

B1.4 Stages 2 and 6.2 Assessment

B1.4.1 Detailed Methodology for Stages 2 and 6.2 Assessment

In accordance with paragraph 4.15 of the SSM all residential and employment proceeding from Stage 1 were subject to a detailed quantitative and qualitative RAG assessment. Residential sites proceeding from Stage 6.1B and employment sites proceeding from Stage 6.1A to Stage 6.2 were also subject to this assessment, in line with paragraph 4.62 of the SSM. Traveller sites (as referred to in paragraphs 43 and 79 of the TSSM) were also subject to this assessment. Table 1 summarises, by year, the tranches of sites for which this detailed methodology applies:

Table 1 Sites assessed using the detailed methodology in 2016 and 2017

Primary Use	2016	2017
Residential	Stage 2 – Tranche 1 Sites	Stage 6.2 – Tranche 2 Sites
Employment	Stage 2 – Tranche 1 Sites	Stage 6.2 – Tranche 2 Sites
Traveller	Stage 4 – Tranche 1 and 2 Sites	Stage 8.4 – Tranche 3 Sites, and Tranche 1 and 2 Sites which were not previously assessed at Stage 4 because they were located outside the Settlement Buffer Zones.

This appendix sets out each criteria and confirms the approach to scoring. In summary, the criteria comprised:

Ref	Criterion
1	Impact on Environmental and Heritage Designations and Biodiversity
1.1	Impact on Internationally Protected Sites
1.2	Impact on Nationally Protected sites
1.3a	Impact on Ancient Woodland
1.3b	Impact on Ancient and Veteran Trees outside of Ancient Woodland
1.4	Epping Forest Buffer Land
1.5	Impact on BAP Priority Species or habitats
1.6	Impact on Local Wildlife Sites
1.7	Flood Risk
1.8a	Impact on Scheduled Ancient Monument / Listed Building / Conservation Area / Historic Park or Garden
1.8b	Impact on Archaeology
1.9	Impact of Air Quality
2	Value to Green Belt
2.1	Level of Harm to the Green Belt
3	Accessibility by public transport and to services

Ref	Criterion
4	Efficient Use of Land
4.1	Brownfield and Greenfield Land
4.2	Impact on Agricultural Land
4.3	Capacity to Improve Access to Open Space
5	Landscape and Townscape Impact
5.1	Landscape Sensitivity
5.2	Settlement Character Sensitivity
6	Physical Site Constraints and Site Conditions
6.1	Topography Constraints
6.2a	Distance to Oil and Gas Pipelines
6.2b	Distance to Power Lines
6.3	Impact on Tree Preservation Orders
6.4	Access to Site
6.5	Contamination Constraints
6.6	Traffic Impacts

Unless otherwise stated, all sites assessed in 2016 and 2017 were assessed using the same methodological approach. However, as set out in the following sub-sections, a small number of minor amendments were made to the approach for selected criteria between 2016 and 2017.

Many of the criteria were assessed quantitatively using GIS tools. However, some criteria include qualitative assessment where a professional judgement was required. Where such judgements were necessary a combination of Epping Forest District Council, AECOM and Arup specialists have been employed. Where qualitative criteria are used a narrative on the planning judgements has been provided including the need for any mitigation measures. Where mitigation measures were not considered possible justification was provided.

In accordance with paragraphs 4.17 and 4.66 of the SSM, Quality Assurance processes were incorporated into the Stage 2 and 6.2 assessment process. These comprised:

- undertaking an initial sample of sites to review the approach and identify any potential issues;
- members of the assessment team being allocated different criteria and being responsible for reviewing all sites against these criteria to maximise consistency of assessment; and
- undertaking regular spot checks of the assessment to ensure consistency of approach.

It should be noted that unless stated in the following sub-sections:

- All sites were assessed against each criteria.

- That the assessment is based on GIS data collected by the Council and other evidence base documents prepared in support of the emerging Local Plan. Where relevant, the evidence base documents used in the assessment are identified.
- Where available, the assessments took into account any additional information held by the Council on individual sites, submitted through the Call for Sites process or through representations to the Draft Local Plan. Where this was not available, professional judgement was employed to judge likely impacts and consider aspects including the layout or density of development. It should be noted that, where additional information was not available, this did not prejudice the assessment of the site.

1: Impact on Environmental and Heritage Designations and Biodiversity

1.1 Impact on Internationally Protected Sites

(+)	0	(-)	(--)
Necessary for the management of the internationally protected sites.	Effects of allocating the site for the proposed use do not undermine conservation objectives (alone or in combination with other sites).	Effects of allocating the site for the proposed use are not likely to be significant alone but should be checked for in-combination effects.	Effects of allocating the site for the proposed use likely to be significant.

This assessment was undertaken by AECOM ecology specialists.

The quantitative GIS assessment filtered out sites which fell outside of a defined 2km buffer around internationally protected sites, scoring them '0'. A 2km buffer was chosen to ensure consistency with the approach for assessing sites set out in the Essex County Council Biodiversity Validation Checklist (2015).

The qualitative assessment considered those sites which fell within the 2km buffer. The assessment considered the potential for adverse impacts upon the internationally designated sites, taking into account distance from the designations, proposed land use and the proposed scale of development. All sites (irrespective of primary use) located within 500m of Epping Forest Special Area of Conservation (SAC) or Lee Valley Special Protection Area (SPA)/Ramsar site were assessed in more detail to identify the severity of potential impacts.

Sites located within 400m of the SAC or SPA/Ramsar were adjudged to pose the highest risk of the introduction of non-native species, fly-tipping, incidental arson and other impacts associated with proximity to designated sites and it was deemed that the allocation of these sites would likely lead to significant effects.

For all other sites, the following principles were applied:

- Very large residential sites located within 1km of the SAC or SPA/Ramsar were judged as generating significant recreational pressure themselves and thus likely to have a significant effect;
- It was judged that all housing/traveller sites located within 2km of the SAC or SPA/Ramsar had the potential to generate significant ‘in combination’ effects, on the basis that the core recreational catchment for these designated areas is currently understood to be approximately 2km;
- For all employment sites located between 500m and 2km away from the SAC or SPA/Ramsar it was assumed that development would not undermine conservation objectives (either alone or in combination) due to an absence of impact pathways (other than the strategic air quality pathway).

In 2016, sites were assessed before the completion of the Draft Local Plan Habitat Regulations Assessment Screening (AECOM, November 2016). As a precaution, identical assessment methods and distances/criteria were therefore applied to sites in close proximity to the Lee Valley SPA/Ramsar site and Epping Forest SAC. However, the HRA Screening of the Draft Local Plan confirmed that the Lee Valley SPA/Ramsar site was less vulnerable to recreational pressure in particular than had been assumed during the SSM assessment. Thus, sites assessed in 2017 were subject to an updated approach which reflects the better understanding of the lower vulnerabilities of the Lee Valley SPA/Ramsar. In practice, this meant that sites located between 400m and 2km from the Lee Valley SPA/Ramsar, (which scored (-) in 2016 due to the potential for ‘in combination’ recreational effects), scored 0 in 2017.

1.2 Impact on Nationally Protected sites

0	(-)	(--)
Based on the Impact Risk Zones there is no requirement to consult Natural England because the proposed development is unlikely to pose a risk to SSSI's.	Site falls within an Impact Risk Zone and due to the nature and scale of the development proposed it is likely to be possible to mitigate the effects of the proposed development.	Site falls within an Impact Risk Zone and due to the nature and scale of the development proposed it is unlikely to be possible to mitigate the effects of the proposed development.

This assessment was undertaken jointly by Council ecology specialists and Arup.

As there are no National Nature Reserves located within the District, this assessment focused solely on the potential impact of sites upon other national level ecology designations.

The Natural England Impact Risk Zones (IRZs) were utilised to allow for a rapid initial assessment of the potential risks posed by development sites. They define zones around each designation which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

The quantitative GIS assessment filtered out sites which fell outside of the Sites of Special Scientific Interest (SSSI) IRZs, scoring them 0.

The qualitative assessment investigated the remaining sites for the potential impact on SSSIs, or the IRZs associated with them. The details of each IRZ were reviewed independently and a worst case approach was taken where multiple IRZs and the respective thresholds of development affected a site, with the strictest threshold being applied to the assessment. The number of houses or floorspace of development proposal was then compared to this threshold to determine if a breach of thresholds occurred, thus initiating a future requirement to consult Natural England if development proceeds.

Where a site was located in an IRZ, but did not exceed the threshold for consultation with Natural England, it was assumed that no consultation would be required. For sites where there were consultation requirements, in cases where the proposed development exceeded the consultation threshold for that IRZ, professional judgement was employed to determine whether impacts could be mitigated.

1.3a Impact on Ancient Woodland

0	(-)	(--)
Site is not located within or adjacent to Ancient Woodland.	Site is adjacent to or contains Ancient Woodland but possible effects can be mitigated.	Site is adjacent to or contains Ancient Woodland. The proposals would likely result in direct loss or harm to Ancient Woodland or cannot be mitigated.

This assessment was undertaken by the Arup and cross-checked by the Council's ecology specialist.

The quantitative GIS assessment filtered out sites that did not intersect with areas of Ancient Woodland or fall within a defined 250m buffer of Ancient Woodland, scoring them '0'. The 250m buffer was selected to ensure consistency with the approach for assessing sites set out in the Essex County Council Biodiversity Validation Checklist (2015).

Other sites were assessed qualitatively following the Forestry Commission and Natural England Ancient Woodland and Veteran Trees: Assessment Guide (2015) to potential impacts in relation to planning decisions and Standing Advice from the Forestry Commission (2015). This encompassed an assessment of effective mitigation requirements.

The Standing Advice from the Forestry Commission states that a minimum 15m buffer should be applied around Ancient Woodland in order to minimise direct and indirect effects. Therefore, sites located on the peripheries of the identified buffer zones were judged unlikely to affect Ancient Woodlands due to the separation distance.

For sites that were adjacent, in close proximity to, or overlapping a very small portion of Ancient Woodland, it was judged that mitigation would be required in

order to limit effects. Where sites overlapped a larger area of Ancient Woodland, it was generally judged unlikely that it would be possible to mitigate impacts.

1.3b Impact on Ancient and Veteran Trees outside of Ancient Woodland

0	(-)	(--)
No Ancient or Veteran trees are located within the site.	Site contains Ancient and/or Veteran trees but at a sufficiently low density across the site that removal could be largely avoided or possible impacts could be mitigated.	Site contains a higher density of Ancient and/or Veteran trees, or are configured in such a way that direct loss or harm is likely.

This assessment was undertaken by Arup and cross-checked by the Council's ecology specialist.

Ancient Trees are defined by the Ancient Tree Forum as those "which have reached a great age in comparison with others of the same species". The exact age at which a tree would be classified as ancient varies depending on the species of tree and other factors, including the type of site where it is growing. Veteran Trees can be any age but show ancient characteristics.

The quantitative GIS assessment filtered out sites that did not contain Ancient and/or Veteran Trees, scoring them '0'. Sites which contain Ancient and/or Veteran Trees were qualitative assessed where consideration was given to the following matters:

- Distribution and density of Ancient and/or Veteran Trees across the site.
- Constraints to access.
- Root protection areas.
- Buffer zones around the site and consideration of fragmentation damage if removal is necessary.

From this, a judgement was made on whether Ancient and Veteran Trees are a minor or major constraint to development; and whether the impact could be mitigated or not.

1.4 Epping Forest Buffer Land

(+)	0	(-)	(--)
Site may assist in extending Epping Forest Buffer Land.	Site is unlikely to impact on Epping Forest Buffer Land.	The effects of the site on Epping Forest Buffer Land can be mitigated.	Site is likely to result in harm to Epping Forest Buffer Land which cannot be mitigated.

This assessment was undertaken by Arup specialists.

Epping Forest Buffer Land is a local constraint in the areas around Epping Forest. They are areas of land around the fringes of the Forest, owned by the City of

London Corporation and managed by the Conservators. Buffer Land is protected from development to ensure a natural buffer is maintained around the Forest edge.

The quantitative GIS assessment filtered out sites that fell outside of a 250m buffer of the Epping Forest Buffer Lands, scoring them '0'. A 250m buffer was selected based on professional judgement, taking into account the potential impacts of development upon the purposes of the Buffer Land. A qualitative assessment was then applied to sites falling within the buffer.

The qualitative assessment considered the extent to which the site may compromise the purposes of the Buffer Land. This was initially established in the Buffer Lands Action Plan approved by Epping Forest and Open Spaces Committee in 1998, the policy of which states:

“A principal purpose of Epping Forest buffer land is to protect the rural environment of the Forest upon which its natural aspect and biological integrity to a large degree depend by providing a natural barrier to the advance of built development towards the Forest’s boundaries. This natural barrier also provides important wildlife support areas for the Forest and links it to the wider countryside.”

It was shortened and summarised slightly differently a year later in response to a Parliamentary Select Committee:

“The purpose of the Buffer land is to safeguard the rural environment of the Forest and thereby its natural aspect or feel and to provide to the Forest wildlife support and complementary wildlife habitats, thus facilitating the protection of the Forest’s flora and fauna.”

The assessment broadly adopted the following principles:

- As a rule of thumb, it was judged that sites not directly adjacent to Buffer Land would have no impact on the Buffer Land and its purposes;
- Sites directly adjacent were assessed in further detail to understand:
 - Whether any part of the site directly encroached into the Buffer Land and the extent to which this would constrain development;
 - The proposed site layout/density of development (where applicable) and the extent to which this may impact on the edge/fringe of the Buffer Land or whether the proposal would harm connectivity between the Forest, Buffer Land and wider countryside;
 - The extent to which there may be an opportunities to extend the Buffer Land through layout or design.

1.5 Impact on BAP priority species or Habitats

(+)	0	(-)	(--)
Features and species in the site are retained and there are opportunities to enhance existing features.	Site has no effect as features and species could be retained or due to distance of BAP priority habitats from site.	Features and species in the site may not be retained in their entirety but effects can be mitigated.	Features and species in the site unlikely to be retained and effects cannot be mitigated.

This assessment was undertaken by the Arup and cross-checked by the Council's ecology specialist.

The quantitative assessment filtered out any sites which do not intersect with identified BAP Priority Habitats or fall within a 250m buffer of such habitats, scoring them 0. Other sites were assessed qualitatively. The 250m buffer was selected to ensure consistency with the approach for assessing sites set out in the Essex County Council Biodiversity Validation Checklist (2015).

The qualitative assessment followed steps 2 and 3 from the six identified in the Essex Biodiversity Validation Checklist (2015):

- *Step 2 Protected Species and Priority Habitats Checklist – Is there a 'reasonable likelihood' that the development will affect (either directly or indirectly) a site or habitat in column 1 prior to applying mitigation? If 'yes', then a Biodiversity Statement and Mitigation Plan is required.*
- *Step 3 Protected and Priority Species – Is there a 'reasonable likelihood' that the development will affect a species prior to applying mitigation?' If 'yes', then a Biodiversity Statement and Mitigation Plan is required.*

For each site, potential effects on BAP habitats and species were identified and noted as either direct or indirect effects. Direct effects relate to the physical loss of BAP habitat through land take. However, indirect effects may occur from the construction and operation of sites that are in proximity to a BAP habitat or species that are recorded within the vicinity of the site.

For those sites where an impact was identified, a narrative was then provided to describe the type of species present and whether it was of value or a potential constraint to development (invasive species).

Where possible, individual habitats which may be affected by the proposed sites were stated within the qualitative text provided. However, due to character limits, this was not always possible where there were a number of habitats and / or species relevant to a site. However, this was not considered detrimental to the process, as all BAP habitats are weighted equally. Therefore explicit reference to individual habitats within the assessment is provided for information purposes only.

1.6 Impact on Local Wildlife Sites

(+)	0	(-)	(--)
Features and species in the site are retained and there are opportunities to enhance existing features.	Site has no effect as features and species could be retained or due to distance of local wildlife sites from site.	Features and species in the site may not be retained in their entirety but effects can be mitigated.	Features and species in the site unlikely to be retained and effects cannot be mitigated.

This assessment was undertaken by the Arup and cross-checked by the Council's ecology specialist.

The quantitative assessment filtered out any sites which do not intersect with identified Local Wildlife Sites or fall within a 250m buffer of such sites, scoring them 0. Other sites will be assessed qualitatively. The 250m buffer was selected to ensure consistency with the approach for assessing sites set out in the Essex County Council Biodiversity Validation Checklist (2015). The assessment followed steps 2 and 3 out of the six in the Checklist:

- *Step 2 Protected Species and Priority Habitats Checklist – Is there a 'reasonable likelihood' that the development will affect (either directly or indirectly) a site or habitat in column 1 prior to applying mitigation? If 'yes', then a Biodiversity Statement and Mitigation Plan is required.*
- *Step 3 Protected and Priority Species – Is there a 'reasonable likelihood' that the development will affect a species prior to applying mitigation? If 'yes', then a Biodiversity Statement and Mitigation Plan is required.*

For each site, potential effects on Local Wildlife Sites were identified and noted as either direct or indirect effects. Direct effects relate to the physical loss of part, or all of the Local Wildlife Site through physical land take. However, indirect effects may occur from the construction and operation of sites that are in proximity to Local Wildlife Site, as both habitats and species may be affected.

1.7 Flood Risk

	(++)	(+)	0	(-)	(--)
Housing	Site within Flood Zone 1	Site within Flood Zone 2 and exception test not required		Site within Flood Zone 3a where exception test required	Site within Flood Zone 3b and not likely to be suitable for development
Traveller	Site within Flood Zone 1	Site within Flood Zone 2 and exception test not required			Site within Flood Zone 3a or Flood Zone 3b and not likely to be suitable for development
Employment	Site within Flood Zone 1	Site within Flood Zone 2 and exception test not required	Site within Flood Zone 3a and exception test not likely to be required		Site within Flood Zone 3b and not likely to be suitable for development

This assessment was undertaken by Arup specialists.

The quantitative GIS assessment filtered out sites which fell entirely within one flood zone. Sites which fell into more than one zone were assessed qualitatively to determine the extent to which the higher risk flood zones (Zones 3a, 3b and 2) would constrain development, taking into account:

- The spatial extent of flood zones versus site area (in terms of overall proportions, configuration etc.) and the extent to which this would constrain some/all of the site for development;
- Whether the proposed site layout/development density (where applicable) aligned with the mapped flood constraints;
- Whether the proposed development could be re-orientated to mitigate against the flood risk.

impacted by contamination and where assurances would have to be sought from the developer that remediation would not harm site viability.

For sites not assessed through the SLAA, an equivalent assessment was sought from the Council's contamination officer following the same methodology.

6.6 Traffic Impact

0	(-)	(--)
Area around the site expected to be uncongested at peak time.	Low level congestion expected at peak times within the vicinity of site.	Moderate peak time congestion expected within the vicinity of the site.

This assessment was undertaken by Essex County Council's appointed highways consultant Ringway Jacobs.

The assessment considers all employment sites, but only it considers residential sites with a capacity of over 25 units; this is on the basis that sites with capacities below these thresholds are unlikely to individually generate a significant impact on the road network. Since traveller sites were not assessed for more than 15 pitches they were not subject to this assessment.

The assessment for this criteria utilises an output from the Ringway Jacob sustainable accessibility assessments, specifically the scale of peak hour congestion expected in vicinity of site criteria. This assessment considers proximity to congestion plots derived from journey time data, which display the percentage of the free-flow traffic speed achieved on the main roads in Essex in the peak hours. For sites assessed in 2016, the source of the journey time data was 2014/15 TrafficMaster. For sites assessed in 2017, the source of the journey time data was 2015/2016 TrafficMaster.