO_2 concentrations to be below the annual mean NO_2 objective at all modelled receptor locations on the first floor and higher

floors. At ground floor level, NO_2 concentrations are estimated to exceed the annual mean NO_2 objective at modelled locations towards the east of the site at building blocks K/L, M and C. Building K/L and M at ground floor level is proposed for commercial use and therefore the annual mean NO_2 objective does not apply at this location. Receptor C will however be used for residential use and therefore the annual mean objective will apply at this location.

8.53 Research suggests that the 1-hour mean NO_2 objective is likely to be exceeded where annual NO_2 concentrations exceed 60 µg/m^3. At all receptors, modelled concentrations are below 60 µg/m3 and therefore exceedance of the hourly objective is not an issue.

8.54 With regards to PM_{10}, concentrations at all receptors on all floors were modelled to be below the annual mean objective and $PM_{2.5}$ is also shown not to be an issue. Indicative results also show that there are no estimated exceedances of the daily mean PM_{10} objective.

8.55 In the scenarios modelled with the predicted impact of UK air quality and climate change policy, the model predicts annual mean NO_2 concentrations to be below the annual mean NO_2 objective at all modelled receptor locations including ground floor. The results for this scenario indicate that annual mean NO_2 concentrations would be substantially lower compared to the 'Without Policy Applied' scenario.

8.56 It is worth noting that the ADMS results using 2019 as the base year are substantially higher the 2021 – 2022 short term diffusion tube survey results giving confidence that air quality will not an issue across the site.

8.57 There are no concerns related to PM10 concentrations in the 'With Policy Applied' scenario.

8.58 Based on the ADMS results for the 'With Policy Applied' scenario, no mitigation is required to reduce residents or employees' exposure to air pollution as the air quality strategy objectives are estimated to be met by at least 10% at relevant receptor locations. This scenario is the most likely outcome and was endorsed by the planning inspector in the previous application.

8.59 As identified previously, the Proposed Development will not give rise to an increase in traffic levels and there will be no air pollutant emitting on-site energy generation. Therefore, the emissions arising from the site are being minimised as much as possible.

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[i] Ministry of Housing, Communities & Local Government (Updated 2021). *National Planning Policy Framework*. Available at https://www.gov.uk/government/publications/national-planning-policy-framework--2 Last accessed July 2021.

Anglia Square, Norwich Environmental Statement

Chapter 9: Environmental Noise

Stansted Environmental
Services Ltd on behalf of
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Partnerships

March 2022

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9. ENVIRONMENTAL NOISE

Introduction

9.1 This chapter of the ES has been prepared by Stansted Environmental Services Ltd and presents an assessment of the likely significant effects of the Development with respect to Environmental Noise. Mitigation measures are identified, where appropriate, to avoid, reduce or offset any significant adverse effects identified and/or enhance likely beneficial effects. Taking into account the mitigation measures, the nature and significance of the likely residual effects are reported

9.2 This chapter is supported by a series of technical appendices comprising:

- **Appendix 9.1:** ENV01-ANGL-049 – Environmental Noise Assessment, Anglia Square, Norwich – V2 March 2018;
- **Appendix 9.2:** ENV01-ANGL-049 – Environmental Noise Assessment Addendum, Anglia Square, Norwich – V1 August 2018; and
- **Appendix 9.3:** ENV01-ANGL-049 – Environmental Noise Assessment, Anglia Square, Norwich – V3 March 2022; and
- **Appendix 9.4**: Legislation and Policy.

Legislation and Policy Context

National Planning Policy

9.3 The national level policy documents of relevant to the Proposed Development are:

- National Planning Policy Framework (2021);
- Noise Policy Statement for England (NPSE) and accompanying Explanatory Note; and
- National Planning Practice Guidance on Noise.

Local Planning Policy

9.4 The following local planning policies are relevant to the Proposed Development

- Joint Core Strategy (JCS) for Broadland, Norwich and South Norfolk; and
- New Greater Norwich Local Plan (GNLP) from 2018 to 2038 (draft Feb-March 2021)

Guidance

- British Standard 8233:2014 Sound Insulation and Noise Reduction for Buildings[i]; and
- British Standard 4142:2014 'Methods for rating and assessing an Industrial and Commercial Sound (2014 + A1:2019)[ii].

Assessment Methodology and Significance Criteria

9.5 This section presents the methodology used to assess the potential effects of the Proposed Development in relation to noise and vibration.

Consultation

9.6 No comments were raised with respect to noise as part of the Scoping Opinion consultation.

Study Area and Scope

9.7 The study area includes the assessment of effects within the boundaries of the Site, in addition to the impact on off-site 'key receptors' identified below.

9.8 A detailed vibration assessment has not been prepared as part of this statement, however vibration concerns have only been noted with respect to the initial demolition phase of the development. In order to ensure that the potential impact of vibration on sensitive receptors is limited as far as is reasonably practicable, a draft Construction Environmental Management Plan has been prepared detailing the controls that will be implemented to ensure noise and vibration impacts to sensitive receptors are limited.

9.9 The EIA Scoping Report included a proposal for a further monitoring exercise which had been requested by NCC so as to ensure that the information provided within the revised application is as up to date and as robust as possible.

9.10 A traffic survey was undertaken by Iceni in November 2021 which compared vehicle movements between the November 2021 survey and those monitored during a previous assessment in 2016. The data demonstrated a reduction in total vehicle movements from 2016 to 2021 in all three of the locations that were monitored. It was concluded that no further surveys were considered necessary.

9.11 NCC confirmed that no further surveys were required on the basis of these findings.

9.12 As such, for the purpose of noise, the additional assessment has been undertaken to validate the previous study undertaken in 2016. It is important to note that the results from the most recent survey correlate with those obtained during the 2016 exercise.

Assessment Methodology

Impact Areas

9.13 The method of assessment has included the following steps;

- Establish the existing baseline noise climate by baseline survey including desk-based research and field noise monitoring.
- Identify a set of noise conditions (internal and external) which are suitably protective of sensitive receptors as part of the Development.
- Assess the impact on sensitive receptors based on the difference between the acceptance criteria and the predicted noise levels.
- Present mitigation measures which allow the acceptance criteria to be met.
- Assess any residual effects with mitigation in place.

Significance Criteria

9.14 The scale attributed to each effect has been determined based on the sensitivity of the receptor and magnitude of impact arising as a result of the Proposed Development. Professional judgement and experience have been drawn upon to assess the scale and significance.

Receptors and Receptor Sensitivity

9.15 The sensitivity of each receptor was evaluated as being high, medium, low or negligible based on a review of the baseline position of each receptor and its performance against benchmark areas. The receptors and the definition of sensitivity of a receptor (high, medium, low) is based on a scale set out in Table 9.4.

Table 9.4 Receptor Sensitivity Descriptors

Value (Sensitivity)	Descriptor
High	The receptor has little ability to absorb change without altering its present character, or it is of international or national importance. Example: residential properties, hospitals, care homes, hotels, schools, universities, research facilities, national parks.
Medium	The receptor has moderate capacity to absorb change without significantly altering its present character, or is of high importance. Examples: Offices, shops, outdoor amenity spaces (e.g. parks and gardens), long-distance footpaths, doctor surgeries, sports facilities, and places of worship.
Low	The receptor is tolerate to change without detriment to its character, or it is of low or local importance. Examples: Warehouses, light industry, car parks, agricultural land.
No Impact	Heavy industry, motorways and railway line.

Magnitude of Impact

9.16 The magnitude of impact to a receptor has been determined by considering the estimated deviation from baseline conditions both before, and, if required, after mitigation. The scale used for determining the magnitude of an impact has been based on Table 9.4.

Table 9.5 Magnitude of Impact Descriptors (Demolition and Construction Noise and Vibration)

Impact Magnitude	Descriptor
High	Noise levels exceed 85dB
Medium	Noise levels exceed 75dB
Low	Noise levels exceed 65dB
Negligible	Noise levels exceed 55dB

Table 9.6 Magnitude of Impact Descriptors (Operational Plant)

Impact Magnitude	Descriptor
High	BS4142 score of plus 11 or higher
Medium	BS4142 score of between plus 6 and plus 10
Low	BS4142 score of between plus 1 and plus 5
No Impact	BS4142 score of zero or lower

Assessing Significance

9.17 Table 9.7 provide a matrix for determining the significance of an effect based on the sensitivity of the receptor and the magnitude of impact.

Table 9.7 Significance of Effect Matrix

Receptor Sensitivity	Magnitude of Impact			
	High	Medium	Low	Very Low
High	Major Beneficial / Adverse	Major Beneficial / Adverse	Moderate Beneficial / Adverse	Minor Beneficial / Adverse
Medium	Major Beneficial / Adverse	Moderate Beneficial / Adverse	Minor Beneficial / Adverse	Negligible
Low	Moderate Beneficial / Adverse	Minor Beneficial / Adverse	Negligible	Negligible
Very Low	Minor Beneficial / Adverse	Negligible	Negligible	Negligible

9.18 Effects classified as major or moderate are considered 'significant'. Effects classified as minor or negligible in scale are considered 'not significant'.

Limitations and Assumptions

9.19 The exact detail of construction techniques and types of plant can only be estimated at the current time. Therefore, it is difficult to predict the actual potential noise effects and on this basis, a worst case assessment was undertaken in accordance with BS5228.

9.20 Potential worst case noise generation scenarios were investigated by reviewing the proposed demolition and construction activities for each phase of the Proposed Development. These are summarised in Chapter 3.

9.21 As previously noted, an additional noise assessment has been undertaken to validate the previous study undertaken in 2016 as requested by NCC. It is important to note that the results from the most recent survey correlate with those obtained during the 2016 exercise and as such, the mitigation measures have remained the same.

Baseline Conditions

Establishing Baseline Conditions

9.22 Two separate studies have been completed by SES in 2016 and 2022 as follows;

- 2016 Survey - Use two continuous noise monitoring positions due to the size of the proposed Development Site, to suitably assess the existing noise environment.

- Set up two fixed monitoring locations to the front of the Site on Sovereign House facing Botolph Street. Continuous measurements were taken over a 7 day period. These locations were chosen as being the most representative so as to assess the dominant noise source on the southern boundary (namely St Crispins Road) and the central and northern portion of the Development Site.

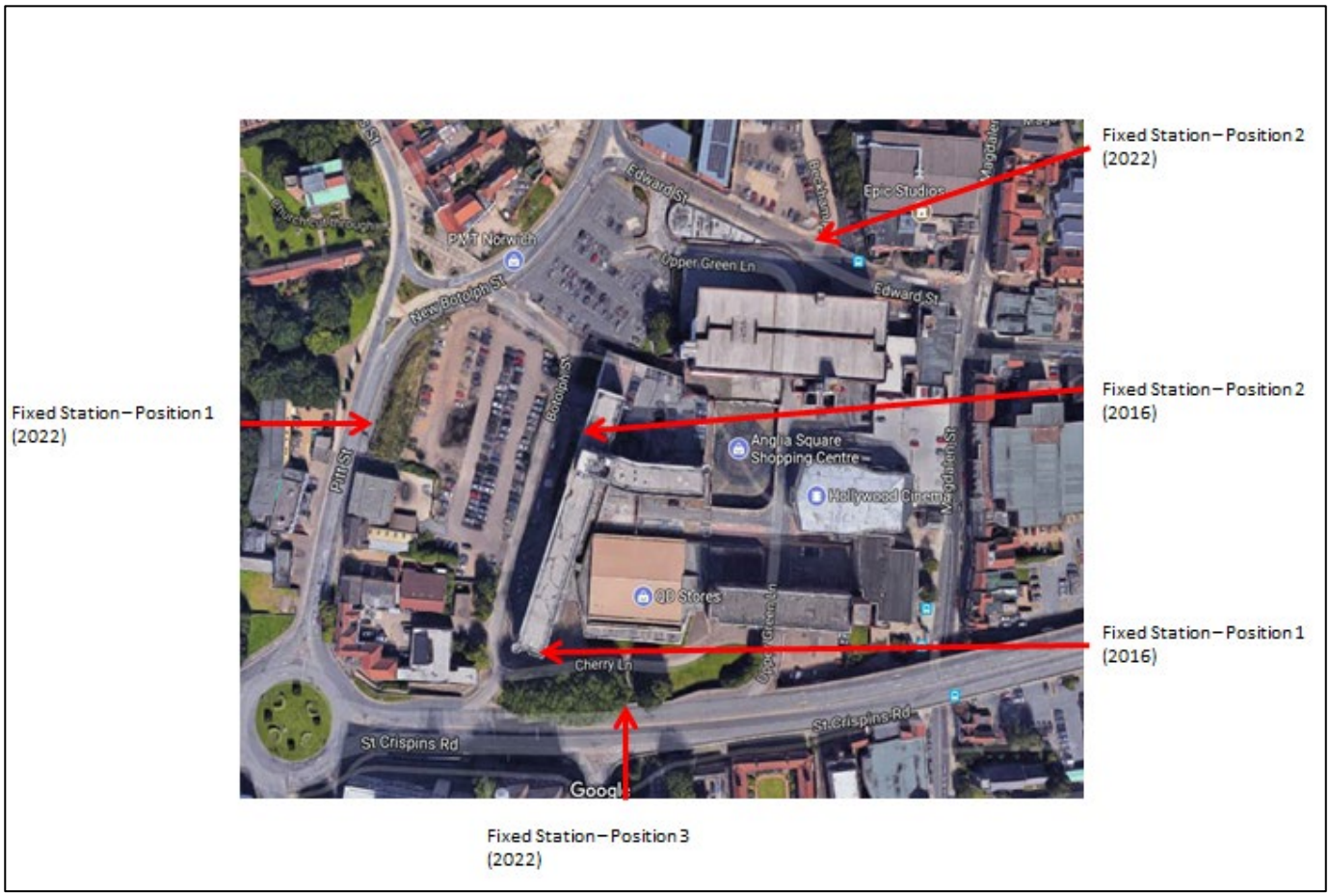
- 2022 Survey - Use three continuous noise monitoring positions to suitably assess the existing noise environment.

- Set up of three fixed monitoring locations facing Pitt Street, Edward Street and St Crispins Road.

- Use the monitoring exercise to capture a total of 5 day time periods (16 hours between 07:00-23:00) and 7 night time periods (8 hours between 23:00-07:00) (2016 survey) and 15 day time periods (16 hours between 07:00-23:00) and 13 night time periods (8 hours between 23:00-07:00) (202022 survey).

9.23 The locations of the fixed monitoring stations are shown in Figure 9.1.

Figure 9.1 Fixed Monitoring Points Location Plan



Baseline Conditions

9.24 The results from the noise monitoring at fixed monitoring location 1 (2016 survey), demonstrate that there are raised noise levels along St Crispins Road which is an elevated dual carriageway located on the Southern boundary of the proposed Development Site.

9.25 Fixed monitoring location 2 (2016 Survey) was positioned in a more central area of the proposed Development Site away from St Crispins Road, which demonstrated that noise levels were up to 8dB lower in this location when compared against the levels recorded at fixed monitoring location 1.

9.26 Fixed monitoring location 1 (2022 survey) was positioned along New Botolph Street. The measurement position was located along the pavement and fixed to appropriate road signage at a height of approximately 3m. It was noted that road traffic noise was the primary noise source at this location.

9.27 Fixed monitoring location 2 (2022 survey) was positioned along Edward Street. The measurement position was located along the pavement and fixed to appropriate road signage at a height of approximately 3m. It was noted that whilst road traffic noise was the primary noise source at this location levels were lower than those experienced at location 1 on New Botolph Street.

9.28 Fixed monitoring location 3 (2022 survey) was located along St Crispins Road. The assessment location was set back from the main thoroughfare by around 9 metres, offering a degree of attenuation.

9.29 As such recommendations have been made with respect to noise control which will need to be considered as part of the scheme's subsequent detailed specification.

Receptors

9.30 A list of existing and future receptors is included in Table 9.10.

Table 9.8 Existing and Future Sensitive Receptors

Receptor	Sensitivity
Existing Receptors	
Residents on opposite side of Edward Street	High
Shops/Offices located on Anglia Square that are to remain operational and those fronting Magdalen Street	Medium
Car Park on opposite side of Edward Street	Low
Future Receptors	
Residents on opposite side of Edward Street	High

Shops/Offices located on Anglia Square that are to remain operational and those fronting Magdalen Street	Medium

Future Baseline

9.31 This assessment has been carried out under the assumption that construction would commence in December 2022 and finish in December 2030, If the development did not go ahead, the baseline would experience the following changes;

- Higher noise levels across the Site due to busier roads.

9.32 With this proposed Development and those schemes proposed in the surrounding area, noise levels are expected to fall due to;

- The introduction of larger pedestrian areas;
- Introduction of cycle paths/routes; and
- Reduction in the need to use motorised vehicles within the surrounding area.

Assessment of Effects (Construction and Operational)

9.33 The noise monitoring has demonstrated that some form of noise attenuation will be required to avoid disturbance to future occupiers of the development.

Environmental Design and Management

9.34 Mitigation measures for the Proposed Development have been incorporated into the design of the scheme.

9.35 In this case, receptors are considered to comprise new residents of the Proposed Development. The environmental noise assessment undertaken has demonstrated that standard double glazing with an R_w of 36dB is appropriate to achieve the required internal acoustic environment and to mitigate impacts from existing noise sources on residents of the Proposed Development. The impact on future residents of the Proposed Development from existing noise sources is therefore considered to be negligible.

9.36 Part F of the Building Regulations specifies required rates of background ventilation to domestic properties. These requirements must be achieved without compromising internal noise levels. When a window is opened for ventilation, it will only give a 10-15dB reduction in noise.

9.37 As such some form of acoustically treated ventilation will be required to negate the need to open windows for fresh air.

9.38 Trickle ventilators or mechanical ventilation will need to be acoustically treated at the inlet point to afford a D_{new} attenuation level of 38dB in the open position.

9.39 BS8233 includes design criteria for external noise.

9.40 The standard states that it is desirable that the external noise level associated with dwellings does not exceed 50dB $L_{Aeq,T}$ with an upper guideline value of 55dB $L_{Aeq,T}$ which would be acceptable in noisier environments.

9.41 Based upon the noise monitoring exercise, it can be seen that the upper noise limit of 55dB can be achieved for central areas of the development which will also benefit from shielding from the buildings themselves. However, the desirable limit value is likely to be exceeded for balconies that front the roadways.

9.42 The Proposed Development includes the provision of commercial space, which will include the installation of plant associated with individual businesses.

9.43 Installed plant should not cause the existing noise level to increase when measured at one metre from the façade of the nearest noise sensitive premises. In order to achieve this, plant should be designed/selected (or attenuated) so that it is 5dB below the existing background level.

Effects During Construction

9.44 Some predicted noise levels generated by the proposed operations on the Site during the construction phase of the Development have been prepared in accordance with the recommendations made in British Standard BS5228 (2009) 'Code of Practice for Noise and Vibration Control on Construction and Open Sites' with baseline data used for reference material.

9.45 The results will be compared with baseline data and the 75dB typical noise limit applied to the boundaries of construction sites.

9.46 BS5228 comments that experience of complaints associated with industrial noise sources indicates that the likelihood of complaints increases as the difference between the industrial noise and the existing background noise increases. However, it is generally assumed that a greater difference might be tolerated, than for an industrial source, when it is known that the operations are of short or limited duration.

9.47 BS5228 comments that experience of complaints associated with industrial noise sources indicates that the likelihood of complaints increases as the difference between the industrial noise and the existing background noise increases. However, it is generally assumed that a greater difference

might be tolerated, than for an industrial source, when it is known that the operations are of short or limited duration.

Table 9.9 Significance Criteria for Noise Impacts

Construction Impact Description	Significance
Daytime L_{Aeq} up to 65dB (10dB in excess of ambient L_{Aeq})	Negligible
Daytime L_{Aeq} up to 75dB for short duration	Minor Adverse
Daytime L_{Aeq} up to 75dB for moderate duration	Moderate Adverse
Daytime L_{Aeq} in excess of 75dB	Major Adverse

9.48 A draft Construction Environmental Management Plan (CEMP) has been prepared for the development which includes details with respect to the control of noise and vibration associated with construction works in line with the requirements of BS5228:2009.

Effects Once the Proposed Development is Operational

9.49 Noise impact from existing noise sources are limited to impacts from the surrounding road network, with St Crispins Road (located on the southern boundary of the Proposed Development) being the primary noise source.

Mitigation Measures

Mitigation During Construction

9.50 A suite of mitigation measures is proposed to minimise noise and vibration including selection of plant and working methods, controlled working hours, enforcement of noise and vibration limits, boundary fencing and noise monitoring.

9.51 Mitigating measures will include;

- Application of controlled working hours for noisy activities, which are typically; Monday – Friday 08.00 to 18.00 hours and Saturday 08.00 to 13.00 hours, with no work on Sundays or Bank Holidays.
- Provision of site boundary barriers as needed.
- Adoption of the principals of “Best Practicable Means”.
- Use of compressors that have silencers or are sound reduced models.
- Fitting of silencers of mufflers to pneumatic tools, when necessary.

- Programming deliveries to arrive only during daylight hours, and acting carefully when unloading vehicles to minimise disturbance to local residents.
- Prohibiting delivery vehicles from waiting within the Site with their engines running.
- Ensuring all plant items will be properly maintained and operated according to the manufacturer's instructions.
- Siting plant as far as possible, away from noise sensitive receptors.

9.52 This will ensure that noise and vibration levels are kept within acceptable limits, although these will be in excess of the existing baseline. These measures will be detailed in a Construction Environmental Management Plan (CEMP) which will incorporate best practice measures and will be agreed with NCC and Norfolk County Council Highways Authority.

Mitigation Once the Proposed Development is Operational

9.53 No further mitigation measures have been identified as part of this assessment.

Residual Effects and Monitoring

The residual effects arising from the Proposed Development are summarised in Table 9.10

Table 9.10

Effect	Receptor (Sensitivity)	Nature of Effect and Geographic Scale	Magnitude of Change*	Classification of Effect (Statement of Significance)	Mitigation and Monitoring	Residual Effect
Construction Effects						
Demolition noise and vibration impact	Residents on opposite side of Edward Street (High)	Local	Medium	Major Adverse	Adherence to the CEMP	Moderate adverse (significant)
	Shops/Offices located on Anglia Square that are to remain operational and those fronting Magdalen Street (Medium)	Local	Medium	Moderate Adverse	Adherence to the CEMP	Minor adverse (not significant)
Construction noise and vibration impact	Residents on opposite side of Edward Street (High)	Local	Low	Moderate Adverse	Adherence to the CEMP	Minor Adverse (not significant)
Operational Effects						
Plant	Neighbouring sensitive receptors	Local	Low	Negligible - Implementation of the mitigation measures as detailed in the Environmental Noise Assessment	A planning condition will be in place that operation plant will be lower than 5dB, as per BS4142 requirements.	Negligible

Likely Significant Environmental Effects

9.54 There will be a moderate adverse effect (significant) on residents on the opposite side of Edward Street due to the demolition noise and vibration works. However, this will be temporary and intermittent in nature and will only have a moderate adverse on these residents when demolition works are carried out adjacent to Edward Street. These residents won't have the same effect when the car parking is being demolished.

9.55 No other significant effects are likely. No monitoring is required.

Summary and Conclusions

9.56 The Proposed Development requires demolition of a number of structures in close proximity to existing neighbouring residential receptors.

9.57 Mitigation and control measures will be required to ensure that noise is kept within acceptable limits during the demolition works. This will include the selection of plant, controlled working hours and a monitoring programme. Noise levels will however be in excess of existing baseline levels. On this basis, the impact on existing residents is considered to be **moderate adverse** but **short term** and of **minor significance**.

9.58 Construction works associated with the scheme are predicted to be within noise limits and good practice measures will be put in place throughout the construction works to ensure that this is the case. Noise levels will however be in excess of existing baseline levels, and controlled working hours for noisy activities and on Sundays and Bank Holidays, with on-going noise monitoring will be set out in the CEMP and agreed with NCC. The impact on existing residents is considered to be **minor adverse** but **medium term** and of **minor significance**.

9.59 Environmental noise is unlikely to place significant constraints on the proposed future land uses of the Site during the operational phase, provided appropriate mitigation measures are included via, for example, planning conditions controlling hours of operation and external music. The operational phase noise impacts will be **negligible**.

9.60 The Proposed Development is considered to be consistent with the requirements of legislation, national/regional/local planning policy and good practice guidance with regard to noise and vibration issues.

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[i] British Standards Institution (2014). BS 8233:2014 Guidance on sound insulation and noise reduction for buildings

[ii] British Standards Institution (2014). BS 4142:2014 Methods for rating and assessing industrial and commercial sound.

Anglia Square, Norwich Environmental Statement

Chapter 10: Residual Effects, Mitigation and Cumulative Effects

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March 2022

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10. RESIDUAL EFFECTS, MITIGATION, MONITORING AND CUMULATIVE EFFECTS

10.1 The following chapter provides a summary of the anticipated residual impacts, mitigation measures and the potential cumulative effects for each technical topic considered within this ES.

Introduction

10.2 This chapter of the ES summarises the residual impacts of the EIA of the Proposed Development. **Tables 10.2** to **10.5** below report the possible environmental effects associated with the Proposed Development, proposed mitigation where appropriate, and the identification of residual effects.

10.3 Residual impacts are defined as those impacts which remain following the implementation of identified mitigation measures.

10.4 The formulation of the Proposed Development has been an iterative process undertaken in parallel with the assessment of environmental effects. As a consequence, some measures to mitigate potentially significant negative effects have been incorporated into the design of the Proposed Development in order to avoid, reduce or offset such effects.

10.5 However, where it has not been possible to incorporate mitigation measures into the iterative design process, mitigation may be achieved by one of the following means:

- Mitigation through controls on construction activities; or
- Mitigation to be applied through ongoing management and monitoring once the Proposed Development commences; or
- During the operation of the Proposed Development.

10.6 Each technical ES Chapter includes detailed consideration of the beneficial and adverse residual impacts anticipated as a result of the Proposed Development. The general criteria applied to determine the significance of the residual impacts is set out in **Chapter 1: Introduction and EIA Methodology** of this ES, with topic-specific methodologies presented in each technical chapter.

10.7 The residual impacts listed within the technical chapters of this ES are described with reference to:

- The scale of the impact (i.e. negligible, minor, moderate or major) and whether this is significant or not;

- The geographic scale (i.e. global, national, regional, district, borough, local etc.); and
- The nature of the effect (i.e. adverse, negligible or beneficial).

10.8 Within **Tables 10.2** to **10.5** the following shading has been applied to identify significant residual effects.

Table 10.1 Shading Applied to Identify Residual Effects

Description	Shading
Major Beneficial / Major to Moderate Beneficial	
Moderate Beneficial	
Minor Beneficial / Negligible / Minor Adverse	No Shading (Not Significant)
Moderate Adverse	
Major Adverse	
Moderate / Major Neutral	

Table 10.2 Summary of Demolition and Construction Phase Effects

Effect	Receptor (Sensitivity)	Geographic Scale	Magnitude of Change	Classification of Effect	Mitigation and Monitoring*	Residual Effect
Socio-Economics						
Construction Employment	Local labour market (construction phase - moderate)	Medium-term, temporary on the Wider Impact Area	Moderate	Beneficial	Training, Skills and Local Labour Strategy	Moderate Beneficial (Significant)
Existing Uses/ Employment	Local labour market (existing employment/ businesses)	Short-term, temporary on the Local Impact Area	Minor	Adverse	Relocation of existing tenants within the Proposed Development, as well as preparation of CEMP and CLP	Minor Adverse (Not significant)
Archaeology						
Impact on Prehistoric remains (likely to be residual)	Impact on Prehistoric remains (Low) (Local)	Sitewide (expect for localised areas of known deep modern truncation)	Major	Moderate to Minor Adverse	Archaeological evaluation (when required) followed by preservation *in-situ* / excavation / watching brief as appropriate	Minor/Negligible Adverse (Not significant)
Impact on Roman remains (likely to be residual)	Impact on Roman remains (Low) (Local)	Sitewide (expect for localised areas of known deep modern truncation)	Major	Moderate to Minor Adverse	Archaeological evaluation (when required) followed by preservation *in-situ* / excavation / watching brief as appropriate	Minor/Negligible Adverse (Not significant)

Effect	Receptor (Sensitivity)	Geographic Scale	Magnitude of Change	Classification of Effect	Mitigation and Monitoring*	Residual Effect
Impact on Saxon-Early Medieval remains	Impact on Saxon-Early Medieval remains (Medium) (Regional)	Sitewide (expect for localised areas of known deep modern truncation)	Major	Moderate to Major Adverse	Archaeological evaluation (when required) followed by preservation *in-situ* / excavation / watching brief as appropriate	Minor Adverse (Not significant)
Impact on Medieval remains	Impact on Medieval remains (Medium) (Regional)	Sitewide (expect for localised areas of known deep modern truncation)	Major	Moderate to Major Adverse	Archaeological evaluation (when required) followed by preservation *in-situ* / excavation / watching brief as appropriate	Minor Adverse (Not significant)
Impact on Post-medieval remains	Impact on Post-medieval remains (Low) (Local)	Sitewide (expect for localised areas of known deep modern truncation)	Major	Moderate to Minor Adverse	Archaeological evaluation (when required) followed by preservation *in-situ* / excavation / watching brief as appropriate	Minor/Negligible Adverse (Not significant)
Ecology						
Dust and pollution effects	Designated sites in locality (dust and pollution) and further afield (pollution)	County / International	None	None	Adherence to the CEMP	Neutral (Not significant)

Effect	Receptor (Sensitivity)	Geographic Scale	Magnitude of Change	Classification of Effect	Mitigation and Monitoring*	Residual Effect
Landscape Strategy	Habitats	Local	Moderate	Moderate Beneficial (Significant)	None	Moderate Beneficial (Significant)
Bat Boxes and Habitat	Bats	Local	Minor	Minor Beneficial (Not significant)	None	Minor Beneficial (Not significant)
Hedgehog Gateways	Hedgehogs	Site	Minor	Minor Beneficial (Not significant)	None	Minor Beneficial (Not significant)
Bird Boxes and Habitat	Birds	Local	Minor	Minor Beneficial (Not significant)	None	Minor Beneficial (Not significant)
Invertebrate Habitat	Invertebrates	Local	Minor	Minor Beneficial (Not significant)	None	Minor Beneficial (Not significant)
Highways, Traffic and Transport						
All effects	High	Temporary (long term) Construction traffic on local roads and strategic network	Negligible	Adverse	Adherence to the CEMP	Negligible (Not Significant)
Air Quality						

Effect	Receptor (Sensitivity)	Geographic Scale	Magnitude of Change	Classification of Effect	Mitigation and Monitoring*	Residual Effect
Dust arising from demolition and construction	Existing nearby residents and pedestrians	Local	Negligible	Not Significant	In agreement with NCC, the mitigation measures outlined in the CEMP will be implemented. If required, appropriate PM monitoring will be undertaken to identify if / when elevated levels occur, and appropriate action then taken. If the above is implemented, then the air quality impact is considered negligible.	Negligible (Not significant)
Environmental Noise						
Demolition noise and vibration impact	Residents on opposite side of Edward Street (High)	Local, temporary/ intermittent	Moderate Adverse	Significant	Adherence to the CEMP	Moderate Adverse (Significant)

Effect	Receptor (Sensitivity)	Geographic Scale	Magnitude of Change	Classification of Effect	Mitigation and Monitoring*	Residual Effect
	Shops/Offices located on Anglia Square that are to remain operational and those fronting Magdalen Street (Medium)	Local	Moderate Adverse	Significant	Adherence to the CEMP	Minor Adverse (Not Significant)
Construction noise and vibration impact	Residents on opposite side of Edward Street (High)	Local	Minor Adverse	Not Significant	Adherence to the CEMP	Minor Adverse (Not Significant)

Notes: * incorporating environmental design and management measures (embedded mitigation) **and** further mitigation and monitoring

Table 10.3 Heritage, Townscape and Visual Impact Assessment – Summary of Demolition and Construction Effects

Receptor	Residual Effect	Cumulative Effect
Built Heritage Receptors		
Close Proximity	Major – Moderate Adverse	Major – Moderate Adverse
Medium Distance	Minor Adverse – Negligible	Minor Adverse – Negligible
Long Distance	Minor Adverse – Negligible	Minor Adverse – Negligible
Townscape Receptors		
Close Proximity	Major – Moderate Adverse	Major – Moderate Adverse
Medium Distance	Moderate – Minor Adverse	Moderate – Minor Adverse
Long Distance	Minor Adverse – Negligible	Minor Adverse – Negligible
Visual Receptors		
Close Proximity	Major – Moderate Adverse	Major – Moderate Adverse

Medium Distance	Moderate – Minor Adverse	Moderate – Minor Adverse
Long Distance	Minor Adverse – Negligible	Minor Adverse – Negligible

Table 10.4 Summary of Completed Development Effects

Effect	Receptor (Sensitivity)	Geographic Scale	Magnitude of Change	Classification of Effect	Mitigation and Monitoring*	Residual Effect
Socio-Economics						
Operational Employment	Local labour market (operational phase - moderate)	Long-term, permanent on the Local / Wider Impact Areas	Moderate	Beneficial	Training, Skills and Local Labour Strategy	Moderate Beneficial (Significant)
Population	Existing population (moderate)	Long-term, permanent on the Local / Wider Impact Areas	~	~	None	~
Resident Expenditure	Local economy (moderate)	Long-term, permanent on the Local Impact Area	Moderate	Beneficial	None	Moderate Beneficial (Significant)
Deprivation	Levels of deprivation experienced by existing population (moderate)	Long-term, permanent on the Local / Wider Impact Areas	Moderate to Major	Beneficial	None	Moderate - Major Beneficial (Significant)
Housing	Housing targets/ housing need (moderate)	Long-term, permanent on the Local Impact Area	Moderate to Major	Beneficial	None	Moderate - Major Beneficial (Significant)

Effect	Receptor (Sensitivity)	Geographic Scale	Magnitude of Change	Classification of Effect	Mitigation and Monitoring*	Residual Effect
		Long-term, permanent on the Wider Impact Area	Moderate	Beneficial	None	Moderate Beneficial (Significant)
Crime	Safety of population (moderate)	Long-term, permanent on the Local Impact Area	Moderate	Beneficial	None	Moderate Beneficial (Significant)
Education – early years, primary, secondary	Pupils and school capacity (moderate)	Long-term, permanent on the Local Impact Area	~	Negligible	CIL contributions	Negligible (Not significant)
Healthcare	Capacity of local services (moderate)	Long-term on the Local Impact Area	~	Negligible	Provision of on-site healthcare if demonstrated to be required	Negligible (Not significant)
Open-space, Sport and Recreation	Provision of open space and facilities (moderate)	Long-term, permanent on the Local Impact Area	Minor	Beneficial	None	Minor Beneficial (Not significant)
Community Facilities	Provision of community facilities (moderate)	Long-term, permanent on the Local / Wider Impact Areas	Minor	Beneficial	CIL contributions	Minor Beneficial (Not significant)
Community Cohesion	Existing population (moderate)	Long-term on the Local Impact Area	Minor	Beneficial	Sustainable Community Strategy	Minor Beneficial (Not significant)
Archaeology						
No impacts on archaeological remains are anticipated once the Proposed Development is operational.						
Ecology						

Effect	Receptor (Sensitivity)	Geographic Scale	Magnitude of Change	Classification of Effect	Mitigation and Monitoring*	Residual Effect
Recreational Effects	European Designated Sites	International	Neutral	Not Significant	Landscape strategy and adherence to GIRAMS	Neutral (Not significant)
Water Quality Effects	European Designated Sites (High)	International	Neutral	Not Significant	Outflows to Sewage Treatment Works with capacity	Neutral (Not significant)
Highways, Traffic and Transport						
Motorists	Medium	Permanent Vehicles on both local roads and strategic network	Minor	Beneficial	Low level of car parking. Travel Plans to encourage alternative modes. Reduction in traffic compared to existing.	Minor Beneficial (Not Significant)
Public Transport	Medium	Permanent Increased patronage of services	Minor	Adverse	Travel Plan to monitor usage.	Negligible (Not Significant)
Pedestrians	Medium	Permanent Severance, pedestrian amenity and delay	Negligible	Beneficial	Improved walking connectivity and safer environment.	Minor Beneficial (Not Significant)
Cyclists	Medium	Permanent Fear and intimidation from increased traffic	Negligible	Beneficial	Improved cycling connectivity.	Minor Beneficial (Not Significant)
Air Quality						

Effect	Receptor (Sensitivity)	Geographic Scale	Magnitude of Change	Classification of Effect	Mitigation and Monitoring*	Residual Effect
NO_2, PM_{10} and $PM_{2.5}$ concentrations	Existing nearby residents	Local	Negligible	Not Significant	None required	Negligible (Not significant)
NO_2, PM_{10} and $PM_{2.5}$ concentrations	New residents living in the proposed Anglia Square development	Local	Negligible	Not Significant	None required	Negligible (Not significant)
Environmental Noise						
Plant	Neighbouring sensitive receptors	Local	Minor	Negligible - Implementation of the mitigation measures as detailed in the Environmental Noise Assessment	A planning condition will be in place that operation plant will be lower than 5dB, as per BS4142 requirements.	Negligible (Not significant)

Notes: * incorporating environmental design and management measures (embedded mitigation) **and** further mitigation and monitoring

Table 10.5 Heritage, Townscape and Visual Impact Assessment – Summary of Completed Development Effects

Receptor	Residual Effect	Cumulative Effect
Heritage Receptors		
71, Botolph Street	Moderate Beneficial	Moderate Beneficial
2-9 Octagon Court	Moderate Neutral	Moderate Neutral
Former Church of St Saviour	Moderate Beneficial	Moderate Beneficial
Church of St Augustine	Moderate Adverse	Moderate Adverse

Receptor	Residual Effect	Cumulative Effect
Numbers 31 to 35 Magdalen Street and Gurney Court	Minor Beneficial	Minor Beneficial
Old Meeting House	Moderate Neutral	Moderate Neutral
Church of St Mary	Moderate Neutral	Moderate Neutral
Church of St Martin at Oak	Moderate Neutral	Moderate Neutral
Church of St George	Moderate Neutral	Moderate Neutral
Bacon's House	Moderate Neutral	Moderate Neutral
Church of St Clement	Moderate Neutral	Moderate Neutral
Former Church of St James	Moderate Beneficial	Moderate Beneficial
The Cathedral of the Holy and Undivided Trinity	Moderate Neutral	Moderate Neutral
Church of St Giles	Moderate Neutral	Moderate Neutral
Norwich Castle	Major Neutral	Major Neutral
Roman Catholic Cathedral of St John the Baptist	Moderate Neutral	Moderate Neutral
City walls and towers	Major Neutral	Major Neutral
Norwich City Centre	Minor Beneficial	Minor Beneficial
Waterloo Park	Moderate Neutral	Moderate Neutral
Colegate Group	Minor Beneficial	Minor Beneficial
Northern City Group	Minor Neutral	Minor Neutral
Anglia Square Group	Moderate Beneficial	Moderate Beneficial
Townscape Receptors		
Anglia Square	Moderate Beneficial	Minor to Moderate Beneficial
Low Density Residential	Minor Beneficial	Minor Beneficial

Receptor	Residual Effect	Cumulative Effect
Northern City Character Area	Minor Beneficial	Minor Beneficial
Colegate	Minor Beneficial	Minor Beneficial
Northern Riverside	Minor Beneficial	Minor Beneficial
Elm Hill and Maddermarket	Negligible Neutral	Negligible Neutral
Civic	Negligible Neutral	Negligible Neutral
Cathedral Close	Nil	Nil
Visual Receptors		
View 1	Nil	Nil
View 2	Negligible	Negligible
View 3	Negligible	Negligible
View 4	Minor Beneficial	Minor Beneficial
View 5	Negligible	Negligible
View 6	Moderate Beneficial	Moderate Beneficial
View 7	Major Beneficial	Major Beneficial
View 8	Major Beneficial	Major Beneficial
View 9	Major Beneficial	Major Beneficial
View 10	Major Beneficial	Major Beneficial
View 11	Moderate Beneficial	Moderate Beneficial
View 12	Moderate Beneficial	Moderate Beneficial
View 13	Moderate Beneficial	Moderate Beneficial
View 14	Minor Beneficial	Minor Beneficial

Receptor	Residual Effect	Cumulative Effect
View 15	Moderate Beneficial	Moderate Beneficial
View 16	Minor Beneficial	Minor Beneficial
View 17	Moderate Beneficial	Moderate Beneficial
View 18	Nil	Nil
View 19	Minor Beneficial	Minor Beneficial
View 20	Moderate Beneficial	Moderate Beneficial
View 21	Minor Beneficial	Minor Beneficial
View 22	Negligible – Beneficial	Negligible – Beneficial
View 23	Moderate – Major Neutral	Moderate – Major Neutral
View 24	Major Neutral	Major Neutral
View 25	Minor – Moderate Beneficial	Minor – Moderate Beneficial
View 26	Minor Beneficial	Minor Beneficial
View 27	Moderate – Minor Beneficial	Moderate – Minor Beneficial
View 28	Minor – Negligible Beneficial	Minor – Negligible Beneficial
View 29	Minor Beneficial	Minor Beneficial
View 30	Minor Beneficial	Minor Beneficial
View 31	Moderate Beneficial	Moderate Beneficial
View 32	Major Beneficial	Major Beneficial
View 33	Moderate Beneficial	Moderate Beneficial
View 34	Minor Beneficial	Minor Beneficial
View 35	Moderate Beneficial	Moderate Beneficial

Receptor	Residual Effect	Cumulative Effect
View 36	Moderate Neutral	Moderate Neutral
View 37	Minor Beneficial	Minor Beneficial
View 38	Nil	Nil
View 39	Moderate Beneficial	Moderate Beneficial
View 40	Nil	Nil

Summary of Residual Effects

10.9 A comprehensive and robust assessment of the potential impacts of the construction and operation phases of the Proposed Development has been undertaken. Further to this, a range of appropriate mitigation measures have been proposed to minimise any likely significant effects.

10.10 As summarised in Summary of Demolition and Construction Effects, Table 10.2 and Table 10.3, and Summary of Completed Development Effects, Table 10.4 and Table 10.5, above, the majority of impacts on the environment during both the construction and operational phases of the Proposed Development are either negligible (no significance) or beneficial.

10.11 After the implementation of a range of mitigation measures, significant beneficial residual effects during the construction phase are as follows:

- **Socio-Economics:** specifically in relation to construction employment within the local labour market (Moderate Beneficial).

10.12 After the implementation of a range of mitigation measures, there is the potential for significant adverse residual effects during the construction phase as follows:

- **Environmental Noise:** specifically in relation to demolition noise and vibration impact on residents on the opposite side of Edward Street (Minor to Moderate Adverse).
- **Heritage, Townscape and Visual Impact Assessment:** specifically in relation to close distance heritage, townscape and visual receptors (Moderate to Major Adverse).
- **Heritage, Townscape and Visual Impact Assessment:** specifically in relation to medium distance townscape and visual receptors (Minor to Moderate Adverse).

10.13 The moderate to major neutral residual effects identified in **Volume II: Heritage, Townscape and Visual Impact Assessment** are also considered to be significant, and full details are provided in the main assessment.

10.14 A number of environmental mitigation measures are proposed within this ES and will be implemented during the construction phase. These include specific measures for the Proposed Development and Site, as well as more general measures appropriate for urban regeneration projects in accordance with best practice guidance. The Applicant will develop and implement a CEMP, incorporating the commitments within this ES and setting out how LBE requirements will be met. The CEMP will be prepared prior to the commencement of any on-site works and will identify mitigation measures that will be implemented to reduce the potential for significant adverse effects. Assuming appropriate implementation of the CEMP, construction of the Proposed Development is not considered likely to result in any significant, long-term adverse effects.

10.15 After the implementation of mitigation measures, significant beneficial residual effects during the operational phase are as follows:

- **Socio-Economics:** specifically in relation to operational employment in the local labour market, resident expenditure within the local economy, housing within the Wider Impact Area an crime within the Local Impact Area (Moderate Beneficial).

- **Socio-Economics:** specifically in relation to depravation within the Local and Wider Impact areas and housing within the Local Impact Area (Moderate to Major Beneficial).

- **Heritage, Townscape and Visual Impact Assessment:** specifically in relation to heritage receptors: 71 Botolph Street, Former Church of St Saviour, Former Church of St James and Anglia Square Group (Moderate Beneficial).

- **Heritage, Townscape and Visual Impact Assessment:** specifically in relation to townscape receptor: Anglia Square (Moderate Beneficial).

- **Heritage, Townscape and Visual Impact Assessment:** specifically in relation to visual receptors: View 25 (Outside 107 Magdalen Street) and View 27 (Junc Colgate / St George Street) (Minor – Moderate Beneficial).

- **Heritage, Townscape and Visual Impact Assessment:** specifically in relation to visual receptors: View 15 (Junc Edward Street / Magpie Road (east side Edward Street)), View 17 (Outside 21 Tombland Street), View 20 (Junction Oak Street / St Martin's Lane), View 31 (Corner of 59 Magdalen Street), View 33 (Junction of St George's Street/St Crispin's), View 35 (Northeast Corner Duke Street/St Crispin's/Pitt St Roundabout and View 39 (Norwich Castle) (Moderate Beneficial).

- **Heritage, Townscape and Visual Impact Assessment:** specifically in relation to visual receptor: View 32 (Doughty's Hospital courtyard (south end)) (Major Beneficial).

10.16 One significant adverse effect has been identified:

- **Heritage, Townscape and Visual Impact Assessment:** specifically in relation to heritage receptor: Church of St Augustine (Moderate Adverse).

10.17 Whilst it is likely that some adverse effects may be experienced during the construction phase of the Proposed Development, they will be temporary in nature and mitigated as far as possible by the CEMP and best practice guidance. Once the Proposed Development is operational, the positive impacts associated with bringing this development forward are considered to far outweigh these effects.

Cumulative Effects

10.18 In addition to the assessments already undertaken in relation to environmental topics, the EIA Regulations 2017[1] require an ES to consider 'cumulative effects'. These are defined as effects which result from incremental changes caused by other past, present or reasonably foreseeable actions together (i.e. cumulatively) with the Proposed Development.

10.19 For the cumulative assessment, two types of effect have been considered:

- **Type 1:** The combined effect of individual effects, for example noise, airborne dust or traffic on a single receptor (defined as 'effect interactions'); and
- **Type 2:** The combined effects of nearby development schemes which are either consented or under construction which may, on an individual basis, not be significant but, cumulatively, have a likely significant effect (defined as 'cumulative effects'). The schemes considered within this assessment vary according to topic, however a comprehensive list is provided in **Chapter 1: Introduction and EIA Methodology** of this ES.

Effect Interactions (Type 1 Effects)

10.20 There is no established EIA methodology for assessing and quantifying effect interactions that lead to combined effects on sensitive receptors. The European Commission (EC) has produced guidelines for assessing these Type 1 Effects[2], however these *"are not intended to be formal or prescriptive but are designed to assist EIA practitioners in developing an approach which is appropriate to a project…"*. These have been reviewed by Iceni Projects and used to develop the approach to the assessment of effect interactions presented in this ES.

10.21 Whilst not necessarily considered significant individually, several effects on one receptor or receptor group could interact or combine to produce a significant overall effect. For the purposes of the assessment, only adverse or beneficial effects classified as minor, moderate or major have been considered in the effect interactions assessment.

10.22 **Table 10.6** presents a summary of the residual effects on sensitive receptors which have been scoped into the effect interactions assessment. On the basis of the below no effect interactions are

[1] Her Majesty's Stationery Office (HMSO), (2018); Town and Country Planning (Environmental Impact Assessment) Regulations 2017

[2] European Commission (EC), (1999); Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions. Available at: http://ec.europa.eu/environment/archives/eia/eia-studies-and-reports/pdf/guidel.pdf

anticipated to occur during either the construction or operational phases of the Proposed Development.

Table 10.6 Direct Residual Environmental Effects for Identified Sensitive Receptors

Receptor	Construction Phase	Operational Phase
Neighbouring and local residential properties	NV*/(NV)*	SE/(SE)
Neighbouring and local commercial properties and businesses	(NV)*; SE*/(SE)*	SE/(SE)
Enabling works, demolition and construction site workers	-	-
Future on-site users	-	SE/(SE)
Neighbouring amenity / open space	-	(SE)
Pedestrian and cycle network	-	(T)
Local highway network	-	(T)
Local air quality	-	-
Subsurface and surface utilities	-	-
Buried Heritage Assets	(A)	-
Built Heritage Assets	HTV* / (HTV)*	HTV/(HTV) / HTV
Townscape Character Areas	HTV* / (HTV)*	HTV / (HTV)
Local and long distance views	HTV* / (HTV)*	HTV / (HTV)
Ecological Sites	-	-
Fauna/flora	E/(E)	-
Water bodies	-	-

Key: **SE** – Socio-Economics; **A** – Archaeology; **E** – Ecology; **T** – Highways, Traffic and Transport; **AQ** – Air Quality; **NV** – Environmental Noise; **HTV** – Heritage, Townscape and Visual Impact Assessment.

RED – adverse effect; GREEN – beneficial effect; X – no effect anticipated; () – non-significant effect; * - intermittent/short-term effect.

10.23 Given the above, it is not considered that any additional significant environmental effects are identified when effects are considered in-combination.

Cumulative Effects (Type 2 Effects)

10.24 The following schemes are considered within the cumulative effects assessment within each of the technical ES chapters (**ES Volume 1: Chapters 4 to 9** and **ES Volume 2: TVIA** of this ES) and were agreed with NCC as part of the EIA Scoping process.

10.25 A summary of the cumulative schemes considered in this assessment is provided in **Table 10.5** below.

Table 10.7 Schemes Considered in the Cumulative Effects Assessment

Application Reference	Location	Description	Status
18/01286/F	Barrack Street Development Site Barrack Street Norwich	Demolition of existing buildings and structures; erection of 218 dwellings; conversion, refurbishment and extension of two Grade II Listed Cottages, erection of 310sqm of commercial floorspace (Class A1-A5 use) and 152sqm of Museum floorspace (D1 use), with associated works.	Approved (April 2019)
04/00605/F	St Annes Wharf King Street Norwich Norfolk	The demolition of existing buildings to slab level and the development of the following mixes; 437 residential units ,2128 sq m of A1,A2 , A3 and D2 uses (max.2000 sq m A1),the provision of 305 car parking spaces, riverside walkway, public open space and hard and soft landscaping including external lighting ,seating, bollards, walkways, cycle paths, steps and ramps, internal access roads, delivery bays, boundary enclosure, new vehicle and pedestrian and cycle access points, alteration of existing access points and associated infrastructure works.	Approved (March 2006) Under construction
11/02104/O	Land North Of Carrow Quay Kerrison Road Norwich	Outline application with full details of access for residential-led development of between 200 and 250 No. residential flats (Use Class C3) and 140 car parking spaces with commercial office space (Class B1a), groundsman's facilities (Class B8), community uses (Class D1/D2) and associated works including Riverside Walk and access road	Approved (June 2013) Over 1km away, but uses same road network
13/01270/RM		Reserved Matters with full details of external appearance, landscape, layout and scale of development, to provide 250 No. residential flats (Class C3), 113sqm offices (Class B1a), 279sqm groundsman's facilities (Class B8), and 401sqm of flexible office space (Class B1a) and community uses (Class D1/D2) with 126 No. parking spaces, associated highways works and provision of a Riverside Walk, consequent to previous outline planning permission 11/02104/O 'Outline application with full details of access for residential-led development of between 200 and 250 No. residential flats (Class C3) and 140 No. car parking spaces with commercial office space (Class B1a), groundsman's facilities (Class B8), community uses (Class D1/D2) and associated works including Riverside Walk and access road'	Approved (November 2013)
18/01552/F	Car Park Rear Of Premier Travel Inn	Redevelopment of car park site to provide student accommodation (revised proposal)	Approved (November 2019)

Application Reference	Location	Description	Status
	Duke Street Norwich		
18/01524/F	Mary Chapman Court Norwich	Demolition of student accommodation block, erection of new build academic and residential accommodation for Norwich University of the Arts, including works to riverside walk and other associated external works	Approved (January 2019)
17/01391/F	St Crispins House Duke Street Norwich NR3 1PD	Change of Use application in respect of the conversion and extension of an existing 3, 4 and 5 storey office building (B1 use class) to student accommodation (sui generis use class) containing 614 student bed spaces and communal accommodation at ground floor level, to include common room facilities and a gymnasium. Associated external works.	Approved (March 2018)
20/00474/MA		Amendment of previous permission 17/01391/F to allow revised internal layouts and associated external alterations, inclusion of common room at sixth floor, consolidation of binstore and plant rooms and revised cycle and temporary parking arrangements.	Approved (August 2020)

10.26 **Table 10.8** and **Table 10.9** below identify whether the effects from the above developments when considered alongside the Proposed Development, may cause significant cumulative effects which may require mitigation.

Table 10.8 Cumulative Effects During Demolition and Construction

Topic	Cumulative Effect
Socio-Economics	The Proposed Development, together with the cumulative schemes would be expected to generate employment opportunities during demolition and construction. In the absence of detailed, commercially sensitive information, it is not possible to make a quantitative assessment of the employment generated from the demolition and construction stages of the cumulative schemes. It is recognised that adverse cumulative socio-economic effects could arise if the cumulative developments were to all come forward at once, as the availability of labour could be constrained. However, the developments are at different stages of the development process, have varying lead-in times and are expected to come forward on a phased basis. As such, the demand for labour and specific skills is likely to be distributed over a number of years as individual schemes are built out. Furthermore, construction firms often use their own, permanent workforce on projects supported by local contractors, meaning that availability of local labour would not necessarily act as a constraint to delivery of projects. Following the uplift in construction activity in recent years, it is likely there will now be a supply of local workers with construction skills and businesses which have developed to support / supply this activity. Due to the mobility of the construction workforce and in the context of the size of the construction workforce at a city-wide and regional level, it is expected that the overall effect on construction employment would be **Moderate Beneficial** at the regional scale.
Archaeology	This assessment has identified that no archaeological assets (either designated or undesignated), which lie beyond the confines of the site itself, will be impacted by the Proposed Development, in the light of this, no cumulative effects on archaeological assets have been identified during construction. However, it is anticipated that effect on archaeological assets, on all other schemes, like the Anglia Square development, will be appropriately assessed and mitigated as per Local and National Planning Policy and guidelines.
Ecology	There are no residual adverse effects arising from the constriction phase of the proposed development that could contribute to a cumulative effect when considered in combination with other development schemes.

Topic	Cumulative Effect
Highways, Traffic and Transport	The proposed mitigation measures set out within the transport chapter seek to remove any effects associated with the construction of the Proposed Development, regardless of what is taking place in the local area. Furthermore, it is anticipated that any Cumulative Schemes have also been assessed by NCC / NCoC as part of the planning application process and therefore the impact of the construction traffic has been anticipated and prepared for, so as to not impact the local highway network. Furthermore, the CEMP that will be required for these applications, including the Proposed Development, will set out mitigation measures to reduce overlap of vehicles where possible, and this is common practice for sites in developing locations such as this. Considering the sensitivity of the receptors previously assessed as low / moderate and the magnitude of impact on the link roads (minor), the cumulative effect of overrunning construction programmes would be minor adverse. However, the effect would be temporary in nature and therefore, it is considered not significant. In addition to this, some level of consolidation between construction sites could take place further reducing this effect where practical.
Air Quality	The IAQM guidance suggests that cumulative construction dust impacts are only likely where sites are within 500m of each other. Work would have to be taking place in areas of both (the Proposed Development and the cumulative development) sites that are close to a receptor for impacts to occur. If construction activities are planned to occur at sites nearby (for example, the St Mary's Works development, which is within 500m of the site) then some risk of cumulative construction dust impacts may occur. It is recommended that in accordance with the mitigation measures set out previously, if there is concurrent construction work on sites within 500m of each other, the construction contractors should "hold regular liaison meetings with other high risk construction sites within 500m of the site boundary to ensure plans are co-ordinated and dust and particulate matter emissions are minimised".
Noise and Vibration	Due to the distance between the Site and the cumulative schemes, there is not expected to be any cumulative noise effects during construction.
Heritage, Townscape and Visual Impact	Please see Volume II for full cumulative considerations in HTVIA terms.

Table 10.9 Cumulative Effects Once the Proposed Development is Operational

Topic	Cumulative Effect
Socio-Economics	The cumulative schemes would bring a substantial number of major Developments for both residential and mixed use to the area. Several schemes will also provide community uses, including education, retail, amenity space, cultural uses and more. The respective impacts on population, employment and community facilities are set out in a separate section below.

Topic	Cumulative Effect
Archaeology	It is not anticipated that there would be any cumulative effects to archaeological remains once the Proposed Development is operational.
Ecology	There are no residual adverse effects arising from the operational phase of the proposed development that could contribute to a cumulative effect when considered in combination with other development schemes. Regarding recreation effects on European designated sites, the potential for adverse effects in combination with other plans or projects will be covered by compliance with the GIRAMS, which will also extend to similar schemes in the affected area.
Highways, Traffic and Transport	As detailed within this chapter, the Proposed Development is resulting in a decrease in traffic flows and therefore having a beneficial impact, creating a position of betterment regardless of the above cumulative schemes. In addition, the other schemes would need to separately assess the impact in their own EIA. However, importantly, to reiterate as a result of our development traffic would decrease on the network.
Air Quality	The predicted traffic flows in the future baseline scenario are assumed to take into account other committed developments in the local area.
Noise and Vibration	It is not anticipated that there would be any cumulative noise effects once the Proposed Development is operational.
Heritage, Townscape and Visual Impact	Please see Volume II for full cumulative considerations in HTVIA terms.

Socio-Economic Cumulative Assessment Once the Proposed Development is Operational

10.28 The cumulative schemes would bring a substantial number of major Developments for both residential and mixed use to the area. Several schemes will also provide community uses, including education, retail, amenity space, cultural uses and more.

Table 10.10 Cumulative Schemes

Scheme	Residential Units[3]	Employment	Education	Retail	Community, Leisure and Open Space	Flexible Uses
Car Park Rear Of Premier Travel Inn Duke Street (18/01552/F) – Student Accommodation	139					

[3] The applications at Car Park Rear Of Premier Travel Inn Duke Street, St Crispins House and Mary Chapman Court are for student accommodation and the figures for these schemes are for bed provision rather than total units.

Mary Chapman Court (18/01524/F) – Student Accommodation	100		1675m^2			2,952m^2
St Crispins House Duke Street (17/01391/F and 20/00474/MA) – Student Accommodation	684					Only available for residents (gym, games facility, washing)
Land North Of Carrow Quay (11/02104/O and 13/01270/RM)	250	103m^2				Class B8 – 279m^2 Flexible – 195m^2
Barrack Street (18/01286/F)	218			310m^2	152m^2	
St Annes Wharf King Street (04/00605/F)	437			2,128m^2		
TOTAL	**1,828**	**103m^2**	**1675m^2**	**2438 m^2**	**152m^2**	**3,426m^2**

Population

10.29 Average household size in Norwich is projected to be 2.11 people[4]. This provides a guide for estimating the increase of population arising from the residential element of the cumulative schemes by applying a figure of 2.11 to the 905 dwellings, and a figure of 1 resident for each of the 923 student bedspaces. This results in a total population of c.5,154 people from the cumulative schemes and the 1,100 dwellings within the Proposed Development.

Labour Market

10.30 It is estimated that approximately 3,917 residents of the cumulative generated population will be of working age (i.e. 16 to 64). Of these, 84% are likely to be economically active which equates to 3,290 residents going into employment. This represents a 4% increase in the proportion of economically active people within Norwich. It should be noted that a notable proportion of this workforce would be students who are more likely to work part-time. The additional labour force would help to support business activity in Norwich resulting in a **direct, permanent**, **moderate beneficial** effect on the Wider Impact Area.

[4] DCLG 2014 based Household projections for England and local authority districts (Table 427), published in 2016, indicate that average household size in Norwich is expected to decline over the period to 2039. Taking account of the build programme, average household size of 2.11 predicted for 2029 has been applied.

Resident Expenditure

10.31 It is estimated that the occupants of the new 2,928 units could generate total gross spending of £101 million each year which could support the vitality and viability of local centres, businesses and services across Norwich and the East of England.

10.32 Therefore, the cumulative impact of the schemes and the Proposed Development is anticipated to result in a direct, permanent, **major beneficial** effect on the Local and Wider Impact Areas with respect to resident expenditure.

Direct and Indirect Employment

10.33 The Proposed Development, alongside the other cumulative schemes, has the potential to deliver approximately 15,794sqm of non-residential floorspace between them. Applying standardised employment densities to these areas, it is anticipated that approximately 569 direct FTE jobs would be generated. When accounting for indirect and induced employment, these jobs could support an additional 277 jobs within Norwich, or a further 576 jobs in the East of England[5].

10.34 The delivery of 569 direct jobs equates to 1% increase across Norwich, resulting in a **minor beneficial** cumulative effect across the Wider Impact Area.

Housing

10.35 In terms of effects on housing provision, the cumulative schemes in combination with the Proposed Development are expected to bring forward an estimated additional 2,005 residential units (use class C3) across the City. This would meet approximately 23% of the Joint Core Strategy Local Plan Target of 8,592 dwellings in Norwich by 2026. The 923 student bedspaces in the cumulative schemes will assist in meeting specified student housing needs in the city, with the Greater Norwich Local Housing Needs Assessment (June 2021) stating that local authorities are allowed to count each 2.5 student bedspaces delivered as being the equivalent of 1 dwelling. The cumulative student bedspaces therefore contribute a further 369 units towards addressing local housing needs.

10.36 Consequently, the cumulative impact on the provision of housing is **direct, permanent**, **major beneficial** effect across the Local and Wider Impact Area.

Social Infrastructure

10.37 The Community Infrastructure Levy (CIL) Charging Schedule was adopted by Norwich City Council in June 2013. CIL contributions ensure that development proposals provide an appropriate payment

[5] Considering the commuting flows into Norwich, a higher leakage rate of 60% has been applied together with a displacement rate of 25% and a multiplier of 1.3 based on assumptions using CEBR report for National Housing Federation, 2013 (for the regional level a leakage rate of 10%, displacement rate of 25% and a regional multiplier of 1.5 is used).

for the funding of current and future infrastructure arrangements which are identified as being relevant including infrastructure for education, sports, open space, green infrastructure, libraries and community buildings. On this basis, it is considered that the magnitude of any adverse effects arising from increased demand for social and community infrastructure will be **negligible** and are likely to be short term and therefore do not require mitigation.

Healthcare

10.38 As a result of the Proposed Development and cumulative schemes, there will be an increase in the area's population by c.5,154 new residents. It should also be taken into account that some dwellings are likely to be taken up by existing residents, such as residents buying their first home or trading up or down-sizing or re-locating. Therefore, not all residents will be new patients in the area and will already be registered with local GPs and dental practices. Furthermore, it is possible that residents of the 923 student bedspaces will be registered with health services on campus rather than near to their place of residence (e.g. The UEA Medical Centre).

10.39 However, assuming all 5,154 additional residents would register at the GP surgeries within 2 miles of the Site, the total number of patients would increase to 155,500, resulting in a GP to patient ratio of 1: 1,654. This remains below the standard level of provision of 1,800 patients per GP, indicating there is sufficient capacity in the local area. The cumulative effect in terms of demand for social infrastructure is therefore expected to be **negligible.**

10.40 If considered necessary to mitigate the impact of the Proposed Development, and if considered as suitable by service providers, there may be scope to accommodate healthcare provision on-site within the mixed-use element of the proposals.

Deprivation

10.41 The Site is located within Norwich, which is identified as being amongst the 20% most deprived local authorities according to the English IMD (2019), and ranks particularly high in terms of health, education and income deprivation. The LSOA within which the Site is located is amongst the 10% most deprived neighbourhoods in the country in general.

10.42 The delivery of approximately 2,928 new dwellings could help improve living conditions that residents of Norwich are experiencing. The provision of approximately 15,794sqm of non-residential floorspace could also help improve job opportunities in the area.

10.43 The commercial and community floorspace being delivered across the cumulative schemes and the open space provision could also help to improve local resident socio-economic well-being and living environment, resulting in a direct, permanent, **moderate beneficial** effect across the Local Impact Area and direct, permanent, **minor beneficial** effects across the Wider Impact Area.

Summary

10.44 Overall, these cumulative schemes, together with the Proposed Development, would deliver new housing, generate new employment and have a positive impact on the local economy through increased spending, which together would have a beneficial effect in terms of socio-economics.

Summary of Cumulative Effects

10.45 Following the implementation of suitable mitigation measures, no significant adverse cumulative effects are anticipated during either the demolition and construction or operational phases of the Proposed Development.

Monitoring

10.46 Noise and Air quality monitoring will be conducted during demolition and construction in accordance with a protocol to be agreed with NCC.

10.47 13.30 Outside of the above, and good practice site monitoring requirements during demolition and construction works (which will be included within the CEMP), no further environmental monitoring requirements are identified. The CEMP will be prepared and agreed with the relevant bodies prior to demolition and construction commencing. This will be secured by a suitably worded planning condition.