



LAND EAST OF WESTERGATE, WESTERGATE

Environmental Statement
Volume 3 Appendices

February 2024

LUKEN  **BECK**

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1. Introduction

No Appendices for this Chapter

DB

2. Site Context

No Appendices for this Chapter



3. EIA Process and Approach

- 3.1 Scoping Report – Luken Beck
- 3.2 Scoping Opinion – Arun District Council



Appendix 3.1

Scoping Report – Luken Beck



ENVIRONMENTAL IMPACT ASSESSMENT SCREENING & SCOPING REPORT

Land East of Westergate, West Sussex

June 2022

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1.0 Introduction

- 1.1 This Environmental Impact Assessment (EIA) Screening and Scoping Report has been prepared by Luken Beck on behalf of CALA Homes (South Home Counties) Ltd to request a formal scoping opinion from Arun District Council (ADC) in support of an application for a residential development of 400 dwellings, with vehicular access from Pine Close and erection of new road bridge on the eastern boundary with the rife.
- 1.2 This report sets out the main topics and information that will be contained within the ES in order to enable the Council to consult with the relevant stakeholders on the proposed scope of the EIA. It assesses the baseline site conditions which have been collated through survey work and desk studies in order to determine whether the proposals are likely to result in potentially significant environmental effects.

Site and Surroundings

- 1.3 The site (approx 18.77ha) comprises agricultural and improved grassland to the east of Westergate. The site has defined boundaries with the 'west coastway' main railway line forming the southern boundary, the Lidsey Rife watercourse forming the eastern boundary and the settlements of Westergate and Eastergate forming the western and northern boundaries.
- 1.4 The open land is predominantly a mix of arable farmland Hedgerows define the field boundaries and scattered trees are located in the northern part of the site. A tributary stream crosses the middle of the site running east-west with a wet woodland located adjacent to the Westergate settlement boundary. Public footpaths cross the site with access taken through the medium density residential areas to the West (Orchard Gardens, Woodgate Park, Elmcroft Place and Old School Place). Existing vehicle access is taken from the A29 via an access road running parallel to the railway line.
- 1.5 The site is located on a clay cap up to 100mm thick which overlies a chalk aquifer and consequently is not subject to the groundwater flooding issues found elsewhere in some parts of the surrounding area. The site topography comprises a level field system, elevated above shallow valley areas and areas of functional flood plain, which are shown on the Environment Agency flood risk map as following the Lidsey Rife and the tributary crossing the site. The majority of the site falls within Flood Zone 1 and a sequential approach towards the distribution of residential development on the site would be followed to ensure flood risks are minimised.
- 1.6 The site is not located within an area designated as of landscape sensitivity or of international or national ecological importance. It is not designated as, or within the setting of, a Building Conservation Area or Scheduled Ancient Monument. The South Downs National Park is located 2 miles to the north. A



single statutory site for nature conservation (Brooks Local Nature Reserve) is located within 2 km of the site (approx. 1.65km to the south-west). There are also two non-statutory sites of Nature Conservation Importance (SNCI) within 2km of the site, comprising Fontwell Race Course (0.82km to the north-west) and Slindon Bottom (located 1.27km to the north) .



Figure 1: Site Location

Planning Policy Context

- 1.7 The site forms part of the site allocation SD5 included as part of The Adopted Arun Local Plan 2011 – 2031. Policy H SP2c specifically refers to allocation SD5 (Barnham / Eastergate / Westergate) and states;

'This allocation is located around the small settlements of Barnham Eastergate and Westergate. This Strategic Allocation will provide at least 2,300 dwellings over the plan period, and up to 3,000 in total (a further 700 beyond 2031). Development proposals must demonstrate compliance with the following key design and infrastructure requirements:

- a) *Preserve the separate identities and avoid any further physical coalescence of the three villages of Barnham, Eastergate and Westergate through the delivery of green infrastructure. Eastergate and Barnham should be protected from a continuous urban form / coalescence along the north and south aspects of the B2233,*

- b) *the design of development and landscaping shall ensure that there is continuity between the existing landscape setting and villages,*
- c) *the design and layout of the development shall take account of the location of the railway line crossing the site,*
- d) *housing shall be designed around a Linear Park which follows along the Lidsey Rife,*
- e) *A comprehensive strategy for surface water management will be developed in line with specific recommendations for this locality, in the Arun Strategic Surface Water Management Study;*
- f) *significant views to and from the South Downs shall be incorporated within the site,*
- g) *provide a Community Hub which has been designed and will include;*
 - i. *a new well connected local centre, with connections to the train station at Barnham;*
 - ii. *the location and scale of the local centre shall support and respect the relationship with existing facilities within the six villages area;*
 - iii. *new retail, commercial and community facilities*
 - iv. *new Tier 7 library facility; and*
 - v. *healthcare facilities to serve BEW (SD5) and Fontwell (SD6)*
- h) *transport requirements including:*
 - i. *a new A29 route through the allocation which provides all necessary linkages and routing between the A259 (Bognor Regis Relief Road) to the south and A27 to the north and includes a bridge over the railway to the east of the current Woodgate crossing. The construction of this new route will be regarded as not only mitigating the effect of additional development traffic from the strategic site, but also providing significant additional benefits to the primary local road network and reducing the potential for future congestion in the wider area. In the event that the any landowner delays the delivery of the route and/or does not reasonably make available part or all of the route then Arun District Council will utilise Compulsory Purchase Order powers to deliver the entire route of the road from the A29 Fontwell Avenue in the north to the A29 Lidsey Road in the south;*

- ii. *provision of an east-west route north of the railway line that will join the existing A29 route to the new A29 route and continue eastwards to Barnham railway station;*
 - iii. *access to Barnham railway station shall be maximised through the provision of direct and attractive routes for all transport modes including additional car parking to serve facilities in Barnham's centre including at the railway station;*
 - iv. *regular bus services linking BEW with Bognor Regis (A29 route) and local facilities and employment; and*
 - v. *Westergate Link cycle scheme, in addition to further cycle routes to/from Bognor Regis and linkages,*
- i) *provide a new two-form entry primary school, a new one-form (expandable to two-form) entry primary school and nursery places,*
 - j) *incorporate two new sports pitches and changing facilities, and*
 - k) *incorporate planned new employment provision.*

Overview of the Proposed Development

- 1.8 The proposed planning application will be a full application for up to 400 dwellings, with vehicular access from Pine Close and erection of new road bridge on eastern boundary with the Rife.

2.0 Environmental Impact Assessment Approach

EIA Screening

- 2.1 The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (hereafter termed the 'EIA Regulations'), require that, before consent is granted for certain types of development an EIA must be undertaken. The EIA Regulations set out the types of development which must always be subject to an EIA (Schedule 1 development) and other development, which will only require assessment if they give rise to significant environmental effects (Schedule 2 developments). Guidance and thresholds are available to help decide whether EIA is required for a Schedule 2 development.
- 2.2 The development does not fall within any of the descriptions contained within Schedule 1 of the EIA Regulations for which EIA is mandatory. However, the development does fall under the description in Schedule 2, 10 (b):



(b) Urban development projects, including the construction of shopping centres and car parks, sports stadiums, leisure centres and multiplex cinemas;

(i) The development includes more than 1 hectare of urban development which is not dwellinghouse development; or

*(ii) **the development includes more than 150 dwellings; or***

*(iii) **the overall area of the development exceeds 5 hectares.***

2.3 In this case, the development exceeds indicative thresholds for both site size and number of dwellings set out in the Regulations and is therefore deemed to be Schedule 2 development. However, a development falling within schedule 2 does not automatically mean it is EIA development.

2.4 Schedule 3 of the Regulations outlines considerations for when screening a Schedule 2 development. The site does not lie within in a sensitive area and it is not considered that in isolation the proposed development would have potential for significant environmental effects. However, as detailed in Chapter 3 of this report, there are a number of large scale developments that have been approved and / or are currently under construction in the local area. When considering the in combination effects, there is potential for the proposed development to cause significant effects.

2.5 Therefore, as a result of the potential for cumulative effects as a result of a number of developments / approved schemes surrounding the site, the development is considered to be EIA development.

EIA Scoping

2.6 Part 4, Regulation 15 (1) of the EIA Regulations provides for the Applicant to ask the relevant LPA to state in writing their opinion as to the scope and level of details of the information to be provided in the Environmental Statement (a scoping opinion).

2.7 Paragraph 15 (2) states that a request should include:

(i) a plan sufficient to identify the land;

(ii) a brief description of the nature and purpose of the development, including its location and technical capacity;

(iii) an explanation of the likely significant effects of the development on the environment; and

(iv) such other information or representations as the person making the request may wish to provide or make;

- 2.8 It is the aim of this EIA Screening and Scoping Report to provide sufficient information to ACD, so that they are able to consider and consult on the proposals and provide a formal scoping opinion.

Scope of Work

- 2.9 To inform the likely scope of the EIA the following main tasks have been undertaken:

- Identification of the site boundary
- Identification of the key characteristics of the development site and the establishment of the environmental baseline through a series of desk and field studies
- Identification of gaps in the baseline and the further survey work required to address these
- Initial consideration of the potential sources and nature of environmental impacts through assessment against the environmental baseline
- Definition of impact assessment methodologies to be utilised

Alternatives

- 2.10 In line with the EIA Regulations, alternatives will be considered as part of the design process, which will be iterative and involve outputs from baseline surveys and the outcomes of consultation with statutory and non-statutory consultees and with the public.

3.0 Cumulative Schemes

- 3.1 The potential cumulative effects of the development in association with other development both during construction and on completion will be included where relevant as required by Schedule 4, Paragraph 5 (e) of the EIA Regulations. This requires a description of the likely significant effects resulting from:

“the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources”

- 3.2 Table 1 and 2 list the approved developments within the vicinity of the proposed development have been identified in the ES submitted as part of the current planning application for the mixed use development, including 1,250 dwellings on land at BEW Parcel SC1 (ADC ref. BN/11/22/OUT).



Site address	Parish	Reference	Application description	Status
1 Land at former Eastergate Fruit Farm Eastergate PO20 3RP	Barnham & Eastergate	EG/71/14/OUT	Outline application for the erection of 60 residential dwellings with new vehicular access, open space & other ancillary works	Approved Feb 2015
2 Land south and west of Barnside and east of pond, Hook Lane	Aldingbourne	AL/8/16/OUT	Outline application with all matters reserved for a residential development of up to 14 No. dwellings & associated works including access, landscaping & open space. This application is a Departure from the Development Plan.	Refused (Appealed and allowed May 2018)
		AL/33/19/RES	Approval of reserved matters following the consent of AL/8/16/OUT (APP/C3810/W/16/3155330) for the erection of 14 No. dwellings with associated access, parking, landscape & open space.	Approved July 2019
3 Land at Nyton Rd & Northfields Lane, Westergate & land off Fontwell Lane, Eastergate	Walberton	AL/61/13/OUT	Outline application with some matters reserved for the demolition of existing glasshouses, residential bungalow, stables and various outbuildings and residential development of up to 268 dwellings including 30% affordable housing (incorporating 60 Senior Living units), with associated access, public open space and landscaping. This is a Departure from the Development Plan.	Allowed on appeal 2015
		AL/102/17/RES	Application for approval of Reserved Matters following outline application AL/61/13/ for the demolition of existing glasshouses, bungalow, stables & outbuildings & residential development of 268 dwellings incl 30% affordable housing (incorporating 60 senior living units) with associated access, public open space & landscaping.	Approved 2018
4 Wings Nursery Lidsey Road Woodgate PO20 3SU	Aldingbourne	AL/32/19/OUT	Outline application with some matters reserved for the erection of 55 No. dwellings, access arrangements, sustainable drainage measures, public open space, landscaping & all other associated works (resubmission following AL/115/17/OUT). This application is a Departure from the Development Plan.	Approved October 2020
5 Land north of Lee's Yard Lidsey Road Woodgate PO20 3SU	Aldingbourne	AL/21/20/OUT	Outline application with some matters reserved for the erection of 38 No. dwellings consisting of 5 No. 4-bed house, 14 No. 3-bed houses & 19 No. 2-bed houses, with communal work hub & associated car parking & landscaping (resubmission following AL/57/18/OUT). This application is a Departure from the Development Plan.	Approved July 2020



Site address	Parish	Reference	Application description	Status
6 Land west of Fontwell Avenue Fontwell Avenue Eastergate	Barnham and Eastergate	BN/50/20/PL	Demolition of existing structures on-site & erection of 42 No. dwellings with access, parking, landscaping & associated works. This application is a Departure from the Development Plan.	Approved December 2020
7 Land south of Barnham Station Barnham	Barnham and Eastergate	BN/142/20/OUT	Outline planning application with all matters reserved, other than principal means of access, for up to 200 No. dwellings, with access taken from Marshall Close, associated infrastructure & landscaping & demolition of existing buildings. This application is a Departure from the Development Plan, may affect the setting of listed buildings, may affect the Church Lane, Barnham Conservation Area & affects a Public Right of Way.	Validated November 2020. Refused Subject to Appeal. No decision yet available.

Table 1: Potential Schemes for Cumulative Assessment

Landowner / site	Development	Timescales
West Sussex County Council	A29 realignment to the north of Barnham Road (Phase 1)	Approved WSCC/052/20 (30 June 2021)
Barratts (land north of Barnham Road)	Circa 600 units (source: ADC scoping opinion ref: BN/155/20/EIS, issued February 2021)	Detailed planning application submission expected Winter 2021/22. Not yet submitted.
CALA land parcel	Hybrid Application 1) Full Planning Application for 101 No. dwellings with new access & associated works on 3.34 ha land; 2) Outline Planning Application with all matters reserved for 249 No. dwellings with access & associated works on 15.06 ha of land	Application refused in March 2020 (ref. AL/15/17/PL). Revised application for the site not yet submitted.
Pye Homes land parcel	Demolition of the Woodgate Centre buildings and the construction of 180 residential dwellings with associated works (ADC application ref: AL/107/21/PL)	Application submitted 16 August 2021. Target determination in March 2022.
Other landowners immediately south of Barnham Road	Boweries	Full application (ref: BN/135/20/PL) for 30 no. dwellings, new access, public open space, landscaping and associated works (submission following EG/22/19/OUT, refused and allowed on Appeal).
	Landscre - Warwick Nursery	Full application for 44 No. dwellings & associated infrastructure (ref: BN/153/20/PL)
	Bexstone House	17 units (source: 2019 HELAA),
		Resolution to grant approval issued 30 July 2021; awaiting conclusion of s106 Agreement
		Resolution to grant approval issued 10 December 2021; awaiting conclusion of s106 Agreement
		No application yet submitted.

Table 2: Potential Schemes for Cumulative Assessment Located within BEW

- 3.3 In addition to the above the potential cumulative effects of the current planning application for the on land at BEW Parcel SC1 (ADC ref. BN/11/22/OUT) will be assessed.



4.0 Proposed Impact Assessment Criteria

ES Chapters and Headings

- 4.1 With regard to the EIA Regulations, the following structure of any ES is likely to be as follows:

Part 1: Non-Technical Summary

Part 2: Environmental Statement

- Chapter 1: Introduction
- Chapter 2: Site Description & Development Proposals
- Chapter 3: EIA Methodology
- Chapter 4: Planning Policy Context (including an outline of the main alternatives studied by the applicant)
- Chapter 5: Air Quality
- Chapter 6: Noise
- Chapter 7: Landscape and Visual
- Chapter 8: Highways and Access
- Chapter 9: Ecology and Nature Conservation
- Chapter 10: Heritage
- Chapter 11: Flood Risk and Drainage
- Chapter 12: Conclusions

Part 3: Technical Appendices

- 4.2 Each of the chapters detailing with the main environmental issues will be based on the following format:

- Introduction
- Legislation and policy – a summary of legislation and policy relevant to the environmental issue which is being assessed
- Assessment methodology
- Baseline – information describing the existing environment;
- Effects during construction
- Effects post construction
- Mitigation – measures to avoid, reduce or remedy adverse impacts
- Residual effects – impacts which remain after mitigation
- Summary

5.0 Environmental Topics to be Addressed in ES

Air Quality

Introduction

- 5.1 The chapter provides a review of baseline conditions within the vicinity of the Site (including identifying any gaps in the baseline or further survey work required), identifies receptors sensitive to changes in air quality due to the construction and/or operation of the Proposed Development, evaluates the Proposed Development's likely impact on local air quality which may occur during the construction and/or operational phases, identifies the methodology to be applied to the EIA along with potential measures to reduce/mitigate any air quality effects.

Baseline Conditions

- 5.2 Within Arun District Council's (ADC's) administrative area the monitored air quality is good, in particular the air quality objectives for nitrogen dioxide (NO₂) are being met. No Air Quality Management Areas (AQMA) have been declared within the District.
- 5.3 The Site is located in an area where air quality is mainly influenced by emissions from road traffic using the A29 (Nyton Road), Westergate Lane, B2233 (Barnham Road) and Church Lane.
- 5.4 There are no industrial pollution sources in the immediate vicinity of the Site that will influence the local air quality.
- 5.5 ADC's latest Annual Status Report (ASR) (2021)¹ provides the results of air quality monitoring undertaken by ADC across their network of NO₂ diffusion tubes. The ASR indicates that there are three NO₂ diffusion tube monitoring stations located 2km radius of the Site. Annual mean NO₂ concentrations recorded at these monitoring sites from 2017 -2020 inclusive are shown in Table 3.

¹ Arun District Council (2021) Annual Status Report
<https://www.arun.gov.uk/download.cfm?doc=docm93jjjm4n18109.pdf&ver=19045>

Site Name	Site Type	Distance to Site (km)	Annual Mean NO ₂ Concentration (µg/m ³)			
			2017	2018	2019	2020
20 Barnham Road	Roadside	1.6	20.7	20	18.5	12.9
Barnham Road	Roadside	1.5	N/A	N/A	N/A	14.8
A29, Lidsey Road	Roadside	0.5	N/A	N/A	N/A	14.9

Table 3: Local Authority NO₂ Air Quality Monitoring Data

- 5.6 There has been continuous improvement in annual mean NO₂ concentrations between 2017 and 2020 at the monitoring site situated at Barnham Road which is approx. 1.6km from to the Site. There was a steep improvement between 2019 and 2020 which is likely to be attributable to the effects of Covid-19 on traffic volume during this period. For all monitoring sites, in all years where data is available, the AQS objective for annual mean NO₂ concentration has been easily met, with concentrations circa 50% of the objective or below.
- 5.7 There are no automatic monitoring stations within the District. Consequently, no measured concentrations of PM₁₀ and PM_{2.5} are available.
- 5.8 Estimated background concentrations from DEFRA's webpages² show that the predicted NO₂, PM₁₀ and PM_{2.5} concentrations for the 1km grid square containing the Site in 2022 are 7.8µg/m³, 13.9µg/m³ and 8.7µg/m³ respectively. These concentrations easily meet the relevant objectives for these pollutants.
- 5.9 It is recommended that consultation with the Environmental Health Officer (EHO) at ADC should be undertaken to discuss and agree the scope and methodology for the air quality assessment that will be undertaken for the EIA. This will include agreeing the use of ADC's closest diffusion tube monitoring locations for the purpose of model verification and obtaining confirmation that no site specific air quality monitoring is required.

² <https://laqm.defra.gov.uk/air-quality/air-quality-assessment/background-maps/>



Receptors Relevant to EIA

- 5.10 The following receptors have been identified as sensitive to potential changes in air quality during the construction and/or operation of the Proposed Development.

Construction Phase

- 5.11 The Institute of Air Quality Management's (IAQM's) 'Guidance on the Assessment of Dust from Demolition and Construction'³ requires consideration of sensitive human receptors within a 350m study area measured from the site boundary. It is within this distance that the impacts of dust soiling and increased particulate matter in the ambient air, and indeed emissions from vehicles and plant used on site, will have the greatest impact on local air quality at sensitive receptors. The following human receptors fall within this study area: Eastergate Church of England Primary School, Ormiston Six Village Academy and residential properties to the western boundary of the Site.
- 5.12 The IAQM guidance also says that an assessment of effects on ecological receptors should be undertaken where there are ecological receptors present within 50m of construction activities. No designated ecological sites have been identified within this distance from the Site boundary and therefore consideration of effects on ecological receptors due to on-site construction activities is not required.
- 5.13 With regard to the deposition of soil from the Site onto the local road network, the IAQM guidance says that this should be assessed where there are human receptors within 50m of the route used by vehicles on the public highway, up to 500m from the site entrance, and/or ecological receptors within 50m of the route used by vehicles on the public highway, up to 500m from the site entrance. There are human receptors present within these distances, including residential properties at Westergate Street and Meadow Way junction, but no ecological receptors within the specified distances.

Operational Phase

- 5.14 Guidance produced by Environmental Protection UK (EPUK) and the IAQM⁴ for the assessment of air quality for planning applications advises that impacts on air quality could be such that further assessment (likely detailed dispersion modelling) is required, should the following change in traffic flows occurs due a development proposal:

- There is a change in Light Duty Vehicle (LDV) flows of:

³ the Institute of Air Quality Management (IAQM) 'Guidance on the Assessment of Dust from Demolition and Construction' <https://iaqm.co.uk/text/guidance/construction-dust-2014.pdf>

⁴ Environmental Protection UK and Institute of Air Quality Management (Version 1.2 Updated January 2017). Land Use Planning & Development Control: Planning for Air Quality <http://www.iaqm.co.uk/text/guidance/air-quality-planning-guidance.pdf>



- more than 100 Annual Average Daily Traffic (AADT) within or adjacent to an Air Quality Management Area (AQMA),
 - more than 500 AADT elsewhere; or,
 - There is a change of Heavy Duty Vehicle (HDV) flows of:
 - more than 25 AADT within or adjacent to an AQMA,
 - more than 100 AADT elsewhere.
- 5.15 The study area for the assessment of effects on local air quality at sensitive receptors due to emissions from road traffic associated with the Proposed Development once operational will be defined based on the number of vehicle trips generated and their distribution, and comparison with the above EPUK/IAQM criteria.
- 5.16 Receptors located close to roads experiencing a significant change in traffic as a result of the Proposed Development will be the most sensitive to changes in air quality due to traffic associated with the Proposed Development, once operational. These will be determined by undertaking a desktop review of the Site, utilising aerial photography and OS mapping, and may include neighbouring residential and/or commercial properties, schools, and healthcare facilities etc.
- 5.17 A preliminary review indicates that that the nearest existing receptors to the Site which may be affected by operational phase effects comprise (but are not limited to) Eastergate CE Primary School to north-east, Bright Starts Day Nursery to the north, and residential dwellings and commercial units located along the Westergate Street and Church Lane.
- 5.18 Consideration will also be given to sensitive receptors within the identified committed developments, which will introduce new sensitive receptors/exposure into the study area, as well as locations within the Proposed Development itself.

Assessment Methodology

- 5.19 The proposed methodology for the air quality assessment to be completed as part of the EIA is as follows:

Construction Phase

- 5.20 The impact of construction phase effects on local air quality will be assessed using professional judgement and guidance published by the IAQM³. The significance of these effects will be assessed with reference to the risk levels set out in the IAQM guidance.

- 5.21 The likely effect of emissions to air from construction traffic will be assessed qualitatively with reference to the guidance published by EPUK and the IAQM (as referenced above⁴). Where the construction phase is anticipated to last longer than two years, the number of construction vehicle movements generated will be screened against the criteria provided within EPUK/IAQM's guidance⁴ to establish if a detailed air quality assessment is required. If the screening criteria are exceeded, then a quantitative air quality assessment will be undertaken using dispersion modelling, with reference to the guidance published by the EPUK/IAQM⁴ and the Defra's technical guidance⁵ for the review and assessment of air quality.

Operational Phase

- 5.22 The number of vehicle movements generated by the Proposed Development will be screened against the criteria provided within guidance published by EPUK and the IAQM⁴ to establish if a detailed air quality assessment is required. If the screening criteria are exceeded, then a quantitative air quality assessment will be undertaken using dispersion modelling, with reference to guidance published by the EPUK/IAQM⁴ and DEFRA's technical guidance⁵ for the review and assessment of air quality.
- 5.23 If a quantitative assessment is required, which is considered likely given the size of the Proposed Development and likely level of associated traffic, the predicted pollutant concentrations will be compared to the relevant air quality objectives and if necessary, appropriate mitigation measures will be recommended to reduce or remove any potentially adverse air quality impacts identified.
- 5.24 Consideration will also be given to the potential exposure of future occupants of the Proposed Development to poor air quality although, based on the baseline review, pollutant concentrations within the vicinity of the Site are not anticipated to exceed the relevant air quality objectives.
- 5.25 An emission mitigation assessment will also be undertaken following the methodology provided in the ADC's Air Quality and Emissions Mitigation Guidance for Sussex (2021)⁶.
- 5.26 The scope and detailed methodology for the air quality assessment will be discussed and agreed with the ADC's Environmental Health Officer.

⁵ Department for Environment, Food and Rural Affairs (2021). Local Air Quality Management Technical Guidance LAQM.TG(16) <https://laqm.defra.gov.uk/documents/LAQM-TG16-April-21-v1.pdf>

⁶ Arun District Council (2021) Air Quality and Emissions Mitigation Guidance for Sussex <https://www.arun.gov.uk/download.cfm?doc=docm93jjm4n17087.pdf&ver=17704>



Likely Environmental Effects

- 5.27 Based on an initial consideration of likely air quality effects, taking into account current information regarding the Proposed Development and the results of the baseline review, the following likely environmental effects are identified.

Construction Phase

- 5.28 During the construction phase, dust, and particulate matter (PM₁₀ and PM_{2.5}) are likely to be generated from activities including demolition, earthwork, construction and track-out, which may result in localised and temporary adverse impacts on local receptors such as the existing residential properties in Westergate Street, Ivy Lane, and Church Lane; Eastergate CE Primary School, Bright Starts Day Nursery; commercial units along Westergate Street and Church Lane. These effects include nuisance due to increased dust soiling and potential effects on human health due to increased particulate matter concentrations.
- 5.29 Emissions associated with non-road mobile machinery on site and construction vehicles using the local transport network could result in an increase in NO₂, PM₁₀ and PM_{2.5} concentrations with subsequent effects on local air quality.
- 5.30 However, any increased dust deposition or increased pollutant concentrations will be temporary and short to medium term, lasting the duration of the construction phase only. The IAQM's guidance states that: *"For almost all construction activity, the aim should be to prevent significant effects on receptors through the use of effective mitigation. Experience shows that this is normally possible. Hence the residual effect will normally be 'not significant'."* Therefore, construction phase effects are unlikely to be significant following the implementation of best practice mitigation measures, proportionate to the risk level identified.

Operational Phase

- 5.31 Once operational, emissions from traffic generated by the Proposed Development could have an impact on local air quality at sensitive receptors along the routes that will be used by traffic to travel to and from the Site. The magnitude and significance of any effects will be determined and presented within the Environmental Statement (ES), utilising traffic data and, if required, a detailed air dispersion model (considered likely based on the scale of the Proposed Development).
- 5.32 Consideration will also be given to the proposed Link Road (to the wider allocation) and subsequent effects on the distribution of traffic on the local road network.
- 5.33 The nearest designated ecological site, The Brooks Local Nature Reserve (LNR), is located approximately 2.4km from the Site. The change in traffic along the



A259 will be considered to determine whether quantitative assessment of changes in air quality within the LNR is required.

- 5.34 The nearest Habitats site is located around 8.5km from the Site and, therefore, significant effects are considered unlikely and air quality input into Habitats Regulations Assessment (HRA) is not anticipated to be required.

Cumulative Phase

Construction Phase

- 5.35 As outlined in the IAQM's Demolition and Construction Dust guidance, consideration should be given to effects on air quality at sensitive receptors within a distance of up to 350 metres from the Site boundary. Where one or more development sites are located in close proximity (i.e. within 700 metres of each other) and their construction periods are likely to coincide, cumulative effects may occur at locations where the study areas for one or more of the development sites overlap with the study area for the Proposed Development.
- 5.36 In addition to the potential for cumulative effects to arise due to on-site construction activities, cumulative effects may also arise where construction traffic from one of more developments (including the Proposed Development) travels along the same routes on the local road network. Cumulative construction effects will therefore need to be considered in the air quality assessment being undertaken as part of the EIA.

Operational Phase

- 5.37 There is the potential for cumulative effects to occur during the operation of the Proposed Development due to the effect of traffic travelling to and from the Site along with traffic from other committed developments within the vicinity and general background growth on the local road network.
- 5.38 The traffic flows provided for the assessment of air quality effects during the operation phase will include flows from committed developments in the surrounding area. Traffic from committed developments in the locality will be included within the traffic data for the opening year of the Proposed Development. Therefore, total pollutant concentrations with the Proposed Development operational will include contributions from nearby committed developments but the change in concentrations will reflect the impact of the Proposed Development only.

Potential Mitigation

Construction Phase

- 5.39 Mitigation measures that should be implemented on site during the construction phase will be based on industry best practice techniques to



suppress the generation of dust and particulate matter at source, and the dispersion of both, as set out in the IAQM guidance on how to assess the impacts on air quality arising from construction activities, including earthworks. The mitigation measures proposed will be proportionate to the level of risk identified following the IAQM's dust risk assessment methodology.

- 5.40 To reduce the effect of emissions to air from vehicles accessing and leaving the Site during the construction of the Proposed Development, mitigation measures such as ensuring that these vehicles do not pass along sensitive roads (residential roads, congested roads, via unsuitable junctions, etc.) where possible, and that vehicles are kept clean (through the use of wheel washers, etc.) and sheeted when on public highways, will need to be implemented. Timing of large-scale vehicle movements to avoid peak hours on the local road network will also be beneficial.

Operational Phase

- 5.41 For the operational phase of the Proposed Development, consideration should be given to the mitigation measures outlined within the Sussex Air Quality and Emissions Mitigation Planning Guidance⁶. For residential development:
- all gas-fired boilers to meet a minimum standard of <40mg/NO_x/kWh. Consideration should be given to renewable sources of energy, e.g. air source heat pumps; and
 - the requirements for electric vehicle charging, as set out within relevant guidance, should be met. For ADC, relevant guidance comprises:
 - West Sussex County Council (September 2020) Guidance on Parking at New Developments⁷; and
 - West Sussex's Travel Plan Resources⁸.
- 5.42 In addition to the above, a Travel Plan will be produced for the Proposed Development, which will provide details of alternative transport to single occupancy vehicles, including measures to promote walking and cycling.

Summary and Recommendations

- 5.43 Table 4 below provides a summary of the elements scoped in or out further assessment.

⁷ West Sussex County Council (September 2020) Guidance on Parking at New Developments https://www.westsussex.gov.uk/media/1847/guidance_parking_res_dev.pdf

⁸ West Sussex County Council's Travel Plan Resources. <https://www.westsussex.gov.uk/roads-and-travel/travel-and-public-transport/travelwise-sustainable-transport/travel-plans/travel-plan-resources/>

Element	Phase	Scoped In	Scoped Out	Justification
Effect of Dust and PM ₁₀ generated by onsite activities on sensitive human receptors	Construction	✓		Potential for direct effects on nearby residential dwellings located within 350m of the site boundary.
Effect of Dust and PM ₁₀ generated by onsite activities on sensitive ecological receptors	Construction		✓	There are no ecological sites present within the distances specified within the IAQM's guidance.
Increases in ambient pollutant concentrations due to emissions from site plant	Construction	✓		Close proximity of schools to the north and north east of the Site boundary.
Increases in ambient pollutant concentrations due to emissions from vehicles accessing and leaving the site during the works	Construction	✓		Potential for direct effects on air quality at residential dwellings located adjacent to those roads that will experience a significance change in traffic flows due to the Proposed Development.
Effects on sensitive human receptors due to changes in air quality associated with the operational phase	Operation	✓		Potential for direct effects on air quality at residential dwellings located adjacent to those roads that will experience a significance change in traffic flows due to the Proposed Development. Consideration will also be given to the proposed Link Road (to the wider allocation) and subsequent effects on the distribution of



				traffic on the local road network.
Effects on Habitats sites during the operational phase	Operation		✓	Given the distance from the Proposed Development to the nearest international designated site, it is considered that there will be no impact on Habitats Sites and no air quality input to HRA is anticipated.
Effect on other nearby designated ecological sites	Operation	✓		The nearest designated ecological site, The Brooks Local Nature Reserve (LNR), is located approximately 2.4km from the Site. The change in traffic along the A259 will be considered to determine whether quantitative assessment of changes in air quality within the LNR is required.

Table 4: Elements Scoped In or Out of Further Assessment

5.44 The exact scope of the assessment will be confirmed following a review of the traffic data (to determine the need (or otherwise) for quantitative assessment and to confirm the extent of the study area) and consultation with the EHO at ADC. Notwithstanding the above, based on the scale of development proposed, it is likely that the air quality assessment presented within the ES will comprise a:

- Qualitative assessment of construction phase effects; and
- Quantitative assessment of operational phase effects using detailed dispersion modelling.

Noise and Vibration

Introduction

5.45 This chapter has been prepared by WSP to set out the proposed methodology for an assessment of the noise and vibration effects of the Proposed Development on existing sensitive receptors, during both the construction and operational post-completion stages.



- 5.46 Also provided is the methodology for an assessment of impacts from the noise and vibration environment on the suitability of the development site for residential use.

Baseline Conditions

Existing noise sources

- 5.47 A desktop review of the development site and the dominant sources potentially affecting the existing noise climate has been undertaken. The dominant noise sources likely to affect the development site are road traffic on Westergate Street (A29), to the west of the site; and the railway lines which link Chichester and Barnham, located adjacent to the southern boundary of the site.
- 5.48 Additional noise contributions from Eastergate Primary School may be perceptible during school hours, where outdoor teaching activities are being undertaken. However, such noise is generally likely to be low at sensitive receptors within the Proposed Development, of which the nearest boundary to the school grounds is approximately 70 m to the south-east.

Existing vibration sources

The most likely source of vibration which may impact sensitive receptors towards the southern boundary of the Proposed Development is the passage of trains along the railway lines which link Chichester and Barnham, located adjacent to the southern boundary of the site. However, a previous assessment of potential vibration impacts at the development site, undertaken by 24 Acoustics (report reference: R6399-1 Rev 5) in support of planning application reference: AL/15/17/PL indicates that vibration levels were particularly low. In the assessment prepared by 24 Acoustics, the predicted Vibration Dose Values (VDVs) at the proposed sensitive receptors nearest to the railway lines, were of a level lower than that which is likely to result in a 'low probability of adverse impact'.

Baseline Noise and vibration Conditions

- 5.49 In advance of any methods being undertaken to establish the existing baseline conditions, WSP will seek consultation with Arun District Council (ADC) to agree the appropriate approach.
- 5.50 It is likely, however, that the baseline noise and vibration climate will be established primarily via noise and vibration measurements at locations across the development site. It should be noted, however, that the applicable guidance set out in the Calculation of Road Traffic Noise (CRTN)⁹ suggests that

⁹ Department of Transport Welsh Office (1988) Calculation of Road Traffic Noise.



for the measurement of road traffic noise, the adopted location “should normally be not less than 4 metres and not more than 15 metres from the nearside edge of the carriageway”. With respect to road traffic noise along Westergate Street, it may not be possible to install measurement equipment securely with an unobstructed view of the road within these distances. This would leave the possibility of attended road traffic noise measurements being undertaken in accordance with the 3-hour shortened measurement procedure, set out in CRTN; or traffic data may be obtained from the project transport consultant, which may be used to predict the $L_{10,18hr}$ road traffic noise level. The appropriate option will be determined following attendance at the site and with agreement from ADC.

5.51 The proposed noise and vibration measurement locations are indicated in Figure 2 and are summarised below.

- **Measurement Location 1 (ML1):** Long-term unattended measurements will be undertaken within the development site at the boundary nearest to Westergate Street. These measurements will be used to assist in the calibration of predicted noise levels within a 3D acoustic model of the site and surrounding area for use:
 - in the assessment of the suitability of the site for residential use; and
 - for the determination of ambient noise levels at existing sensitive receptors for the assessment of noise during the construction phase.
- **Measurement Location 2 (Noise) (ML2):** Long-term unattended measurements will be undertaken within the development site at the boundary nearest to the railway lines. The measurements will be used to establish noise levels generated by the passage of trains along the railway lines and to inform the 3D acoustic model of the site and surrounding area for use:
 - in the assessment of the suitability of the site for residential use; and
 - for the determination of ambient noise levels at existing sensitive receptors for the assessment of noise during the construction phase.
- **Measurement Location 2 (Vibration) (ML2):** Attended measurements will be undertaken within the development site at the boundary nearest to the railway lines. The measurements will be used to establish ground borne vibration levels generated by the passage of trains along the railway lines to inform the assessment of the suitability of the site for residential use.
- **Measurement Location 3 (ML3):** Long-term unattended measurements will be undertaken within the development site at the boundary nearest to Eastergate Primary School. These measurements will be used to assist in the calibration of predicted noise levels within a 3D acoustic model of the site and surrounding area for use:



- in the assessment of the suitability of the site for residential use; and
- for the determination of ambient noise levels at existing sensitive receptors for the assessment of noise during the construction phase.



Figure 2: Proposed noise and vibration measurement locations

Receptors Relevant to EIA

Construction Phase

- 5.52 Noise generated by construction activity would be subject to distance attenuation and ground absorption effects, and, to the west of site, screening effects from the nearby properties. As such, a study area which extends 200m from the site boundary is considered sufficient. Residential properties and education premises located within 200m of the site boundary would be considered in this assessment.

Operational phase

- 5.53 The assessment of potential effects during the operational phase will focus on development generated road traffic noise. Typically, such an assessment would be undertaken in line with the guidance set out in the Design Manual for Roads and Bridges (DMRB) LA11110 which suggests study area limits (i.e. the area which encapsulates the sensitive receptors to be assessed) equivalent to:

"1) the area within 600m of new road links or road links physically changed or bypassed by the project;

2) the area within 50m of other road links with potential to experience a short term BNL change of more than 1.0dB(A) as a result of the project."

- 5.54 However, DMRB also states that study area:

"...can be reduced or extended to ensure it is proportionate to the risk of likely significant effects..."

- 5.55 Therefore, the study area (and by extension the sensitive receptors) will be determined based on the extent of the scheme (point 1 above) and the traffic data supplied by the transport consultant (point 2 above).

Assessment Methodology

Construction Noise and Vibration

- 5.56 The effects of construction noise and vibration from the development of the site and supporting road infrastructure, on existing sensitive receptors, will be assessed based on guidance contained within British Standard (BS) 5228:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites (Part 1: Noise and Part 2: Vibration).
- 5.57 Construction noise levels will be predicted at nearby existing sensitive receptors based on a typical construction plant list for a development of this size and nature, and following the methodology set out in Annex F of BS 5228-1.
- 5.58 The following scale of effects is proposed for construction noise. However, this may be amended based on the anticipated ambient noise levels at nearby sensitive receptors.

Level of noise solely from construction works (façade levels)	Magnitude of impact	Significance of effect
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¹⁰ Highways England, Transport Scotland, Welsh Government and the Department for Infrastructure Northern Ireland (2020). Design Manual for Roads and Bridges, LA111 revision 1. Noise and Vibration



≤65 dB L _{Aeq,T} (T – the time period over the core working day)	Negligible	Negligible
66 dB to 70 dB L _{Aeq,T} (T – the time period over the core working day)	Small adverse	Minor
71 dB to 75 dB L _{Aeq,T} (T – the time period over the core working day)	Medium adverse	Moderate
≥76 dB L _{Aeq,T} (T – the time period over the core working day)	Large adverse	Major

Table 5: Scale of Effect - Construction Noise

5.59 As for construction noise, construction vibration levels will be predicted at nearby existing sensitive receptors based on a typical construction plant list for a development of this size and nature, and following the methodology set out in BS 5228-2.

5.60 The following scale of effects is proposed for construction vibration.

Peak Particle Velocity (PPV) mm/s (temporary vibration)	Magnitude of impact	Significance of effect
≤0.3	Negligible	Negligible
0.4 – 0.9	Small adverse	Minor
1.0 – 4.9	Medium adverse	Moderate
≥5.0	Large adverse	Major

Table 6: Scale of Effect - Construction Vibration

5.61 The focus of the construction assessment will be on the identification of any significant effects, and consequently any mitigation measures that will need to be included in a Construction Environmental Management Plan (CEMP).

Operational Road Traffic Noise

5.62 The change in noise levels at the existing sensitive receptors resulting from additional traffic flows associated with the Proposed Development (including the proposed site access road and junction with Westergate Street) will be predicted based on traffic data provided by the project's transport consultant, and in line with guidance contained within CRTN. The magnitude of impact will then be assessed in general accordance with the guidance contained in the

DMRB LA111¹¹, using, in particular, the magnitude of noise impact classifications contained in that document.

- 5.63 A number of assessment year scenarios and comparisons will be undertaken (in accordance with the DMRB guidelines) to assess the potential effects of traffic related noise from the completed and operational Proposed Development in the short-term and long-term. These are detailed below:
- Comparison 1: Year of Opening without the Proposed Development vs Year of Opening with the Proposed Development
 - Comparison 2: Year of Opening without the Proposed Development vs Design Year (Year of Opening plus 15 years) with the Proposed Development.
- 5.64 The first comparison above assesses the short-term change in traffic related noise as a result of the Proposed Development, and the second comparison assesses the long-term change in traffic related noise as a result of the Proposed Development.
- 5.65 The following scale of effects is proposed for operational road traffic noise. The significance of effect may be adjusted depending on the acoustic context, including the absolute noise level and likely perception of change by a resident, as described in LA111.

Short-term change in noise level, dB(A)	Long-term change in noise level, dB(A)	Magnitude of impact	Significance of effect
0 to +0.9	0 to +2.9	Negligible	Negligible
+1.0 to +2.9	+3.0 to +4.9	Small adverse	Minor
+3.0 to +4.9	+5.0 to +9.9	Medium adverse	Moderate
≥+5.0	≥+10.0	Large adverse	Major

Table 7: Scale of Effect - Operational Road Traffic Noise

Site Suitability Assessment

- 5.66 Consideration will be given to the impact that the environmental noise climate might have on the noise sensitive aspects of the Proposed Development (i.e. residential properties). This will include the existing noise sources which have been identified earlier in this chapter.

¹¹ Highways England, Transport Scotland, Welsh Government and the Department for Infrastructure Northern Ireland (2020). Design Manual for Roads and Bridges, LA111 revision 1. Noise and Vibration



- 5.67 Consideration will need to be given to the interfacing of these land uses, to minimise any potential noise impacts on the noise sensitive aspects of the Proposed Development.
- 5.68 The suitability of the site will be assessed in accordance with relevant policy documents, standards and guidance, including:
- Department for Communities and Local Government (2021) National Planning Policy Framework (NPPF);
 - Defra (2010) Noise Policy Statement for England (NPSE);
 - Ministry of Housing, Communities and Local Government (2021) Planning Practice Guidance;
 - British Standard (BS) 8233:2014 'Guidance on sound insulation and noise reduction for buildings';
 - Association of Noise Consultants, Institute of Acoustics and Chartered Institute of Environmental Health (2017) Professional Practice Guidance (ProPG) on 'Planning and Noise: New Residential Development' ;
 - British Standard (BS) 6472-1:2008 'Guide to evaluation of human exposure to vibration in buildings Part 1: Vibration sources other than blasting.
- 5.69 The aim of this assessment would be to ensure that a suitable internal and external noise climate is achieved for future residents and users of the Proposed Development.

Likely Environmental Effects

- 5.70 This appraisal considers the effects of the Proposed Development on the existing environment, but also the likely impacts of the existing and likely future environment on the Proposed Development (the latter sometimes referred to as 'site suitability').
- 5.71 An assessment of site suitability will be undertaken in line with relevant guidance, however, a scale of effect and significance will not be applied to this assessment. The purpose of the assessment will be to determine whether the target internal and external noise criteria can be achieved based on the predicted external noise levels, and, consequently, whether the site is suitable for its intended use.

Construction Phase

- 5.72 The table below presents a summary of impacts that have the potential to result in significant effects during the construction phase.

Impact	Receptor	Comments
Construction noise	Existing sensitive receptors	As the construction plant working to prepare the ground and construct the Proposed Development (including the works associated with the proposed site access; the proposed junction with Westergate Street and all other



		new highways within the Proposed Development) would be in the vicinity of existing sensitive receptors, there is the potential for significant adverse effects.
Construction vibration	Existing sensitive receptors	As the construction plant working to prepare the ground and construct the Proposed Development (including the works associated with the proposed site access; the proposed junction with Westergate Street and all other new highways within the Proposed Development) would be in the vicinity of existing sensitive receptors, there is the potential for significant adverse effects.

Table 8: Potential significant impacts during construction phase**Operational phase**

- 5.73 The table below presents a summary of impacts that have the potential to result in significant effects during the operational phase.

Impact	Receptor	Comments
Development-generated road traffic noise	Existing sensitive receptors	There is the potential for a change in road traffic noise at existing sensitive receptors as a result of development-generated traffic using the local road network and proposed roads.

Table 9: Potential significant impacts during operational phase**Potential Mitigation****Construction Phase**

- 5.74 Mitigation measures, including the adoption of Best Practicable Means as defined in the Control of Pollution Act 1974, will be identified within the noise and vibration chapter to minimise adverse impacts on nearby existing and future sensitive receptors. These mitigation measures would be incorporated into a CEMP.

Operational phase

- 5.75 In the first instance, consideration should be given to the factors that influence the level of noise at source, for example vehicle speed and road surface, where feasible.
- 5.76 Other generic mitigation measures that may be considered in the design of the Proposed Development are described briefly below:



The location of buildings on site: The primary control factor is distance; the greater the distance from the source, the lower the noise level. The type of intervening ground cover (acoustically absorbent or reflecting) and the height of the receptor will also influence the received noise level.

Screening: Barriers or screens can reduce noise. They can take the form of an existing feature (for example a cutting), a purpose-designed feature (for example, a solid boundary fence or an earth bund or a combination of the two) or a purpose-designed building (for example, a linear barrier block).

Building form and orientation: Limiting the view of the source by building orientation can reduce the received noise level. Measures include turning a building through 90° to be perpendicular to the road and staggered terraced housing can be arranged to shield noise-sensitive windows. The buildings themselves can also be used to screen associated external amenity areas (i.e. by locating gardens behind the buildings).

Internal planning: Single aspect designs can be employed whereby noise sensitive rooms face into the development, with the outward facing façade either being windowless or incorporating windows to non-noise sensitive rooms.

Building envelope: The final line of defence against external noise is the building envelope and in particular the glazing unit and ventilation package.

Summary and Recommendations

- 5.77 This Chapter sets out the proposed methodology for an assessment of the noise and vibration effects of the Proposed Development on existing sensitive receptors, during both the construction and operational post-completion stages.
- 5.78 Also provided is the methodology for an assessment of impacts from the existing and likely future noise and vibration environment on the suitability of the site for residential use.
- 5.79 In order to establish the baseline noise climate we would predict noise levels across the site and surrounding area by generating a 3D acoustic model with road traffic noise modelled using traffic data supplied by the project transport consultant. We would support this by undertaking noise measurements which would be used to calibrate the noise model.
- 5.80 Baseline vibration measurements will also be undertaken to establish levels of rail induced ground borne vibration and re-radiated noise affecting the Proposed Development.
- 5.81 Assessment of noise and vibration during the construction phase, of road traffic noise during the operational phase, and of the suitability of the site for



residential use are put forward for further assessment as part of the Environmental Impact Assessment.

Ecology

Baseline Conditions

Methodology

Previous Surveys

- 5.82 A Phase 1 ecological survey and phase 2 surveys for protected species were undertaken by ECOSA Ltd in 2011-2012, with an updated Preliminary Ecological Appraisal carried out by ECOSA in 2016. Targeted surveys for bats, otter, water vole, badger, birds and reptiles were undertaken in 2016.

Habitats

- 5.83 Ethos undertook a UK Habitat survey and conditions assessment of the site in May 2020, which was subsequently updated in February 2022 to assess the conditions of habitats under DEFRA Metric 3.0. The survey incorporated detailed assessment of the land within the development boundary, including a description and mapping of all key features and habitat types. The survey was carried out to identify the range of habitats within the site and the predominant and notable species of flora.

Protected Species Surveys

- 5.84 The approach to updating the protected species surveys on the site was agreed during consultation with Liz Annalls, Environmental Officer.
- 5.85 The survey included an assessment of the habitats on site for their potential to support NERC Section 41 species such as hedgehog (*Erinaceus europaeus*), polecat (*Mustela putorius*), harvest mouse (*Micromys minutus*) and brown hare (*Lepus europaeus*). This included a search for nests, runs, latrines, paw prints, and live specimens.
- 5.86 The survey for badger (*Meles meles*) included a search of the development site and surrounding habitats for any evidence of badgers, including setts, foraging signs (snuffle holes), runs and latrines.
- 5.87 The survey included an assessment of the potential of the site for hazel dormouse (*Muscardinus avellanarius*), focusing on the connectivity and suitability of the habitat on site.



- 5.88 The survey included an assessment of the site to support riparian mammals such as otter (*Lutra lutra*) and water vole (*Arvicola amphibius*). This included an assessment of the riparian habitats on site or within the wider environment to support these species. During the extended UKHab assessment a search for field signs including holts/burrows, couches, feeding sites, spraints/latrines and tracks was undertaken.
- 5.89 The methodology for the bat survey has been informed by the Bat Conservation Trust Bat Surveys Good Practice Guidelines (Collins, 2016).
- 5.90 The habitats on site were assessed for their suitability to support foraging and commuting bats. This assessment was also contextualized through examination of suitable habitat and features in the wider landscape and possible flight-lines across the proposed site following natural linear features such as hedgerows.
- 5.91 Preliminary ground roost level assessment surveys for bats were undertaken in May 2020. The methodology draws upon guidance within Collins (2016) and the Bat Tree Habitat Key (2018). The surveys were undertaken using binoculars and a high-powered torch to view features from the ground. Details on the potential roosting features were recorded as well as information to identify the specific trees.
- 5.92 Bat static surveys were used to provide the composition of bat species present on site. Three static detectors were deployed monthly on site between May and August 2020 for a period of at least ten days.
- 5.93 The bird survey included an assessment of the habitats on site for their potential to support protected and notable species of bird as well as their potential to support breeding birds.
- 5.94 The potential presence of reptiles on site was assessed considering the habitats present (availability of refugia and basking areas) and suitability of surrounding environment. Where possible, attempts to confirm reptile presence on site were made following *Froglife Advice Sheet 10 – Surveying for Reptiles* through direct observation in reptile “hotspots” and checking of any existing refugia.
- 5.95 Surveys for GCN were informed by the *Great Crested Newt Conservation Handbook*, Froglife 2001. The site was examined for suitable waterbodies and for breeding terrestrial habitat. Terrestrial habitats providing sufficiently structured vegetation in which amphibians may forage or hibernate over winter were also surveyed for.
- 5.96 Pond 1 was not subject to an eDNA assessment in May 2020 as it was found to be dry at the time of survey and was subsequently also dry in February 2022.
- 5.97 Due to the many invertebrate taxonomic groups that exist, the often-large differences in invertebrate diversity between habitats and the many survey techniques available, invertebrate surveys are highly specific to individual sites.



Therefore, an assessment of the potential site for invertebrates was undertaken, including the need for targeted surveys.

Results

Habitats

- 5.98 The site comprised fields of modified grassland with a large field of arable land in the south of the site. There were areas of mixed scrub in the north of the site and wet woodland/ mixed woodland in the west of the site. Hedgerows were generally species-rich with trees and formed good connectivity throughout the site. There were several mature oak trees throughout the northern grassland areas. The Lidsey Rife stream ran along the eastern boundary of the site and a wet ditch ran west-east through the centre of the site. Habitats and hedgerows on site are shown in Figure 3.

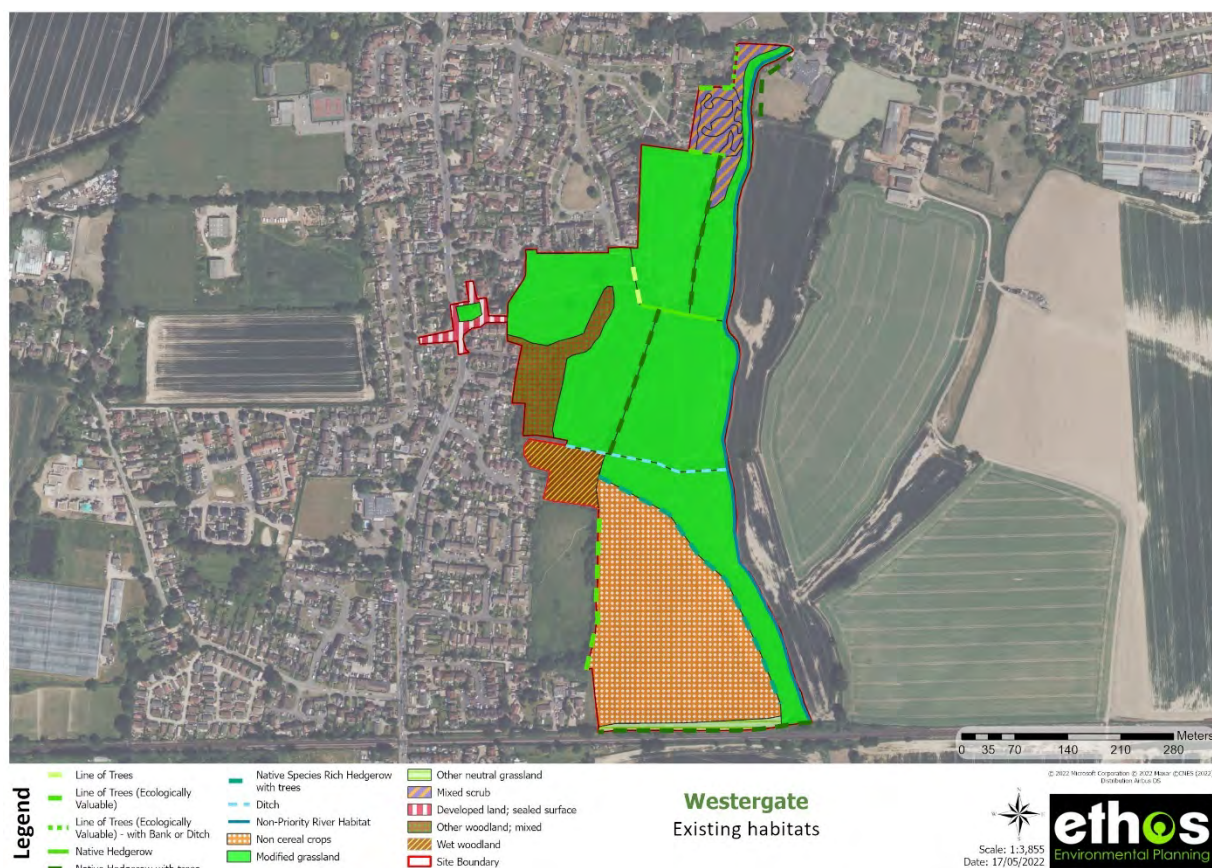


Figure 3: Habitats on site



Photo 1: Modified grassland in the north east of the site



Photo 2: Modified grassland in the centre of the site



Photo 3: Mixed scrub in the north of the site



Photo 4: Wet woodland in the west of the site

Protected Species

- 5.99 Due to the proximity of the site to residential areas to the west, and the areas of grassland, scrub and hedgerows on site, it was considered likely that hedgehog are present on site. The site contained some suitable habitat for brown hare and polecat and was assessed to be unsuitable for harvest mouse.
- 5.100 No evidence of badger was identified during the surveys, however the site was assessed to contain suitable habitat for badger to forage, commute and sett-build.
- 5.101 The 2016 hazel dormouse surveys did not identify any evidence of dormouse presence, and no records of dormouse were identified in the data search. The updated surveys by Ethos did not identify the habitat to have significantly changed since the previous surveys were undertaken. However, the mixed scrub, bramble scrub, hedgerows and mixed woodland were assessed to contain suitable habitat for dormice.
- 5.102 No evidence of otter or water vole was identified during the surveys of the watercourses on site.

- 5.103 The habitats were assessed to contain moderate potential for commuting and foraging bats, due to the good ecological connectivity of hedgerows and ditches throughout the site, alongside the presence of areas of mixed and bramble scrub and mature trees.
- 5.104 The ground-level assessment of trees identified eleven trees with features suitable for roosting bats. No roosting bats or evidence of bats was identified during the aerial inspection surveys undertaken in 2016.
- 5.105 Moderate levels of bat activity were identified on site during the activity transect surveys undertaken in 2016. The Lidsey Rifle and railways line along the south of the site were assessed to be important for bats on site. Five species of bat were recorded; common pipistrelle, soprano pipistrelle, *Myotis* spp., brown long-eared bat and serotine.
- 5.106 The static detector surveys recorded eight species of bat, namely common pipistrelle, soprano pipistrelle, Nathusias' pipistrelle, noctule, serotine, long-eared bat, barbastelle and *Myotis* bat spp.
- 5.107 The breeding bird surveys undertaken in 2016 identified the site to support a variety of breeding birds, including Birds of Conservation Concern (BoCC) Red List and Amber List species and Wildlife and Countryside Act Schedule 1 species. Notable species recorded were Cetti's warbler, linnet, song thrush, yellowhammer and dunnoek.
- 5.108 The site was assessed as suitable to support a range of bird species for foraging and nesting, with the woodland, hedgerows, scrub and watercourse identified as notable habitats.
- 5.109 The targeted surveys for reptiles undertaken in 2016 identified a good population of slow worm and low population of common lizard on site, within the hedgerow bases and tussocky grassland and mixed scrub in the north of the site. The grassland, scrub, hedgerows and woodland were assessed as suitable habitat to support reptiles.
- 5.110 There were no suitable waterbodies on site for GCN, with a single pond located adjacent to the east of the site, as shown in Figure 3. Pond 1 was subject to a HSI assessment in May 2020 and February 2022. The pond was found to be significantly scrubbed over and did not hold water. Therefore, it was assessed to be unsuitable to support GCN and other amphibians.

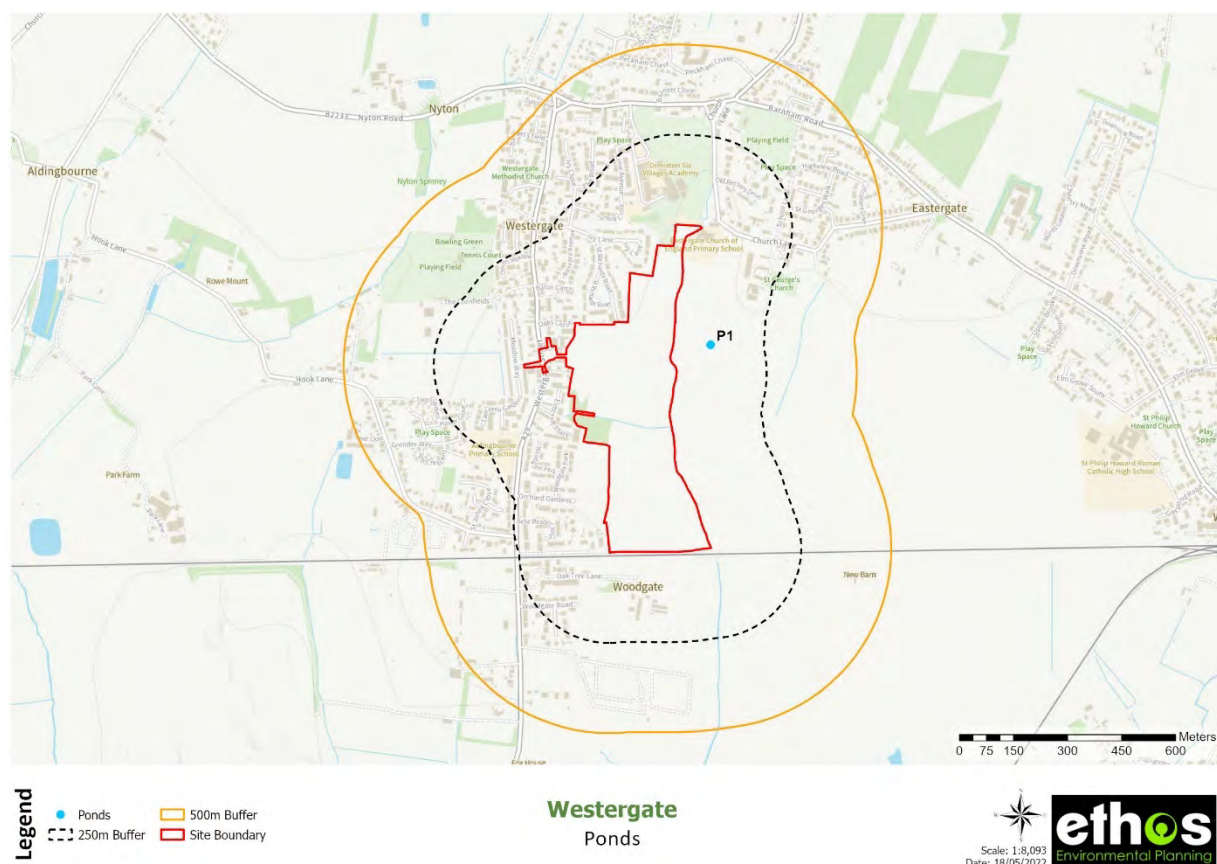


Figure 4: Ponds within 500m of the site

- 5.111 Targeted surveys for invertebrates were undertaken in 2016. One red data book species and four nationally scarce species were identified, with the most ecologically valuable areas for invertebrates assessed as the semi-improved grassland.
- 5.112 The wet woodland, ditches, hedgerows and mixed scrub were assessed as valuable habitats for invertebrates.

Additional Surveys Required

- 5.113 Although the scope of surveys was previously agreed in consultation with the LPA, as an additional two years has passed since the updated surveys were undertaken, it is considered likely that updated bat surveys would be required to support a full application.
- 5.114 Surveys would comprise bat activity transect surveys supplemented by static detector surveys, undertaken monthly April to October. Updated aerial inspections of the trees with features suitable for roosting bats would also be required, if they are likely to be impacted by development works, through removal or indirectly from habitat fragmentation or lighting.

- 5.115 A biodiversity net gain assessment will be required to identify the project's potential to deliver net gain, in line with local and national policy.
- 5.116 If works are required within 10m of the Lidsey Rifle, a river condition assessment will need to be undertaken to inform the biodiversity net gain assessment.
- 5.117 Best practice guidance suggests that dormouse surveys are valid up to three years if the habitats have not significantly changed. As they surveys were undertaken in 2016, updated dormouse surveys may be required to determine dormouse presence or likely absence on site. Surveys should be undertaken between March and November, in line with best practice guidance.
- 5.118 Updated reptile surveys may also be required to support a full application, comprising seven presence/ absence surveys undertaken between March and October.

Receptors Relevant to EIA

- 5.119 The ecological receptors to be considered as part of the EIA comprise bats, reptiles, birds and habitats.
- 5.120 Riparian mammals, hazel dormouse, great crested newt, badger and designated sites are scoped out of the assessment due to their absence/ likely absence. However, updated dormouse surveys will be required to determine the current status of dormouse on site, as the habitat present remains suitable for the species.

Assessment Methodology

- 5.121 This assessment will be undertaken following the approach set out in the 'Guidelines for Ecological Impact Assessment in the UK and Ireland' (CIEEM, 2018). The assessment will considered 'Important Ecological Features' that are present within the 'Zone of Influence' of the project. Important Ecological Features for this project comprise:
- Habitats and Species of Principal Importance for the Conservation of Biodiversity in England;
 - Legally protected species; and
 - Red Listed or rare species (based on the Red Data Book lists, Birds of Conservation Concern and species considered to be nationally rare/ scarce).
- 5.122 The Zone of Influence (Zol) is the area over which the project could have an influence on ecological features. The Zol is likely to vary for different features. However, in general terms the Zol for this development proposal is considered to comprise the land within the red line boundary as well as immediate adjacent habitat features.



Likely Environmental Effects

Construction Phase

Habitats

- 5.123 Potential impacts on retained habitats during construction could arise as a result of water pollution, dust deposition and damage to tree roots.

Bats

- 5.124 Trees with features which could support roosting bats which require removal to facilitate development could result in the destruction of roosts and disturbance, injury or mortality of bats present.
- 5.125 The proposals have the potential to result in the loss of bat commuting routes and foraging habitat.
- 5.126 Inappropriate construction lighting could negatively impact bats commuting and foraging across the site.

Reptiles

- 5.127 Vegetation clearance of suitable reptile habitat could result in the disturbance, injury and mortality of reptiles present, especially if undertaken during the hibernation season (November to February, inclusive).

Birds

- 5.128 Without mitigation, the proposals have the potential to result in the damage, disturbance and destruction of nesting bird habitat and bird nests, if undertaken during the breeding bird season (March to August inclusive).

Operational Phase

Habitats

- 5.129 The removal of ecologically valuable habitats such as woodland, stream, wet ditches, hedgerows, mature trees and mixed scrub would be detrimental to local biodiversity, as these habitats provide resources for a variety of species including bats, birds, reptiles and invertebrates.

Bats

- 5.130 The removal of potential roost habitat (e.g. mature trees) could result in a reduction of roost habitat for bats in the local area. The removal of hedgerow and trees could impact bat commuting routes.



- 5.131 An inappropriate lighting design scheme could result in adverse effects on commuting and foraging bats.

Reptiles

- 5.132 Removal of scrub and hedgerow habitat could result in the loss of foraging and hibernating habitat for reptiles.

Birds

- 5.133 The proposals have the potential to result in the loss of breeding habitat for common birds within woodland, hedgerows and trees, and rarer farmland birds within hedgerows and grassland fringes around the fields and arable land in the south of the site.

Cumulative Phase

- 5.134 The potential impacts on receptors will need to be considered in combination with other developments in the local area. The loss of habitat on site, in combination with other local development schemes, is likely to result in a loss of foraging and commuting habitat for species. However, no adjacent developments have been identified which would result in cumulative impacts to species.

Potential Mitigation

Habitats

- 5.135 The removal of ecologically valuable habitats such as woodland, stream, wet ditches, hedgerows, mature trees and mixed scrub should be avoided where possible and mitigated or compensated if required to facilitate development. A biodiversity net gain assessment will be undertaken to determine the site's potential to achieve net gain on site, including the requirement for any offsetting.
- 5.136 Standard pollution prevention controls and a sensitive drainage scheme will be required to ensure there is no adverse impacts to retained habitats such as the stream, wet ditch, woodland, hedgerows and mature trees, including the area of habitat adjacent to the south west of the site.
- 5.137 Tree protection fencing will be required during construction to safeguard retained trees and hedgerows.
- 5.138 Trees of A and B category should be considered as constraints to development and every attempt should be made to incorporate them into the proposed development design.



Bats

- 5.139 Precautionary mitigation for the removal of trees with features suitable for bats may be required.
- 5.140 Any trees which support bat roosts (to be identified through updated surveys) which require removal will require a European Protected Species licence from Natural England.

Reptiles

- 5.141 Vegetation clearance should be undertaken sensitively following a method statement and under ecological supervision where required. This can be included in a Construction Environment Management Plan, which can be conditioned as part of the planning process.
- 5.142 A programme of reptile translocation may be required if sensitive habitat clearance is considered unsuitable to allow reptiles to move into adjacent retained habitat. If a translocation programme is required, a receptor site will need to be created and enhanced to ensure its suitability to receive reptiles.

Birds

- 5.143 Avoid adverse impacts by retaining hedgerows, woodland, trees and grassland fringes where possible. Mitigation impacts on breeding birds by undertaking vegetation outside of the breeding bird season where possible, or following a pre-works check for nesting birds by a Suitably Qualified Ecologist.

Enhancements

- 5.144 Provisions for bats, birds and invertebrates can be integrated into the development design (e.g. integrally in new buildings) to provide habitat for these species. Hibernacula can be created for reptiles to provide refugia for these species.
- 5.145 New areas of open space and ponds should be created with biodiversity in mind. Habitat creation and enhancement measures will need to be identified within a Landscape and Ecology Management Plan, which can be secured by planning condition. The habitats will require management for a period of at least 30 years, in line with biodiversity net gain requirements.

Summary and Recommendations

- 5.146 Ecologically valuable habitats on site comprise the wet woodland, mixed woodland, hedgerows, stream and ditch corridors, and mature trees should be retained where possible and incorporated into the development design.

- 5.147 A biodiversity net gain assessment will be required to determine the development's potential to deliver net gain and the requirement for any offsetting.
- 5.148 Further surveys for bats, reptiles and dormouse are recommended to support a full application.
- 5.149 Mitigation has been recommended to safeguard habitats, bats, reptiles and birds, and enhancement measures for protected species have also been recommended.
- 5.150 Precautionary mitigation for NERC S41 mammals and badger will be included within the Ecological Impact Assessment.

Landscape and Visual

Introduction

- 5.151 The landscape and visual impact assessment will set out the existing landscape and visual baseline environment and will assess its quality and sensitivity to the proposed development. It will describe the nature of the anticipated change upon the landscape character in the study area and potential visual receptors. It will also assess the magnitude and significance of the anticipated changes.

Baseline Conditions

- 5.152 This scoping report benefits from a previous LVIA undertaken in February 2017 (DLA/1740/LVIA/RPT/01/B) that was submitted as part of the original application. As part of this scoping exercise the site was revisited (February & March 2022) and the original Representative Viewpoints (RVP's) reviewed. The site visit confirmed that with the exception of small scale residential development along the western boundary the baseline remained consistent to the findings of the original report. It has therefore been used as a baseline reference.

Resources and Evidence Bases

- 5.153 In addition, the following resources, evidence bases, and relevant policies will be used to inform the LVIA baseline:
- BN/11/22/OUT BEW application = Parameter plan – Landscape and Green Infrastructure 00605B-PP04 rev P1;
 - Arun Local Plan 2011-2031;
 - Aldingbourne Neighbourhood Development Plan 2019-2031;
 - Arun Green Infrastructure Study June 2012;
 - Arun Landscape Study 2017;

- South Downs Local Plan – adopted July 2019 (Policy SD6)¹²; and
- Landscape and Visual Amenity Aspects of Development Choices in Arun District (2006-2026) 2006.

5.154 This section should be read in conjunction with the submitted RVP's. In accordance with good practice these views will be agreed with the Local Planning Authority (LPA) as part of the EIA LVIA process. These have been taken to present a record of views that are considered representative of potential receptors and a detailed description of the view accompanies each image. Some additional photographs have been included to provide further information for example, where the viewpoints are not publicly accessible, photographs taken within the site can identify the potential extent of views or indicate how topography or vegetation screens important receptors.

The Aldingbourne Neighbourhood Plan (ANP) – 2019-2031 (adopted 2020) - Local Green Space (LGS)

5.155 The northern corner of the site is identified as a 'Local Green Space' - 12. Land east of Ivy Lane. The area is described as 'Area of land on the village edge bounded by public rights of way and used for allotments. Used by residents for 70 years for dog walking, children's informal play and as a tranquil walking area to view bird and other wildlife. Links into the Biodiversity Corridor'. This is to be retained within the development framework.

5.156 The vegetation framework within the site and along the river are identified within the ANP as Biodiversity corridor maps and will be subject to further ecology assessment.

5.157 The following information will be progressed as part of the EIA submission and will also be used to inform the LVIA and potential mitigation measures:

- Updated Arboriculture Assessment and review of Tree Preservation Orders (TPO's);
- Updated Ecological Assessment;
- Height Parameter Plan; and
- Green Infrastructure (GI) Framework Plan.

5.158 Where views are not publicly accessible the potential effects will be tested through cross sectional analysis and massing models if required.

Establishing the Study Area

5.159 The Study Area has been defined by the Zone of Theoretical Visibility (ZTV) as set out within the submitted Methodology. The initial ZTV was informed using

¹² Strategic Policy SD6: Safeguarding Views – potential cumulative effects on views from the National Park.

GIS mapping systems and based on locating transmitters¹³ at a maximum height of 9m above ground level. Two additional transmitters have been set at 12m in the locations currently identified for apartments.

5.160 The GIS process does not pick up localised landscape screening and hedgerows. Woodland and the settlement boundaries as identified on the Ordnance Survey 1:10,000 mapping, have been included at a 10m and 9m height respectively and checked on the site visit.

5.161 The GIS concurred with the ZTV identified within the previous LVIA. The low lying landscape, intervening vegetation and development is a significant factor in restricting the extent of opportunities for views to a localised window. The boundaries to the extents are as follows:

- North/ North West - The adjacent housing forms prominent screening features limiting views further into the settlement and beyond.
- There are potential views across the open landscape to the east and south east, the area contained within the BEW strategic allocation. Housing and development along the current settlement edges of Eastergate and Barnham truncate views and experiences further east.
- Views and experiences to the south are filtered by vegetation aligning the railway line and intervening field boundaries. The ZTV extends to the south, however, both the previous LVIA and initial 2022 site visit concluded that this extent was notably reduced to a 1.5km radii. Views from potential receptors within the wider ZTV were truncated by mature hedgerows and trees within the landscape and field boundaries.

5.162 There are opportunities for elevated views from the South Downs which lie approximately 2.5km north and are afforded far reaching panoramic views over the landscape to the west, south and east.

Limitations and information gaps

5.163 For the purposes of this assessment, the effects on residential properties is used as a tool to inform the overall landscape and visual impact assessment, not as part of a residential amenity assessment/appraisal. This is in accordance with GLVIA3 Statement of Clarification 2/14 28-01-14. However, to provide a fully informed judgement residential views will form part of the considerations of the LVIA.

5.164 Limitations to this arise from the availability of access onto private land or dwellings. Potential effects from such receptors will be assessed through a combination of cross section analysis, site visits, photographs, and professional judgement.

¹³ The transmitter is a point which represents the simulated height of the proposal, to check the possible visibility from different areas.

- 5.165 The landscape measures associated with the BEW application are currently unknown and therefore cumulative effects will be tested as a worst-case scenario with no landscape in place.
- 5.166 Only landscape measures that are submitted as part of a detailed application will be considered as inherent measures and form part of the 'assessable' mitigation.

Landscape Baseline

Landscape Designations

- 5.167 There are no national designations within the site or its immediate boundaries.
- 5.168 The site contains several Tree Preservation Orders (TPO). The location and condition of these will be assessed as part of any ongoing survey work and treated as a major consideration.
- 5.169 Whilst the site lies outside of the South Downs, there is potential for the site to be viewed cumulatively with the wider BEW application and therefore will be considered as part of the assessment.

Historical and Cultural Designations

- 5.170 There are no known associations with the Site.
- 5.171 The assessment of LVIA receptors reflects the guidance outlined within Historic England's 'The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning' Note 3 (Second Edition)' within which it explicitly states that '*Analysis of setting is different from landscape assessment.*' This guidance also makes it clear that '*...setting is different from general amenity. Views out from heritage assets that neither contribute to significance nor allow appreciation of significance are a matter of amenity rather than of setting.*'
- 5.172 The previous LVIA and recent site visit concluded that the majority of views from the Eastergate Church Lane Conservation Area (approximately 65m west of the sites northern boundary and 175m west of the development boundary) are screened. There is potential for views from the church yard of St Georges Church which lies on the southern boundary of the Conservation Area, 270m northeast of the site and is Grade II* Listed. These views will form part of the visual assessment.

Public Access

- 5.173 The following PROW have been identified as having potential for views:



- Footpath 297 enters the Site from St Richards Road, running along the inside of the Site boundary before exiting west into Pine Close/Westergate Street. This follows the alignment of the proposed Site entrance .
- Footpath 317 travels south into the Site through the LGS to the north. An informal link joins the footpath immediately at the pedestrian entrance to Eastergate Church of England (C of E) Primary School and appears well used.
- Footpath 296 runs south from Church Lane, around the Primary School boundary entering into the LGS within the eastern section of the site. It continues southwards into the fields alongside the Lydney Rife towards FP300.
- Footpath 298 heads west off this path towards St Richards Road, and links up to FP297. There is an informal but well used direct pedestrian route into the turning head of St Richards Road.
- Footpath 300 runs west from the end of FP296 into Elmcroft Place. A circular route continues south from the FP296/300 juncture along the southern section of the Rife within the Site. Whilst not a definitive route it appears well used.
- To east of the site Footpaths 321 and 323 follow the western extent of Eastergate and have the potential for views (470m northeast at its nearest point).
- Footpath 200-1 forms part of the Rife Circular Walk to the south of the railway line and follows the line of the old canal approximately 1km south of the site.

Topography, Geology and Hydrology

- 5.174 The site and surrounding area form part of the coastal plains, the low lying flat landscape at the base of the South Downs dipslope. The levels gently undulate a couple of meters either side of 10m AOD, gradually rising to 30m AOD at the base of the dipslope approximately 3km north of the site.
- 5.175 The underlying geology of the area consists of London Clay overlain by a mosaic of superficial deposits, including alluvium, brick earth, head gravels and raised beach deposits.
- 5.176 Within the area the overall drainage is directed southwards towards the coast. Within the context of the site the Lidsey Rife which forms the eastern site boundary is relevant and is an important ecological and Key Landscape Character.

- 5.177 There will be no significant changes to these features and are therefore scoped out.

Visual Baseline

- 5.178 In terms of sensitivity, the footpaths and adjoining properties have all been assessed as moderate due to the current quality of landscape and urbanising influences on potential views.
- 5.179 The footpaths appear to be of local value only providing circular walks from the adjoining suburban boundaries. They do not provide the expectation or quality of views available from the elevated Downs or longer distance trails that afford open experiences of the wider countryside and undeveloped rife landscapes.

Receptors Relevant to EIA

Landscape Features

- 5.180 There are several key landscape features including trees, hedgerows and TPO's. These will form part of the initial constraints with an aspiration to include and enhance as a primary mitigation measure. The assessment will relate back to the ecology and arboriculture assessments as well as their effect

Landscape Character/Landuse

- 5.181 The previous LVIA work identified the site as lying within SC9 - Chichester to Yapton Coastal Plains Landscape Character Area¹⁴, which covers the areas between Chichester and Littlehampton encompassing the ZTV and wider BEW. The development of the strategic allocation will, by its very nature, result in the conversion of a rural landscape into a new settlement and associated landscape. The Key physical landscape features that contributed to the LCA (topography, rife, hedgerows and shelterbelts) will be retained as part of the development framework and will potentially be afforded benefit effects through enhancement. They will also form part of the new urban landscape once completed. The adverse changes will result from the initial change in landuse and the landscapes contribution to setting and views associated with the Site and wider foci.
- 5.182 The LVIA process identified two notably different character parcels within the site, the open rife corridor to the east and the enclosed smaller vegetated parcels to the west. These partially tie in with the refined capacity studies undertaken as part of the Local Plan Evidence Base – Landscape Capacity of Strategic Sites (LCSS) in Arun District – Feb 2017 and concurs with the findings of the LVIA. These findings have formed part of the development framework and mitigation strategy as described below.

¹⁴ The West Sussex Landscape Character Assessment carried out in 2003



Landscape Value

- 5.183 In addition to the key landscape character features the LCSS has assessed other qualities which are considered to contribute to the Local Landscape Value and Susceptibility (Sensitivity). These include the quality and condition of features, scenic and perceptual qualities landscape, biodiversity, contribution to key features, the recreational use and its functionality. The potential effects on the contribution of factors included within the value and sensitivity of these parcels will be reassessed utilising the LCSS methodology and recent LI Technical Guidance.

Views from the North

- 5.184 The low lying topography, intervening development and tree cover between the site and the foothills of the Downs restricts local and middle distance views to the housing immediately abutting the site. There are potential long distance views from the elevated Downs ridgeline circa 4-5km to the north.
- 5.185 The boundaries between the site and the housing vary and afford opportunities for open views, although the majority of views are restricted to upper storeys.
- 5.186 The following receptors were identified within the initial LVIA and are considered to have potential significant effects and have therefore been retested as part of the EIA process:
- Church Lane (users of the lane and residents) - RVP02;
 - Public Footpaths 296 (RVP04/05/06), 317 (RVP05) and 298 (RVP10), entering and crossing the Site;
 - Properties at St Richards Road and Ivy Lane, adjacent to the site – IVP A/B/C and RVP's 07/08/09.
- 5.187 The sensitivity of these receptors is considered moderate due to the influence of the adjoining suburban boundaries and features.
- 5.188 The following receptors were identified as having potential minor or negligible effects and will therefore be scoped out of the assessment process:
- St George's Church – moderate sensitivity. Views from the graveyard are screened by a 2m high well maintained native hedgerow (RVP01).
 - Eastergate CE Primary School – views screened by intervening hedgerow (IVPD).
 - South Downs - Elevated locations along the Downs were visited to identify the extent of views and to ascertain whether the site was visible. RVP23 has been included as a typical view where the site is visible as part of the wider panorama. It illustrates that whilst the BEW site will form a new feature within the elevated views, the Site itself remains screened by intervening

vegetation and forms a negligible element within the views and will not extend or demonstrably increase the effects of the wider strategic allocation on the views.

Potential cumulative effects

- 5.189 The potential for cumulative effects are limited to views east towards BEW (FP296/298). The views from the residential properties along the western boundary will be screened by the intervening development in Site.

Views from the East

- 5.190 The landscape to the east of the site consists of low lying open farmland. Immediately east of the Rife the topography rises slightly forming a low mound between the Site and the wider landscape (see RVP17/19). Views are restricted to PRow and limited properties along the Eastergate/Barnham settlement boundary.

- 5.191 Potential receptors are restricted to:

- FP321/323 which circumnavigates the arable fields to the east (RVP's 11, 12, 13 and 14).
- Footpath 296 passes through the eastern rife section of the site (RVP06/20).

- 5.192 The following receptors were identified as having potential minor or negligible effects and will therefore be scoped out of the assessment process:

- 5.193 Due to orientation, and intervening vegetation along boundaries, the railway line and fields the following effects are considered minor/negligible and therefore scoped out:

- St Philip Howards Catholic High School (RVP12).
- Housing along the western boundary of Barnham at Elm Grove South (RVP 13).
- Residential properties along the southwest boundary of Barnham to the south of the railway line and Gospond Road. (RVP13).

Potential cumulative effects

- 5.194 Views from receptors outside of the site will become screened by the intervening BEW development. Users of footpath 296 will have cumulative experiences with views towards the BEW proposals east of the rife.

Views from the South

- 5.195 The landscape to the south of the Site is dominated by the main train line with large open arable farmland to the south. The railway line and development to

the south of the site are located on a low ridgeline which screens views further south.

5.196 Potential receptors to the south are limited to:

- Informal footpaths that follow the route of the rife (RVP17/20).
- Residential property L'apache, located on the southeast boundary (RVP20).
- Properties along the southwest Site boundary, Orchard Gardens & Woodgate Park (RVP16)

5.197 The most sensitive of the properties is L'apache which has an open boundary on to the southernmost parcel. The other receptors are considered Moderate due to the frequency of trains and glimpses towards Barnham, the outlook is rural it is not considered to provide the quality of view or experiences considered for the Higher sensitivity criteria.

5.198 The following receptors have limited views or will not notable change the experiences and have therefore been scoped out.

- Ryefield Farmhouse (RVP20).
- Users of the train are afforded open views over the site due to the elevation of the track. These views are often at fast speeds and viewed in context with Westergate.
- The Rife Circular Walk/FP200 is was identified within the ZTV however the site visits concluded there were no opportunities for views towards the Site and therefore scoped out (RVP15).

Potential cumulative effects

5.199 There are potential cumulative views towards the wider BEW development and Country Park. Development within the southern parcel will screen the views from the current settlement boundaries once complete.

Views from the West

5.200 Views into the Site from Westergate are restricted to the adjacent residential properties and footpaths within the Site. The majority of views from the residential properties are limited to the upper storey. The boundaries of these properties vary in screening and quality and will be tested through series of cross sections to assess potential effects and potential mitigation measures.

5.201 The nature and quality of the available views from potential receptors are influenced by the urban edge resulting in a Moderate Sensitivity.

- Pine Close and Oaks Close (IVPF and RVP21).

- Views from the A29 - Westergate Street are screened by the intervening housing. A single framed view is available at the sites proposed entrance – (RVP22).
- Footpath 300 (RVP's 18 and 20) and 297 (RVP21).

5.202 Views from Elmcroft Place and Old School Place will remain screened by the intervening copse and are therefore scoped out (IVPG).

Potential cumulative effects

5.203 There is potential for views from the footpaths within the Site towards both the development in Westergate and the wider BEW allocation. Trees and hedgerows that separate the western and eastern section currently filter views to the foreground, screening the open land and wider BEW beyond. Development within the site will screen any potential cumulative effects from the current settlement boundary.

Methodology

5.204 The LVIA will be undertaken by an experienced member of the Landscape Institute and be prepared in accordance to the guidance set out within the following publications and the enclosed methodology.

- GLVIA, 3rd Edition and GLVIA3 clarifications provided by the Landscape Institute;
- 'Assessing Landscape Value Outside National Designations' Technical Guidance Note 02/2;
- Landscape Character Assessment Guidance for England and Scotland 2002;
- An Approach to Landscape Character Assessment October 2014, Natural England
- Landscape Institute 'Visual Representation of Development Proposals' Technical Guidance Note 06/19 17 September 2019.

5.205 The assessment of likely significant effects to sensitive receptors will consider the sensitivity of the receptor and the magnitude of change to determine significance, on a scale of Major, Moderate, Minor or Negligible.

5.206 The assessment will identify whether the effects are beneficial or adverse, permanent or temporary and the life span of the effects (0 & 15 years).

5.207 Significant and Residual effects will be determined through professional judgment.

Likely Environmental Effects

5.208 The likely landscape effects arise from the changes to landscape character, the quality and quantum of key landscape features. These effects are closely

linked to the visual amenity however there are opportunities for further indirect visual effects through the change in traffic movements beyond the Site.

Construction Phase

- 5.209 The majority of significant effects to landscape will occur during the construction phase due to the change in landuse and loss of features such as hedgerows and trees to facilitate construction and access. These effects will be permanent.
- 5.210 Visual effects will relate to the movement of traffic and construction work itself and may result in some indirect effects. These effects will be considered temporary.

Operational Phase

- 5.211 Both landscape and visual effects of the development will be tested with the completed landscape measures and will be based on the degree to which the proposals fits into the existing character and the contribution of landscape to the new landuse. These effects will be permanent and will be tested as the planting matures.
- 5.212 There will be additional landscape effects associated with key landscape features relating to the quantum and mitigation measures provided for losses during the construction period and those required to provide enhancement.

Potential cumulative effects

- 5.213 Potential cumulative effects will be restricted to the wider BEW and are described within the visual baseline.

Landscape Strategy/Mitigation Measures

- 5.214 The land to the east is considered to have a higher sensitivity through its potential to provide a distinctive settlement boundary. It also provides an established semi natural transitional landscape between the enclosed and open landscapes to the west and east. In addition, the parcel has an existing recreational and biodiversity value as well as opportunities to strengthen the rife corridor character. Taking into account these sensitivities and opportunities it was determined that this area remain undeveloped as part of the overall framework. This area is considered both within the LVIA and LCSS as having a Low capacity for development.
- 5.215 In comparison, the western section consists of a group of smaller parcels that are enclosed by maturing hedgerows and trees. From within the parcels, the existing urban boundary of Westergate has a notable influence. The boundaries with the housing are currently formed by a mix of urban fencing and overgrown scrub vegetation and bramble, and whilst this lessens the visual



impacts of the housing, it has limited landscape and ecological value. Views towards the east are limited to gaps in the hedgerows and footpaths as they egress into the eastern section. Both the LVIA and LCSS concluded this section as having a Medium/High capacity for development.

5.216 The eastern parcel is identified within the BEW allocation as part of a Country Park which will provide a significant separation buffer between the three villages. The cumulative management of this corridor will have potential positive benefits to the key landscape features and new setting of the strategic development and will be included within the cumulative assessment.

5.217 The following additional mitigation measures have been incorporated into the current layout and design framework:

- Retention and enhancement of all of the key tree belts and important hedgerows.
- New treed landscape belt to form a new eastern settlement boundary.

Summary and Recommendations

	Potential significant effect	Cumulative effect	Scoped in
Historical and Cultural Designations	Limited potential effects to TPO's	N/A	Yes
Topography, Geology and Hydrology	No Significant Effects	N/A	No
Landscape Character/Landuse	Framework aligns with LCSS findings for capacity	Yes	Yes – potential wire frames to show the gaps between the BEW and Site development boundaries. Potential photomontages to show boundary character.
Value – recreational access	Potential for increases in quality, quantity and connectivity. Includes TPO's.	Will form part of the wider BEW Country Park.	Yes
Landscape Features - Site		N/A	Yes – to be checked against the BNG and AIA.
Views from the north			
Church Lane, lane and residents	Potential for close views from moderate sensitivity receptors	N/A	Yes
Public Footpaths 296, 317 and 298		Limited to FP296/298	Yes
St Richards Road and Ivy Lane		N/A	Yes - Cross sections to show

			mitigations/boundary treatments
St Georges Church	No Significant Effects	N/A	No
Eastergate CE Primary School	No Significant Effects	N/A	No
South Downs National Park	No Significant Effects - Negligible	BEW will form a notable component – views of the Site will not increase this effect	No
Visual Receptors to the East			
FP321/323	Potential open views towards the Site boundary	BEW will screen all potential views	Yes
St Philip Howards Catholic High School/Gospond Road	No Significant Effects	BEW will screen all potential views	No
FP296	Potential open views towards the Site boundary	Yes	Yes – potential wire frames to show the gaps between the BEW and Site development boundaries.
Residential Properties to the SE	No Significant Effects	BEW will screen all potential views	No
Visual Receptors to the South			
Informal routes south of the Site	Potential open views towards the Site boundary	Yes	Yes – potential wire frames to show the gaps between the BEW and Site development boundaries.
Ryefield Farmhouse	Heavily filtered views – minor effects	N/A	No
Users of the Train	No Significant Effects	BEW will form a notable component – views of the Site will not increase this effect	No
L'apache	Potential filtered views towards the Site boundary	N/A	Yes - Cross sections to show mitigations/boundary treatments
Orchard Garden & Woodgate Park	Potential filtered views towards the Site boundary	N/A	Yes - Cross sections to show mitigations/boundary treatments
Rife Circular Walk/FP200	No Significant Effects	N/A	No
Views from the West			

Pine Close and Oaks Close	Potential open views towards the Site boundary	N/A	Yes - Cross sections to show mitigations/boundary treatments
A29	Indirect Construction effects	N/A	Yes
FP300/297	Open views towards the Site	BEW will form part of the views	Yes – potential wire frames to show the gaps and development boundaries.
Elm Croft Place and Old School Place	Views screened – No Significant Effects	N/A	No

Water Resources, Flood Risk and Drainage

Introduction

5.218 The section provides a review of baseline conditions within the vicinity of the Site (including identifying any gaps in the baseline or further survey work required), and identifies receptors sensitive to changes in drainage and flood risk due to the construction and/or operation of the proposed development, evaluates the proposed development's likely impact on drainage and flooding which may occur during the construction and/or operational phases, identifies the methodology to be applied to the EIA along with potential measures to reduce/mitigate any drainage and flood risk effects.

Baseline Conditions

5.219 The existing site is located in an area of agricultural land. The Lidsey Rife is a main river that flows in a north to south direction and it is culverted underneath the railway embankment.

5.220 An unnamed watercourse crosses the middle of the existing site in a west to east direction, towards its confluence with the Lidsey Rife (defined for this study as the Westergate stream).

5.221 The British Geological Survey (BGS) 1:50,000 map for Chichester/Bognor (sheet 317/332) indicates the existing site lies on bedrock of the London Clay Formation. This is largely masked by superficial deposits of Head (Gravel, Sand Silt & Clay) in the northern part and River Terrace Deposits (Sand, Silt & Clay) in the southern part, of the existing site. The river valley of the Lidsey Rife comprises of Alluvium (Clay, Silt, Sand & Gravel) and Raised Beach Deposits (Sand and Gravel).

5.222 The superficial deposits are designated as Secondary A Aquifers (i.e. permeable layers capable of supporting water supplies at a local rather than

strategic scale, and in some cases forming an important source of base flow to rivers). Groundwater within these deposits will be perched upon the Unproductive London Clay Formation (i.e. low permeability layers with negligible significance for water supply or river base flow) which is known to be in excess of 100m thick beneath the existing site.

5.223 The vulnerability of groundwater at a location is based on the hydrological, geological, hydrogeological and soil properties within a one km square grid and is expressed as high, medium or low vulnerability, as defined by the Environment Agency.

5.224 The Secondary A aquifers beneath the existing site are designated as high vulnerability and therefore, likely to have good permeability, flow and storage properties.

5.225 A list of all potential sources of flood risk and their relevance for this study is provided in Table 10 (for further details refer to the FRA produced as part of the previous planning application).

Source of Flood Risk	Relevance and Level of Risk	Comment ¹⁵
Fluvial flood risk	Yes, high ²	The existing site is within Flood Zones 2 and 3.
Coastal flood risk	No	Although the lowest level of the existing site is 1.7m AOD there is no coastal flood risk. There are defences in place at Bognor Regis and the Beachy Head to Selsey Bill Shoreline Management Plan (SMP) indicates that these defences will be maintained in the future.
Tidal flood risk	No	
Surface water flood risk from overland flows	Yes, high	Shallow flooding is anticipated from this source based on our modelling undertaken for the area.
Groundwater flood risk	No	The assessment of groundwater flood risk confirms that the existing site is not at risk from groundwater flooding, however it is acknowledged that in winter periods, this is near the ground surface.
Foul flood risk	No	The WSCC SWMP does only indicate flood risk originated solely from foul sewers, within or in the vicinity of the existing site.
Residual fluvial flood risk	Yes, high	The residual flood risk from this source is from partial or full blockages of culverts along the Lidsey Rife and the Westergate Stream, mainly the railway culvert located at the downstream (south-east corner) of the existing site.

¹⁵ See Section 2 for source of information (references).

² A flood risk is considered high if the probability is higher than 1% of occurrence in a given year (1 in 100 year return period)



Source of Flood Risk	Relevance and Level of Risk	Comment ¹⁵
Residual coastal and tidal flood risk	No	It is anticipated that a breach in the defences (or overtopping for an extreme event) would not result in flooding of the existing site, as this is located many km upstream from the coast.
Residual surface water flood risk	No	There is no residual flood risk from this source as the existing site does not benefit from defences from surface water flood risk.
Residual groundwater flood risk	No	There is no residual flood risk from this source as there are no pumping systems which keep groundwater levels artificially low.
Residual foul flood risk	Yes, high	There is indication that groundwater intrusion into the foul drains results in manholes overflowing within the existing site.

Table 10: Potential Sources of Flood Risk

Receptors Relevant to EIA

5.226 The following receptors have been identified as sensitive to potential changes in drainage and flood risk during the construction and/or operation of the Proposed Development:

- the proposed development
- adjacent and downstream properties
- the River Rife
- the Westergate Stream
- the aquifer beneath

5.227 The potential impact on the receptors is summarised below.

Construction Phase

Summary of Receptors – Construction Phase	
Receptor	Description of Impact
Short Term Increase in Flood Risk due to Construction Activities	Possible flood risk to downstream receptors
Short Term Alterations to Groundwater Flow and Quality	Secondary (undifferentiated) aquifer
Potential Effects on the Water Quality of Water Resources, due to Accidental Leaks and Spillages	Ordinary watercourses
Potential Increase in Physical Contamination (i.e. Sedimentation) of Surface	Sedimentation of ordinary watercourses

Water Bodies, due to Ground Disturbance	
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Operational Phase

Summary of receptors – Operational Phase	
Receptor	Description of Impact
Proposed development	Surface and fluvial flood risk
Adjacent and downstream properties	Surface and fluvial flood risk
The Lidsey Rife and the Westergate Streams	A localised increase in flood risk and scouring
The aquifer	Potential pollution and increases in water table levels

Assessment Methodology

5.228 The proposed methodology for drainage and flood risk to be completed for the construction and operational phases as part of the EIA is as follows:

Importance/Sensitivity of Water Resource Criteria		
Importance	Criteria	Example
High	Attribute has a high quality and rarity on regional or national scale.	Surface water or groundwater body classified as 'good' for ecological and chemical / chemical and quantitative status under the WFD RBMP and with a status objective of 'good' or 'good potential' by 2027 or 'maintain current status'. Watercourse with a Q_{95} flow $\geq 1.0\text{m}^3/\text{s}$, public drinking water supply, within a Principal aquifer, essential infrastructure or highly vulnerable development ²
Medium	Attribute has a high quality and rarity at local scale.	Surface water or groundwater body classified as 'good potential' for ecological and chemical / chemical and quantitative status under the WFD RBMP and with a status objective of 'good' or 'good potential' by 2027. Watercourse with a Q_{95} flow $>0.01\text{m}^3/\text{s}$, industrial/agricultural water abstraction $>100\text{m}^3/\text{d}$, private drinking water supply, Principal aquifer, more vulnerable development ²
Low	Attribute has a medium quality and rarity at local scale.	Surface water or groundwater body classified as 'moderate' for ecological and chemical / chemical and quantitative status under the WFD RBMP and with a status objective of 'good' or 'good potential' by 2027. Watercourse with a Q_{95} flow $>0.002\text{m}^3/\text{s}$ to $\leq 0.01\text{m}^3/\text{s}$,



		Secondary aquifer, less vulnerable development ²
Negligible	Attribute has a low quality and rarity at local scale.	Surface water or groundwater body classified as 'poor' for ecological and chemical / chemical and quantitative status under the WFD RBMP and with a status objective of 'good' or 'good potential' by 2027. Watercourse with a Q ₉₅ flow $\leq 0.002\text{m}^3/\text{s}$ ¹⁶ , surface water sewer, minor pond or ditch, non-aquifer, water compatible development ¹⁷

5.229 The likely magnitude or extent of an impact (or change) on a receptor is established by assessing the degree of the impact relative to the nature and extent of the Proposed Development. Potential effects can be both adverse and beneficial. The derivation of magnitude is carried out independently of the importance / sensitivity of the water resource.

Magnitude of Change Criteria		
Magnitude of Change	Criteria	Example
High	Impact results in a shift in a water body's attributes.	Pollution / remediation of potable source of abstraction resulting in failure / recovery above drinking water standards. Deterioration / improvement of WFD status or deterioration / improvement of one or more of the WFD quality elements.
Medium	Results in impact on integrity of attribute or loss of part of attribute.	Loss / gain in productivity of a fishery. Contribution / reduction of a significant proportion of the effluent in a receiving river, but insufficient to change its WFD classification.
Low	Results in minor impact on water body's attribute.	Measurable changes in attribute, but of limited size and / or proportion.
Negligible	Results in an impact on attribute but of insignificant magnitude to affect the use / integrity.	Physical effect to a water resource, but no significant reduction / increase in quality, productivity or biodiversity. No significant effect on the economic value of the feature.

5.230 Once the sensitivity of the receptor and the magnitude of the impact / change are both established, the potential effect can then be derived by combining the two assessments in a simple matrix as set out below.

¹⁶ Based on watercourse Q₉₅ flow estimate at location of proposed development and intended as a guide only.

¹⁷ As defined in Table 2 of the Flood risk and coastal change section of the PPG (Paragraph: 066).



Classification of Effect

		Receptor Sensitivity / Value / Importance			
		High	Medium	Low	Negligible
Nature of Effect (Magnitude / Probability / Reversibility etc)	High	Substantial	Substantial	Moderate	Negligible
	Medium	Substantial	Moderate	Minor	Negligible
	Low	Moderate	Minor	Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

Likely Environmental Effects

- 5.231 Based on an initial consideration of likely drainage and flood risk effects, taking into account current information regarding the Proposed Development and the results of the baseline review, the following likely environmental effects are identified:

Construction Phase

Summary of Sensitivity – Construction Phase		
Receptor	Description of Impact	Sensitivity/Importance/Value
Short Term Increase in Flood Risk due to Construction Activities	Possible flood risk to downstream receptors	High
Short Term Alterations to Groundwater Flow and Quality	Secondary (undifferentiated) aquifer	Low
Potential Effects on the Water Quality of Water Resources, due to Accidental Leaks and Spillages	Ordinary watercourses	Low
Potential Increase in Physical Contamination (i.e. Sedimentation) of Surface Water Bodies, due to Ground Disturbance	Sedimentation of ordinary watercourses	High

Operational Phase

Summary of Sensitivity – Operational Phase		
Receptor	Description of Impact	Sensitivity/Importance/Value
Proposed development	Surface and fluvial flood risk	

Adjacent and downstream properties	Surface and fluvial flood risk	High (without inherent design and mitigation)
The Lidsey Rife and the Westergate Streams	A localised increase in flood risk and scouring	
The aquifer	Potential pollution and increases in water table levels	

Cumulative Phase

Construction Phase

5.232 Cumulative effects during the construction phase are associated with:

- The effects on the water quality of water resources, due to accidental leaks and spillages (including the potential leakage of wet cement);
- The increase in physical contamination (i.e. sedimentation) of surface water bodies, due to ground disturbance; and,
- The alterations to groundwater flow and quality.

5.233 The measures that should be implemented to manage and control these effects and reduce the magnitude and significance of these effects to a minimum are stated in the pre-mitigation scenario. These measures form part of the CEMP for the Site, which should also be adopted at other construction Sites, as best practice. Assuming these are successfully implemented at the other construction Sites and are appropriately monitored by the local planning authority, the cumulative effects during the demolition and construction phase for the Proposed Development and the other consented development are likely to be negligible.

Operational Phase

5.234 Other developments will ensure that there is no increase in flood risk elsewhere and will ensure that the aquifer and watercourses are not affected by the developments. Therefore the cumulative effect is likely to be negligible.

Potential Mitigation

5.235 The potential mitigations and the likely significance of effects are summarised in the table below.

Construction Phase

Summary of Impact Assessment – Construction Phase					
Receptor	Description of Impact	Inherent & Standard Mitigation Measures	Nature of Effect	Type of Effect	Significance of Effect
Short Term Increase in Flood Risk due to Construction Activities	Possible flood risk to downstream receptors	Phasing of masterplan to allow for pre-construction of strategic detention basins.	Low adverse	Temporary , short, direct	Moderate adverse as very few receptors downstream
Short Term Alterations to Groundwater Flow and Quality	Secondary (undifferentiated) aquifer	Aquifer water quantity might change long term due to extra permanent storage upstream	Low beneficial	Permanent / long-term / direct	Minor beneficial
Potential Effects on the Water Quality of Water Resources, due to Accidental Leaks and Spillages	Ordinary watercourses	Temporary ingress of fine material into ordinary watercourses during site development due to spillages and accidents	Medium adverse	Temporary , short, direct	Minor adverse
Potential Increase in Physical Contamination (i.e. Sedimentation) of Surface Water Bodies, due to Ground Disturbance	Sedimentation of ordinary watercourses	Temporary ingress of fine material into ordinary watercourses during site development	Medium adverse	Temporary , short, direct	Minor adverse

Operational Phase

Summary of Impact Assessment – Operational Phase					
Receptor	Description of Impact	Inherent & Standard Mitigation Measures	Nature of Effect	Type of Effect	Significance of Effect
Proposed development	Surface and fluvial flood risk	Applying the principle of avoidance and resilient design	Low	Permanent / long-term / direct	Minor
Adjacent and downstream properties	Surface and fluvial flood risk	Applying the principle of avoidance and greenfield runoff discharges	Low	Permanent / long-term / direct	Minor
The Lidsey Rife and the Westergate Streams	A localised increase in flood risk and scouring	Applying the principle of avoidance and adequate protection at bridge crossings	Low	Permanent / long-term / direct	Minor



The aquifer	Potential pollution and increases in water table levels	Discharges from road runoff do not enter the aquifer	Low	Permanent / long-term / direct	Minor
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Summary and Recommendations

5.236 The table below provides a summary of the elements scoped in or out further assessment.

Elements Scoped In or Out of Further Assessment

Element	Phase	Scoped In	Scoped Out	Justification
Short Term Increase in Flood Risk due to Construction Activities	Construction	✓		Not negligible and therefore needs to be reviewed in further detail as part of the EIA
Short Term Alterations to Groundwater Flow and Quality	Construction	✓		
Potential Effects on the Water Quality of Water Resources, due to Accidental Leaks and Spillages	Construction	✓		
Potential Increase in Physical Contamination (i.e. Sedimentation) of Surface Water Bodies, due to Ground Disturbance	Construction	✓		
Proposed development	Operation	✓		
Adjacent and downstream properties	Operation	✓		
The Lidsey Rife and the Westergate Streams	Operation	✓		
The aquifer	Operation	✓		

Traffic and Transport

Introduction

6.237 A transport chapter will be prepared and will outline the potential impacts of the proposed development on the local highway and transport network and the changes to travel demand during construction and once the development is occupied.

6.238 The assessment will follow the guidance as outlined below:

- National Planning Policy Framework (NPPF)
- Manual for Streets;
- Design Manual for Road and Bridges;
- Arun District Local Plan; and
- West Sussex Local Transport Plan.

Baseline Conditions

6.239 The site is located in Westergate, West Sussex. It is east of Chichester, north of Bognor Regus and west of Littlehampton. It is located within close proximity of neighbouring villages Woodgate, Eastergate and Barnham.\

6.240 The site is currently primarily agricultural land. The site is east of the A29 Westergate Street and adjacent to Pine Close and Meadow Way, both priority controlled T-junctions with the A29. The A29 is a classified A road which provides a link from Billingshurst to Bognor Regis. The A29 within close proximity of the site, has a 30mph speed limit zone and street lighting. Pine Close and Meadow Way are local residential cul-de-sacs, providing access to approximately 18 and 79 dwellings, respectively.

6.241 To the south of the site, A29 Westergate Street has a signal controlled level crossing for the West Costal railway line with services running between Barnham and Chichester stations.

6.242 There are no parking restrictions on the roads within close proximity of the site.

6.243 A full review of the existing highway network, walking, cycling and public transport will be undertaken and outlined in the Transport Assessment which will be an appendix of the Transport Chapter.

6.244 As presented in Schedule 4 of the EIA Regulations, the EIA will meet the requirement through baseline surveys, a full assessment of impacts, potential mitigations and a review of the cumulative impacts. In order to enable an accurate assessment, baseline conditions must be established to determine the significance of the effects. This will be undertaken through use of both desktop studies and site visits. This will consider aspects including parking, highway network layout, traffic flows, accident data, public transport

accessibility and walking and cycling facilities. Highway boundary information will be obtained from West Sussex County Council and accident data will be obtained from Safer Sussex Roads Partnership.

6.245 The Chichester Area Transport Model (CATM) which is a SATURN model, will be used to establish the future traffic flows for the local highway network in proximity to the development site. This information will be derived from the Barnham Eastergate Westergate (BEW) Parcel SC1 Transport Assessment completed by Pell Frischmann that has been submitted in support of planning application BN/11/22/OUT. The following scenarios will be used in the assessment:

- Scenario 1 – 2031 Do Minimum (using “2031 Do Minimum No Cala” scenario from Pell Frischmann TA);
- Scenario 2 – 2031 Do Something without BEW Parcel SC1 (using “2031 do minimum” scenario from Pell Frischmann TA)
- Scenario 3 – 2031 Do Something with BEW Parcel SC1 (using “2031 do something” scenario from Pell Frischmann TA but without East-West Link Road); and
- Scenario 4 – 2038 Do Something (using “2038 do something” scenario from Pell Frischmann TA).

6.246 Scenario 3 (2031) assumes that that the BEW SC1 parcel consists of 1,200 units, 1,200 homes, 61 C2 care home units, 3FE primary school and A29 realignment north of Chichester-Barnham railway line. Scenario 4 (2038) includes 2,000 for the BEW SC1 parcel and full realignment of the A29.

6.247 The inputs used within the CATM as part of the scenarios above are as follows:

- The background growth will be the predicted traffic growth taking account of general increases in driving levels over time (based on Department for Transport Tempro growth rates);
- The committed development will consist of other developments in the local area which have been approved;
- The wider infrastructure changes are schemes that are committed projects related to either approved developments or Local Authority schemes; and
- Other developments outlined in the local plan are included.

Receptors Relevant to EIA

Construction Phase

6.248 There are likely to be impacts during the Construction Phase on various receptors within the local highway and transport network, although these will be limited to the primary and strategic road network on reflection of anticipated construction traffic routing requirements. Therefore, the intended study will focus on the A27 eastbound and westbound in the vicinity of Westergate at the A29 between Fontwell and Bognor Regis.



Operational Phase

- 6.249 To determine the receptors impacted by the operational phase of the development, a wider area will be studied. Links to Bognor Regis, Chichester and Littlehampton as well as the local trips to Barnham will be used to identify receptors relevant to the Operational Phase of the development.

Assessment Methodology

- 6.250 The transport chapter will provide details on the potential significant effects the development proposal will have on the highways and transport network during construction, operation, and the cumulative effects with other developments nearby.
- 6.251 The assessment of the highways and transport impacts will be based on details provided in the Transport Assessment (TA) submitted with the planning application, which will be an appendix to the Transport Chapter.
- 6.252 The assessment will also follow best practice based on the Institute of Environmental Assessment (now IEMA) Environmental Assessment of Road Traffic (1993) (IEMA Guidance) 11, which recommends screening criteria of:
- roads where traffic flow would increase by more than 30% as a consequence of the proposed development; or
 - roads where traffic flows would increase by 10% and pass close to or through sensitive areas.
- 6.253 For the purpose of this assessment, the majority of routes within the vicinity of the proposed site are considered to be sensitive as contain a number of residential properties. The significance of each effect will be considered against the criteria within the IEMA Guidance, where possible. However, this states that:
- "...for many effects there are no simple rules or formulae which define the thresholds of significance and there is, therefore, a need for interpretation and judgement on the part of the assessor, backed-up by data or quantified information wherever possible. Such judgements will include the assessment of the numbers of people experiencing a change in environmental impact as well as the assessment of the damage to various natural resources."*
- 6.254 The degree of each potentially significant effect will be considered and an assessment will be made as to whether the Development would result in minor, moderate or major adverse or beneficial impact. The criteria used to determine the significance of each of the traffic-related environmental effects will be based on the advice given in the IEMA Guidance as summarised below.

Severance

- 6.255 Severance is the perceived division that can occur within a residential area if it becomes separated by a major traffic artery and is used to describe the factors that separate people from other people and places. For example, severance may be created as a result of an increase in traffic that could affect the difficulty of crossing a road. The effects of severance can be applied to motorists, pedestrians or residents.
- 6.256 The IEMA Guidance sets out a range of indicators for determining the significance of the relief from severance. Changes in traffic flow of 30%, 60% and 90% are regarded as producing "minor", "moderate" and "major" changes in severance respectively. However, there are no predictive formulae which give simple relationships between traffic factors and levels of severance. The IEMA Guidance states that marginal changes in traffic flow are unlikely to create or remove severance.

Traffic Delay

- 6.257 Traffic delays to non-development traffic can occur at several locations within the local highway network as a result of the additional traffic that would be generated by a development. The IEMA Guidance states that delays are only likely to be significant when the traffic on the network surrounding the development is already at, or close to, the capacity of the junction. The theoretical capacity of a particular junction can be determined by assessing the Ratio of Flow Capacity (RFC) for priority-controlled junctions and Degree of Saturation for signal-controlled junctions. When an RFC value of 0.85 or more is experienced, or a degree of saturation of 90%, queuing and congestion are likely to occur during peak travel periods.
- 6.258 The impact of the proposed development on traffic delay will be based on professional judgement, taking account of a range of factors. These include consideration of the baseline traffic conditions, the location and operation of the junction assessed and the increase in delay resulting from the proposed development.

Pedestrian Delay

- 6.259 Changes in volume, composition or speed of traffic may affect the ability of people to cross roads, with increases in traffic levels likely to lead to a greater increase in delay. Delays are also dependent upon the level of pedestrian activity, visibility and general physical condition of the site. Given the range of local factors and conditions which can influence pedestrian delay, the IEMA Guidance does not recommend that thresholds be used as a means to establish the significance of pedestrian delay but recommends that reasoned judgements be made instead. However, the IEMA Guidance does note that, when existing traffic flows are low, increases in traffic of around 30% can double the delay experienced by pedestrians attempting to cross a road.



Pedestrian and Cycle Amenity

- 6.260 Pedestrian and cycle amenity is broadly defined as the pleasantness of a journey and is considered to be affected by traffic flow, traffic composition and pavement width/separation from traffic. The IEMA guidance suggest that changes in pedestrian amenity may be considered significant where traffic flow is halved or doubled.

Fear and intimidation

- 6.261 A further impact traffic may have on pedestrians is fear and intimidation. This is dependent on the volume of traffic, HGV composition and its proximity to people or the lack of protection. Vehicle size and speed is also likely to have an impact. There are no commonly agreed thresholds by which to determine the significance of this effect. Although, the IEMA guidance highlights previous work which has been undertaken and puts forwards the thresholds that define the degree of hazard to pedestrians by average traffic flow, 18 hour/day heavy vehicle flow and average speed over an 18-hour day in miles per hour.
- 6.262 The guidance also notes that special consideration should be given to areas where there are likely to be particular problems such as high speed sections of road, locations of turning points and accesses. Consideration should also be given to areas with areas with higher levels of school children, the elderly or other vulnerable groups identified.

Accidents and safety

- 6.263 Where a proposed development is expected to produce a change in the character of the traffic on the local road network, as a result of increased HGV movements for example, the IEMA Guidance states that the implications of local circumstances or factors which may elevate or lessen risks of accidents, such as junction conflicts, would require assessment in order to determine the potential significance of accident risk.

Likely Environmental Effects

Construction Phase

- 6.264 During construction, there is likely to be an increase of Heavy Goods Vehicles (HGVs) with deliveries to and from the site and construction work vehicles for employees to access the site. Additionally, there is likely to be disruption to pedestrian, cyclists and road vehicles, with potential road/lane closures. This is only likely to be temporary whilst construction underway. These potential impacts are likely to affect the existing residential properties within the immediate vicinity of the site. \



Operational Phase

- 6.265 Upon completion of the development, there is likely to be effects to the capacity of the local highway network, with operational traffic flows increasing as a result of the proposed development. It is also expected that there will be effects on public transport capacity and use of pedestrian and cycle facilities within the proximity of the development.

Cumulative Phase

- 6.266 As outlined in the Arun Local Plan, other local developments are planned to be constructed within close proximity to the site and these will be included within all cumulative assessments through the use of the CATM. These smaller sites such as include Barratts, Landacre, Boweries, and Pye Homes sites plus the wider BEW site to the east of the proposed development. The cumulative assessments for the BEW SC1 parcel will include a 2031 scenario and 2038 scenario, taking account of the different phases of this site and realignment of the A29, as outlined in paragraph 1.2.8.. These developments will have an impact on the development site with construction and operation of the proposed development. The effects on the local highway network and on public transport capacity is likely to be seen, with effects on pedestrian and cycle facilities.

Potential Mitigation

- 6.267 As part of the ES chapter, mitigation measures will be detailed and will be based on proposals outlined in the TA. These will be informed by technical assessments and discussions with West Sussex County Council and National Highways which will be undertaken ahead and post submission of the planning application.. Potential mitigations which will be considered include travel demand management measures (Travel Plan), improvements to the pedestrian and cycle network, public transport services and facilities, as well as alterations to highway junctions and links.

Summary and Recommendations

- 6.268 This Chapter has detailed how the highways and transport effects of the proposed development will be assessed for both the construction and operation phases and cumulatively with other committed and identified developments in the local area. All assessments and potential mitigation will be informed by the Transport Assessment completed in support of the planning application. The exact scope and methodology to be used within the Transport Assessment will be agreed with West Sussex County Council and National Highways as part of pre-application scoping discussions.



6.0 Conclusion

- 6.1 This report requests a screening and scoping opinion from the Local Planning Authority for residential development of 400 dwellings on Land East of Westergate. It is important to note that the site is not within an environmentally sensitive area, although there are likely significant environmental effects that need to be avoided or mitigated through design or good practice measures during construction. This view is reached having regard to the EIA Regulations, guidance within the NPPG, and to the technical studies commissioned by the applicant.
- 6.2 The topics to be assessed as part of the ES are as follows:
- Air Quality
 - Noise
 - Ecology
 - Landscape and Visual Effects
 - Water Resources and Flood Risk, Transport and Traffic.
- 6.3 The following topics have been scoped out of the ES as they are unlikely to have significant effects, although maybe included in other documentation supporting the planning application.
- Heritage
 - Arboriculture
 - Ground Conditions and Contamination
 - Agricultural Soils
 - Lighting
 - Minerals Safeguarding
 - Health
 - Waste
 - Socio-Economics
- 6.4 We trust this report provides all the information required for an EIA scoping opinion to enable the applicant to prepare an Environmental Statement that comprehensively examines all the material required to support the outline planning application.

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Appendix 3.2

Scoping Opinion – Arun District Council



Mr Ian Johnson
30 Carlton Crescent
Southampton
SO15 2EW

Date: 21st November 2022

Please ask for: Jessica Riches

Tel: 01903 737852

Your Ref:

Our Ref: AL/98/22/EIS

Dear Mr Johnson,

Town & Country Planning Act 1990 (as amended)
Town & Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended)

Scoping request for full application for 400 dwellings with associated open space, access, surface water drainage and landscaping.

Land East of Westergate Aldingbourne

Scoping Opinion

I write with reference to the above submission made on 05th July 2022. The full consultation responses to this request are available on the Council's website and therefore it is not proposed to provide these again, but they should be read in full as attachments to this letter. Below I set out the Council's formal Scoping Opinion.

1. CLASSIFICATION

1.1. The following includes the summary of the various consultation responses, however all consultee responses should be read in full in combination with this report.

1.3. It is considered that the development should be subject to EIA to ensure that any likely significant effects can be identified, and mitigations and monitoring measures specified as required.

2. THE SITE

2.1. The site falls between Barnham, Eastergate and Westergate in West Sussex. It is situated on the Sussex coastal plain east of Chichester, north of Bognor Regis and north-west of Littlehampton.

2.2. The three villages are located in close proximity to one another, separated by open

agricultural land. The characteristics of the coastal plain define the area, namely low-lying fields divided by planting and some watercourses linked to the Lidsey Rife. The site slopes towards the Lidsey Rife as part of the natural topography.

2.3. The scoping boundary includes an area of approximately 18.77 hectares. The total area within the Strategic Allocation is circa 270 hectares which extends north of Barnham Road, Westergate Street and Lidsey Road to the west, and the existing settlement edge of Barnham to the east.

2.4. The site is currently and primarily in agricultural use.

2.5. The site is located to the east of the A29 and is bound to the north by residential properties in Eastergate and Barnham. To the south the site is bound by agricultural land and the site is divided across the centre, west to east, by the East Coastway railway line between Portsmouth and Brighton.

2.6. The nearest railway station is Barnham Railway Station which is located approximately 1.5km from the centre of the Site, and runs frequent services to Chichester, Brighton, Southampton, London and Gatwick Airport.

2.7. There are several bus stops around the periphery of the allocation Site, these are located along the A29 and B2233 Barnham Road, providing services to Bognor Regis, Chichester, Arundel and Walberton.

2.8. The northern part of the site is approximately 300 metres from the A29, and the boundary meets the A29 at the southern area. The Site is also approximately 2km south of the A27.

2.9. Two Conservation Areas lies close to the site comprising The Square, Eastergate and Church Lane, Eastergate. The conservation areas of Church Lane, Barnaham and Church Road, Aldingbourne are located some distance from the site. Remnants of the Portsmouth and Arundel Canal is present along the southern boundary of the site.

2.10. There are no designated heritage assets within the site; however, there are a number of listed buildings (Grades I, II and II*) located in the areas surrounding the site, to the northwest along the A29 through Westergate, at Eastergate and to the east of the site near to Barnham. Further Grade II listed buildings are located along the B2233 (Nyton Road/Barnham Road) to the north of the site.

2.11. The site has direct views to the South Downs National Park to the north; the nearest boundary is approximately 2km to the north of the site (beyond the A27 trunk road).

2.12. There are no Air Quality Management Areas within the District of Arun. The nearest AQMAs are located along the A27 in the District of Chichester.

3.PROPOSAL

3.1. It is understood that a full application will be submitted for 400 dwellings with vehicular access from Pine Close and erection of new road bridge on the eastern boundary with the Rife. The following response assumes that the application will proceed on this basis.

3.2. A red line plan has been included as Figure 1, on Page 4 of the submitted scoping report, which identifies the land subject of the EIA Scoping Opinion.

4.SCOPE OF THE ENVIRONMENTAL STATEMENT

4.1. Every Environmental Statement (ES) must provide a full factual description of the development, and consideration of the 'main' or 'significant' environmental effects to which the development is likely to give rise. The ES should, wherever possible, avoid the use of jargon and be written in plain English.

4.2. Every ES must also contain all of the information set out in Part 5 of Schedule 18 to the EIA Regulations, along with such information from Part5, Schedule 18(3) as is reasonably required to assess the effects of the projects. The ES should therefore contain:

- a) a description of the proposed development comprising information on the site, design, size and other relevant features of the development;
- b) a description of the likely significant effects of the proposed development on the environment;
- c) a description of any features of the proposed development, or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;
- d) a description of the reasonable alternatives studied by the developer, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment;
- e) a non-technical summary of the information referred to in sub-paragraphs (a) to (d); and
- f) any additional information specified in Schedule 4 relevant to the specific characteristics of the particular development or type of development and to the environmental features likely to be significantly affected.

4.3. The following sets out Arun District Council's views as to what main/significant areas will need to be considered within any forthcoming ES. It does not prevent Arun District Council requesting further information at a later stage, if deemed necessary.

5.LANDSCAPE AND VISUAL IMPACT

5.1. It is agreed that the development could significantly impact on landscape character and viewpoints from within and outside the site and as such agree that this should be scoped in to the ES.

5.2. ADC Leisure and Greenspace officers would support the provision of both an LVIA and a Local Character Assessment.

5.3. Natural England provide standing advice regarding a Landscape and Visual Assessment and best practice guidance to follow. In addition, they encourage a full assessment of the potential impacts on local landscape character using best practice guidance.

5.4. The SDNPA agree that the distance, areas of landscape screening and intervening development may restrict extensive views from the South Downs National Park and vice versa. However, they recommend a Landscape and Visual Impact Appraisal to be submitted which determines the inter visibility between the site and the National Park, including

immediate and wider views from public rights of way and any elevated vantage points.

5.5. Additional evidence base for view sensitivity of the SDNPA include the South Downs National Park: View Characterisation and Analysis (2015).

5.6. It is also highlighted that the SDNPA is an international Dark Night Skies Reserve, and any light pollution could also impact upon its setting. Dark Night Skies should therefore be taken into account and mitigated as part of the overall design of the scheme.

5.7. On reviewing the LVIA (2017, reference DLA/1740/LVIA/RPT/01/B) RVP15 appears to be located in close proximity to proposed development which would result in significant changes to the views from this vantage point. Therefore, RVP15 would need to be included within the EA for the Landscape and Visual impact chapter.

6. GROUND CONDITIONS, CONTAMINATION AND SOILS

6.1. Environmental Health has commented that due to the sites southern boundary being adjacent to the railway line, ground contamination may be present.

6.2. Therefore, it is recommended to scope this in, including appropriate action and remediation where necessary.

7. MINERALS

7.1. The site is located within the mineral safeguarding area for sharp sand and gravel.

7.2. West Sussex Minerals and Waste have confirmed that whilst it is difficult to determine whether there would be significant environmental effects in the absence of detailed information, the issue would need to be raised as part of any planning application and therefore a Mineral Resource Assessment should form part of the ES.

8. NOISE AND VIBRATION

8.1. Comments received from Environmental Health support the scoping in of noise and vibration.

8.2. There is a safeguarded network for realignment works of the A29 (Policy T SP3 of the Arun Local Plan 2018). Any noise impact assessments should scope in in combination impacts from the future development of this road network and noise generated by the railway line.

8.3. Noise assessments should also consider noise and vibration from any proposed or existing pumping stations and electrical sub stations which may impact the noise environment.

8.4. Environmental Health would typically expect to see that the submitted noise assessment includes a scheme that proves internal noise levels within all new residential properties will conform to the "Indoor Ambient Noise Levels for Dwellings" guideline values specified within Table 4 under section 7.7.2 of BS 8233:2014 and demonstrates that the external noise levels within the curtilage of residential units will conform to the "Design Criteria for External Noise" upper guideline value of 55 dB LAeq,T as specified within section 7.7.3.2 of BS 8233:2014.

8.5. It is therefore agreed that noise and vibration are scoped in to the ES.

9.AIR QUALITY AND DUST

9.1. Comments received from Environmental Health concluded that they agree with the remit of Air Quality and the methodology.

9.2. Natural England request that the ES should take account of the risks of air pollution and how these can be managed or reduced. This should include taking account of any impacts on habitats and species, in accordance with the Government Clean Air Strategy and England Biodiversity Strategy. Further information on air pollution impacts and the sensitivity of different habitats/designated sites can be found on the Air Pollution Information System (www.apis.ac.uk).

9.3. The ES Chapter will need to give regard to the Air Quality and Emissions Mitigation Guidance for Sussex (2021) and any other relevant air quality standards and assessment criteria. The advice of Arun District Council's Environmental Health Team should be sought in formulating this chapter, including the establishment of the baseline conditions and receptor points.

9.4. Subject to the above, and the comments set out in the EIS Scoping file, Air Quality and Dust is agreed.

10.WATER ENVIRONMENT

Foul and Surface Water Drainage

10.1. The environment Agency are generally satisfied with the conclusions of the scoping report submitted. They highlight that development should be steered away from flood zones 2/3 and development within the flood plain will require compensation. Any changes in ground levels within Flood Zones 2/3 will also require compensatory storage. Development located within 8metres of a main river will require a Flood Risk Activity Permit, which will include all headwall and pipes.

10.2. The Lead Local Flood Authority (WSCC) support the scoping in of flood risk and confirm that where field boundary ditches not shown on OS mapping are present, should be maintained and highlighted on future plans.

10.3. The comments received from Southern Water in respect of foul and surface water drainage conclude that:

- Southern Water's current sewerage records show that there are public foul and surface water sewers within the proposed development site/s. Certain restrictions apply in relation to developing or planting near these sewers which will need to be adhered to or the appropriate consents gained.

- Capacity assessments will also be required in order to ensure that the existing sewer network can accommodate the proposed development flows.

- Where surface water is being considered for discharge to the network, the hierarchy under part 3 of the Building Regulations must be followed.

·Due to the size of the development and to protect the premises from the impact of sewage flooding, an assessment is required to ascertain an appropriate point of connection to the foul and surface water sewerage network.

10.4. The contents of Policy W DM1(3) should be fulfilled as part of a full Drainage Impact Assessment which will detail the capacity of the Waste Water Treatment Works (WWTW), in combination with other committed, anticipated and phased development.

Flood Risk

10.5. The Lead Local Flood Authority support the scoping in of Drainage.

10.6. ADC Drainage officers support scoping in of surface water. They have highlighted the following:

10.7. There are numerous other watercourses (ditches/culverts) within the site which are not mentioned within the EIA report. These will need to be suitably accommodated within the development layout, and de-culverting will be required where possible. Improvement to these watercourses will also be a requirement.

10.8. The hierarchy for sustainable drainage must be following, with infiltration fully investigated. Winter infiltration testing and winter groundwater monitoring must be undertaken, and early discussion with ADC drainage officers to discuss the extent is encouraged.

10.9. It is suggested that drainage is considered early on in the process, giving due consideration to the location and design of surface water drainage features to achieve necessary capacity, water quality, and ease of maintenance.

10.10. Ground raising is discouraged, and where it is absolutely necessary, then due consideration must be given to the potential impacts on existing properties in terms of elevated groundwater levels and surface water run-off implications.

10.11. Adequate treatment of surface water must be ensured prior to discharge, for which permeable paving is strongly encouraged to assist with this.

10.12. It is advised that the applicant seeks further information on what is required within Arun District Council at <https://www.arun.gov.uk/drainage-planning-consultations/>

10.13. If the above points are included within the relevant sections of the ES, then the scoping is agreed.

11.HISTORIC ENVIRONMENT & ARCHAEOLOGY

11.1. No reference has been made to the Archaeological notification Area, which indicates the site contains a possible Roman Villa.

11.2. Arun District Council's Archaeology Advisor comments concluded that an assessment of the likely impact of development on archaeological interest that the site may contain, as well as proposals to mitigate this, should be submitted with the full application. Due to the sites size, it should also include the results of a suitable geophysical survey.

11.3. Arun District Council's Conservation Officer comments concluded that the lack of detail provided in the statement is insufficient. Whilst the distance from the conservation area and listed buildings results in less direct impacts, its intervisibility, setting and relationship are important. Therefore, it is required that a chapter on heritage is included within the ES.

11.4. The heritage chapter should identify and assess the impacts of the development on the setting of the historic assets. It is noted that a full historic impact assessment would be required as part of any full application, however some detail in the ES would be appreciated.

11.5. Therefore, heritage and archaeology is required to be scoped in to the ES.

12.SOCIO-ECONOMICS

12.1. The Environmental Statement shall include an assessment of the potential impacts of the proposed development on the recreational value of the area, together with impacts on the community living and working within the locality. This shall also be linked to the cumulative impacts section. ADC will require consideration to be given to impacts on healthcare and education within the District.

12.2. An assessment of the effect of the proposed development on health infrastructure and other local facilities (e.g. GPs, dentists and schools) should be included within the socio-economic ES chapter.

12.3. The increased population may result in effects to the local population concerning the availability and capacity of public health services resulting from the introduction of additional residential properties which may increase demand for public health services. However, as noted above, these effects will be assessed as part of the socio-economics chapter.

13.CLIMATE CHANGE AND RESILIENCE

13.1. Natural England have advised that the ES should identify how the development affects the ability of the natural environment (including habitats, species, and natural processes) to adapt to climate change, including its ability to provide adaptation for people. This should include impacts on the vulnerability or resilience of a natural feature (i.e. what's already there and affected) as well as impacts on how the environment can accommodate change for both nature and people, for example whether the development affects species ability to move and adapt. Nature-based solutions, such as providing green infrastructure on-site and in the surrounding area (e.g. to adapt to flooding, drought and heatwave events), habitat creation and peatland restoration, should be considered. The ES should set out the measures that will be adopted to address impacts.

13.2. The ES should also identify how the development impacts the natural environment's ability to store and sequester greenhouse gases, in relation to climate change mitigation and the natural environment's contribution to achieving net zero by 2050. Natural England's Carbon Storage and Sequestration by Habitat report (2021) and the British Ecological Society's nature-based solutions report (2021) provide further information.

13.3. Therefore, climate change should be scoped into the ES report and the contents is

greed.

14.ECOLOGY

14.1. The Environment Agency are satisfied with the structure of the Environmental Statement, and are pleased to see ecology generally scoped in.

14.2. It is agreed that designated sites for Nature Conservation will be unaffected by the proposal and can be scoped out.

14.3. They disagree that dust generated during the construction phase will not effect sensitive ecological receptors, given the proximity of works to the Lidsey Rife. This should be scoped in for further evaluation/mitigation.

14.4. Whilst it appears up to date Habitat surveys have been carried out by Ethos in 2022, species specific surveys are only proposed for bat, reptiles and dormice for the application. The Lidsey rife is known to support water vole populations and they would expect an up to date survey of water voles.

14.5. They also wish to also see an up to date survey of the water course bordering the development site to assess if the species is currently present, especially given the normal fluctuations in population of this species. We request this to be scoped back in.

14.6. We would like to see both the main Lidsey rife and the minor watercourse crossing the site maintained and enhanced as part of the development as well as the retention of mature trees and hedgerows which provide a green wildlife corridor.

14.7. A Biodiversity Net Gain assessment should be made using the latest Defra Metric and suitable enhancement proposals outlined for any loss to development. These enhancements to be identified and detailed within a LEMP, that also provides detail of future management for the site.

14.8. Natural England provided the following general comments:

14.9. The conservation of species protected under the Wildlife and Countryside Act 1981 and the Conservation of Habitats and Species Regulations 2017 is explained in Part IV and Annex A of Government Circular 06/2005 Biodiversity and Geological Conservation: Statutory Obligations and their Impact within the Planning System.

14.10. The ES should assess the impact of all phases of the proposal on protected species (including, for example, great crested newts, reptiles, birds, water voles, badgers and bats). Consideration should be given to the wider context of the site, for example in terms of habitat linkages and protected species populations in the wider area.

14.11. Natural England has adopted standing advice for protected species, which includes guidance on survey and mitigation measures . A separate protected species licence from Natural England or Defra may also be required.

14.12. The area likely to be affected by the development should be thoroughly surveyed by competent ecologists at appropriate times of year for relevant species and the survey results,

impact assessments and appropriate accompanying mitigation strategies included as part of the ES. Surveys should always be carried out in optimal survey time periods and to current guidance by suitably qualified and, where necessary, licensed, consultants.

14.13. The ES should consider any impacts upon local wildlife and geological sites, including local nature reserves. Local Sites are identified by the local wildlife trust, geoconservation group or other local group and protected under the NPPF (paragraph 174 and 175). The ES should set out proposals for mitigation of any impacts and if appropriate, compensation measures and opportunities for enhancement and improving connectivity with wider ecological networks. Contact the relevant local body for further information.

14.14. The ES should consider the contribution the development could make to relevant local environmental initiatives and priorities to enhance the environmental quality of the development and deliver wider environmental gains. This should include considering proposals set out in relevant local strategies or supplementary planning documents including landscape strategies, green infrastructure strategies, tree and woodland strategies, biodiversity strategies or biodiversity opportunity areas.

14.15. The Councils Ecology Consultant confirms that the proximity of the site to the Singleton and Cocking Tunnels SAC means that significant impacts are likely. The ES should scope in the SAC designation and address the impact on functionally linked habitat or severance to flightlines. Other designations can be scoped out.

14.16. Dormouse, birds, habitats, bats, reptiles are required to be scoped in.

14.17. They agree that riparian mammals such as otter can be scoped out.

14.18. In relation to non-significant impacts which will be required to be address separately from the ES, including impacts on priority habitats and species such as hedgehog.

15. TRANSPORTATION

15.1. The approach to including a transport chapter within the ES is welcomed. The transport chapter should be supported by a transport assessment as an appendix.

15.2. National Highways have provided some general guidance which can be viewed in full online.

15.3. In relation to trip generation, it is stated that the study will focus on the A27 eastbound and westbound in the vicinity of Westergate at the A29 between Fontwell and Bognor Regis. This is welcomed by National Highways, and it is required that trip assigned flows extend on to the A27 to gauge the impact of the development both in construction and operational phase.

15.4. They also add that depending on the degree of traffic impact on the SRN, a detailed STATS 19 accident analysis may be required for sections of the SRN. This would need to be carried out for the latest 5-year period for which accident data is available.

15.5. The development would also require a Construction Management Plan to address construction impacts on transport.

15.6. The WSCC Highways Authority offered the following comments:

15.7. Section 3.0 - Cumulative Schemes (pages 8-10)- The applicant should ensure that at the time of submission of the application and as part of the transport modelling work, that the list of included schemes is up-to-date and included.

15.8. Paragraphs 6.237-6.268 - Traffic and Transport (pages 63-68) - The modelling scenarios as shown in Paragraphs 6.245 and 6.246 might need to be amended and/or added to in order to ensure the development is suitably modelled in relation to the overall BEW Strategic Allocation Site. The applicant should discuss this and all other modelling parameters (including scope of TA) with the CHA through the WSCC Highways Pre-application Service prior to work commencing on the TA.

15.9. Subject to the comments above being considered in the formulation of the ES, the scoping of Transport and Traffic is agreed.

16.AGRICULTURAL LAND

16.1. The Site is identified as having areas of Grades 2, 3a and 3b agricultural values and, in part, some areas of non-agricultural and (which includes farm steadings, buildings, watercourses, tracks and roadways).

16.2. The Inspector's Report forming part of the examination of the Local Plan concluded (para 117): 'As a consequence of the need to meet a housing requirement of 20,000 homes the LP now allocates significant areas of land on the edge of settlements within the District. This scale of development will have a range of adverse impacts, including urbanising of the countryside, loss of the best and most versatile agricultural land and placing strains on existing infrastructure, including the highway network... However, LPs should meet OAN unless the adverse impacts would significantly and demonstrably outweigh the benefits or specific policies in the NPPF indicate that development should be restricted. It is within this context that I will assess the strategic allocations.'

16.3. The Inspector went on to conclude specifically on this issue at paragraph 124 of their Report that: 'Most of the allocations involve the loss of the best and most versatile agricultural land (Grades 1, 2 and 3a) but this applies to most of the greenfield land within the District. I am satisfied that there are no significant areas of poorer quality or brownfield land which could be developed. Significant areas of higher grade land will remain. Loss of some such land is inevitable if OAN is to be met.'

16.4. Given this context, it is not considered that the development will give rise to significant effects over and above those already considered as part of the Inspector's allocation of this site. Therefore, Agricultural Land can be scoped out.

17.WASTE

17.1. Attached to any planning consent will be conditions requiring the submission of a Site Waste Management Plan (SWMP) under the Site Waste Management Plans Regulations 2008. Such a 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.

17.2. Further, a Construction Environmental Management Plan (CEMP) will be required via discharge of condition, prior to the commencement of development. Information regarding waste management can be provided as part of the planning application submission.

17.3. During the operation of the Site, the sustainable management of waste will be secured by ensuring opportunities for minimising waste together with the correct storage, removal and management of all waste streams is addressed robustly, via discharge of condition process.

17.4. Such measures will ensure there is no potential for significant environmental effects requiring assessment. Therefore, waste can be scoped out.

18.WIND ENVIRONMENT

18.1. The site is currently open and devoid of any large structures. The development will result in a change in massing, height and orientation of buildings. These changes associated with the development would influence ground level wind speeds and direction on and adjacent to the Site from the existing conditions. However, due to the open nature of the surroundings, it is not considered that the proposed development would alter the wind environment in the surrounding area to such an extent that it would result in significant environmental effects.

18.2. For these reasons, wind environment can be scoped out.

19.DAYLIGHT, SUNLIGHT, OVERSHADOWING

19.1. The design of the proposals in line with current policy means that 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.

20.CUMULATIVE IMPACTS

20.1. The Environmental Statement should identify, describe and evaluate the effects that are likely to result from the project in combination with other projects and activities that are being, have been or will be carried out. To carry out the assessment of cumulative and in-combination effects, the following types of projects should be included (subject to availability of information)

- Existing completed projects
- Approved but uncompleted projects
- Plans or projects for which an application has been made and which are under consideration by the consenting authorities
- Plans and projects which are reasonably foreseeable, i.e. projects for which an application has not yet been submitted, but which are likely to progress before completion of the development and for which sufficient information is available to assess the likelihood of cumulative and in-combination effects
- Other significant or major applications that fall outside of the BEW allocation site.

21.SUMMARY & CONCLUSIONS

21.1. I trust the above provides you with sufficient information of the requirements for the form of Environmental Statement submission.

Yours sincerely

A handwritten signature in black ink, appearing to be 'NC' followed by a flourish and a period.

Neil Crowther
Group Head of Planning

4. Planning Policy

No Appendices for this Chapter



