

Land West of Bersted Environmental Impact Assessment Scoping Report

**Information to accompany a request for Arun
District Council to form a Scoping Opinion**

Church Commissioners for England and Langmead Group,
represented by Landlink Estates Ltd

August 2020

LICHFIELDS

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1.0 Introduction

Purpose of document

- 1.1 This document provides information to assist Arun District Council ('ADC') in forming an Environmental Impact Assessment ('EIA') Scoping Opinion. It has been prepared pursuant to Regulation 15 of the Town and Country Planning (EIA) Regulations 2017 as amended by the Town and Country Planning and Infrastructure Planning (Environmental Impact Assessment) (Amendment) Regulations 2018 (together 'the 2017 EIA Regulations').
- 1.2 The document is submitted on behalf of the Church Commissioners for England ('CCE') and Landlink Estates Ltd. It relates to the proposed development of up to 2,500 new homes, up to 4ha of employment land, a 3 Form Entry primary school, two local centres and associated infrastructure across approximately 141 ha of land at the site to the north-west of Bognor Regis, known as West of Bersted ('the development'). The proposed development will be applied for in outline, and relates to the first stage of development for the West of Bersted strategic allocation, as allocated in the ADC Local Plan.
- 1.3 An earlier scoping opinion was issued in respect of the development on 26 June 2017 pursuant to previous EIA Regulations (the Town and Country Planning (EIA) Regulations 2011).

Report structure

- 1.4 The report is structured as follows:
- Section 2.0 – background information about the development and why the EIA is being carried out;
 - Section 3.0 – a description of the site and surroundings;
 - Section 4.0 – a description of the key features of the development;
 - Section 5.0 – provides a review of the potential environmental impacts arising from the development as a means to identify those matters to be scoped into the EIA; and
 - Section 6.0 – summarises the proposed form of the Environmental Statement ('ES'), the team and refers to any other documents being submitted alongside the application.

2.0 Background

Legislative requirements

- 2.1 The current Regulations are the Town and Country Planning (EIA) Regulations 2017 which came into force on 16 May 2017. These were amended by the Town and Country Planning and Infrastructure Planning (Environmental Impact Assessment) (Amendment) Regulations 2018 which came into force on 1 October 2018 (together the '2017 EIA Regulations'). The West Bersted ES will be prepared with regard to the 2017 EIA Regulations.
- 2.2 In accordance with the 2017 EIA Regulations and the procedures specified to facilitate the preparation of Environmental Statements, the applicants confirm that they intend to submit an ES to ADC with the application for the proposed development at West Bersted.
- 2.3 The development falls within Part 10(b) of Schedule 2 of the 2017 EIA Regulations as an urban development project which includes more than 150 dwellings.
- 2.4 For Schedule 2 developments, the 2017 EIA Regulations require that an EIA is undertaken where the development is *"likely to have significant effects on the environment by virtue of factors such as its nature, size and location"*.
- 2.5 Schedule 3 of the 2017 EIA Regulations goes on to identify the characteristics of the development, the sensitivity of the location and the characteristics of the potential impact as the key 'Selection Criteria for screening Schedule 2 development'. In light of these, EIA will be required for Schedule 2 development in three main types of case:
- 1 Major development which is of more than local importance;
 - 2 Developments located in particularly environmentally sensitive or vulnerable locations; and
 - 3 Developments with unusually complex and potentially hazardous environmental effects.
- 2.6 It has been determined by the applicant that the development should be subject to EIA to ensure that any likely significant effects can be identified, and mitigation and monitoring measures specified as required. This has also been confirmed in the West Bersted scoping opinion dated 26 June 2017.
- 2.7 To assist ADC and consultees in forming an EIA scoping opinion, this report provides as much information as possible to update on the West Bersted development and identify the likely environmental effects and suggested content of the EIA. It includes information on:
- 1 Site location and description;
 - 2 Description of the nature and purpose of the development;
 - 3 Possible environmental effects; and
 - 4 Proposed form of the ES.
- 2.8 To further assist in this consideration, the remainder of this section provides information on the background and need for the proposed development.

The Applicants

- 2.9 The Church Commissioners for England owns approximately two thirds of the application site, and the remaining third is owned by David Langmead and controlled through his property company, Landlink Estates Ltd, Both landowners have been collaborating since at least 2009 with a view to realising the development potential of this site and more recently, they have been promoting the site through the Local Plan process.

Need for the development

2.10 The West of Bersted site is identified in the Arun Local Plan 2011-2031 as one of a number of 'Strategic Allocations' which are areas of land (sites) that have been identified to provide residential and commercial development to meet local housing and employment needs throughout the plan period.

2.11 The Arun Local Plan identifies the West of Bersted strategic allocation under policy H SP2a (SD3):

Located to the north of Bognor Regis this largest allocation will provide at least 2,500 dwellings over the plan period. Development proposals will need to meet the following key design and infrastructure requirements:

- a provide a new three-form entry primary school and nursery places,*
- b provide a new 3G pitch facility to serve the west of the District,*
- c incorporate two new sports pitches and facilities,*
- d provide a Community Hub which includes;*
 - i shops*
 - ii provision for new healthcare facilities to serve West of Bersted and Pagham South and North (SD 1 & 2)*
 - iii provide a new Tier 7 library facility,*
- e provide a road/pedestrian/cycle link between the A259 and Chalcraft Lane including facilitating the cycle route to Pagham and enhancing the A259 cycle route,*
- f improvements to the A259 between Bersted and Drayton*
- g ensure no detrimental impact to Pagham Harbour SPA, through compliance with ENV DM2 (Pagham Harbour) and its supporting text,*
- h incorporate planned new employment provision*
- i where possible, provide linkages and accessible pedestrian and cycle routes to Bognor Regis town centre; and*
- j a comprehensive strategy for surface water management will be developed in line with the specific recommendations for this locality in the Arun Strategic Surface Water Management Study*

Planning history

2.12 The land was the subject of a previous planning application for 2,500 residential dwellings in 2009 for a development known as the Bognor Regis Eco Quarter. This planning application was withdrawn in 2014. The West of Bersted site is now a significant component of the proposed spatial strategy for meeting the housing needs of the District and as above, is allocated to deliver at least 2,500 new dwellings to support the sustainable growth of Bognor Regis.

Scoping Opinion (June 2017)

2.13 A request was made to ADC to form an EIA scoping opinion pursuant to the previous 2011 EIA Regulation on 15 May 2017. The scoping opinion was issued on 26 June 2017 and identified the view that the EIA should include consideration of the following matters:-

- Landscape and visual impact
- Ground conditions and contamination

- Noise, vibration, air quality and dust
- Daylight, sunlight and overshadowing
- Hydrology, flood risk and drainage
- Ecology and nature conservation
- Access, recreation and green infrastructure
- Sustainable use of land
- Transport and access
- Archaeology and cultural heritage
- Socio-economics
- Cumulative impacts

2.14 Due to the passage of time and the publication of new EIA Regulations since the issue of the previous scoping opinion, this scoping report has been provided to clarify the scope of the EIA and specify the proposed approach to the EIA for West Bersted based on additional work at the site.

Summary

- 2.15 The outline planning application will play a significant role in the provision of necessary infrastructure to meet the wider Local Plan priorities, including the provision of a road/pedestrian/cycle link between the A259 and Chalcroft Lane, facilitating the cycle route to Pagham and enhancing the A259 cycle route, and improvements to the A259 between Bersted and Drayton.
- 2.16 The remainder of this scoping report provides further detail on the site, the scheme and the matters to be assessed as part of the EIA.

3.0

Site location and description

3.1

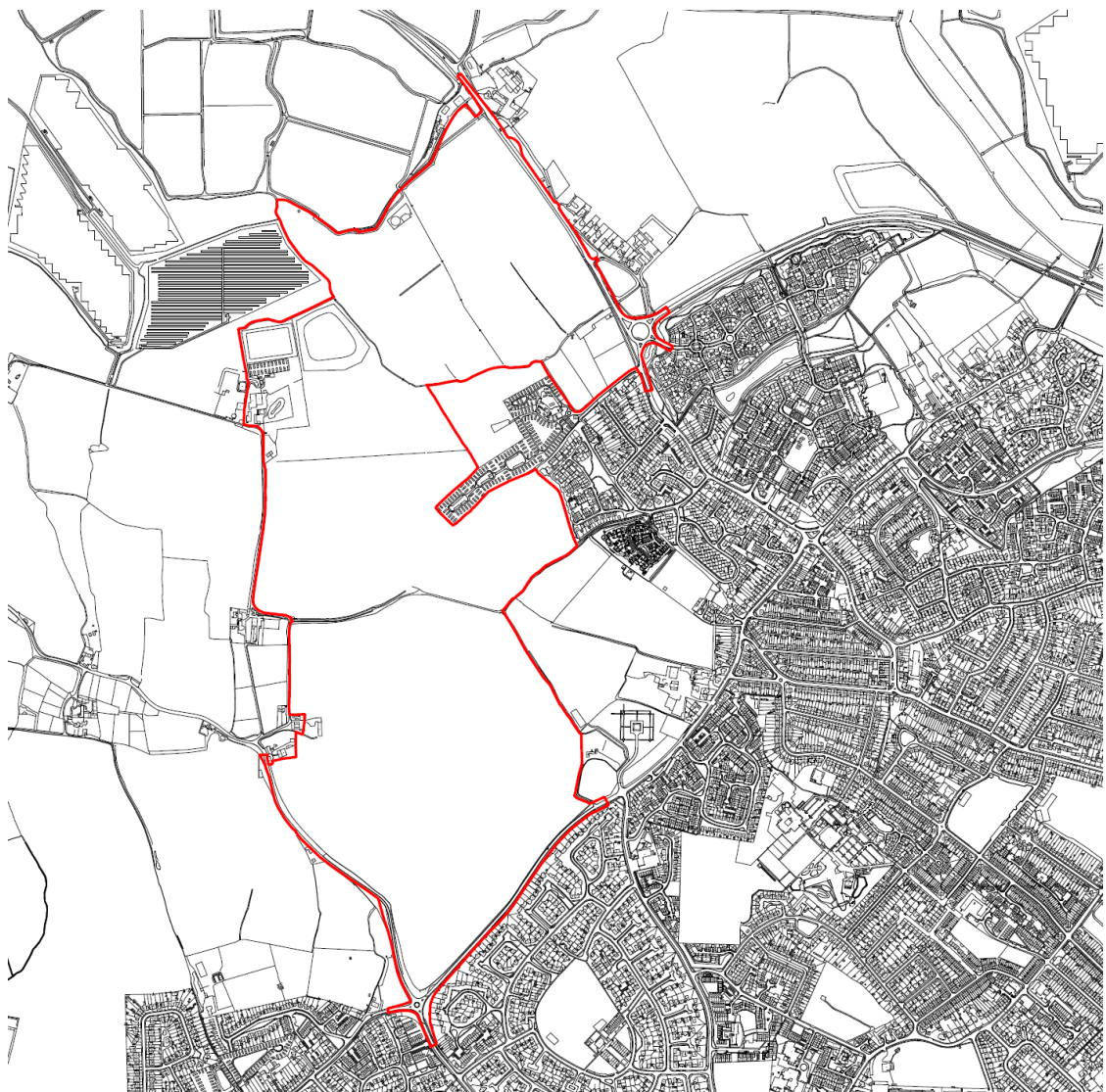
In accordance with the 2017 EIA Regulations, a plan is attached (Appendix 1) which defines a maximum extent of land to which this EIA will relate. This area has been defined broadly at this time to allow flexibility in establishing the extent and form of development. The site boundary to which the EIA will relate will be within this development site boundary.

The site and surroundings

3.2

The site is located approximately 2km to the northwest of Bognor Regis, close to the residential areas of North Bersted and Aldwick, and it covers approximately 141 hectares. A plan of the site and its immediate surroundings is provided below.

Figure 3.1 Plan of the site and surrounding area



Source: Scott Brownrigg

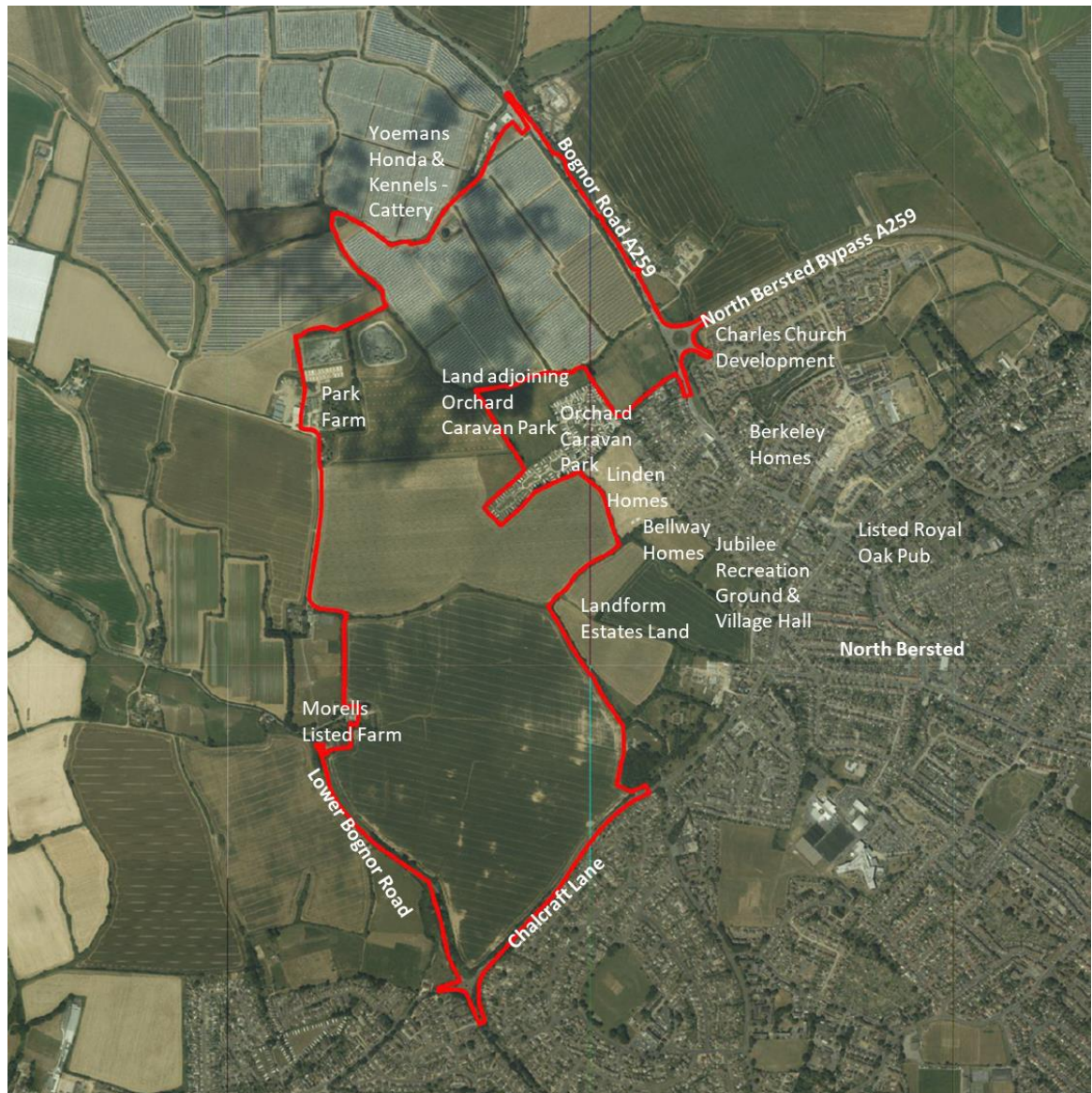
3.3

The site comprises flat, actively farmed arable land including Park Farm and associated reservoirs. The site is subdivided into large irregular fields by hedgerows and ditches and abuts the existing and emerging urban area of North Bersted (including the Orchard Caravan Park and

Bersted Cemetery). The site includes three public rights of way; footpaths 137-1, 134-5 and 136-1. These generally follow the line of the hedgerows and ditches. A number of roads abut the site boundary, but none cross the site. An access track to Park Farm also runs along the site boundary to the west.

- 3.4 To the south-east of the site is a cemetery and land parcels promoted by Landform Estates. The site surrounds the Orchard Caravan Park (comprising caravans occupied as permanent dwellings) and an adjoining land parcel. To the north of the Orchard Caravan Park, along the eastern boundary of the site, lies the A259 beyond which is farmland and some bungalows, and two storey dwellings along Babsham Lane.
- 3.5 The south of the site is bound by the Lower Bognor Road (B2166), beyond which is farmland, and Chalcraft Lane, beyond is Aldwick, a residential area comprising bungalows and two storey dwellings.
- 3.6 The northern-eastern part of the site contains a number of poly tunnels.
- 3.7 The northwest of the site borders the A259 with Chalcraft Lane and Lower Bognor Road (B2166) enclosing the southwestern corner of the site. The hamlet of Elbridge lies to the north of the site.

Figure 3.2 Annotated image of the site and immediate surroundings



Source: August 2020 Scott Brownrigg, Lichfields' Annotations

- 3.8 The nearest train station is Bognor Regis, approximately 2km southeast of the site, this is served by regular train services to London Victoria and Littlehampton (via Barnham). Buses run along the A259 to Portsmouth, Littlehampton and Brighton (indirect). The site is approximately 15 miles from the A3(M), 17 miles from the M27 and 37 miles from the M23.

Environmental and policy context

- 3.9 According to the Environment Agency (EA) Flood Map for Planning (Rivers and Sea) the majority of the site is located in Flood Zone 1 (low probability of flooding). There is a high water table and as such, there is a higher risk of groundwater flooding.
- 3.10 Agricultural land on site comprises predominately (65%) of sub-Grade 3a land with areas of Grade 2 (22%) and sub-Grade 3b (6%). The remainder of the site comprises of non-agricultural/ other land which includes areas of farm buildings, tracks etc.

- 3.11 There are no scheduled monuments or Listed buildings within the site, and the site is not located within a Conservation Area. The nearest conservation area is the North Bersted Conservation Area, approximately 1km east of the site.
- 3.12 Listed buildings within proximity to the site include:
- 1 Morells Farmhouse (Grade II listed) located on the western site boundary, to the east of Lower Bognor Road (the B2166);
 - 2 Neal Farmhouse (Grade II listed) located approximately 500m to the west of the site boundary;
 - 3 Lagnersh Farmhouse (Grade II listed) located approximately 500m to the west of the site boundary, north from Neal Farmhouse);
 - 4 Barn at Crimsham Manor to the south west of the house (Grade II listed) located approximately 1km west of the site boundary;
 - 5 Crimsham Manor (Grade II listed) located approximately 1.1km west of the site boundary;
 - 6 The White House (Grade II listed) located approximately 1.1km west of the site boundary; and
 - 7 Copyhold Farmhouse (Grade II listed) located approximately 1.1km west of the site boundary).
- 3.13 There is also a number of Grade II listed buildings located within the built up area of North Bersted to the east of the site.
- 3.14 There are six internationally designated sites within 15km of the site boundary and one Site of Special Scientific Interest (SSSI) (Bognor Reef) 2km south of the site. Pagham Harbour Special Protection Area (SPA)/Ramsar wetlands site lies approximately 3.6km south-east of the site boundary and therefore falls within the 5km zone of influence of this statutory designated site of nature conservation interest.
- 3.15 There are no Air Quality Management Areas ('AQMA's') in Arun District, however, there are three in Chichester District. Chichester (Stockbridge Roundabout) AQMA and Chichester (St Pancras) AQMA are the closest to the proposed development, located approximately 5.3 km and 5.2 km to the northwest of the site respectively.
- 3.16 There are no landscape designations that cover the site. The South Downs National Park lies approximately 5.5km to the north of the site.

4.0 Proposed Development

4.1 An outline planning application will be submitted in respect of the proposed development.

4.2 At this stage design work is still ongoing, however a number of key features or maximum parameters have been agreed which are sufficient to enable EIA scoping to be carried out. The details are displayed as maximum values and, when submitted, the application will provide full details.

4.3 The description of development is anticipated to be:

“Outline application, with all matters reserved except access, for mixed use development including residential, business, education facilities, retail, food & drink & financial & professional services, leisure & recreation uses, community uses, open space, highway works & transport measures, landscaping, improvements to public realm & other ancillary works”

4.4 The proposal includes several connections to the local road network from the Lower Bognor Road, Chalcraft Lane and the A259 Chichester Road. A spine road will be provided within the site, extending the North Bersted Bypass to the western parts of Bognor Regis.

4.5 The red line included at Appendix 1 identifies the land within the applicants' ownership. A Framework Masterplan for the wider site allocation is included at Appendix 2.

Form and scale of development

4.6 The proposed development would introduce up to 2,500 residential dwellings. The site would offer a variety of dwelling types, sizes and tenures providing a broad range of accommodation including affordable housing, housing for the elderly and family accommodation. Building heights would range from between one and four storeys. Up to 4ha of employment land is proposed, two local centres and a 3 Form Entry primary school and associated Green Infrastructure network (including sports provision).

4.7 The Framework Masterplan shows how the site could accommodate the proposed development as described above. It shows the 4ha area of employment land to the north of the application site, and two local centres and a 3 Form Entry primary school in the centre of the site. The 2,500 residential dwellings are proposed elsewhere on the site connected by a network of Green Infrastructure incorporating drainage features and a substantial amount of formal and informal open space through the core of the site. The network of Green Infrastructure provides green linkages between the existing residential areas of North Bersted and Aldwick and the site and its central facilities (community hub and primary school) and with the open countryside beyond the site to the west and north.

Parking and access

4.8 A new spine road will be created through the site linking the Lower Bognor Road to the south with the A259 in the north. This new road will provide secondary road access to the new development. Access from Chalcraft Lane is also proposed. Throughout the site will be a network of pedestrian and cycle routes, including the existing public rights of way which will be retained.

Landscaping

- 4.9 The proposed network of Green Infrastructure would incorporate and retain habitats of value where appropriate, including some hedgerows, and introduce new habitats throughout the site whilst creating a new landscape structure to the site.

Sustainability

- 4.10 The landowners are committed to placing sustainability at the heart of the design principles for the development. It is envisaged that the development will be designed to a high-quality standard, whilst protecting and enhancing the natural surroundings as far as is reasonably practicable.

Construction and phasing

- 4.11 For the purpose of assessment, it is assumed that the development will take approximately 12.5 years to build at a rate of between 150 and 200 dwellings per year, and assuming multiple development outlets. It is anticipated that development will commence in both the north and the south-east (close to the cemetery), then within the centre of the site, each phase delivery a section of the spine road through the site. Development to the west of the spine road will be implemented towards the latter part of the period and following the completion of the road. The ES will identify a programme of works for the purposes of assessment.
- 4.12 A Construction Environmental Management Plan ('CEMP') will be prepared to ensure the implementation of measures to reduce any significant adverse effects during the construction process. An outline CEMP will be included within the ES appendices.
- 4.13 It is considered that sufficient information and construction parameters will be available to assess the likely significant effects arising during the construction of the development.

Consideration of alternatives

- 4.14 Schedule 4 of the 2017 EIA Regulations requires a consideration of the main alternatives for the development which have been studied by the applicant and the main reasons for the choices which have been made, taking account of environmental effects.
- 4.15 Given that the application site is allocated within the adopted local plan, and the proposed development is being brought forward in line with the strategic policy, the Applicant has not given, and will not be giving, consideration as part of the EIA to other sites for the development of a similar scale.
- 4.16 However, the EIA will include a review of:
- 1 The likely effects in the event that the development does not come forward ('the no development scenario'); and
 - 2 Consideration of the evolution of the design of the scheme and whether alternative forms of development would achieve the same objectives.
- 4.17 The EIA team has been involved in the process of design iteration and emergence of the development. This process will be documented as part of the EIA.

Other development and cumulative effects

- 4.18 In accordance with the 2017 EIA Regulations, the EIA will include an assessment of any direct and indirect cumulative effects arising from the inter-relationship between different impacts arising from the development when considered alongside any other developments in the area

surrounding the site. The objective is to identify any combined impacts from the development or impacts from several developments; and if, whilst individually the impacts may be insignificant, could when considered together cause a further significant direct or indirect impact requiring mitigation.

- 4.19 In relation to other development, best practice dictates that cumulative assessments of this nature should have regard to those schemes which are 'reasonably foreseeable' (i.e. usually those under construction or with planning permission). The assessment is only capable of being carried out based on the information available at the time of assessment.
- 4.20 The assessment should focus only where there is the potential for significant cumulative impacts and, for this development, an initial review of potential developments requiring review has therefore focused on those developments which due to their proximity or scale are most likely to give rise to cumulative impacts. Consideration has also been given to the areas within which cumulative impacts are most likely. Applications which are currently under consideration and may be determined ahead or during determination of the West Bersted development have also been included for robustness.
- 4.21 The cumulative assessment will therefore include a review of the potential for impacts when the scheme is considered alongside the following developments:

Table 4.1 Cumulative schemes to assess

Site address	Reference	Application description	Status
Land north of Hook Lane	P/30/19/OUT	Outline application with some matters reserved for the construction of up to 300 No. new homes, a care home of up to 80 beds, D1 uses of up to 4,000 sqm including a 2 form entry primary school, the formation of new means of access onto Hook Lane & Pagham Road, new pedestrian & cycle links, laying out of open space, new strategic landscaping, habitat creation, drainage features & associated ground works & infrastructure. This application may affect the setting of a listed building (resubmission following P/6/17/OUT).	Approved September 2019
	P/103/19/D OC	Approval of details reserved by condition imposed under reference P/30/19/OUT relating to Condition No 28 - archaeological.	Approved December 2019
Land South of Summer Lane & West of Pagham Road	P/140/16/OUT	Outline application for access only - mixed use development comprising of up to 400 dwellings, a care home with up to 70 beds, a Local Centre comprising up to 2000sqm of A1/A2/A3/D1/sui generis floorspace, provision of land for a 1FE primary school (with sufficient space to ensure that it is expandable to 2FE), provision of land for a scout hut, safeguarding of land to help link the site to the Pagham Harbour Cycle Route & other community uses including public open space & allotments with some matters reserved.	Approved November 2018
Land North of Sefter Road & 80 Rose Green Road,	P/134/16/OUT	Outline application for the development of up to 280 dwellings (including affordable homes), land for a replacement scout hut, land for an Ambulance Community Response Post Facility and land for either a 1FE primary school or care home. Provision of a primary vehicular access from Sefter Road and demolition of No. 80 Rose Green Road and creation of a pedestrian and	Approved October 2019

Site address	Reference	Application description	Status
Pagham		emergency only access. Provision of Public Open Spaces including associated children's play areas, landscaping, drainage and earthworks.	
	P/24/20/RES	Approval of Reserved Matters pursuant to condition 1 (Reserved Matters details), condition 6 (Design Code Masterplan) and condition 7 (landscaping and layout details) following the approval of Outline planning permission P/134/16/OUT.	Awaiting decision
Church Barton House Horns Lane Pagham	P/25/17/OUT	Outline application with all matters reserved - Erection of up to 65 No. dwellings, access roads, landscaping, open space & associated works.	Approved September 2019
Land North of Chalcroft Lane, West Bersted	SD3 WOB	Screening Opinion for up to 230 units comprising approximately 14 ha of land, within the strategic allocation of SD3 West Bersted.	EIA is not required 7 May 2020
Land West of New Barn Lane Bersted	BE/77/16/OUT	Outline application with all matters reserved for up to 50 residential units, landscaping, amenity space, car & cycle parking, roads, service & drainage infrastructure & other associated works.	Allowed at appeal February 2018
	BE/113/17/RES	Approval of reserved matters following outline consent BE/18/17/PL for appearance, landscaping, layout & scale for a mix of up to 90 No. residential units, associated open space, landscaping, access & car parking.	Approved December 2017
	BE/37/19/PL	Erection of 99 No. dwellings together with landscaping, open space & associated works. Access to be taken from New Barn Lane (alternative scheme to BE/29/19/PL).	Approved August 2019
	BE/103/19/RES	Approval of reserved matters following the grant of BE/77/16/OUT and BE/40/18/PL for 50 No. residential units with associated roads, drainage & other related infrastructure.	Approved April 2020
	BE/142/15/OUT	Outline application with some matters reserved for a mix of up to 90 No. residential units, associated open space, landscaping, access & car parking.	Approved February 2016

4.22 If the authority is aware of any other proposals that it considers will need to be assessed in terms of potential cumulative impacts, it would be appreciated if these could be identified as part of the EIA scoping opinion

5.0

Review of environmental issues

5.1

Regulation 15 of the 2017 EIA Regulations establishes those matters which need to be provided to assist the relevant planning authority in forming an EIA scoping opinion. Accordingly, this section provides a summary of the likely issues, the potential impacts and the proposed methodological approach to the assessment for the identified areas of interest.

5.2

In considering the scope of the EIA, it is important to identify that the focus of Schedule 4 of the Regulations is the significant effects. Other lesser impacts need not be addressed as part of the EIA process.

5.3

Regard will be had to relevant national, strategic and local planning policy guidance.

5.4

The issues set out below have had regard to the commentary provided by the June 2017 EIA scoping opinion and ongoing further site investigations. In particular, attention has been paid to identifying those issues giving rise to significant effects. A summary is provided of other topics which have been reviewed but are considered should be scoped out of this EIA as they are unlikely to give rise to significant effects requiring assessment.

5.5

The development will be assessed during both the construction and operational phases of development; direct and indirect effects will be identified; as well as any secondary, cumulative, short, medium and long term, positive and negative effects of the development.

Transport

5.6

Pell Frischmann will prepare the Transport chapter of the ES. This section identifies potential impacts with regard to transport that may occur during the construction and operation of the proposed development.

5.7

A Transport Assessment (TA) and Framework Travel Plan (FTP) will also be undertaken to inform the assessment of environmental effects and these will be appended to the ES. A TA scoping note is being produced as a separate document to formally address the scope of this assessment and allows formal consultation to be undertaken with the statutory consultees. A transport Modelling scoping note, which should be read in conjunction with the TA scoping note, is also being produced as a separate document setting out the proposed scope of traffic modelling for the development.

5.8

The chapter will provide a brief summary of relevant legislation, planning policy and guidance, and a description of the methodology adopted for the assessment. It will set out the relevant baseline conditions of the site and the surrounding area, and an assessment of the potential effects of the development during construction and once the development is completed and operational. Mitigation measures will be identified, where appropriate, to avoid, reduce or offset any adverse effects, following which a summary of the likely significant residual effects of the development will be provided, having regard to the mitigation adopted.

5.9

The Scoping Report and subsequent assessment of transportation issues will be carried out in accordance with both local authority and national guidance.

Consultation

5.10

Consultation undertaken to date includes formal discussions with:

- Arun District Council;
- West Sussex County Council (WSCC) as the Local Highway Authority; and,

- Highways England (HE) for matters concerning the Strategic Road Network (SRN).
- Sport England;
- Bersted, Alwick and Pagham Parish Councils
- Stagecoach UK Bus

Legislative and policy context

- 5.11 The current agenda regarding transport and development is moving away from one of providing significant new highway capacity, through ‘predict and provide’ schemes. Instead, policies have been adopted in national guidelines that seek to encourage the use of more sustainable modes of transport than the car, and a planning system which places more emphasis on the link between transport and land use planning policies. The documentation to be reviewed will include the following:

- The Government’s National Planning Policy Framework (NPPF) (June 2019);
- National Planning Policy: Planning Practice Guidance (March 2014);
- The Department for Transport’s Circular 02/2013 The Strategic Road Network and the Delivery of Sustainable Development;
- National Planning Policy: The Strategic Road Network (SRN): Planning for the Future (2015); and,
- Local Planning Policy: Arun Local Plan (2011-2031).

Existing baseline

- 5.12 A full description of the existing site and transport conditions in the study area will be provided including the following:

- Pedestrian Access;
- Cycle Access;
- Public Transport Access;
- Local Highway Network;
- Existing Traffic Flows;
- Highway Accident and Safety Review

Potential environmental effects

- 5.13 Table 5.1 and Table 5.2 present a summary of the scoping process, identifying which likely environmental impacts with respect to transport will be assessed in the ES (i.e. considered potentially significant and therefore scoped in) and those which are not assessed further.

Table 5.1 Construction phase impacts

Potential impact	Assess in EIA?	Reasoning behind scoping decision
Impact of construction traffic (site workers and movement of construction material on the local road network).	Yes	The construction phase will increase the number of vehicles, including heavy goods vehicles (HGV’s), on roads surrounding the site.
Impact of construction traffic on	Yes	The impact of traffic on air quality, noise and

Potential impact	Assess in EIA?	Reasoning behind scoping decision
local air quality, noise and vibration.		vibration will be assessed as detailed in the respective sections.

Table 5.2 Operational phase impacts

Potential impact	Assess in EIA?	Reasoning behind scoping decision
Increased traffic flows – impact on local road network, particularly key junctions – potential delays and congestion.	Yes	The proposed development will increase the number of vehicles, including HGV's, on roads surrounding the site.
Impact on road safety.	Yes	The proposed development will increase the number of vehicles and may impact road safety.
Impact on public transport.	Yes	There will be a need to consider public transport provision to the site.
Impact on pedestrian and cycle routes around the application site.	Yes	While it is expected that the majority of external trips will be made by vehicle, there will be a need to consider pedestrian and cycle access to the site.
Impact on accessibility and severance.	Yes	There will be a need to assess the future accessibility of the site from the surrounding area for site residents.
Potential impacts with respect to local air quality, noise and vibration.	Yes	The impact of traffic on air quality, noise and vibration will be assessed as detailed in the respective sections.

Assessment methodology

- 5.14 A Transport Assessment (TA) Scoping Study is being produced in consultation with West Sussex County Council, Arun District Council and Highways England. Following this exercise, a TA will be produced in line with the agreed scope and various identified transport policies.
- 5.15 It is anticipated that the strategic modelling for the project will utilise the A29 CATM model, updated for the trigger point analysis, as the basis for assessment, albeit amended to include infrastructure associated with the development at West Bersted.
- 5.16 The TA will require outputs from the strategic model to inform the operational assessments that will be undertaken at the key junctions within the local highway network. These standalone assessments will use the Transport Research Laboratory's (TRL) PICADY and ARCADY junction modelling modules, contained within the JUNCTIONS 9 package, at the priority and roundabout junctions within the agreed study area. The JCT Consultancy computer modelling package LinSig 3.2 will be used to assess the operational capacity of any signalised junctions within the agreed study area.
- 5.17 For the purpose of the ES the assessment to be presented will take into account the legislative and policy context detailed above, both directly and through the scoping process. It will be

informed by current best practice, including that evolved from the Institute of Environmental Assessment (IEA) document 'Guidance Notes No. 1: Guidelines for the Environmental Assessment of Road Traffic', 1993.

5.18 The assessment methodology to be included in the ES will address the following:

Baseline characteristics - The study area for assessment in this Chapter will be based on the outcome of scoping activities with WSCC, ADC and HE. However, the junctions forming a likely area of assessment has been provided in Table 5.3.

Table 5.3 Potential junctions to be assessed

Junction number	Junction name
1	A27/ A259 / Vinnetrow Road
2	A259 / B2144 Drayton Lane
3	Vinnetrow Road / B2166 / Mill Lane
4	B2166 / Pagham Road
5	A259 / Elbridge Avenue / B2259
6	A259 / Rowan Way
7	B2259 / North Bersted Street / Chalcraft Lane
8	West Mead Drive / Chalcraft Lane
9	Chalcraft Lane / Hewarts Lane / B2166
10	West Mead Drive / Hawthorn Road / B2166 / Aldwick Fields
11	B2166/ Aldwick Fields
12	A259 / Site Access
13	Realigned B2166 junction
14	Site access / Chalcraft Lane
15	B2145 / B2166 Hunston Road
16	B2145 / A27 / Whyke Road
17	Springfield Park Access

5.19 Assessment scenarios – Assessment of the effect of the development will be made by comparing pairs of future scenarios; one in which the development is delivered (in part or in full), and the other in which the development is assumed not to occur. These are described as “Do Minimum” and “Do Something”. The difference between the scenarios will allow the identification of the net effect of the development to be identified in the context of the general and wider changes expected in the area over the period of assessment.

- 5.20 Additionally, assessment will be undertaken to review the temporary effects of the development during the construction process.
- 5.21 It is anticipated that the effects will be determined for the following assessment scenarios:
- **Do minimum modelling:**
 - (a) Do minimum future year 2031: background growth + committed developments + wider infrastructure changes + other local plan developments and associated infrastructure; and,
 - (b) Do minimum future year 2038: background growth + committed developments + wider infrastructure changes + other local plan developments and associated infrastructure.
 - **Do Something Modelling:**
 - (a) Do something future year 2031: background growth + committed developments + wider infrastructure changes + other local plan developments and associated infrastructure + West Bersted development + West Bersted infrastructure; and,
 - (b) Do something future year 2038: background growth + committed developments + wider infrastructure changes + other local plan developments and associated infrastructure + West Bersted development + West Bersted infrastructure.
- 5.22 It should be noted that the scenarios presented above will be consistent with those assessed in the Transport Assessment.
- 5.23 Local highway network and existing traffic - Effects on the local highway network due to traffic changes will be assessed in the context of the individual assessment items. The anticipated effects of any traffic changes will be considered in detail through modelling, rather than a pure assessment of numerical change as is IMEA Guidance ¹.
- 5.24 Pedestrian movement, capacity and delay - The significance of increased pedestrian flow will be assessed using professional judgement in conjunction with the TRICS assessment and mode share estimates produced as part of the Transport Assessment.
- 5.25 Pedestrian severance, fear and intimidation - Significance thresholds for assessing severance will be based on the range of indicators referred to in the IEMA Guidelines where changes in traffic flow of 30%, 60% and 90% are regarded as producing “slight”, “moderate” and “substantial” changes in severance respectively. The IEMA Guidelines will be referenced to assess any increase in fear and intimidation.
- 5.26 Cycling facilities - The effect upon cycle facilities will be assessed using professional judgement.
- 5.27 Public transport - Professional judgement will be used to assess the effect of the additional trips on the bus and rail networks.
- 5.28 Junction capacity and driver delay - The assessment of the junction capacity in the local road network will be undertaken via quantitative modelling using specialist traffic junction modelling software.
- 5.29 Road traffic collision and safety data - Professional judgement will be used to assess the significance of the Proposed Development on road safety.

¹ IMEA guidance indicates that changes in traffic flow below 30% are not significant. However, this does not consider the relative impact of such a change on the type of link concerned; e.g. a 31% increase in a very low flow might still be very low but a 29% increase on a busy motorway might be of great impact.

Significance Criteria

- 5.30 The assessment process will identify the potential effects pre-mitigation that may arise as a result of the development. It will subsequently identify appropriate mitigation measures, and consider the changes (i.e. the residual effects) that are predicted to take place to the existing condition of the environment as a result of the development.
- 5.31 Guidance provided by the Institute of Environmental Management and Assessment (IEMA) and the Department for Transport (DfT) have been consulted in order to identify the significance criteria applicable to the assessment. For a number of residual effects, there are no established thresholds of significance, in which case interpretation and professional judgement will be applied based on prior knowledge of the Site or quantitative data where available.
- 5.32 In the assessment of transport effects, 'significance' often arises where the effect of a development causes infrastructure demand to approach or exceed the capacity available. With regard to roads this may relate to link capacity, or as is more common, junction capacity. More widely, public transport capacity, pedestrian infrastructure capacity and cycle infrastructure effects may be of concern.
- 5.33 Transport effects may be either beneficial or adverse, apply in the short, medium or longer terms and be either temporary or permanent:
- Beneficial effect – One that is generally considered a positive aspect for users, receptors and/or the environment, such as a reduction in motor vehicle traffic or an improvement in the sustainability of transport undertaken;
 - Adverse effect – One that is generally considered to be a negative aspect for users, receptors and/or the environment, such as an increase in motor vehicle traffic or a degradation in the accessibility of a site;
 - Short term – Of limited (i.e. temporary) duration that does not last for a majority of the period of construction (i.e. substantively less than 5 years);
 - Medium term – Of limited (i.e. temporary) duration in the order of the majority (or all of) the period of construction (i.e. in the order of 10 years); or,
 - Long term – Of indefinite duration, i.e. extends beyond the period of construction and can be considered either practically or actually permanent.
- 5.34 The magnitude for assessing an effect will be characterised as either:
- Substantial/major – Total loss or major/substantial alteration to key elements / features of the without development conditions such that due to the proposed development, character / composition / attributes will be fundamentally changed. These effects will usually be of measurable effect and may be expected to have a substantive impact on the capacity and / or capability of existing / proposed infrastructure;
 - Moderate – Loss or alteration to one or more key elements / features of the without development conditions such that due to the proposed development, character / composition / attributes will be materially changed. These effects will usually be of measurable effect and may be expected to have a noticeable impact on the capacity and / or capability of existing / proposed infrastructure;
 - Minor – A minor shift away from without development conditions. Change arising from the loss / alteration will be discernible / detectable but not material. The underlying character / composition / attributes of the without development condition will be similar to the without development circumstances / situation. These effects will usually be of measurable effect but

would be expected to be substantially within the capacity and / or capability of existing / proposed infrastructure; or,

- Negligible (Neutral) – Very little change from without development conditions. Change barely distinguishable, of no consequence, or approximating to a 'no change' situation. Effects would be within the range of daily variation.

5.35

As well as the significance criteria, 'Sensitive Receptors' are also key in determining the significance of the transport effects of a new development. The sensitivity of a receptor is based on a number of factors such as the vulnerability or activity of the user. The IEMA Guidelines for the Environmental Assessment of Road Traffic document will be used to consider the sensitivity and significance of traffic changes. This includes guidance on how the sensitivity of receptors should be assessed. Using that as a base, professional judgement will be used to develop a classification of sensitivity for various receptors. This is summarised in Table 5.4.

Table 5.4 Classifications of Receptor Sensitivity

Sensitivity Receptor	Negligible	Low	Medium	High
Location - Local Settlements	Individual dwellings or scattered settlements with no facilities	Small rural settlement, few community or public facilities or services	Intermediate sized rural settlement, containing some community or public facilities and services	Large rural settlement containing a high number of community and public services and facilities
Road network and associated users	Roads with no adjacent settlements including new strategic trunk roads that would be little affected by additional traffic and suitable for abnormal indivisible loads	Little or no traffic calming or traffic management measures	Some traffic calming or traffic management measures	Traffic control signals, waiting and loading restrictions, traffic calming measures
Road structure and classification	New strategic trunk road junctions capable of accommodating abnormal indivisible loads	Trunk or A-class road, constructed to accommodate significant HGV composition	Local A or B class roads, capable of regular use by HGV traffic	Minor rural roads, not constructed to accommodate frequent use by HGVs

5.36

The IEMA Guidelines identify the key impacts that are most important when assessing the magnitude of traffic effects from an individual development: Table 3.4N of LA 104 Environmental assessment and monitoring (HE, 2019). Design manual for roads and bridges 11.2.5. (DMRB) entitled, Magnitude of impact and typical descriptions, sets out five levels against which the magnitude of change should be assessed - major, moderate, minor, negligible and no change. This is summarised in Table 5.5.

Table 5.5 Magnitude of impact and typical descriptions

Magnitude of impact (change)		Typical description
Major	Adverse	Loss of resource and/or quality and integrity of resource; severe damage to key characteristics; features or elements.

Magnitude of impact (change)		Typical description
	Beneficial	Large scale or major improvement of resource quality; extensive restoration; major improvement of attribute quality.
Moderate	Adverse	Loss of resource, but not adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements.
	Beneficial	Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality.
Minor	Adverse	Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements.
	Beneficial	Minor Benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring.
Negligible	Adverse	Very minor loss or detrimental alteration to one or more characteristics, features or elements.
	Beneficial	Very minor benefit to or positive addition of one or more characteristics, features or elements.
No change		No loss or alteration of characteristics, features or elements; no observable impact in either direction.

5.37 The criteria assessed will include Severance, Driver Delay, Pedestrian Delay, Pedestrian Amenity, Fear/Intimidation and Accidents and Safety. To determine the overall significance of the effects, the results from the receptor sensitivity and magnitude of change are correlated and classified using a scale set out in Table 3.8.1 of LA 104 Environmental assessment and monitoring (HE, 2019). DMRB 11.2.5. and summarised in Table 5.3.

Table 5.6 Significance Matrix

	Magnitude of impact (degree of change)					
		No change	Negligible	Minor	Moderate	Major
Environmental value (sensitivity)	Very high	Neutral	Slight	Moderate or large	Large or very large	Very large
	High	Neutral	Slight	Slight or moderate	Moderate or large	Large or very large
	Medium	Neutral	Neutral or slight	Slight	Moderate	Moderate or large
	Low	Neutral	Neutral or slight	Neutral or slight	Slight	Slight or moderate
	Negligible	Neutral	Slight	Neutral or slight	Neutral or slight	Slight

5.38 Where mitigation is required, these measures will be identified. Should junction capacity need to be increased in order to cater for the traffic flows generated by the proposed development, or to cater for safe pedestrian/cycle movements, then 1:500 scale plans of the appropriate highway

improvements will be provided. Any amended junction arrangements will also be assessed to ensure they are appropriate.

- 5.39 In addition to the above a Framework Travel Plan setting out the potential measures that could be considered appropriate for the development site during the operational phase will be produced to assist in mitigating the effects of development related traffic. This is likely to include the provision of information covering non-car travel opportunities and other appropriate measures in accordance with best practice guidance. During the construction phase, a Construction Traffic Management Plan (CTMP) will be developed as a framework document.

Likely effects anticipated and receptors to be affected

- 5.40 Particular consideration will be given within the EIA assessment to changes to the local highway network traffic flows and associated implications for drivers, pedestrians and road safety.
- 5.41 Receptors will be identified within the chapter through the initial study area investigations. However, it is anticipated that the following receptors may be identified:
- Local road network and junctions;
 - Existing footpaths and cycleways;
 - Site users and accessibility;
 - Public transport; and,
 - Road safety.

Summary

- 5.42 The EIA assessment comprises the methodology set out within this chapter, with the results setting out the magnitude of change, sensitivity of receptor and the significance of effect on the local highway network, thereby detailing the environmental impact of the development in regard to road traffic.

Water Environment

- 5.43 Pell Frischmann will prepare the Water Environment chapter of the ES. The purpose of this chapter will be to undertake an assessment of the potential impacts on water resources, to encompass surface water and groundwater quality, surface water and groundwater resources (in terms of water quantity, routing etc.) and flooding issues on and within the vicinity of the site.
- 5.44 The National Planning Policy Framework (NPPF) and associated Planning Practice Guidance is the overarching planning guidance related to flood risk and climate change in the context of the water environment. There are also numerous non-statutory documents and local planning policy and guidance that will have a bearing on the assessment methodology, mitigation and overall design principles. This includes, but is not limited to, the Non-Statutory Technical Standards for Sustainable Drainage, climate change allowance guidance published by the Environment Agency and Arun District Council and West Sussex County Council surface water drainage guidance.

Existing baseline

- 5.45 Publicly available environmental databases will be accessed to obtain information on water resources (abstractions, designations, discharge consents etc.) and identify existing biological and chemical surface water quality for any nearby water courses.

- 5.46 It will be determined from the Environment Agency, through a request for the latest flood risk data, whether land within the site is considered at risk of fluvial, tidal or pluvial flooding. The assessment will quantify the potential risk through a review of potential frequency and depth of flooding anticipated.
- 5.47 Baseline environmental data searches will be carried out to show whether the site lies within a groundwater Source Protection Zone (SPZ) or within a Nitrate Vulnerable Zone (NVZ).
- 5.48 A BGS Solid and Drift Geology Map will illustrate soils underlying the site including leaching potential.
- 5.49 Surface and groundwater abstractions will be identified using the Envirocheck database.
- 5.50 In accordance with local policy, groundwater monitoring has been installed at various points across the site since October 2019. This will establish a peak Winter groundwater level but also demonstrate seasonal fluctuations as well as response to local rainfall.

Assessment methodology

- 5.51 The assessment will consider the potential effect on water resources (both surface and groundwater) and local hydrology, including tidal effects. It will also consider the impact from the potential development on existing sewerage and drainage infrastructure on the water environment.
- 5.52 A Flood Risk Assessment (FRA) will be undertaken for the proposed development in accordance with the guidance of the National Planning Policy Framework and associated Planning Practice Guidance. The FRA will include:
- 1 Assessment of any flood defences already in place to protect the site;
 - 2 Details of historical flooding events;
 - 3 Details of local hydraulics;
 - 4 Speed and routes of flooding;
 - 5 Volume of displaced water and requirement for compensatory storage (if relevant);
 - 6 Potential impacts associated with any crossings over watercourses; and
 - 7 Climate change effects.
- 5.53 To present a suitable drainage strategy, a Sustainable Drainage Report will be prepared to support the planning application. This will demonstrate how surface water runoff from the proposed development will be managed in a sustainable way. It will identify a suitable method of disposal, allowable discharge rate and estimate the volume of attenuation volume needed to accommodate the additional runoff. As per local policy, the strategy for managing surface water will seek to include SuDS wherever possible that will also provide a level of treatment to discharge prior to entering the wider public system.
- 5.54 The assessment of impact on the water environment will involve consultation with the Environment Agency and with relevant Ground Condition reports.
- 5.55 The assessment of the likely effects of the proposed development on water resources will be undertaken in accordance with current Government guidance and Environment Agency guidelines on EIA, surface water and groundwater quality and flood risk assessment.
- 5.56 The potential impacts of the proposals will be mitigated through a series of measures during both the construction and operational phases of the development and these will be identified in the ES.

5.57 Table 5.3 provides a scoping summary relating to water resources.

Table 5.7 Water Resources Impacts

Receptor	Impacts	Scoped In
Local Residents	The Proposed Development may influence flooding to existing properties	Yes
Groundwater resources	Potential risk of pollution through infiltration. Changes to infiltration and recharge of groundwater supplies	Yes
Surface Water Bodies	Impact from sources of contamination i.e. chemicals, waste, fuels and changes to surface water drainage patterns	Yes
Flood Zones	Changes to flood extent and floodplain dynamics if construction occurs in floodplain	Yes
Public Drainage Infrastructure	Additional loading on existing network may result in flooding issues or environmental impacts at treatment works outfall	Yes

Likely effects anticipated and receptors to be affected

- 5.58 The EIA process will include the assessment of impacts on the water environment during both the construction and operation phases of the development.
- 5.59 Construction phase impacts are generally limited to changes to runoff and infiltration patterns, generation and mobilisation of sediment into the water environment and impacts of pollution incidents. There may be impacts if construction activities are taking place in the floodplain.
- 5.60 Operational impacts generally include the impact on surface water runoff, consideration of flood risks and long-term changes to the characteristics of watercourses impacted by the development. Other measures such as the impact of foul water disposal will also be assessed.
- 5.61 The following potential water resource impacts are considered pertinent to the site. Issues relating to potential contamination will be considered under a separate chapter.

During construction

- General site drainage;
- Change in the urban form which may have a subsequent effect on surface water drainage patterns; and
- Effects on water movement and potential for increased River sediment load and volume of water.

Operation

- Fluvial Flood Risk from fluvial, pluvial, tidal and groundwater sources;
- Changes to infiltration and groundwater levels; and
- Site drainage, including additional loading on foul water treatment capacity.

Archaeology and Cultural Heritage

- 5.62 Cotswold Archaeology will prepare the Archaeology and Cultural Heritage chapter of the ES. The archaeological and heritage issues related to the proposed development will be considered in the context of the considerable amount of work already undertaken within the site. With regard to archaeology, previous archaeological investigations have already provided a good understanding of the resource and potential impacts. However, it cannot be ruled out that some further targeted investigation may be required to provide information for areas excluded from previous surveys or to fully understand the significance of some of the most sensitive remains. Further assessment will be required in relation to the settings of designated heritage assets in the vicinity of the site, as this has not previously been subject to detailed assessment.

Existing baseline

- 5.63 A desk-based assessment and an extensive trial trench evaluation were undertaken across the site in 2008-2009. The results of the fieldwork were summarised in an Archaeological Sensitivity document (Cotswold Archaeology 2015), which highlighted nineteen discrete areas of high archaeological sensitivity. These include:
- 1 Pleistocene deposits, potentially associated with hominin activity, with a findspot of a Palaeolithic handaxe recorded in the vicinity;
 - 2 Early Neolithic remains;
 - 3 Late Bronze activity, including ditches, a burnt mound and other features indicative of nearby occupation, which has been identified in a number of discrete areas across the site. A ring ditch, which could represent a potential round barrow, has also been found although the internal feature was dated to the Roman period;
 - 4 Iron Age activity associated with occupation, including ditches, pits a holloway and other features;
 - 5 Roman period features associated with settlement activity, which focused on higher ground and included a hearth, pits and pottery, with further remains (incl. a waterhole) recorded further to the south; and
 - 6 An undated cremation burial.
- 5.64 Further prehistoric and later features (largely associated with agricultural activity), as well as WW2 remains, were also present (in areas of medium to low sensitivity).
- 5.65 With regard to designated heritage assets located within the environs of the site, it is considered that the majority of the remains, including Listed Buildings within North Bsted Conservation Area, would not require a detailed assessment as these are separated from the site by modern built form and vegetation. The assessment will focus on Grade II Listed Buildings which are likely to have their settings altered by the proposed development, including Morells Farmhouse which is adjacent to the site, Neals Farmhouse, Lagnersh Farmhouse and, potentially, further buildings over 1km to the west of the site.

Assessment methodology

- 5.66 The assessment for the Archaeology and Cultural Heritage chapter will be undertaken in accordance with all relevant professional legislation, policy and guidance. This will seek to provide clear statements of significance ('what matters and why') for identified and potential heritage assets, and a sound understanding of the character of the change brought about by the proposed development. This will allow for a transparent articulation of the nature of any harm that might result from the development proposal proceeding.

- 5.67 For archaeological works the ‘Standards and Guidance’ published by the Chartered Institute for Archaeologists will be utilised. For undertaking assessment of significance the approach outlined in ‘Managing Significance in Decision-Taking in the Historic Environment: Historic Environment Good Practice Advice in Planning: 2’ (Historic England 2015) will be utilised and reference will be made to the English Heritage Conservation Principles (2008). For the settings assessment the approach set out in ‘The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning: 3’ (Second Edition; Historic England 2017) will be used.
- 5.68 It is considered that further surveys required to inform the ES chapter will include a settings assessment with regard to the identified Listed Buildings. The need for any additional archaeological surveys will be discussed with the archaeological advisor to the Local Planning Authority.
- 5.69 In undertaking the assessment, the methodology to be followed has moved away from the more traditional ‘scalar’, quantitative, matrix-led approaches; adopting a descriptive, qualitative presentation of the findings of assessment. The approach to be adopted will utilise best practice from the sector to ensure that the provisions of the National Planning Policy Framework are met. In particular it will seek to establish the ‘significance’ of the heritage assets affected and determine the level of harm that will result should the proposed scheme proceed. To ensure that the language used within the EIA Regulations is also incorporated within the assessment methodology it is considered that ‘substantial harm’ to any heritage asset (designated or not) would equate to a ‘significant effect’. ‘Less than substantial harm’ to designated heritage assets of the highest significance could also trigger the same ‘significant effect’, but no prescriptive criteria is proposed to prejudice this threshold, leaving it to professional judgement.

Consultation

- 5.70 It is proposed to undertake consultations with the archaeological and conservation advisors to the Local Planning Authority to agree on the sufficient level of information to inform the ES chapter. Requirements for any further fieldwork survey will be discussed as well as options for appropriate mitigation measures.

Likely effects anticipated and receptors to be affected

- 5.71 In all cases, the impacts resulting from the proposed development are judged against the potential harm to the significance of heritage assets identified.
- 5.72 Heritage assets of archaeological interest will be harmed directly as a result of the groundworks (incl. excavations, stripping or landscaping) associated with the development activity. It is anticipated that a mitigating strategy, involving investigation, recording, analysis and publication, will be appropriate, with the extent of works to be agreed through consultations with the archaeological advisor. In areas proposed to be retained as green open space, there would likely be no impacts upon the archaeological resource.
- 5.73 Significance of designated heritage assets, in particular Listed Buildings mentioned above, can be affected as a result of change the proposed development may introduce within their settings. This will require consideration as part of the assessment.

Socio-Economic

- 5.74 Lichfields will prepare the Socio-Economic assessment. This will consider the key socio-economic effects associated with the proposed development, at both the construction and operational stages.

Existing baseline

- 5.75 To assess the likely socio-economic effects of the proposal, the economic and labour market characteristics of defined impact areas will be examined, including the demographic profile, economic trends, indices of deprivation, unemployment rates, commuting patterns, income levels, skill levels and educational attainment. This will establish any strengths and weaknesses of the local economy that the proposals may affect. The current and future planned provision of community infrastructure will also be considered in terms of capacity to meet demand, relating to education, health and other community facilities.
- 5.76 This baseline will be established using a combination of data sources including nationally published statistics from Office of National Statistics (ONS), Ministry of Housing, Communities and Local Government (MHCLG) and Department for Education (DfE) as well as local data from Arun District Council and West Sussex County Council as appropriate.

Assessment methodology

- 5.77 The evaluation of effects of the proposals will be based on an assessment of the magnitude of the effect and the importance of the identified receptor. Effects will be identified on a matrix basis from major adverse through to major beneficial, representing the scale of effects above and beyond the baseline position. Where possible, the scale of effects will be quantified in relation to current conditions under each receptor.
- 5.78 Employment effects of the proposals will be assessed by estimating employment generation both from the construction and operational phases of the scheme. The effects will be quantified in gross and net terms.
- 5.79 The likely employment effects of the proposals during the construction phase will be assessed by estimating employment generation from the construction cost of the scheme. Appropriate employment multipliers will be applied to direct employment to estimate the indirect and induced employment.
- 5.80 For operational employment, this will involve applying typical employment densities to the proposed amount of floorspace for the different components of the scheme. Appropriate employment multipliers will be applied to estimate the indirect and induced employment generated by the proposals. The significance of the overall employment effects on the local labour market will then be assessed, taking account of unemployment levels, economic activity rates, commuting patterns, the skills levels of workers available and any training initiatives available.
- 5.81 Impacts on local housing will be considered in the context of the published estimates of housing need in Arun District. For impacts on community infrastructure, these will be estimated based on the expected change in local population measured against the capacity of education, health and other community facilities within defined catchment areas as appropriate. The significance of these impacts will be considered in the context of appropriate benchmarks for different infrastructure types and the nature of existing and planned provision.

Consultation

- 5.82 It is anticipated that consultation will be undertaken with relevant statutory consultees (such as the Clinical Commissioning Group in relation to healthcare) and economic development officers within Arun District Council as necessary. The Council's Scoping Opinion and responses from other stakeholders on the ES Scoping Report will be reviewed as part of preparing this chapter.

Likely effects anticipated and receptors to be affected

- 5.83 It is anticipated that the main socio-economic effects will relate to employment, the local labour market, housing needs and demand for community infrastructure.
- 5.84 The construction of the proposed development will result in direct construction jobs on site as well as indirect and induced jobs in supply chains and through associated expenditure in the local area.
- 5.85 The completed development will support net additional employment which will impact the local economy. The new residential development will also contribute to meeting identified local housing needs in Arun District, and the increase in residential population may result in increased demand for a range of community facilities which will be assessed taking account of new provision included within the proposed development.

Landscape Character and Visual Impact

- 5.86 The Landscape Character and Visual Impact chapter of the ES will be prepared by fabrik Chartered Landscape Architects.

Existing baseline

- 5.87 Published landscape character assessments covering the site and its context will be referred to within the LVIA. At the national scale, the Site lies within Natural England's National Character Area (NCA) 126 'South Coast Plain'. This NCA stretches from the edge of Southampton in the west to Brighton and Hove in the east. The Sussex Historic Landscape Characterisation Project (2010) provides a further tier of assessment relative to the coastal plain and has been used as a tool to prepare the 'South Coast Plain local distinctiveness guide'. At the regional scale, the site lies within Landscape Character Area (LCA) SC9 Chichester to Yapton Coastal Plan within the West Sussex Landscape Character Assessment (2003) which is to be read in conjunction with the landscape guidelines set out in A Strategy for the West Sussex Landscape (October 2005). The site shares a number of key characteristics with this LCA, including low lying flat open landscape. Fabrik will also be preparing a site level landscape character assessment which is to be agreed with officers as part of the consultation process.
- 5.88 The Arun Landscape Study (2006) includes a landscape character assessment of the district. The study has attributed the following landscape character types to the area encompassing the site:
- L1b - Large scale open arable (however some areas of which have changed since the assessment was published and would now be re-classified as L10b Poly tunnels and low-tech glass houses)
 - L2 - Medium/small scale arable
 - U1 - Utilities (which in the case of the site, relates to the above ground reservoirs / irrigation pond)
- 5.89 The Site lies within the following Landscape Character Areas:
- 6. Rose Green Coastal Plain (high landscape capacity)
 - 7. Sefter Bottom-Elbridge Coastal Plain (low/medium landscape capacity)
 - 8. North Bersted Matrix (medium/high landscape capacity)
- 5.90 The Landscape Capacity of Strategic Sites in Arun District (February 2017) study suggests that site has capacity to accommodate a carefully considered urban extension, but that this should be

sensitive to the setting of the wider landscape – particularly to the west and north. This has subsequently been taken forward and where the site is now allocated in the Local Plan.

Site landscape

- 5.91 The site lies on the north-western edge of Bognor Regis and west of the district of North Bersted. It consists of a number of large agricultural fields, with an extensive area of polytunnels located in the north-eastern part of the site. Park Farm (in the north-west corner of the site) comprises a number of buildings, caravans, hardstanding, small reservoir and irrigation pond. A further caravan park (Orchard Caravan Park) is located just beyond the site, extending west from the edge of North Bersted. The smaller fields, which sit against the settlement edge of North Bersted, are either used as set aside or as paddocks and tend to be more enclosed than the larger, arable fields. Despite being largely rural in nature, the site is influenced by the adjacent urban edge, which abuts the southern and eastern boundaries. Agricultural use (comprising land, flat fields) extends northwards and westwards from the site.

Designations

- 5.92 The South Downs National Park is located approximately 5.5km to the north. In good visibility conditions, the rising landform of the South Downs can be seen in the distance to the north.
- 5.93 The Site is an allocated site and sits within a Strategic Gap (as defined in the ADC Green Infrastructure Study 2012).

Assessment methodology

- 5.94 The LVIA will be undertaken in accordance with the principles set by the Landscape Institute and Institute of Environmental Management and Assessment in the Guidelines for Landscape and Visual Impact Assessment Third Edition (2013) and guidance on Landscape Character Assessment produced by the Countryside Agency (now Natural England) and Scottish Natural Heritage (2002). The photography, alongside any Verified Visual Montages (VVMs) will be prepared in accordance with Technical Guidance Note 06/19 on Visual Representation of Development Proposals (Landscape Institute, 17 September 2019). The methodology to be adopted for this project is set out at Appendix 3.
- 5.95 Conclusions on effects, whether adverse or beneficial, are drawn from the separate judgements on the sensitivity of the landscape and visual receptors and the magnitude of the effects. A final overall judgement involves a reasoned professional overview of the individual judgements against the criteria.
- 5.96 For this assessment, the following descriptive thresholds will be used with regard to the significance of landscape and visual effects (which will be assessed separately):-
- **Substantial/Major:** A significant change to the landscape elements, key characteristic features and perceptual qualities; Major change to a static open or partial view;
 - **Moderate:** Some change to the landscape elements, key characteristic features and perceptual qualities. Moderate or major change to static or kinetic, partial view;
 - **Minor:** Some change to the townscape elements, key characteristic features and perceptual qualities; Minor change to a static or kinetic partial or glimpsed view;
 - **Negligible:** An effect that will be discernible yet of very limited change to the existing landscape or views.
 - **Neutral:** Where the proposals would result in no change overall (resulting in no net beneficial or adverse effect).

5.97 Finally, a judgement will be reached based on the assessment, whether an effect is beneficial or adverse.

5.98 The landscape and visual effects will be co-ordinated with the effects described in the cultural heritage chapter.

Consultation

5.99 Arun District Council has been consulted on the location of proposed photo key representative viewpoints that will form the basis of the visual impact assessment. A total of 18 viewpoints were identified from a range of locations and distances from the site. The officers requested clarification on the location of the viewpoint along Chalcraft Lane and for the inclusion of a viewpoint from the public right of way within the Site. The view from Chalcraft Lane has now been amended and a view from within the site included. Furthermore, 4no. VVM locations have been identified and agreed from the north, east, south and west for inclusion in the LVIA (from viewpoint 2 on the A259 to the east, 3 on Chalcraft Lane to the south, 8 from the footpath between Lower Bognor Road and Butterlees Farm and 18 at Halnaker Windmill). The proposed locations of these are all set out in Appendix 3. The numbers of the viewpoint locations has been amended since initial discussions.

5.100 As part of this scoping process, Arun District Council is being consulted on the methodology to be used for the LVIA, which is also included in Appendix 3.

Likely effects anticipated and receptors to be affected

5.101 There will be a number of landscape and visual receptors which could potentially be affected by proposed development on the site. Those identified to date are highlighted below. Further receptors may be identified as part of the ongoing assessment work.

Landscape impact

- The land use of the site;
- The landscape character of both the site wide and broader contextual environment. This will include consideration of any effects upon the existing key characteristics, as set out in published Landscape Character Assessment;
- The effect on the night-time character; and
- The characteristic landscape features of the site, including trees and hedgerows.

Visual impact

5.102 The plan at Appendix 3 identifies the locations of proposed key representative viewpoints, that will form the basis of the visual impact assessment. The following visual receptors will be assessed

- Residents - including principally those in properties within or surrounding the Site. This will include residents of properties:
 - at Elbridge Avenue and environs (off A529 North Bersted Bypass);
 - on New Barn Lane;
 - on Winston Crescent;
 - at Orchard Caravan Park;
 - on/adjacent to Chalcraft Lane;
 - at isolated farmsteads (principally Park Farm, Park Farmhouse and Morells Farm);

- on Lower Bognor Road; and
- other residents of properties in the wider area with potential views towards the proposed development.
- Users of Public Rights of Way (PROW) (including those within the Site);
- Visitors to Chalcraft Lane Cemetery;
- Recreational users of Jubilee Playing Fields to the east;
- Workers at existing employment and commercial facilities (such as Chalcraft Nursery, Cemetery or the farm workers);
- Users of the surrounding roads; and
- Recreational users of the South Downs National Park and those receptors at visitor attractions / scenic viewpoint such as Halnaker Windmill and The Trundle (due to distance from the site, it is anticipated that any effects on visual amenity would be negligible).

5.103 All of these receptors and any other subsequently identified will be assessed by the impact assessment process.

5.104 The proposed development may give rise to environmental effects on landscape and visual amenity receptors within the LVIA study area. These impacts will be given consideration as part of the design process to ensure that significant effects are avoided or mitigated as far as possible. The following landscape and visual effects are anticipated to occur during the construction and operation of the proposed development:

- Impacts on the land use and landscape features and elements (physical impact) of the site.
- Impacts on the landscape character of Chichester to Yapton Coastal Plain due to changes in key characteristics, including landscape elements and features, and views within, in and out of the area.
- Impacts on the character of the site and surrounding landscape character areas due to changes in views from these areas.
- Changes in range of views experienced by people within the LVIA study area.
- Changes in views within and out of the area.

5.105 It is anticipated that no significant impact upon visual amenity and character of the view will occur beyond the immediate context of the site, due to a flat open landscape combined with the screening effect of the existing settlement edge in combination with existing and proposed vegetation.

Ecology and Nature Conservation

5.106 The Ecology and Nature Conservation chapter of the ES will be prepared by FPCR.

Existing baseline

5.107 In order to inform the Ecological Impact Assessment, baseline ecological information will be obtained from relevant statutory and non-statutory consultees for a zone of influence of up to 10km surrounding the site for statutory sites and 2km for non-statutory sites and species records. The assessment will also be based upon a number of studies completed within the Project Area. Specifically, this includes the following:

- 1 Extended Phase 1 Habitat and Preliminary Protected Species survey following Natural England (Nature conservancy Council, 1993) guidelines².
- 2 Hedgerow surveys following methodology based on that outlined in the Hedgerow Survey Handbook, Defra (2007)³ and The Hedgerow Evaluation and Grading System (HEGS) (Clements & Tofts, 1992)⁴. Also, assessed against the criteria of The Hedgerow Regulations, 1997, Statutory Instrument No: 1160⁵.
- 3 Badger survey following the methodology as outlined by Harris Cresswell and Jeffries (1991)⁶.
- 4 Habitat Suitability Index (HSI) survey using methods devised by Oldham et al (2000)⁷. Full aquatic presence/absence surveys were also undertaken where access was permitted. Natural England guidance was followed, as detailed in the Great Crested Newt Mitigation Guidelines (2001)⁸ and eDNA survey of all waterbodies on site and all those on third party land within 250m of the site to which access is permitted.
- 5 Comprehensive breeding and wintering bird surveys were undertaken over the Project Area following methodologies as outlined by Bibby *et al* (1992)⁹ and used by the British Trust for Ornithology (BTO)¹⁰.
- 6 Reptile surveys following methodology based on information provided in the Herpetofauna Workers Manual (2003)¹¹ and the Froglife Advice Sheet 10: Reptile Survey (1999)¹².
- 7 Bat surveys, both automated and manual, undertaken across the site conforming to BCT (2016) guidelines¹³.
- 8 Dormouse surveys were undertaken of suitable habitat across the Project Area following the methodology outlined in the Dormouse Survey Handbook 2nd ed, (2006)¹⁴. Survey effort was also scored using the standard method after Chanin & Woods (2003)¹⁵.
- 9 Survey of all suitable habitats within the Project Area for the presence of evidence of riparian mammals (otter and water vole). Survey methodology followed that detailed in the Watervole Conservation Handbook (2006)¹⁶ and the New Rivers and Wildlife Handbook¹⁷

5.108 Where species specific surveys are considered necessary and cannot be completed prior to submission of the application, assumptions on the likely potential effects will be made and mitigation provided within the development proposals. In such instances, mitigation will be proportional to the perceived likely effect in line with British Standard 42020:2013 *Biodiversity - Code of practice for planning and development* that emphasises the importance of 'proportionality' stating:

² JNCC, (2010), *Handbook for Phase 1 habitat survey - a technique for environmental audit*.

³ DEFRA (2007) *The Hedgerow Survey Handbook*. 2nd Ed.

⁴ Clements, D.K. & Tofts, R.J. (1992) *Hedgerow evaluation and grading system (HEGS) - a methodology for the ecological survey, evaluating and grading of hedgerows*. Countryside Planning and Management. Cirencester.

⁵ DOE (1997) *The Hedgerow Regulations*. HMSO, London.

⁶ Harris, Cresswell and Jeffries (1991) *(Report) Surveying Badgers*. The Mammal Society, Bristol.

⁷ Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). *Evaluating the suitability of habitat for the Great Crested Newt (Triturus cristatus)*. Herpetological Journal 10 (4), 143-155.

⁸ Whitehurst (2001) *Great Crested Newt Mitigation Guidelines: Version August 2001*. English Nature, Peterborough.

⁹ Bibby, C.J., N.D. Burgess & D.A. Hill (1992): *Bird Census Techniques*. Academic Press, London.

¹⁰ <http://www.bto.org/survey/complete/wfbs/introduction.htm>

¹¹ Gent, T & Gibson, S (2003) *Herpetofauna Worker's Manual*. JNCC, Peterborough.

¹² Froglife (1999) *Reptile Survey; an introduction to planning, conducting and interpreting surveys for snake and lizard conservation*. Froglife Advice Sheet 10. Froglife, Halesworth.

¹³ Bat Conservation Trust (2016), *Bat Conservation Trust Guidelines*

¹⁴ Bright, Morris & Mitchell-Jones (2006) *The Dormouse Conservation Handbook*. English Nature, Peterborough.

¹⁵ Chanin & Woods (2003) *English Nature Report No. 524 on nest tube surveying*. English Nature, Peterborough.

¹⁶ Strachan & Moorhouse (2006) *Water Vole Conservation Handbook 2nd. Edition*. WildCRU, Oxford

¹⁷ Ward D, Holmes N, Jose P (editors) (1994) *The New Rivers and Wildlife Handbook*. NRA, RSNCRSPB, Sandy, Bedfordshire.

“The work involved in preparing and implementing all ecological surveys, impact assessments and measures of avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development”.

5.109 The main objectives of the Ecological Impact Assessment will be:

- 1 to describe and to describe and evaluate habitats and species present at the site and within the local area, and identify those considered to be Important Ecological Features (‘IEFs’);
- 2 to review habitats of nature conservation value in a local, regional and national context and within the context of current and emerging nature conservation policies;
- 3 to determine the sensitivity of IEFs present to the type of development proposed;
- 4 to identify and describe any changes arising from the project relating to existing nature and conservation resources. This is determined as the magnitude of change;
- 5 to identify and describe any mitigation measures to minimise the potential effect of development and where feasible to consider opportunities for additional habitat creation; and
- 6 to evaluate the significance of residual nature and conservation effects.

Assessment methodology

5.110 The Ecological Impact Assessment and assessment within the chapter will follow guidelines as set out in the Chartered Institute of Ecology and Environmental Management (‘CIEEM’) Guidelines for Ecological Impact Assessment (EcIA) in the UK and Ireland - Terrestrial, Freshwater, Coastal and Marine (Ver. 1.1) (Sept 2018)¹⁸. This includes an evaluation of habitats and species present within the Project Area and includes an assessment of their importance or sensitivity at the local, regional, national and international level.

5.111 The components of this Ecological Assessment will include: baseline studies; descriptions and details of onsite proposals and mitigation measures to be adopted as part of the scheme; the identification and description of likely effects arising from the proposals, and an assessment of the significance of these effects, with regards to the proposals.

5.112 The evaluation and assessment of IEFs and potential impacts on them is broadly based upon the guidelines as defined in CIEEM Guidelines for Baseline Ecological Assessment¹⁹ and Guidelines for Preliminary Ecological Appraisal²⁰.

5.113 Impacts will be assessed in terms of their magnitude, extent, duration, reversibility, timing and frequency, confidence in predictions and whether they are positive or negative. Descriptions of these parameters is provided within the relevant guidance stated above.

5.114 In line with CIEEM 2016 guidelines, the assessment will only describe those characteristics relevant to understanding the ecological effect and determining significance.

Sensitivity

5.115 In assessing the sensitivity, the determined value of each receptor is considered in respect of its extent, diversity, rarity and local context of the study area and its surrounds. Therefore, whilst

¹⁸ CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.

¹⁹ *Guidelines for Baseline Ecological Assessment*. Chartered Institute of Environmental Assessment. Chapman & Hall, 1995.

²⁰ Guidelines for ecological appraisal. Technical Guidance Series. Chartered Institute of Ecology and Environmental Management, 2013.

some species or habitats may have a high/medium geographic value resulting from the level of statutory protection afforded them, or their inclusion in S41 of the NERC Act (2006) or local BAP, their sensitivity may be considered to differ with the local context.

Ecological significance

- 5.116 Consideration of all of the above criteria feeds into a comprehensive assessment of ecological significance, allowing a final judgement as to whether the effect is significant or not.
- 5.117 Significance can be positive or negative. An ecologically significant effect positively or negatively alters the integrity of a defined site or ecosystem and/or the conservation status of habitats or species within a geographical area.
- 5.118 The value of any feature that will be significantly affected is that used to identify the geographical scale at which the impact is significant. The value relates directly to the consequences in terms of legislation, policy and/or development control at the appropriate level.
- 5.119 For this assessment, the following descriptive thresholds will be used:
- Major: an effect considered very important in the decision process;
 - Major/Moderate: an effect that is considered material in the decision process;
 - Moderate: an effect that is notable, but not material in the decision process;
 - Minor: an effect that will be noticed but is not relevant to the decision process (not significant); and
 - Negligible: an effect that will be discernible but of very limited consequence that is not relevant to the decision process (not significant).

Mitigation, compensation and enhancement

- 5.120 Avoidance, mitigation, compensation and enhancement measures, also referred to as the 'mitigation hierarchy' will be identified within the assessment and the sequential process of their adoption within the context of the scheme described. For the purpose of Ecological Impact Assessment, the impacts upon IEFs will be assessed in the absence of mitigation.
- 5.121 Regard will be given to the avoidance of impacts, where possible, through scheme design (often referred to as 'inherent' or 'embedded' measures) and/or regulation through aspects such as timing, storage of materials etc. (often termed 'actionable' measures). Where not possible, opportunities are sought to reduce the impacts as much as is feasible. If significant impacts cannot be avoided through mitigation, then compensation that is considered appropriate to offset the adverse impacts will be outlined.

Consultation

- 5.122 Consultations have been undertaken with both Natural England and Arun District Council regarding the mitigation and compensation measures for the likely potential effects of proposals upon the nearby Pagham Harbour Special Protection Area (SPA) and Ramsar site. Measures agreed through this dialogue will be included within the assessment.

Likely effects anticipated and receptors to be affected

Habitats and species

- 5.123 There will be a number of IEFs that have the potential to be affected by proposed development of the study area. Habitats within the site have been confirmed as supporting small populations of grass snake, low numbers of water vole, unremarkable numbers of common and widespread

bat species all of which are considered of no more than local nature conservation value. It is considered that the likely potential effects upon these IEFs can be adequately mitigated for through inherent design of the project and/or through implementation of standard actionable measures of avoidance and mitigation.

Designated sites

- 5.124 With regard to environmental sensitivity and ecological matters, the proposed location of the development would be in close proximity to Pagham Harbour SPA, Ramsar SSSI and therefore it is regarded that the scheme is of significant scale and in close enough proximity to a designated site/qualifying environmentally sensitive location to require an EIA on ecological grounds under Regulation 2 of the EIA regulations.
- 5.125 In the context of the likely potential effects upon Pagham Harbour, within the assessment, focus will be on the following identified receptors:
- Pagham Harbour SPA/Ramsar/SSSI;
 - Wintering birds;
 - Breeding birds;
 - Arable fields.
- 5.126 The potential indirect impacts of increased recreational pressure have been fully assessed within the *Stage 2 Report Screening for Likely Significant Effects (April 2016) supplementary Work to the Habitat Regulations (HRA)* of the Arun Local Plan and the *Stage 3 Report: Appropriate Assessment (February 2017) supplementary work to the HRA* of Arun Local Plan with strategic mitigation measures subsequently incorporated into emerging Local Plan Policy ENV DM2.
- 5.127 The likely potential effects, avoidance, mitigation and compensation measures included in relation the Pagham Harbour in this assessment will be in line with relevant planning policy.

Agricultural Land

- 5.128 This section of the scoping report has been prepared by Kernon Countryside Consultants Ltd (KCC). KCC is a specialist consultancy advising farmers, landowners, developers and local authorities on farm business and farm diversification proposals, and the effects of non-agricultural development on agricultural assets. KCC is familiar with many different types of agricultural and horticultural enterprises and the planning policy framework governing such enterprises.
- 5.129 The agricultural chapter will consider the likely significant effects of the proposed development in terms of agricultural land quality and the agricultural businesses which operate within the site.

Existing baseline

- 5.130 The site extends to approximately 141 ha of predominately agricultural land on the northern edge of Bognor Regis.
- 5.131 The site has been the subject of a number of detailed Agricultural Land Classification (ALC) Surveys, all of which have been undertaken in accordance with the current MAFF Guidelines (1988).
- 5.132 The detailed ALC surveys identify the site to comprise a mixture of qualities that is predominately (65%) of sub-Grade 3a land with areas of Grade 2 (22%) and sub-Grade 3b (6%).

The remainder of the site comprises of non-agricultural/other land which includes areas of farm buildings, tracks etc.

- 5.133 The land is all being actively farmed, predominantly by tenants, for arable purposes.
- 5.134 The National Planning Policy Framework (2019) (the NPPF) Annex 2 defines the “*best and most versatile agricultural land*” (hereafter referred to as BMVAL) as that falling within Grades 1, 2 and 3a of the Agricultural Land Classification⁽¹⁾.
- 5.135 Paragraph 170 of the NPPF states that “planning policies and decisions should contribute to and enhance the natural and local environment” by, inter alia, recognising “the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land”. Paragraph 171 footnote 53 states that “where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality”.
- 5.136 Local planning policy in the Arun Local Plan 2011-2031 (2018), policy SODM1, states that unless designated in the plan the use of Grades 1, 2 and 3a will not be permitted unless the need for development outweighs the need to protect such land in the long term.
- 5.137 The requirement to protect such land can be outweighed if it is demonstrated that:
- preservation of lower quality land has greater benefits;
 - any site is demonstrated to be the best and most sustainable option; and
 - the development meets the requirements of the countryside and / or equine policy.
- 5.138 Where development is permitted it should so far as possible use the lowest land grade suitable and:
- a sustainability, mitigation and soil resources plan has been submitted;
 - evidence that Defra’s Soil Strategy for England has been considered;
 - the productivity of the land has been assessed;
 - a soil resources plan has been submitted.
- 5.139 The site has already been the subject of several detailed Agricultural Land Classification Surveys. All of these surveys were carried out in accordance with current MAFF Guidelines (1988) and therefore their findings remain valid. Accordingly the existing survey findings will be used to inform the ES chapter.
- 5.140 The occupying farm businesses within the site will be identified and a representative of each business will be interviewed and a site visit will be undertaken. As part of the farm business assessment consideration will also be given to point f) of Policy SO DM1.

Assessment methodology

- 5.141 National planning policy guidance is set out in the National Planning Policy Framework, published in March 2012 (the NPPF). Paragraph 112 states:
- “Local planning authorities should take into account the economic and other benefits of the best and most versatile agricultural land. Where significant development of agricultural land is demonstrated to be necessary, local planning authorities should seek to use areas of poorer quality land in preference to that of a higher quality.”*
- 5.142 Annex 2 of the NPPF defines “best and most versatile agricultural land” as “land in grades 1, 2 and 3a of the Agricultural Land Classification”. For the purposes of this assessment, best and most versatile agricultural land is henceforth referred to as ‘BMV’.

- 5.143 Local planning policy is set out in the Arun Local Plan 2011 – 2031 (adopted 2018) and accompanying policies maps. The Local Plan recognises, at paragraph 11.1.4, that “most of the undeveloped coastal plain within the District is high grade agricultural land and falls within the Agricultural Land Classification Grades 1, 2 and 3a.”
- 5.144 Policy SO DM1: Soils states “unless designated by this Plan or a Neighbourhood Development Plan, the use of Grades 1, 2 and 3a of the Agricultural Land Classification for any form of development not associated with agriculture, horticulture or forestry will not be permitted unless the need for the development outweighs the need to protect such land in the long term”.
- 5.145 The “requirement to protect the best and most versatile land can be outweighed if it is demonstrated through sustainability and options appraisals that:
- a Preservation of land of lower quality has greater benefits in terms of ecosystem services (for example carbon storage, flood water retention, support of biodiversity);
 - b That any site preferred for development is demonstrated to be the best and most sustainable option, including but not limited to the terms of land quality, ecosystem services, infrastructure and proven need; and
 - c The proposed development meets the requirement of the countryside policy and/or equine development proposal.”
- 5.146 Policy SO DM1 goes on to state that “where development is permitted it should, as far as possible, use the lowest grade of land suitable for that development” and “development will not be permitted unless:
- a The applicant has submitted sustainability and options appraisals, mitigation measures and a soil resources plan for the development site;
 - b Site appraisal documents submitted by the applicant must demonstrate that consideration has been given to DEFRA’s Soil Strategy for England;
 - c The productivity of the land is demonstrated using a methodology for assessing gross margins as contained in the Arun Soils and Agricultural Land Assessment Report²¹; and
 - d The applicant has submitted a comprehensive soil resources plan for the development site which demonstrates that care will be taken to preserve the soil resource, such that it can be incorporated into a Productive Green Environment following development.”
- 5.147 Supporting text to the plan identifies that “some of the most significant impacts on soils can occur as a result of activities associated with construction” and goes on to recognise that the soil resource could be deployed off-site for continued agricultural uses (paragraph 11.1.3).
- 5.148 The site has already been the subject of several detailed Agricultural Land Classification Surveys. All of these surveys were carried out in accordance with current MAFF Guidelines (1988) and therefore their findings remain valid. Accordingly the existing survey findings will be used to inform the ES chapter.
- 5.149 The occupying farm businesses within the site will be identified and a representative of each business will be interviewed, and a site visit will be undertaken. As part of the farm business assessment consideration will also be given to point f) of Policy SO DM1.

²¹ Reference to Appendix 1 of Arun Soils and Agricultural Land Assessment report prepared by Reading Agricultural Consultants, March 2013

Assessment methodology

5.150

The assessment of the effects on agricultural land and farm businesses will be carried out in three stages. First the magnitude of the potential impacts will be considered. Secondly the importance/sensitivity of the receptor will be considered and, thirdly, the significance of effects will then be determined by the interaction of magnitude and sensitivity. The effects will be determined by the thresholds set out in Tables 5.8 – 5.10 below.

Table 5.8 Methodology for Determining Magnitude of Effect

Magnitude of Effect	Definition	
	Effects on Agricultural Land (soils)	Effects on Farm Businesses (agricultural businesses)
High	The proposed development would directly lead to the loss of over 50 hectares of “best and most versatile agricultural land” (Grades 1, 2 and 3a) and soil resources.	The impact of the development would render a full-time agricultural business non-viable.
Medium	The proposed development would directly lead to the loss of between 20 and 50 hectares of “best and most versatile agricultural land” (Grades 1, 2 and 3a) and soil resources.	The impact of the development would require significant changes in the day-to-day management of a full-time agricultural business, or closure of a part-time agricultural business. Loss of buildings or impacts on drainage or water supplies affecting the potential for at least 5 ha of adjacent land to be farmed fully.
Low	The proposed development would directly lead to the loss of less than 20 hectares of “best and most versatile agricultural land” (Grades 1, 2 and 3a) soil resources or would directly lead to the loss of 5 ha or more of poorer quality agricultural land (Grades 3b, 4 or 5) and soil resources.	Land take would require only minor changes in the day-to-day management / structure of a full-time agricultural business or land take would have a significant effect on a part-time business. Minor effects, direct or indirect, on surrounding land beyond the boundaries of the site.
Negligible	The proposed development would directly lead to the loss of less than 5 hectares of poorer quality agricultural land and soil resources.	Land take would require only negligible changes in the day-to-day management of a full-time agricultural business or land take would require only minor changes to a part-time farm business.
No impact	No loss of agricultural land or soil resources.	No impact on farm businesses.

5.151

The methodology for determining the sensitivity of the receptors is set out in Table 5.9 below. Two receptors have been identified: agricultural land and farm businesses. The sensitivity of these receptors is defined by the quality of the agricultural land and the scale of the farm business. BMV agricultural land is of national importance whilst poorer quality agricultural land (non-BMV) and farm businesses are of local importance.

Table 5.9 Methodology for Determining Sensitivity

Sensitivity	Receptor
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Very high	No agricultural resources fall within this category.
High	Land resources are matters of potentially national importance. National planning policy towards the development and protection of agricultural land is contained in paragraphs 170 & 171 of the NPPF. The effect on land resources is a combination of the quantum and quality of agricultural land affected, relative to both the national resource and the relative availability of land of that quality locally. Land resources that are of the best and most versatile quality should therefore be classified as being of high environmental value (sensitivity).
Medium	Land that is of poorer quality, Grades 3b, 4 and 5, is of lower sensitivity and is afforded no special protection in the NPPF. It is nevertheless a finite resource of local importance and so is regarded as of moderate sensitivity. Full-time farm businesses are of medium sensitivity, as the way that farms are operated will vary over time according to ownership, security of tenure and local and international economic factors. Farm businesses are tolerant of some change without detriment to their character. Farms outwith the site boundary, if affected, are considered to be of medium sensitivity.
Low	Part-time farm businesses are of low sensitivity. The way that farms are operated will vary over time according to ownership, security of tenure and local and international economic factors. Farm businesses are tolerant of some change without detriment to their character.

The significance of the effects of the development will then be determined by the interaction of the magnitude of the impact and the sensitivity of the receptor, as set out in the matrix at Table 5.10.

Table 5.10 Methodology for Determining Sensitivity

		Sensitivity/importance of receptor			
		Very high	High	Medium	Low
Magnitude of Impact	High	N/A	Major (Substantial) Adverse/ Beneficial	Moderate Adverse/Beneficial	Minor Adverse/ Beneficial
	Medium	N/A	Moderate Adverse/ Beneficial	Minor Adverse/ Beneficial	Minor Adverse/ Beneficial
	Low	N/A	Minor Adverse/Beneficial	Minor Adverse/Beneficial	Negligible Adverse/Beneficial
	Negligible	N/A	Minor Adverse/Beneficial	Negligible	Negligible
	No impact	No impact			

5.152 In addition to the ES chapter, which will carry out an assessment of the impacts on agricultural land and businesses, a separate site appraisal document will be produced which will consider and include, as per emerging Policy SO DM1:

- A mitigation and soil resource plan; and
- An assessment of the productivity and Gross Margins of the land.

Consultation

5.153 Consultation will be undertaken with the farming occupiers and Arun District Council.

Likely effects anticipated and receptors to be affected

- 5.154 Agricultural land will be permanently lost as a result of the proposed development. The chapter will consider the quantum of “best and most versatile agricultural land” within the site to assess the likely significance of the proposed development – it is anticipated that the impact will be adverse as a result of the quantity of BMV land affected.
- 5.155 The soil resources and their mitigation will be considered, and a soil resources plan produced, and the significance of the findings will be assessed. It is likely that soil resources can be largely safeguarded.
- 5.156 Farm businesses will also be affected by the proposed development. The chapter will consider the quantum of agricultural land lost in relation to the occupiers’ farm size and structure and the continued viability of the businesses. It is likely that there will be no significant adverse effects on farm businesses, but this will be reviewed as part of the assessment.

Ground Conditions and Contamination

- 5.157 This chapter will be prepared by Pell Frischmann and will provide the Ground Conditions and Contamination scoping assessment. The chapter provides a summary of the potential receptors and how these will be addressed in the EIA.

Baseline conditions

- 5.158 Baseline conditions have been assessed from the following data sources:
- Groundsure Report for the site dated June 2016
 - Site walkover inspection undertaken by WYG on 5 April 2017
 - JMP Consulting (2007). *Land North of Bognor Regis, Drainage Strategy*. July.
 - White Young Green (2007a). *Desk Study Report, Bognor Regis, for Church Commissioners for England and David Langmead*. August.
 - White Young Green (2007b). *Preliminary Geo-Environmental Ground Investigation Factual and Interpretative Report, Bognor Regis, for Church Commissioners for England and David Langmead*. November.
 - Readily available data sources on line and held in house by Pell Frischmann

Geology

- 5.159 The site’s geology comprises topsoil site wide, underlain by River Terrace Deposits (characterised by relatively cohesive Brickearth) typically to 2.0mbgl over sands and gravels to typically 4.0mbgl. The underlying solid geology is characterised by three distinct areas; the northern part of the site is directly underlain by Upper Cretaceous Chalk; the central part of the site is underlain by Lambeth Group deposits of Clay, Silt and Sand; and at the southern end of the site the solid geology is identified as London Clay.

Hydrogeology

- 5.160 River Terrace Deposits and Lambeth Group strata are classified as Secondary A Aquifers whereas the Chalk is classified as a Principal Aquifer. The groundwater monitoring across the site suggests that depths to groundwater are typically in the region of 1-2.5m bgl but that shallow groundwater (<1.0m bgl), can occur seasonally or following high rainfall periods in areas of the site underlain by Chalk, Lambeth Group and London Clay. Site wide depths to

groundwater are relatively consistent (even across different aquifer units) suggesting lateral and potentially vertical continuity.

Hydrology

- 5.161 The site lies approximately 1.5km to the south west of the southerly flowing Aldingbourne Rife which flows through the eastern part of Bognor Regis to the sea. There are several secondary and tertiary rivers within the northern portion of the site. This includes a ditch that marks the western and northern boundary of the Phase 7 area of proposed development and other connecting field boundary drains that tend to only intermittently contain standing water/or transmit surface water flow.

History

- 5.162 The site is characterised by agricultural land use since the earliest map reviewed (1876) until present day. However, for a period of approximately one year (1943-1944) the site was used by the RAF as an 'Advanced Landing Ground' comprising an air field with two runways and infrastructure that included, hangars and stores for ammunition, petrol, oil and rations. Following cessation of airfield activities, the site was returned to agricultural activities.

Ground quality

- 5.163 The WYG 2007 ground investigation on the site comprised 21 boreholes, 48 window sample holes, 8 dynamic probe tests, 30 trial pits, geotechnical and contamination testing and gas monitoring. Further investigation was undertaken by WYG in 2008 and comprised 3 boreholes, 3 window sample holes and 6 hand-dug pits plus soil testing for potential contaminants. Pell Frischmann has re-evaluated the contamination test results against current screening criteria relevant for residential land use (including C4SLs and S4ULs) and confirm there were no significant exceedances.
- 5.164 Unexploded Ordnance (UXO): BACTEC (2007) identified a risk of unexploded ordnance due principally to the presence of the Advanced Landing Ground in 1943 and 1944. No evidence of bombing was identified in the area, however, BACTEC considered it possible that the site might have been subject to "tip and run raids. No UXO were detected during the WYG and Pell Frischmann investigation works.

Further assessment and consultation

- 5.165 Further ground investigation may be undertaken on a phase by phase basis if required to confirm ground quality and geotechnical conditions (to facilitate foundation design) and the gas regime. A remediation strategy, if necessary will be developed from this and/or existing ground investigation data. Based on existing data, whereby no significant contamination has been identified, this is likely to comprise a reactive remediation strategy to address unforeseen deleterious ground conditions should such be uncovered during the construction works. It is also noted that some areas of the site lie within a potentially Radon affected area (maximum potential 1-3%) and as such Radon potential shall be checked on an area by area basis.
- 5.166 Consultation will be undertaken with the Environmental Health Officer at the local Council, the Environment Agency and NHBC. The existing ground conditions reports and assessments will be provided to these parties for review along with the proposed remediation strategy for agreement ahead of the works commencing.

Likely effects anticipated and receptors to be affected

- 5.167 Key receptors on and around the site include:

- Human health receptors: Future site users/occupiers (residential and public open space); construction workers, adjoining site users
- Environment: Aquifers within the River Terrace Deposits, Lambeth Group and Chalk; surface waters (drainage ditches typically present as field boundary markers)
- Infrastructure associated with the new development: Concrete, water supply pipes, gas/vapour ingress

Construction phase

- 5.168 The primary receptors to be considered during the construction phase are the construction workers and surrounding land users. These receptors are at potential risk from direct contact (or via wind-blown migration of dusts/fibres) with Made Ground during disturbance. However, significant contamination has not been identified in shallow soils and would be mitigated by use of appropriate Personal Protective Equipment (PPE) regardless. UXO risks will be further assessed ahead of any intrusive works. The water environment is also a key receptor and will be considered in the design and through controls implemented through a Construction Environmental Management Plan (e.g. bunded and covered fuel/materials storage away from surface water receptors).

Operational phase

- 5.169 It is not anticipated that the operation of the proposed development will have any significant impact upon ground conditions. Any fuels or chemicals stored on site will be undertaken in accordance with best practice to avoid uncontrolled release of such to the environment.

Noise & Vibration

- 5.170 This chapter of the Environmental Statement would assess the likely significant effects of the construction and operational phases of the proposed development on the environment with respect to noise and vibration.

- 5.171 Potential effects that will be assessed include:
- noise and vibration effects from construction activities at off-site sensitive receptors,
 - noise effects from new connections to the local road network and associated changes in traffic on the existing road network due to the proposed development, and,
 - noise from existing noise sources such as roads which may cause adverse effects at the noise sensitive aspects of the proposed development.

Existing baseline

- 5.172 The baseline environment within the site be established by measuring ambient noise levels on and within the vicinity of the site. Where appropriate the survey will include operational and commercial noise sources. The closest existing residential receptors have been considered as part of a 3-day noise monitoring survey which will include attended and unattended measurements. Full details of the noise monitoring survey will be presented within the report.
- 5.173 In the case of existing roads that may be subject to a change in traffic flow, the pre-existing basic noise levels will be established via noise modelling in accordance with the Department of Transport 'Calculation of Road Traffic Noise' (1988).

Assessment methodology

- 5.174 The noise and vibration assessments will be conducted in accordance with the principles set out in the following policies and guidance.
- 5.175 The National Planning Policy Framework (NPPF), first published in March 2012 and revised on 24 July 2018, sets out the Government's planning policies for England and how these are expected to be applied. In respect to noise, the National Planning Policy Framework states that planning policies and decisions should aim to:
- avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development;
 - mitigate and reduce to a minimum other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions;
 - recognise that development will often create some noise and existing businesses wanting to develop in continuance of their business should not have unreasonable restrictions put on them because of changes in nearby land uses since they were established; and
 - identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.
- 5.176 For what constitutes a significant adverse impact, the NPPF refers to the Noise Policy Statement for England.
- 5.177 The **Noise Policy Statement for England** 2010 (NPSE) expands on the term 'significant adverse impact' from the NPPF. The document also defines the meanings of the terms No Observed Effect Level (NOEL), Lowest Observed Adverse Effect Level (LOAEL) and Significant Observed Adverse Effect Level (SOAEL).
- 5.178 **National Planning Practice Guidance** (PPG), first published in March 2014 and updated in July 2019, provides advice on how planning can manage potential noise impacts in new development, the principles to be followed in considering the noise effects of developments, and sets out a noise exposure hierarchy table, based on the likely average response of those affected.
- 5.179 The **Arun Local Plan 2011-2031 with Main Modifications**, which was adopted by resolution of Full Council on 18th of July 2018. The following policies set out in the Arun Local Plan 2011-2031 are potentially relevant in respect of noise and vibration and will be considered in preparing the noise and vibration chapter of the ES:
- Policy QE DM1 - Noise pollution
 - Policy LAN DM1 – Protection of landscape character
 - Policy D DM1 - Aspects of form and design quality
 - Policy ECC DM1 - Renewable energy
 - Policy QE SP1 - Quality of the environment
- 5.180 The '**Guidelines for Environmental Noise Impact Assessment**' published by the Institute of Environmental Management and Assessment in 2014, which sets out good practice in respect of scoping and undertaking noise assessments. The guidelines are applicable to noise impact assessment for any scale of development proposal, including core principles to achieve effectively integration with the EIA, and provide advice on the issues that need to be considered in a noise impact assessment and whether the appropriate conclusions are being reached. The factors include:
- The appropriateness of the noise parameters used for the situation;

- The reference time period used in making the assessment;
- The level, character and frequency content of the noise sources under investigation; and,
- How the predicted noise levels relate to relevant Standards and guidelines.
- The guidelines also recommend that the assessor should determine the degree of impact based on evidence derived from the assessment.

5.181 The 'Guidelines for Environmental Noise Impact Assessment' provide advice on the selection of sensitive receptors which may include land uses other than dwellings, and animals other than human beings, and advice on how sensitivity may be assigned to individual receptors, that is relevant to all forms of environmental noise assessment.

5.182 Construction and road traffic noise modelling will be undertaken using the noise prediction software CadnaA 2020 or similar software. This state of the art software meets the requirements for Quality Assurance of software for the calculation of sound outdoors according to DIN 45687 and ISO 17534 Series, and fully implements UK calculation methodologies such as Calculation of Road Traffic Noise (CRTN) and BS5228-1:2009+A1:2014 which is used for construction noise predictions.

5.183 Further detail on how different aspects of noise and vibration will be assessed is given below.

Construction noise and vibration assessments

5.184 This assessment would determine the likely noise and vibration effects of the construction phase on existing receptors and will recommend mitigation measures, if necessary.

5.185 British Standard 5228-1:2009 + A1:2014 'Code of practice for noise and vibration control on construction and open sites – Part 1: Noise' provides noise source levels for typical construction equipment, prediction methods to determine construction noise levels at distances from the works, and provides example methods of determining the significance of impacts. The construction noise assessment will predict the noise levels associated with fixed/mobile construction plant, material haulage within the site, the movements of deliveries within the development site and car movements associated with staff parking in accordance with British Standard 5228-1:2009 + A1:2014.

5.186 The potential significance of the predicted noise levels will then be assessed based on change from the baseline noise levels using the 'ABC' method set out in British Standard 5228-1:2009 + A1:2014 Section E3.2 and Table E.1 BS 5228-1; the baseline noise level will be adopted as the LOAEL, whilst the SOAEL will be determined as per Table E.1.

5.187 The magnitude of construction noise impact at receptors will be determined in accordance with the following table:

Table 5.11 Magnitude of construction noise impact at receptors

Magnitude of impact	Construction noise level
Substantial/Major	Above or equal to SOAEL +5dB
Moderate	Above or equal to SOAEL and below SOAEL +5dB
Minor	Above or equal to LOAEL and below SOAEL
Negligible	Below LOAEL

5.188 The noise effects of construction deliveries and diversions on the local road network will be determined by a comparison of the Basic Noise Levels (BNL) for road links calculated in accordance with Department of Transport 'Calculation of Road Traffic Noise' (1988) and

assessed using the significance criteria set out in LA 111 'Noise and vibration' (Revision 2, May 2020) published by Highways England in accordance with the following table:

Table 5.12 Magnitude of noise effects of construction deliveries and diversions

Magnitude of impact	Change in BNL, dB LA10,18hr
Substantial/Major	Greater than or equal to 5.0
Moderate	Greater than or equal to 3.0 and less than 5.0
Minor	Greater than or equal to 1.0 and less than 3.0
Negligible	Less than 1.0

- 5.189 The likely significance of construction vibration on human occupants of buildings will be determined at selected representative sensitive receptors that are located within 50m of the site. Vibration predictions will be undertaken in accordance with British Standard 5228-2:2009 'Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration'.

Road traffic noise assessment

- 5.190 The proposal includes several connections to the local road network from the Lower Bognor Road, Chalcraft Lane and the A259 Chichester Road. A spine road will be provided within the site, extending the North Bersted Bypass to the western parts of Bognor Regis. These changes to the local road network and development generated traffic have the potential to cause noise effect at existing noise sensitive receptors located near the road network. The Environmental Statement will therefore include a traffic noise assessment.
- 5.191 The Noise Insulation Regulations 1975 (as amended) only apply to 'new' or 'altered' roads, which may require mitigation under the regulations. Traffic noise changes on unaltered roads will be predicted but are not subject to the regulations.
- 5.192 The 'Design Manual for Roads and Bridges' (DMRB) LA 111 'Noise and vibration' (formerly HD 213/11 – Revision 2 and IAN 185/15) sets out the requirements for assessing and reporting the effects of highways noise and vibration from construction, operation and maintenance projects. It can also be used to determine the likely potential effects of a new development given the expected change in road traffic flows.
- 5.193 The study area for the traffic noise assessment will encompass all receptors at which effects can be reasonably foreseen. This will normally include a zone extending 600m from the extents of any new or altered road link, but will also include corridors along road links where a change in noise level is anticipated. The extent of the study area may also be influenced by cumulative effects due to other development projects; we therefore propose to consult with West Sussex County Council to ascertain whether the normal study area should be expanded due to cumulative projects.
- 5.194 The baseline noise environment will be determined through noise predictions and the results of the baseline noise survey.
- 5.195 Road traffic noise calculations shall be undertaken at noise sensitive receptors (or groups of noise sensitive receptors) to identify the following changes in operational noise:
- Short term: Do-Minimum Opening Year compared against the Do-Something Opening Year
 - Long-term: Do-Minimum Opening Year compared against the Do-Something Future Year
 - Non-project: Do-Something Future Year compared against the Do-Minimum Opening Year

- 5.196 Predictions will be undertaken using the method set out in CRTN as modified by Appendix A of LA 111 for receptors within 600m of the new road link. TRL 'Method 1' (based on hourly traffic data) or 'Method 3' (based on 18-hour AAWT traffic data) will be used to convert road traffic noise levels from the LA10,T noise metric commonly used in the UK, to the Lnight noise metric.
- 5.197 The level of change at noise sensitive receptors which are within the study area but not within 600m of the new road link or roads physically changed by the project will be estimated from the change in Basic Noise Level of the adjacent road links.
- 5.198 The procedure for determining the significance of effects at receptors set out in LA 111 will be followed. This involves determining receptor sensitivity, the magnitude of the noise changes for each scenario, and a process where professional judgement is applied across a range of factors to determine whether an initial estimate of significance should be modified.
- 5.199 Any essential mitigation (measures required to reduce and if possible offset likely significant adverse environmental effects, in support of the reported significance of effects in the environmental assessment) will be determined. Essential mitigation measures will only be included in the road traffic noise assessment if they are deemed suitable and have legal basis for inclusion in the project.
- 5.200 The sources of data, methodology and results of the operational noise assessment will be set out in the noise and vibration section of the environmental statement.

Operational noise assessment

- 5.201 Assessment of potential noise effects from noise sources within the site (e.g. the commercial and sports plots) will take into account the baseline noise survey and be undertaken in accordance with British Standard BS 4142:2014+A1:2019 'Methods for rating and assessing industrial and commercial sound', and with reference to British Standard BS 8233:2014 'Guidance on sound insulation and noise reduction for buildings' and World Health Organisation guidance on community noise.
- 5.202 Given the location of the site and the noise sources separating it from the closest existing noise sensitive receptors, it is not anticipated that significant adverse noise effects would arise as a result of on-site noise generating sources. However, this will be confirmed by assessment and if necessary, any adverse effects can be mitigated through good design and consented conditions, so that significant adverse effects can be avoided. The assessment will be reflective of the scheme layout and the level of detail available at the time of planning submission. Subject to evolving guidance and legislation over the development phasing, design criteria will be presented within the Environmental Statement.

Residential noise assessment

- 5.203 It is recognised that noise exposure can impact upon quality of life and give rise to adverse health effects including annoyance, changes to behaviour, difficulty understanding speech communication, sleep disturbance, hypertension and cardiovascular effects. For this reason, noise levels are a material planning consideration when deciding planning applications for new noise sensitive development (such as residential, senior living and school buildings).
- 5.204 The residential noise assessment will refer to the Noise Exposure Categories set out in the Arun Local Plan 2011-2031 Policy QE DM1 'Noise pollution' and the corresponding planning guidance. The noise assessment will also consider appropriate LOAEL and SOAEL values for residential dwellings in accordance with the National Planning Policy Framework and Defra's Noise Policy Statement for England. In addition to these local and national planning documents, the residential amenity assessment will consider:

- 5.205 Professional Practice Guidance on Planning & Noise (ProPG), 2017, which provides noise practitioners with guidance on a recommended approach to the management of noise within the planning system. The guidance document encourages better acoustic design for new residential development and aims to protect people from the harmful effects of noise. ProPG recommends a 2-stage approach, an initial noise risk assessment of the proposed development site and where the results indicate that noise requires further consideration a full assessment in the form of an Acoustic Design Statement (ADS). The main emphasis of the ProPG is the encouragement of good acoustic design, such as site layout, building massing, orientation and internal layout, at an early stage of the development process.
- 5.206 British Standard 8233:2014 'Guidance on sound insulation and noise reduction for buildings' provides recommendations for the control of noise in and around new or refurbished buildings. It suggests appropriate criteria and limits for different situations, which are primarily intended to guide the design of new or refurbished buildings undergoing a change of use rather than to assess the effect of changes in the external noise climate.
- 5.207 British Standard 4142:2014+A1:2019 'Methods for rating and assessing industrial and commercial sound' provides a methodology for determining whether commercial noise of an industrial nature is likely to cause an adverse impact at dwellings.

Consultation

- 5.208 Preliminary consultation will be undertaken with Arun District Council where relevant to agree the proposed approach of the noise survey methodology. Further consultation, with the local planning authority will be undertaken where necessary, for example to confirm the sensitivities assigned to individual receptors.

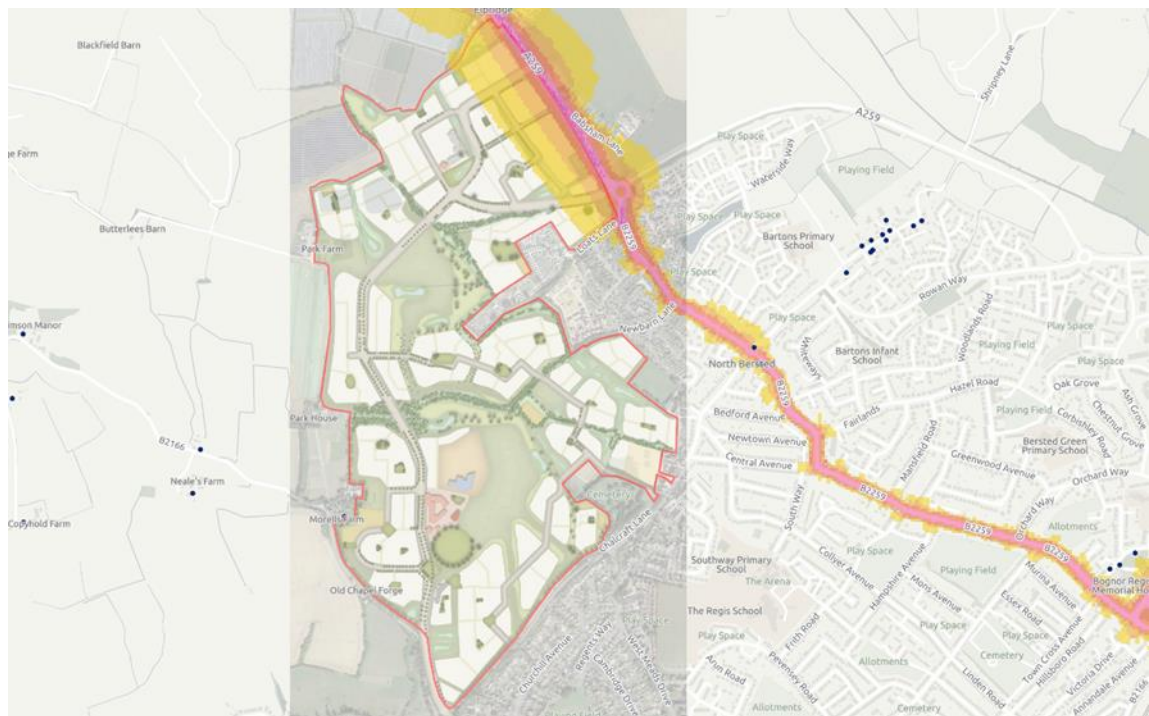
Likely effects anticipated and receptors to be affected

- 5.209 Noise can have a significant effect on both the health and environment of individuals and communities. The effects of exposure to noise from transportation sources include annoyance and sleep disturbance, and associations have been found between long term exposure to transport noise, particularly from aircraft and road traffic, and an increase in the risk of cardiovascular effects (heart disease and hypertension). There is also evidence that exposure to noise can have a negative effect on children's performance on tests of episodic memory can impair reading and oral comprehension, and result in poorer performance on standardized assessment tests.
- 5.210 Existing noise sensitive receptors in the vicinity of the site include:
- the residential areas of North Bersted and Aldwick,
 - Orchard Caravan Park
 - Chalcroft Lane Cemetery
 - Individual properties located on or near other boundaries of the site, which include Park House, Park Lane Cottages, Chalcroft Cottage, Morrells Cottage and Morells Farmhouse (which is a Grade II listed property located on the western site boundary).
 - The Pagham Harbour Site of Special Scientific Interest / Special Protection Area (UK9012041) / Ramsar wetlands site lies approximately 3.5km to the west and south west.
- 5.211 At this stage, it is expected that the Pagham Harbour Special Protection Area is too distant to be adversely affected by noise and vibration arising within the site, and it is unlikely that the development would lead to any significant increase in traffic on the road links near Pagham

Harbour. However, this receptor will be included as receptors in the Environmental Statement for completeness.

- 5.212 A further assessment to identify the location of additional sensitive receptors such as schools and hospitals, likely to be positioned at further distances from the site, will also be undertaken within the Environmental Statement noise assessment. The sensitivity of each receptor will be determined in accordance with best practice guidance.
- 5.213 During the construction phase, it is likely that adverse noise effects will occur at the receptors closest to the site; typically the effects of construction noise are limited to around 300m from construction activities, and in many cases where other buildings provide acoustic screening the distances may be much less. Construction vibration is unlikely to cause significant adverse effects at receptors more than 100m from the source of vibration.
- 5.214 Sections of the A259 between North Bersted and Yeomans Honda / Elbridge Recycling Centre are identified as Noise Action Plan Important Areas (ID: 4458 and ID: 4459) by the Defra strategic noise mapping project. Overlaying the Defra noise contours on the indicative site development plan shows that the residential plots which abut this stretch of road may be subject to elevated daytime and night-time noise levels, and as such properties in these areas are likely to require noise mitigation to provide acceptable levels of amenity.

Figure 5.1 Indicative masterplan overlaid with Defra strategic noise mapping daytime noise levels (dB LAeq,16-hours)



- 5.215 It is also expected that road traffic noise may cause adverse noise effects at the proposed residential plots which are adjacent to Chalcraft Lane, so dwellings in these locations may also need to incorporate some noise mitigation. However, noise levels over the remainder of the site are expected to be relatively low.
- 5.216 The table below summarises the potential noise and vibration effects at receptors.

Table 5.13 Potential noise and vibration effects at receptors

Receptor	Potential Impact	Potential Effect
Existing	Temporary construction noise and	Temporary effects on human activity and health

Receptor	Potential Impact	Potential Effect
and proposed nearby dwellings	vibration impacts at off-site receptors	(e.g. annoyance, changes to behaviour, speech communication, sleep disturbance).
	Long term daytime and night-time noise impacts at off-site receptors due to noise generating aspects of the proposed development (e.g. the commercial plots).	Long term effects on human activity and health (e.g. annoyance, changes to behaviour, speech communication, sleep disturbance, hypertension, cardiovascular effects and heart disease).
Dwellings within the proposed development	Noise impacts due to road traffic on the local road network, and any other nearby noise sources, affecting the residential uses within the site.	Long term effects on human activity and health (e.g. annoyance, changes to behaviour, speech communication, sleep disturbance, hypertension, cardiovascular effects and heart disease).

Air Quality

- 5.217 This Section of the ES will consider the key air quality impacts associated with the proposed development. The assessment will be carried out by Air Quality Consultants Ltd.

Existing baseline

- 5.218 A search of the UK Pollutant Release and Transfer Register website has not identified any significant industrial or waste management sources that are likely to affect the proposed development, in terms of air quality.
- 5.219 The proposed development site is located within Arun District, adjacent to the border with Chichester District. Both Arun District Council and Chichester District Council have investigated air quality within their respective districts as part of their responsibilities under the LAQM regime. Arun District Council has not found it necessary to declare any AQMAs, however, Chichester District Council declared three AQMAs within Chichester District in 2007, all of which are as a result of exceedances of the nitrogen dioxide annual mean objective. Chichester (Stockbridge Roundabout) AQMA and Chichester (St Pancras) AQMA are the closest to the proposed development, located approximately 5.3 km and 5.2 km to the northwest of the site respectively.
- 5.220 In terms of PM₁₀, both Arun District Council and Chichester District Council have concluded that there are no exceedances of the objectives in their respective districts (Arun District Council, 2020) and (Chichester District Council, 2020). It is, therefore, reasonable to assume that existing PM₁₀ levels will not exceed the objectives within the study area.
- 5.221 In 2019, Arun District Council operated nitrogen dioxide diffusion tube monitoring sites at 17 locations within its district, and Chichester District Council operated four automatic monitoring stations and 18 diffusion tube monitoring sites. The closest of these sites to the proposed development site are located alongside Chichester Road and Rowan Way in North Bersted. No exceedances of the nitrogen dioxide annual mean objective were measured at the Arun District monitoring sites in 2019. Only one of the 18 diffusion tube monitoring sites in Chichester District measured exceedances of the annual mean objective in 2019, which is located in the St Pancras AQMA. All measured concentrations were below 60 µg/m³, therefore it is considered unlikely that any exceedances of the 1-hour mean objective occurred during this time period.
- 5.222 One of the four automatic monitoring stations in Chichester District also monitors PM₁₀. In 2019, measured PM₁₀ concentrations at this site were well below the objectives.

- 5.223 There are no Defra-run monitoring sites within the study area with which to identify exceedances of the annual mean nitrogen dioxide limit value. The national maps of roadside annual mean nitrogen dioxide concentrations (Defra, 2020) used to report exceedances of the limit value to the EU, do not identify any exceedances within the study area in 2017.

Consultation

- 5.224 The assessment will be discussed with Arun District Council's Environmental Health team in order to agree the precise methodology to be used.

Likely effects anticipated and receptors to be affected

- 5.225 The following impacts may be associated with the proposed development, and will be considered by the assessment:
- impacts of the operation of the proposed development on concentrations of nitrogen dioxide, PM₁₀ and PM_{2.5} from road traffic on existing sensitive human receptors in the proposed year of opening;
 - impacts of the operation of the proposed development on concentrations of nitrogen oxides and nitrogen deposition as a result of road traffic at designated ecological sites (if significant changes in traffic flow identified near to these sites);
 - impacts of existing sources on future residents of the proposed development itself; and
 - impacts of the construction of the proposed development on dust soiling and concentrations of PM₁₀ during the construction period.

Road traffic

- 5.226 Road traffic emissions will impact on existing receptor locations (both human and ecological), and upon new residential locations within the development itself. Suitable receptor locations will be identified based upon detailed maps and photographs, and on plans of the scheme design. Consideration of the air quality impacts on existing receptor locations will be informed by the Transport Assessment (which will identify areas which have the potential for significant changes to traffic as a result of the proposed development), and will include consideration of areas adjacent to major nearby trunk roads, including the A27 Chichester and the A27 at The Causeway, if significant changes in traffic flow are identified along these routes.
- 5.227 There is potential for the proposed development to have an impact on concentrations of nitrogen oxides and nitrogen deposition as a result of road traffic at the Pagham Harbour SAC/SPA/Ramsar site, either alone or in-combination with other plans and projects.

Construction dust

- 5.228 For construction activities, the assessment will consider the potential for impacts within 350 m of the site boundary and within 50 m of the routes to be used by construction vehicles up to 500 m from the site entrance.

Assessment methodology

- 5.229 A summary of all relevant national, regional and local policy guidance will be provided. Any specific local policies (e.g. Supplementary Planning Guidance) that are applicable to air quality will also be included.
- 5.230 Existing local air quality, the likely future air quality in the absence of the new development and the likely future air quality if the development goes ahead, will all be defined. The assessment of

operational impacts will focus on the earliest year that the development is likely to be occupied. If it emerges that opening would occur in significant phases, making a single assessment year unrepresentative, a range of years will be assessed.

Road traffic impacts

- 5.231 The air quality impacts of road traffic emissions at the sensitive receptors will be determined using the ADMS-Roads dispersion model. The model has been widely used in the UK, and has been accepted by Defra for review and assessment purposes. The model requires a variety of inputs including road traffic data (flows, speeds and vehicle fleet composition) and meteorological data. Predictions will be carried out for nitrogen oxides, PM₁₀ and PM_{2.5}. Nitrogen dioxide concentrations will be calculated from nitrogen oxides using tools provided by Defra.
- 5.232 Background pollutant concentrations in future years will be determined using data derived from the “year-specific maps” published by Defra.
- 5.233 Meteorological data will be taken either from Shoreham Airport or Thorney Island meteorological sites, depending upon the quality of each dataset, and taking into account any opinions of the Environmental Health Officer at Arun District Council.
- 5.234 An important element of the modelling study will be to verify the model output (i.e. to compare the predictions with actual measured results). This will be undertaken by identifying a roadside air quality monitoring location(s) that is suitably representative of conditions at the proposed development site.
- 5.235 Any roads within 100 m of the Pagham Harbour SAC/SPA/Ramsar site with significant changes in traffic flow will be identified. If any significant changes are identified, the ADMS-Roads model will be used to calculate the change in nitrogen oxides concentration and resultant impact on nitrogen deposition within the SAC/SPA/Ramsar site.

Construction dust impacts

- 5.236 The assessment of construction impacts will follow the methodology set out in the Institute of Air Quality Management Guidance ‘*Guidance on the Assessment of Dust from Demolition and Construction*’ (IAQM, 2016).
- 5.237 The assessment of construction impacts will focus on the anticipated duration of the works.

Significance of impacts

- 5.238 The predicted concentrations will be compared with the relevant air quality objectives, as defined within the Air Quality Regulations 2000 and Amendments 2002 and any exceedances will be highlighted.
- 5.239 The significance of the impacts will be evaluated using criteria recommended by the Institute of Air Quality Management (IAQM) and endorsed by Environmental Protection UK (EPUK).

Matters to be scoped out

Daylight, sunlight and overshadowing

- 5.240 The existing site comprises flat, arable land subdivided into large irregular fields by hedgerows and ditches, and existing properties surrounding the site are limited to a small number of properties to the south east and north east of the site. For these reasons it is not considered that

there is any likelihood of adverse impacts in terms of daylight and overshadowing on existing properties.

- 5.241 As part of the master planning and design of the proposed development, lowest level windows within the residential accommodation have been considered in terms of acceptable levels of light, ability to maximise sunlight and passive solar energy in accordance with local policy. This will ensure that the outline parameters provide an appropriate basis from which to develop well-lit accommodation at the reserved matters stage. This will be explained within the Design and Access Statement to be submitted in support of the planning application.
- 5.242 Proposed areas of open space and amenity space adjacent to and within the development have been considerably designed in terms of overshadowing.
- 5.243 Given the above reasons, and the scale of the development, it is not envisaged that the development will give rise to any materially adverse daylight and sunlight effects and therefore it is considered that daylight, sunlight and overshadowing can be scoped out of the EIA.

Sustainability and Climate Change

- 5.244 The development will ensure that the relevant sustainability standards are adhered to throughout the project, and reduction in CO₂ levels will be achieved through energy efficient measures incorporated into the scheme design. Elements such as water consumption will be restricted through design measures and this will be considered fully in the water environment chapter of the ES. The Transport chapter will cover issues relating to transport, i.e. the use of sustainable and public transport within the development.
- 5.245 Other specific sustainability measures are identified as part of the development parameters (e.g. specific energy proposals) will be considered throughout the ES in relation to the other technical chapters.
- 5.246 Information on sustainability will be included as part of the Design & Access Statement and a standalone Sustainability and Energy Statement to be submitted with the planning application.
- 5.247 Given the above, it is considered that sustainability and climate change can be scoped out of the EIA.

Waste and recycling

- 5.248 The construction and operation of the scheme will inevitably give rise to some waste but the strategy for the development is to ensure that it is managed in accordance with the Waste Hierarchy of prevent, prepare for re-use, recycle, recovery and finally disposal. Compliance with environmental and waste legislation is a minimum requirement when managing waste and will be a primary objective of the development. During the construction period, there will be a requirement to produce a Site Waste Management Plan ('SWMP') under the Site Waste Management Plans Regulations 2008 and will be prepared in relation to this development. The plan will demonstrate how materials resource efficiency will be improved and to ensure that a fully auditable trail of waste removed from the site is maintained.
- 5.249 During the operation of the site, the sustainable management of waste will be secured by ensuring that opportunities for minimising waste together with the correct storage, removal and management of all waste streams is addressed robustly. It is acknowledged that further consultation will be necessary in due course with officers of the Council. A Sustainability Statement will be submitted for consideration with the planning application for the development.

- 5.250 The measures in place and integral within the scheme are of a nature that will ensure that there is no potential for significant environmental effects requiring assessment as part of an EIA.

Energy and utilities

- 5.251 A desktop review has highlighted existing utility services on the site. Existing gas services include a high pressure gas main which runs along the north of the site. This could be diverted or the development designed around it. Existing water services include two small private mains running through the south of the site, which the development will be designed around and reinforced where necessary to serve the development. The electrical infrastructure is likely to require upgrade to serve the development. Existing infrastructure will be designed around or diverted, and upgraded where necessary. Against this background, and other initial site assessments, it has been concluded that there are no onerous infrastructure constraints associated with gas provision and in relation to telecommunications that would require specific consideration as part of an EIA.

Human Health

- 5.252 The proposed development will bring a number of new people to the area which will inevitably have some implications on existing nearby communities. However, due to the size of the proposed scheme with the inclusion of a 3 Form Entry primary school and 4ha of employment land, it is not considered that there will be any adverse impacts on human health to areas beyond the proposed development site.
- 5.253 Furthermore, at the planning and design stage the Applicant will carry out community engagement and feedback from this will assist in creating strategies for their wellbeing and safety, for example, open space areas.
- 5.254 There are no major communities with particular health concerns in the area that could be considered sensitive to impact such that significant effects are considered likely.
- 5.255 On the understanding the above, it is considered that the scheme is unlikely to give rise to significant effects requiring consideration as part of the EIA in relation to health. Impacts on demand for healthcare facilities will require further consideration, however, will be included within the socio-economics chapter, and separate assessment is not required within a standalone health assessment in the EIA.

Risk of major accidents and disasters

- 5.256 There are no known matters which may give rise to significant impacts on the environment in association with the possibility of major accidents. Risks associated with those matters proposed to be included as part of the EIA will be considered where relevant (e.g. transport).

Access, Recreation and Green Infrastructure

- 5.257 The June 2017 EIA Scoping Opinion identified the consideration of access, recreation and green infrastructure as part of the EIA. Access matters will be addressed as part of the transport and accessibility assessment. Recreation and green infrastructure will be considered in both the socio-economic assessment and landscape and visual impact assessment. To avoid duplication and ensure a proportionate approach it is considered that a technical aspect chapter dealing with access, recreation and green infrastructure is unnecessary as matters are addressed elsewhere in the ES.

Summary

5.258 This section has reviewed the various environmental effects associated with the development and concludes that the following matters should be scoped into the EIA:-

- 1 Transport & Accessibility
- 2 Water Environment
- 3 Archaeology and Cultural Heritage
- 4 Socio-Economic
- 5 Landscape and Visual Impact
- 6 Ecology and Nature Conservation
- 7 Agricultural Land
- 8 Ground Conditions & Contamination
- 9 Noise & Vibration
- 10 Air Quality

5.259 This section has also identified the following environmental effects that are considered should be scoped out the of the EIA process:

- 1 Daylight, Sunlight, Overshadowing and Light Pollution
- 2 Sustainability and Climate Change
- 3 Waste and recycling
- 4 Energy and utilities
- 5 Human health
- 6 Risk of major accidents and disasters

6.0 Approach and form of Environmental Statement

Methodological Approach

- 6.1 The EIA will be prepared in accordance with the requirements of the 2017 EIA Regulations and with reference to best practice including that published by the Institute of Environmental Management and Assessment ('IEMA'). All information required or reasonably required to identify the significant environmental effects of the development, as defined by Schedule 4 of the Regulations will be provided as part of the ES.
- 6.2 The assessment will also include a consideration of relevant policy and legislation of relevance as well as considering comments received by consultees during the pre-submission period.
- 6.3 Each technical assessment will follow a consistent approach and format and including:
- 1 Brief review of relevant policy and legislative context;
 - 2 Confirmation of the detailed topic specific assessment methodology, consultation undertaken and confirmation on how the assessment relates to the standard significance criteria adopted for the EIA (see below);
 - 3 Consideration of Baseline Conditions including an identification of sources of information, site history, current environmental conditions and future trends/anticipated changes to current conditions that could be anticipated without the scheme;
 - 4 Identification of the potential effects including a summary of those resources/receptors likely to be affected, the sensitivity of those receptors to accommodate change; the degree of change resulting from the proposal; the change of events or pathways linking cause to effect and a prediction of the significance of effects in terms of nature, extent and magnitude including whether it is direct/indirect, short/long term, permanent/temporary, beneficial/adverse;
 - 5 The scope for incorporating mitigation measures to avoid, reduce, remedy or compensate for any identified effects and the need for any monitoring measures; and
 - 6 Identification of any effects remaining after mitigation.
- 6.4 The effects of individual environmental matters will be transcribed against a common list of significance criteria for the EIA which will comprise:
- 1 Substantial/Major beneficial²²
 - 2 Moderate beneficial²³
 - 3 Minor beneficial²⁴
 - 4 Neutral/negligible
 - 5 Minor adverse
 - 6 Moderate adverse
 - 7 Substantial/Major adverse

²² Substantial – considerable effects (by extent, duration or magnitude) or of more than local significance or breaching identified standards or policy

²³ Moderate – limited effects which may be considered significant

²⁴ Minor – slight, very short or highly localised effects

- 6.5 The ES will include a clear description of the likely significant environmental effects on the environment including direct/indirect effects, secondary, cumulative, short/medium/long term, permanent/temporary and beneficial/adverse effects arising from the development.

Structure and format of ES

- 6.6 The findings of the EIA will be set out in the ES which will comprise three volumes as follows:
- Volume 1 – Technical Assessments
 - Volume 2 – Technical Figures and Appendices
 - Volume 3 – Non-technical Summary
- 6.7 The following documents will be included as part of the ES appendices:
- Landscape and Visual Impact Assessment
 - Transport Assessment
 - Extended Phase 1 Ecological Survey
 - Flood Risk Assessment and Drainage Strategy
 - Ground Contamination Report

The team

- 6.8 The 2017 EIA Regulations requires that the EIA be prepared by competent experts. It is confirmed that the team undertaking the assessment work will have the relevant experience and competency to carry out the technical assessment work. The ES will include a statement on confirming how the requirements of the Regulations have been met.
- 6.9 The EIA will be co-ordinated by Lichfields with technical inputs to the EIA being provided by the relevant consultants as described in Section 5.0. Lichfields is accredited with an IEMA EIA 'Quality Mark' which is a scheme ensuring that EIA carried out by registrants achieves excellence.

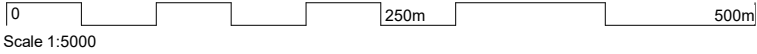
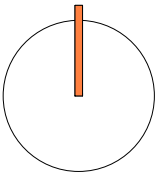
Associated application

- 6.10 Notwithstanding the authority's view on the scope of the EIA, the application submission will also provide a range of information including:
- Planning Statement
 - Design and Access Statement
 - Transport Assessment and Framework Travel Plan
 - Arboricultural Impact Assessment
 - Affordable Housing Statement
 - Biodiversity Checklist
 - Ecological Appraisal
 - Noise Assessment
 - Air Quality Assessment
 - Flood Risk Assessment
 - Agricultural Land Assessment
 - Statement of Community Involvement

- Landscape and Visual Appraisal
- Archaeological Assessment

Appendix 1 Site Location Plan

Figured dimensions only are to be taken from this drawing. All dimensions are to be checked on site before any work is put in hand.



scoping boundary

This drawing has been prepared using information provided by others and Scott Brownrigg cannot be held responsible for its accuracy. This drawing should not be relied upon for legal boundaries which should be checked against legal records.

2	Scoping line revised as per comments received.	28.08.2020	FJM	MJM
1	First issue	24.08.2020	FJM	BC
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Appendix 2 West Bersted Framework Masterplan

Land at West Bersted

Framework Masterplan Version for Endorsement | August 2020

18723-SBR-ZZ-XX-RT-A-80204 | Rev 12





Land at West Bersted

Framework Masterplan

Design Report

Version for Endorsement

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1.0

Preface

1.0 Preface

This Framework Masterplan has been prepared for the Land at West Bersted, which is allocated for development in the Arun District Council Local Plan (2018) for at least 2,500 homes, alongside other social infrastructure, including a new primary school, community facilities, public open space, sports and retail provision.

The Framework Masterplan has been developed in consultation with Arun District Council officers, other landowners and key stakeholders. It was subject to a three-week public consultation in July 2020 and forms the first stage in the planning process ahead of individual applications coming forward across the allocation.

The Framework Masterplan sets the broad design principles to deliver an integrated community which is set within a high-quality landscape and integrates appropriately with the existing settlement. It is intended to guide future planning applications coming forward on this allocated site.

2.0

Introduction

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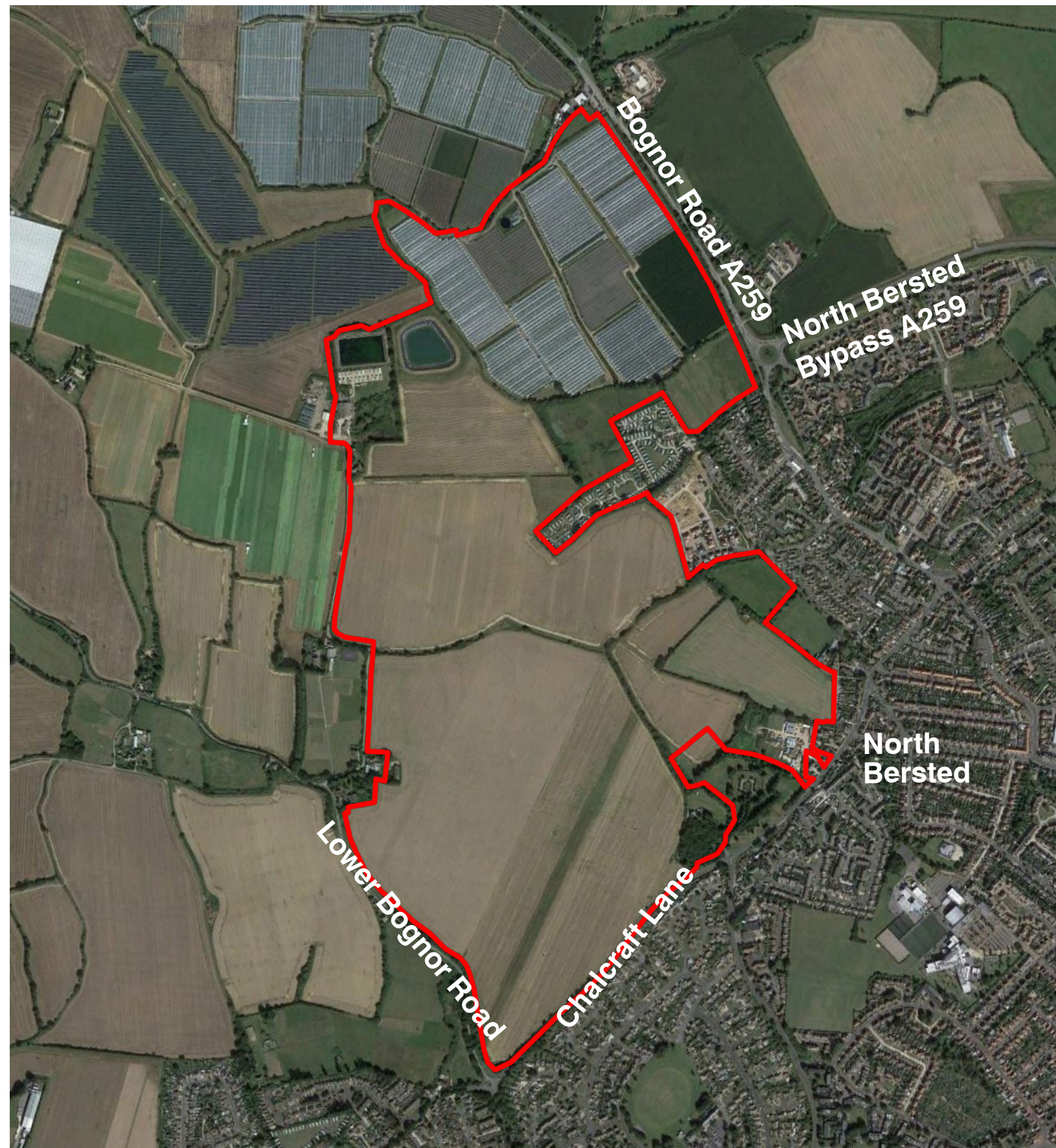
2.0 Introduction

2.1 Background

This Framework Masterplan has been prepared for the land at West Bersted (the 'Site Allocation') to meet the requirements of the Arun District Local Plan. This document will be used to guide future planning applications within the Site Allocation.

The Framework Masterplan demonstrates how the requirements for the Site Allocation as set out in Policy H SP2a of the Local Plan can be delivered. These requirements include the building of at least 2,500 new homes, employment provision, a new primary school, plus a community hub which will include shops, a library and healthcare facilities. Sports provision in the form of a new 3G pitch and two pitches with associated facilities will be provided as a minimum.

The Framework Masterplan has been developed and brought forward by the two largest landowners, the Church Commissioners for England and Landlink Estates, in collaboration with other landowners within the Site Allocation, and working closely with Arun District Council officers and key stakeholders. It has also been subject to public consultation in July 2020. This engagement process has been integral to the design process informing the Framework Masterplan.



2.1. Site Allocation Aerial View

2.2 The Role of the Framework Masterplan

The Local Plan requires that development proposals within the Strategic Allocation be comprehensively planned and to incorporate a high-quality imaginative design.

This Framework Masterplan defines the broad layout of the Site Allocation and how the requirements in the Local Plan can be translated into a well-designed successful place. This strategic and flexible guide will sit alongside the High-Level Development Principles (see section 3.2 & Appendix 1). These two elements combined will facilitate the delivery of a new, future-proofed neighbourhood that can be readily adapted to respond to changing circumstances should the need arise.

The Framework Masterplan is intended to guide future planning applications within the Site Allocation. It will ensure the land is developed as a coordinated and integrated masterplan, both delivering the requirements of the Local Plan and also creating a vibrant new community.

2.3 Approvals Process

This Framework Masterplan has been subject to a three-week public consultation and has also been informed by input from statutory consultees, wider engagement with local communities and joint working with the Council. It forms the first part of the decision-making process which is set out in Figure 2.3. Additional detail will be provided as the proposals progress to planning applications.

The proposed drawings and plans in this document are at design concept stage and therefore should not be considered to be a precise representation of the scheme to be delivered. Further design evolution and detail will be provided as part of future planning applications.



Fig 2.2.1 View from Chalcraft Lane looking north



Fig 2.2.2 View from centre of Site Allocation looking towards Chichester

2.3.1 Approvals Process

Plan Making

1. Local Plan - The Arun Local Plan (adopted July 2018) sets out the strategic vision, objectives, policies and proposals for development within the District to 2031. It sets a housing requirement of 20,000 new homes to be delivered within the plan period and identifies key strategic sites where these homes will be delivered.

2. Site Allocation - The Site at West Bersted is allocated as a strategic site in the Local Plan under Policy HSP2a. It is required to deliver at least 2,500 dwellings along with key infrastructure to support the new neighbourhood and the existing community. See page 11 for further details of the site-specific requirements.

The Framework Masterplan & Application Process

3. The Framework Masterplan - This provides the key ‘design concepts’ to ensure high quality design and place making, which in turn will define the character and context of the development proposals.

4. Planning Applications - Land parcels will come forward by a series of separate planning applications. These applications will align with the Framework Masterplan and High-Level Design Principles. Each application will be accompanied by a Design and Access Statement (DAS) which will provide an additional layer of detail from that included in the Framework Masterplan.

It is expected that the Church Commissioners for England and Landlink Estates will submit an outline planning application for the majority of the site Allocation. This will then be followed by reserved matters applications. Other landowners may submit planning applications under a different format, but all will need to accord with the principles established in this Framework Masterplan.

Phased Implementation and Delivery

5. Planning Conditions and Obligations - As part of any planning permission it will be necessary to discharge planning conditions and obligations. This will result in further detailed and technical information in relation to construction activities, delivery and occupation.

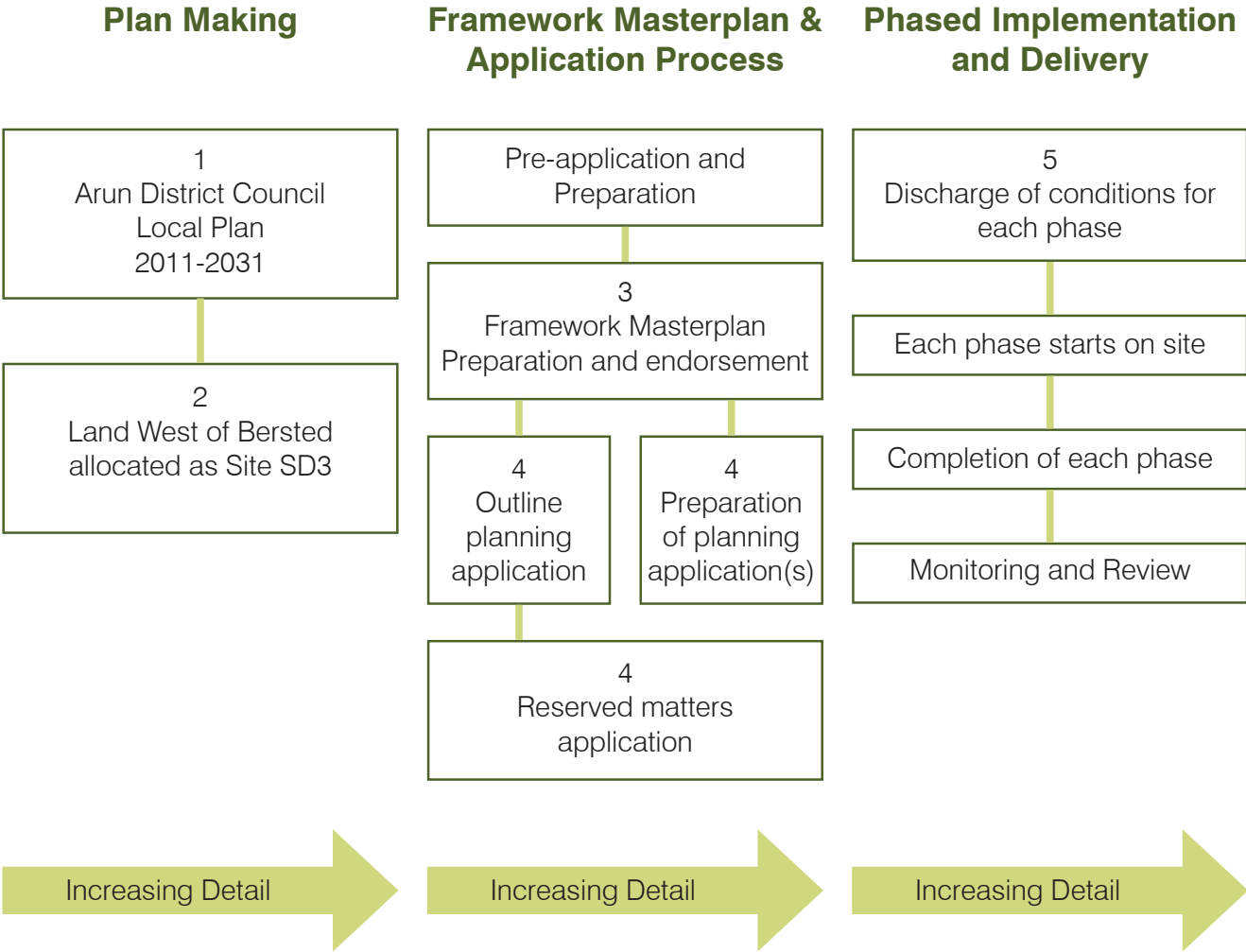


Fig 2.3 Approvals Process

2.4 Design Quality

The NPPF notes that the creation of high-quality buildings and places is fundamental to what the planning and development process should achieve. Good design is a key aspect of sustainable development, creates better places in which to live and work and helps make development acceptable to communities.

In line with the guidance of the NPPF, the purpose of this Masterplan Framework is the first step to ensuring that the new development at West Bersted will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development. It sets out the baseline for how the development will be visually attractive as a result of good architecture, layout and appropriate and effective landscaping. New development on the Site should be sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change.

In this context, the National Design Guide addresses the question of how we recognise well-designed places, by outlining and illustrating the Government's priorities for well-designed places in the form of ten characteristics. It notes that well-designed places and buildings come about when there is a clearly expressed 'story' for the design concept and how it has evolved into a design proposal. This explains how the concept influences the layout, form, appearance and details of the proposed development.

The National Design Guide also notes that buildings are an important component of places and proposals for built development and are a focus of the development management system. However, good design involves careful attention to other important components of places. These include:

- the context for places and buildings;
- hard and soft landscape;
- technical infrastructure – transport, utilities, services such as drainage; and
- social infrastructure – social, commercial, leisure uses and activities.

A well-designed place is unlikely to be achieved by focusing only on the appearance, materials and detailing of buildings. It comes about through making the right choices at all levels, including:

- the layout (or masterplan);
- the form and scale of buildings;
- their appearance;
- landscape;
- materials; and
- their detailing.

The Local Plan contains a number of design related policies with the focus being on planning for climate change, conserving natural resources and increasing biodiversity. The strategic objectives for design seek the creation of vibrant, attractive, safe and accessible towns and villages that build upon their unique characters to provide a wide range of uses and which are a focus for quality shopping, entertainment, leisure, tourism and cultural activities. A number the design policies are referred to in the High Level Development Principles (see section 3.2 and Appendix 1). These Principles sit alongside this Framework Masterplan to guide future development on the site and will ensure a high quality development is delivered.

These components of place are set out and explained in this Masterplan Framework. A key feature of this Masterplan Framework is how the development will establish a strong sense of place, using the arrangement of streets, spaces, building types and materials to create attractive, welcoming and distinctive places to live, work and visit. Matters on appearance, materials and detailing of the buildings will be the subject of further detailed consideration, discussion and consultation at the application stages. The subsequent applications for the Site should create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience.

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3.0

Planning Context

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3.2 High Level Development Principles.....	15

3.0 Planning Context

3.1 Arun Local Plan

3.1.1 Policy H SP2

Policy H SP2 of the Arun District Local Plan (2018) requires a Framework Masterplan to be endorsed by the Council ahead of any development proposal being submitted for the Site Allocation. The masterplan should incorporate high quality design and give a sense of place and permeable layout. The Framework Masterplan responds to this requirement and other policies that are of relevance from the Local Plan.

The Site Allocation is allocated to deliver at least 2,500 new residential dwellings alongside the following:

- A new three-form entry primary school and nursery places.
- A new 3G pitch facility.
- Two new sports pitches and facilities.
- A Community Hub which will include shops, a new healthcare facility and a Tier 7 library.
- Improvements to the A259
- New employment provision
- Road/pedestrian/cycle link between the A259 and Chalcraft Lane.
- Ensure no detrimental impact to Pagham Harbour SPA.
- Linkages and accessible pedestrian and cycle routes to Bognor Regis town centre.
- A comprehensive strategy for surface water management

The map opposite shows the Site Allocation labelled as 'Site SD3'

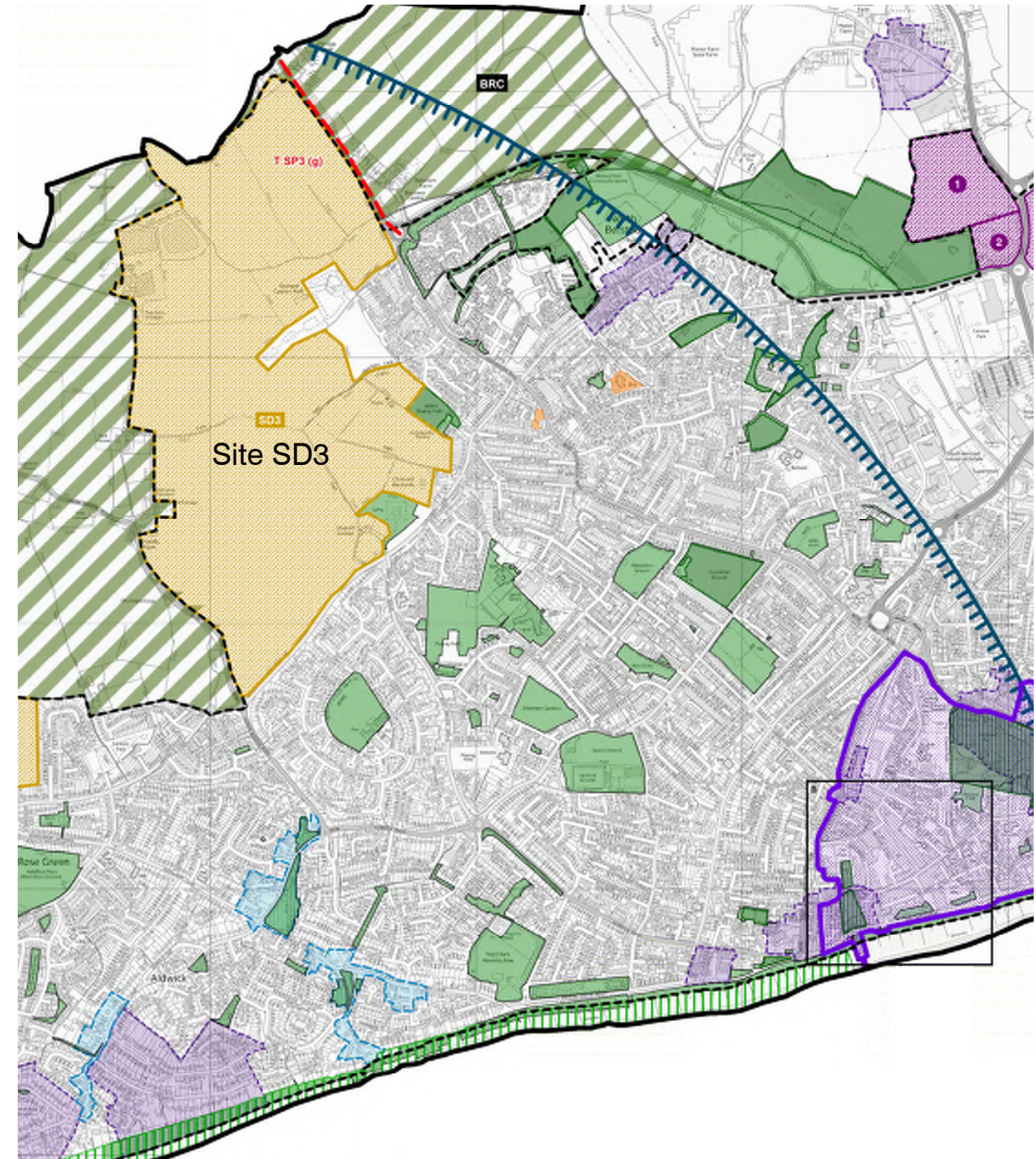


Fig 3.1.1 Excerpt from Arun Local Plan 2011-2031 (July 2018) Map 3 (updated September 2018)

3.2 High Level Development Principles

To inform the preparation of the Framework Masterplan, a number of High-Level Development Principles were drawn up in collaboration with Arun District Council Officers. These were endorsed by Arun District Council on 30 June 2020.

During the preparation of planning applications for the Site Allocation, these High Level Development Principles will sit alongside the Framework Masterplan and will guide the development proposals.

The full High Level Development Principles can be found at Appendix 1 and can be summarised into the following key groups:

- **Access and Movement** – seek to reduce the need for private vehicles and promote sustainable forms of transport including walking and cycling and create permeable neighbourhoods;
- **Landscape and Green Infrastructure** – incorporate key blue and green landscape features and infrastructure, including locations for play space, formal space and informal open spaces plus Sustainable Drainage Systems (SuDS);
- **Community and Employment** - identify key locations for supporting employment spaces and a new school, local centre, community facilities and library;
- **Built Form** – identify the development parcels and key character areas;
- **Sustainability** – include measures to enhance sustainability and mitigate climate change; and
- **Technology** – incorporate opportunities for the integration of smart deliverable technologies that enhances public transport, homes, community and support uses and employment space.

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4.0

Vision and Framework Objectives

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4.0 Vision and Framework Objectives

4.1 Vision

The Framework Masterplan combines a strong landscape-led philosophy with a health and wellbeing strategy, both of which were at heart of the masterplanning approach undertaken for the Site Allocation. It promotes a walkable, community focused development with a unique character. The Framework Masterplan promotes healthy lifestyles across the Site Allocation, ensuring that all existing and future homes and businesses will have easy access to new green open spaces, a network of footpaths and cycleways and the new wellness trail that encircles the development.

The community focused local centres and school are linked to this new network of routes around and across the Site Allocation, promoting a walking and cycling culture. The enhanced public rights of way enables residents from the wider community to have direct access into and beyond the site. Sport and recreation are centrally embedded into the scheme with the opportunity for the wider community to participate. Leisure and play opportunities will also be distributed throughout the development, maximising the ability for every member of the local community to access a wide range of leisure activities from their front door



Fig 4.1 Artist's impression of the north part of the Site Allocation

The Vision for the site is to achieve and deliver:

- A high quality residential and commercial development;
- Housing with a mix of well-designed sustainable homes, including single person, family and specialist housing for the elderly, to help meet local demand;
- Significant areas of new, publicly accessible landscape, co-ordinated with drainage features, that provide a high quality amenity and opportunities for existing residents as well as new;
- Design that alleviates flood risk and provides overall betterment to the site, river corridors and the wider area;
- Sustainable development with on-site social and community facilities, employment space, retail floorspace, education provision, sports and play facilities and community-based food production;
- A legible scheme providing good connectivity by foot, cycle, and bus;
- A range of habitats that seek to retain the existing vegetation wherever possible, supplemented by new multi-functional green corridors, open space and native planting, to maximise opportunities for improved biodiversity;
- Proposals will provide high quality family homes integrated within the landscape and include supporting facilities needed on a day to day basis by the new and existing residents alike;
- Allotments, community orchards and waterways are proposed across the site, along with green corridors which allow for views to the South Downs and Chichester Cathedral Spire to be retained as part of placemaking; and
- Integration of existing Public Rights of Way through the scheme connecting to people beyond the site boundary.

4.2 Framework Objectives

In delivering the Vision for the site, the following Objectives have been prepared to guide the development of the Framework Masterplan. These are considered key components for creating a new community.

4.2.1 Placemaking

New Homes - To create a place where people are able to form a new community that enhances and complements the existing, established neighbourhoods of the area. The existing landforms, Public Right of Ways, hedges, historic field boundaries and rife, will help facilitate the creation of new neighbourhoods naturally and the masterplan should incorporate these features into its design.

Each residential neighbourhood should have a distinct identity, combining access to the wider landscape network and green spaces within each development plot.

In creating a place where people want to live and work, the new residential neighbourhoods should be complemented with distinct employment areas and other supporting facilities, such as the Local Centres, primary school and sports facilities.

Employment - Key employment generating uses should be placed in locations that are well connected to the existing transport network and away from any noise-sensitive uses. These spaces should be designed flexibly to allow for their occupation by a range of businesses.

Surrounding communities - The existing residential, heritage and rural boundaries of the Site Allocation should be respected, with a deep landscape buffer provided along Chalcraft Lane and an ecological fringe along the rural boundary. Safer connections with existing streets and improved cycle routes into the town centre and beyond should be created.

4.2.2 Connectivity

A safe, well-connected and user-friendly network of streets, paths and cycleways should be facilitated across the masterplan to encourage people to walk and cycle. These should be integrated with the existing public rights of way within the Site and facilitate greater connectivity to the surrounding countryside and communities. Routes should connect the existing and new communities with sports, leisure and recreation spaces as well as the new local centres and community functions.

4.2.3 Landscape and Drainage features

A landscape-led approach to the masterplan should be adopted which seeks to retain as many of the existing ditches, hedges and rife as possible and provide a variety of new spaces and habitats suitable for all ages and activities. New drainage infrastructure should use, where possible, the existing topography of the site and the historic rife's and ditches.

A water management strategy for the whole site should be integrated within the design. This system should allow each phase to operate self-sufficiently in drainage terms and be delivered as individual parcels come forward.

4.2.4 Sustainability

The overall sustainability vision will be encapsulated within a sustainability framework which is based on five defined factors: the people, the physical infrastructure, the social network, the natural environment, and the economic aspects.

4.2.5 Infrastructure and Delivery

The infrastructure requirements such as the new spine road, primary school and sports facilities should be designed in a way that allows for them to be delivered at key stages of the development, as and when the demand for them is required.