2.0 EIA METHODOLOGY

Introduction

2.1 This chapter sets out the methodology used to prepare the assessments within the ES and describes the ES structure and content. In particular, it sets out the process of identifying and assessing the likely significant effects of the Development on the environment.


Planning Context

2.3 The Site forms part of the Old Catton, Sprowston, Rackheath and Thorpe St Andrew Growth Triangle, designated within the adopted Joint Core Strategy for Broadland, Norwich and South Norfolk¹ and is designated as part of allocation (GT7) within the adopted Old Catton, Sprowston, Rackheath and Thorpe St Andrew Growth Triangle Area Action Plan² (GTAAP) (July 2016). The GT7 allocation targets 1,400 homes on land south of Salhouse Road as well as road and cycle links, primary school, sports pitches and children’s play space, community building, police beat base and informal open space.

2.4 Two planning applications have been submitted in relation to part of the land located within the GT7 allocation, for which decisions are currently pending. The applications comprise:

- Land South of Salhouse Road, Sprowston (LPA Ref: 20160498) – Proposed residential development for a minimum of 803 dwellings with access roads and associated infrastructure, site for a new primary school, land for a bus rapid transit scheme, a section of orbital link road, a retained area of woodland and creation of open space. An ES was submitted alongside this application. This application received resolution to grant in January 2017; and
- Land South of Salhouse Road, Sprowston (LPA Ref: 20160499) – Outline planning permission for part of the proposed orbital link road south of Salhouse Road to facilitate a link to Plumstead Road.
Scoping

2.5 The Development has been the subject of a scoping exercise to identify the likely significant effects on the environment that may arise from the construction and completed phases of the Development. A Scoping Report (Appendix 2.1) was submitted to BDC on 25th August 2016. A Scoping Opinion was adopted by BDC on 3rd October 2016 and is included within Appendix 2.2. The results of the scoping exercise have identified that the following subject areas should be included in the ES:

- Transport & Access;
- Noise;
- Landscape and Visual Effects (including night time light spillage); and

2.6 The scoping exercise also identified that the Development was considered to generate non-significant effects on certain subject areas. Further information on why these topics have been scoped out of the EIA is provided in Appendix 2.1.

- Socio-Economic Issues;
- Cultural Heritage;
- Vibration;
- Wind Microclimate;
- Daylight, Sunlight and Overshadowing;
- Ground Conditions and Contamination;
- Water Resources and Flood Risk;
- Agricultural Land; and
- Waste.

2.7 Following the request for an EIA Scoping Opinion (Appendix 2.1), a response was later received from the Environment Agency (Appendix 2.3) which requested an assessment of water resources and flood risk to be included within the ES. However, the Applicant intends to submit the ES in line with the scope identified in the EIA Scoping Report (Appendix 2.1) and above, which excludes water resources and flood risk from the ES. A Flood Risk Assessment (FRA) was prepared to support the ES for the application on the adjacent site (BDC ref. 20160498) and included an assessment of the Site. The FRA confirmed that the Site lies in Flood Zone 1 and is therefore assessed as having a less than 1 in 1,000 annual probability of river or sea flooding (<0.1%). As such, the Site has little or no risk of fluvial flooding, being in the lowest flood risk zone.
2.8 The surface water strategy proposed seeks to replicate the existing green run-off regime by returning the rainfall run-off generated by the Development to ground via infiltration devices. This will be met by two infiltration basins to provide attenuation up to the 1 in 100 year + 30% climate change rainfall event. Figure 3.1 (Land Use Parameter Plan) identifies the zones within the Site that will comprise the wetland/attenuation areas. The FRA for the adjacent Site also suggests that, wherever practicable, Sustainable Urban Drainage Systems (SuDS) features, such as swales and permeable paving will also be incorporated in the Development.

2.9 According to the Environment Agency’s website, the Site is located within Zone 3 (total catchment) groundwater source protection zone (SPZ), however the proposed residential uses are not likely to lead to contamination of watercourses with an appropriate surface water drainage strategy in place. The FRA for the adjacent site, which includes the Site, states that the proposed surface water drainage strategy takes this into account by proposing a minimum of three surface water treatment stages for all runoff from paved areas and roofs.

2.10 Following the implementation of mitigation measures, as described above, the FRA for the adjacent Site, which includes our Site, states that risks could occur from shallow flooding on the pavements of the Development due to surcharge of the drainage systems during extreme, intense rainfall events or due to blockage of the drains. However, this risk is considered to be low.

2.11 Based on the above, and the information already provided for the Site, no likely significant effects are anticipated in relation to water resources and flood risk and therefore, this topic has been scoped out of the ES. A further FRA is being prepared specifically for the Site and will be submitted alongside the planning application. This report concludes the Development will not lead to significant effects on flooding to the Site and the surrounding area.

Public Consultation

2.12 The planning application is the culmination of an extensive design process which has involved consultation with BDC, statutory consultees, the local community and other stakeholders. There have been a number of formal pre-application meetings and ongoing discussions with Officers at BDC over a number of years including adjacent landowners.

2.13 A public exhibition was held on Thursday 24th April 2014 at The Diamond Centre, School Lane, Sprowston, Norwich. The exhibition, which consisted of ten boards presented on display screens, provided details about the Development and allowed residents and stakeholders the opportunity to meet the landowner and the Applicant’s representatives to discuss the Development and to answer any questions. A copy of the exhibition boards were placed on a purpose built website for the Development, providing those unable to attend the exhibition...
an opportunity to review and comment on the draft proposal. The website can be accessed at www.salhousedevelopment.co.uk. Full analysis of the comments received from the public exhibition is contained in the Statement of Community Involvement submitted in support of the application and Table 4.1 of Chapter 4 summarises how the views of the local community have been taken into account in the design evolution of the Development. An important amendment was the reduction in the site area which was a result of ongoing discussions with landowners and adjacent developers.

**Approach to Technical Studies**

2.14 The EIA studies commenced at an early stage in the design of the Development. The findings of these baseline environmental studies have played an important role in the design by defining the environmental sensitivities, constraints and opportunities associated with the Site.

2.15 The technical studies have been undertaken in accordance with current best practice. Where specific guidance is used it has been explained in the respective assessment chapters. The majority of assessments involved consultations with statutory and non-statutory bodies, desk-based research, site inspections and surveys, impact prediction and mitigation. The assessment and conclusions of the ES are based on the description of the Development provided in Chapter 3 and accompanying figures.

**Structure of Technical Chapters**

2.16 Each technical chapter of the ES (Chapters 6-9) has been set out broadly in line with Table 2.1 below. Chapter 5 provides information on the construction phase of the Development assessed by the disciplines set out in chapters 6-9.

**Table 2.1: Structure of the Technical Chapters**

<table>
<thead>
<tr>
<th>Heading</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>Each of the technical chapters begins with an introduction providing context to the EIA completed.</td>
</tr>
<tr>
<td>Legislation and Policy Context</td>
<td>This section includes a summary of policies of relevance to the environmental discipline and explains its purpose in the context of the Development and the ES.</td>
</tr>
<tr>
<td>Assessment Methodology</td>
<td>This section describes the method and approach employed in the assessment of likely significant effects, the criteria against which the significance has been evaluated, the sources of information used and any technical difficulties encountered. Relevant legislation is also identified.</td>
</tr>
<tr>
<td>Baseline Conditions</td>
<td>This section describes and evaluates the baseline environmental conditions i.e. the current situation and anticipated changes over time assuming the Site remains undeveloped.</td>
</tr>
</tbody>
</table>
**Likely Significant Effects**

2.17 The assessment of impact significance has been undertaken using appropriate national and international quality standards. Where no such standards exist, the judgments that underpin the attribution of significance are described. The guidelines, methods and techniques used in the process of determining significance of effects are contained within each of the technical chapters presented.

**Magnitude**

2.18 The methodology for determining the scale, or magnitude, of effect is set out in Table 2.2 below.

**Table 2.2: Methodology for Assessing Magnitude**

<table>
<thead>
<tr>
<th>Magnitude of Impact</th>
<th>Criteria for Assessing Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major</td>
<td>Total loss or major/substantial alteration to key elements/features of the baseline conditions such that the post development character/composition/attributes will be fundamentally changed.</td>
</tr>
<tr>
<td>Moderate</td>
<td>Loss or alteration to one or more key elements/features of the baseline conditions such that post development character/composition/attributes of the baseline will be materially changed.</td>
</tr>
<tr>
<td>Minor</td>
<td>A minor shift away from baseline conditions. Change arising from the loss/alteration will be discernible/detectable but not material. The underlying character / composition / attributes of the baseline condition will be similar to the pre-development circumstances/situation.</td>
</tr>
<tr>
<td>Negligible</td>
<td>Very little change from baseline conditions. Change barely distinguishable, approximating to a ‘no change’ situation.</td>
</tr>
</tbody>
</table>

**Sensitivity**

2.19 The sensitivity of a receptor is based on the relative importance of the receptor using the
scale in Table 2.3 below.

**Table 2.3: Methodology for Assessing Sensitivity**

<table>
<thead>
<tr>
<th>Sensitivity</th>
<th>Examples of Receptor</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>The receptor/resource has little ability to absorb change without fundamentally altering its present character, or is of international or national importance.</td>
</tr>
<tr>
<td>Moderate</td>
<td>The receptor/resource has moderate capacity to absorb change without significantly altering its present character, or is of high importance.</td>
</tr>
<tr>
<td>Low</td>
<td>The receptor/resource is tolerant of change without detriment to its character, is of low or local importance.</td>
</tr>
</tbody>
</table>

**Significance**

2.20 The significance of an environmental effect is determined by the interaction of magnitude and sensitivity, whereby the impacts can be beneficial or adverse. Table 2.4 below shows how magnitude and sensitivity interact to derive effect significance.

**Table 2.4: Methodology for Assessing Significance**

<table>
<thead>
<tr>
<th>Magnitude</th>
<th>Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
</tr>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Major</td>
<td>Major Adverse/Beneficial</td>
</tr>
<tr>
<td>Moderate</td>
<td>Major - Moderate Adverse/Beneficial</td>
</tr>
<tr>
<td>Minor</td>
<td>Moderate - Minor Adverse/Beneficial</td>
</tr>
<tr>
<td>Negligible</td>
<td>Negligible</td>
</tr>
</tbody>
</table>

2.21 The above magnitude and significance criteria have been provided as a guide for technical specialists to assess impact significance. Where discipline specific methodology has been applied that differs from the generic criteria above, this has been clearly explained within the given chapter under the heading of Assessment Methodology.

**Mitigation**

2.22 Any adverse environmental effects have been considered for mitigation at the design stage and, where practicable, specific measures have been put forward. Measures have been considered based on the following hierarchy of mitigation:

- Avoidance;
- Reduction;
- Compensation;
- Remediation; and
• Enhancement.

2.23 Where the effectiveness of the mitigation proposed has been considered uncertain, or where it depends upon assumptions of operating procedures, data and/or professional judgement has been introduced to support these assumptions.

2.24 Mitigation recommended during the demolition and construction phase would be set out in the CEMP to be agreed with BDC prior to the commencement of work and implemented throughout the duration of the works. Outline mitigation measures to be included in a future CEMP are set out in Chapter 5 Construction Methodology and Programme. Mitigation to be implemented during the operational phase would be secured through planning conditions and obligations.

**Cumulative Effects**

2.25 The ES considers the potential for likely significant effects on the environment resulting from committed developments in the area coming forward at the same time as the Development. These include:

- Approved but uncompleted projects; and
- Certain 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 effects.

2.26 Two schemes (shown on Figure 2.1), which have the potential to lead to likely significant effects on the environment, have been agreed with BDC and are included in the consideration of likely significant cumulative effects on the environment. These are set out in Table 2.5 and comprise the applications for the wider GT7 allocation discussed above.

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land South of Salhouse Road, Sprowston (LPA Ref: 20160498)</td>
<td>• Proposed residential development for a minimum of 803 dwellings with access roads and associated infrastructure, site for a new primary school, land for a bus rapid transit scheme, a section of orbital link road, a retained area of woodland and creation of open space. An ES was submitted alongside this application; and • This application received resolution to grant in January 2017.</td>
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</tr>
</tbody>
</table>

2.27 Each technical chapter (Chapters 6-9) has assessed the potential for likely significant effects
on the environment as a result of the above committed developments.

**Residual Effects**

2.28 The likely significant effects on the environment, assuming the successful implementation of mitigation measures proposed, have been identified within each chapter.

**Assumptions and Limitations**

2.29 The principal assumptions that have been made and any limitations that have been identified in preparing the ES are set out in each technical chapter. General assumptions include the following:

- Assessments assume the baseline conditions at the time of ES preparation (2016) unless otherwise stated in the technical chapter;
- It is assumed that current surrounding land uses do not change, with the exception of the committed development identified;
- Assessments are based on published sources of information and primary data collection. Sources are provided as necessary;
- Assessments are based on the description of development set out in Chapter 3 and the anticipated construction methodology and programme described in Chapter 5; and
- Assessments conclude the “worst case” effects that would arise from the outline element of the Development as defined by the parameters described in Chapter 3.

**Objectivity**

2.30 The technical studies undertaken within the ES have been progressed in a transparent, impartial and unbiased way with equal weight attached, as appropriate, to beneficial and adverse effects. Where possible, this has been based upon quantitative and accepted criteria together with the use of value judgments and expert interpretations.

2.31 The assessment has been explicit in recognising areas of limitation within the ES and any difficulties that have been encountered, including assumptions upon which the assessments are based. Where appropriate, the assessment of significance has been given confidence levels.
References
