Lower Thames Crossing

Thurrock Council Local Impact Report

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Lower Thames Crossing

Thurrock Council Local Impact Report

Appendix L - Annex 1: Green Belt Policy and Guidance and 'Very Special Circumstances'

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Appendix L Annex 1 – Green Belt Policy and Guidance and 'Very Special Circumstances'

L.1. Introduction

L.1.1 A122 Lower Thames Crossing (LTC) would provide a road connection between the A2 and M2 in Kent, east of Gravesend, crossing under the River Thames through two bored tunnels, before joining the M25 south of junction 29. The total length of new roads, including the A2/M2 and M25 improvements, would be approximately 23km, including approximately 4.25km in the tunnels.

L.1.2 LTC also includes the required diversion of a number of utilities. Three underground gas pipelines and one overhead electricity line are NSIPs in their own right. The three underground gas pipelines are south of the River Thames and therefore fall outside Thurrock Council. The overhead electricity line is within Thurrock Council and is located within the Green Belt.

L.1.3 The Green Belt accounts for approximately 60% of the Borough's total land area. With the exception of the principal urban area of Thurrock and the towns and villages, all of the land within the Borough is designated as Green Belt. Green Belt is a strategic planning policy designation concerned with the relationships between built and unbuilt areas between settlements. Plate E.1 (page 3) Planning Statement Appendix E (APP-500) shows the land within designated Green Belt within Thurrock, in relation to existing main built up area and towns and villages.

L.1.4 Based on the requirements of national Green Belt policy, when considering whether LTC should be permitted in the Green Belt, the ExA should consider a staged process:

a. Is the development within the Green Belt?

b. Is the development considered 'inappropriate development'?

c. Has 'very special circumstances' been demonstrated?

d. Has NH set out a clear and robust methodology for assessing the impact of LTC based on the NPPF purposes of the Green Belt?

e. Is the SoS able to make a judgement to whether there are 'very special circumstances' - to whether the potential harm to the Green Belt, by reason of inappropriateness, and any other harm, is clearly outweighed by other considerations?

f. Has NH demonstrated a robust assessment of the level of 'harm' to the Green Belt? Is the level of 'harm' underestimated? Has NH undertaken a robust Green Belt assessment of LTC based on the purposes of the Green Belt, and clearly set out the harm to the Green Belt?

g. Does the Green Belt assessment include a robust Strategic assessment relating to alternative routes, and a Detailed Green Belt assessment relating to the preferred route design and construction sites?

h. Has all the elements of 'Any other harm' of LTC been underestimated by NH, including impacts on air quality, noise, health, geology and soils, heritage, water, landscape, transport (wider network impacts), climate change etc, been properly included in the balance?

i. Has all the elements of 'other considerations' of LTC been overestimated by NH, relating to need of LTC; the level of benefits; and assessment of alternatives?

L.1.5 Thurrock Council have reviewed Planning Statement Appendix E (APP-500) and 'other documents in the DCO application submission' referenced in Appendix E, listed in paragraph R.1.4 above. Thurrock Council can confirm that NH have not undertaken a clear and robust Green Belt Assessment – at either a strategic or detailed level – to inform either the selection of alternative routes or in the design of the preferred route, for example, in the design of the A13 junction. Reasons and further details are provided below.

L.2. Green Belt Policy and Guidance

L.2.1. There is no published or definitive guidance on how to undertake a Green Belt assessment. However, any assessment must focus on the impact of development on openness, which is the essential characteristic of Green Belt, and on the identified purposes of the Green Belt. For LTC, NH have undertaken a landscape assessment and referenced Green Belt, but not undertaken a proper or robust Green Belt assessment, and there is no full assessment of LTC against the openness of the Green Belt and each of the purposes of the Green Belt, for land in Thurrock. The Council, however, has gone through the process of finetuning a Green Belt methodology and assessment to assess how land in Thurrock performs against the purposes of the Green Belt, to ensure it is policy compliant, which has been informed at the local level by officers/neighbouring authorities/members. NH has failed to build upon that experience and locally informed evidence on Green Belt. The Council has undertaken a Strategic Green Belt Assessment to assess the quality of the existing Green Belt - against the purposes of the Green Belt only. NH should of used that study as baseline for their assessment of LTC against the 'quality' of the baseline Green Belt in Thurrock.

Context

L.2.2. This section summarises the relevant national and local planning policy and guidance for Green Belt which underpins the assessment of LTC, within the Green Belt. Local Planning policy on Green Belt is contained in Appendix L, **Annex 2**. Thurrock Strategic Green Belt Assessment (Thurrock Council, 2019) is contained in Appendix L, **Annex 3 and 4**.

L.2.3. The key relevant National Policy Statement (NPS) relating to the Project within its Green Belt context is the NPS for National Networks 2014 (NPSNN) (DfT, 2014). The Energy NPSs (EN-1, EN-4 and EN-5) (DECC, 2011) also have effect in relation to utilities diversions which are NSIPs in their own right. NPSNN

L.2.4. Green Belt policy in the NPSNN is included under *'Land use including open space, green infrastructure and Green Belt'*. Paragraph 5.164 states that: *'**The fundamental aim of Green Belt Policy is to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts are their openness and their permanence**. **For further information on the purposes and protection of Green Belt, see the National Planning Policy Framework**'* [MHCLG, NPPF].

L.2.5. Paragraph E.3.4 Planning Statement Appendix E (APP-500) confirms that *'The **NPPF** (Ministry of Housing, Communities and Local Government, 2021) is therefore an **important consideration and relevant policy**'*. Thurrock Council agree with this statement.

L.2.6. Paragraph 5.170 of the NPSNN sets out that there is a general presumption against inappropriate development in the Green Belt and *'…such development should not be approved except in very special circumstances. Applicants should therefore determine whether their proposal, or any part of it, is within an established Green Belt and, if so, whether their proposal may be considered **inappropriate development** within the meaning of Green Belt policy'.*

L.2.7. The NPSNN provides further guidance specifically in relation to linear infrastructure passing through Green Belt land, stating at paragraph 5.171, that *'linear infrastructure linking an area near a Green Belt with other locations will often have to pass through Green Belt land. The identification of a policy need for linear infrastructure will take account of the fact that there will be an impact on the Green Belt and as far as possible, of the need to contribute to the achievement of the objectives for the use of land in Green Belts'.*

L.2.8. If it is determined that a proposal would involve inappropriate development in the Green Belt, paragraph 5.178 of the NPSNN sets out the decision-making policy:

'When located in the Green Belt national networks infrastructure projects may comprise inappropriate development. Inappropriate development is by definition harmful to the Green Belt and there is a presumption against it except in very special circumstances. The ***Secretary of State will need to assess whether there are very special circumstances to justify inappropriate development. Very special circumstances will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm, is clearly outweighed by other considerations. In view of the presumption against inappropriate development, the Secretary of State will attach substantial weight to the harm to the Green Belt, when considering any application for such development.'***

L.2.9. NPSNN paragraph 5.178 clearly sets out that the potential harm to the Green Belt, and 'any other harm' that is caused by the development LTC, has to be outweighed by 'other considerations'. These matters are considered further below.

NPSNN Energy EN-1, EN-4 and EN-5

L.2.10. Where the energy diversions proposed are NSIPs in their own right, the Energy NPSs have effect. As with NPSNN, NPS EN-1 (DECC, 2011) identifies that the fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the most important attribute of Green Belt is their openness. However, the full list of purposes of the Green Belt are set out in NPPF.

L.2.11. There is a general presumption against inappropriate development within Green Belt. *'Such development should not be approved except in very special circumstances. Applicants should therefore determine whether their proposal, or any part of it, is within an established Green Belt and if it is, whether their proposal may be inappropriate development within the meaning of Green Belt policy'* (paragraph 5.10.10 of NPS EN-1).

L.2.12. Paragraph 5.10.12 of NPS EN-1 sets out that where an applicant can demonstrate that a particular type of energy infrastructure, such as an underground pipeline, is considered an *'engineering operation'* rather than a *'building'*, in Green Belt policy terms, it would not *'in the circumstances of the application [be] inappropriate development'.* Further, applicants may also show that *'the physical characteristics of a proposed overhead line development or wind farm are such that it has no adverse effects which conflict with the fundamental purposes of Green Belt designation'.*

L.2.13. When located in the Green Belt, energy infrastructure projects are likely to comprise 'inappropriate development' (paragraph 5.10.17). Paragraph 5.10.17 goes onto state that: *'In view of the presumption against inappropriate development, the IPC will attach substantial weight to the harm to the Green Belt when considering any application for such development while taking account, in relation to renewable and linear infrastructure, of the extent to which its physical characteristics are such that it has limited or no impact on the fundamental purposes of Green Belt designation.'*

L.2.14. Paragraph 1.3.2 of NPS EN-4, Draft NPS EN-4, NPS EN-5 and Draft NPS EN-5, explains that the general policies in NPS EN-1 and Draft NPS EN-1 are not repeated but that they apply to all

applications covered by NPS EN-4, Draft NPS EN-4, NPS EN-5 and Draft NPS EN-5. The policies relating to the Green Belt are consistent across all these NPSs.

L.2.15. All five NSIPs should be considered together, as one project, when assessing the impact of development to the Green Belt.

L.2.16. On the basis that the tests across the NPSs are consistent, the assessment should be taken against the NPSNN, as the assessment against the relevant provisions of the NPSNN satisfies the identified provisions of the Energy NPSs (EN-1, EN-4 and EN-5).

National Planning Policy Framework (NPPF) (July 2021)

L.2.17. The NPPF is explicitly referenced in paragraph 5.164 of the NPSNN in relation to further information on the purposes and protection of the Green Belt.

L.2.18. NPPF paragraph 137 states *'the fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts are their openness and their permanence'.*

L.2.19. NPPF paragraph 138 sets out the Government's policy on the purposes of Green Belt. *'Green Belt serves five purposes:*

a. *To check the unrestricted sprawl of large built-up areas;*

b. *To prevent neighbouring towns from merging into one another;*

c. *To assist in safeguarding the countryside from encroachment;*

d. *To preserve the setting and special character of historic towns; and*

e. *To assist in urban regeneration, by encouraging the recycling of derelict and other urban land.'*

L.2.20. NPPF paragraph 147 states *'Inappropriate development is, by definition, harmful to the Green Belt and should not be approved except in very special circumstances.'* Paragraph 148 states *'Very special circumstances' will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm resulting from the proposal, is clearly outweighed by other considerations.'*

National Planning Policy Guidance (NPPG) (July 2019)

L.2.21. NPPG provides guidance on the application of NPPF Green Belt policy. NPPG paragraph: 001 Reference ID: 64-001-20190722, sets out '*what factors can be taken into account when considering the potential impact of development on the openness of the Green Belt, as set out below:*

Assessing the impact of a proposal on the openness of the Green Belt, where it is relevant to do so, requires a judgment based on the circumstances of the case. By way of example, the courts have identified a number of matters which may need to be taken into account in making this assessment. These include, but are not limited to:

a *openness is capable of having both spatial and visual aspects – in other words, the visual impact of the proposal may be relevant, as could its volume;*

b the duration of the development, and its remediability – taking into account any provisions to return land to its original state or to an equivalent (or improved) state of openness; and

c the degree of activity likely to be generated, such as traffic generation.'

L.2.22. Assessing the openness of the Green Belt is an important criteria for assessing any proposed development within the Green Belt. Similarly, any proposed development in the Green Belt should be assessed against the purposes of the Green Belt, as set out in NPPF.

Thurrock Core Strategy and Policies for Management of Development (January 2015)

L.2.23. Thurrock Core Strategy and Policies for Management for Development Policy PMD6 *'Development in the Green Belt'* sets out the Council's policy on Green Belt. Below is the shortened version which is relevant to LTC:

'The Council will maintain, protect and enhance the open character of the Green Belt in Thurrock in accordance with the provisions of the NPPF. The Council will plan positively to enhance the beneficial use of the Green Belt by looking for opportunities to provide access to the countryside, provide opportunities for outdoor sport and recreation, to retain and enhance landscapes, visual amenity and biodiversity, and to improve damaged and derelict land.

The Council will maintain, protect and enhance the open character of the Green Belt in Thurrock in accordance with the provisions of the NPPF. The Council will plan positively to enhance the beneficial use of the Green Belt by looking for opportunities to provide access to the countryside, provide opportunities for outdoor sport and recreation, to retain and enhance landscapes, visual amenity and biodiversity, and to improve damaged and derelict land.

Planning permission will only be granted for new development in the Green Belt provided it meets as appropriate the requirements of the NPPF, other policies in this DPD.'

Thurrock Local Plan Issues & Options (Stages 1 & 2) (2018)

L.2.24. The Council published Local Plan Issues and Options document in 2018, which included Green Belt section, provided in **Annex 2** of this Appendix. It reinforces NPPF paragraphs 133 and purposes of the Green Belt. At this time the Council confirmed they had commissioned preparation of a Green Belt Assessment to assess the whole area of Green Belt within the Borough. This was to include the stages set out below, which has been used in other areas, such as for the Greater Manchester Green Belt Assessment:

a. Identification of the study area

b. Identification of key constraints (high level)

c. Identification of land parcels for assessment

d. Assessment of the parcels against the purposes for including land in the Green Belt

e. Identification of the relative potential importance of the contribution of parcels to the Green Belt in the context of their suitability to accommodate a strategic level of development

L.2.25. The methodology above was refined in the production of Thurrock Strategic Green Belt Assessment Study (2019). As set out above, the Council has gone through the process of finetuning a Green Belt methodology and assessment against the NPPF purposes, to ensure it

is policy compliant, which has been informed at the local level by officers/neighbouring authorities/members. This is set in more detail below.

Thurrock Strategic Green Belt Assessment Study (January 2019)

L.2.26. The Council published the Strategic Green Belt Assessment Study in 2019. A copy of the Study is provided in Appendix L, **Annex 3 and 4** below.

L.2.27. The Green Belt Study is split into Stages 1A and 1B. The Study includes the identification of strategic Green Belt parcels and the assessment of those parcels against the purposes of the Green Belt. Stage 1B relates to implications for the strategic Green Belt assessment of the preferred route announced by Government on the route and location of the proposed Lower Thames Crossing (as at 2018). The Study does not, however, provide a full assessment of all the Green Belt parcels for LTC. Section 5 of the Study provides a high level assessment of LTC at that time.

L.2.28. A Stage 2 Green Belt Assessment will proceed only in the event that there is a clearly demonstrated exceptional circumstances to amend the boundaries of the Metropolitan Green Belt in order to meet future development needs. This will be an assessment to identify detailed assessment of sites and boundaries in the Green Belt to identify defensible long-term boundaries and provide recommendations on detailed boundary changes.

L.2.29. The Thurrock Strategic Green Belt Study sets out a clear and robust methodology, in Chapter 3, and summarised below:

a. Categorisation of Thurrock settlements for Green Belt parcel assessment (Table 3.1)

b. Identifying strategic Green Belt parcels (paragraphs 3.6.4 – 3.6.5)

c. Green Belt assessment methodology (paragraphs 3.6.6 – 3.6.12)

d. Criteria used to assess parcels against Green Belt purposes a, b and c (Tables 3.2 – 3.4)

e. Suitability of land parcels based on upon assessment of Green Belt purposes (Table 3.5)

L.2.30. The Study assesses the parcels against the first three purposes of the Green Belt, set out in the NPPF:

a. *To check the unrestricted sprawl of large built-up areas*

b. *To prevent neighbouring towns from merging into one another*

c. *To assist in safeguarding the countryside from encroachment*

L.2.31. With regard to the consideration of purpose (a) and (b), reference is made to the relationship between 'Neighbouring Towns' and also to 'Large built-up areas'. Therefore, the Study then goes on to categorise Thurrock settlements to inform a clear method of using the purposes in the Green Belt assessment.

L.2.32. The fourth purpose of Green Belts is to *'preserve the setting and special character of historic towns.'* There are no towns in the Borough which may be regarded as having a particularly 'special' historic character or where such character is particularly derived from or complemented by to its landscape setting (such as is the case, for example, at Oxford or York, which are both historic towns surrounded by Green Belt which contributes to their special historic character and setting).

L.2.33. The purpose *'to assist in urban regeneration, by encouraging the recycling of derelict land'*, is not used at all in the assessment. Reasons are set out in the Study itself (**Annex 3**).

L.2.34. Thurrock Strategic Green Belt Study Appendix C (**Appendix L, Annex 3**) provides a map of the Green Belt parcels used in the assessment. The Overall Importance of Green Belt parcels is set out in Table 4.1 (**Appendix L, Annex 3**) and the first map in Appendix E (**Appendix L, Annex 4**). The results of the assessment of parcels, against Green Belt purposes, are set out in Chapter 4 and 5 and, D (**Appendix L, Annex 3**), and, E and F (**Appendix L, Annex 4**).

L.2.35. A map of Green Belt parcels and the London Thames Crossing (LTC) route (Preferred Route designated in April 2017) is shown in Appendix F (**Appendix L, Annex 4**). At this time, in 2017, the route was confirmed but since then NH have not produced a comprehensive Green Belt assessment. The proposed highway route running through Thurrock borough, to the north of the LTC, passes through Green Belt parcels 16, 15, 14, 25, 26, 27, northern edge of 28, 30, 34 with related ancillary works encroaching into the northern part of parcel 13, southern part of 41 and western edge of parcel 35 (proposed service area). Implications of the proposed LTC route on the parcels is considered in Chapter 5 of the Study, though a full assessment of all the Green Belt parcels affected by LTC is not provided in this Study.

L.2.36. Thurrock Strategic Green Belt Assessment Study (**Appendix L, Annex 3**) provides the following commentary on LTC by broad parcels affected on the route of LTC and the table below extracts those parcels to demonstrate the likely implications/harm to those parcels. The date of the Green Belt Study is January 2019 immediately following NH's statutory consultation scheme from late 2018. Although the scheme at that stage is now different to the DCO submission version in many respects the implications set out below are broadly helpful:

a. Paragraph 3.7.4: *'As shown on the plan in Appendix F* (**Appendix L, Annex 4**)*, the proposed route, which is now 3 lanes in both directions, would emerge from bored tunnel below the river within parcel 34 and then run in generally north westerly direction across parcels 30, 25, 27, 14-16 before joining the M25 just north of the borough. There would also be small incursions into the south west corner of 41 and northern part of 28 at the proposed A13/A1089 interchange.'*

b. Paragraph 3.7.6: LTC *'The route will form a very clear linear boundary and, together with embankments, elevated structures, moving vehicles and signage (and lighting where this is to be provided), will form a prominent intrusive feature within much of the landscape through which it passes. In effect it would subdivide the parcels that it crosses and form a profound encroachment into and through some of the more rural parts of the borough beyond the eastern, north western and northern periphery of the Thurrock built-up area, and beyond the adjoining towns of Tilbury, Chadwell St Mary and South Ockendon, and the smaller settlements of West and East Tilbury, Linford, Orsett, and Baker Street.'*

c. Section 5 sets out the implications of the proposed LTC route on the Green Belt parcels that it crosses, as set out below (from south to north):

Thurrock Green Belt Parcel	**Initial Implications of the Proposed LTC Route on Green Belt Parcels**
Parcel 34	The land-take indicated for the scheme would appear to occupy all but the western part of this parcel. The route would emerge from the tunnel portal within the central southern part of parcel 34 before rising onto viaduct 10-12m high and 1km long to cross above Station Road and the Tilbury Loop railway on the northern boundary of the parcel. This would introduce a prominent vertical unscreened structure within the central northern part of the open flat landscape of the Tilbury Marshes; this would appear as a clear encroachment into the open countryside (Purpose 3) of the open,

Thurrock Green Belt Parcel	Initial Implications of the Proposed LTC Route on Green Belt Parcels
	flat marshland landscape. An interchange would be formed at the southern end of the viaduct with a roundabout below (Tilbury Junction, which straddles the boundary between parcels 34 and 35) and this, together with associated structures/slip roads and related earthworks will also bring about substantial change. Whilst the viaduct, being raised above the ground, will maintain a degree of openness and a connection between the landscape on either side of the junction below and the associated sloping slip roads will disrupt this. As the southern section of the route would be in tunnel, the southern part of the parcel would be unaffected. The route would be remote from built-up areas and towns (around 1.8km east of Tilbury). Whilst it will form a clear physical and, for much of its length, a visual boundary, and provide an opportunity to separate the parcel the contribution of the land to Green Belt purposes would remain broadly the same.
Parcel 35	Some areas of land-take are indicated in the adjoining western part of parcel 35; part of this is for a proposed service area south west of East Tilbury. This will form a significant encroachment into the countryside within this part of the marshland landscape and introduce development closer to the edge of East Tilbury; this may be perceived as further 'sprawl' associated with the LTC and a further encroachment into the intervening landscape. The western boundary of the parcel may require adjustment to suit the final form of the LTC, but the parcel is unlikely to require subdivision.
Parcel 30	The route would cross this parcel more or less at grade with an embankment and bridge (9.5m high) carrying Muckingford Road over the LTC on the northern boundary of the parcel; for mitigation purposes a false cutting is proposed on the western side rising to 2m above road level. The route would form a prominent new boundary cutting across the landscape between Chadwell St Mary and East Tilbury, passing only some 400-600m west of East Tilbury where there is intervisibility between the line of the route and the residential outskirts and the Bata factory. It is possible that the location of the route and the proposed service area located east of the Tilbury junction may bring about pressure for development in any remaining land between the route and south western edge of Tilbury and also within the vicinity of the junction. The land-take indicated extends up to the western edge of East Tilbury. As a consequence, parcel 30 would become two separate parcels with the eastern part fulfilling a greater function in respect of Purpose 3 - preventing encroachment of East Tilbury westwards to the road new boundary.
Parcel 25	The route would pass along the southern side of a broad valley to Brentwood Road, close to existing ground levels, crossing this area of countryside (circa 1.7km wide) that separates Linford and the eastern side of Chadwell St Mary. False cuttings to 4m above road level are proposed on both sides of the route. Hoford Road (a track) would cross over on a bridge 9m high; Brentwood Road would be carried over the road 9m above road level which would be some 2m above ground level at that point. The south western part of the parcel, which has a closer relationship with Chadwell St Mary, would be separated from the rest of the parcel. There is the prospect that this may encourage promotion of Green Belt release for development on the edges of the above two settlements; in the case of Linford there is no intermediate alternative boundary, whilst on the western side an intermediate boundary exists along High

Thurrock Green Belt Parcel	Initial Implications of the Proposed LTC Route on Green Belt Parcels
	House Lane. The contribution that the land within both parts of the parcel makes to Green Belt purposes is unlikely to be altered significantly by the route.
Parcel 26	The route would pass through the centre of this parcel on a roughly west/east alignment, initially 2m or so above ground level at Brentwood Road then descending gradually into cutting around 4-5m deep below the A13 which forms the northern boundary of the parcel. The LTC junction with the A13 and A1013 creates a complex network of roads slip roads within the north western part of the parcel. The route would therefore form a new intermediate boundary between the north side of Chadwell St Mary and the A13 in an area where the existing Green Belt edge is not well defined on the edge of the town. It is apparent that the route in this location may form a new northern limit to Chadwell St Mary and, as such, the intervening land could be considered to provide a more limited contribution to Purpose 1.
Parcel 27	Part of the LTC/A13/A1013 interchange would extend into the eastern part of parcel 27 with roads on embankments and within false cuttings up to 4m above carriageway level. These roads would extend the junction to within 250-300m of the north eastern edge of Chadwell St Mary. The boundary of the town is poorly defined and the LTC would provide a more appropriate long-term Green Belt boundary in this particular location.
Parcel 14	The route would pass through the western central part of this large parcel a significant part of which falls within the Bulphan Fenland LCA. From the complex interchange with the A13 and A1089 the route would be in cutting up to 5.5m deep where it continues to cross the northern ridge of the Orsett & Horndon-on-the-Hill Open Undulating Farmland with a slip road and Stifford Clays Road rising over on embankments/bridges up to 7m above existing ground level. False cuttings up to 3m above carriageway would be created between Stifford Clay Road and Green Lane. The route then runs at grade, between false cuttings before rising onto 7.5m high embankment flanked by false cuttings as it crosses the Bulphan Fenland, with a section of viaduct over Mar Dyke. This parcel comprises a very rural landscape that, in most parts, is perceived as being remote from the Thurrock built-up area; the route will have a significant effect on the character of this landscape and this sense of remoteness. Whilst the line of the route would justify the subdivision of this parcel, the contribution of the area to the fulfilment of Green Belt purposes is likely to remain unchanged.
Parcel 15	The route would cross the northern part of parcel 15, a generally rural and remote landscape of the Belhus Farmed River Terrace Gravels, passing to the north of Ockendon landfill at grade/in shallow cutting with some sections of 4m high false cutting, to the B186 which is raised over the LTC by some 8m on the boundary of the parcel. The land to the south of the route has some affinity with the northern outskirts of South Ockendon, being only some 500m beyond the northern edge of the town. Whilst sub-division of the parcel is unlikely to affect the assessment of the contribution of the intervening land to Green Belt purposes 1 and 2, it is likely to strengthen its contribution to the third purpose of preventing encroachment on the basis that the area may be viewed as having potential for release to accommodate a north eastward expansion of the town (although the heritage value associated with that area around South Ockendon Hall provides a significant constraint in this area).

Thurrock Green Belt Parcel	Initial Implications of the Proposed LTC Route on Green Belt Parcels
Parcel 16	West of the B186 North Road the road crosses open farmland north of South Ockendon more or less at grade before descending into cuttings to join into the M25. The route would justify sub-division of this parcel; the southern part, which relates more closely with the northern end of South Ockendon, would continue to fulfil its fundamental contribution to the prevention of encroachment from the northern expansion of the town, although the LTC route would provide an alternative clear boundary to contain the encroachment of the town into the landscape beyond if this area were to be considered for release from the Green Belt. If release were to occur the northern part of the parcel would then provide some contribution to Purpose 2 due to the separation that it would provide between the town and Upminster to the north (although still remaining separated by around 2.6km). The very minor incursions of the LTC route on the edges of parcels 28 and 41 parcels would make no material difference to the existing contributions of these parcels to Green Belt purposes.

d. It is clear from the Green Belt Study that it made a number of conclusions regarding the implications of LTC on the Green Belt and these are set out in Paragraph 6.2.1, as follows: *'The alignment of the LTC route through the central and western parts of the borough will undoubtedly have implications for the way in which some parts of the Green Belt within Thurrock fulfil Green Belt purposes. The most significant effect of the route on the Green Belt, other than the route being a significant encroachment into the countryside, would be the creation of a major enduring boundary within the Green Belt which is, in most areas, reasonably distant and in some cases very remote from the Thurrock built-up area and towns. In most parts of the borough this boundary will merely separate areas of similar open countryside with little to no effect on the way in which the related parts of the Green Belt contribute to the purposes. However, in parcel 26, the route would create a more enduring boundary beyond the northern edge of Chadwell St Mary than currently exists along the northern edge of the town. As a result, the intervening land may assume greater importance in terms of the constraint that it provides on preventing encroachment of the town into the intervening countryside in an area that will undoubtedly become subject to development pressures or, alternatively, the land could be considered as being less important as a more enduring boundary would exist up to which development could extend preventing encroachment into the countryside beyond. In this regard, there are similarities too with the southern part of parcel 16, eastern part of parcel 27, and land on the south western edge of East Tilbury within parcel 30.'*

L.3. 'Very Special Circumstances' is not Demonstrated for LTC

L.3.1. NH confirm, in Planning Statement Appendix E (APP-500) paragraph E.1.4 that LTC *'is inappropriate development in the Green Belt'* and *'that there are very special circumstances for the Project as the potential harm to the Green Belt by reason of inappropriateness, and any other harm, is clearly outweighed by other considerations'.* The Council agree that LTC is inappropriate development in the Green Belt. However, the Council conclude that NH have not adequately demonstrated 'very special circumstances' for LTC, as required in NSPNN paragraph 5.178, because:

a. NH have not undertaken a robust Green Belt assessment for LTC, against the fundamental aim including openness and purposes of the Green Belt set out in NPSNN and NPPF, which would robustly set out the harm in any location and for project as a whole.

b. NH have not clearly set out the level of harm to the Green Belt, to inform the selection of alternatives (at a strategic level) or for the preferred option design (at a detailed level, e.g. for the A13/A1089/LTC junction) or for the construction sites, such as construction compounds.

c. In terms of 'any other harm', the impacts of LTC in Thurrock on air quality, biodiversity, climate change, geology and soils, health, heritage, landscape, noise, socio economics, transport (such as PRoW, public transport, wider network impacts), water etc is significant.

d. In terms of 'other considerations', NH evidence for the need for LTC has not been properly demonstrated; the level of benefits of LTC has been overestimated; and there is a lack of proper assessment of alternatives.

L.3.2. Further detail on these points is provided below.

Harm to the Green Belt

L.3.3. As stated above, NPSNN paragraph 5.178 states '*Very special circumstances will not exist unless the potential harm to the Green Belt by reason of inappropriateness…'.* NPSNN paragraph 5.178 requires the Secretary of State to *'attached* ***substantial weight to the harm of the Green Belt'***, when considering LTC.

L.3.4. Paragraph 6.5.277 of the Planning Statement (APP-500) concludes that: *'Appendix E to this Statement provides a* ***detailed assessment of the case*** *for the Project within the Green Belt in order to show that very special circumstances exist sufficient to justify the location of the development in the Green Belt and so demonstrate accordance with the relevant requirements of the NPSNN and Energy NPSs, and as far as this may be relevant, consistency with other relevant national and local Green Belt policies.'* Contrary to this assertion by NH, the Council contends that there is no clear and robust Green Belt assessment for LTC, undertaken against the purposes of the Green Belt set out in NPPF. Therefore, there is no detailed assessment of the case for LTC within the Green Belt to show that 'very special circumstances' exist. This section sets out the Council's reasons in more detail.

L.3.5. The Council have raised issues to NH about the lack of LTC Green Belt methodology and Belt assessment for over 3 years, as set out in the Council's SoCG issues 2.1.59 and 2.1.60, which remain unresolved.

L.3.6. Following the Council's review of DCO it was evident that there is still no robust Green Belt assessment. Therefore, to enable the Council to clearly understand the harm to the Green Belt (strategic Green Belt assessment at the alternatives route stage and more detailed Green Belt assessment of the detailed route), the Council requested the following information in an email to NH (see Appendix L, Annex 5), dated 2 June 2023:

L.3.7. Green Belt assessment methodology for the alternatives route selection process and any subsequent Green Belt studies undertaken;

a. Green Belt assessment for the alternatives route selection process and design; and,

b. Green Belt assessment of the proposed route, which informs DCO 'ES Chapter 7 Landscape & Visual' and the 'Planning Statement'.

L.3.8. NH email response (see Appendix L, Annex 5), dated 15 June 2023, set out the documents NH used to assess the Green Belt for alternatives and the preferred route.

L.3.9. Planning Statement Appendix E (APP-500) sets out, in para E.1.2, that the *'appendix provides the complete assessment of the Project against the relevant planning policy relating to its*

location within the Green Belt and where appropriate and necessary, reference is made to ***others documents*** *in the DCO application submission which addresses and assess Green Belt related issues.'*

L.3.10. The 'other documents in the DCO application submission', relating to Green Belt assessment, referenced in Planning Statement Appendix E (APP-500) and in NH's email (see Appendix L, **Annex 5**), dated 15 June 2023, include:

a. Planning Statement (APP-495)

b. Planning Statement Appendix E (APP-500)

c. Thurrock Strategic Green Belt Assessment Stages 1a and 1b (Thurrock Council, 2019) (Appendix L, **Annex 3 and 4**)

d. ES Chapter 3: Assessment of Reasonable Alternatives (APP-141)

e. ES Chapter 7: Landscape and Visual (APP-145)

f. Section 4.2 Volume 6 of the pre-consultation SAR, sections 4.1, 4.2, and 6.2 of Volume 6 of the post-consultation SAR, and volume 7 of the post-consultation SAR. NH email response (Appendix L, **Annex 5**), dated 15 June 2023, states *'In combination with a range of constraints and considerations, Green Belt and Green Belt policy was therefore one of many factors which were weighed in the balance when considering route options.'*

g. 2018 Statutory Consultation on the preferred route (Route 3 and Location C) included the Preliminary Environmental Information Report (PEIR, Sept 2018). NH email response (Appendix L, **Annex 5**), dated 15 June 2023, states *'The PEIR assessed the Project's effects on the different Landscape Character Areas it passes through which includes consideration of the Green Belt including its openness.'*

h. ES Chapter 16: Cumulative Effects Assessment (Application Document 6.1) (APP-154). No reference to Green Belt is found in this document.

i. Interrelationship with other Nationally Significant Infrastructure Projects and Major Development Schemes (Application Document 7.17) (APP-550). No reference to Green Belt is found in this document. Chapter 7: Landscape and Visual (APP-145) has a number of references to Green Belt assessment and results, which are tagged into the landscape assessment and results. The assessment is based on DMRB LA 107 Landscape and Visual Effects guidance, which makes no methodology on how to undertake a Strategic or Detailed Green Belt Assessment. Therefore, NH have attempted to undertake a Green Belt assessment based on landscape assessment alone, and not against the purposes of the Green Belt, as set out in NPPF and followed by Thurrock Strategic Green Belt Assessment (Appendix L, **Annex 3 and 4**).

L.3.11. The Council have reviewed the documents above. The documents provide very little reference (or no reference at all) to Green Belt. The only documents which provide an element of Green Belt assessment and results is set out in the Planning Statement Appendix E (APP-500) and ES Chapter 7: Landscape and Visual (APP-145). Further review of these documents is provided in this Appendix below. It is also not apparent to the Council how, or if, NH have used the Thurrock Strategic Green Belt Assessment Study (Thurrock Council, 2019) (Appendix L, **Annex 3 and 4**).

L.3.12. The Council concludes that NH has not undertaken a clear and robust Green Belt assessment of LTC, against the openness or purposes of the Green Belt in NPPF, to inform the selection of alternatives (at a strategic level) or for the preferred option design (at a detailed level) or for the

selection of construction sites, such as the construction compounds. Full reasons are provided in the remainder of this Appendix.

ES Chapter 7: Landscape and Visual (APP-145) and Landscape Appendices

L.3.13. ES Chapter 7: Landscape and Visual (APP-145) is a purely landscape and visual chapter, based on landscape assessments. Green Belt is referenced, within the Chapter 7, in relation to landscape character and visual amenity of Local Landscape Character Areas (LLCAs). Chapter 7 provides descriptions and value of each LLCA, and schedule of effects on landscape receptors during construction and operation on LLCAs. There is very little reference made to Green Belt in ES Chapter 7: Landscape and Visual (APP-145) and associated appendices.

L.3.14. In terms of Green Belt, the Council comments on ES Chapter 7: Landscape and Visual (APP-145) and appendices are set out below:

a. ES Appendix 7.2 – Landscape and Visual Assessment Methodology (APP-377) makes no reference to Green Belt assessment methodology. In any event, Green Belt is not a landscape or visual designation or concept but rather a spatial concept. It would be unlikely that a Landscape and Visual assessment is appropriate for assessment of impact of development on the Green Belt.

b. Chapter 7 does not provide a full assessment of each parcel against the fundamental aim including openness or the fulfilment of Green Belt purposes, as undertaken in the Council's Strategic Green Belt Assessment Study (2019) (**Annex 3 and 4**). Thurrock Strategic Green Belt Assessment Study should have provided the foundation of an LTC Green Belt assessment.

c. Chapter 7 sets out the landscape effects on LLCAs within Green Belt during construction and operation. For example, in table 7.28, at Thurrock Reclaimed Fen the Magnitude and nature of the effect in Opening Year is 'Major adverse' which remains at 'Major adverse' in Design Year; and Significance of Effect' at Opening Year is 'Very Large adverse' reducing to 'Large adverse' in Design Year. These landscape assessments should of fed into the individual Green Belt parcel assessments to inform LTC design. However, as submitted, Green Belt is not a landscape designation.

d. The ES chapter refers the reader to Planning Statement Appendix E (APP-500) for the separate assessment of the extent of harm to the openness of the Green Belt. The Council's review of that document is set out below.

Planning Statement Appendix E (APP-500)

L.3.15. Planning Statement Appendix E (APP-500) paragraphs E6.8 – E.6.14 sets out the conclusions of harm to the Green Belt against the four purposes of Green Belt in just 1 page of text, for the whole LTC. Paragraphs E6.15 - E.6.23 sets the conclusions of harm to Green Belt to Green Belt openness in only 1 page of text as well. Paragraphs E.6.24 – E.6.26 sets out the 'any other harm' in just 3 paragraphs. This is the only reference made to Green Belt assessment against the purposes of the Green Belt as set out in NPPF, which is wholly inefficient. It is also unclear how these conclusions were derived at, when the Council has not been able to view a robust methodology or Green Belt assessment.

L.3.16. The complete LTC assessment against the four of the five Green Belt purposes (a, b, c and e) (paras E6.8 – E.6.14), for the whole LTC route in Thurrock, is set out in *italics* below. The Council's response to each is set out beneath each NH assessment.

a **To check the unrestricted sprawl of large built-up areas** – 1 paragraph for Thurrock: *'The new road would be located close to the settlements of East Tilbury, Chadwell St Mary*

and Linford. Thurrock Council's Green Belt Assessment acknowledges that the boundary of the town to the north-east of Chadwell St Mary, around the A13/A1089 junction, is poorly defined and the road would provide a more appropriate long-term Green Belt boundary in this particular location. The Green Belt purposes are, therefore, unlikely to be altered significantly by the route.'

Council response:
The NH Green Belt assessment for Purpose (a) does not present any Green Belt assessment for the 'large built-up areas' in Thurrock. The Council's Strategic Green Belt Assessment identifies the 'large built-up area' in Thurrock as the urban combined area of Chadwell St Mary, Chafford Hundred, Grays/Stifford Clays; Lakeside/West Thurrock, Little Thurrock/Socketts Heath, Purfleet, South Stifford Tilbury – this 'large built-up area' is located close to LTC and there is no Green Belt assessment included within the assessment for this purpose (a).
The NH quote, above, is incorrect. The Council's Strategic Green Belt Assessment Study states LTC would 'create a more enduring boundary beyond the northern edge of Chadwell St Mary than currently exists along the northern edge of the town'. LTC introduces a major 3 lane road and associated development cutting through the countryside, to both the east, north-east and north of Chadwell St Mary. As stated previously, the Council's Strategic Green Belt Assessment Study was a high level assessment for the LTC element of the Study. LTC DCO should be supported by a robust detailed Green Belt assessment including areas such as Chadwell St Mary urban area and LTC, to conclude the level of harm to the Green Belt.

b. **To prevent neighbouring towns merging into one another** - 1 paragraph for Thurrock: *'The Project is for a highway scheme and to construct and operate the Project it would be necessary to install and divert multiple utilities including overhead electricity powerlines, high-pressure gas pipelines and other utility networks and their associated infrastructure (see Section 2 of this Planning Statement). The Project would not cause the merging of towns.'*

Council response:
The NH Green Belt assessment for Purpose (b) above does not provide any Green Belt assessment of LTC against this purpose – it is simply a description LTC and an assertion. LTC is routed between settlements in Thurrock and would introduce development between settlements. Therefore, this purpose is relevant to the LTC Green Belt assessment in Thurrock. LTC would present new development in the Green Belt between the settlements, including Grays/Stifford Clays & Orsett; Chadwell St Mary and Orsett; and Chadwell St Mary and Linford. There would be harm to the Green Belt in these locations. For example, the proposed design of the A13/A1089/LTC junction provides extensive provision for vehicle movements which requires land to be taken from the Green Belt. The Council has examined the operation of the junction and prepared an alternative proposal which delivers the same operational arrangements in a smaller area. Using this alternative proposal would reduce the amount of Green Belt land required for LTC and therefore reduce the overall harm to the Green Belt. The Council is disappointed that NH will not consider this alternative proposal and will not provide the operational modelling details which they have used to justify their proposed arrangement which takes excessive amounts of the Green Belt. This is an example, where a robust detailed Green Belt assessment is required, to conclude the level of harm to the Green Belt in the local area and inform the alternative selection and design process.

c. **Assist in safeguarding the countryside from encroachment** - 1 paragraph for Thurrock: *'The Project includes new public open spaces such as Tilbury Fields which is beneficial in terms of retaining the openness of the Green Belt and safeguarding the countryside from*

encroachment. Proposed woodland planting/restoration helps mitigate the visual impacts of the Project, provides an ecological and community resource and makes a contribution to the Green Belt objective of safeguarding the countryside from encroachment.'

Council response:
The NH statement above does not summarise a Green Belt assessment for LTC against this purpose – it is a description of new open space such as Tilbury Fields. A robust detailed Green Belt assessment is required, for land around settlements within Thurrock, to conclude the level of harm to the Green Belt against this purpose and inform the alternative selection and design process. The location/area of Tilbury Fields is already land within the Green Belt and already contributes to the openness of the Green Belt.

e. **To assist in urban regeneration, by encouraging the recycling of derelict and other urban land** – *'The Project would have economic, community and transport benefits, set out in Chapter 4 of this Planning Statement, in which Table 4.2 provides a summary of how the key benefits of the Project support the Scheme Objectives. The economic growth benefits that the Project will deliver could assist in urban regeneration.'*

Council response:
The potential opportunities for the LTC to assist in linking to urban regeneration in Thurrock, have been ignored. For example, providing a junction at Tilbury and Tilbury Link Road to provide links from Kent to south of Thurrock which includes Tilbury Port (and future expansions), Grays and potential future urban growth (1000s of new homes).

Potential harm to the Green Belt openness

L.3.17. The NH assessment of harm to the openness of the Green Belt for the whole LTC route in Thurrock is set out in *italics* below. The Council's response is set out beneath the NH conclusions.

a. Paragraph E6.18 *'Towards the A13/A1089/A122 junction some views would be restricted but the overall sense of openness would remain. There would be additional embankments and an overbridge at the A13/A1089 junction although the impact on openness would be limited due to the existing road infrastructure.'*

b. Paragraph E.6.21 *'All above-ground areas would experience some degree of loss of spatial and visual openness. This would be greatest between the South Portal and the A2/M2, and between the North Portal and A13.'*

Council response:

The Council's response set out in L.2.52 (b) above, in relation to the A13/A1089/LTC, is relevant here. The conclusions on the harm to openness in the Green Belt for LTC in Thurrock is covered in just 2 paragraphs in this document. LTC takes up 10% of Thurrock landmass which is completely within the Green Belt and this Planning Statement conclusion is completely insufficient to base a decision on 'very special circumstances'. It underplays the significance of harm to the Green Belt openness.

L.3.18. Although listed in Planning Statement Appendix E (APP-500), there has been no use of the Thurrock Strategic Green Belt Assessment to inform the LTC Green Belt assessment – in terms of:

a *Categorisation of settlements* to align with NPPF policy wording 'large-built up areas' and 'towns';

b *Identifying Green Belt parcels* - LTC DCOv1 Planning Statement (Chapter 4 – Green Belt) (October 2020) (**Annex 7**) included a summary of the Green Belt assessment, where Green Belt Parcels identified in Plate 4.2 (page 97) match the parcel boundaries of the Thurrock Strategic Green Belt Assessment (2019), which was welcomed by the Council as this provides consistency. However, within this DCO, the use of Thurrock parcels has been dropped and instead Local Landscape Character Areas (LLCAs) have been used as Green Belt parcels. It is unclear why this has been changed and it makes comparison with the Thurrock Strategic Green Belt Study extremely difficult.

c Using the results of Thurrock Green Belt assessment for parcels, to inform the assessment of LTC within the Green Belt.

L.3.19. Thurrock Strategic Green Belt Assessment is a robust assessment of the Green Belt in Thurrock. NH should have used Thurrock Strategic Green Belt Assessment as the baseline for the categorisation of settlements, identification of parcels and used the Green Belt assessment results of the Study to inform the LTC Green Belt assessment.

L.3.20. As a side note and although not part of the current DCOv2, the Council note that the LTC DCOv1 Planning Statement (Oct 2020) (Appendix L, Annex 7) Chapter on Green Belt included a summary of the Green Belt assessment using the same parcels used in the Thurrock Strategic Green Belt. In DCOv2 the parcels are based on Local Landscape Character Areas (LLCAs). DCOv1 Green Belt assessment summary was based on the purposes of the Green Belt, and DCO Green Belt assessment does not include any assessment of parcels against the NPPF purposes. The Council can therefore conclude that NH have at some point undertaken a Green Belt assessment using parcels set out in the Thurrock Strategic Green Belt Assessment and they were assessed against the purposes of the Green Belt, set out in the NPPF. This was then changed to an assessment for LLCAs. NH have not provided a copy of the Green Belt assessment which informed the DCOv1. The DCOv1 Green Belt assessment summary seems to be taking a more suitable approach in terms of methodology for assessment, though the Council raised concerns about the accuracy of the assessment results, which were submitted to NH (Appendix L, Annex 6 - see section covering Chapter 4). At that time, Thurrock's response concluded that without a correct assessment of the Green Belt, it raises questions to whether the right option was selected in Green Belt terms, and then for the preferred route and design, and whether the right mitigation has been selected to minimise the impact on the Green Belt. NH approach to Green Belt methodology and assessment is set out in full and seems to be not robust and muddled within the landscape assessment, which makes it very confusing for the reader.

L.3.21. The Council would expect to see a standalone Green Belt Assessment Study for LTC, which sets out a clear, comprehensive and robust methodology and assessment of the Green Belt, against the fundamental aim and the purposes of the Green Belt. For a project of this scale, this would be in 2 parts: a Strategic Green Belt Assessment Study to inform the assessment of alternatives; and a Detailed Green Belt Assessment Study to inform the preferred route and design, as well as construction and displaced elements, such as compounds and haul roads.

L.3.22. The Council conclude that NH have not undertaken a robust Green Belt assessment to evidence the level of harm to the Green Belt and therefore do not have the information available to demonstrate 'very special circumstances'.

L.3.23. It is important that NH have undertaken a robust Green Belt assessment to evidence the level of harm to the Green Belt, so that the ExA and SoS can make an informed decision on whether 'very special circumstances' apply. At the moment, this decision can not be made by the SoS.

L.3.24. Therefore, the DCO- submission does not comply with national policy NSPNN paragraphs 5.164, 5.170 and 5.178.

NSIP Overhead Electricity Lines

L.3.25. NH conclude that, in Planning Statement Appendix E (APP-500) para E.5.5, *'The overhead electricity lines could potentially be considered inappropriate development in the Green Belt. However, the Project involves the relocation of the existing electricity lines rather than introducin*g a new feature into the landscape. Furthermore, paragraph 5.10.12 of NPS EN-1 recognises that the physical characteristics of proposed overhead line developments can be such that they have no adverse effects which conflict with the fundamental purposes of Green Belt designation.'

L.3.26. The relocation of the electricity lines will introduce a new feature in a new location within the Green Belt. Therefore, NH need to include the overhead electricity lines within the Green Belt assessment for LTC, which will potentially add to the harm to the Green Belt. NH have currently not included the relocation of the overhead electricity lines, within Thurrock, within the Green Belt assessment. Therefore, the current assessment is less than the harm which would include it.

'Any other harm'

L.3.27. 'Any other harm' is not restricted to Green Belt harm when considering whether 'very special circumstances' exist, which is additional to harm caused through the development being inappropriate in the Green Belt. This supported by case law and how it is interpreted in relation to planning applications pursuant to the Town and Country Planning Act 1990 – see Secretary of State for Communities and Local Government, Reigate & Banstead BC, Tandridge DC vs Redhill Aerodrome Ltd [2014] (Appendix L, Annex 8).

L.3.28. Planning Statement Appendix E (APP-500) paragraph E.5.5 confirms that 'any other harm…is not confined to the potential harm to the Project to the Green Belt alone but relates to all potential types of harm to human, animal or environmental receptors. The Project is considered to result in 'other harm' as there will be likely significant effects of the Project.' Paragraph E.6.26 identifies the 'following environmental topics: Cultural Heritage, Landscape and Visual, Terrestrial Biodiversity, Geology and Soils, Material Assets and Waste, Noise and Vibration, and Population and Human Health.'

L.3.29. For LTC 'any other harm' relates to all impacts of proposed development on air quality, biodiversity, climate change, geology and soils, health, heritage, landscape, noise, socio economics, transport (such as PRoW, public transport, wider network impacts), water, etc. The impacts of LTC are significant in Thurrock, as set out in Sections 6 – 16 and associated Appendices.

'Other Considerations'

L.3.30. Planning Statement Appendix E (APP-500) section E.4 summarises NH's view on the nature or type of 'other considerations', which justify 'very special circumstances', taken from recent highway DCO decisions. These 'other considerations' relate to:

a The **need** for the scheme.

b The **benefits** of the scheme and positive effects on road users during operational phase and reduction in congestion, fewer accidents, positive impacts on non-motorised users, economic and social benefits, and absence of alternatives.

c **Lack of alternatives**.

L.3.31. The Council conclude that LTC need, benefits and consideration of alternatives do not justify 'very special circumstances' for the following reasons, as set out in other parts of the LIR:

a The **need for LTC has not been properly demonstrated**, as set out in Section 7 of the LIR.

b The **level of benefits of LTC has been overestimated** - see Section 7 of the LIR.

c There is a **lack of proper assessment of alternatives**. Section 8 of the LIR provides analysis which shows that a range of alternative schemes are available which would meet the objectives set for the scheme at a lower cost and with a much lower requirement for land (including Green Belt land). The alternative options include the potential extension of the Kent Fasttrack bus service and alternative arrangements for junctions in Thurrock - see Section 8.

Conclusion

L.3.32. Paragraph 6.5.277 of the Planning Statement (APP-500) concludes that: *'Appendix E to this Statement provides a detailed assessment of the case for the Project within the Green Belt in order to* show that very special circumstances exist sufficient to justify the location of the development in the Green Belt and so demonstrate accordance with the relevant requirements of the NPSNN and Energy NPSs, and as far as this may be relevant, consistency with other relevant national and local Green Belt policies.'

L.3.33. Where development is proposed within the designated Green Belt and that development is inappropriate development, the onus is on the developer to demonstrate 'very special circumstances' why a DCO should be granted.

L.3.34. Following review of LTC DCO documents, Thurrock Council conclude that:

a LTC is within the Metropolitan Green Belt.

b LTC is 'inappropriate development' in the Green Belt.

c 'Very special circumstances' have not been demonstrated by NH for LTC (see section G.3 above), because:

i. NH have not undertaken a robust Green Belt assessment for LTC, against the purposes of the Green Belt set out NPPF, which would robustly set out the harm in any location and for project as a whole.

ii. NH have not clearly set out the level of harm to the Green Belt, to inform the selection of alternatives (at a strategic level) or for the preferred option design (at a detailed level, e.g. for the A13/A1089/LTC junction) or for the construction sites, such as construction compounds.

iii. In terms of 'any other harm', the impacts of LTC in Thurrock on air quality, biodiversity, climate change, geology and soils, health, heritage, landscape, noise, socio economics, transport (such as PRoW, public transport, wider network impacts), water etc is significant.

iv. In terms of 'other considerations', NH evidence for the need for LTC has not been properly demonstrated (see Section 7); the level of benefits of LTC has been overestimated (see Section 7); and there is a lack of proper assessment of alternatives (see Section 8).

L.3.35. Therefore, the LTC DCO application does not justify 'very special circumstances'. The harm to the Green Belt by reason of inappropriateness, and any other harm, is not clearly outweighed by other considerations. Therefore, NH can currently not demonstrate that the DCO submission complies with national policy NSPNN 5.164, 5.171 and 5.178 and NPPF.

L.3.36. As the consideration of 'very special circumstances' rely on the considering of all the factors listed in NPSNN, it is suggested that the ExA programme the hearing for Green Belt matters at the end of the ExA programme, following deliberation of all other matters set out in this Appendix, such as need, impacts of the project, benefits and alternatives etc.

Lower Thames Crossing

Thurrock Council Local Impact Report

Appendix L – Annex 2 - Local Plan Issues and Options – Green Belt (2018)

Green Belt

Two thirds of Thurrock is designated as Green Belt. Development in the Green Belt is subject to Core Strategy Policy PMD6 (Development in the Green Belt) and national policy in the NPPF, which protects the Green Belt and recommends that boundaries should only be changed in exceptional circumstances, through the preparation or review of the Local Plan.

Around half of the sites considered by the HLAA were in the Green Belt and, therefore, were considered to be constrained by planning policy and not available for development at this stage of the plan-making process. This means that if Thurrock is to meet its OAN in full, the Local Plan will need to consider the release of Green Belt land in order to meet the scale of development required.

Figure 11: Map of Green Belt

Thurrock Green Belt Assessment

With the exception of the principal urban area of Thurrock and the towns and villages, all of the land within the Borough is designated as Green Belt. Green Belt is a strategic planning policy designation concerned with the relationships between built and unbuilt areas and between settlements. Figure 11 identifies the land that is within the Green Belt within Thurrock.

The National Planning Policy Framework (NPPF) states, in paragraph 133, that 'the fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts are their openness and permanence.' The NPPF sets out 5 purposes of the Green Belt:

- To check the unrestricted sprawl of large built-up areas;
- To prevent neighbouring towns from merging into one another;
- To assist in safeguarding the countryside from encroachment;
- To preserve the setting and special character of historic towns; and
- To assist in urban regeneration, by encouraging the recycling of derelict and other urban land.

National policy requires that once Green Belts have been defined, local planning authorities should plan positively to enhance the beneficial use of the Green Belt, such as looking for opportunities to provide access; to provide opportunities for outdoor sport and recreation; to retain and enhance landscapes, visual amenity and bio-diversity; or to improve damaged and derelict land.

Paragraph 135 of the NPPF states that if local planning authorities are proposing a new Green Belt, they should:

- Demonstrate why normal planning and development management policies would not be adequate;
- Set out whether any major change in circumstances have made the adoption of this exceptional measure necessary;
- Show what the consequences of the proposal would be for sustainable development;
- Demonstrate the necessity for the Green Belt and its consistency with strategic policies for adjoining areas; and
- Show how the Green Belt would meet other objectives of the Framework.

Policy requires that, once established, Green Belt boundaries should only be altered in exceptional circumstances, through the preparation or review of the Local Plan. At that time, authorities should consider the Green Belt boundaries having regard to their intended permanence in the long term, so that they should be capable of enduring beyond the plan period.

When drawing up or reviewing Green Belt boundaries local planning authorities should take account of the need to promote sustainable patterns of development. They should consider the consequences for sustainable development of channeling development towards urban areas inside the Green Belt boundary, towards towns and villages inset within the Green Belt or towards locations beyond the outer Green Belt boundary.

The Council considers that given the acute shortage of land currently identified as being available to meet Thurrock's full objectively assessed housing need over the plan period, that the exceptional circumstances required by the NPPF to justify changes to Green Belt boundaries can be clearly demonstrated.

The need for the Borough to consider amending the boundaries of the Green Belt in Thurrock is not new. In her Report on the adopted Core Strategy (December 2011) the Planning Inspector examining the plan identified the need for the Council to review the Borough's Green Belt boundaries in order to identify sufficient land to meet the then Core Strategy housing target of 23,500.

Since the adoption of the Core Strategy in December 2011, there has been a reduction in the availability of land in the urban area as potential housing sites have been built out for housing or other uses, thereby worsening the housing land supply problem and increasing the need for the Council to consider amending the Borough's Green Belt boundaries to accommodate future development needs.

In order to inform this process the Council has commissioned the preparation of a Green Belt Assessment to assess the whole area of Green Belt within the Borough. This study has been carried out in a number of stages:

- Identification of the study area;
- Identification of key constraints (i.e. those 'high level' constraints that are likely to prevent or severely limit the potential for development to occur);
- Identification of land parcels for assessment;
- Assessment of the parcels against the purposes for including land in the Green Belt; and
- Identification of the relative potential importance of the contribution of parcels to the Green Belt in the context of their suitability to accommodate a strategic level of development.

It should be noted that the Green Belt Assessment is a technical document and does not specifically identify any sites or broad areas of Green Belt for development as any decision on the need to amend the boundary of the Green Belt in Thurrock must be taken as part of the wider plan-making and evidence development process.

INFORMATION

A copy of the Stage 1 Green Belt Assessment Report will be available to view at the Council's website. (www.thurrock.gov.uk/localplan).

Lower Thames Crossing

Thurrock Council Local Impact Report

Appendix L – Annex 3: Thurrock Strategic GB Assessment (2019) Part 1

now part of

Thurrock Strategic Green Belt Assessment
Stages 1a and 1b

FINAL REPORT

On behalf of **Thurrock Borough Council**

Project Ref: 34765/001 | Rev: D | Date: January 2019

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C	30/11/2018	Final Draft Report following changes to LTC route	SJ/CE	Colin Danks	Colin Danks
D	07/01/2019	Final Report following changes to LTC route	SJ/CE	Jane Hirst	Jane Hirst

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1 Introduction

1.1 Purpose of the Green Belt Assessment

1.1.1 This report by Peter Brett Associates, now part of Stantec (PBA) and Enderby Associates has been undertaken on behalf of Thurrock Borough Council to assist in the preparation, explanation and justification of the Thurrock Local Plan.

1.2 Green Belt Commission

1.2.1 The Council have commissioned PBA to undertake **Stages 1A and 1B** to assess the Green Belt. **Stage 2** will be undertaken at a later date, if required.

1.2.2 **Stage 1A and B** relates to the identification of strategic Green Belt parcels and the assessment of those parcels against the purposes of the Green Belt.

1.2.3 **Stage 1B** relates to implications for the strategic Green Belt assessment of the preferred route announced by Government on the route and location of the proposed Lower Thames Crossing. This report does not provide a full reassessment of all the Green Belt parcels, which the Council may wish to undertake at a later date.

1.2.4 **Stage 2** assessment will identify detailed assessment of sites and boundaries in the Green Belt to identify defensible long-term boundaries and provide recommendations on detailed boundary changes. **Stage 2** will proceed only in the event that there is a clearly demonstrated exceptional circumstances to amend the boundaries of the Metropolitan Green Belt in order to meet future development needs.

1.2.5 This report relates to **Stages 1A and 1B** of the project.

1.3 Local Plan

1.3.1 The Council has an adopted Core Strategy and Policies for the Management of Development DPD (2011), which identifies a housing requirement of 23,500 new homes over the period 2001 to 2026. The Council are committed to undertaking a review of the Green Belt to allocate sufficient land to meet its housing delivery targets.

1.3.2 The Core Strategy identifies proposed Broad Locations for housing development to be released from the Green Belt by alterations identified through detailed Green Belt boundary changes in the then Site Allocations and Policies DPD, although this is now being replaced by a new Local Plan. Several of the proposed Broad Locations for development, identified in the Core Strategy, that are in the Green Belt have subsequently been built out.

1.3.3 There is a new Local Plan being prepared which will require up-to-date information relating to housing need and potential supply. Preparation of the new Local Plan also requires a review of the Green Belt, with a decision to be taken about whether there are exceptional circumstances for the Green Belt to change and if so how. The opportunity can be taken to look for the most appropriate long-term boundary for the Green Belt, having regard to the requirement in the NPPF to consider the identification of safeguarded land and the need to ensure that the Green Belt boundaries are 'readily recognisable and likely to be permanent'.

1.4 The Green Belt in Thurrock District

1.4.1 With the exception of the principal urban area of Thurrock, and the towns and villages, all of the land within the Borough is designated as Green Belt. The plan at **Appendix A** identifies

the land that is within the Green Belt. Green Belt is a strategic designation concerned with the relationships between built and unbuilt areas and between settlements, and so the plan shows the Green Belt within adjoining local authority areas as well as within Thurrock. This review only relates to the Green Belt within Thurrock Borough, although neighbouring local authorities have/are also undertaking Green Belt reviews, which are set out in **Section 2**.

1.4.2 It should be noted that although there is land designated as Green Belt in Thurrock, these areas of Green Belt are Metropolitan Green Belt. That is, they were included in the Green Belt designated around London in the 1950's under the Ministerial Guidance prevailing at the time that suggested that the Green Belt be drawn 'a few miles wide'.

1.4.3 The extent of the Green Belt has previously been subject to a comprehensive review, by the Council, as part of work undertaken on the Thurrock Borough Local Plan of 1997. The Green Belt had been extended eastward across the Borough in earlier development plans. A subsequent net addition to the Green Belt land was made in boundary changes under the adopted Core Strategy of 2011.

1.4.4 National Planning Policy Framework (NPPF) states, in paragraph 133, that *"the fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open: the essential characteristics of Green Belts are their openness and their permanence."* NPPF sets out the 5 purposes of Green Belt:

- To check the unrestricted sprawl of large built-up areas (first purpose);
- To prevent neighbouring towns from merging into one another (second purpose);
- To assist in safeguarding the countryside from encroachment (third purpose);
- To preserve the setting and special character of historic towns; and
- To assist in urban regeneration, by encouraging the recycling of derelict and other urban land.

1.5 Associated Studies/Strategies

1.5.1 There are a range of studies and strategies that have informed the assessed of the Green Belt in Thurrock, including:

- Landscape character assessments at county and district level;
- Thurrock Integrated Landscape Character Assessment (2018);
- Green Belt studies undertaken in neighbouring districts; and
- Previous Green Belt work undertaken in Thurrock.

1.5.2 Whilst landscape character is not a basis for Green Belt designation, it can inform the understanding of how land fulfils Green Belt purposes, notably the perception of sprawl (relevant to Purpose 1); the distinction between large built-up areas (relevant to Purpose 2), and whether there is encroachment (relevant to Purpose 3). It is also relevant to the consideration of setting in relation to the special character of historic towns (Purpose 4), although this is not a Green Belt purpose that is relevant to the Green Belt in the Borough which does not possess truly historic towns (although there are smaller village settlements of historic interest, notably East Tilbury). Planning Appeal cases have also confirmed that the visual considerations are also relevant to the consideration of the 'openness' of land within Green Belt.

1.5.3 The Green Belt work was informed initially by the Thurrock Landscape Capacity Study (2005) which post-dates the Essex LCA (2003). This has been overtaken by the recently completed, Thurrock Integrated Landscape Character Assessment (2018), which forms part of the evidence base for the new Local Plan.

1.5.4 Other studies include The Thames Gateway South Essex Greengrid Strategy and the Thurrock Greengrid Strategy which identify the opportunities for the delivery of a structured multi-functional landscape of accessible spaces and connecting landscapes. Whilst such strategies are clearly very important for shaping the landscape and quality of life of the area in tandem with the need to accommodate significant future development, they are of no relevance to the consideration of how land performs against Green Belt purposes. They are relevant to the consideration of the suitability of potential development allocations, along with the related landscape sensitivity and capacity of such locations and how those areas may fit with the identified strategy; as such they inform the overall development of the spatial strategy and identification of locations for strategic development.

1.6 Approach for Assessing Thurrock Green Belt

1.6.1 The examination of the Green Belt in Thurrock Borough has been undertaken according to its contribution to the first three purposes set out in the NPPF; the reasons for not including the fourth and fifth purposes is set out in **Section 3.6** below.

1.6.2 One of the requirements set for local planning authorities with Green Belt in their areas in the NPPF is that in making a plan for their area, they *"should satisfy themselves that Green Belt boundaries will not need to be altered at the end of the development plan period"*. The NPPF continues that they should*, "where necessary, identify in their plans areas of 'safeguarded land' between the urban area and the Green Belt, in order to meet longer term development needs well beyond the plan period".* It will be for the Council in setting out proposals in its Local Plan to determine whether there are exceptional circumstances to allocate Green Belt and identify safeguarded land.

1.6.3 This assessment (**Stage 1**) of the Green Belt in Thurrock cannot propose a new Green Belt boundary. **Stage 1a** assessment looks at the functionality of the Green Belt parcels, against the purposes of the Green Belt set out in the NPPF. **Stage 1b** relates to implications for the strategic Green Belt assessment of the preferred route announced by Government on the route and location of the proposed Lower Thames Crossing.

1.6.4 At **Stage 2** the Green Belt Study will need to explore whether the Green Belt boundary should be redefined.

2 Cross Boundary Green Belt Considerations

2.1 Introduction

2.1.1 Green Belt functionality does not stop at administrative boundaries. If, during the Local Plan making process, the Council identify exceptional circumstances to allocate sites within the Green Belt, the Council will also need to consider neighbouring local authority Green Belt Assessment Studies.

2.1.2 In considering which parcels should be assessed, it can be appropriate to look across administrative boundaries; this is because Green Belt within the Borough is part of the wider Metropolitan Green Belt which extends across adjoining local authority areas and because Green Belt issues do not stop at administrative boundaries. However, where the administrative boundaries are based on clearly defined natural or man-made features which provide well-defined boundaries to the parcels, these have been used as the boundaries of those parcels (as is the case on the northern edge of the Borough where the administrative boundary follows a railway line – a clear, enduring feature).

2.1.3 The project involved a meeting with neighbouring local planning authorities to help inform the Green Belt Assessment. The first meeting was held to discuss the methodology and to share strategic issues, such as Green Belt and housing provision. The approach taken to assessing the Green Belt which crosses administrative boundaries should ideally be on a consistent basis, and it has been necessary for Thurrock Council to seek to work with neighbouring authorities on an ongoing and positive basis to address Green Belt matters. The relationship between neighbouring authorities, in relation to the Metropolitan Green Belt issues, needs to be carefully considered and explored in detail.

2.1.4 The initial session explored what work has been done by each authority and the scope, timing, methodologies and possible outcomes for each local authority, to share objectives and information, all with a view to positive planning and assistance in meeting the legal and soundness tests arising from the duty to cooperate.

2.1.5 A summary of the work being undertaken by each of the neighbouring local planning authorities is set out below:

2.2 Basildon Council

2.2.1 Basildon Council carried out a comprehensive review of the Borough's Green Belt in 2013. This work helped to inform the identification of strategic growth locations within the Council's Core Strategy Revised Preferred Options Report which was subject to public consultation in early 2014. The Council are now producing one Local Plan document.

2.2.2 During the consultation on the Revised Preferred Options the Council received a number of comments regarding the Green Belt Study (October 2013) and the Council has recently updated and published this piece of evidence (Basildon Borough Green Belt Review 2015; December 2015).

2.2.3 Since preparing the Basildon Borough Green Belt Study 2015 there has been a Draft Local Plan consultation which gave rise to representations relating to how the study had been prepared and its results presented. In late 2016, the Council asked the Planning Advisory Service (PAS) to carry out an Independent Review of the methodology used in the Green Belt Study 2015 and advise of whether any changes need to be made to make it more robust. Following the conclusion of this Review, the Council made the minor amendments suggested to its methodology and has reappraised the entire Green Belt against it. The Basildon Borough Green Belt Review 2017, supersedes the 2015 version and is used to inform the emerging Basildon Borough Local Plan.

2.2.4 The Basildon Local Plan sets out the proposed planning policies and site allocations for the period 2014 to 2034. Basildon Council had intended to publish the draft Local Plan in the early part of 2018 but at an Extraordinary Meeting of Basildon Council the decision was taken to rescind the previous approval of the Publication Draft Local Plan in order to review various aspects of the plan. Basildon Council has since published a Revised Publication Local Plan in November 2018 which following consultation will be submitted to Government for Examination.

2.3 Brentwood Borough Council

2.3.1 Brentwood Borough Council have commissioned consultants to undertake an independent assessment of the potential effect of developing site options within the Green Belt, which were identified through the plan making process.

2.3.2 This first stage of Green Belt evidence was to assess the sites' contributions to the purposes of the Green Belt designation, in line with the NPPF. This study is in draft form and a working draft has been published on the Council's website, with a final draft to be published in due course.

2.3.3 The methodology assesses Green Belt in relation to potential housing, employment and mixed use sites against their relevant contribution to the purposes of the Green Belt, rather than assessing the whole Green Belt area.

2.3.4 Each purpose is assumed to be of equal importance. Purpose 5, *"to assist in urban regeneration, by encouraging the recycling of derelict and other urban land",* has not been assessed within the study as it assumes that development will be directed towards land not contained within the Green Belt in the first instance.

2.3.5 Brentwood Borough Council commissioned a second stage of Green Belt evidence in the form of a borough-wide Green Belt Review. Unlike the previous assessment of potential sites in the Green Belt, the focus of the review is to assess the level of contribution of general land areas (Green Belt Parcels), across the whole of the Borough, to fulfilling the purposes of the Green Belt on a strategic level.

2.3.6 A third stage of the Green Belt evidence assesses housing, employment and mixed used sites in the Green Belt and their relative contribution the purpose of Green Belt designation. The Green Belt evidence was published in 2018.

2.3.7 Following consultation on the draft Local Plan in 2016 and draft Preferred Sites Allocations in early 2018, Brentwood Council agreed to the publication of draft Local Plan (regulation 19) for consultation in late 2018. Following consultation, it is intended that local plan would be submitted for Examination.

2.4 Castlepoint Borough Council

2.4.1 Castlepoint Borough Council have undertaken three studies of the Green Belt:

- Castle Point Green Belt Functions Assessment (September 2010);
- Castle Point Green Belt Landscape Assessment (September 2010); and
- Castle Point Green Belt Boundaries Review (November 2013).

2.4.2 The Green Belt Functions Assessment identified the Green Belt areas that were assessed and identified parcels based on clear physical features or boundaries. The methodology set out to identify areas of the existing Green Belt which contribute most effectively to meeting the

purposes of the Green Belt, and how the Green Belt in Castle Point fulfils the purposes of the Green Belt at a strategic and sub-regional level.

2.4.3 The Green Belt Landscape Assessment was a study of the Green Belt to provide information on the sensitivity of different landscape areas to development. The study assessed the landscape sensitivity and visual sensitivity of the various areas identified.

2.4.4 The Green Belt Boundaries Review was a review of the Borough's Green Belt and boundaries. A series of sites were assessed to meet the housing land requirement for a five-year land supply and for years 6-15 and beyond. The methodology sets out the considerations for each site:

- Would the Green Belt in the location of the proposed development site continue to fulfil its purpose if the site was removed from the Green Belt?
- Could development of the site occur without resulting in significant impact to the visual sensitivity of the landscape? and
- Could the Green Belt boundary be redefined clearly, using physical features?

2.4.5 Castle Point Council consulted on a draft 2016 New Local Plan that was then submitted for Examination. However, the 2016 Plan was subsequently withdrawn from Examination. A new Local Plan 2018 is being prepared and has been subject to public consultation. Castle Point Council are preparing a draft publication version of the Local Plan with the intention of consultation in early 2019. In preparing the New Local Plan 2018 a further limited review of the Green Belt has been undertaken but the evidence has not been published at this stage.

2.5 London Borough of Havering

2.5.1 The London Borough of Havering are taking forward a new Local Plan to replace the 2008 Local Development Framework. As part of this process landowners have put forward sites for consideration for removal from the Green Belt.

2.5.2 The Borough completed a strategic assessment of the Green Belt in 2016, based on the first 3 purposes of the Green Belt as set out in the NPPF, and the contribution that each parcel makes to these purposes. The fourth purpose was not considered on the basis that there are no historic towns that are relevant to the purpose. The contribution of the Green Belt to assisting urban regeneration (fifth purpose) was also not considered on the basis that it is the overall restrictive nature of Green Belt that encourages regeneration and the re-use of land.

2.5.3 Subsequent work has led to the publication (in three parts) of the 'Site Green Belt Assessment and Sustainability Assessment' (2018). The study considered 84 potential development sites that were submitted to the Council for release from the Green Belt and examined the potential harm that may arise to the Green Belt from their release.

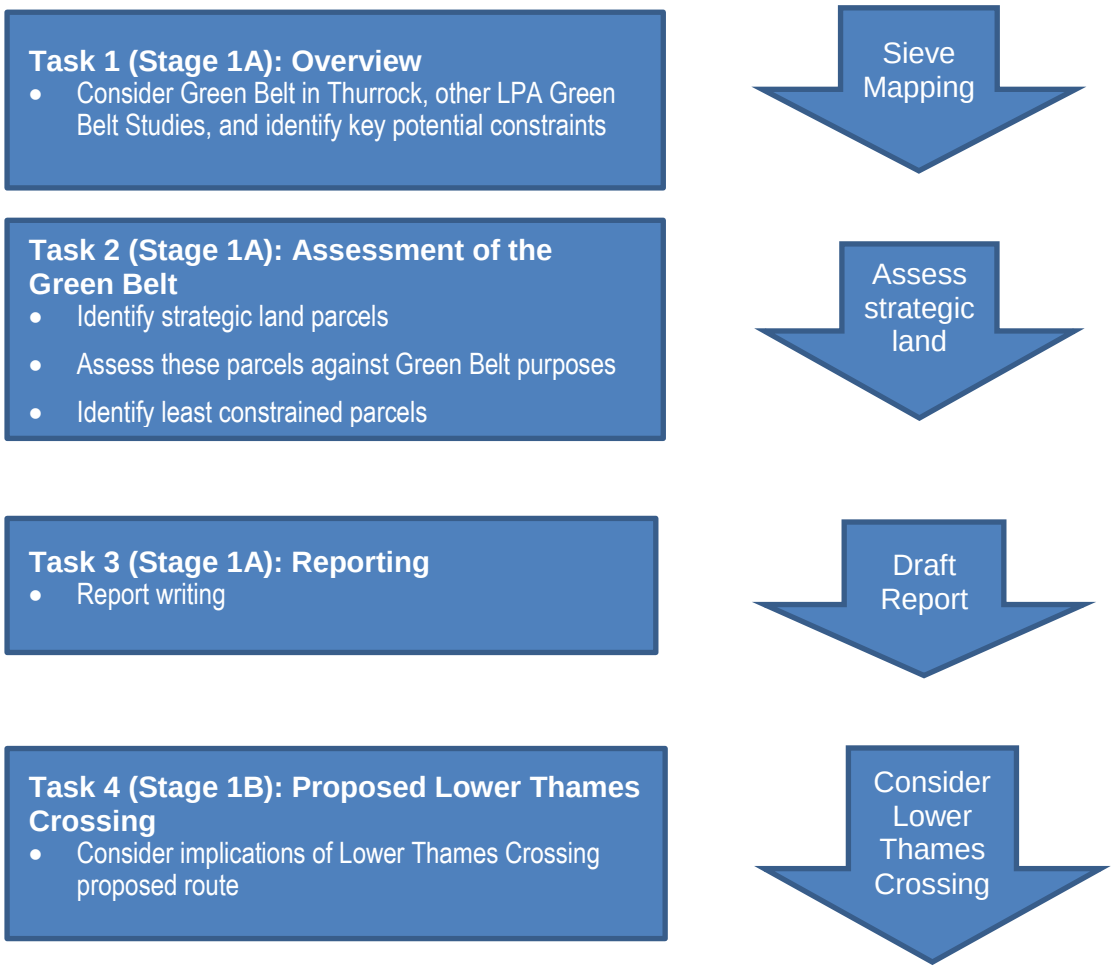
2.5.4 The Havering Council New Local Plan was published in 2018 and is subject to Examination in late 2018 at the time of the preparation of this report.

3 Methodology

3.1 Introduction

3.1.1 This section sets out the methodology for the **Stage 1** Green Belt Assessment.

3.1.2 The Green Belt Assessment has been carried out in a number of distinct tasks. The process identifies the degree to which the strategic parcels fulfil Green Belt purposes and their overall importance in Green Belt terms. The tasks for the Green Belt Assessment are outlined in the diagram below.



3.2 National Planning Policy Framework

3.2.1 National policy on Green Belts is set out in the National Planning Policy Framework 2018 (the Framework). The Green Belt review has been undertaken in the context of this policy. There is no published guidance from Government sources on how a Green Belt review should be undertaken.

3.2.2 The Framework provides for changes to the Green Belt to be made through the development plan, and the Local Plan to define any revised Green Belt boundary. This will need to be the case in Thurrock Borough, with the Local Plan now in preparation.

3.3 Assessment Against Green Belt Purposes

3.3.1 The 2018 Framework mirrors the 2012 Framework by setting out five purposes of the Green Belt. These are:

- To check the unrestricted sprawl of large built-up areas;
- To prevent neighbouring towns merging into one another;
- To assist in safeguarding the countryside from encroachment;
- To preserve the setting and spatial character of historic town; and
- To assist in urban regeneration, by encouraging the recycling of derelict and other urban land.

3.3.2 The Framework does not give numbers to the five purposes, but this has been done for convenience in this report. Neither does the Framework attach any hierarchy to the purposes so that they are assumed to all be of equal importance, and this is the approach followed in this review.

3.3.3 The Green Belt Assessment for Thurrock assesses the whole area of Green Belt within the Borough.

3.4 Stages of the Green Belt Review

3.4.1 The Green Belt review has been carried out in a number of stages:

- Identifying the study area;
- Identify the key constraints (i.e. those 'high level' constraints that are likely to prevent or severely limit the potential for development to occur);
- Identifying land parcels for the assessment;
- Assessing the parcels against the purposes for including land in the Green Belt; and
- Identifying the relative potential importance of the contribution of parcels to the Green Belt in the context of their suitability to accommodate a strategic level of development.

3.4.2 These stages are described below.

3.5 Task 1: Overview

Identifying Constraints

3.5.1 At this stage PBA were asked to consider the entire Green Belt in Thurrock and identify the main constraints which would potentially inform the assessment of parcels. The map at **Appendix A** shows the Green Belt in Thurrock and neighbouring areas. The map at **Appendix B** shows the Green Belt in Thurrock together with the principal environmental constraints. These key constraints were agreed with the Council and include:

- Ancient Woodland;
- Registered Parks and Gardens of Special Historic Interest;
- Sites of Special Scientific Interest (SSSI);
- Ramsar sites;
- Special Protection Area (SPA);
- Flood Zone 3;
- Special Area of Conservation (SAC); and
- Grade 1 and 2 agricultural land (grade 3 land has not been considered as the data available does not differentiate between grade 3A land – 'best and most versatile' (BMV) – and grade 3B which is not BMV).

3.5.2 Following the Cross-Boundary workshop, it was agreed that areas subject to key constraints listed would not be excluded from the assessment parcels. Whilst they are substantial constraints they are noted (where applicable) within the assessment of Green Belt parcels.

3.6 Task 2: Assessment of the Green Belt

Area of Study

3.6.1 The entire Green Belt within the Borough has been subject of this Green Belt assessment, including the assessment with key constraints taken into account.

3.6.2 For the purposes of this study, PBA confirmed with the Council the categorisation of settlements in Thurrock. The categorisation of settlements relates to the purposes of the Green Belt set out in the Framework, specifically 'large built-up areas' (as per first purpose) and 'neighbouring towns' (second purpose).

3.6.3 The categorisation of settlements in Thurrock is set out in the table below:

Table 3.1: Thurrock Settlement Categorisation for Green Belt Parcel Assessment

Green Belt Settlement Definition	Within Thurrock	Outside Thurrock
'Large built-up areas'	The Thurrock urban area comprising (combined area): – Chadwell St Mary – Chafford Hundred – Grays/Stifford Clays – Lakeside/West Thurrock – Little Thurrock/Socketts Heath – Purfleet – South Stifford – Tilbury Stanford-le-Hope/Corringham (combined area) Coryton/London Gateway	The separate urban areas of: – Basildon – South Benfleet/ Thundersley – Brentwood – Upminster/ Hornchurch/ Rainham

Green Belt Settlement Definition	Within Thurrock	Outside Thurrock
'Neighbouring towns'	The following are considered to form one contiguous large town (combined area): – Chafford Hundred – Grays/Stifford Clays – Lakeside/West Thurrock – Little Thurrock/Socketts Heath – Purfleet – South Stifford Aveley Chadwell St Mary South Ockendon Stanford-le-Hope/Corringham (combined area) Tilbury	As above Canvey Island - town

Identifying Parcels for Assessment

3.6.4 Areas were broken down into identifiable strategic parcels and each of the parcels was assessed in terms of its contribution to Green Belt purposes. This identified parcels considered to be most and least suitable for further study.

3.6.5 The identification of these strategic parcels of land was informed through a desk based review and site work. The identification of the 'parcels' was based on features on the ground which could provide meaningful boundaries (and consistent with Green Belt requirements for the identification of clear physical features to create recognisable and enduring boundaries), as identified from site work and from the use of mapping information.

Green Belt Assessment

3.6.6 Once the parcels were identified, each was assessed in terms of its performance in fulfilling Green Belt purposes. The study examined the parcels by using the first three of the Green Belt purposes for including land in the Green Belt set out in the NPPF:

- To restrict the unrestricted sprawl of large built-up areas (first purpose);
- To prevent neighbouring towns from merging into one another (second purpose); and
- To assist in safeguarding the countryside from encroachment (third purpose).

3.6.7 With regard to the consideration of the second purpose, reference is made to the relationship between 'Neighbouring towns' and also to 'Large built-up areas'. Whilst reference is also made to villages, their relationship to these larger settlements has no influence on the assessment of the contribution of the parcels to this purpose.

3.6.8 The fourth purpose of Green Belts is to *"preserve the setting and special character of historic towns."* There are no towns in the Borough which may be regarded as having a particularly 'special' historic character or where such character is particularly derived from or complemented by to its landscape setting (such as is the case, for example, at Oxford or York, which are both historic towns surrounded by Green Belt which contributes to their special historic character and setting). The Borough contains a number of Conservation Areas but, in

the main, these are part of smaller settlements. Whilst there may be a noticeable relationship between such areas and their surroundings which contributes to their local character and setting, these areas are not considered relevant to the strategic nature of this Green Belt purpose. However, where distinct relationships between Conservation Areas and Green Belt land beyond are noted, this will be referred to in the consideration of the third Green Belt purpose in the context of the protection that this purpose provides in safeguarding such countryside from inappropriate development and hence maintain this relationship.

3.6.9 The purpose *"to assist in urban regeneration, by encouraging the recycling of derelict land"*, is not used at all in the assessment. If there is any effect at all in this respect, it is the overall restrictive nature of having Green Belt policy that encourages regeneration and the re-use of previously used land by stifling the supply of other land. That said, the modern evidence-based planning system is intended to deal with the supply of land primarily through positive provision in a development plan rather than through the piecemeal consideration of planning applications for development proposals. Either way, it is generally not possible to judge how any given parcel of land would contribute to the fulfilment of this purpose, or to distinguish between different parcels on this basis.

3.6.10 The table below outlines the criteria against which the parcels were assessed in respect of the Green Belt purposes used in the assessment. The assessment is based on whether development would fundamentally, substantially or significantly impact on the Green Belt purpose. These terms are defined below through the identified characteristics which provide the basis for categorising different parcels of land against the different Green Belt purposes.

Table 3.2: Criteria to assess parcels against Green Belt Purpose 1

Green Belt Purpose 1. To check the unrestricted sprawl of large built-up areas		
Criteria	**Fulfilment of Green Belt Purpose**	
Land where strategic level of development would conflict **fundamentally** with Green Belt purpose. ▪ The land provides a distinct, well-defined area that contains the large built-up area and provides strong containment that prevents the perception of 'sprawl'. ▪ There may be/is no alternative strong physical/landscape boundary(s) further from the edge of the large built-up area that would perform a similar role in containing growth and ensuring a 'good fit' for development - strategic level of development may lead to perception of uncontained growth. ▪ The land may/may not be affected already by the existing physical/visual presence of the large built-up area and may have a varied character.	**Fundamental importance to Green Belt Purpose** Continued inclusion within Green Belt of fundamental importance	**Fundamental**
Land where strategic level of development would conflict **substantially** with Green Belt purpose. ▪ The land contains/contributes to the containment of the large built-up area (although its character may be influenced by it). ▪ Strategic level of development has potential to create perception of poorly contained growth, although other physical/landscape boundaries may exist further from the edge of the large built-up area that could define and contain growth and prevent the perception of 'sprawl' (although these may require reinforcement to achieve a well-defined limit to development and a new Green Belt boundary).	**Major importance to Green Belt Purpose** Continued inclusion within Green Belt of major importance	**Major**
Land where strategic level of development would	**Moderate importance to**	**Moderate**

Green Belt Purpose 1. To check the unrestricted sprawl of large built-up areas		
Criteria	**Fulfilment of Green Belt Purpose**	
conflict **significantly** with Green Belt purpose. ▪ The land provides some containment of the large built-up area although it is significantly influenced by its presence and related features/land uses leading to a poorly defined edge, or it may be slightly removed from the edge of the large built-up area and therefore contribute less to the purpose (other land closer to the edge performs the function of containment).	**Green Belt Purpose** Continued inclusion within Green Belt of moderate importance	
Land where strategic level of development would have **limited/negligible** impact on this purpose of Green Belt. ▪ The land may be physically and visually related to the large built-up area and already perceived to be part of/or closely related to the built-up area, giving a poorly defined edge and possibly the perception of 'sprawl'; or is an area that has very little relationship to the large built-up area and of little importance to containing 'sprawl' (land closer to the built-up area fulfils this function to a greater degree). ▪ Development may allow opportunities for enhancement of degraded land and the definition of a stronger long-term Green Belt boundary, or there are other strong boundaries that would contain development.	**Slight/Negligible importance to Green Belt Purpose** Continued inclusion within Green Belt of minor/negligible importance	**Slight/ Negligible**
Land where strategic level of development would have **no** impact on this purpose of Green Belt. ▪ Land is largely contained by existing development and already forms part of, and is perceived as, part of the large built-up area; or ▪ Land is unrelated /has no significant relationship with a large built-up area.	**No importance to Green Belt Purpose** Continued inclusion within Green Belt of no importance	**None**

Table 3.3: Criteria to assess parcels against Green Belt Purpose 2

Green Belt Purpose 2. To prevent neighbouring towns from merging into one another (see Note 1 below)		
Criteria	**Fulfilment of Green Belt Purpose**	
Land that is **fundamental** to physical separation of neighbouring towns. ▪ Any significant reduction in extent would result in physical coalescence, or a perception of merging that would erode the distinct separate identity and character of the towns/large built-up areas.	**Fundamental importance to Green Belt Purpose** Continued inclusion within Green Belt of fundamental importance	**Fundamental**
Land that provides **substantial** contribution to separation between neighbouring towns. ▪ There is no significant inter-visibility between the towns/large built-up areas currently. ▪ Some development may be possible without causing merger or perception of merging between the towns/large built-up areas.	**Major importance to Green Belt Purpose** Continued inclusion within Green Belt of major importance	**Major**
Land that provides **significant** contribution to separation between neighbouring towns/large built-up areas. ▪ Land may be part of a substantial gap (3km or more) between neighbouring towns/large built-up areas with separate identities.	**Moderate importance to Green Belt Purpose** Continued inclusion within Green Belt of moderate importance	**Moderate**

Green Belt Purpose 2. To prevent neighbouring towns from merging into one another (see Note 1 below)		
Criteria	**Fulfilment of Green Belt Purpose**	
▪ Land where well-planned strategic level of development unlikely to result in merger or a perception of merging as a consequence of inter-visibility (although intervening smaller settlements within Green Belt may be affected significantly by reduction of separation, merger or inter-visibility).		
Land does not lie between towns/large built-up areas or makes **limited/negligible** contribution to separation; or land does not provide strategic level of separation. ▪ Strategic level of development would have little impact on this Green Belt purpose, although smaller settlements may be affected by reduction in separation, merger, or inter-visibility depending on their proximity to the existing edge of the town/large built-up areas. ▪ Other strong/well-defined boundary(s) may exist to restrain growth/prevent merging. ▪ Width of Green Belt may already be narrower at an adjacent location.	**Slight/ Negligible importance to Green Belt Purpose** Continued inclusion within Green Belt of minor/negligible importance	**Slight/ Negligible**
Land does not lie between towns/large built-up areas and makes **no** contribution to separation. ▪ It may lie between parts of the same town and fulfil a local purpose of maintaining the separation/identity of communities.	**No importance to Green Belt Purpose** Continued inclusion within Green Belt of no importance	**None**

NOTE 1: 'Neighbouring Towns' are those towns defined in Table 3.1; it does not include villages or other small settlements, although reference is made to these where there is the potential for merging to occur.

Table 3.4: Criteria to assess parcels against Green Belt Purpose 3

Green Belt Purpose 3. To assist in safeguarding the countryside from encroachment		
Criteria	**Fulfilment of Green Belt Purpose**	
Countryside is **fundamental** to the purpose of retaining land within Green Belt. ▪ Land possesses a strong, unspoilt rural character which Green Belt designation protects.	**Fundamental importance to Green Belt Purpose** Continued inclusion within Green Belt of fundamental importance	**Fundamental**
Countryside is of **substantial** importance to the purpose of retaining land within the Green Belt. ▪ Land possesses a predominantly rural character. ▪ There may be other constraints (such as a noticeable landscape feature) that would limit encroachment, but the Green Belt provides valuable protection.	**Major importance to Green Belt Purpose** Continued inclusion within Green Belt of major importance	**Major**
Countryside is of **significant** importance to the purpose of retaining land within the Green Belt. ▪ There may already be a perception of significant encroachment by development (or other uses, such as large-scale mineral extraction) and land may possess a semi-rural character. ▪ There may be other constraints to further encroachment.	**Moderate importance to Green Belt Purpose** Continued inclusion within Green Belt of moderate importance	**Moderate**
Countryside is of **limited/negligible** importance to the purpose of retaining land within the Green Belt. ▪ Land may possess a semi-urban character and is no longer perceived to be part of the open countryside.	**Slight/Negligible importance to Green Belt Purpose** Continued inclusion within	**Slight/ Negligible**

Green Belt Purpose 3. To assist in safeguarding the countryside from encroachment		
Criteria	**Fulfilment of Green Belt Purpose**	
▪ It may contain degraded land that provides opportunities for enhancement.	Green Belt of minor/negligible importance	
Countryside is **no** importance to this purpose of Green Belt. ▪ Land forms very narrow area between existing parts of an urban area or other strong boundary. ▪ Such areas may be protected by other policies/designations (such as open space or Green Wedge).	**No importance to Green Belt Purpose** Continued inclusion within Green Belt of no importance	**None**

Assessment of Parcels

3.6.11 The assessment of parcels against individual purposes was then combined to give an overall judgement of their suitability, for Areas of Search for development, based on overall Green Belt purposes only.

3.6.12 The outcome of this stage is the identification of strategic parcels of land that has no importance to Green Belt purposes and therefore a higher potential for development if the parcels were removed from the Green Belt, as well as land that is fundamental importance to the Green Belt and therefore very low suitability for development in Green Belt terms.

Table 3.5: Suitability of land parcels based upon assessment of Green Belt purposes

Relative Suitability of strategic parcels based upon assessment of Green Belt purposes			
Very Low Suitability	Very Low	One or more Green Belt purpose(s) is considered to be of **Fundamental** importance.	Land Fundamental to Green Belt
Low Suitability	Low	One or more Green Belt purpose(s) is considered to be of **Major** importance; there are no purposes that are of Fundamental importance.	Retain Land in Green Belt
Moderate Suitability	Moderate	One or more Green Belt purpose(s) is considered to be of **Moderate** importance; there are no purposes that are of Fundamental or Major importance.	Potential longer-term Area of Search
High Suitability High Development Potential so removal from Green Belt recommended.	High	One or more Green Belt purpose(s) is considered to be of **Slight/Negligible** importance; there are no purposes that are of Fundamental, Major or Moderate importance.	Potential Area of Search

3.7 Task 3: Proposal Lower Thames Crossing (Stage 1b)

3.7.1 Following the production of the initial Stage 1a assessment, PBA assessed the implications of the location of the Lower Thames Crossing (LTC) (as proposed at that time), on the assessment of Green Belt parcels.

3.7.2 Since that time the route has been subject to changes and further refinement and the implications of the proposed revised route (which is subject to further public consultation on Green Belt parcels is considered below.

3.7.3 The line of the proposed preferred route (a dual carriageway) was initially reviewed in summer 2016 with the benefit of general horizontal and vertical profile of the illustrative LTC scheme drawings.

3.7.4 As noted above, the route has been developed further and the findings of the earlier work have been reviewed in the light of these changes. As shown on the plan in **Appendix F**, the proposed route, which is now 3 lanes in both directions, would emerge from bored tunnel below the river within parcel 34 and then run in generally north westerly direction across parcels 30, 25, 27, 14-16 before joining the M25 just north of the borough. There would also be small incursions into the south west corner of 41 and northern part of 28 at the proposed A13/A1089 interchange. There is a proposed slip road junction with Brentwood Road. Several structures at road and rail crossings would be required, with an approximately 800m long section of viaduct where the route joins the northbound M25.

3.7.5 It should be noted that the route referred to is subject to further public consultation in late 2018 and may be subject to further development as the design is progressed over the next two years.

3.7.6 The route will form a very clear linear boundary and, together with embankments, elevated structures, moving vehicles and signage (and lighting where this is to be provided), will form a prominent intrusive feature within much of the landscape through which it passes. In time it may be expected that mitigation planting will provide some reduction in the visual effects of the scheme. The route will pass through four Landscape Character Areas (LCAs; as defined in the draft Thurrock Integrated Landscape Character Assessment prepared by LUC, 2018) – Tilbury Marshes (LCA F2); East & West Tilbury Open Undulating Farmland (H1); Orsett & Horndon on the Hill Open Undulating Farmland (H2); Bulphan Fenland (A1); and Belhus Farmed River Terrace Gravels (C1). In effect it would subdivide the parcels that it crosses and form a profound encroachment into and through some of the more rural parts of the borough beyond the eastern, north western and northern periphery of the Thurrock built-up area, and beyond the adjoining towns of Tilbury, Chadwell St Mary and South Ockendon, and the smaller settlements of West and East Tilbury, Linford, Orsett, and Baker Street. The implications of the route in Green Belt terms are considered further in **Section 5**.

4 Stage 1a Findings

4.1 Introduction

4.1.1 This section demonstrates how the purposes of including land in the Green Belt have been used in assessing the performance of the land parcels and illustrates this with examples from the findings.

4.1.2 This explanation is followed by the detailed parcel-by-parcel, purpose-by-purpose assessment of the Green Belt in Thurrock Borough, set out in **Appendix D**.

4.1.3 The findings presented in **Appendix D** are also presented in a summary table in **Table 4.1** and graphically by the maps in **Appendix E**, with individual maps for each of the three purposes that have been assessed, and with a map which aggregates the assessment in one composite presentation.

Table 4.1: Summary matrix of the assessment of parcels against Green Belt purposes

Parcel	1. To check the unrestricted sprawl of large built-up areas	2. To prevent neighbouring towns from merging into one another	3. To assist in safeguarding the countryside from encroachment	Overall importance of Green Belt parcel
1	Major	Major	Fundamental	**Fundamental**
2	Major	None	Fundamental	**Fundamental**
3	Moderate	None	Fundamental	**Fundamental**
4	None	None	Fundamental	**Fundamental**
5	Major	Major	Moderate	**Major**
6	Major	Slight/Negligible	Major	**Major**
7	Major	Major	Moderate	**Major**
8	Fundamental	Moderate/None	Fundamental	**Fundamental**
9	Fundamental	None	Fundamental/ Major	**Fundamental**
10	Fundamental	None	Fundamental	**Fundamental**
11	Fundamental	Slight/Negligible	Major	**Fundamental**
12	None	None	Fundamental	**Fundamental**
13	None	None	Fundamental	**Fundamental**
14	None	None	Fundamental	**Fundamental**
15	None	None	Major/Moderate	**Major/Moderate**
16	None	None	Fundamental	**Fundamental**
17	Moderate	Major	Major/Moderate	**Major**
18	None	Major/None	Moderate	**Major/None**
19	Slight/Negligible or None	Slight/Negligible	Major/Moderate	**Major/Moderate**
20	Slight/Negligible	Slight/Negligible	Moderate/ or Slight/Negligible	**Moderate/ Slight**
21	Major	Major	Slight/Negligible	**Major**
22	None	Major	Major	**Major**
23	None	Major	Major	**Major**
24	None	None	Major	**Major**
25	Major	Slight/Negligible	Major	**Major**
26	Major	Slight/Negligible	Major	**Major**
27	Major	Slight/Negligible	Slight/Negligible	**Major**
28	None	Fundamental	None	**Fundamental**
29	Fundamental	Fundamental/ Major	Major	**Fundamental**
30	Slight/Negligible or none	None	Major	**Major**
31	Slight/Negligible	Fundamental/ or	Slight/Negligible	**Fundamental/**

Parcel	1. To check the unrestricted sprawl of large built-up areas	2. To prevent neighbouring towns from merging into one another	3. To assist in safeguarding the countryside from encroachment	Overall importance of Green Belt parcel
		Slight/Negligible		**Slight/Negligible**
32	Fundamental	Fundamental/ Major	Fundamental	**Fundamental**
33	Fundamental	Major	Fundamental	**Fundamental**
34	None	None	Major	**Major**
35	None	None	Major/Moderate	**Major/Moderate**
36	Fundamental	None	Major/Moderate	**Fundamental**
37	Fundamental	None	Fundamental	**Fundamental**
38	Major	Moderate	Fundamental	**Fundamental**
39	Major	Major	Major	**Major**
40	Fundamental	None	Fundamental	**Fundamental**
41	None	None	Major/Moderate	**Major/Moderate**
42	Slight/Negligible	Major	Fundamental	**Fundamental**

4.2 Interpretation of the Green Belt Purposes for the Assessment

4.2.1 It is also important to note that the strategic nature of this part of the study leads to, in many areas, the definition of quite large parcels. As such the consideration of their contribution to Green Belt purposes is strategic, being informed by broad judgements based on the nature of each parcel; there may be local variations in the level of contribution that different parts of a parcel make to a particular purpose. Where a significant difference in contribution is apparent in particular parcels this is noted by a 'dual score'.

Purpose 1: To Check the Unrestricted Sprawl of Large Built-up Areas

4.2.2 The sense of permanence provided by Green Belt designation is fundamental to the limitation of 'sprawl' and it is the high level of constraint that the designation places upon new development within the designated area that ensures the outward expansion of urban areas (the Purpose explicitly refers to large-built-up areas which, for the purposes of this study, are defined within this study) remains heavily constrained, thereby limiting 'sprawl'. However, well located and planned urban extensions are unlikely to constitute 'sprawl' (a term that is based on negativity suggesting the unplanned, uncontrolled spread of development).

4.2.3 It may be said that all Green Belt land is likely to contribute to the fulfilment of this Purpose to some degree. However, land that lies close to the periphery of an urban area is likely to contribute most to this Purpose as it is that land which provides the boundary and zone of constraint to urban expansion. Land that is more remote is likely to become progressively less important to this Purpose (although 'free-standing' development in such areas, by virtue of being remote, is likely to be perceived potentially as 'sprawl'). Another important consideration in assessing the potential of land parcels against this Purpose is whether the land is well contained or not. Where land is well contained it is more likely that development may be accommodated within it without giving rise to the perception of 'sprawl' as the development would be contained by logical and clearly identifiable physical and/or visual boundaries, reducing its influence upon the land beyond.

4.2.4 This Purpose has a strong relationship with Purpose 3 (safeguarding of the countryside from encroachment).

4.2.5 The perception of 'sprawl' can, of course, be reduced by intelligent and sensitive planning of strategic development including the creation of robust green infrastructure which can provide a framework to new development. However, this approach is not apparent in past development within Thurrock although Core Strategy policies (CSSP5 and CSTP18) make the delivery of green infrastructure a specific requirement. Therefore, whilst areas may be identified as being

of importance to this first purpose, this does not necessarily mean that development could not be accommodated in a sensitive manner which reduces/avoids the perception of 'sprawl'. Early investment in green infrastructure to establish frameworks for future development should be a key component in strategic planning to meet future long-term development needs.

4.2.6 In some areas, thresholds are less defined, but the land may nevertheless still provide a good level of containment around the urban edge, ensuring a reasonable 'fit' of the urban area within its landscape context. These areas are categorised as being of 'Major' importance. In some places there may be other locations, further from the urban edge that have the potential to perform a similar function if the urban area were to expand (for example at parcel 014 where the A13 forms a strong, clear boundary and the area within that parcel would become the primary constraint to 'sprawl').

4.2.7 The 'Moderate' category generally applies to land that is only a little removed from the large built-up area; whilst the intervening land provides the 'first line' of constraint other intervening land fulfils a containment function. However, with respect to parcel 17, intervening parcel 20 already contains some areas of development which, combined with its narrow width, means it performs less well in terms of containing 'sprawl' and parcel 17 takes on a more important role in respect of this purpose.

4.2.8 Where a parcel is very closely related to an existing town and particularly influenced by its physical and visual presence, the land may be categorised as being of 'Slight/Negligible' importance with respect to this Purpose as the perception of 'sprawl' is already readily apparent (parcels 20 and 31 for example). In such locations there may be opportunities to adjust the Green Belt boundary to create a clearer boundary that provides greater containment, a better 'fit' for existing or potential development, and one that respects the landscape characteristics of the place and better reflects the strategic nature of Green Belt.

4.2.9 Land considered to be of 'No' importance to the Purpose is generally land that is either almost entirely contained by existing development within the built-up area (parcel 28 between Little Thurrock and Chadwell St Mary for example) or land that is separated and distinct from the large built-up area due to other well-defined parcels or distinct boundaries. However, it should be noted that, in respect of the latter, any large-scale development in such remote areas is very likely to be perceived as 'sprawl' as such development will be unrelated to existing built-up areas, although sustainability considerations are likely to preclude such development unless a new settlement is proposed.

4.2.10 The Green Belt boundary along the northern part of the Thurrock Urban Area is generally well defined by clear and obvious boundaries provided by primary roads which, in some cases, are also supplemented by landscape features such as associated planting, existing woodlands, or topography such that they also form recognisable visual boundaries which assist with limiting the perception of 'sprawl'. However, there are some areas where the urban area has extended to boundaries that are less well defined – such as the north eastern and eastern periphery of Chafford Hundred and parts of Chadwell St Mary where the interface between the built-up area and Green Belt is along weaker hedge-lines and rear gardens and where academic and recreational uses have 'blurred' the boundary. As a consequence, the influence of the built-up area extends over the level land within the adjoining Green Belt creating the perception of poorly contained development.

4.2.11 Significant Green Belt land lies between the western and north western sides of the Thurrock built-up area and the outskirts of Upminster/Hornchurch/ Rainham. Areas of land (parcels 38 and 39) are the primary constraint to the 'sprawl' of the Thurrock urban area, as is land adjoining the built-up area on the opposite side of this open area. As parcel 19 (which extends into Havering Borough) is less than 400m from the built-up area of Rainham this land is considered to make a contribution to the prevention of 'sprawl' extending outwards from that area.

4.2.12 The large built-up area at Coryton (which includes the London Gateway port development and former BP oil refinery) is located in the flat, featureless and open marshland landscape of the London Gateway Port Landscape Character Area. The only part of the Green Belt boundary that is well defined in this area is that part that adjoins the A1014. Otherwise the boundaries follow what appear to be indistinct or weak features such as ditches. The large-scale nature of this development appears 'superimposed' on this marshland landscape giving the impression of 'sprawl'. Whilst important nature conservation and flood constraints exist the Green Belt designation is of fundamental importance in constraining further 'sprawl' through further expansion of this large and imposing built-up area (although 'very special circumstances' may exist to support such development).

4.2.13 The large built-up area of Basildon lies just beyond the Thurrock boundary. Any perception of the 'sprawl' of the built-up area is prevented by the nature of the south western edge of the town. The urban edge is largely set back from the outer exposed edge of the Langdon Hills and benefits from significant areas of mature woodland which provide containment. The Langdon Hills Country Park also provides a constraint to growth in this direction. In this context the small areas of Green Belt that exist between the Thurrock administrative boundary and edge of the Basildon built-up area contribute to this purpose by preventing outward growth beyond a clear landscape and visual threshold; as such the Green Belt in parcels 01 and 02 play an important supporting role in this area by restricting the outward growth of the town, whilst parcel 3 also supplements the constraint provided by Green Belt within the intervening land on the edge of Basildon.

Purpose 2: To Prevent Neighbouring Towns from Merging into One Another

4.2.14 The primary function of this Purpose is clear – it is to prevent towns merging. However, it raises the question about whether reducing the gap between towns without them merging (either physically or visually) would be acceptable, and whether the merger of other smaller settlements (which are not 'towns') is strictly covered by this Purpose. The Framework makes no mention of minimum distances (para. 2.9 of long-since superseded PPG2 indicated that *"wherever practicable a Green Belt should be several miles wide, so as to ensure an appreciable open zone all around the built-up area concerned"*).

4.2.15 For this assessment we have assumed that the main towns (as defined in this study) should remain separate with a clear physical and visual distinction between them such that they retain their separate identities and setting. Despite the fact that the strict definition of the Purpose appears to exclude them, significant smaller settlements are also considered to be of some relevance and these are considered within the assessment, but do not influence the assessment of the performance of land against this Purpose. The review of the performance of areas of Green Belt against this Purpose is informed by an understanding of whether there is the potential for the intervening land between towns to accommodate a strategic level of development without prejudicing their physical and visual distinction.

4.2.16 The performance of the land against this Purpose also reduces with the increase in distance between towns, as not all of the land is likely to be important to maintaining separation. Where a strategic level of development may be accommodated without compromising this Purpose the land may be categorised as being of 'Slight/Negligible' importance to the Purpose. However, smaller settlements may be subject to a significant reduction in physical and visual separation, or potential merger as a result of such development.

4.2.17 For the assessment of this Purpose (and as a matter of common sense) it is acknowledged that the Thames estuary provides complete, permanent separation between Thurrock towns and towns within north Kent, therefore any parcels that intervene between towns on either side of the estuary are deemed to make no contribution to this purpose.

4.2.18 Parcels 17, 20, 21, 28 and 42 which lie between the towns on the northern side of Thurrock/Grays urban area (i.e. Lakeside/West Thurrock, Chafford Hundred, Grays/Stifford Clays) and the town of South Ockendon contribute to this purpose. These parcels, which are subdivided into separate parcels by major infrastructure, collectively form a notable gap between the towns on either side; the perception of separation is also supported by the character of the land (the very well defined Mar Dyke valley and related woodland), which contributes substantially to the separate physical and visual separation of the towns, and their perception as separate places. However, taken on their own, the individual parcels may be less important to this purpose – for example, development could be accommodated within parcel 20 without leading to physical merger or perception of coalescence as long as land within the southern part of parcel 17 is retained undeveloped; similarly, development could be accommodated in parcel 21 as long as parcel 42 is retained undeveloped.

4.2.19 At Purfleet, parcels 22, 38 and 39 provide a very limited contribution to the prevention of the town merging with the towns on the edge of Greater London to the west/north west, where the open land separating the towns is of reasonable width. However, development within parcels 22 and 39 would have the potential to cause coalescence between Purfleet and Aveley.

4.2.20 Parcels 11 and 25 comprise the open land that separates Chadwell St Mary from the town of Stanford-le-Hope (part of the Stanford-le-Hope/Corringham large built-up area). Collectively these areas form a gap between the towns around 3km wide. Owing to this width and the nature of the landscape, a strategic level of development on the periphery of either town would not lead to merging or the perception of merging. As such these parcels are considered to provide a limited contribution to preventing merger.

4.2.21 Parcels 28 and 29 are considered to make a particular contribution to this purpose. Parcel 28 effectively lies between the towns of Grays/Little Thurrock and Chadwell St Mary and provides separation between these settlements where development could lead to merger due to the limited width of the gap. The western part of parcel 29 (immediately south of parcel 28) is of similar importance to this purpose. The situation is similar in the northern part of parcels 31.

4.2.22 Parcels 01 and 07 are considered to make a major contribution to this purpose. They cover significant areas of land which are important to the physical, visual and perceived separation of Corringham from the large built-up area of Basildon. Parcel 07 already contains ribbon development at Fobbing and significant development within the parcel could lead to the merging of the eastern end of Corringham with this area of development leading to a substantial reduction in the separation between Corringham and southern edge of Basildon. Because parcels 05 and 06 are more distinct parcels, contained by infrastructure and encompassed by parcels 01 and 07, they are less relevant to this purpose.

Purpose 3: To Assist in Safeguarding the Countryside from Encroachment

4.2.23 Any Green Belt land, particularly around the periphery of the town may be said to fulfil this Purpose. It is the overall restrictive nature of Green Belt policy that protects the surrounding countryside by constraining development and directing it towards existing settlements.

4.2.24 The former guidance provided in PPG2 made it clear that the quality of the landscape is not a reason for designating land as Green Belt. Whilst this is not included in the Framework, for the purposes of this review (and in line with current thinking) it has been assumed that this principle remains. The reasons for land being in the Green Belt must be the reasons for which the designation was made.

4.2.25 The consideration of this Purpose has been informed by an understanding of the principal landscape and visual characteristics of the parcels of land based on site work, and by information provided in the Thurrock Landscape Capacity Study (TLCS; CBA, March 2005) and the Thurrock Integrated Landscape Character Assessment. The 2005 assessment

included an evaluation of the landscape sensitivity of the character areas to different levels of development. The Integrated Landscape Assessment study considers generic types/forms of development and the sorts of areas (in generic terms, not location specific) that may be considered less sensitive to particular types of development.

4.2.26 All other things being equal, areas that have a strong unspoilt, largely intact rural character would be afforded particular protection via this Purpose, in contrast with those areas that possess a semi-urban character and where encroachment has already occurred. Latter areas may offer the potential for repair and/or enhancement through a well-considered approach to development. Any urban extension may be considered to be an 'encroachment' into countryside. This is where consideration of landscape character and the potential ability of the landscape to accommodate change play an important role in balanced decision-making.

4.2.27 Whilst the quality of the land is not a reason for designation, where land is identified as possessing a strong unspoilt rural character this purpose may be considered to be of higher importance in protecting that countryside from encroachment. In such areas any such encroachment is likely to have far more significant adverse effects on the characteristics of the countryside and its perception compared to land that possesses a much weaker or semi-urban character where the influences of development are already apparent and an intrinsic part of the prevailing character; such areas may be deemed to contribute less to safeguarding land from encroachment or may even be no longer perceived as being part of the open countryside.

4.2.28 A particular characteristic of Thurrock is the relationship of its southern part to the estuary with much of the adjacent landscape characterised by estuary marshland, and the open fenland landscape (Bulphan Fenland) that occupies the central northern part of the borough, separated from the estuary by the ridge that forms part of the Open Undulating Farmland (defined in the Integrated Landscape Assessment). The estuary marshland is an open, windswept landscape entirely devoid of features (other than adjoining development and higher land to the north) that contain the expansive views. Consequently, development, which is often characterised by tall buildings and structures, within and adjoining this landscape is highly visible; there are also strong visual connections across the estuary to development on the southern side in north Kent. The Bulphan Fenland landscape is devoid of significant settlement and there are wide ranging views in all directions to surrounding slopes and hills. Both areas are subject to significant flooding constraints, with the estuary landscape also containing sites of particular nature conservation value.

4.2.29 Around the Thurrock built-up area and the fringes of the other towns and larger villages within the borough, are areas of countryside that are generally smaller in scale, often fragmented by infrastructure and containing some level of existing development and/or influenced by adjoining development. A particular characteristic north west of South Ockendon is the extensive mosaic of woodland within the Belhus Farmed River Terrace Gravels LCA which forms part of the Thames Chase Community Woodland.

4.2.30 Areas around the northern and eastern fringes of the Thurrock built-up area contribute less to this purpose, being areas of land contained between the urban edge and major infrastructure, or between major roads which act as limitations to encroachment – parcels 21, 27, and 31 for example.

4.2.31 Parcel 28, located between Chadwell St Mary and Little Thurrock/Socketts Heath, is the only area identified as providing no contribution to this strategic purpose. Whilst it lies outside settlement boundaries and is by definition 'countryside' most of it does not possess a rural character and primarily comprises open space/recreation uses.

4.2.32 Significant parts of the countryside within the north west, central and southern estuary fringes of the borough contain active or former quarries and landfill sites, and these create significant 'scars' on the landscape, or uncharacteristic landforms where restored within the level marshland landscape. Whilst such uses are not inappropriate in the Green Belt where they

retain openness and do not conflict with Green Belt purposes, they do represent significant physical and visual encroachments into the countryside.

4.2.33 In general terms, the assessment shows that the Green Belt provides very important protection to the prevention of encroachment into the northern fenland landscape and the flank of the Langdon Hills rising up from the fenlands towards Basildon. These areas are open and with little development, with the exception of the small quite compact settlements of Horndon-on-the-Hill, Orsett, and Bulphan.

4.2.34 The marshland landscape in the eastern part of the district (parcels 08-10, 37) and between Chadwell St Mary and north side of Tilbury (parcels 32 and 33) also make a substantial contribution to this purpose being open undeveloped landscapes. In the case of the parcels 09,10 and 37 the Green Belt provides an important constraint to the further encroachment of the London Gateway development and development on the southern edge of Corringham/Stanford-le-Hope, whilst the parcels north of Tilbury provide an important constraint to the further northward expansion of Tilbury into this open tract of reclaimed marshland.

Purpose 4: To Preserve the Setting and Special Character of Historic Towns

4.2.35 None of the towns within the borough may be regarded as truly historic towns. The only town which contains a Conservation Area is Purfleet and, in that instance, the area is separated from the Green Belt by more recent development.

4.2.36 Parts of smaller settlements such as Orsett, Horndon-on-the-Hill, West and East Tilbury and Fobbing contain Conservation Areas, but these are not 'historic towns' and therefore of no specific relevance to this purpose.

4.2.37 This purpose has therefore not been assessed in this study.

Purpose 5: To Assist in Urban Regeneration, by Encouraging the Recycling of Derelict Land

4.2.38 It is the overall restrictive nature of Green Belt that, though its limitation of the supply of other development opportunities, encourages regeneration and re-use of land. It is therefore impossible to judge how any given parcel of land would contribute to the fulfilment of this Purpose. This purpose is not considered within the Green Belt review as all land in the Green Belt inside and beyond the borough would contribute to this purpose equally.

4.2.39 In the context of this constraint, the Council has identified a number of regeneration initiatives aimed at encouraging re-use of underused or derelict land. This potentially could be explored further in the **Stage 2** detailed Green Belt Assessment, if required.

5 Stage 1b Findings

5.1 Introduction

5.1.1 A map of Green Belt parcels and the proposed second London Thames Crossing (LTC) route is shown in **Appendix F**. The proposed highway route running through Thurrock borough, to the north of the LTC, passes through Green Belt parcels 16, 15, 14, 25, 26, 27, northern edge of 28, 30, 34 with related ancillary works encroaching into the northern part of parcel 13, southern part of 41 and western edge of parcel 35 (proposed service area).

5.1.2 The implications of the proposed LTC route on the parcels that it crosses are considered below (from south to north).

Parcel 34

5.1.3 The land-take indicated for the scheme would appear to occupy all but the western part of this parcel. The route would emerge from the tunnel portal within the central southern part of parcel 34 before rising onto viaduct 10-12m high and 1km long to cross above Station Road and the Tilbury Loop railway on the northern boundary of the parcel. This would introduce a prominent vertical unscreened structure within the central northern part of the open flat landscape of the Tilbury Marshes; this would appear as a clear encroachment into the open countryside (Purpose 3) of the open, flat marshland landscape. An interchange would be formed at the southern end of the viaduct with a roundabout below (Tilbury Junction, which straddles the boundary between parcels 34 and 35) and this, together with associated structures/slip roads and related earthworks will also bring about substantial change. Whilst the viaduct, being raised above the ground, will maintain a degree of openness and a connection between the landscape on either side of the junction below and the associated sloping slip roads will disrupt this. As the southern section of the route would be in tunnel, the southern part of the parcel would be unaffected.

5.1.4 The route would be remote from built-up areas and towns (around 1.8km east of Tilbury). Whilst it will form a clear physical and, for much of its length, a visual boundary, and provide an opportunity to separate the parcel the contribution of the land to Green Belt purposes would remain broadly the same.

Parcel 35

Some areas of land-take are indicated in the adjoining western part of parcel 35; part of this is for a proposed service area south west of East Tilbury. This will form a significant encroachment into the countryside within this part of the marshland landscape and introduce development closer to the edge of East Tilbury; this may be perceived as further 'sprawl' associated with the LTC and a further encroachment into the intervening landscape. The western boundary of the parcel may require adjustment to suit the final form of the LTC, but the parcel is unlikely to require subdivision.

Parcel 30

5.1.5 The route would cross this parcel more or less at grade with an embankment and bridge (9.5m high) carrying Muckingford Road over the LTC on the northern boundary of the parcel; for mitigation purposes a false cutting is proposed on the western side rising to 2m above road level. The route would form a prominent new boundary cutting across the landscape between Chadwell St Mary and East Tilbury, passing only some 400-600m west of East Tilbury where there is intervisibility between the line of the route and the residential outskirts and the Bata factory. It is possible that the location of the route and the proposed service area located east of the Tilbury junction may bring about pressure for development in any remaining land

between the route and south western edge of Tilbury and also within the vicinity of the junction.

5.1.6 The land-take indicated extends up to the western edge of East Tilbury. As a consequence, parcel 30 would become two separate parcels with the eastern part fulfilling a greater function in respect of Purpose 3 - preventing encroachment of East Tilbury westwards to the road new boundary.

Parcel 25

5.1.7 The route would pass along the southern side of a broad valley to Brentford Road, close to existing ground levels, crossing this area of countryside (circa 1.7km wide) that separates Linford and the eastern side of Chadwell St Mary. False cuttings to 4m above road level are proposed on both sides of the route. Hoford Road (a track) would cross over on a bridge 9m high; Brentwood Road would be carried over the road 9m above road level which would be some 2m above ground level at that point. The south western part of the parcel, which has a closer relationship with Chadwell St Mary, would be separated from the rest of the parcel. There is the prospect that this may encourage promotion of Green Belt release for development on the edges of the above two settlements; in the case of Linford there is no intermediate alternative boundary, whilst on the western side an intermediate boundary exists along High House Lane. The contribution that the land within both parts of the parcel makes to Green Belt purposes is unlikely to be altered significantly by the route.

Parcel 26

5.1.8 The route would pass through the centre of this parcel on a roughly west/east alignment, initially 2m or so above ground level at Brentwood Road then descending gradually into cutting around 4-5m deep below the A13 which forms the northern boundary of the parcel. The LTC junction with the A13 and A1013 creates a complex network of roads slip roads within the north western part of the parcel. The route would therefore form a new intermediate boundary between the north side of Chadwell St Mary and the A13 in an area where the existing Green Belt edge is not well defined on the edge of the town. It is apparent that the route in this location may form a new northern limit to Chadwell St Mary and, as such, the intervening land could be considered to provide a more limited contribution to Purpose 1.

Parcel 27

5.1.9 Part of the LTC/A13/A1013 interchange would extend into the eastern part of parcel 27 with roads on embankments and within false cuttings up to 4m above carriageway level. These roads would extend the junction to within 250-300m of the north eastern edge of Chadwell St Mary. The boundary of the town is poorly defined and the LTC would provide a more appropriate long-term Green Belt boundary in this particular location.

Parcel 14

5.1.10 The route would pass through the western central part of this large parcel a significant part of which falls within the Bulphan Fenland LCA. From the complex interchange with the A13 and A1089 the route would be in cutting up to 5.5m deep where it continues to cross the northern ridge of the Orsett & Horndon-on-the-Hill Open Undulating Farmland with a slip road and Stifford Clays Road rising over on embankments/bridges up to 7m above existing ground level. False cuttings up to 3m above carriageway would be created between Stifford Clay Road and Green Lane. The route then runs at grade, between false cuttings before rising onto 7.5m high embankment flanked by false cuttings as it crosses the Bulphan Fenland, with a section of viaduct over Mar Dyke.

5.1.11 This parcel comprises a very rural landscape that, in most parts, is perceived as being remote from the Thurrock built-up area; the route will have a significant effect on the character of this

landscape and this sense of remoteness. Whilst the line of the route would justify the subdivision of this parcel, the contribution of the area to the fulfilment of Green Belt purposes is likely to remain unchanged.

Parcel 15

5.1.12 The route would cross the northern part of parcel 15, a generally rural and remote landscape of the Belhus Farmed River Terrace Gravels, passing to the north of Ockendon landfill at grade/in shallow cutting with some sections of 4m high false cutting, to the B186 which is raised over the LTC by some 8m on the boundary of the parcel. The land to the south of the route has some affinity with the northern outskirts of South Ockendon, being only some 500m beyond the northern edge of the town. Whilst sub-division of the parcel is unlikely to affect the assessment of the contribution of the intervening land to Green Belt purposes 1 and 2, it is likely to strengthen its contribution to the third purpose of preventing encroachment on the basis that the area may be viewed as having potential for release to accommodate a north eastward expansion of the town (although the heritage value associated with that area around South Ockendon Hall provides a significant constraint in this area).

Parcel 16

5.1.13 West of the B186 North Road the road crosses open farmland north of South Ockendon more or less at grade before descending into cuttings to join into the M25. The route would justify sub-division of this parcel; the southern part, which relates more closely with the northern end of South Ockendon, would continue to fulfil its fundamental contribution to the prevention of encroachment from the northern expansion of the town, although the LTC route would provide an alternative clear boundary to contain the encroachment of the town into the landscape beyond if this area were to be considered for release from the Green Belt. If release were to occur the northern part of the parcel would then provide some contribution to Purpose 2 due to the separation that it would provide between the town and Upminster to the north (although still remaining separated by around 2.6km).

5.1.14 The very minor incursions of the LTC route on the edges of parcels 28 and 41 parcels would make no material difference to the existing contributions of these parcels to Green Belt purposes.

6 Conclusions

6.1 Stage 1a

6.1.1 This review has found that all of the land within the Green Belt within the Borough fulfils one or more of the first three purposes of the Green Belt.

6.1.2 Unsurprisingly parcels that provide the most significant contribution to the first purpose ('check the unrestricted sprawl of large built-up areas') are those parcels that are in more immediate proximity to the Thurrock urban area and Coryton/London Gateway within the Borough. The proximity of Basildon and the edge of Greater London beyond the Borough (Upminster/ Hornchurch/Rainham) also have some influence on the assessment of this purpose. It is these parcels that provide the immediate constraint to the expansion of these large built-up areas. It would be the case that if all of (or even a significant part) of any of these parcels were to be removed from Green Belt to accommodate development, the parcel(s) beyond would then assume that function. The degree to which the parcels contribute to the fulfilment of the purpose depends on the nature and boundaries of each parcel and this is reflected in the methodology; development within a parcel that has a very defined boundary is unlikely to constitute 'unrestricted sprawl' as it would be contained within a clearly defined limit (for example, parcel 27) and the land beyond (in the case of the example, parcel 14 to the north) would fulfil this purpose (and, in that case, to a higher degree owing to its open nature which lacks alternative enduring potential boundaries).

6.1.3 With regard to the second purpose ('prevent neighbouring towns from merging'), the parcels on the northern side of the towns that make up the Thurrock large built-up area fulfil this purpose by preventing the merger of these towns with South Ockendon and Aveley, as do some of the parcels that separate the towns of Corringham/Stanford-le-Hope and Basildon.

6.1.4 The A13 sub-divides the Green Belt between the towns in the Thurrock urban area and Aveley and South Ockendon into separate parcels north and south of the road. Whilst in terms of this purpose the release of a parcel on one side of the A13 to accommodate development would not lead to physical merging of the towns (or, in this case, visual coalescence), it would lead to a clear narrowing of the gap that provides separation. It happens to be the case too that these areas are also constrained by other factors such as the important landscape feature and green infrastructure provided by the Mar Dyke valley, and flood risk. As a consequence, this area is considered to have a Low capacity for change in any event.

6.1.5 The parcels on the north and west sides of Purfleet (parcels 22, 38-39) provide a constraint to the prevention of the outward expansion of the town towards Rainham (and locally, the prevention of merging with the Aveley). However, even if other constraints and considerations were to indicate that this may be a suitable location for Green Belt release to accommodate some development, carefully located development within parts of these parcels would not lead to the physical or perceived merging of towns. As above, there are other strong constraints to development within this area (RSPB reserve in parcel 38; Mar Dyke valley and flood risk within parcel 39; visual exposure of land within parcel 22).

6.1.6 Parcels 11 and 25 combines to form a significant tract of mainly undeveloped open land, exceeding 3km in width, between the towns of Chadwell St Mary and the town that make up the large built-up area of Corringham/Stanford-le-Hope. As a consequence of the separation distance and the nature of the land within these parcels, they provide a limited contribution to the separation of the towns. The release of land from Green Belt to accommodate a strategic level of development adjoining either of the towns, whilst having some conflict with this Green Belt purpose, would not lead to merging of the towns. The difficulty that arises in this area is the absence of existing alternative strong and enduring boundaries suitable for redefining the Green Belt boundary. Whilst some roads (which would be suitable as such boundaries) exist they are generally at some distance from the existing Green Belt/settlement boundary;

alternative 'internal' boundaries are less well defined and are less suitable as alternative boundaries.

6.1.7 Parcels 1, 5, 7 and, to a lesser extent 8, contribute to the purpose by maintaining separation between Corringham/Stanford-le-Hope and the south west side of Basildon. This separation is supported by significant landscape features within Green Belt on the edge of Basildon and in the northern part of parcel 1 which help to physically and visually contain Basildon from the more exposed environs of Corringham/Stanford-le-Hope. However, as with the area between Chadwell St Mary and Corringham/Stanford-le-Hope, some Green Belt release on the edge of Corringham could be explored within this area without conflicting with this purpose.

6.1.8 With regard to the third purpose ('safeguarding the countryside from encroachment'), all of the parcels assessed, with the exception of parcel 28, have been found to contribute to this purpose, with most areas found to be of Moderate, Major or Fundamental importance to the purpose. Areas identified as being less important are parcels (or parts of parcels) 20-21, 27 and 31 on the northern and eastern periphery of the Thurrock built-up area. These areas were considered to contribute less to the purpose because there is already significant encroachment, they are not perceived to be countryside or have limited rural characteristics and are very closely related in character terms to the built-up area; they are also very distinct from areas with a stronger rural character due to the separation provided by major road infrastructure.

6.1.9 Parcel 28 was found to make no contribution to this purpose as it is a narrow area of land that is heavily influenced by its relationship to Little Thurrock/ Sockets Heath and the west side of Chadwell St Mary. Countryside characteristics are largely absent with the majority of the parcel in recreational and educational use.

6.1.10 With regard to the definition of the boundaries of the Green Belt, the review has found that boundaries are generally defined along weak features (as opposed to clearly defined and enduring features) on settlement boundaries – primarily rear gardens which often do not benefit from other features that would provide reinforcement (such as hedgerows or tree belts). In our experience this is not at all unusual and is a reflection of two things – the boundary being drawn along edges of development at the time the Green Belt was first defined, and piecemeal development that addressed immediate development needs rather than strategically planned development allocations. Even more recent developments have been defined on a field by field basis with little apparent consideration of the need for enduring boundaries; where none have existed the opportunity to create robust boundaries by the use of green infrastructure and strategic planting does not appear to have been taken. The current policy impetus for enhancing Green Belt boundaries (Core Strategy Policy CSSP4) and the strengthening of existing and creation of new green infrastructure (CS Policy CSSP5) provides a basis for the contribution to the delivery of green infrastructure through strategic development (either directly or by financial contributions).

6.1.11 Another aspect that has been identified in this review is the apparent anomalies that arise from the inclusion of developed school sites within the Green Belt, and the maintenance of Green Belt in Major Development sites within the Green Belt. Educational establishments often include significant development that is inconsistent with maintaining openness of the Green Belt. It is our view that these sites should be reviewed and where appropriate excluded from the Green Belt as part of the review of boundaries in the Site Allocations and Policies DPD, to be informed by the work to be undertaken as part of Stage 2 of this Green Belt Review. Similarly, now that it has been developed, the continued retention of the Major Developed Site on the north east side of South Ockendon should be considered. The site does not contribute to Green Belt purposes.

6.1.12 There will be significant merit in incorporating the Oil Refinery Expansion Area at Coryton into the Green Belt. The area has not been required for development and the refinery has now closed, leaving a large brownfield site for potential redevelopment. The excluded land does

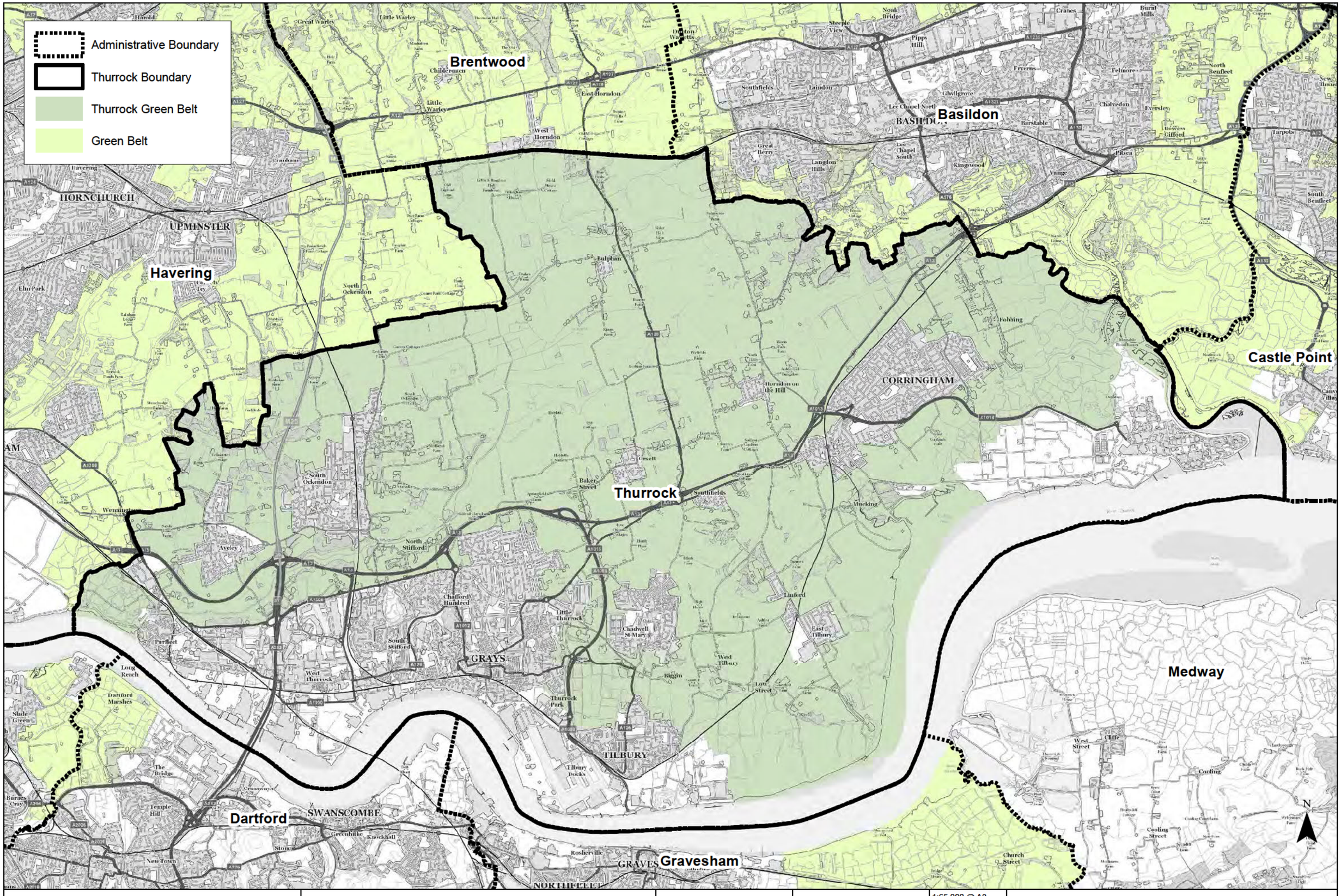
contribute (effectively as a southward extension of parcel 8) to the three assessed Green Belt purposes.

6.1.13 With regard to more detailed work to be undertaken in Stage 2 of the Review (which is subject to the progress made on the new Local Plan) we recommend that parcels 6, 7, 11, 15, 17, 20-22, 25-27, 31 in particular are subject to more detailed scrutiny and assessment, although other factors such as the Lower Thames Crossing (considered in Stage 1b of this Review), and the availability of potential sites to meet projected housing growth, will also have a bearing on the areas that need to be examined during that part of the study.

6.2 Stage 1b

6.2.1 The alignment of the LTC route through the central and western parts of the borough will undoubtedly have implications for the way in which some parts of the Green Belt within Thurrock fulfil Green Belt purposes. The most significant effect of the route on the Green Belt, other than the route being a significant encroachment into the countryside, would be the creation of a major enduring boundary within the Green Belt which is, in most areas, reasonably distant and in some cases very remote from the Thurrock built-up area and towns. In most parts of the borough this boundary will merely separate areas of similar open countryside with little to no effect on the way in which the related parts of the Green Belt contribute to the purposes. However, in parcel 26, the route would create a more enduring boundary beyond the northern edge of Chadwell St Mary than currently exists along the northern edge of the town. As a result, the intervening land may assume greater importance in terms of the constraint that it provides on preventing encroachment of the town into the intervening countryside in an area that will undoubtedly become subject to development pressures or, alternatively, the land could be considered as being less important as a more enduring boundary would exist up to which development could extend preventing encroachment into the countryside beyond. In this regard, there are similarities too with the southern part of parcel 16, eastern part of parcel 27, and land on the south western edge of East Tilbury within parcel 30.

Appendix A Map of Green Belt in Thurrock and Adjoining Districts


Administrative Boundary
Thurrock Boundary
Thurrock Green Belt
Green Belt
Brentwood
Basildon
Havering
Thurrock
Castle Point
Medway
Gravesham
Dartford
HORNCHURCH
UPMINSTER
BASILDON
CORRINGHAM
GRAYS
TILBURY
SWANSCOMBE
GRAVESEND
NORTHFLEET
Great Warley
Little Warley
Childerditch
East Horndon
West Horndon
Little Warley
Great Berry
Langdon Hills
Southfields
Laindon
Pitsea
Kingswood
Vange
Fobbing
Horndon on the Hill
Bulphan
North Ockendon
South Ockendon
Wennington
Aveley
North Stifford
Chafford Hundred
Little Thurrock
Chadwell St Mary
Purfleet
West Thurrock
South Stifford
Grays
Tilbury Docks
Low Street
Biggin
Linford
East Tilbury
West Tilbury
Thurrock Park
Baker Street
Orsett
Mucking
Stanford-le-Hope
Corringham
Fobbing
Horndon on the Hill
Basildon
Pitsea
Vange
Kingswood
Great Berry
Langdon Hills
Lee Chapel South
Lee Chapel North
Barstable
Fryerns
Felmore
Chalvedon
Eversley
Bowers Gifford
North Benfleet
South Benfleet
Tarpots
Ghyllgrove
Laindon
Southfields
Pipps Hill
Noak Bridge
Cranes
Burnt Mills
Steeple View
Dunton Wayletts
Havering
Elm Park
Harold
Cranham
Upminster
Bulphan
North Ockendon
Dartford Marshes
Slade Green
Long Reach
West Thurrock
Purfleet
South Stifford
Chafford Hundred
North Stifford
Aveley
Wennington
Rainham
Barnes Cray
Temple Hill
The Bridge
Crossways
Greenhithe
Knockhall
Stone
New Town
Rosherville
Northfleet
Gravesend
Cliffe
West Street
Cooling
Cooling Street
Church Street
Medway
Tilbury
Tilbury Docks
Low Street
Biggin
Thurrock Park
Linford
East Tilbury
West Tilbury
Chadwell St Mary
Little Thurrock
Chafford Hundred
North Stifford
Aveley
Purfleet
West Thurrock
South Stifford
Grays

Appendix B Map of Key Constraints

Thurrock Boundary
Administrative Boundary
Green Belt Parcel
SPA
RAMSAR
SSSI
Ancient Woodland
Flood Zone 3
Flood Zone 2
Thurrock Green Belt
Green Belt

Thurrock Green Belt Review

0 2.5 5 Kilometers

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pba peterbrett

Client

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26/11/18
Drawn: IB
Checked: SJ

Key Constraints

Figure 1 | Rev A

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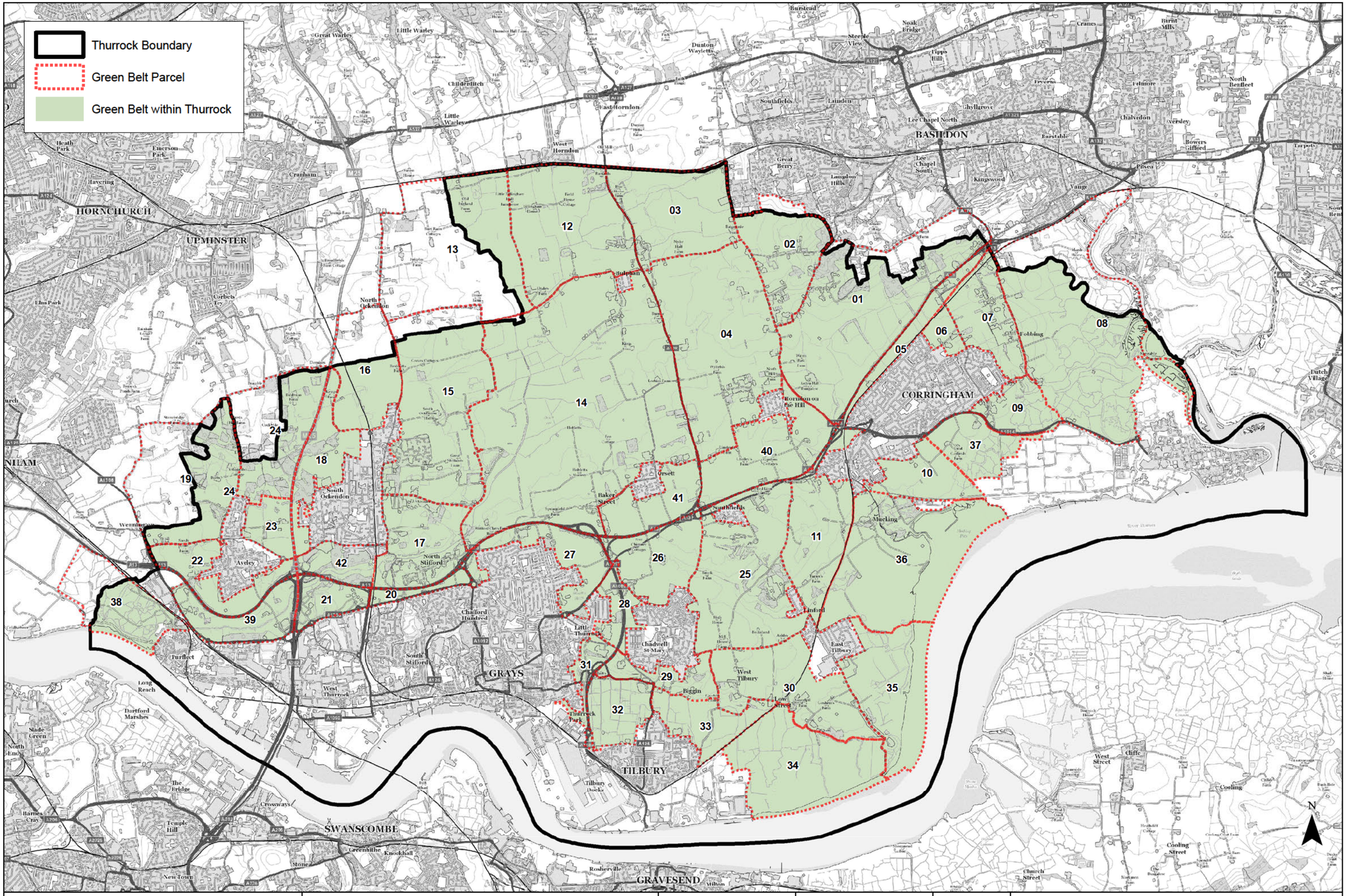
Appendix C Parcels Defined and Used in the Green Belt Assessment



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Thurrock Green Belt Review	
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Parcels defined and used in the Green Belt Assessment	Rev A

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Appendix D Stage 1a: Green Belt Parcel Assessments

Strategic Parcel No. 01	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	The north eastern part of parcel 1 provides a significant contribution to the outward expansion of Basildon, in an area on the borough boundary (which is poorly defined in relation to recognisable features in some places) where development within a complex and elevated location is likely to lead to the perception of 'sprawl'. Parcel 1 is separated from Basildon by Green Belt land within Basildon Borough (parcels 60-62 of Basildon Green Belt Review, of which parcels 60 and 61 are included in parcel 1 for the purposes of this assessment as these extend to a clearly defined boundary, which the administrative boundary does not). Those areas have been assessed in that review as making a Contribution (parcel 60) or Partial contribution (parcels 62) to this Green Belt purpose.	Fundamental **Major** Moderate Slight/Negligible None
Purpose 2: To prevent neighbouring towns from merging into one another	The parcel makes a significant contribution to the separation of Corringham and Basildon. Whilst significant levels of development within this parcel are unlikely to lead to merger (assuming Green Belt within the adjoining part of Basildon Borough remains) there is the potential for a significant reduction in separation to occur which is likely to contribute to the perception of merging, most notably in the eastern part of the parcel where the gap between the administrative boundary and the edge of Corringham is narrower. Adjoining parcels in Basildon Borough have been assessed in the Basildon Green Belt Review as making a Partial Contribution to this Green Belt purpose.	Fundamental **Major** Moderate Slight/Negligible None
Purpose 3: To assist in safeguarding the countryside from encroachment	Green Belt designation provides very important protection to this area of distinctive and strongly rural countryside which is generally of high scenic quality, much of which is particularly visible given its rising/elevated nature. Whilst there is some existing development within the northern and north eastern fringes of the parcel it is well assimilated within the landscape. Adjoining parcels in Basildon Borough have been assessed in the Basildon Green Belt Review as making a Partial contribution to this Green Belt purpose.	**Fundamental** Major Moderate Slight/Negligible None

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Extensive predominantly rural landscape on slopes of Langdon Hills. Strong sense of openness where less vegetation, with little development which is generally well integrated within wooded setting.	**Very apparent**
		Recognisable
		Limited
		Negligible/none
NATURE OF VIEWS (Including intervisibility with adjoining areas)	Exposed, varied rising ground exposed to views from wider landscape to west and ridge around Horndon-on-the-Hill, forming distinctive feature and backdrop in wider views. Long distance views from elevated parts of parcel although woodland cover on higher slopes provides some visual containment.	Contained
		Partial
		Open/extensive
NATURE OF PARCEL EDGES (Including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Defined by roads on all sides; defined by Dry Street with Basildon Borough on north side as this is a more recognisable, enduring boundary than the administrative boundary which follows hedges in places. Lack of alternative internal boundary features means there is no scope for logical sub-division of parcel.	**Well defined**
		Partially defined
		Ill-defined
		Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and Towns as second purpose; relationship to other 'non-principal' settlements)	Separated from edge of built up area of Basildon by small parcels of Green Belt land within that Borough, except adjoining Basildon Hospital where parcel is contiguous with Green Belt boundary (although this relationship is not appreciated from the wider area). Separated from north side of the large built up area of Corringham/Stanford-le-Hope by A13 and narrow strip of land within parcel 5.	Very evident
		Evident
		Limited
		Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	Elevated northern part of parcel lies within LCA[1] K1, Langdon Higher Hills, with rest of parcel within LCA J1, Langdon Lower Hill Slopes, except a small area east of Horndon-on-the-Hill which lies within LCA H2 Orsett and Horndon-on-the-Hill Open Undulating Farmland. Parcel comprises a complex, varied, attractive rural landscape extending from gently undulating predominantly open, mainly arable farmland with defined field pattern in the southern part up to the wooded folded Langdon Hills. Strong woodland cover on parts of upper hill slopes. There are scattered and small clusters of development, with related gardens and small paddocks, associated with settlement along South Hill, Dry Street and Bells Hill Road within the northern and north eastern fringes of this parcel, much of which appears likely to have pre-dated Green Belt designation, although some infilling and piecemeal development may have occurred since. Due to the significant level of vegetation cover much of this development is well assimilated within the landscape which limits perception of encroachment and the area retains a generally strong, rural tranquil character.	Strong rural
		Principally rural with some limited urban influences
		Rural with significant urban influences
		Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Country Parks, two SSSIs, and three areas of Ancient Woodland along boundary with Basildon. Rest of parcel free of high level constraints.	Substantial constraints over much of area
		Moderate level of constraints
		Few/no constraints

[1] LCA - Landscape Character Area (based on draft Thurrock Integrated Landscape Character Assessment; LUC October 2018).

Strategic Parcel No. 02	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	Parcel separated from Basildon built up area boundary by narrow area of Green Belt (parcel 65 within the Basildon Green Belt Review) within Basildon Borough; this parcel provides a constraint to the outward expansion of the built up area towards the administrative boundary (which defines the northern boundary of parcel 2 within Thurrock) and has been assessed within the Basildon Review as providing a Contribution to this purpose. On the basis that the boundary within Basildon is more strongly defined than along the administrative boundary a small corresponding part of that parcel has been included within parcel 02 for the purposes of this assessment. The northern part of parcel 2 provides a significant contribution to restricting the outward expansion of Basildon, in an area where any development within the complex hill landscape of the Langdon Hills is likely to lead to the perception of 'sprawl'. In addition the designation checks piecemeal development associated with the areas of existing settlement, notably the sporadic and ribbon development along Lower Dunton Road and South Hill.	Fundamental **Major** Moderate Slight/Negligible None
Purpose 2: To prevent neighbouring towns from merging into one another	The parcel provides no contribution to this purpose; whilst it lies within the tract of land that separates west Basildon from the nearest other built up area of Corringham/Stanford-le-Hope, parcel 1 fulfils this purpose. Adjoining parcel 65 in the Basildon Green Belt Review (part of which is included within parcel 2) has been assessed in that review as making a Partial contribution to this Green Belt purpose. Considered on its own the small part of that adjoining parcel within the borough would not be considered to be of relevance to this purpose using the criteria for this review. The parcel does provide separation between the ribbon development in the southern part of the parcel.	Fundamental Major Moderate Slight/Negligible **None**
Purpose 3: To assist in safeguarding the countryside from encroachment	Green Belt designation provides very important protection to this area of distinctive countryside, much of which is particularly visible due to its rising/elevated and open nature (particularly in the northern half). Whilst there is some development in the southern part of the parcel the significant level of vegetation cover ensures that much of this development is well assimilated within the wider landscape which limits perception of encroachment. Adjoining parcel 65 within Basildon Borough has been assessed in that review as making a Contribution to this Green Belt purpose.	**Fundamental** Major Moderate Slight/Negligible None

THURROCK GREEN BELT ASSESSMENT

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Variable perception of openness due to variations vegetation cover. More open in arable land in northern half of parcel. Loose cluster of suburban development in southern part of parcel which creates perception of encroachment into otherwise rural area.	Very apparent **Recognisable** Limited Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Variable from open to enclosed due to vegetation cover and topographical variation. Forms part of distinctive backdrop of hills in views from the lower landscape to the west.	Contained **Partial** Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Roads form defined enduring boundaries except along north side where administrative boundary follow, in part, a weak feature and where parcel boundary has been extended into Basildon to stronger belt of woodland just inside Green Belt boundary.	**Well defined** Partially defined Ill-defined Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	Northern boundary of parcel separated from edge of built up area of Basildon by narrow strip of Green Belt land (woodland) within that Borough which contains the built up area.	Very evident Evident Limited **Not evident**
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	This parcel comprises a continuation (from parcel 1) of the complex, varied and attractive footslopes and hills of the Langdon Hills (LCA K1, Langdon Higher Hills and LCA J1, Langdon Lower Hill Slopes) which 'wraps' around the south western side of Basildon extending from gently undulating open farmland (more open arable fields in north, with pasture fields to south with well-defined field pattern) in the southern part up to the wooded folded Langdon Hills. There are scattered and clusters of development primarily associated with roads that define the southern parts of the parcel, much of which appears historical, although some infilling, plot re-development and piecemeal development may have occurred since. Predominantly sloping farmland with area of suburban development within smaller scale landscape in southern corner which is reasonably well integrated from wider area by vegetation. Strong woodland cover on parts of upper hill slopes adjoining edge of Basildon. Sense of tranquillity.	Strong rural **Principally rural with some limited urban influences** Rural with significant urban influences Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Block of Ancient Woodland on north eastern edge of parcel extending inside Basildon boundary. SSSI on north eastern edge of parcel and on edge of Basildon abutting parcel boundary.	Substantial constraints over much of area Moderate level of constraints **Few/no constraints**

Strategic Parcel No. 03	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	Parcel 3 is separated from Basildon built up area by narrow (around 500m wide) area of Green Belt (part of parcel 65 identified in the Basildon Green Belt review) located beyond the north eastern boundary of the parcel; as such, Basildon parcel 65 provides the immediate constraint to the outward expansion of the built up area towards the administrative boundary/parcel 3 and has been assessed within the Basildon Review as providing a Contribution to this purpose. Parcel 3 provides a contribution to restricting the outward expansion of Basildon into Thurrock, in an area where any development would be unrelated to the existing built up area by virtue of the existing separation provided by woodland from the broadly level and open landscape in parcel 3 where it is likely to be perceived as 'sprawl'. The Brentwood Green Belt Study (Crestwood Environmental; Draft Jan. 2018) has identified the land to the north (Parcel 17) as 'Not Contained' contributing to a 'Moderate/High' overall contribution of the parcel to Green Belt purposes.	Fundamental Major **Moderate** Slight/Negligible None
Purpose 2: To prevent neighbouring towns from merging into one another	Whilst the parcel lies within the countryside that separates the western edge of Basildon from the towns of North Ockendon and Upminster the separation is in excess of 5km. Therefore the parcel does not contribute to the fulfilment of this purpose. The Brentwood Green Belt Study (Crestwood Environmental; Draft Jan. 2018) has identified the land to the north (Parcel 17) as 'Important Countryside Gap' contributing to a 'Moderate/High' overall contribution of the parcel to Green Belt purposes. The Brentwood Draft Local Plan (Jan. 2016) and Preferred Site Allocations document (Jan. 2018) proposes a new development (Dunton Hills Garden Village – 2,500 homes and associated infrastructure) within land north of the railway (which defines the administrative boundary and northern boundary of this parcel). There is potential that a strategic level of development within parcel 3 could give rise to a merging of two built up areas to create a larger 'town'). As the Plan is not yet adopted, this has not been taken account of within the assessment of this parcel. The parcel does contribute to the separation of the small village of Bulphan from the edge of Basildon which are separated by approx. 2.3km.	Fundamental Major Moderate Slight/Negligible **None**
Purpose 3: To assist in safeguarding the countryside from encroachment	Countryside is broadly level, open and unspoilt farmland with limited encroachment from development, with exception of two industrial sites and solar farm in the north eastern corner. East part of Bulphan lies in the south west corner and is reasonably integrated by vegetation. Designation provides high level protection against inappropriate development and infilling within eastern part of Bulphan. The Brentwood Green Belt Study (Crestwood Environmental; Draft Jan. 2018) has identified the land to the north (Parcel 17) as 'Functional Countryside' contributing to a 'Moderate/High' overall contribution of the parcel to Green Belt purposes.	**Fundamental** Major Moderate Slight/Negligible None

THURROCK GREEN BELT ASSESSMENT

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Strong perception of openness due to open nature of area closely related to open fenland landscape to west. Two areas of industrial development which lie on the north east and north west edges of the parcel appear as inappropriate development and reduce openness and residential development on the eastern edge of Bulphan also reduces openness in this edge of the parcel.	**Very apparent**
		Recognisable
		Limited
		Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Expansive views across broadly open, very gently sloping landscape and into adjoining parcels. Clear views east to wooded rising slopes on edge of Basildon.	Contained
		Partial
		Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Well defined on all sides by roads, and railway (on vegetated embankment) to north.	**Well defined**
		Partially defined
		Ill-defined
		Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	Eastern boundary around 500m from Green Belt boundary along edge of Basildon. Intervening parcel within Basildon is well wooded and contains visual influence of town.	Very evident
		Evident
		Limited
		Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	Broad-scale primarily arable landscape on edge of fenland within eastern edge of LCA A1, Bulphan Fenland, with medium sized fields with depleted boundaries, which merges with the landscape of LCA J1, Langdon Lower Hill Slopes, in the central and eastern parts. Very limited development with a strong expansive rural, generally tranquil landscape character.	**Strong rural**
		Principally rural with some limited urban influences
		Rural with significant urban influences
		Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Linear areas of Flood Zones 2 and 3 in western side of parcel.	Substantial constraints over much of area
		Moderate level of constraints
		Few/no constraints

Strategic Parcel No. 04	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	Parcel is removed from large built up areas and therefore does not contribute to this purpose; parcels closer to these areas (notably Basildon) provide constraint.	Fundamental
		Major
		Moderate
		Slight/Negligible
		None
Purpose 2: To prevent neighbouring towns from merging into one another	The parcel lies within a wide tract of land that separates Basildon, towns on the eastern side of the Thurrock urban area, and the built up area of Corringham/Stanford-le-Hope and is separated from them by other parcels. Strategic level of development would not lead to merging. The compact village of Horndon-on-the-Hill lies on the southern edge of the parcel and the Green Belt contributes to the maintenance of the separate identity of the settlement, although it is separated from Basildon by adjoining parcels 1-3.	Fundamental
		Major
		Moderate
		Slight/Negligible
		None
Purpose 3: To assist in safeguarding the countryside from encroachment	The countryside has a strong unspoilt rural character. Existing development is limited primarily to a small number of farmsteads around the perimeter and a loose cluster of development within a smaller scale landscape on the north side of Horndon-on-the-Hill. Any significant development within this parcel is likely to represent a significant encroachment into open countryside. Designation therefore provides important protection, particularly around the northern periphery of Horndon-on-the-Hill.	**Fundamental**
		Major
		Moderate
		Slight/Negligible
		None

THURROCK GREEN BELT ASSESSMENT

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Generally expansive landscape with strong perception of openness, reduced only along southern edge where the landscape is smaller scale and more contained with the intrusion of some encroachment from some suburban and industrial uses on northern edge of Horndon-on-the-Hill.	**Very apparent**
		Recognisable
		Limited
		Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Generally expansive across area with visual connections to slopes of Langdon Hills to east and fenland to west. More limited locally around fringe of Horndon-on-the-Hill but with expansive views in places across the fenland landscape below.	Contained
		Partial
		Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Well defined along roads. Parcel boundary coincides with Green Belt boundary on north and west edges of Horndon-on-the-Hill where the boundary is weak being defined along rear gardens. No better alternative boundaries appear to exist within immediate proximity of the settlement.	**Well defined**
		Partially defined
		Ill-defined
		Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	Separated from towns by other parcels; no clear relationship exists.	Very evident
		Evident
		Limited
		Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	The parcel falls within three LCAs- J1 (Langdon Lower Hill Slopes), the eastern part of A1 (Bulphan Fenland), with the southern part rising to H2 (Orsett & Horndon on the Hill open Undulating Farmland). The variation in topography between the fenland and hill slopes is reflected in the transition from the fenland to the notable ridge of higher land at Horndon-on-the-Hill, and the foot slopes of the Langdon Hills in eastern part of the parcel. The parcel comprises open productive farmland with a varied topography which forms majority of the parcel with much in arable use with weakened/removed field boundaries. Large golf course (Langdon Hills Golf Club). Variable uses (residential and industrial) in smaller scale landscape on northern side/slopes of Horndon-on-the-Hill creating fragmented rural/urban fringe landscape.	Strong rural
		Principally rural with some limited urban influences
		Rural with significant urban influences
		Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	No significant constraints.	Substantial constraints over much of area
		Moderate level of constraints
		Few/no constraints

Strategic Parcel No. 05	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	The parcel is separated from the large built up area of Basildon by Green Belt within Basildon Borough (parcel 58 in the Basildon Green Belt Review where it is identified as making a Partial Contribution to this purpose) and also by Parcel 01 within Thurrock. It forms an immediate constraint to the northern/north western side of the Corringham/Stanford-le-Hope large built up area, although two fields in the south western end of the parcel are identified for housing development in the Core Strategy.	Fundamental **Major** Moderate Slight/Negligible None
Purpose 2: To prevent neighbouring towns from merging into one another	The linear parcel extends from the northern side of Corringham/Stanford-le-Hope from the south western edge north eastwards to within around 700m of the southern edge of Basildon and contributes, notably in the north eastern part, together with parcel 1, to the separation of these towns. The north eastern part of the parcel makes a limited contribution to the separation of the edge of Basildon from the northern end of the ribbon development extending northwards from Fobbing up to the eastern edge of the parcel. The south western end of the parcel, whilst located on the edge of Stanford-le-Hope some 700m south east of Horndon-on-the-Hill, is separated from the village by the A13 and A103 which provides a clear constraint.	Fundamental **Major** Moderate Slight/Negligible None
Purpose 3: To assist in safeguarding the countryside from encroachment	Narrow strip of mainly arable farmland contained by railway and A13 on north western and northern side of Corringham/Stanford-le-Hope. Primary infrastructure restricts access and prevents encroachment within most of this parcel which is mainly open productive farmland with a surprisingly strong rural character despite the proximity of the urban edge. The exception is in the north eastern part where Southend Road provides access through the parcel and some development encroaches into this area. Designation provides important protection to the countryside in the rural parts, and protects countryside from encroachment through infilling in the more fragmented landscape in the north eastern part. The allocated housing site in the south west end of the parcel will constitute an encroachment into the countryside in this location, although the A13 and A1013 will provide a clear outer boundary.	Fundamental Major **Moderate** Slight/Negligible None

THURROCK GREEN BELT ASSESSMENT

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	South western part of parcel read as part of wider open landscape to north extending up to north west edge of Corringham/Stanford-le-Hope despite presence of A13; although the parcel is a narrow strip of land between major transport infrastructure there is a perception of openness due to the contrast with the adjoining built up area. The north eastern part is less open due the encroachment of piecemeal development. Two areas of land on the south western edge of Stanford-le-Hope, either side of the railway, are identified as a housing allocation in the Core Strategy but development has not yet occurred. Development would reduce openness in this part of the parcel.	Very apparent **Recognisable** **Limited** Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Reasonably well contained at a local level. Apparent as part of wider landscape in views from land rising up to Langdon Hills to the north.	Contained **Partial** Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Very well defined by major infrastructure. The south western end is allocated for housing development where the existing Green Belt boundary along the edge of the built up area is defined by sporadic vegetation and rear garden boundaries. Other boundaries are well defined by major road infrastructure.	**Well defined** Partially defined Ill-defined Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	South western part has immediate relationship with northern edge of Corringham/Stanford-le-Hope.	Very evident **Evident** Limited Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	All but the south western end of the parcel falls within the south eastern edge of the Langdon Lower Hill Slopes (LCA J1). It is a continuous narrow linear area of arable farmland, severed from wider landscape to north by the A13, along the northern edge of Corringham/Stanford-le-Hope, contained by roads and railway on the south eastern boundary of the parcel. It possesses a surprising rural character which creates a clear rural/urban interface. Fragmented character with intrusive development in area north of Southend Road. The south western end extends into the eastern edge of the Orsett & Horndon on the Hill Undulating Farmland LCA (H2); the fields in the south western corner of the parcel (identified in the Core Strategy for release from Green Belt for housing development) lie within the Stanford-le-Hope & Corringham LCA (I2).	Strong rural **Principally rural with some limited urban influences** **Rural with significant urban influences** Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Small area of Flood Zones 2 and 3 in central part of parcel. Areas of flood risk also within the south western fields (allocated for housing).	Substantial constraints over much of area Moderate level of constraints **Few/no constraints**

Strategic Parcel No. 06	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	The parcel adjoins the north eastern edge of the large built up area of Corringham/Stanford-le-Hope. Significant development occurs within the southern part of the parcel and creates a local perception of 'sprawl'. It therefore makes a significant contribution to this purpose.	Fundamental **Major** Moderate Slight/Negligible None
Purpose 2: To prevent neighbouring towns from merging into one another	Parcel lies on north east side of Corringham and forms a part of the Green Belt land that separates Corringham from the southern edge of Basildon (minimum of 1.6km to north east) and is contained on the outer boundaries by the B1420 and railway line. It therefore provides only a very limited contribution to the separation of these built up areas; a strategic level of development would not lead to merging or the perception of merging.	Fundamental Major Moderate **Slight/Negligible** None
Purpose 3: To assist in safeguarding the countryside from encroachment	The parcel comprises a patchwork of level pasture fields, the Village Fitness Club, a nursery, and some playing fields. The club building is a significant urban encroachment. The Green Belt does provide protection from further encroachment of development from Corringham into this area, although the outer boundaries could provide a potentially more defined enduring boundary than the existing back gardens along the adjoining edge of the town.	Fundamental **Major** Moderate Slight/Negligible None

THURROCK GREEN BELT ASSESSMENT

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	The northern half of the parcel is largely devoid of development and is perceived as open land. The southern part, south of Southend Road, is less open with the large fitness club and associated parking and a nursery and collection of low quality buildings which reduce the perception of openness; collectively these create an impression of encroachment.	Very apparent **Recognisable** **Limited** Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Views limited by roadside and robust internal hedgerow boundaries around generally small fields within northern part; occasional views possible towards Langdon Hills. Views more open in southern part with adjoining development and club building apparent. Views of adjoining parcels generally contained by vegetation along peripheral roads and railway.	**Contained** **Partial** Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Well defined by road on east side and railway and associated tree belt to north, and by rear gardens on edge of Corringham. Parcel subdivided by Southend Road which would form suitable alternative Green Belt boundary.	**Well defined** Partially defined **Ill-defined** Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	Immediate physical relationship with north eastern edge of Corringham. Urban edge softened by vegetation in northern part. In southern part this relationship is very evident due to exposed edge of urban area and local prominence of the fitness club.	**Very evident** Evident **Limited** Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	Parcel located within south eastern part of LCA J1, Langdon Lower Hill Slopes, although it is only very gently undulating, with local differences in character between the two parts of the parcel. The northern part has a stronger character with the small scale field pattern and defining hedgerows maintaining the mainly rural character of the area. The character of the southern part has been eroded by the prominent fitness club, nursery and apparently unmanaged fields, although the wider influence of this on local character is limited by the containment provided by the strong hedgerow pattern.	Strong rural **Principally rural with some limited urban influences** **Rural with significant urban influences** Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Some areas of open space in northern part.	Substantial constraints over much of area Moderate level of constraints **Few/no constraints**

Strategic Parcel No. 07	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	North east corner of parcel extends to within some 800m of the edge of the built up area of Basildon, but is separated from it by major infrastructure, parcel 5 and eastern part of parcel 1 and Green Belt parcels 58-60 defined in the Basildon Green Belt Review; parcel 58 was assessed as providing a Partial contribution to this purpose and parcels 59-60 assessed as providing a Contribution on the basis that they contribute to restricting sprawl on the edge of the built up area where there is already scattered development. Parcel 7 provides a Major contribution to the containment of sprawl on the north eastern edge of the Corringham/Stanford-le-Hope built up area, in a location where the edge of existing development/Green Belt is reasonably well defined but along weak boundaries in places. It provides a constraint to the expansion of the settlement towards the linear settlement of Fobbing beyond.	Fundamental **Major** Moderate Slight/Negligible None
Purpose 2: To prevent neighbouring towns from merging into one another	The parcel forms a significant area of land, the eastern side of which contains significant ribbon development, which lies between Basildon and the eastern edge of Corringham. As such it provides a significant contribution to the maintenance of separation between the two towns. Basildon parcels 58-60 are defined as providing a Contribution or Partial contribution to this purpose. Strategic development within the northern half of the parcel, in combination with existing ribbon development to the north of Fobbing, is likely to give rise to merging, or a perception of merging. The adjoining parcels (which are of limited size) within the Basildon Green Belt Review have been assessed as providing No contribution or Partial contribution to this purpose. Development within the parcel could lead to the merging of the eastern end of Corringham with the ribbon of development north of Fobbing.	Fundamental **Major** Moderate Slight/Negligible None
Purpose 3: To assist in safeguarding the countryside from encroachment	The parcel has a mixed character. The western part is a patchwork of level farmed fields with a defined rectilinear hedgerow structure which is almost devoid of encroaching development (although the south west boundary adjoins back gardens on the edge of Corringham). The eastern part is characterised by almost continuous ribbon development along High Road north of Fobbing with further sporadic development in small plots along Mill Lane behind. Overall, this development constitutes a substantial encroachment into countryside with a consequential effect on character. However, Green Belt designation provides a strong constraint to further piecemeal development and infilling, which would otherwise be difficult to resist, leading to further loss of countryside.	Fundamental Major **Moderate** Slight/Negligible None

THURROCK GREEN BELT ASSESSMENT

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Perception of openness within western part. Ribbon of development along Mill Lane and High Road on eastern side encroaches onto higher land, where associated vegetation cover in small field pattern and plots. Southern part of parcel provides openness separating edge of Corringham from Fobbing. Separation of Fobbing and Corringham apparent from higher land on southern flank of Langdon Hills north of A13.	Very apparent **Recognisable** **Limited** Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Generally visually discrete area except from edge of Corringham, road along north west boundary, and development at Fobbing.	Contained **Partial** Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Clearly defined along B1420, railway, High Road and Lion Hill. Weakly defined by rear gardens on edge of Corringham on south west side; no clearly defined alternative internal boundaries to this edge.	**Well defined** Partially defined **Ill-defined** Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	South west part has direct physical and visual relationship with edge of built up area of Corringham where boundaries are formed by field/garden boundaries. Other parts have no clear relationship with the town. The parcel also has direct relationship with village of Fobbing and the ribbon development extending northwards.	**Very evident** Evident Limited **Not evident**
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	Parcel located within south eastern part of LCA J1, Langdon Lower Hill Slopes and possesses a variable character. Predominantly level farmland in small medium sized rectilinear fields in western half virtually devoid of development. Fragmented rural/suburban, fragmented fringe character associated with ribbon development north of Fobbing in eastern part, with mixed use development and many horse paddocks. Elevation of eastern part means this area is more exposed in wider views, particularly along High Road where ribbon development is exposed to views across marshland beyond to the east.	Strong rural **Principally rural with some limited urban influences** Rural with significant urban influences **Urban fringe/semi urban**
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	South eastern part adjoins Fobbing Conservation Area. Local wildlife site in western part.	Substantial constraints over much of area Moderate level of constraints **Few/no constraints**

Strategic Parcel No. 08	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	The northern edge of the parcel adjoins the southern edge of Basildon (separated from it by the A13 and railway) and includes land identified as parcel 73 in the Basildon Green Belt Review; the southern part adjoins the large built up industrial area of Coryton and London Gateway. Therefore the parcel constrains the extension of these built up areas, although the dual carriageway and adjoining railway line along the northern boundary of the parcel forms the primary physical constraint to southward expansion of Basildon into the northern part of this parcel. The boundary of the parcel with Coryton adjoins the former refinery complex and an area of land (outside the Green Belt) to allow for its future expansion; at London Gateway the edge is defined in part by the A1014 corridor. There are no intermediate boundaries within the floodplain that would provide clear containment to any expansion of development into this open area. In the north any development would be perceived as separate from the existing urban area and constitute sprawl; similarly any further expansion of the industrial area to the south would appear as sprawl. The whole parcel has therefore been identified as being of Fundamental importance to this purpose. The Basildon Green Belt Review assesses parcel 73 as making a Contribution to this purpose. The Castle Point Green Belt Functions Assessment (2010) assessed parcel 27 (covering the Creeks just to the east of the southern part of the parcel 8 boundary) and parcel 28 (beyond parcel 27) as contributing to the prevention of sprawl of Canvey Island. Other land adjoining parcel 8 was not assessed.	**Fundamental** Major Moderate Slight/Negligible None
Purpose 2: To prevent neighbouring towns from merging into one another	The north west part of the parcel lies between the southern edge of Basildon and eastern edge of Corringham. This part (including the land beyond the borough boundary) makes a contribution to the separation of the two towns (although only the western part of the parcel adjoining Fobbing is free of flood constraints that would otherwise restrict/prevent growth); development in this area would not lead to merging. The rest of the parcel does not contribute to this purpose. The Basildon Green Belt Review assesses parcel 73 as making a Partial contribution to this purpose. The Green Belt Functions Assessment assessed parcel 27 (covering the Creeks just to the east of the southern part of the parcel 8 boundary) and parcel 28 (beyond parcel 27) as not contributing to the prevention of merging of towns. Contributes to wider expanse of open fenland separating western edge of South Benfleet and Canvey Island from Fobbing, although this is over 5km. wide.	Fundamental Major **Moderate** Slight/Negligible **None**
Purpose 3: To assist in safeguarding the countryside from encroachment	With minor exceptions (notably at Brook Drive in the north west corner where there is a small cluster of small residential plots) this area of countryside is almost entirely free of development. Much of it is open and expansive marshland/floodplain, although the western part comprises rising open farmland up to the elevated ridge extending north from Fobbing on the western boundary of the parcel. Any significant development within this open landscape would be perceived as a clear encroachment; Green Belt status assists (in conjunction with other environmental constraints) with safeguarding the countryside. The Basildon Green Belt Review assesses parcel 73 as making a Contribution to this purpose. The Castle Point Green Belt Landscape Assessment did not examine the majority of the land to the east of parcel 8. Parcel 27 (within Castel Point, covering the Creeks just to the east of the southern part of the parcel 8 boundary) was recorded as having a Very High landscape sensitivity with the land within parcel 28 beyond being assessed as being of Medium sensitivity. Both areas were assessed in the Green Belt Functions Assessment as safeguarding the countryside from encroachment.	**Fundamental** Major Moderate Slight/Negligible None

THURROCK GREEN BELT ASSESSMENT

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Exceptional sense of openness. Encroachment limited to small part in north west.	**Very apparent**
		Recognisable
		Limited
		Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Expansive and far reaching.	Contained
		Partial
		Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Well defined by roads along north west and southern sides. South eastern side defined through area of marshes allocated for expansion of oil refinery (now closed). Eastern boundary follows Vange and Holehaven Creeks to estuary. No alternative internal boundaries exist.	**Well defined**
		Partially defined
		Ill-defined
		Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	No direct or visual relationship with towns. Open relationship with former Coryton refinery. Open relationship with village of Fobbing and ribbon development extending northwards along western edge or parcel.	Very evident
		Evident
		Limited
		Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	The varied landscape character of the parcel is reflected by the two LLCAs identified in this area – LCA H3, Fobbing Ridge Open Undulating Farmland, on the higher land and slopes north of Fobbing, characterised by open exposed pasture fields, and LCA F4, Fobbing Marshes and Haven Creek, extending east and south which is an expansive, exposed marshland landscape (with extensive areas of restored landfill) with open views with the hills to the north forming a backdrop. Uncontained edge of Coryton refinery to the south creates a stark and incongruous relationship between the marshland landscape and prominent industrial development.	**Strong rural**
		Principally rural with some limited urban influences
		Rural with significant urban influences
		Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Substantial areas of nature conservation value (SSSI); former landfill sites. Much of parcel is within Flood Zone 3. Fobbing Conservation Area on south western edge of parcel.	**Substantial constraints over much of area**
		Moderate level of constraints
		Few/no constraints

Strategic Parcel No. 09	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	The parcel lies directly to the north of the large built up area of London Gateway/Coryton and therefore contributes to this purpose by restricting the northward expansion of this area of development towards the town of Corringham/Stanford-le-Hope within an area where there are no other clear boundaries to provide containment. Expansion of the built up area northwards would give rise to the risk of development joining up with Corringham/Stanford-le-Hope to create one large built up area.	**Fundamental** Major Moderate Slight/Negligible None
Purpose 2: To prevent neighbouring towns from merging into one another	The parcel has no relationship with another town (Canvey Island is almost 5km to the east) and therefore makes no contribution to this purpose. The parcel provides separation between the south eastern side of Corringham and the large London Gateway port development which links to industrial development (former oil refinery) at Coryton to form a continuous large area of development. Whilst this development is not a 'town', if the parcel were to be removed from Green Belt to accommodate development, Corringham and this industrial area are likely to merge to form a connected area of development. In turn, the eastern edge of Coryton is only separated from Canvey Island by Holehaven Creek estuary (approx. 850m wide). It also provides separation between London Gateway and the village of Fobbing, the southern edge of which lies in the northern corner of the parcel.	Fundamental Major Moderate Slight/Negligible **None**
Purpose 3: To assist in safeguarding the countryside from encroachment	The parcel contributes to the protection of the countryside from encroachment of inappropriate uses along the south eastern edge of Corringham where the land is not otherwise constrained by the floodplain, fragmented by existing uses and contains smaller more enclosed parcels of fragmented farmland land that may otherwise be attractive for development. This area represents a transitional landscape between the more elevated and contained land on the fringe of the town and the open marshes on the north side of the estuary. Land away from the more immediate settlement edge is visually exposed being raised above the marshes and development within this area is likely to be perceived as an encroachment into the estuary landscape towards the London Gateway development (which is a very prominent encroachment into the estuary landscape). The parcel provides a constraint to northward expansion of port development which is defined by the major access road alongside the southern boundary of the parcel.	**Fundamental** **Major** Moderate Slight/Negligible None

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Strong sense of openness across most of the area with very little development in parcel except encroachments of built development (educational, recreational and industrial/storage) on periphery of Corringham which has eroded the integrity of the landscape in this location and 'blurred' the boundary with the countryside.	**Very apparent**
		Recognisable
		Limited
		Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Fringes of Corringham raised above mashes within rest of parcel. Expansive views from most parts of parcel with some visually discreet areas in north west part. Open visual relationship with parcel 08.	Contained
		Partial
		Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Definition of northern part of parcel coexistent with Green Belt boundary where the edge is poorly defined and 'blurred' by development and weak along garden boundaries. Western and southern boundary of parcel well defined along A1014. Eastern boundary defined along weak feature (flood defence bank and footpath) but no better alternative boundary exists to east until eastern boundary of parcel 08.	**Well defined**
		Partially defined
		Ill-defined
		Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	Northern edge adjoins Corringham where edge is integrated to some degree by vegetation and smaller scale field pattern. Beyond this area the relationship is not evident due to the rise in topography and vegetation towards the edge of the town. Part of the village of Fobbing lies in the northern edge of the parcel and the marshland landscape contributes to its setting.	Very evident
		Evident
		Limited
		Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	Parcel contains two distinct areas of character – open marsh landscape in central and southern part forming part of LCA F4 (Fobbing Marshes and Haven Creek), and small scale, fragmented semi urban fringe more elevated landscape along periphery of Corringham which lies within LCA H3 (Fobbing Ridge Open Undulating Farmland) where horse paddocks, recreation uses and water bodies (on former areas of sand and gravel extraction) are the principal land uses. This rising land forms a backdrop to views from the estuary landscape. Pylons are a detracting feature. The marshland landscape contributes to the setting of Fobbing (a Conservation Area), set on higher ground above the marshes, with its church tower apparent as a local landmark visible across the marsh landscape below.	**Strong rural**
		Principally rural with some limited urban influences
		Rural with significant urban influences
		Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Extensive area of Flood Zone 3. Western end of a SSSI in north east corner of parcel. Corringham Conservation Area within north west part of parcel; Fobbing Conservation Area to north east. Mostly grade 2 agricultural land. Number of interlinked local Nature Conservation sites.	**Substantial constraints over much of area**
		Moderate level of constraints
		Few/no constraints

Strategic Parcel No. 10	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	The parcel lies directly west of the large built up area of London Gateway/Coryton and east of the south western part of Corringham/Stanford-le-Hope. It therefore contributes to this purpose by restricting the expansion of these areas of development towards each other within an area where there are no other clear boundaries to provide containment. Expansion of either area would give rise to the risk of development joining to create one large built up area.	**Fundamental**
		Major
		Moderate
		Slight/Negligible
		None
Purpose 2: To prevent neighbouring towns from merging into one another	The parcel does not lie between two towns.	Fundamental
		Major
		Moderate
		Slight/Negligible
		None
Purpose 3: To assist in safeguarding the countryside from encroachment	Designation safeguards the countryside from the encroachment of development along the southern edge of Stanford-le-Hope. The landscape falls gently towards the estuary and is generally expansive and open, with some more enclosed areas along parts of the urban fringe. There is little encroachment from development, although the new London Gateway access road is a significant encroachment as it cuts a direct line across the landscape separating the parcel from parcel 37. The designation is fundamental to safeguarding this area of countryside.	**Fundamental**
		Major
		Moderate
		Slight/Negligible
		None

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Broadly open with land falling away south to estuary. Few signs of encroachment except for allotments (not 'inappropriate' development) and new London Gateway access road which cuts across the landscape separating the parcel from parcel 37.	**Very apparent**
		Recognisable
		Limited
		Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Generally open across farmland forming hinterland of estuary. Visual relationship with parcels 36 and 37.	Contained
		Partial
		Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Reasonably defined along roads on edge of Stanford-le-Hope with some weaker edges on boundaries with development. Eastern and southern sides well defined by new London Gateway access road and railway respectively. Rainbow Lane forms a weaker internal boundary.	**Well defined**
		Partially defined
		Ill-defined
		Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	Northern edge has immediate physical and visual relationship with edge of Stanford-le-Hope. Rest of area has no clear relationship with town but does have a relationship with edge of London Gateway which is not defined as a 'settlement'.	**Very evident**
		Evident
		Limited
		Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	Generally expansive and open landscape of regular sided arable fields falling gently towards the estuary with more enclosed areas along town fringe. Most of parcel falls within south western end of LCA H3, Fobbing Ridge Open Undulating Farmland which extends around southern side of the town, falling towards Fobbing Marshes & Haven Creek, LCA F4, in the south eastern corner and forms a backdrop to views from the estuary landscape. Pylons are a detracting feature within the landscape.	Strong rural
		Principally rural with some limited urban influences
		Rural with significant urban influences
		Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Small area of Flood Zone 3 in south eastern part. Local nature conservation site in south east corner. Areas of open space on edge of Stanford-le-Hope. Mostly grade 2 agricultural land.	Substantial constraints over much of area
		Moderate level of constraints
		Few/no constraints

Strategic Parcel No. 11	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	The northern edge of the parcel has an immediate relationship with the south western edge of large built up area of Corringham/Stanford-le-Hope. As such it provides an immediate constraint to the growth of the built up area in a southerly direction where there are no alternative boundaries until Buckingham Hill Road, Walton Hill Road or the railway beyond which defines the southern boundary of the parcel. It is located 1.8km from the nearest edge of the Thurrock urban area (the eastern edge Chadwell St Mary).	**Fundamental** Major Moderate Slight/Negligible None
Purpose 2: To prevent neighbouring towns from merging into one another	Parcel provides a limited contribution to this purpose. Whilst the northern end of the parcel adjoins a recently completed residential development (St Clere's, which appears to extend south beyond the broad allocation in the Core Strategy) on the south western edge of Stanford-le-Hope there remains substantial separation (1.8km) between the parcel and the eastern edge of Chadwell St Mary which is the nearest town. Strategic development within this parcel would not lead to merging of the towns. If the parcel was to be removed from the Green Belt there is the potential that large scale development extending south from Stanford-le-Hope could adversely affect the separate identities of the villages of Linford and East Tilbury (which are connected physically).	Fundamental Major Moderate **Slight/Negligible** None
Purpose 3: To assist in safeguarding the countryside from encroachment	The parcel straddles a ridge and associated slopes characterised by open sloping exposed arable land in the southern half and a golf course in the northern part; a large quarry (partly restored/wooded and a Local Wildlife Site) lies within the central western part. The parcel is devoid of inappropriate development although the quarry, which is reasonably discreet within the landscape due to vegetation cover, is a locally disruptive feature. The recent development at the St Clere's allocation site appears to include a peripheral landscape buffer to define the outer southern/south western edge of the development.	Fundamental **Major** Moderate Slight/Negligible None

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Parcel contains very little development and retains clear sense of openness, notably in the southern part which is open sloping arable land.	**Very apparent**
		Recognisable
		Limited
		Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Variable – more limited in northern part due to vegetation cover in golf course and woodland at quarry; open in central part with expansive views across estuary and beyond; area south of Walton's Hall Road comparatively level with higher tree cover which limits views. Land south of ridge particularly inter-visible with parcel 36. There are expansive views over the estuary into north Kent from the higher land and southern part of the parcel which faces towards the estuary.	**Contained**
		Partial
		Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Well defined by roads and railway, except in north east corner adjoining new development at the St Clere's allocation site where the boundary (if adjusted to reflect recently constructed development) would not appear to follow clearly defined existing features, although there is evidence that a new area of open space/landscape buffer will define a new edge. East of Butts Lane Green Belt/parcel boundary follows railway line and rear garden boundaries of houses adjoining St Clere's School (which is within Green Belt); a clearer boundary could be defined along the tree belt/paved public footpath on the southern side of the school grounds. This would form a more logical boundary in the context of the new development on the opposite side of Butts Lane, Walton's Hall Road and the railway to the east form an alternative clear internal boundary to the south.	**Well defined**
		Partially defined
		Ill-defined
		Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	Direct physical and visual relationship with new development on north east side with edge of Stanford-le-Hope. Southern end of parcel extends to east side of Linford and close to the northern edge of East Tilbury (both of which are not principal settlements); East Tilbury Road along the edge of the parcel forms a defined edge to the eastern side of Linford.	**Very evident**
		Evident
		Limited
		Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	Parcel lies within the north eastern part of LCA H1, East & West Tilbury Open Undulating Farmland and has a varied character due to considerable variations in topography, the presence of a broad ridge in the western part, and land use. Golf course in modified landscape in northern part rising up northern slope of ridge which creates an urban/rural fringe character, and where the new development off Butts Lane appears as a significant localised, but reasonably contained encroachment beyond the existing settlement edge. Some areas of restored former quarry to the south of golf course with evidence of new planting and paths extending south/south west of the new St Clere's housing development. Central part dominated by open arable land in amalgamated fields on top and south east slopes of the ridge, traversed by prominent electricity pylons, with woodland around the quarry site forming a partly wooded skyline feature. East of Linton, south of Walton's Hall Road. Smaller fields of pasture with some woodland and scrub characterise the area.	Strong rural
		Principally rural with some limited urban influences
		Rural with significant urban influences
		Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Local Nature Reserve in part of quarry area. Local Nature Reserve and area of Flood Zone 3 south of Walton's Hall Road. Significant area of grade 2 agricultural land.	Substantial constraints over much of area
		Moderate level of constraints
		Few/no constraints

Strategic Parcel No. 12	

GREEN BELT PURPOSES	**ASSESSMENT**	**IMPORTANCE TO GREEN BELT PURPOSE**
Purpose 1: To check the unrestricted sprawl of large built up areas	Parcel located between large built up areas of Greater London at Upminster (almost 3.5km to the west) and Basildon (located over 2.5km to east); therefore land on the edges of those areas contributes to this purpose. Whilst parcel lies between Brentwood and Thurrock urban area there is substantial separation (over 4km) and the parcel provides no contribution to this purpose. The Brentwood Green Belt Study (Crestwood Environmental; Draft Jan. 2018) has identified the land to the north, west and east of West Horndon (Parcels 18a and 18b) as 'Partly Contained' contributing to a 'Moderate' overall contribution of the parcels to Green Belt purposes.	Fundamental Major Moderate Slight/Negligible **None**
Purpose 2: To prevent neighbouring towns from merging into one another	As above – large built up areas referred to above are also towns. Any development within parcel would not give rise to merging between them due to the substantial separation that exists. Village of West Horndon lies directly to north of parcel. Development in northern part of parcel likely to lead to merger with this small settlement. This in turn has the potential to lead to merging with the potential Dunton Hills Garden Village (2,500 homes and associated infrastructure) proposed in the Brentwood Draft Local Plan (Jan. 2016) and Preferred Site Allocations document (Jan. 2018) within land to north of the railway (which defines the administrative boundary and northern boundary of this parcel) to the north of parcel 3. There is potential that a strategic level of development within the northern part of parcel 12 could give rise to a merging of two built up areas to create a single 'town'). As the Plan is not yet adopted and there remains uncertainty, this has not been taken account of within the assessment of this parcel and there would be the opportunity to maintain separation through the incorporation of green infrastructure. The Brentwood Green Belt Study (Crestwood Environmental; Draft Jan. 2018) identifies Parcel 18a as 'Minor Countryside Gap' and 18b as 'Non-Critical Countryside Gap', contributing to a 'Moderate' overall contribution of the parcels to Green Belt purposes.	Fundamental Major Moderate Slight/Negligible **None**
Purpose 3: To assist in safeguarding the countryside from encroachment	Parcel comprises northward continuation of the open, strongly rural fenland landscape from parcel 14 to the south. Green Belt designation provides valuable protection to this distinctive open fenland countryside. The Brentwood Green Belt Study (Crestwood Environmental; Draft Jan. 2018) identifies Parcels 18a and 18b as 'Functional Countryside', contributing to a 'Moderate' overall contribution of the parcels to Green Belt purposes.	**Fundamental** Major Moderate Slight/Negligible None

THURROCK GREEN BELT ASSESSMENT

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Strong perception of openness due to wide, open nature of former fenland landscape and absence of any significant development apart from small cluster of development north of Bulphan and a few farms. Strong sense of remoteness.	**Very apparent** Recognisable Limited Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Expansive and far reaching; inter-visible with land beyond borough to north, and all adjacent parcels and parcel 02. Some long distance glimpses to tall structures in Thurrock urban area.	Contained Partial **Open/extensive**
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Clearly defined by roads and railway on northern boundary. Possible alternative internal boundary along track serving Tillingham Hall but this is a much weaker boundary.	**Well defined** Partially defined Ill-defined Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	No relationship to principal settlements. Northern boundary, defined by railway line, adjoins the south side of the small village of West Horndon where redevelopment of an existing employment area on the western side of the village for housing is proposed.	Very evident Evident Limited **Not evident**
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	Parcel located in northern part of LCA A1, Bulphan Fenland. It has a strong rural character comprising predominantly flat large scale arable and pasture within rectilinear fields defined in places by low hedges and ditches; low level of vegetation cover. Strong sense of rurality and tranquillity (except near railway). Expansive views with Langdon Hills on west side of Basildon forming rising wooded backdrop to east.	**Strong rural** Principally rural with some limited urban influences Rural with significant urban influences Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Significant areas of Flood Zones 2 and 3 following watercourses.	Substantial constraints over much of area **Moderate level of constraints** Few/no constraints

Strategic Parcel No. 13	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	Parcel not directly related to edge of Greater London at Upminster, the edge of which is some 1.4km to the west and is separated from it by other land which, together with the M25, constrains the outward growth of that built up area. Almost 4km separates the southern edge of the parcel from the northern edge of the Thurrock urban area; over 5km separates it from the nearest edge of Basildon to the east. As such other land adjoining these large urban areas fulfils this purpose. The Brentwood Green Belt Study (Crestwood Environmental; Draft Jan. 2018) has identified the land to the north of the parcel (and separated from it by the railway line) as Parcels 21 and 23 assessed as 'Not Contained', contributing to a 'Moderate' overall contribution of the parcel to Green Belt purposes.	Fundamental Major Moderate Slight/Negligible **None**
Purpose 2: To prevent neighbouring towns from merging into one another	As purpose 1. The separation of this parcel from other towns, including South Ockendon means that any strategic level of development would not lead to merging, although separation would be reduced to some extent. The Brentwood Green Belt Study (Crestwood Environmental; Draft Jan. 2018) identifies Parcels 21 and 23 assessed as 'Minor Countryside Gap', contributing to a 'Moderate' overall contribution of the parcel to Green Belt purposes.	Fundamental Major Moderate Slight/Negligible **None**
Purpose 3: To assist in safeguarding the countryside from encroachment	A broad expansive former fenland landscape in the eastern part forming a continuation of the fenland landscape from parcel 12. Area possesses a strong sense of openness and long distance views with development limited primarily to farmsteads and small areas of development along roads on north, west and east sides; greater incidence of scattered development at North Ockendon creating some sense of encroachment. Designation provides high level of protection against piecemeal encroachment of inappropriate development, particularly adjoining existing development. The Brentwood Green Belt Study (Crestwood Environmental; Draft Jan. 2018) identifies Parcels 21 and 23 assessed as 'Functional Countryside', contributing to a 'Moderate' overall contribution of the parcel to Green Belt purposes.	**Fundamental** Major Moderate Slight/Negligible None

THURROCK GREEN BELT ASSESSMENT

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Very strong perception of openness, with development mainly limited to farmsteads; some sporadic development along St Mary's Lane and B186 which creates some sense of encroachment.	**Very apparent**
		Recognisable
		Limited
		Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Expansive and long distance, including to hills to north and north east, and rising ground to west. More enclosed in north west part where vegetation cover is slightly more significant. Mainly inter-visible with parcels 12, 14 and northern edge of 15.	Contained
		Partial
		Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Well defined along roads, with much of parcel extending into Brentwood as no alternative boundary within Thurrock. Railway forms northern boundary to ensure consistency with parcels 03 and 12, although St Mary's Lane forms an alternative northern boundary.	**Well defined**
		Partially defined
		Ill-defined
		Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	No apparent relationship. North east corner adjoins the village of West Horndon located beyond the railway line.	Very evident
		Evident
		Limited
		Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	Open level former fenland landscape rising up to south west. Eastern part within borough lies within north western part of LCA A1, Bulphan Fenland. Rest of parcel extends into Havering Borough where the landscape character is more consistent with a northward continuation of LCA C1, Belhus Farmed River Terrace Gravels defined within Thurrock. Geometric largely open arable and pasture fields with low level of vegetation cover, more fragmented/smaller scale through North Ockendon area where suburban development and varied land uses evident. Utility features (sewage works, sub-station and associated overhead infrastructure) present.	**Strong rural**
		Principally rural with some limited urban influences
		Rural with significant urban influences
		Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Significant areas of Flood Zone 2 and 3 within eastern and northern part of parcel. Much of parcel within Thurrock is within this flood risk area. Area of grade 2 agricultural land in south western part of parcel. Block of Ancient Woodland in north west.	Substantial constraints over much of area
		Moderate level of constraints
		Few/no constraints

Strategic Parcel No. 14	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	All but southern side of the parcel is remote from large built up areas and therefore provides no contribution to this purpose. The southern boundary is well-defined by the A13, with narrow parcel 27 separating the road/parcel boundary from the northern edge of Grays/Stifford Clays. Parcel 27 and this major infrastructure contain the built up area; on this basis, even though this southern part of the parcel is close to the edge of the built up area, it is not considered to contribute to this purpose.	Fundamental Major Moderate Slight/Negligible **None**
Purpose 2: To prevent neighbouring towns from merging into one another	The parcel is reasonably well separated from towns by other parcels such that strategic level of development would not lead to merging. Development in southern part of parcel could lead to merging with the village of Orsett which adjoins the southern boundary of the parcel.	Fundamental Major Moderate Slight/Negligible **None**
Purpose 3: To assist in safeguarding the countryside from encroachment	Designation safeguards an expansive, low lying, open, former fenland landscape with a very strong sense of openness with little encroachment of inappropriate development, except for historic residential development on southern edge of Bulphan (core of settlement is excluded from Green Belt). Green Belt designation provides valuable protection to this distinctive area of countryside.	**Fundamental** Major Moderate Slight/Negligible None

THURROCK GREEN BELT ASSESSMENT

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Very strong with very limited encroachment.	**Very apparent**
		Recognisable
		Limited
		Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Generally expansive and far-ranging; slightly more enclosed around Bulphan. Inter-visible with all adjoining parcels, except most of parcel 41.	Contained
		Partial
		Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Well defined along roads except around north side of Orsett where coexistent with Green Belt boundary along rear gardens, and tracks along western side where Mar Dyke could form alternative parcel boundary.	**Well defined**
		Partially defined
		Ill-defined
		Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	Southern boundary extends close to northern edge of Grays/Stifford Clays but is separated from it by A13 and parcel 27 which forms a clear boundary. Adjoins small village of Orsett, set on higher ground adjoining south eastern edge of parcel, and Bulphan on north east corner of parcel.	Very evident
		Evident
		Limited
		Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	Expansive, low lying open, former fenland landscape most of which lies within LCA A1, Bulphan Fenland, where land is primarily in arable use with a low level of vegetation cover allowing expansive views across a strongly rural landscape, which has a pronounced sense of tranquillity and remoteness away from the A13 corridor. The southern eastern parts fall within the northern fringe of LCA H2, Orsett & Horndon on the Hill Open Undulating Farmland which reflects the gently sloping nature of the landform in this part. Settlement is limited primarily to farms with some other uses (industrial/storage) apparent south of Bulphan.	**Strong rural**
		Principally rural with some limited urban influences
		Rural with significant urban influences
		Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Significant areas of Flood Zone 3 associated with the Mar Dyke in western and northern part of parcel. Scheduled Monuments adjoining A13 and west and northern sides of Orsett, part of which is a Conservation Area.	Substantial constraints over much of area
		Moderate level of constraints
		Few/no constraints

Strategic Parcel No. 15	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	Large parcel that is separated from the Thurrock urban area by parcel 17 (minimum distance of approx. 800m between southern edge of parcel and north edge of Grays/Stifford Clays), and by some 2.9km minimum from the Greater London built up area by parcel 16 and other intervening land in Havering. As such the parcel provides no contribution to this purpose.	Fundamental Major Moderate Slight/Negligible **None**
Purpose 2: To prevent neighbouring towns from merging into one another	Parcel located beyond north east edge of South Ockendon on west side of large gap (over 8km wide) between the town and Basildon to the north east, and almost 6km from Corringham/Stanford-le-Hope. Strategic level of development would have no effect on merging of these towns. Development in southern part of parcel would not lead to merging with towns making up the Thurrock urban area (South Ockendon is already closer to the northern edge of Chafford Hundred) although it would reduce separation between the south east side of South Ockendon and Grays/Stifford Clays, but not lead to merging.	Fundamental Major Moderate Slight/Negligible **None**
Purpose 3: To assist in safeguarding the countryside from encroachment	The southern part of the parcel contains significant encroachment from residential development off Sycamore Way (a Major Developed Site in Green Belt), Gypsy and Traveller development (north of Buckles Lane) and other small incidental developments. Much of the landscape within the parcel has been disrupted by mineral extraction sites (partly restored, some to lakes for recreation use). All but the southern part has generally pronounced rural, largely open character with productive farmland and a distinct sense of openness. The small northern part of the parcel that lies within Havering comprises arable fields and a golf course (with a complex of buildings) which is at odds in character terms with the surrounding landscape but nevertheless forms part of the open countryside which adjoins this part of the parcel. The designation provides a strong constraint to development around the edge of South Ockendon, although this is not apparent from the erosion of the countryside by various uses, notably gypsy and traveller development on former landfill north of Buckles Lane, and neglected restored land.	Fundamental **Major** **Moderate** Slight/Negligible None

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Northern half largely open with no significant intrusion by development. Major development site in Green Belt on north east edge of South Ockendon does not contribute to openness and warrants removal from Green Belt. Southern part contains significant encroachment by Gypsy and Traveller sites.	**Very apparent** **Recognisable** **Limited** Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Varied views –expansive/long distance in northern part due to elevated topography, falling away to former fenland landscape to east, from which there are views of chimneys and tall buildings in Thurrock urban area to south. Woodlands and tree belts in area east of South Ockendon create a more contained landscape.	Contained **Partial** **Open/extensive**
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Erratic boundary along western side coexistent with Green Belt boundary/settlement edge. North west, north and south boundaries defined by roads/lanes. Eastern boundary along tracks (mainly associated with past/present quarry/landfill sites) which are often flanked by notable vegetation. No other alternative clearer internal boundaries exist; Mar Dyke could form an alternative eastern boundary with parcel 14. Parts inter-visible with parcels 14, 16 and 17.	**Well defined** **Partially defined** Ill-defined Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	Direct physical and visual relationship between southern part of parcel with edge of South Ockendon (built up area at Sycamore Lane falls within Green Belt).	**Very evident** Evident Limited **Not evident**
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	Most of parcel lies within LCA C1, Belhus Farmed River Terrace Gravels which extends around South Ockendon. Principally strong rural character in northern half with much arable land. Settlement primarily focused on higher ground along B186 with small group of dwellings at North Ockendon. Prevailing degraded urban fringe and residential character in southern part adjoining South Ockendon. Some mineral workings and landfill sites (some possibly still active) have affected character of parts of parcel; some restored to lakes. Southern part particularly fragmented, with areas of neglected land and fly-tipping.	**Strong rural** Principally rural with some limited urban influences Rural with significant urban influences **Urban fringe/semi urban**
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Extensive areas of landfill (including historic landfill sites). Flood Zone 3 along Mar Dyke on parts of eastern boundary. Two small Scheduled Monuments at South Ockendon Hall. Grade 2 agricultural land around fringe of South Ockendon/along western edge of parcel.	Substantial constraints over much of area **Moderate level of constraints** Few/no constraints

Strategic Parcel No. 16	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	Parcel is remote (over 3km) from northern edge of Thurrock urban area, lying closer (1.9km) to the edge of Greater London area at Upminster. As such it provides no contribution to checking the growth of Thurrock urban area and no contribution to constraining the outward expansion of Greater London as other intervening land within Havering fulfils this function.	Fundamental
		Major
		Moderate
		Slight/Negligible
		None
Purpose 2: To prevent neighbouring towns from merging into one another	Provides no contribution to preventing the merger of the northern edge of South Ockendon with Upminster due to the significant separation which exists, and the boundary provided by the M25.	Fundamental
		Major
		Moderate
		Slight/Negligible
		None
Purpose 3: To assist in safeguarding the countryside from encroachment	Parcel comprises an expansive, broadly level, open/semi open and largely unspoilt area of productive farmland, with a notable field pattern. Existing development is confined to small clusters of residential development in northern part which is generally well assimilated within the landscape. Designation provides valuable protection to this area of countryside.	**Fundamental**
		Major
		Moderate
		Slight/Negligible
		None

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Strong perception of openness throughout area with little encroachment by development.	**Very apparent**
		Recognisable
		Limited
		Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Flat landscape with limited vegetation cover allows open views across area. Inter-visible with adjacent part of parcel 15.	Contained
		Partial
		Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Very well defined by roads on all sides, including section of M25. Railway forms an alternative boundary in south western part although it is not a significant visual feature in the landscape.	**Well defined**
		Partially defined
		Ill-defined
		Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	Physical and visual relationship with development on northern edge of South Ockendon.	Very evident
		Evident
		Limited
		Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	Productive, level, primarily arable farmland with generally weak field boundaries, with largely unspoilt rural character, lying within mostly within the LCA C1, Belhus Farmed River Terrace Gravels (within Thurrock, but likely to extend, in character terms, into Havering within northern part of parcel) which extends around South Ockendon. Whilst southern edge adjoins north side of town, and development is apparent it does not exert a strong influence on this prevailing character.	**Strong rural**
		Principally rural with some limited urban influences
		Rural with significant urban influences
		Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Area of former landfill south of North Ockendon, and former quarry (restored) north of North Ockendon station. Grade 1 agricultural land throughout which could be considered as a substantial constraint.	**Substantial constraints over much of area**
		Moderate level of constraints
		Few/no constraints

Strategic Parcel No. 17	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	Southern part of this large parcel provides some protection to the northward expansion of the Thurrock urban area, although major intervening infrastructure and narrow parcel 20 provide more immediate constraint to northward expansion.	Fundamental Major **Moderate** Slight/Negligible None
Purpose 2: To prevent neighbouring towns from merging into one another	Southern part of parcel provides substantial contribution to separation of South Ockendon from Chafford Hundred and north western edge of Grays/Stifford Clays (parcel 20 to the south is narrow and provides very limited physical separation between the towns).	Fundamental **Major** Moderate Slight/Negligible None
Purpose 3: To assist in safeguarding the countryside from encroachment	Southern part of parcel contains small straggling village of North Stifford located above the southern side of the Mar Dyke valley; northern part contains large concentration of Gypsy and Travelling Showpeople sites (on former quarry/landfill sites south of Buckles Lane) which creates a significant encroachment into the countryside. Mardyke Valley golf course occupies much of the middle ground. Whilst much of the parcel (north of the valley) has been subject to past landfilling, restoration has largely been successful and the area provides significant containment to the edge of the town. Given the immediate relationship of this parcel to the south eastern part of South Ockendon the designation is important in safeguarding the parcel from encroachment (including piecemeal development around North Stifford), although it does not appear to have acted as a constraint to the expansion of the Gypsy and Travelling Showpeople development.	Fundamental **Major** **Moderate** Slight/Negligible None

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Very variable – clear perception of openness along Mar Dyke valley but this is eroded by encroachment of gypsy and traveller development in the northern part of the parcel. Existing development in North Stifford reduces openness in southern part where there is a sense of encroachment engendered by the redevelopment of a previously developed site on the west side which is at odds with the main form of the village. The perception of openness is heightened in the context of the parcel's location within a relatively narrow area between adjoining areas of substantial development.	**Very apparent** Recognisable **Limited** Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Very variable due to topography and vegetation cover. Contained within valley; partial to more open views elsewhere. Some views from edge of North Stifford to north edge of Chafford Hundred. Glimpses from south west part into parcel 42.	**Contained** **Partial** Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Defined clearly by railway and main road along west side, A13 on south side, lane along north side and access lane on east side. Road through North Stifford forms potential internal boundary. Western boundary with parcel 42 could be defined along Stifford Hill Road instead of railway. Limited inter-visibility with south west part of parcel 14 and eastern part of parcel 42; clearly inter-visible along northern side with southern part of parcel 15.	**Well defined** Partially defined Ill-defined Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	Direct physical and partial visual relationship with South Ockendon although south east edge of town well defined by road and associated vegetation.	Very evident **Evident** Limited Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	Parcel straddles three LCAs - C1, Belhus Farmed River Terrace Gravels which covers the area north of the Mar Dyke; B1, Lower Mar Dyke River Valley, and the western end of H2, Orsett & Horndon-on-the-Hill Open Undulating Farmland. These differences in character give a varied character throughout the parcel ranging from degraded urban fringe on northern edge, modified landscape of golf course, the natural secluded valley character of the Mar Dyke with a sense of enclosure and seclusion that belies its proximity to built-up areas, and the distinct small village of North Stifford within a small scale landscape of horse paddocks and poorly managed land on the south side of the valley.	Strong rural **Principally rural with some limited urban influences** **Rural with significant urban influences** **Urban fringe/semi urban**
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Extensive former quarry/landfill sites north of Mar Dyke; Flood Zone 3 in Mar Dyke valley; local nature conservation sites; areas of open space at North Stifford. Grade 2 agricultural land throughout most of parcel, although quality may have been degraded by landfilling in much of area.	**Substantial constraints over much of area** Moderate level of constraints Few/no constraints

Strategic Parcel No. 18	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	The parcel has very limited correlation with Thurrock urban area. The southern boundary is located some 1.3km from the northern edge of the urban area, and separated from it by parcels 21 and 42 which fulfil this purpose.	Fundamental
		Major
		Moderate
		Slight/Negligible
		None
Purpose 2: To prevent neighbouring towns from merging into one another	The parcel is situated on west and north west side of South Ockendon and over 3km from the edges of the towns of Rainham and Upminster. The western part of the parcel contributes, in combination with parcel 23, to the separation of the town from Aveley where the gap at the narrowest point is approximately 600m (which contains the M25) and where there is some inter-visibility between the two towns; the parcel therefore makes a significant contribution to this purpose. Southern end of parcel provides no contribution to prevention of merger of South Ockendon with Purfleet (approx. 1.6km to south west) which is separated by the M25, Aveley and other parcels.	Fundamental
		Major
		Moderate
		Slight/Negligible
		None
Purpose 3: To assist in safeguarding the countryside from encroachment	Fragmented countryside on western side of town where part of Belhus Park has been separated from main parkland by M25 leaving small parcels of land for recreational uses and horse grazing. To the north is a large-scale landfill site being reclaimed to create a country park. Designation protects these areas from inappropriate development, although designations (including Ancient Woodland and areas of Park and Garden of Special Historic Interest) and open space uses provide significant level of protection to most of parcel.	Fundamental
		Major
		Moderate
		Slight/Negligible
		None

THURROCK GREEN BELT ASSESSMENT

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Almost entirely devoid of development. Pockets of open land contained by woodlands, M25 and western side of South Ockendon. Land in southern part forms part of narrow open area between town and Aveley providing a perception of separation between the two settlements.	Very apparent **Recognisable** Limited Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Views limited due to vegetation and development. Semi open views between South Ockendon and Aveley (M25 in cutting). Very open to north from area of new country park due to raised levels. Northern end inter-visible with parcel 16; southern end with parcel 23.	**Contained** **Partial** **Open/extensive**
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Well defined on three sides by roads. Eastern side defined by Green Belt edge along west side of town, formed by roads, woodland rear gardens and open space. No obvious alternative internal boundaries.	**Well defined** **Partially defined** Ill-defined Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	Direct relationship to South Ockendon but woodland provides significant visual containment along much of the western edge.	Very evident **Evident** Limited Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	Parcel falls within LCA C1, Belhus Farmed River Terrace Gravels which extends around South Ockendon. Woodland and open space provides some unity of character, which will be reinforced with the development of the large country park which is currently degraded former landfill. Degraded urban fringe character at southern end where there is visual encroachment from development and visual connection to edge of Aveley. 'Finger' of arable land east of M25 in northern part of parcel. The M25 has severed the eastern part of Belhus Park from larger part to west (within parcel 23); this area has a distinctive wooded character although compromised substantially in the narrower central and southern part by the influence of the motorway.	Strong rural Principally rural with some limited urban influences **Rural with significant urban influences** **Urban fringe/semi urban**
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Ancient Woodland and local sites of nature conservation value; remnant area of Park and Garden of Special Historic Interest (Belhus Park); former landfill sites; open space including formative country park on former landfill. Northern part is grade 1 agricultural land.	**Substantial constraints over much of area** Moderate level of constraints Few/no constraints

Strategic Parcel No. 19	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	The parcel lies approx. midway between large built up area of Thurrock urban area and large built up area of Upminster/Hornchurch/ Rainham on edge of Greater London. Other intervening land on the periphery of those urban areas (parcel 22 in Thurrock) provide this constraint, although the edge of Rainham is less than 400m from the north west edge of the parcel and the adjoining part of the parcel does make some contribution to containing the outward growth of that built up area.	Fundamental Major Moderate **Slight/Negligible** **None**
Purpose 2: To prevent neighbouring towns from merging into one another	The parcel lies on eastern side of an area of open land, 2.6-3km wide, that separates Aveley from the towns of Upminster and Rainham, with northern part forming part of open area midway between South Ockendon and Rainham (parcel 24 is more relevant to the containment of South Ockendon) which is separated by around 4km. Strategic level of development in the Thurrock part of this parcel would reduce separation between Aveley and Rainham, but would not lead to merging.	Fundamental Major Moderate **Slight/Negligible** None
Purpose 3: To assist in safeguarding the countryside from encroachment	Approx. 50% of the parcel (much of which is within that part of the parcel that lies beyond the administrative boundary), is or has been subject to mineral extraction/landfilling with a consequential adverse effect on the character of the countryside, although it is to be expected that restoration upon cessation of use will re-establish a more rural appearance to these areas. The remaining undisturbed parts (primarily within Thurrock) have a strong rural character which designation assists in safeguarding.	Fundamental **Major** **Moderate** Slight/Negligible None

THURROCK GREEN BELT ASSESSMENT

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Strong perception of openness in most parts as very little encroachment except from active/disused mineral workings (not inappropriate development).	**Very apparent**
		Recognisable
		Limited
		Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Variable. Contained/limited in most eastern parts due to high level of vegetation cover. Visually exposed with open views in western part across lower lying land and mashes beyond, including views towards tall buildings within Central London.	**Contained**
		Partial
		Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Well defined along roads extending beyond borough boundary, as no alternative boundaries exist within parcel.	**Well defined**
		Partially defined
		Ill-defined
		Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	No clear relationship. South east corner adjoins Aveley but generally well contained from it.	Very evident
		Evident
		Limited
		Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	Parcel falls within LCA C1, Belhus Farmed River Terrace Gravels. Two distinct areas of differing character within parcel. Strongly wooded and rural in north eastern part (part of Belhus Woods Country Park within Thames Chase Community Forest) where there is Open Access. Much of exposed sloping western half of parcel is open degraded land with no landscape structure, due to past landfilling or quarrying, much of which is restored or being restored. Immature golf course on part of restored landfill.	**Strong rural**
		Principally rural with some limited urban influences
		Rural with significant urban influences
		Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Some areas of local nature conservation value. Belhus Park Country Park (part of Thames Chase Community Forest) and associated Open Access land. Some Grade 1 agricultural land in western part of parcel (mainly beyond Thurrock boundary) but most disturbed by quarrying/landfill. Blocks of Ancient Woodland within country park in north eastern part.	Substantial constraints over much of area
		Moderate level of constraints
		Few/no constraints

Strategic Parcel No. 20	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	Narrow strip of land lying north of A1306 defines northern periphery of Chafford Hundred and therefore restricts northward growth of the built up area. The road provides a clear boundary to growth.	Fundamental Major Moderate **Slight/Negligible** None
Purpose 2: To prevent neighbouring towns from merging into one another	Contributes to a limited degree (due to its narrow width), to the separation of the north side of Chafford Hundred from south eastern edge of South Ockendon. Provides separation between Chafford Hundred and village of North Stifford which lies immediately north of the parcel (separated from it by the A13).	Fundamental Major Moderate **Slight/Negligible** None
Purpose 3: To assist in safeguarding the countryside from encroachment	Designation assists in safeguarding further encroachment into this fragmented partially developed area. Only the eastern half of the parcel is actively farmed countryside.	Fundamental Major **Moderate** **Slight/Negligible** None

THURROCK GREEN BELT ASSESSMENT

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Significant encroachment exists in the western half of the parcel in the form of sports academy, car/coach park for Lakeside shopping centre, Gypsy and Travellers site at Pilgrims Lane, and public house and associated car park. This reduces perception of openness, which is greatest in the eastern part which is undeveloped and actively farmed.	**Very apparent** Recognisable **Limited** Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Western half generally well contained from external locations due to vegetation along north side of A3106 and southern side of A13. Very limited visual relationship with North Stifford despite its proximity. Glimpsed more open views possible in vicinity of Cuckoo Lane, where outlook is more rural.	**Contained** **Partial** Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Defined on all sides by major roads. The A13 on the northern side creates a possible alternative well-defined Green Belt boundary (although this would extend very close to the village of North Stifford). The western part of the parcel could be subdivided along Pilgrims Lane (east of the coach/car park). Parcel subdivided by Pilgrims Lane, Clockhouse Lane and truncated Cuckoo Lane (now a right of way).	**Well defined** Partially defined Ill-defined Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	Defines northern periphery of Chafford Hundred and contributes to separation of the town from the village of North Stifford directly to the north. A1306 and associated vegetation generally disassociate town from the parcel.	Very evident Evident **Limited** Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	The parcel falls within the western end of LCA H2 - Orsett & Horndon on the Hill Open Undulating Farmland which forms a transition between the Settled Chalk Ridge (LCA E2) within the built up area to the south and the narrow Lower Mar Dyke River Valley (LCA B1) to the north. The parcel is a narrow linear tract of undeveloped land. Western half contains various 'inappropriate' land uses which erode its character and create a fragmented and low quality urban fringe landscape; overhead powerlines and associated pylons are also dominant features running west-east along the parcel. The eastern half has a more rural character arising from the narrow strip of remnant managed farmland lying between the two roads. The reasonable level of vegetation is a unifying landscape element. High level of traffic noise and disturbance.	Strong rural **Principally rural with some limited urban influences** Rural with significant urban influences **Urban fringe/semi urban**
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Small areas of historic quarry/landfill (parts developed). Open space (Lakeside Sports Ground) in north west corner. Grade 2 agricultural land.	Substantial constraints over much of area Moderate level of constraints **Few/no constraints**

THURROCK GREEN BELT ASSESSMENT

Strategic Parcel No. 21	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	Land contributes to containment of northern side of Lakeside/West Thurrock (part of Thurrock urban area).	Fundamental
		Major
		Moderate
		Slight/Negligible
		None
Purpose 2: To prevent neighbouring towns from merging into one another	Forms approx. half of the width of Green Belt that separates Lakeside/West Thurrock from southern side of South Ockendon. Also contributes to separation of Lakeside/West Thurrock from Aveley to north west although M25, A13, and narrow eastern part of parcel 22 contribute to separation.	Fundamental
		Major
		Moderate
		Slight/Negligible
		None
Purpose 3: To assist in safeguarding the countryside from encroachment	Designation limits encroachment into remaining areas of countryside within parcel which is partially developed.	Fundamental
		Major
		Moderate
		Slight/Negligible
		None

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Land does provide recognisable openness as it contributes to the perception of separation of Lakeside/West Thurrock from South Ockendon (although there is generally little intervisibility between the two towns), although there is significant encroachment from existing development – M25 services, karting and speedway complex – and electricity infrastructure. Sunken nature of much of area reduces visibility. Notable sense of openness within Mar Dyke valley in north western part.	Very apparent **Recognisable** Limited Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Views are generally contained by main roads on all sides, vegetation and the sunken nature of the area and there is no clear visual relationship with adjoining parcels. Most significant views are eastwards, over the lake in the former quarry, from the services at the western end and from the M25 and A13 as they cross the section of Mar Dyke valley.	**Contained** Partial Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Defined on all sides by major road infrastructure, frequently reinforced by belts of vegetation.	**Well defined** Partially defined Ill-defined Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	Lies immediately beyond northern edge of Lakeside/West Thurrock (separated from it by A3106); whilst topographical changes and vegetation reduce visual relationship between the parcel and the built up area its immediate presence is very apparent. No physical and visual relationship with South Ockendon to north or to Aveley to north west.	Very evident **Evident** Limited **Not evident**
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	An area of 'left over' land positioned between major roads lying mostly within LCA E1 – West Thurrock, Lakeside and Purfleet on the north western edge of the Settled Chalk Ridge, which covers the western part of the Thurrock built up area. Existing uses mean much of area is partially developed/degraded and fragmented with an unappealing character. This contrasts with the lake and associated wooded sides which creates an attractive local feature, although largely concealed from areas beyond, and the small attractive accessible section of Mar Dyke valley in the north west corner (part of LLCA B1, Lower Mar Dyke River Valley), the sides of which are flanked by woodland, but heavily influenced by adjoining road infrastructure. Overhead electricity lines on pylons run along the southern side of the parcel.	Strong rural Principally rural with some limited urban influences Rural with significant urban influences **Urban fringe/semi urban**
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Local Wildlife Site in northern and central parts. Quarry and former landfill sites extend over almost all of area. Flood Zone 3 in Mar Dyke valley and quarry east of motorway services.	**Substantial constraints over much of area** Moderate level of constraints Few/no constraints

Strategic Parcel No. 22	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	The parcel adjoins south and west parts of Aveley which is a town not a 'large built up area'. Containment of outward growth of Purfleet to the south and south west is constrained principally by parcel 39 which adjoins it south of the A13.	Fundamental
		Major
		Moderate
		Slight/Negligible
		None
Purpose 2: To prevent neighbouring towns from merging into one another	The southern part of the parcel forms a significant part of the undeveloped land (which includes the Mar Dyke valley within parcel 39) which separates Aveley from the northern side of Purfleet and north west edge of West Thurrock/Lakeside which is 0.8 and 1km wide respectively. The western part also provides a minor contribution to the separation of Aveley from Rainham some 1.8km to the west. Development within the southern part of the parcel would lead to a reduction in separation between Aveley and Purfleet/ Lakeside/West Thurrock and this is likely to lead to the perception of narrowing if intervisibility occurs.	Fundamental
		Major
		Moderate
		Slight/Negligible
		None
Purpose 3: To assist in safeguarding the countryside from encroachment	Designation protects the broad sweep of countryside which wraps around the southern and western parts of the village and protects it from encroachment from further outward expansion of Aveley (the adjoining boundaries of which are weak in places) towards the physical boundary of the A13. Land in the east of the parcel is productive farmland whilst land to the west/north west is unmanaged or restored landfill, notably north of Purfleet Road.	Fundamental
		Major
		Moderate
		Slight/Negligible
		None

THURROCK GREEN BELT ASSESSMENT

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	There is a sense of openness as the land is mainly open and almost entirely free of encroachment by 'inappropriate development'. Elevated location and gap provided by the Mar Dyke valley to the south enhances perception of openness and separation from northern edge of Purfleet. A13 located in cutting so does not impact on openness. Ribbon of houses either side of Purfleet Road crosses the parcel.	**Very apparent** Recognisable Limited Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Views variable and, where not restricted by roadside vegetation developing along top of A13 cutting, are expansive and long distance to south and west (power station, QE2 bridge and as far as Canary Wharf). Containment also provided by vegetation south of Purfleet Road. No clear visual relationships with adjoining parcels except from edges of parcel where views open out towards estuary and Purfleet. Due to elevation parts of parcel will be apparent in views inwards from more distant external locations.	Contained **Partial** **Open/extensive**
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Mainly rear gardens on edge of Aveley with more recent development creating a poorly defined interface and boundary to the Green Belt; softened in areas of older development. More variable edge along south east side of village where vegetation and tree belts provide softening. Outer boundary defined by well integrated A13; northern boundary by B1335 and associated hedgerows. Parcel could be subdivided along Purfleet Road and also Ship Lane.	**Well defined** Partially defined **Ill-defined** Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	No clear relationship to nearby town to south. Direct relationship to Aveley where it forms the immediate setting of the adjoining fringes of the town.	Very evident Evident **Limited** Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	Parcel located within south western part of LCA C1, Belhus Farmed River Terrace Gravels and comprises mixed farmland which is mainly open arable between village and A13 to south and west, with horse paddocks and rough grassland in south west and south east parts. Rough grassland (former landfill) between Purfleet Road and B1335. Parcel contributes to setting of village, notably in approach along Ship Lane. Field pattern removed (notably where landfilling has occurred) and eroded, and overgrazed horse paddocks and some unmanaged pockets of land detract from character. Town is located on higher land set back from the ridge edge and slopes which fall within the parcel, and the land therefore contributes to its elevated setting. Vegetation along periphery of older parts of town assimilates development and lends character.	Strong rural **Principally rural with some limited urban influences** Rural with significant urban influences Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	SSSI and Local Wildlife Site adjoining A13 south of Purfleet Road. Former quarry landfill sites, mainly between Purfleet Road and B1335, and either side of Ship Lane. Small Scheduled Monument adjoining church on edge of parcel. Mostly Grade 1 agricultural land.	Substantial constraints over much of area Moderate level of constraints **Few/no constraints**

Strategic Parcel No. 23	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	The parcel lies between east side of Aveley and M25 to west of South Ockendon (both are towns). It is therefore of no importance to the prevention of the outward expansion of the Thurrock urban area (parcels 21 and 39 fulfil this purpose to a greater degree in this locality).	Fundamental
		Major
		Moderate
		Slight/Negligible
		None
Purpose 2: To prevent neighbouring towns from merging into one another	The parcel lies between the towns of Aveley and South Ockendon; as such it contributes (in conjunction with the southern part of parcel 18) to this purpose. Therefore development within parcel would reduce separation between the two towns.	Fundamental
		Major
		Moderate
		Slight/Negligible
		None
Purpose 3: To assist in safeguarding the countryside from encroachment	Designation assists in providing protection to this area of countryside, which is predominantly a recreational landscape within the setting of a Park/Garden of Special Historic Interest (Belhus Park). Whilst this designation and open space uses means that there is significant other protection to the land, Green Belt designation provides a further level of protection to a generally distinctive area of landscape.	Fundamental
		Major
		Moderate
		Slight/Negligible
		None

THURROCK GREEN BELT ASSESSMENT

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Area lacks 'inappropriate' development, except for Ormiston Park Academy buildings which detract locally from openness. Belhus Park Leisure Centre is not 'inappropriate' development. Area has clear sense of openness due to lack of development and generally good level of containment from visual influence of adjoining built up areas due principally to the high level of vegetation cover.	**Very apparent**
		Recognisable
		Limited
		Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Area benefits from significant level of mature vegetation, including dividing tree belts, which provides containment limiting views. No clear intervisibility with adjoining parcels, except at southern edge (adjoining east end of parcel 22).	**Contained**
		Partial
		Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Parcel edges reasonably defined by clear features. Northern boundary with parcel 24 defined by woodland and tree belt along public right of way.	**Well defined**
		Partially defined
		Ill-defined
		Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	Whilst close to the town of South Ockendon, the parcel is distinct from it. The southern edge of the parcel adjoins new development on the edge of Aveley, separated from it by the Aveley bypass. The eastern edge of Aveley is contained by a woodland belt along the parcel's western boundary although the development edge is more apparent along the boundary with the Aveley bypass on the south west side of the parcel and where there is some limited intervisibility to development on the south western edge of South Ockendon adjoining the southern end of parcel 18.	Very evident
		Evident
		Limited
		Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	Parcel located within southern part of LCA C1, Belhus Farmed River Terrace Gravels and comprises a distinctive primarily recreational parkland landscape of Belhus Park (truncated on eastern side by M25) with extensive golf course and playing fields around central leisure centre. Areas of woodland to north west and north. Academy playing field, pasture fields and block of woodland in southern part. Generally a well-managed amenity landscape with historic origins with small area of degraded horse paddock south of academy. High level of vegetation provides significant visual containment and separation from South Ockendon.	Strong rural
		Principally rural with some limited urban influences
		Rural with significant urban influences
		Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Most of parcel is a Park and Garden of Special Historic Interest. South eastern part is former quarry/landfill. Small area of Grade 1 land.	**Substantial constraints over much of area**
		Moderate level of constraints
		Few/no constraints

Strategic Parcel No. 24	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	The parcel is quite remote (approx. 2.6km) from northern edge of Thurrock urban area, but lies closer to edge of Greater London area at Upminster (1.3km) and Rainham (2.2km). As such it provides no contribution to checking the growth of Thurrock urban area (and Aveley intervenes) and a negligible contribution to constraining the outward expansion of Greater London as other intervening land within Havering fulfils this function.	Fundamental Major Moderate Slight/Negligible **None**
Purpose 2: To prevent neighbouring towns from merging into one another	The parcel forms part of countryside that separates Aveley and South Ockendon from Rainham and Upminster. Strategic level of development would not lead to merging of these separate towns, although it would reduce separation to some degree.	Fundamental Major Moderate Slight/Negligible **None**
Purpose 3: To assist in safeguarding the countryside from encroachment	The parcel comprises extensive area of countryside parts of which have been modified significantly by quarrying/landfill operations. These areas have been restored and the landscape forms an attractive and complex mosaic of existing and developing woodlands interspersed with fields. A significant central southern part forms part of Belhus Woods Country Park (part of Thames Chase Community Woodland). South eastern part of parcel contains northern part of Belhus Park (Park and Garden of Special Historic Interest). There is some encroachment by development (haulage yard, storage and light industrial uses) along Romford Road. Whilst significant constraints apply in some areas Green Belt designation provides additional protection.	Fundamental **Major** Moderate Slight/Negligible None

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Very little development and clear sense of physical openness (visual openness limited by substantial woodland cover).	**Very apparent**
		Recognisable
		Limited
		Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Views within and out of parcel limited by vegetation cover.	**Contained**
		Partial
		Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Well defined on three sides by roads (extending beyond borough boundary). Southern boundary along clear bridleway route. No obvious internal boundaries.	**Well defined**
		Partially defined
		Ill-defined
		Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	Southern edge of parcel and Country Park adjoins northern end of Aveley where there is significant woodland which contains the settlement edge.	Very evident
		Evident
		Limited
		Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	Parcel located within southern part of LCA C1, Belhus Farmed River Terrace Gravels and possesses a predominantly strong rural character with extensive woodland forming part of Country Park/Thames Chase.	**Strong rural**
		Principally rural with some limited urban influences
		Rural with significant urban influences
		Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Belhus Woods Country Park and Open Access land; Ancient Woodland, local nature conservation sites; part of Registered Park & Garden; extensive areas of former quarries and landfill. Some areas of Grade 1 agricultural land. Some areas of Flood Zone 3.	**Substantial constraints over much of area**
		Moderate level of constraints
		Few/no constraints

Strategic Parcel No. 25	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	The south western part of this parcel adjoins the eastern edge of the Thurrock urban area at Chadwell St Mary which is defined primarily by a hedgerow; as such it therefore contributes to the containment of this urban area. Also occupies significant part of the Green Belt land that separates Chadwell St Mary from the south western edge of the large built up area of Corringham/Stanford-le-Hope.	Fundamental **Major** Moderate Slight/Negligible None
Purpose 2: To prevent neighbouring towns from merging into one another	The large parcel occupies a large part of the countryside (which includes the northern part of parcel 11) that separates the eastern side of Chadwell St Mary from the south western edge of Stanford-le-Hope. Due to the considerable separation that exists (just over 3km) the parcel provides a Slight contribution to this purpose. The village of East Tilbury lies 2km to the east and the southern half of the parcel provides separation between the town and the village.	Fundamental Major Moderate **Slight/Negligible** None
Purpose 3: To assist in safeguarding the countryside from encroachment	Whilst there is an impression of fragmentation from the different uses, the area still retains a predominantly rural character. Due to its accessibility and proximity to the Thurrock urban area the designation does provide important constraint to encroachment from development, notably the eastward expansion of Chadwell St Mary and small scale development on the fringes of the small settlements (Linford and Northfields) which are inset within the Green Belt.	Fundamental **Major** Moderate Slight/Negligible None

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Clear sense of openness although areas of development (including the cluster of development at Southfields adjoining the northern boundary), large industrial site and associated quarry within the south eastern part near Linford (excluded from Green Belt) do impinge upon perception of openness of the area.	**Very apparent**
		Recognisable
		Limited
		Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Views affected by varied topography and vegetation cover; some open expansive views, notably in more elevated southern parts to and across the estuary, and more enclosed in areas where vegetation cover increases (golf course and around industrial site). Limited inter-visibility with adjoining parcels. Open views from south western part to edge of Chadwell St Mary.	**Contained**
		Partial
		Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Well defined by roads. Parcel boundary is contiguous with Green Belt boundary along edge of Chadwell St Mary, mainly following residential estate road and weak hedge line. Weakly defined boundaries along rear gardens in places on edges of Southfields and Linford. Limited inter-visibility with parcel 26 to west. Tracks along High House Lane, Hoford Road and south of Southfields provide some internal boundaries which could form alternative defined Green Belt boundaries, particularly if reinforced with planting.	**Well defined**
		Partially defined
		Ill-defined
		Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	Immediate relationship with eastern edge of Chadwell St Mary in the south western part of the parcel. The rest of parcel has no clear relationship. South eastern part defines northern edge of village of East Tilbury and cluster of houses at Linford and northern part forms immediate setting of cluster of development at Southfields.	**Very evident**
		Evident
		Limited
		Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	The parcel falls within LCA H1, East and West Tilbury Open Undulating Farmland. The character is variable containing a mix of open, slightly elevated productive farmland within the central and southern parts, a wooded golf course within the northern part and small area of development adjoining the A103, a large industrial site (concrete block plant – Major Developed Site in Green Belt) and associated quarry within the south eastern part adjoining the Linford (excluded from Green Belt). The hamlet of Southfields on the northern boundary is also excluded from the designation. The southern part provides a rural setting to the eastern side of Chadwell St Mary. A number of high voltage electricity lines are detracting features. Whilst there is an impression of fragmentation from the different uses the area still retains a predominantly rural character.	Strong rural
		Principally rural with some limited urban influences
		Rural with significant urban influences
		Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Quarries (active and disused/restored/landfilled), notably in south of Southfields and north of Linford). Local wildlife sites at quarries on west and east sides of parcel. Large area of grade 2 agricultural land.	Substantial constraints over much of area
		Moderate level of constraints
		Few/no constraints

Strategic Parcel No. 26	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	The parcel lies on north side of Chadwell St Mary on north east side of Thurrock urban area. As such it constrains the expansion of the built up area where existing boundaries are generally not robust giving the perception of poorly contained development.	Fundamental **Major** Moderate Slight/Negligible None
Purpose 2: To prevent neighbouring towns from merging into one another	The parcel does not lie directly between two towns (being separated from the eastern edge of Chafford Hundred by parcel 27), although its release from Green Belt would reduce the width of Green Belt between Chadwell St Mary and the south western edge of Stanford-le-Hope this would remain around 2.3km wide. The parcel therefore provides a limited contribution to this purpose. The small cluster of development at Southfields to the east extends close to the north eastern edge of the parcel.	Fundamental Major Moderate **Slight/Negligible** None
Purpose 3: To assist in safeguarding the countryside from encroachment	The parcel has a predominantly rural character although influenced along its southern part by its relationship to the built up edge (including tall buildings) of Chadwell St Mary, infrastructure, a quarry site in the north east corner, and the cluster of development at the junction of Heath Road/Hornsby Lane. There are signs of some encroachment from urban fringe uses close to the urban area but overall the area retains a rural character that is largely free of inappropriate uses.	Fundamental **Major** Moderate Slight/Negligible None

THURROCK GREEN BELT ASSESSMENT

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	A broadly level semi open landscape with a distinct perception of openness, although adjoining development on edge of Chadwell St Mary does influence perception.	**Very apparent** Recognisable Limited Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Views over most of the area which, owing to level nature of area, are interrupted by limited and fragmented hedgerows. Some limited inter-visibility with parcel 41 and parcel 25 to north and east respectively.	Contained **Partial** Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Defined by roads on all sides and some rear gardens along Green Belt boundary on edge of Chadwell St Mary. Hornsby Lane forms a defined internal boundary.	**Well defined** Partially defined **Ill-defined** Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	Clear, direct relationship with northern edge of Chadwell St Mary.	**Very evident** Evident Limited Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	The parcel lies within the north western part of LCA H1, East and West Tilbury Open Undulating Farmland and has predominantly rural character of mainly arable fields, with influences from edge of Chadwell St Mary along southern part, roads and electricity infrastructure, quarry, and development at Heath Road/Hornsby Lane.	Strong rural **Principally rural with some limited urban influences** Rural with significant urban influences Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Scheduled Monument on eastern side; quarry site in north east corner. Entire parcel is Grade 2 agricultural land.	**Substantial constraints over much of area** Moderate level of constraints Few/no constraints

Strategic Parcel No. 27	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	The parcel defines the northern and eastern sides of at Grays/Stifford Clays on the periphery of the Thurrock urban area. The parcel is contained by the urban area and major roads and does limit growth of the urban area within an area that would appear to be an attractive location for urban expansion. The major roads that contain the outer edges of the parcel on the north east and south eastern sides do provide alternative boundaries that would restrict urban expansion into countryside beyond.	Fundamental **Major** Moderate Slight/Negligible None
Purpose 2: To prevent neighbouring towns from merging into one another	The south eastern part of the parcel lies between Grays and Chadwell St Mary. This part provides some contribution to the separation of the towns (although Little Thurrock also partially intervenes).	Fundamental Major Moderate **Slight/Negligible** None
Purpose 3: To assist in safeguarding the countryside from encroachment	Whilst designation assists in safeguarding the countryside from further encroachment of the urban area, the eastern part of the parcel is well contained from the wider countryside beyond.	Fundamental Major Moderate **Slight/Negligible** None

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Generally strong perception heightened by marked contrast between urban and rural area.	**Very apparent**
		Recognisable
		Limited
		Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Variable views – open and expansive along north side; more broken by vegetation in other parts and contained by development along settlement edge. Notable inter-visibility with expansive landscape of parcel 14 from northern edge of parcel.	**Contained**
		Partial
		Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Defined by major roads along north east and south eastern sides. Inner boundary follows Green Belt boundary along periphery of Grays, defined by mix of rear garden boundaries and other roads creating an erratic edge. The William Edwards School site on the northern edge of Grays is identified for release from the Green Belt and development for housing in the Core Strategy and has quite well defined boundaries, except on the very north east corner where it follows a fence line. The northern boundary of the parcel is well defined with the land beyond extending to the A13 relating to the open landscape stretching away to the north. The eastern and south eastern urban edges are more variable and fragmented with a consequential influence from the urban area on the character and perception of the land beyond. The small area of land on the western edge of the parcel is well contained by the urban area, major roads and vegetation such that it is separated from wider countryside. Potential for sub division of parcel along Long Lane and Blackshots Lane, and redefinition of Green Belt boundary along parcel boundary on western edge.	**Well defined**
		Partially defined
		Ill-defined
		Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	Strong relationship throughout parcel with fringes of Chafford Hundred.	**Very evident**
		Evident
		Limited
		Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	The parcel lies on the western edge of LCA H1, East and West Tilbury Open Undulating Farmland, and has a varied character comprising small areas of productive farmland, former landfill, and sports/recreation areas associated with William Edwards School (identified as a housing allocation), a rugby club, leisure centre and athletics stadium, and area of sports fields/play space. An arable field on the northern edge forms part of the open landscape which extends into parcel 14 to the north. The areas on the western, eastern and south eastern sides of the parcel are variable and fragmented and influenced by their close relationship with the urban area. The small area of land on the north western edge of the parcel is separated from wider countryside by the urban area, major roads and vegetation.	**Strong rural**
		Principally rural with some limited urban influences
		Rural with significant urban influences
		Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Part of Scheduled Ancient Monument on northern edge (crossed by A13); local nature conservation site on former quarry on north eastern side; open space and proposed additional open space. Almost all of parcel is Grade 2 agricultural land.	**Substantial constraints over much of area**
		Moderate level of constraints
		Few/no constraints

Strategic Parcel No. 28	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	The majority of this parcel lies between parts of the Thurrock urban area (Little Thurrock/Socketts Heath to the west and Chadwell St Mary to the east); as such it falls within built up area and constrains growth within it. Therefore its containment and close relationship with the existing urban area indicates that its removal from Green Belt would not give rise to unrestricted growth and perception of sprawl beyond the built up area. The release from the Green Belt and redevelopment of the Woodside/South Essex College site and associated playing fields has led to a 'rounding off' of the edge of the built up area on the south eastern edge of the parcel.	Fundamental
		Major
		Moderate
		Slight/Negligible
		None
Purpose 2: To prevent neighbouring towns from merging into one another	The parcel is located within the town of Thurrock/Grays, between Little Thurrock/Socketts Heath and Chadwell St Mary. As such it provides a particular contribution to the separation of these towns. The narrow nature (in places only 100-250m wide) means that even small scale development could lead to merging of these towns, although the A1089 provides a physical barrier between them.	**Fundamental**
		Major
		Moderate
		Slight/Negligible
		None
Purpose 3: To assist in safeguarding the countryside from encroachment	The fragmented area of land does not have a particular rural character and with the majority being in open space/recreation uses; intervisibility between areas of development contributes to its urban fringe character. Whilst its Green Belt status constrains further encroachment it does not safeguard countryside; it principally safeguards open space.	Fundamental
		Major
		Moderate
		Slight/Negligible
		None

THURROCK GREEN BELT ASSESSMENT

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	The parcel provides an area of undeveloped land between the east side of Little Thurrock/Socketts Heath and western edge of Chadwell St Mary and creates a local gap between development, albeit subdivided by the A1089 which is in cutting. Due to the narrow nature of the gap there is a perception of encroachment due to the proximity of development and inter-visibility between the adjoining built up areas. Two schools located within parcel.	Very apparent **Recognisable** Limited Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Views limited to within parcel by adjoining development. Vegetation along A1089 through centre of parcel also interrupts internal views. Limited views into fields on northern side of parcel.	**Contained** Partial Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Poorly defined along rear gardens, and by roads on north and south sides and some estate roads and buildings. A1089 provides alternative internal parcel boundary. The former Woodside/South Essex College site on the southern edge of the parcel was released from the Green Belt and allocated for housing in the Core Strategy and has since been developed. The access road would appear to form a suitable boundary to the Green Belt.	**Well defined** Partially defined **Ill-defined** Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	Clear relationship to development which forms most of parcel boundary.	**Very evident** Evident Limited Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	The parcel lies in the south western corner of LCA H1, East and West Tilbury Open Undulating Farmland where the character is defined primarily by recreational uses, the A1089, schools, with some limited areas of grassland providing horse grazing, creating a fragmented semi urban character. New housing development on site of former college in south western part (land removed from Green Belt), with land between site and A1089 retained in Green Belt and free of development.	Strong rural Principally rural with some limited urban influences Rural with significant urban influences **Urban fringe/semi urban**
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Restored quarry/landfill site west of Chadwell St Mary. Block of Ancient Woodland/local wildlife site adjoining west side of A1089. Open/recreation spaces. Grade 2 agricultural land in northern part.	Substantial constraints over much of area **Moderate level of constraints** Few/no constraints

Strategic Parcel No. 29	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	The parcel extends along the southern fringe of Chadwell St Mary which is part of the Thurrock urban area; as such it contributes to the purpose as it constrains the southward expansion of the built up area. As the topography slopes steeply down to the south, away from the southern edge of Chadwell St Mary to Tilbury Marshes, any development in this parcel is likely to be particularly exposed from the marshes to the south and south east and likely to give the impression of the unrestricted growth of the built up area.	**Fundamental**
		Major
		Moderate
		Slight/Negligible
		None
Purpose 2: To prevent neighbouring towns from merging into one another	The western end of the parcel is located between the town of Thurrock/Grays between Little Thurrock/Socketts Heath and the south western side of Chadwell St Mary which are only separated by some 800m, with the intervening land containing a large college and sports centre complex within Green Belt (within parcel 31). As such this part provides a very important contribution to the separation of these adjoining towns. The parcel also forms the northern part of the Green Belt that separates (with land within parcels 32 and 33) the southern edge of Chadwell St Mary and northern edge of Tilbury (separated by 600m at narrowest point). It therefore provides a constraint to the southward expansion of Chadwell St Mary.	**Fundamental**
		Major
		Moderate
		Slight/Negligible
		None
Purpose 3: To assist in safeguarding the countryside from encroachment	Much of the parcel primarily comprises steep sloping land that defines the edge of the elevated Open Undulating Farmland to the north and southern edge of Chadwell St Mary, and Tilbury Marshes to the south. As such it forms an intrinsic part of the setting/backdrop of the marshes to the south and the elevated setting of Chadwell St Mary. There is evidence of significant encroachment and piecemeal development and the designation assists in protecting this area from further incremental change.	Fundamental
		Major
		Moderate
		Slight/Negligible
		None

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	There is a recognisable perception of openness in the parcel, owing particularly to the sloping landform and relationship to the open marshland landscape of parcels 32 and 33 to the south/south east. Perception of encroachment along south east side of Chadwell St Mary and scattered development along Biggin Lane.	**Very apparent**
		Recognisable
		Limited
		Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Views variable due to topography. Southern edge of Chadwell St Mary extends up to edge of ridge with steep sloping land in much of the parcel extending from edge of settlement to open marshland below; panoramic views are possible from edge of settlement. Extensive views over marshland (parcels 32 and 33), Tilbury and estuary into north Kent; conversely the area is exposed to views from the marshes and estuary.	Contained
		Partial
		Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Well defined by roads/lanes except along Green Belt boundary along edge of Chadwell St Mary where boundary is poorly defined along unclear features and rear gardens in places. Internal roads provide opportunities for sub-division of parcel.	**Well defined**
		Partially defined
		Ill-defined
		Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	Close physical/visual relationship to southern edge of Chadwell St Mary, although relationship weakens in southern part. Separated from Tilbury by larger parcel 32.	**Very evident**
		Evident
		Limited
		Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	The parcel lies in south western edge of LCA H1, East and West Tilbury Open Undulating Farmland, forming the transition between this landscape and the Tilbury Marshes (LCA F2) to the south. Its elevated nature allows panoramic views from the southern edge of Chadwell St Mary. The countryside within the parcel has a varied character due to its relationship to the urban fringe and sloping topography which marks the change between the higher land and marshes. Land use is varied with a small area of arable land on flatter land; areas of over-grazed pasture primarily used for keeping of horses, despoiled land and areas of woodland and scrub, interspersed with occasional farms (often involving horse-related uses) and areas of development along lanes/roads. The Green Belt boundary along the southern edge of Chadwell St Mary is irregular and poorly defined. The parcel is fragmented by these varied uses and road infrastructure and there is evidence of encroachment and urban fringe activities, notably along Biggins Lane, and the adjoining Gateway Academy (in adjoining parcel 32) is a prominent building which adjoins the area.	Strong rural
		Principally rural with some limited urban influences
		Rural with significant urban influences
		Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Open space; area of former quarry/landfill east of Chadwell St Mary; Flood Zone 3 along southern edge; local nature conservation site in south east corner; eastern boundary adjoins West Tilbury Conservation Area.	Substantial constraints over much of area
		Moderate level of constraints
		Few/no constraints

Strategic Parcel No. 30	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	The western part of this parcel is close to the eastern edge of the Thurrock urban area at Chadwell St Mary; whilst it is separated from the Thurrock urban area by the narrow (around 275m) eastern part of parcel 29 the northern part of this area contains development extending almost to the boundary with parcel 30. The northern part of the parcel therefore makes a contribution to constraining the expansion of the built up area in this direction towards the small settlement of West Tilbury. The rest of the parcel is unrelated to the built up area.	Fundamental Major Moderate **Slight/Negligible** **None**
Purpose 2: To prevent neighbouring towns from merging into one another	The parcel does not lie between towns and therefore makes no contribution to this purpose. It does contribute to the separation of smaller settlements of West Tilbury and East Tilbury from Chadwell St Mary, although the latter is around 1.9km to the east of Chadwell St Mary.	Fundamental Major Moderate Slight/Negligible **None**
Purpose 3: To assist in safeguarding the countryside from encroachment	Green Belt designation provides a strong constraint to further encroachment within this parcel, parts of which seem vulnerable to piecemeal encroachment and intensification of existing uses that are evident along parts of the internal lanes.	Fundamental **Major** Moderate Slight/Negligible None

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	General sense of openness throughout parcel although there is evidence of some encroachment from urban fringe uses.	**Very apparent**
		Recognisable
		Limited
		Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Variable across parcel; exposed along southern edge due to significant change in topography from higher land to edge of marshes giving intervisibility across parcels 33 and 34. Some views north into southern part of parcel 25.	Contained
		Partial
		Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Defined mainly by lanes but less well defined along south eastern edge where it follows small watercourse and break of slope on edge of Tilbury Marshes. Parcel could be sub-divided along railway which crosses middle of parcel.	**Well defined**
		Partially defined
		Ill-defined
		Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	No clear relationship with towns. Eastern part forms hinterland of East Tilbury village (where Bata factory prominent and incongruous industrial feature within otherwise mainly rural setting) and small cluster of development at Linford. West Tilbury is a sporadic area of small scale settlement along lanes.	Very evident
		Evident
		Limited
		Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	The parcel forms the southern part of LCA H1, East and West Tilbury Open Undulating Farmland, which comprises farmland principally, located immediately above the estuary floodplain, the edge of which is marked by a significant change in level (steep at West Tilbury). A network of lanes runs through the area adjacent to which are small clusters of dwellings (such as West Tilbury and Low Street) and farms. Encroachment from urban fringe uses is evident, such as metal recycling, small workshops, smallholdings with many outbuildings, storage yards, gypsy and traveller development, and horse paddocks; network of electricity transmission lines and pylons, running north/south though central part of parcel. Away from these uses, which are located primarily along the lanes, there is productive open countryside extending up to the edge of East Tilbury, where the Bata factory is a prominent feature and development forms a stark interface with the countryside, and the estuary. West Tilbury church a prominent landmark located on the ridge above the marshes.	Strong rural
		Principally rural with some limited urban influences
		Rural with significant urban influences
		Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	West Tilbury and Low Street Conservation Areas in western part where surrounding landscape (including marshes to the south) contributes to rural setting; two Scheduled Monuments; two local nature conservation sites; small areas of Flood Zone 3 along southern part of parcel adjoining marshes; two quarries/landfill sites south west of East Tilbury. Overall these amount to a small proportion of the parcel. Southern part of parcel contributes to setting of Coalhouse Fort; eastern part to setting of West Tilbury Conservation Area. Mostly Grade 2 agricultural land.	Substantial constraints over much of area
		Moderate level of constraints
		Few/no constraints

Strategic Parcel No. 31	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	The parcel adjoins, and is effectively part of the large built up area of Thurrock, extending over a narrow strip of undeveloped land (sometimes as little as 60m wide) between the eastern and southern fringes of the southern part of Little Thurrock/Socketts Heath and the A1089. As such it provides a constraint to further development although, in reality, this constraint is provided by the A1089 and other factors such as open space and flood risk (in the southern part). A recent employment allocation on the north west side of Tilbury means that the southern edge of Little Thurrock is joined by existing and proposed development to Tilbury just beyond the southern end of the parcel.	Fundamental Major Moderate **Slight/Negligible** None
Purpose 2: To prevent neighbouring towns from merging into one another	This parcel essentially forms part of the town of Thurrock/Grays. The northern part of the parcel, combined with the southern part of parcel 28, contributes to the separation of the towns of Little Thurrock and Chadwell St Mary where the gap is around 800m wide; this area already includes development of Palmer's College. The separation between the two towns is less to the north where the gap is only 250m wide. As with parcel 28, the narrow nature means that even small scale development within this part of the parcel could lead to merging of these towns, although the A1089 provides a physical barrier between them. The southern part of the parcel also provides protection to the separation of the 'slivers' of land (some of which are little more than highway verges) that lie between Little Thurrock and the western edge of Tilbury; in reality these two areas have already largely coalesced so this part provides only a very small contribution to this purpose in this location.	**Fundamental** Major Moderate **Slight/Negligible** None
Purpose 3: To assist in safeguarding the countryside from encroachment	The parcel does not retain many intrinsic characteristics of countryside. The southern and central parts provide a 'soft' edge to the urban area, which assimilates it in open views from across the marshes beyond. As such, it provides a buffer between the urban area and the open marshes and may be regarded as contributing to this purpose for this reason.	Fundamental Major Moderate **Slight/Negligible** None

THURROCK GREEN BELT ASSESSMENT

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Partial perception of openness along fringes of built up area, with intrusion of urban related uses. College, sports club/fitness centre forms substantial developed area in northern part.	Very apparent Recognisable **Limited** Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Generally contained throughout due to high level of vegetation cover and development along western edge. Some intervisibility between northern part of parcel and parcels 28 and 29. Vegetation largely contains parcel from parcel 32.	**Contained** Partial Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Well defined on northern and eastern sides by major roads. Parcel and Green Belt boundary defined along weak features on edge of development along western side. No obvious scope for internal sub-division of parcel.	**Well defined** Partially defined **Ill-defined** Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	Clear association with eastern edge of Little Thurrock/Socketts Heath and with adjoining edges of Tilbury and Chadwell St Mary although separated by the A1089.	**Very evident** Evident Limited Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	Central and southern parts of parcel lie within western edge of LCA F2, Tilbury Marshes. Northern part within south western edge of LCA H1, East and West Tilbury Open Undulating Farmland. Parcel is characterised by a mosaic of woodland, scrub and unmanaged land, open space, allotments, a cemetery, a school, and a ribbon of houses on Malvern Road. It is therefore an urban fringe landscape and quite distinct from the countryside of the marshes to the east and Undulating Farmland to the north. Whilst lacking in rural characteristics the southern and central parts provide a 'soft' edge to the urban area, assisting in assimilating it in open views across the marshes beyond. As such, it provides a buffer between the urban area and the open marshes and may be regarded as important for this reason.	Strong rural Principally rural with some limited urban influences Rural with significant urban influences **Urban fringe/semi urban**
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	All but higher northern part of parcel within Flood Zone 3. Small local nature conservation site south of A1089 interchange south of college. Areas of open space.	**Substantial constraints over much of area** Moderate level of constraints Few/no constraints

Strategic Parcel No. 32	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	The parcel is separated from the south eastern part of the Thurrock urban area at Little Thurrock by the narrow area of land within parcel 31 from which it is separated by the A1089 Docks Approach Road. A recent employment allocation means that the north west edge of Tilbury is joined by existing and proposed development to Tilbury Docks on the southern side of the parcel. Whilst parcel 31 provides the immediate constraint to the expansion of the urban area in this location, parcel 32 comprises a large expanse of open land where development is likely to be perceived as sprawl (as evidenced by the intrusion of the development within the recent employment development to the south).	**Fundamental** Major Moderate Slight/Negligible None
Purpose 2: To prevent neighbouring towns from merging into one another	The parcel lies between Tilbury and the south eastern side of Grays/Little Thurrock which is only separated from the parcel by the narrow area of land in the southern part of parcel 31. Significant development could therefore lead to a perception of merging of the two towns and the parcel fulfils a most important function in relation to this purpose in this location. The parcel also plays a very important role in maintaining separation between Tilbury and Chadwell St Mary which is separated by only some 600m at the narrowest eastern part, where separation is already compromised by the Gateway Academy development.	**Fundamental** **Major** Moderate Slight/Negligible None
Purpose 3: To assist in safeguarding the countryside from encroachment	The expansive open nature of the marshes means that any development is likely to appear as a clear encroachment into the countryside, as is evidenced by the new employment development adjoining the southern boundary and the Gateway Academy in the north eastern corner; both developments achieve a 'poor fit' within the landscape. There are no well-defined internal boundaries and, due to the open character of the marshes, strategic planting would not be appropriate.	**Fundamental** Major Moderate Slight/Negligible None

THURROCK GREEN BELT ASSESSMENT

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Open and visually exposed. Gateway Academy and development within new employment allocation creates strong perception of encroachment.	**Very apparent**
		Recognisable
		Limited
		Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Extensive views to parcel 29 on edge of Chadwell St Mary. Visual relationship with parcel 33 to east partly interrupted by ribbon of development along A126.	Contained
		Partial
		Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Well defined along west, north and east sides by main roads. Southern boundary, contiguous with Green Belt boundary, poorly defined by tall fence and newly establishing planting along edge of new employment development, and rear gardens and poor field boundaries on north east fringes of Tilbury.	**Well defined**
		Partially defined
		Ill-defined
		Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	Separated from Chadwell St Mary and Grays/Little Thurrock/Socketts Heath by parcels 29 and 31 respectively. Immediate relationship with Tilbury on southern and south western sides which is poorly assimilated in the marshland landscape.	Very evident
		Evident
		Limited
		Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	Farmed marshland character within western part of LCA F2, Tilbury Marshes which has no significant internal boundaries leading to wide views and visual exposure to development, academy complex, new employment area, and north east fringes of Tilbury. The area has a rural character but these developments have had a significant effect on the character of the area and there is a clear sense of encroachment into this sensitive exposed landscape. Urban fringe character along edge of Tilbury with poorly contained development, urban fringe uses, and poorly managed land.	Strong rural
		Principally rural with some limited urban influences
		Rural with significant urban influences
		Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	The entire parcel is constrained by Flood Zone 3. Large part of parcel is Grade 2 agricultural land. Local nature conservation site in north west corner.	**Substantial constraints over much of area**
		Moderate level of constraints
		Few/no constraints

Strategic Parcel No. 33	

GREEN BELT PURPOSES	**ASSESSMENT**	**IMPORTANCE TO GREEN BELT PURPOSE**
Purpose 1: To check the unrestricted sprawl of large built up areas	Whilst the parcel is separated from the south eastern part of the Thurrock urban area by parcel 29 on the southern side of Chadwell St Mary, it adjoins the north eastern and eastern parts of Tilbury which forms part of the Thurrock large built up area. It therefore provides a very important function in checking the expansion of Tilbury into this area.	**Fundamental**
		Major
		Moderate
		Slight/Negligible
		None
Purpose 2: To prevent neighbouring towns from merging into one another	The western part of the parcel is located between Chadwell St Mary and the northern side of Tilbury. Together with the adjoining part of parcel 29 on the southern edge of Chadwell St Mary, the area provides an important contribution to this purpose.	Fundamental
		Major
		Moderate
		Slight/Negligible
		None
Purpose 3: To assist in safeguarding the countryside from encroachment	The parcel is free of encroachment being open expansive marshland/farmland, although development on the north eastern side of Tilbury does encroach visually upon the area due to the weak boundaries along its edge. Any development within the parcel would be a clear encroachment into open countryside.	**Fundamental**
		Major
		Moderate
		Slight/Negligible
		None

THURROCK GREEN BELT ASSESSMENT

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Very strong perception of openness with virtually no encroachment by development except by gypsy/traveller development on north west edge.	**Very apparent**
		Recognisable
		Limited
		Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Expansive views across open farmland with Tilbury power station and related tall infrastructure prominent, with views extending over the estuary into north Kent; views west to Thurrock urban area. Visual association with parcel 29 where the ridge forms a prominent backdrop and feature rising up to the north with church at West Tilbury forming an elevated landmark, and the south western edges of parcels 30 and parcel 34. Views across parcel to Tilbury.	Contained
		Partial
		Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Well defined by roads and lanes except along north eastern edge of Tilbury where edges defined by rear gardens/edges of development, 'blurred' by Tilbury Manor school development. Fort Road forms a clear physical feature that forms a boundary to the eastern part of the parcel.	**Well defined**
		Partially defined
		Ill-defined
		Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	Separated from Chadwell St Mary by fairly narrow area of land within parcel 29. Clear relationship with fringes of north east Tilbury.	**Very evident**
		Evident
		Limited
		Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	Open farmed marshland with an exposed character falling within western part of LCA F2, Tilbury Marshes, influenced by development along largely open edge on north eastern side of Tilbury. Parts further away from development have a sense of remoteness.	Strong rural
		Principally rural with some limited urban influences
		Rural with significant urban influences
		Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	The entire parcel is constrained by Flood Zone 3. Small area of Grade 2 agricultural land on north western edge.	**Substantial constraints over much of area**
		Moderate level of constraints
		Few/no constraints

Strategic Parcel No. 34	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	The parcel has no relevance to this purpose being remote from large built up areas.	Fundamental Major Moderate Slight/Negligible **None**
Purpose 2: To prevent neighbouring towns from merging into one another	The parcel has no relevance to this purpose as it is not located between towns.	Fundamental Major Moderate Slight/Negligible **None**
Purpose 3: To assist in safeguarding the countryside from encroachment	The designation provides very important protection to the countryside of the open West and East Tilbury Marshes lying within LCA F2, Tilbury Marshes. Area forms the first significant area of open land alongside the estuary east of the Thurrock urban area and the area is perceived as open countryside, despite intrusion of the adjacent power station (outside Green Belt), related infrastructure, and an extensive area disturbed by landfilling to the east of the power station and Green Belt designation provides important protection of the countryside and its openness.	Fundamental **Major** Moderate Slight/Negligible None

THURROCK GREEN BELT ASSESSMENT

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Strong sense of openness due to open character and absence of development. Power station adjoining western part of parcel, and associated transmission infrastructure, has significant effect on perception of the area.	**Very apparent**
		Recognisable
		Limited
		Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Generally expansive views to ridge to north and to and beyond estuary to south, but restricted to west by power station beyond parcel boundary.	Contained
		Partial
		Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Clearly defined along northern side by railway. Poorly defined along boundary with power station. North east boundary with parcel 30 less well defined where it follows small watercourse and break of slope on edge of marshes. Southern boundary defined by estuary. No alternative well defined internal boundaries.	**Well defined**
		Partially defined
		Ill-defined
		Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	No relationship.	Very evident
		Evident
		Limited
		Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	Open landscape within south eastern part of LCA F2, Tilbury Marshes with some significant areas of landfill. The character of the area is adversely affected by the very significant visual encroachment of the power station located beyond the western boundary of the parcel and associated transmission infrastructure. Considerable parts of the parcel have been affected by landfill operations with some works still in progress. Land north of the power station is identified for employment development in the LDF; this will further extend the visual effects of development into this flat open landscape. Area forms part of important undeveloped area that provides a connection between the estuary and undeveloped countryside to the north east and east of the Thurrock urban area.	Strong rural
		Principally rural with some limited urban influences
		Rural with significant urban influences
		Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Areas of parcel not affected by land filling are constrained by Flood Zone 3. Significant area of nature conservation value in southern part. Eastern part contributes to open landscape setting of Coalhouse Fort (Scheduled Monument).	**Substantial constraints over much of area**
		Moderate level of constraints
		Few/no constraints

Strategic Parcel No. 35	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	The parcel has no relevance to this purpose being remote from large built up areas.	Fundamental
		Major
		Moderate
		Slight/Negligible
		None
Purpose 2: To prevent neighbouring towns from merging into one another	The parcel has no relevance to this purpose as it is not located between towns.	Fundamental
		Major
		Moderate
		Slight/Negligible
		None
Purpose 3: To assist in safeguarding the countryside from encroachment	Green Belt provides protection from encroachment of development into the estuary hinterland which, whilst part of the open marshland landscape adjoining the Thames, has been affected very significantly by extensive quarrying/landfilling.	Fundamental
		Major
		Moderate
		Slight/Negligible
		None

THURROCK GREEN BELT ASSESSMENT

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Strong perception of openness, forming part of open estuary hinterland. No clear encroachment although extensive quarrying/landfilling operations throughout much of the area which has changed the character of the landscape.	**Very apparent**
		Recognisable
		Limited
		Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Expansive views across East Tilbury Marshes and estuary. View of Coalhouse Fort in prominent setting on estuary edge. Raised landfill disrupts some views towards estuary but provides elevated views over the landscape and the estuary. This is particularly notable at Thameside Nature Park and related RSPB visitor centre.	Contained
		Partial
		Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Well defined by Princess Margaret Road along west boundary (ribbon development north of Coalhouse Fort falls within parcel); east boundary by estuary. West boundary defined in part by woodland belt. Northern boundary by wooded belt east of East Tilbury and weak feature beyond that. No alternative well defined internal boundaries.	**Well defined**
		Partially defined
		Ill-defined
		Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	No relationship. Follows Green Belt boundary along eastern periphery of village of East Tilbury.	Very evident
		Evident
		Limited
		Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	Much of this parcel, which comprises East Tilbury Marshes falling mainly within LCA F3, Mucking Marshes, has been subject to mineral extraction and subsequent landfilling/restoration, some of which is ongoing. This has had a marked effect on the natural character of this area flanking the open estuary where expansive open views are a particular characteristic. The southern part of the parcel includes the prominent Coalhouse Fort (Scheduled Monument) and associated immediate surroundings within an open estuary setting. The landscape is more enclosed where it is elevated adjoining the compact settlement of East Tilbury.	Strong rural
		Principally rural with some limited urban influences
		Rural with significant urban influences
		Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Two Scheduled Monuments, including Coalhouse Fort at the southern end where the adjoining landscape forms part of its estuary setting. Abuts part of East Tilbury Conservation Area. SSSI/RAMSAR/SPA along estuary fringe. Most of area within Flood Zone 3. Large area of landfill. Some Grade 2 agricultural land south of East Tilbury.	**Substantial constraints over much of area**
		Moderate level of constraints
		Few/no constraints

Strategic Parcel No. 36	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	The eastern end of this parcel lies directly west of the large built up area of London Gateway/Coryton and therefore provides a contribution to this purpose by restricting the westward expansion of this area of development; whilst this interface is restricted by an area of mud flats associated with Mucking Creek, based upon the nature of the existing development, a westward extension of port development along the estuary may be sought. Therefore the parcel is considered to provide a similar constraint as parcels more closely related to the port (such as parcels 09 and 37). The parcel also extends up to southern end of Corringham/Stanford-le-Hope built up area and therefore the designation acts as a constraint to its southward expansion.	**Fundamental** Major Moderate Slight/Negligible None
Purpose 2: To prevent neighbouring towns from merging into one another	Parcel has no relevance to this purpose as it is not located between towns. Northern part of parcel lies between edge of Stanford-le-Hope and the small group of properties and church at Mucking. The parcel also lies between Stanford-le-Hope and the village of East Tilbury.	Fundamental Major Moderate Slight/Negligible **None**
Purpose 3: To assist in safeguarding the countryside from encroachment	Green Belt provides protection from encroachment of development into the estuary marshes including, at the north eastern end, westward encroachment from the adjoining London Gateway Port.	Fundamental **Major** **Moderate** Slight/Negligible None

THURROCK GREEN BELT ASSESSMENT

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Strong perception of openness, with area largely free of development. Perception of encroachment from quarrying and associated landfilling activities.	**Very apparent**
		Recognisable
		Limited
		Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Generally expansive views over area, along and across estuary, including from Thameside Nature Park and related RSPB centre. Views to all adjoining parcels. Views east towards London Gateway from more elevated landfilled areas.	Contained
		Partial
		Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Well defined by railway along western and northern boundary, and estuary along eastern boundary. Southern boundary defined by wooded belt east of East Tilbury and weak feature to the east.	**Well defined**
		Partially defined
		Ill-defined
		Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	Northern edge adjoins southern edge of Stanford-le-Hope where the boundary with the edge of the town is well defined by the railway and associated woodland such that there is no obvious association with the town. Contiguous with northern edge of East Tilbury.	Very evident
		Evident
		Limited
		Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	In character terms this parcel is a northward continuation of the low lying Marshes from parcel 35 falling within LCA F3, Mucking Marshes. It too has been subject to extensive mineral workings and landfilling such that the central part forms a raised, exposed featureless expanse. The northern part includes the similarly open Thurrock Thameside Nature Park with visitor centre; ponds and woodland of the Stanford Warren Nature Reserve lie at Mucking just beyond. The south west corner of the parcel defines the northern edge of East Tilbury where there is an area of open space (Gobions Park) adjoining the edge of the Conservation Area, and small area of farmland which provides the northern context of the village. Whilst the marshland character has been lost due to the extraction/landfilling works throughout much of the area, the parcel is largely free of encroachment by development with extensive views in all directions, including over and along the adjoining parts of the estuary including the docks at London Gateway.	Strong rural
		Principally rural with some limited urban influences
		Rural with significant urban influences
		Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	SSSI/RAMSAR/SPA along estuary fringe (continued from parcel 35). Flood Zone 3 in southern, western and northern parts (where land not raised). Extensive landfill. Area of Grade 2 agricultural land north of East Tilbury. Three local nature conservation sites and Thameside Nature Park.	**Substantial constraints over much of area**
		Moderate level of constraints
		Few/no constraints

Strategic Parcel No. 37	

GREEN BELT PURPOSES	**ASSESSMENT**	**IMPORTANCE TO GREEN BELT PURPOSE**
Purpose 1: To check the unrestricted sprawl of large built up areas	The parcel lies between the north west edge of the large built up area of London Gateway/Coryton and southern edge of Corringham/Stanford-le-Hope and therefore contributes to this purpose by restricting the expansion of these areas of development within an area where there are no other clear boundaries to provide containment. Expansion of the built up areas in either direction would give rise to the risk of development joining up to create one large built up area.	**Fundamental**
		Major
		Moderate
		Slight/Negligible
		None
Purpose 2: To prevent neighbouring towns from merging into one another	The parcel has no relevance to this purpose as it is not located between towns (London Gateway/Coryton is not a 'town').	Fundamental
		Major
		Moderate
		Slight/Negligible
		None
Purpose 3: To assist in safeguarding the countryside from encroachment	The countryside within this parcel possesses a predominantly rural character of gently sloping fields, allowing expansive views, extending up from the periphery of the estuary to the urban edge of Corringham/Stanford-le-Hope. The area is almost entirely free of development, although the new port access road which separates the parcel from parcel 37 is a significant encroachment cutting across this part of the countryside. The designation contributes to safeguarding the area from the southward expansion of Corringham/Stanford-le-Hope and north westward expansion of port/industrial development.	**Fundamental**
		Major
		Moderate
		Slight/Negligible
		None

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Strong perception of openness with no inappropriate development, although direct relationship with London Gateway Port separates parcel from estuary beyond.	**Very apparent**
		Recognisable
		Limited
		Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Broad open views across area, to estuary and beyond especially from more elevated northern part.	Contained
		Partial
		Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Clearly defined along new port access road and A1014. South east boundary with port formed by open edge with development. Visual relationship with parcel 10 interrupted by new port access road and associated earthworks. Disused port access road forms an internal boundary feature in the eastern part of the parcel.	**Well defined**
		Partially defined
		Ill-defined
		Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	Immediate relationship with Corringham/Stanford-le-Hope on northern edge, although edge of town clearly defined by A1014.	Very evident
		Evident
		Limited
		Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	Parcel straddles two LCAs – LCA H3, Fobbing Ridge Open Undulating Farmland which forms the immediate hinterland on the southern side of Corringham/Stanford-le-Hope, and LCA G4, London Gateway Port; this reflects the change in topography and related character across the parcel. Overall the countryside within the parcel possesses a predominantly rural character of gently sloping mainly arable fields, allowing expansive views, extending up from the periphery of the estuary to the urban edge of Corringham/Stanford-le-Hope. The area is almost entirely free of development, although the new port access road which separates the parcel from parcel 37 is a significant encroachment cutting across this part of the countryside. Tall structures and buildings within the flat marsh landscape have a far-reaching visual influence across the area.	Strong rural
		Principally rural with some limited urban influences
		Rural with significant urban influences
		Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Small area of former landfill site. Significant area of local nature conservation value across south eastern/eastern part of parcel broadly correlating with area of Flood Zone 3. Grade 2 agricultural land south of Corringham/Stanford-le-Hope.	**Substantial constraints over much of area**
		Moderate level of constraints
		Few/no constraints

Strategic Parcel No. 38	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	Restricts westward sprawl of Thurrock urban area towards Rainham; whilst Purfleet already extends towards Rainham the western part of this parcel extends beyond and closer to the edge of the Greater London built up area.	Fundamental
		Major
		Moderate
		Slight/Negligible
		None
Purpose 2: To prevent neighbouring towns from merging into one another	Prevents westward expansion of Purfleet towards Rainham although a gap of around 800m exists between the edge of the parcel and Rainham.	Fundamental
		Major
		Moderate
		Slight/Negligible
		None
Purpose 3: To assist in safeguarding the countryside from encroachment	Adjoining edge of Purfleet quite well defined by infrastructure and any development beyond these limits would be perceived as a clear encroachment into wide open expanse of Rainham Marshes.	**Fundamental**
		Major
		Moderate
		Slight/Negligible
		None

THURROCK GREEN BELT ASSESSMENT

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Strong sense of openness. Broad open marshland with wide and expansive views, including across estuary and to urban areas beyond parcel to west and north west. Rainham Marshes Visitor Centre close to boundary with Purfleet. Devoid of inappropriate development.	**Very apparent** Recognisable Limited Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Expansive and beyond district boundary, including across estuary.	Contained Partial **Open/extensive**
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Well defined to north (railway) and south (estuary). South east boundary reasonably well defined along Mar Dyke although area of similar land has been excluded creating poorly defined boundary. No clearly defined feature along borough boundary so parcel has been extended beyond to an obvious drainage channel close to an area of filled land beyond.	**Well defined** Partially defined Ill-defined **Open**
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	Defines edge of Purfleet and separates 'arm' of employment land north of railway (very evident) from western edge of town (generally well contained by vegetation). No obvious relationship with Rainham evident to north west due to distance and containment provided by significant area of raised landfill between parcel and town.	Very evident Evident **Limited** Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	South eastern part of LCA F1, Aveley Marshes, consisting of a broad expanse of exposed open marshland (a rare surviving area of medieval reclaimed marshland, now managed for wildlife) with strong association with the estuary beyond the sea wall. Strong, distinctive wild and windswept character with some external influences from infrastructure, employment development on north west edge of Purfleet, and landfill operations beyond to west.	Strong rural **Principally rural with some limited urban influences** Rural with significant urban influences Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Entirely within Flood Zone 3 and SSSI. Much of area is RSPB Rainham Marshes Reserve.	**Substantial constraints over much of area** Moderate level of constraints Few/no constraints

Strategic Parcel No. 39	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	Restricts northward expansion of Thurrock urban area (Purfleet) towards Aveley, although separated from it by A13 and parcel 22.	Fundamental **Major** Moderate Slight/Negligible None
Purpose 2: To prevent neighbouring towns from merging into one another	Contributes, together with parcel 22, to separation of Purfleet from Aveley. Western edge of adjacent built up area of Purfleet already extends slightly closer to Rainham (some 2.7km to the north west) than parcel.	Fundamental **Major** Moderate Slight/Negligible None
Purpose 3: To assist in safeguarding the countryside from encroachment	Designation assists in preventing encroachment into the defined valley and green corridor of Mar Dyke. Parcel forms important part of connective green infrastructure, linking the Mar Dyke catchment to the estuary, which defines northern side of Thurrock built up area.	Fundamental **Major** Moderate Slight/Negligible None

THURROCK GREEN BELT ASSESSMENT

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Generally strong sense of openness due to linear valley feature, which is more open to west, which contrasts with and provides relief from adjoining built up areas. Presence of urban fringe uses, overhead power lines, sports village (north west end), gypsy and traveller site, Thurrock Hotel and Thurrock Football Club in south east corner reduce perception of openness locally.	**Very apparent** **Recognisable** Limited Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Variable according to land cover (significant woodland at Watt's Wood on north edge of Purfleet and linear woodland alongside A13) and valley topography. Little to no visual relationship with parcel 22 to north. M25 separates parcel from parcel 21 to east. Development separates parcel from parcel 38 to south west.	**Contained** **Partial** Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Parcel boundaries well defined by major roads. Potential to sub-divide eastern part of parcel along Ship Lane, otherwise no other defensible internal boundaries.	**Well defined** Partially defined Ill-defined Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	A3106 separates parcel from Purfleet. Clear perception of relationship to north edge of Purfleet in western end of parcel where development is very evident beyond A3106. Extensive woodland on southern side (combined with woodland on north side of Purfleet) provides valuable visual containment of urban area beyond. Parcel forms significant part of the undeveloped Green Belt land (together with parcel 22) which separates Purfleet from Aveley. Valley landform means that parcel tends to be seen in views from south as distinct from Aveley concealed above and to north (refer parcel 22 for southward views).	Very evident **Evident** Limited Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	Western end falls within edge of LCA C1, Belhus Farmed River Terrace Gravels; central and eastern parts within LCA B1, Lower Mar Dyke River Valley. The parcel is predominantly a distinctive valley feature of low lying valley pasture in linear fields bounded by variable hedgerows, with extensive woodland on elevated land at Watt's Wood. Variable character with encroachment of various uses (as above) principally in north western and eastern parts. Ribbon of housing along Purfleet Road on north west boundary. An overgrazed and poorly managed area, combined with development of poor visual quality, creates a rather neglected appearance; central part has more intact rural character. Major roads on all sides which are apparent to varying degrees, although A13 generally in cutting and concealed. Mar Dyke, which is not a significant visual feature, runs east-west and creates significant floodplain. Some areas of restored landfill.	Strong rural **Principally rural with some limited urban influences** **Rural with significant urban influences** **Urban fringe/semi urban**
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Extensive area of Flood Zone 3 within Mar Dyke floodplain. Extensive local nature conservation sites. Watt's Wood is Ancient Woodland. Small area of grade 2 agricultural land on northern fringe of eastern part of valley. Small areas of former quarrying and landfill.	**Substantial constraints over much of area** Moderate level of constraints Few/no constraints

Strategic Parcel No. 40	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	Eastern part of parcel extends close to south western edge of Stanford-le-Hope being only separated from it by A13 and the parallel A1013. Whilst the roads provide a clear boundary the designation does provide constraint to the expansion of the built up area into the landscape beyond and towards the village of Horndon on the Hill.	**Fundamental** Major Moderate Slight/Negligible None
Purpose 2: To prevent neighbouring towns from merging into one another	The parcel has little relevance to this purpose. Whilst it lies directly west of Stanford-le-Hope/Corringham it is separated from the north east side of Grays/Stifford Clays by parcels 27 and 41 (around 3km wide). The eastern part provides separation between the south western edge of Stanford-le-Hope and the village of Horndon on the Hill some 800m to the north west, in an area where ribbon development southwards from the village along Pump Street and Horndon Road extends up to the A13.	Fundamental Major Moderate Slight/Negligible **None**
Purpose 3: To assist in safeguarding the countryside from encroachment	Designation provides important protection to encroachment, particularly infilling/intensification of development within long linear plots on edge of Horndon-on-the-Hill.	**Fundamental** Major Moderate Slight/Negligible None

THURROCK GREEN BELT ASSESSMENT

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Strong perception of openness across area due to elevated and sloping nature of the parcel which lacks significant vegetation cover.	**Very apparent**
		Recognisable
		Limited
		Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Variable but generally open.	Contained
		Partial
		Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Well defined by roads on all sides. Potential for internal sub division along weaker boundary of farm access road/track.	**Well defined**
		Partially defined
		Ill-defined
		Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	No particular relationship to principal settlements although south eastern part extends close to the south western edge of Stanford-le-Hope. Part of northern boundary contiguous with Green Belt boundary along southern edge of Horndon-on-the-Hill.	Very evident
		Evident
		Limited
		Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	The parcel lies within eastern part of LCA H2, Orsett & Horndon-on-the-Hill Open Undulating Farmland, comprising productive farmland with a strong, unified and expansive rural character; the slopes that wrap around the southern and south eastern sides of Horndon-on-the-Hill are visually exposed. The southern and western parts are large scale arable, whilst there is a slightly finer grained character within the eastern part. Existing development is limited to scattered farmsteads and dwellings along the peripheral roads and ribbon of development extending south from Horndon-on-the-Hill (part of which is within the settlement boundary).	**Strong rural**
		Principally rural with some limited urban influences
		Rural with significant urban influences
		Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Most of the parcel is Grade 2 agricultural land. Adjoins Conservation Area at Horndon-on-the-Hill. Former quarry south east of Horndon-on-the-Hill, now restored.	Substantial constraints over much of area
		Moderate level of constraints
		Few/no constraints

Strategic Parcel No. 41	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	The parcel has no relevance to this purpose being separated from the Thurrock urban area on the north eastern side of Little Thurrock/Socketts Heath and northern side of Chadwell St Mary by parcels 27 and 26 respectively which are separated from the parcel by major road infrastructure.	Fundamental
		Major
		Moderate
		Slight/Negligible
		None
Purpose 2: To prevent neighbouring towns from merging into one another	The parcel has little relevance to this purpose. Whilst it forms part of the countryside (around 3km wide) that separates Stanford-le-Hope/Corringham from the north east side of Grays/Stifford Clays it is separated from these towns by parcels 27 and 40, and major infrastructure on the edge of parcel 27.	Fundamental
		Major
		Moderate
		Slight/Negligible
		None
Purpose 3: To assist in safeguarding the countryside from encroachment	There is significant encroachment of residential development along the western and north west sides of Orsett. Designation provides important protection from further encroachment, notably along the edges of the settlement and ribbon development.	Fundamental
		Major
		Moderate
		Slight/Negligible
		None

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Despite an area of ribbon development at Baker Street which detracts from the openness of this edge of the parcel, the general perception is of openness enhanced by the elevated and gentle sloping nature of the topography and limited vegetation cover.	Very apparent **Recognisable** Limited Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Variable across area depending upon elevation and land cover; more open in central and eastern parts where field pattern is larger. Views more contained in parts of village fringe.	Contained **Partial** Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	Defined clearly on all sides by roads, except along eastern edge of village where gardens and small fields form the edge contiguous with the Green Belt boundary.	**Well defined** Partially defined **Ill-defined** Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	No clear relationship to towns. Defines southern edge of Orsett.	Very evident Evident Limited **Not evident**
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	The parcel forms part of LCA H2, Orsett & Horndon-on-the-Hill Open Undulating Farmland which parcel wraps around the west, south and east sides of Orsett. There is significant encroachment of residential development along the western side (Baker Street) and north west side (High Road). Urban fringe uses (recreation land, allotments and horse paddocks) are a notable feature along the edge of the settlement and in the western part of the parcel and this has led to some erosion of character. The school and adjoining recreational uses, and an area of allotments, creates a rural/urban edge to the village. The southern and eastern parts are more productively farmed with larger fields creating a more open homogenous landscape.	Strong rural **Principally rural with some limited urban influences** **Rural with significant urban influences** Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Scheduled Monument west of Orsett. North east part of parcel adjoins Orsett Conservation Area. Area of former quarry/landfill south west of Horndon-on-the-Hill and small area of restored quarry south of village adjoining A13. Grade 2 agricultural land throughout parcel.	**Substantial constraints over much of area** Moderate level of constraints Few/no constraints

THURROCK GREEN BELT ASSESSMENT

Strategic Parcel No. 42	

GREEN BELT PURPOSES	ASSESSMENT	IMPORTANCE TO GREEN BELT PURPOSE
Purpose 1: To check the unrestricted sprawl of large built up areas	The parcel is separated from the northern edge of the Thurrock urban area (northern edge of Lakeside/West Thurrock) by parcel 21 and major roads and therefore provides a limited contribution to the containment of the Thurrock urban area.	Fundamental
		Major
		Moderate
		Slight/Negligible
		None
Purpose 2: To prevent neighbouring towns from merging into one another	Forms approx. half of the width of Green Belt that separates Lakeside/West Thurrock from southern side of South Ockendon. The parcel contributes, in combination with parcel 21 to the south, to the separation of these two towns.	Fundamental
		Major
		Moderate
		Slight/Negligible
		None
Purpose 3: To assist in safeguarding the countryside from encroachment	The designation provides protection to this distinctive section of the Mar Dyke valley which is devoid of development.	**Fundamental**
		Major
		Moderate
		Slight/Negligible
		None

RELEVANT PARCEL CHARACTERISTICS		
PERCEPTION OF OPENNESS (How is the area perceived? Is there a sense/perception of openness? Is there evidence of encroachment from 'inappropriate' development?)	Strong perception of openness throughout most of the area which is a discreet valley devoid of development. Woodland provides strong containment with local intrusion by A13 on south western boundary. Includes Major Developed Site in Green Belt on southern side of South Ockendon which is well contained by woodland. Devoid of development except for small number of buildings at Stifford Bridge.	**Very apparent** Recognisable Limited Negligible/none
NATURE OF VIEWS (including intervisibility with adjoining areas)	Linear views, very contained by valley landform and woodland. Glimpsed views through viaduct at eastern end into south west edge of parcel 17 (Davy Down).	**Contained** Partial Open/extensive
NATURE OF PARCEL EDGES (including nature and permanence of boundaries; are there potential alternative recognisable boundaries/edges?)	South western and eastern sides defined clearly by roads and railway line (partly on viaduct). Much of northern side contiguous with Green Belt boundary following edge of development and woodland on southern edge of South Ockendon. Eastern boundary could be aligned along B186 instead of railway.	**Well defined** **Partially defined** Ill-defined Open
RELATIONSHIP TO PRINCIPAL SETTLEMENTS (Large built up areas as first purpose and towns as second purpose; relationship to other 'non-principal' settlements)	No obvious relationship to West Thurrock. Forms southern periphery and setting of South Ockendon; woodland forms dense screen and containment such that relationship not evident from most of parcel. Separated from northern edge of Thurrock urban area by parcel 21.	Very evident Evident **Limited** Not evident
LANDSCAPE CHARACTER (What are the principal land uses and landscape characteristics that are evident?)	Straddles central part of LCA B1, Lower Mar Dyke Valley and edge of LCA C1, Belhus Farmed River Terrace Gravels on south western side of South Ockendon. The parcel is characterised principally by woodland and mainly wet pasture/rough grassland of the Mar Dyke valley and associated, largely wooded valley sides which provide valuable containment of the southern built up edge of South Ockendon and bordering road infrastructure. It provides an attractive, accessible area from Davy Down Riverside Park that has a predominantly natural character and is surprisingly discreet (although subject to significant road noise). Forms key part of green infrastructure separating South Ockendon from Thurrock urban area. The railway viaduct that crosses the eastern part of the parcel is a distinctive feature.	**Strong rural** **Principally rural with some limited urban influences** Rural with significant urban influences Urban fringe/semi urban
ENVIRONMENTAL CONSTRAINTS (Are there any 'high level' environmental constraints that could limit potential strategic development within the parcel)	Flood Zone 3 along valley floor; extensive local nature conservation sites including two areas of Ancient Woodland; areas of restored former quarry/landfill in north western and south eastern parts.	**Substantial constraints over much of area** Moderate level of constraints Few/no constraints

Abbreviations: LCA - Landscape Character Area (based on draft Thurrock Integrated Landscape Character Assessment; LUC, October 2018).

Lower Thames Crossing

Thurrock Council Local Impact Report

Appendix L – Annex 4: Thurrock Strategic GB Assessment (2019) Part 2

Appendix E Stage 1a: Maps of the Findings of the Assessment of Parcels Against Green Belt Purposes

Green Belt Parcel

Thurrock Boundary

Importance to Green Belt Purpose

- Fundamental
- Fundamental/Slight/Negligible
- Major
- Major/Moderate
- Major/None
- Moderate/Slight

Thurrock Green Belt Review

0 2.5 5 Km

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peterbrett

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02/01/19

Drawn: CM

Checked: CE

Purpose of Green Belt
Overall Importance as Area of Search

Appendix E – Maps
Parcel Assessment Results

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Green Belt Parcel

Thurrock Boundary

Purpose

- Fundamental
- Major
- Moderate
- Slight/Negligible
- Slight/Negligible or no contribution
- None

Thurrock Green Belt Review	0 2.5 5 Km Contains Ordnance Survey data © Crown copyright and database right 2015.	pba peterbrett		1:65,000 @ A3 07/01/19 Drawn: CM/IB Checked: SJ	Purpose of Green Belt 1. To check the unrestricted sprawl of large built-up areas Appendix E – Maps Parcel Assessment Results

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Green Belt Parcel

Thurrock Boundary

Purpose

- Fundamental
- Fundamental/Major
- Fundamental/Slight/Negligible
- Major/None
- Moderate/None
- Major
- Moderate
- Slight/negligible
- None

Thurrock Green Belt Review	0 2.5 5 Km Contains Ordnance Survey data © Crown copyright and database right 2015.	pba peterbrett		1:65,000 @ A3 02/01/19 Drawn: CM/IB Checked: SJ	Purpose of Green Belt 2. To prevent neighbouring towns from merging into one another Appendix E – Maps Parcel Assessment Results

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Green Belt Parcel

Thurrock Boundary

Purpose

- Fundamental
- Fundamental/Major
- Moderate/Slight/Negligible
- Major
- Major/Moderate
- Moderate
- Slight/Negligible
- None

Thurrock Green Belt Review

0 2.5 5 Km

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Purpose of Green Belt
3. To assist in safeguarding the countryside from encroachment

Appendix E – Maps
Parcel Assessment Results

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Appendix F Green Belt Parcels and Proposed Second Thames Crossing

Green Belt Parcel

Lower Thames Crossing

Thurrock Boundary

Green Belt within Thurrock

Thurrock Green Belt Review

0 2.5 5 Km

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The Green Belt parcels in relation to the proposed Lower Thames Crossing

Rev A

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Lower Thames Crossing

Thurrock Council Local Impact Report

Appendix L Annex 5 – Email to NH and Response to Council (June 2023)

[redacted]

From: [redacted]
Sent: 15 June 2023 17:52
To: [redacted]
Cc: [redacted]

Subject: RE: Additional Information - Green Belt

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: SJ Action

Hi [redacted],

Further to Poulomee's separate email sent on the 12th June which provided the response to the utility diversions question, please see below for our response to the Green Belt question:

LTC has prepared the following response for Thurrock Council to explain the DCO Application approach to the Green Belt. Green Belt is considered in the Planning Statement Chapters 5, 6, 7 and 8, and Appendix E. It is also considered in the Environmental Statement Chapter 3 and Chapter 7.

Paragraph 5.164 of the NPSNN states that: "*The fundamental aim of Green Belt Policy is to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts are their openness and their permanence. For further information on the purposes and protection of Green Belt, see the National Planning Policy Framework*".

The starting point for assessment is set out in paragraph 5.170 of the NPSNN which states that there is "*a general presumption against inappropriate development in the Green Belt. Such development should not be approved except in very special circumstances. Applicants should therefore determine whether their proposal, or any part of it, is within an established Green Belt and, if so, whether their proposal may be considered inappropriate development within the meaning of Green Belt policy*".

The NPSNN provides further guidance specifically in relation to linear infrastructure recognising the prospect of passing through Green Belt land, stating at paragraph 5.171 that: "*linear infrastructure linking an area near a Green Belt with other locations will often have to pass through Green Belt land. The identification of a policy need for linear infrastructure will take account of the fact that there will be an impact on the Green Belt and as far as possible, of the need to contribute to the achievement of the objectives for the use of land in Green Belts*".

If it is determined that a proposal would involve inappropriate development in the Green Belt, paragraph 5.178 of the NPSNN sets out the decision-making policy: "*When located in the Green Belt national networks infrastructure projects may comprise inappropriate development. Inappropriate development is by definition harmful to the Green Belt and there is a presumption against it except in very special circumstances. The Secretary of State will need to assess whether there are very special circumstances to justify inappropriate development. Very special circumstances will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm, is clearly outweighed by other considerations. In view of the presumption against inappropriate development, the Secretary of State will attach substantial weight to the harm to the Green Belt, when considering any application for such development.*"

As set out in paragraph E.1.1 and on Plate E.1 of the Planning Statement Appendix E the majority of Project lies within the designated Metropolitan Green Belt. Paragraph E.8.1 states "*the Project, when taken as a whole, is inappropriate development in the Green Belt and therefore as per paragraph 5.178 of the NPSNN, the SoS will need to assess whether there are very special circumstances to justify inappropriate development in the Green Belt.*"

Chapter 5 of the Planning Statement and Chapter 3 of the Environmental Statement set out the route selection process that has led to the development of the Project. Paragraph E.8.3 of the Planning Statement – Appendix E Green Belt summarises that: "*The Project has been through a rigorous assessment process and has been included in both the first DfT Road Investment Strategy (RIS) 2015-2020, published in 2014 and in RIS2 2020-2025. A lengthy process of route selection has taken place with full community and stakeholder consultation, and it was found that to satisfy the Scheme Objectives, technical considerations and achieve a least impactful solution it would not be possible for an intervention to take place without it being located in the Green Belt.*"

It is also clear from the two Scheme Appraisal Reports (SAR) produced in connection with the 2016 route options consultation (pre-consultation in 2016, and post-consultation in 2017) that Green Belt policy identified in local plans was taken into account in the route selection process. See section 4.2 of Volume 6 of the pre-consultation SAR, sections 4.1, 4.2, and 6.2 of Volume 6 of the post-consultation SAR, and volume 7 of the post-consultation SAR. In combination with a range of constraints and considerations, Green Belt and Green Belt policy was therefore one of many factors which were weighed in the balance when considering route options.

The 2018 Statutory Consultation on the preferred route (Route 3 and Location C) included the Preliminary Environmental Information Report (PEIR, Sept 2018). The PEIR assessed the Project's effects on the different Landscape Character Areas it passes through which includes consideration of the Green Belt including its openness.

Paragraph 6.5.277 of the Planning Statement concludes that: "*Appendix E to this Statement provides a detailed assessment of the case for the Project within the Green Belt in order to show that very special circumstances exist sufficient to justify the location of the development in the Green Belt and so demonstrate accordance with the relevant requirements of the NPSNN and Energy NPSs, and as far as this may be relevant, consistency with other relevant national and local Green Belt policies*."

The DCO application therefore demonstrates accordance with Green Belt policy as set out in the National Policy Statements and as relevant NPPF.

Regards,

[redacted]

[redacted]
Local Authority Technical Engagement Specialist
External Affairs - Lower Thames Crossing

National Highways Customer Contact Centre 0300 123 5000
www.nationalhighways.co.uk

From: [redacted]
Sent: 02 June 2023 13:13
To: [redacted]
Cc: [redacted]
Subject: Additional Information

Good afternoon both,
I have two broad information requests for you to provide please.

Utilities – could you provide us with the details within the DCO application (APP numbers is fine) of all plans relating to diversion of existing utilities, especially the NSIP's, and connections for new utility supplies.

Green Belt – we are currently reviewing the Planning Statement and Green Belt documents. Can send us the following please:

- Green Belt Assessment methodology for the alternatives route selection process and any subsequent Green Belt studies undertaken;
- Green Belt Assessment for the alternatives route selection process and design; and,
- Green Belt Assessment of the proposed route, which informs DCO 'ES Chapter 7 Landscape & Visual' and the 'Planning Statement'.

Look forward to hearing from you soon.

[redacted]

Consents and DCO Senior Consultant, Thurrock Council

[redacted]

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Lower Thames Crossing

Thurrock Council Local Impact Report

Appendix L Annex 6 – Review of DCOv1 Planning Statement: 19 October 2021

Lower Thames Crossing

Review of Planning Statement DCOv1

On behalf of Thurrock Council

thurrock.gov.uk

Project Ref: 43879 | Rev: A | Date: October 2021

Registered Office: Buckingham Court Kingsmead Business Park, London Road, High Wycombe, Buckinghamshire, HP11 1JU

Document Control Sheet

Project Name: **Lower Thames Crossing**
Project Ref: **43879**
Report Title: **Review of Planning Statement (Oct 2020)**
Doc Ref: **Revision A**
Date: **October 2021**

	Name	Position	Signature	Date
Prepared by:	Sharon Jefferies	Associate	*SJ*	July 2021
	Various ES Topics	Various	-	May-July 2021
Reviewed by:	Chris Stratford	Director	*CS*	July 2021
Approved by:	Chris Stratford	Director	*CS*	October 2021
For and on behalf of Stantec UK Limited				

Revision	Date	Description	Prepared	Reviewed	Approved
A	19/10/2021	Issued to National Highways	-	*CS*	*CS*

This report has been prepared by Stantec UK Limited ('Stantec') on behalf of its client to whom this report is addressed ('Client') in connection with the project described in this report and takes into account the Client's particular instructions and requirements. This report was prepared in accordance with the professional services appointment under which Stantec was appointed by its Client. This report is not intended for and should not be relied on by any third party (i.e. parties other than the Client). Stantec accepts no duty or responsibility (including in negligence) to any party other than the Client and disclaims all liability of any nature whatsoever to any such party in respect of this report.

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1 Introduction

1.1.1 As part of the technical engagement relating to the proposed Lower Thames Crossing (LTC) Development Consent Order (DCO) application, Highways England (HE) has issued Thurrock Council (the Council) with the LTC DCO Planning Statement (PS) (October 2020).

1.1.2 This document sets out the Council's comments on the proposed PS and if there are any suitable opportunities to improve this document.

1.1.3 DCOv1 was submitted to the Planning Inspectorate (PINS) in October 2020. PINS contacted HE to confirm that the Inspectorate would be progressing to issue a decision to not accept the application and identified the main issues that had arisen from the consideration of the application. The main issues raised by the Inspectorate were set out in a meeting note (and Annex A) in November 2020. The points raised by the Inspectorate are not repeated here and therefore the meeting note should be read in conjunction with this response.

1.1.4 The Council's review responds only to the sections relating to the north of the River Thames.

1.2 Thurrock Position

1.2.1 The Council has consistently opposed HE's current LTC scheme due to the negative economic, social, engineering and environmental impacts that it will have upon the borough, as well as the constraints it will place upon future growth.

1.2.2 By severing and restricting local access onto the LTC, the Council believes the current scheme represents a significant missed opportunity and will fail to create benefits for local residents and businesses. Instead of offering the potential to leave a lasting positive legacy, the current proposals will instead result in local disruption and long-term severance.

1.2.3 The Council has provided strong opposition to the LTC proposals and made sure that HE has been in no doubt about the Council's concerns about the impacts of the LTC scheme, both in the construction phase and in the longer term operation, which is brought about by the major national scheme.

1.2.4 In response to concerns raised by the Council, and other interested parties, HE has partially modified its original designs to incorporate changes to landscaping around the north tunnel portal, removal of one lane southbound between the M25 and A13 junction, changes to the design of structures in the Mardyke Valley and at Tilbury Viaduct, provided additional green bridges, as well as providing and improving some footpaths and Public Rights of Way for walkers, cyclists and horse riders. Whilst some, but not all, of these elements represent a positive step, they remain significantly below the Council's expectations and a wide range of concerns remain.

1.2.5 Legacy and mitigation measures are not clearly identified (or sign-posted) within the Planning Statement. Appropriate mitigation and legacy measures still need to be implemented to protect Thurrock's future and reduce harm caused by the LTC scheme. Unresolved mitigation and legacy measures are set out in the response to the Statement of Common Ground (SoCG) and Hatch *'Mitigating the Negative Impacts and Maximising the Benefits to Create a Positive Legacy for Thurrock'* (October 2020) and published by the Council in February 2021.

Unresolved Issues

1.2.6 To assist in the review of the DCO documents, the Council provided HE with 20-30 technical document reviews and comments on the Issues Log and that would lead to the eventual SoCG. HE subsequently issued updates to sections of the Environmental Statement and a

response to the Issues Log. The Council has then provided technical responses and updates to the Issues Log to those earlier comments during, and throughout, 2021.

1.2.7 The Council's unresolved issues are set out in the Issues Log, '*Maximising the Benefits to Create a Positive Legacy for Thurrock*' (February 2021) and the Council's responses to LTC DCOv1 and HE's technical documents.

1.2.8 Many of the issues have not been addressed and these remain logged in the Issues Log. These unresolved issues have not been repeated fully within this response. The latest version Issues Log should be read in conjunction with this document.

1.2.9 Specific response to paragraphs set out in the PS are provided in **Section 2** below.

2 Review of Planning Statement (Oct 2020)

Table 2.1: Thurrock Council's Comments on the Planning Statement (Oct 2020)

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
Chapter 1: Introduction		
1.1	Project Overview	No comment.
1.2	Scheme Objectives	It is unclear what the relevance of the objectives are and how they shape issues or compliance. There is a need to demonstrate compliance in detail with each of the 7 LTC objectives.
1.3	Host LPAs	Should identify neighbouring local authorities, who are impacted by LTC – Medway, Dartford, Brentwood.
1.4	Highways England	No comment.
1.5	Qualification as a NSIP	See Appendix A to this response.
1.6	Purpose and structure of PS	The PS structure and content does not cover matters adequately. The Council direct HE to Thames Tideway Tunnel Planning Statement (Jan 2013), as a good example DCO PS, which can be used as a template for the PS structure and content. Key recommendations for improving the Planning Statement are set out below: ▪ Provide a comprehensive record of all planning issues and how they are dealt with and a summary of other key document findings; ▪ Include a full list of all DCO application documents and summary contents of application documents; ▪ Clearly identify where each asset/site is located (LPA area);

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		▪ Include a chapter on the site selection scheme process, including assessment of alternatives and selection of the LTC alignment; ▪ Include a chapter on managing environmental, social and economic effects, which should cross reference to each of the relevant strategies that has identified mitigation measures; ▪ Include a comprehensive Planning Assessment – project-wide; ▪ Provide a comprehensive planning balance, which includes setting out balance of benefits and adverse effects. 1. NPS v. DMRB – how does it deal with the primacy of the NPS over DMRB (given that specific DMRB guidance is used to guide the EIA topics), e.g. cultural heritage – see attached Paper. Are DMRB Guidance Papers ever mentioned in Section 3 – only in Section 3.2.91, but are there others mentioned elsewhere? 2. Scheme Objectives (Section 1.2) – what is their relevance and how do they shape issues or compliance? 3. Host LAs (Section 1.3) – should Medway and Dartford be covered? 4. Purpose of the PS (Section 1.6) – does it cover matters adequately and in accordance with guidance and legislation? 5. Role of NPPF and Local Policies (Section 3.4) – are these covered properly, given each LA's previous comments on LP policies (see Thurrock's comments attached – are our comments dealt with adequately in Appendix A2)? 6. Character Areas (Section 2.3) – why structure description around these, as they are landscape character areas only? The ES uses different areas/zones for each topic, are these areas a useful composite? 7. Sections 4, 5 and 6 – why are these three topics separated out (Green Belt, Kent Downs AoNB and Open Space)? It is not explained or justified. 8. Section 4 (Green Belt) – is NPS policy compliance adequately demonstrated, i.e., limited impact on purposes (Paragraph 4.3.8)? For instance, Tables 4.1 and 4.2 do not include the road itself and its viaducts and bridges – see paragraph 4.5.12 which seems to be an empty argument. Sections 4.6.49 – 4.6.61 do not acknowledge Thurrock's comments on their methodology or LTC's response (attached), and it should.

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		9. Section 5 (Kent Downs AoNB) – no comments necessary. 10. Section 6 (Open Space) – is this covered adequately and are the arguments solid? 11. Section 7 (Other Considerations) – see comments below – surely there were many more issues to consider? How were these matters selected? This is only 3 pages, which is considered too brief. Planning Issues and Other Considerations – how are these derived (given PA2008 requirements and PINS AN's), from link to identified policy compliance or other reasoning? Are issues derived from PINS comments or other key DCO documents, such as being identified within the ES, HEqIA, CoCP/REAC, Sustainability Statement/Carbon & Energy Plan, TA, ComMA, Land and Property matters and especially raised within the Consultation Report (specifically LA comments and subsequent technical comments); and, of course, outstanding issues within the Issues Log. Section 1.6.10 indicates it has, but has it done so? 12. Section 8 (Conclusions) – again, how are the scheme objectives relevant to this PS, except to state them again? This section does not seem to recognise that much greater efforts towards mitigation might be necessary in certain topics. This section is a series of general statements that try to demonstrate everything is fine and that impacts are not material. 13. Appendices A1, A2, B and C – these will need to be dealt with in detail to ensure we cover all specific comments. With Appendix A2 we do need to understand what and where these other NSIPs are located and what they involve. In addition, it is not clear why Appendix C is included and how it is dealt with in the PS?
1.7	Structure	As above.
Chapter 2: The Project		
2.1	Introduction	No comment.
2.2	Project description	Plans 2.1 and 2.2 should include local authority boundaries.
2.3	Description of the Project area	The chapter splits the LTC area into Character Areas (CA). There are 4 main CAs in the Thurrock borough: Tilbury Marshes, Thurrock Urban Fringe, Orsett Fen, Ockendon Farmland. Detailed maps for each CA should be included, which would help the reader understand the location of LTC in relation to the identified assets, roads etc within each CA description set out in the PS.

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		The CAs are introduced as landscape character areas in description. However, the sections for each CA includes a description of non-landscape assets within each CA, highway and rail, ecological designations, historic designations. The CA section also sets out, in part, utilities works proposed, and environmental mitigation. It would be clearer to the reader if the PS clearly split out the description of existing assets/designations etc for each CA and provided a full description of each CA (with plans), in terms of planning designations/allocations (flood, environmental, historic, Green Belt, etc.), landscape description, road/rail networks. This should also include how the LTC relates to existing settlements and potential strategic growth. Information relating to proposed utilities works and environmental mitigation should be clearly split out from the description of the baseline CA situation – potentially in another chapter.
Chapter 3: Planning Policy		
3.1	Introduction	LTC does not meet several of HE's strategic policy tests (such as option testing, delivery/facilitation of economic growth and achieving sustainable local growth) and the scheme's own objectives of supporting local development and regional economic growth in the medium to long term. The Council has set out outstanding issues within the Statement of Common Ground (SoCG). The SoCG identifies the Council's key areas of concern, which have not yet been addressed by HE. Without addressing many of the key issues, LTC project is contrary to important national and local policy tests.
3.2	Table 3.1 Conformity of Project and NPSNN Objectives	The PS states that the LTC would support sustainable local development by providing improved journey times and relieving congestion, however, the PS does not set out clearly how LTC would impact the local highway. The PS states that the network would support local economic activity and both facilitate and create growth, however, the PS does not demonstrate how LTC links to Thurrock's existing settlement hierarchy and future growth and support local economic activity and growth.

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		The PS states that LTC would support delivery of environmental goals and move to a low carbon economy. The PS does not demonstrate how adverse impacts on health and the environment have been minimised or how the LTC moves to a low carbon economy. The PS states that the LTC would join up communities and link effectively to each other, mainly through PRoWs. However, there needs to a strategic analysis of how the LTC will link/sever existing communities, and then how LTC can minimise impact on existing and future strategic growth, to maximise delivery of sustainable communities.
3.2	Need for the Project	PINS has expressed agreement with the Council's view that there has been insufficient consultation (inter-alia) on the precise details of the route within Thurrock (within the PINS meeting note 26 November 2020). As an example, the Council has questioned the analysis that led to the current A13 junction proposals and asked for an explanation of what alternatives were considered. HE has provided a Technical Paper on this matter, but this note does not address the issues raised by the Council. The Council therefore ask that there is a fuller options appraisal of the routes/junctions within the borough, in particular the options appraisal should set out how the final options have been considered to an equivalent standard within the DCO. This is likely to require further explanation and possibly consultation.
3.2.18	Environmental and social impacts	The PS does not satisfactorily set out the environmental and social benefits of LTC, as required in paragraph 3.3 of the NPSNN. The majority of LTC cuts through Thurrock local authority area and therefore the majority of impacts are felt within Thurrock borough and will result in potentially significant local environmental and social impacts. There are a large number of both environmental and social issues which have been identified by the Council. Many of which HE needs to provide further mitigation information. Outstanding environmental and social issues are set out in the SoCG and 'Mitigating the Negative Impacts and Minimizing the Benefits to Create a Positive Legacy for Thurrock' (Feb 2021).
3.2.44 - 3.2.47	Local sustainable growth, connectivity and	The Council acknowledges that HE has prepared a strategic transport model to provide evidence to the LTC submission. The Council has reviewed a cordon model previously issued in April 2020 covering the borough and has provided feedback. The Council has also raised concerns about certain assumptions for the base case model and

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
	multi-modal transport.	particular concerns relating to the validation of the model on the local road network and with no testing of the local road network peak hour. HE has prepared forecast modelling for the previously envisaged opening year and +15 years. The Council is aware that it is HE's intention to amend the opening year and is amending the modelling accordingly. The updated modelling evidence, including Forecasting Report, Transport Assessment and construction modelling, has not be provided within the consultation, yet the consultation material appears to be based upon this and refers to an opening date of 2029. Without this updated evidence the Council cannot fully comment on the consultation documents. The Council's concerns in relation to the strategic model have been captured through the Statement of Common Ground Issues Log and the recent response from the Council. Further to the testing indicated above, HE had previously agreed with the Council that it will prepare option testing of the implications of local strategic growth (titled Indicative Local Plan Runs) and some network connection scenarios (titled DCO Option Runs) on the operation of the LTC and the consequential effects on the local road network. This agreement is now uncertain, as HE is proposing to undertake a programme of tasks and meetings, starting with the Council's initial concerns raised since Supplementary Consultation in April 2020. HE's proposed programme covers: (1) 2016 baseline model, (2) identify areas of concern in forecasts, (3) mitigation/interventions, and (4) Local Plan Options. The Council has serious concerns that this engagement cannot be completed in advance of the DCO submission and would not provide HE the time to make any changes to the scheme. The Council is unable to comment on those effects until the option testing has been received and reviewed and, therefore, the Council currently remains concerned that the proposals do not recognise the importance of local sustainable growth and connectivity. It is the Council's opinion that the strategic modelling does not currently provide a robust and accurate basis by which to assess the impacts of the LTC on the local road network. NPSNN Paragraph 4.6 states that LTC '*should be supported by a local transport model to provide sufficient accurate detail of the impacts of the project*'. This is most important in Thurrock, where the majority of the LTC cuts between settlements in the local authority area. There is also significant planned growth in Thurrock which will increase the need to cross the corridor by all means of travel including walking, cycling and horse riding.

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		The Council has raised concerns about the interface of the trunk road with the local junctions of Orsett Cock and The Manorway and has indicated headline mitigation that should be considered in those locations. The Council has also indicated likely impacts on the local road network, including the Daneholes Road (A1013) junction and the B1089 (Asda Roundabout), and more recently Marshfoot Road / Old Dock Approach Road junction with the eastern slip road from the A1089, all of which HE should suitably mitigate. It is unclear how the delivery of other likely infrastructure developments, such as Tilbury Link Road and other major developments, will be coordinated with the timing of delivery of the LTC. The Council has raised concerns with the proposed methodology for the sensitivity tests for London Resort. Opportunities to minimise potential effects on the Borough and the local community through a considered, integrated programme of delivery of linked or nearby schemes should be appraised and exploited as far as practicable. In the absence of high-quality connections, drivers requiring a break in their journey or requiring services in the Borough would be forced to access local services through the convoluted connections at Orsett Cock via the A1013 and/or The Manorway junction, adding further pressure to those busy interchanges and the connecting links.
3.2.48 - 3.2.51	EIA	See the Council's response to DCOv1 ES.
3.2.52 - 3.2.57	HRA	No comment.
3.2.58 - 3.2.66	Alternatives	HE set out the need for LTC in Document 7.1 'Need for the Project', with the options considered in Appendix A. **Options Evidence and inclusion in the DCO 2.0** Paragraph 4.27 of the National Policy Statement (National Networks) states: *'All projects should be subject to an options appraisal. The appraisal should consider viable modal alternatives and may also consider other options (in light of the paragraphs 3.23 to 3.27 of this NPS). Where projects have been subject to full options appraisal in achieving their status within Road or Rail Investment Strategies or other appropriate policies or investment plans, option testing need not be considered by the examining authority or the decision maker.*

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		For national road and rail schemes, proportionate option consideration of alternatives will have been undertaken as part of the investment decision making process. It is not necessary for the Examining Authority and the decision maker to reconsider this process, but they should be satisfied that this assessment has been undertaken'. The Council acknowledges that a number of options have been considered since 2009. The results of the 2013 consultation published in July 2014 confirmed the need for an additional crossing between Essex and Kent, however, there was no consensus about where it should be. The 2016 consultation consulted only on a crossing at location C with three route options. Location A was not in the 2016 public consultation as HE determined that it did not meet the scheme objectives and, we understand that the public were not given the opportunity to review the evidence on which this conclusion was drawn. It is important that consultations, amongst other things, allow members of the public to participate in a meaningful way. It is unclear why the 2016 consultation did not engage in a balanced analysis of the two location options, especially considering the fact that it is understood that modelling had been undertaken in relation to both location options. It is the Council's opinion this is a significant deficit in the 2016 consultation, which underpins the options appraisal previously undertaken. Since then, PINS has expressed agreement with the Council's view that there has been insufficient consultation (inter-alia) on the precise details of the route within Thurrock. As an example, the Council has questioned the analysis that led to the current A13 junction proposals* (i.e. the configuration of the scheme, particularly related to access to the LTC, including to/from the A13) and asked for an explanation of what alternatives were considered. HE prepared a Technical Paper, but this solely covers the design alternatives and did not cover any appraisal or modelling of alternative configurations. It is important that evidence of consideration of alternative and full and adequate consultation on that evidence is undertaken prior to re-submission of the DCO. The Council therefore ask that there is a fuller options appraisal of the routes/junctions within the borough, in particular the options appraisal should set out how the final options have been considered to an equivalent standard within the DCO. This is likely to require further explanation and possibly consultation. *The fact that there is no available evidence that an options appraisal has been carried out to inform the configuration of the Consultation Scheme (junction locations, junction types, restricted movements, alternative modes, etc.) has been raised since Statutory Consultation in November 2018. DfT provides guidance within "TAG: transport appraisal process". This guidance has not been followed as a single scheme configuration appears to have been selected and

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		then refined, rather than a long list of options identified, sifted and then highest ranking options further appraised. There is no transparency as to whether alternative configurations would perform better against the scheme objectives, particularly with regards to supporting sustainable local development and regional economic growth in the medium to long term and resilience of the scheme. In addition, there have been significant changes in the statutory and policy environment since project inception in 2009. Of particular note is the amendment of the Climate Change Act 2008 in June 2019, to require the UK to meet net zero by 2050. In April 2021, the Government then announced that it "will set the world's most ambitious climate change target" (UK enshrines new target in law to slash emissions by 78% by 2035 - GOV.UK (www.gov.uk) to reduce emissions by 78% by 2035 compared to 1990 levels as part of its sixth carbon budget. The 6th carbon budget, for the period 2033-37, has now been set by the Government at 965 MtCO2e (Carbon Budgets - GOV.UK (www.gov.uk), and is the first budget to consider the UKs net zero target by 2050 with a trajectory that is consistent with the Paris Agreement. Furthermore, the government's transport decarbonisation plan was published in July 2021. 'Decarbonising Transport: a better, greener Britain' sets out the Government's commitments and the actions needed to decarbonise the entire transport system in the UK and to deliver net zero by 2050 (Transport decarbonisation plan - GOV.UK (www.gov.uk). HE has also recently published its 'Net Zero Plan for Highways.' These legislative changes and the transport decarbonisation plan is supported by wider policy initiatives such as the '10-point plan for a green industrial revolution' published in November 2020 and the revised National Planning Policy Framework (July 2021), which requires the planning system to 'support the transition to a low carbon future in a changing climate', to 'shape places in ways that contribute to radical in greenhouse gas emissions, minimise vulnerability and improve resilience', and supports 'renewable and low carbon energy and associated infrastructure'. These regulatory and legislative developments highlight that for central government, environmental matters and climate change are of considerable, and increasing, importance and for the project to help facilitate green growth, for example by facilitating public transport, would be advantageous. In addition, Paragraphs 3.23 – 3.25 of the National Policy Statement (National Networks) states: *'The Government's policy is not to introduce national road pricing to manage demand on the Strategic Road Network, comprising the motorways and key trunk roads for which the Secretary of State is responsible.*

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		The Government will consider tolling as a means of funding new road capacity on the Strategic Road Network. New road capacity would include entirely new roads and existing roads where they are transformed by an improvement scheme. River and estuarial crossings will normally be funded by tolls or road user charges.' Given the above statement, the Council asks HE to confirm if there is evidence of the impacts of this proposed charging on local movement, or any account taken of the physical provision for this and other future technology requirements relating to the electrification and automation of the vehicle fleet and the operational safety of the scheme. **Consideration of Alternative Modes and Future Travel Patterns** In addition to the amendment of the Climate Change Act, the 10-point plan for the green industrial revolution proposes significant funding for enhancements and renewals of the rail network and also proposed significant enhancements on buses, cycling and walking and a National Bus Strategy. So, whilst it may be accepted that bus only lanes within the tunnel may not be appropriate, the Council is concerned that not enough provision has been made for convenient bus routeing at either end of the tunnel to key areas, through appropriate design measures, to facilitate bus use the tunnel. The Council has provided a technical note to HE, exploring options to provide public transport connectivity along the LTC between the north and south of the river. That technical note was provided to HE in June 2021 and explored opportunities to modify the emergency access points north of the northern portal to facilitate bus access into Thurrock. The LTC fails to meet opportunities to encourage sustainable travel unless HE can demonstrate how bus access can be included within the designs. The Council continues to question what can be added to the scheme to help deliver this aim? The construction of the tunnel offers a new direct connection between two significant economies north and south of the river, creating new opportunities for connections between homes, jobs and leisure opportunities. This will have a significant impact on movement patterns and the opportunity to create attractive sustainable transport options through the tunnel does not appear to have been grasped. In the Council's view, this alternatives assessment is therefore in need of review, especially in light of the scheme objective to minimise the impacts of health and the environment. The Examining Authority will want to be satisfied that this multi modal options appraisal has been done, including a comparison of road and rail alternatives, and that it reflects current policy.

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		LTC is a very significant investment in the nation's transport infrastructure. Notwithstanding the current and future impacts of the pandemic, we are at a point of significant change. New appraisal techniques have been developed and used to take account of the potential implications of these and to make judgements about the resilience of major investments to future change. In the Council's opinion, it would not be in the public interest to have to retrofit at great expense adjustments to the tunnel and associated works, which had only just been completed. The Council would welcome comments on how HE has engaged with the design requirements to accommodate the future change. The Council is concerned that LTC is at risk of producing a scheme that does not account for future sustainable transport options post LTC/tunnel opening, thus leading to the value for money being limited. The Council understand that reconsidering these alternative routes, mode of transport and future transport/travel options may not be attractive at this stage, however, it is in the public interest to ensure that the infrastructure built is in the correct location, to the right specification, and is not obsolete before it is even completed. There has been unprecedented legislative, policy and societal change since the preferred route was decided in 2017. Failure to undertake a robust appraisal of route options and consider alternative modes of transport or travel behaviour is, in the Council's opinion, something the ExA would consider a significant issue. It is understood that the LTC is to be promoted as an All-purpose Trunk Road and is therefore governed by the requirements of GD 300 '*Requirements for new and upgraded all-purpose trunk roads (expressways)*' which states at "*E/2.3 Liaison with local authorities and key stakeholders shall be undertaken from HE PCF [Ref 14.N] stage 1 to determine opportunities for enhancing integration with other modes of transport.*" The General Principles document then continues to state that "*E/2.3.2 Expressway design should assess the need to facilitate access to multi-modal interfaces*". This sentiment is echoed through NPS NN, particularly through Section 3 in relation to modal choice and sustainable access. It is inappropriate for HE not to propose mechanisms to assist with public transport access and connectivity as part of the proposals for LTC. **Sensitivity testing and uncertainty**

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		It is for HE to ensure that they have correctly considered the scenarios. The Council does not have any specific model inputs to provide at present, but would rather encourage a more forward-looking approach to appraisal being adopted, more reflective of the times.
3.2.67	Design	The Council attended a Design Council/CABE design review of LTC in March 2019. During that time there were a number of criticisms made of various aspects of the LTC design. Since that time LTC has undertaken design amendments and then both Supplementary and Design Refinements Consultations and has made a further number of design changes to LTC. There are still outstanding comments on the LTC design. These are presented within numerous Council responses, including in the SoCG, Review to Design Principles (June 2021) and Review of Transport Planning Evidence (March 2021).
3.2.79 – 3.2.256 & Appendix A1 & A2	Sections on each technical discipline & Appendix A1 & A2	There are a number of outstanding issues and insufficient mitigation measures, relating to the topics in this section. Some of these topics are being discussed via the SoCG and other means (via meetings and/or Thurrock review of LTC documents). These should be viewed along with comments below. The section below provides a response to all technical disciplines as set out in Chapter 3 and Appendix A1 and A2 of the PS.
3.2.79 – 3.2.84		**Climate change adaptation** The PS should include reference to the flood risk impacts considered and appropriate allowances made for climate change. Paragraph 3.2.84 should be expanded to clarify that the Project 'would take account of the project impacts of climate change' and design measures would be incorporated and secured to ensure resilience to the impacts of climate change.
3.2.85 – 3.2.87		**Pollution control and other environmental protection regimes**

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		This paragraph relates to issues that would be regulated by the Environment Agency and the LLFA would have no further comments to make on this.
3.2.88 – 3.2.89		**Common law nuisance and statutory nuisance** The LTC document 6.6 "Statement of Statutory Nuisance" supplies sufficient information to demonstrate compliance with NSPNN Paragraph 4.58 with respect to the assessment of possible sources of nuisances and how they might be mitigated. The LTC document 6.6 "Statement of Statutory Nuisance" sufficiently deals with matters that may affect amenity outlined in Local Plan Policy PMD1.
3.2.90 – 3.2.93		**Safety** The Council has been assured that the LTC proposals have been the subject of suitable safety reviews and accord with the requirements. The Council has repeated and consistently requested confirmation of a specific point relating to the connection between the LTC/A13 eastbound off slip and the junction at Orsett Cock. The design of the Orsett Cock roundabout has undergone modifications and the current layout is not reflected in the DCO General Arrangements. The Council is concerned to see how the linkage is not achieved and wishes to be assured with evidence that the interchange between the LTC off slip, the A13 off slip and the Orsett Cock roundabout is safe and has sufficient space for weaving movements and storage at the adjacent junction. This matter has been raised as part of the SoCG Issues Log. HE's plans are based on outdated information, and this is perpetuated in the Map Books presented with the Non-statutory consultation, as illustrated in Sheet 13 of "*Work Book 3 – Engineering Plans*". The weaving area as illustrated in HE's plans is de minimis but is also not accurate in that it does not reflect the repositioned circulation of the Orsett Cock junction.

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		HE has stated that a micro-simulation model has been prepared for the operation of the Orsett Cock junction and the associated linkages, however, this has not been presented to the Council, reported within the consultation evidence or aborted DCO submission. The Council understands that HE is having to revisit the layout of the linkages to the Orsett Cock junction to reflect dangerous congestion challenges that are predicted within the network modelling. It is understood that an additional lane is to be proposed on the linkage from LTC toward Orsett Cock. That layout is not represented in the consultation material and, if introduced would further reduce the safety of the interchange. The Council further questions the impact on safety at The Manorway roundabout, where drivers are required to make u-turn movements having arrived eastbound from the Orsett Cock junction to return westbound along A13 to access A1089 southbound. The linkage from LTC to A1089 southbound is not provided within the proposed A13 interchange and so drivers are forced to turn at The Manorway or to use the local road network. These unresolved safety concerns cannot be ignored within the consultation material or the evidence that would be put to the DCO Examination and HE cannot maintain that it is in accordance with NPS NN paragraph 4.66.
3.2.94 – 3.2.95		**Security considerations** The following documents have not been adequately referred to or summarised within the Planning Statement, as would be expected for all key/control documents, plus the additional control documents issued since DCOv1: ▪ The Code of Construction Practice (CoCP); ▪ The Register of Environmental Actions and Commitments (REAC); and ▪ Environmental Statement. Consequently, there are no references to Police, Fire, Ambulance, Counter Terrorism Police, HSE, or the role of the Council in security considerations in the Planning Statement. The Council would also expect key agencies, such as PHE and Environment Agency, to be involved in the security planning stages.

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		There is also no reference in the Planning Statement to the various key issues in relation to the issues identified below. Potential Issues/Measures/Questions (to be covered in Book of Plans, Requirements and CoCP/REAC) remain to be addressed, which we understand are being addressed and commented on separately through the Emergency Services and Safety Partners Steering Group (ESSPSG): ▪ Need for an Emergency Hub near North Portal, possibly requiring a building and space for emergency vehicles. ▪ Is there a HE Control point/process nearby covering Dartford and LTC? ▪ Ensure there are adequate site access/emergency access points. ▪ Need for a Congregation Area for up to 300 drivers/passengers if there is a tunnel incident and evacuation is required (emergency spill or refuge area). ▪ Cross Passage distances (currently 150m, but is it adequate?) ▪ Is there a 'protest area'? Design Measures should include (to be covered in Book of Plans, Requirements and CoCP): ▪ Ensure the design permits direct routes for emergency vehicles to the tunnel without unnecessary detours – acceptable response times are maintained. ▪ Fire suppression system. ▪ ANPR cameras and CCTV provision in tunnel. ▪ Rendezvous Point (RVP) for emergency responders. ▪ Are hard shoulders required in certain areas? ▪ Suicide prevention measures. ▪ Road calming measures. ▪ Electric Vehicle charging points.
3.2.96 – 3.2.102		**Health** The Council has a number of outstanding concerns regarding LTC's impact on health. These concerns have been relayed to HE via the Council's response to technical documents, the SoCG Issues Log and the Community Impacts

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		and Public Health Working Group (CIPHAG). These matters are being discussed with HE via the SoCG meetings and CIPHAG meetings.
3.2.104 – 3.2.114		**Air quality** The air quality modelling assessment presented in the ES (Oct 2020) is considered to have been undertaken in broad accordance with the requirements of DMRB LA105 and its findings indicate that LTC meets with the requirements of NSPNN paragraph 5.6 - 5.15. However, we have outstanding concerns with a number of limitations of the DMRB LA105 methodology in identifying potential significant effects as required by the EIA Regulations and the criteria for determining a significant impact being solely based on an exceedance of the current legal limits, which is inappropriate for non-threshold pollutants such as $PM_{2.5}$. The applicability of the AADT screening threshold of 1,000 AADT in assessing potential effects on AQMAs (as per paragraph 5.11 of the NPSNN) is considered inappropriate, but until full model input data is provided in a GIS format we are unable to clarify the potential significance of this. From the initial review of the ES we are also concerned that worst-case receptors in AQMA's within Thurrock have not been included within the assessment.
3.2.115 – 3.2.118		**Carbon emissions** The carbon emission calculations should now be updated and calculated for the 6th Carbon Budget. As per comments in the SoCG, the spatial scope of the Greenhouse Gas Emissions assessment requires clarification. The NPSNN was published in December 2014, to provide 'planning guidance for promoters of nationally significant infrastructure projects on the road and rail networks, and the basis for the examination by the Examining Authority and decisions by the Secretary of State'. The thresholds for a NSIP road scheme include if the 'construction or alteration of a motorway, is 15 hectares. The LTC scheme is a significantly larger scheme than this minimum threshold, and the Project is a significant scheme as part of the Government's Road Investment Strategy 2 (RIS2), that would include 14.3 miles of new road. It is therefore noted that Paragraph 5.18, and the project assessment conclusions, should be duly considered in this context.

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		Subsequent to the publishing of the NPSNN, the government has adopted significantly more ambitious targets in relation to climate change and carbon emissions reduction, including the target to reduce emissions by 78% by 2035 compared to 1990 levels as part of its sixth carbon budget. Furthermore, the more recently published Institute of Environmental Management and Assessment (IEMA) guidance on the assessment of the impact on climate change (2017) explains that all GHG emissions contribute to climate change and therefore might be considered significant. Whilst this is IEMA guidance, and not government policy, it should be considered in formulating the assessment of the significance of the impact of the Project on climate change, and it should also be considered in relation to formulating appropriate mitigation measures and responses.
3.2.119 – 3.2.133		**Biodiversity and ecological conservation** NPSNN paragraph 5.22 - it is agreed that the ES has considered the likely effects on all statutory and non-statutory designated habitats, protected species and species and habitats of principal importance. Appendix A1 summaries the broad mitigation measure that will be adopted. In principle the measures, which are being incorporated into the OLEMP and EMP, are appropriate; however proposed changes to the mitigation measures (e.g. for water vole and invertebrates) have been presented to the Council since DCO1. Discussions are ongoing regarding these proposals. NPSNN – paragraph 5.25 - avoiding harm and bio-offsetting – the route through the borough avoids most non-statutory sites but will result in the loss of Low Street Pit LWS, and part of Rainbow Shaw LWS and Blackshots Nature Park LWS. Mitigation has been proposed in relatively close proximity. NPSNN – paragraph 5.26 - HE response focusses only on statutory designated sites; no mention is made of locally designated sites. NPSNN – paragraph 5.27 - it is agreed that the potential effects on internationally designated sites are contained within the HRA. Which is assessed by Natural England. NPSNN – paragraph 5.29 - No SSSIs will be directly affected within Thurrock.

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		NPSNN – paragraph 5.32 - ancient wood - the effects on ancient wood within the borough are limited to Rainbow Shaw. Mitigation land adjacent to the site has been identified. Amendments to the scheme will now result in additional impacts to ancient wood adjacent to M25 J29 just outside the borough boundary. NPSNN – paragraph 5.33 - reference is made in Appendix A1 to measures to maximise opportunities for building in beneficial biodiversity features as part of good design. Listed are restoration of historic fen landscape and the creation of a Mardyke Valley Country Park. The council has previously expressed its concern at the extent to which previous fen landscape recreation was scaled down from what was initially proposed. It is also not clear what provision is being made to deliver a Mardyke Valley Country Park. NPSNN – paragraph 5.35 - Habitats and Species of Principal Importance – Since DCO1 LTC has acknowledged that insufficient mitigation had been provided for invertebrates which has led to changes in the proposed Tilbury Fields. The proposed additional habitat will need to be quantified and considered in the updated documents. NPSNN – paragraph 5.36 - the overall approach to minimise disturbance is accepted. NPSNN – paragraph 5.38 - relates to Natural England licencing – does not relate to the Council.
3.2.134 – 3.2.147		**Waste management** The waste methodology outlined in the LTC DCO ES (Oct 2020) Chapter 11 is sufficient to manage the waste generated during the construction phase, where accompanied by sufficiently developed and detailed supporting documentation including the Site Waste Management Plan (SWMP), Materials Handling Plan (MHP) and Excavated Materials Assessment (EMA). The Council is satisfied that, at a high level, the proposed monitoring and potential mitigation, set out in the LTC DCOv1 ES (October 2020) Chapter 11, will be sufficient to manage potential contamination during the construction phase.

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		The Council is satisfied with HE aspiration to reuse 90% of waste from the construction of LTC. LTC goes through the former landfill (East Tilbury Marshes). There is no information to what is in the landfill or how far it goes down in depth. Currently, the former landfill is already disturbed due to erosion on the banks of the River Thames, which is currently polluting the River Thames. East Tilbury Marshes former landfill will be a problem for recycling and potentially meeting the aspired 90% reuse target and potential pollution to marine environment. Key question remains to how HE propose to control the waste at East Tilbury Marshes former landfill, to meet the requirements of NSPNN paragraph 5.42. The Council has been contacted by a landfill mining company. HE has a good opportunity to recycle the waste at East Tilbury Marshes former landfill. HE should explore the option to potentially mine the landfill, so that the waste can be recycled, if the waste is to be disturbed. The Council provided a response to HE's LTC Outline SWMP (oSWMP) in March 2021 and additional comments in July 2021. The most recent response included the following key issues: ▪ The nature of the targets for reuse, recycling and recovery are not defined. ▪ The waste arisings are not described with regards to their phasing. ▪ There is no evidence that the storage capacities within the compounds have been assessed for sufficiency. ▪ There is no explanation of how waste transport, storage and treatment locations will be assessed for compliance with any relevant regulatory requirements (Waste Carriers License, Exemptions, Environmental Permits, etc). ▪ There are no proposed actions identified to ensure that the materials identified are captured for reuse, recycling or recovery and in particular no detail on how material will be separately collected. ▪ There is no identified structure for monitoring, recording and reporting on the wastes generated by the scheme. The Council has provided a response to HE's LTC Outline MHP (oMHP) in July 2021. The response identified the following points: ▪ The proposals for materials handling are not evidenced with data

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		▪ Only excavated material and bulk aggregates are considered within the document, leaving all other material as "smaller less frequent deliveries" (oMHP paragraph 1.1.3 refers) and for the main works contractors to manage ▪ HE dismisses, almost entirely, the use of marine and rail for the movement of materials, plant and equipment, without adequate evidence ▪ The assertions and "principles" are not supported by commitments from HE and targets for the contractors to achieve and are left to the Contractor to research and adopt with no consequences if the principles are not observed, and ▪ With the apparent sparsity of soundness it is difficult for the Council to conclude a properly reasoned response to the oMHP. The Planning Inspectorate issued its meeting note on the 26 November 2020, which discussed key points in relation to the adequacy of the DCO application, such as Site Waste Management Plan (points 13 and 14): *"13. There are elements of a generic site waste hierarchy within the documentation but limited information as to the actual implications of the waste handling implications on a 23km long site with twin bore tunnels under the Thames. Even where a high percentage of materials is to be retained for reuse (in accordance with the hierarchy) would still require extensive movements of large tonnage to/from excavation to stockpile/sorting/treatment locations before reuse over an extended area and which may or may not need to cross the river between the respective tunnel portals.* *14. The ES considers a 'road only' outlier position but this is not a substitute for an actual handling strategy which would need to consider multi-modal approach (see TfL considerations) and this all deferred for later consideration which means that mitigations have not been fully assessed. This interfaces with the Transport Assessment and Navigation elements identified above for the construction period particularly as it sets the 'significance' threshold as being at 1% of landfill capacity in the whole of England rather within the study area. There are a number of unfinished paragraphs and missing cross reference in the Materials and Waste section of the ES which make it difficult to read fully."*

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		The Council has significant concerns over the oSWMP and oMHP as prepared, as set out above, and does not consider that the document contains sufficient information to address the shortcomings of point 13 within the PINS response. Point 14 expands on the point that the EIA ought to be providing assessment linkages with the waste handling strategy (such as noise and air quality impacts from increased road movements from waste). Furthermore, the multi modal approach to transportation of waste may further alter some of the ES topic assessments which will need to be careful considered in parallel with the information supplied in the TA and the Navigation Assessment. As set out above, it is not considered that this is addressed sufficiently within the oMHP. The above points need to be addressed in any further iteration of waste management, to enable HE to fully comply with NSPNN paragraphs 5.42 and 5.43.
3.2.151 - 155		**Coastal change** The Council has not commented on Marine matters and has deferred to the MMO, Environment Agency and Natural England to provide the necessary technical advice. Having reviewed HE's response to paragraphs 5.71-5.79 the Council considers these to be largely acceptable. The Project is not located in a Coastal Change Management Area and there are no Marine Conservation Zones close by. Most construction works should not result in direct effects on designated sites within the Thames. In paragraph 5.79 it is stated that works will not impact coastal protection. Since DCOv1 the proposed mitigation use for the field west of Coalhouse Fort has changed from use as a water vole receptor to a high-water roost for waders. Implicit in the amended proposals is the intention not to restore the existing coastal defence which has been damaged by over-topping. This is likely to result in it failing in the short-term (EA estimates it currently has a 5-year life expectancy) which could result in some degree of coastal realignment. Is this the intention? If so, will it be acknowledged in the updated Planning Statement? While the principle of managed realignment is considered acceptable it will be necessary to ensure that the adjacent Coalhouse Fort Scheduled Monument and gas above ground installation are not adversely affected.

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
3.2.156 – 3.2.163		**Dust, Odour, Artificial Light, Smoke & Steam** The LTC complies with the NSPN paragraphs 5.82 - 5.89 as detailed below. NSPNN paragraph 5.81 to 5.83 – Introduction of the topic of dust, odour, artificial light, smoke, and steam and their potential to cause nuisance or impact amenity. NSPNN paragraph 5.84 to 5.86 – Requires an assessment of any likely significant effects on amenity from emissions of odour, dust, steam, smoke and artificial light and describe these in the Environmental Statement. These matters are assessed within LTC documents: LTC ES document Chapter 5 "Air Quality", and document 7.11, the Code of Construction Practice (CoCP). NSPNN paragraph 5.87 and 5.88 are for the SoS's consideration. NSPNN paragraph 5.89 – Requires the applicant to provide sufficient information to satisfy the SoS that dust, odour, artificial light, smoke, and steam are mitigated to reduce any loss of amenity. This is contained mainly within document 7.11, the Code of Construction Practice (CoCP) but also within ES Chapter 5 "Air Quality" (dust) and Chapter 7 "landscape and Visual" (light). In relation to dust during the construction phase, the proposed mitigation measures and monitoring (secured through the REAC) are considered to broadly align with the requirements of the NPSNN, however, there is limited ambition to commit to the use of low (or zero) emission vehicles and onsite power generation. Details of the monitoring scheme (parameters, duration and location) are to be confirmed and will determine its adequacy.
3.2.164 – 3.2.170		**Flood risk & mitigation** Paragraph 3.2.164 – 167 relates to flooding from Main Rivers which are regulated by the Environment Agency and the LLFA would have no further comments to make on this.

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		Paragraph 3.2.168 – 170 relates to Surface Water Flooding and the LLFA's requirements under the FaWMA (2010). Paragraph 3.2.169 looks reasonable. However, greater emphasis could have been given to the scheme delivering an ambitious SuDS strategy that would not only mitigate/ reduce flood risk off site, but would also aim to deliver multiple benefits such as improved water quality, amenity and biodiversity. Reference could also be made to the proposed drainage design being in compliance with the LLFA's requirements, as outlined in the Essex SuDS Design Guide (2020). Paragraph 3.2.170 sheds positive light on the proposed drainage strategy for the scheme, however, this appraisal would be subject to the outstanding drainage queries being suitably resolved and approval of the detailed drainage design when this comes forward. Whilst the Council are reasonably confident that measures are in place to secure this conclusion at some point in the future, to state that there will be 'no likely significant adverse effects' at such an early stage would be somewhat pre-deterministic. NPSNN Paragraph 5.100 does place emphasis on the application of SuDS to manage the operational surface water drainage.
3.2.171 – 3.2.174		**Land instability** LTC goes through a former landfill (East Tilbury Marshes). There is no information to what is in the landfill or how far it goes down in depth. Currently, the former landfill is already disturbed due to erosion on the banks of the River Thames, which is currently polluting the River Thames. The construction of the northern LTC tunnel portal may disturb waste in East Tilbury Marshes former landfill. There is potential for stability issues on the tunnel portal, on the north side of the tunnel. Potential impact on land instability and marine environment. Question remains to how HE propose to stabilise the erosion of East Tilbury Marshes former landfill, to comply with NSPNN paragraphs 5.117 and 5.118. The EGA (appendix 10.1) does not identify the East Tilbury Marshes landfill and makes no mention of boundary slopes and erosion. Plate 1.6 Distribution of landslide hazard in the study area shows only possible slope instability. The report states that all slopes in the study area are considered stable under present conditions. The site inspection log in Annex B contains 7 entries based on inspections in 2018, none of which appear to relate to the riverbank. It is concerning that the preliminary assessment appears not to be robust and is also based on aged date which may no

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		longer be appropriate. A more detailed photographic log and risk ranking of all features would enhance confidence that a robust assessment has been undertaken. Whilst potential hazards are identified (slope stability, karstic features, faults and compressible ground) the assessment is only preliminary in nature and for most the EGA states that GIR and ground models will only be available for detailed design. Will an appropriate assessment be presented in the application underpinned by a revised EGA incorporating the available GI data? On the provided EGA the Council would request that a plate showing the locations of recorded karstic features be provided together with commentary on the degree of confidence noting that the absence of records does not necessarily indicate absence of features. The Karst hazard drawing in EGA indicates that soluble rock is believed not present - this does not accord with ground model which shows chalk along the whole of the route. Whilst it is stated that there are standard earthwork mitigation measures available, some commentary should be provided as to the nature of the measures available for each feature and what potential cross over issues will be considered. For example, incorporation of band drains could create contamination migration pathways - how will this be assessed and pollution managed? NPSNN 5.117 is not specifically referenced in Chapter 3 but is in Appendix A1. The wording for 5.117 is *'where necessary, land stability should be considered in respect of new development,* ***as set out in the National Planning Policy Framework and supporting planning guidance.*** *Specifically, proposals should be appropriate for the location, including preventing unacceptable risks from land instability. If land stability could be an issue, applicants should seek appropriate technical and environmental expert advice to assess the likely consequences of proposed developments on sites where subsidence, landslides and ground compression is known or suspected'.* To secure agreement that the policy requirements have been complied with the current version of the NPPF and supporting guidance should be referenced in both this document and the EGA, with a confirmation statement that the assessment has been undertaken in accordance with the elements referenced. Deviation from the requirements will need to be identified and justified.

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		Within 7.2 Planning Statement and NPS accordance tables there are 3No instances of words containing 'contam', two are in the section on waste management and relate to contaminated soils classified as Hazardous waste would be managed outside of the study area. The third in para 5.4.81 alludes to the desk based and intrusive ground investigation of current and historical land uses to establish potential contamination levels. Specific reference to 5.168 is only in Appendix A1. The policy states '*for developments on previously developed land, applicants should ensure that they have considered the risk posed by land contamination and how it is proposed to address this'*. The presentation of contamination is considered overly simplistic given the number of well recorded landfills. Whilst this is a summary, it is considered that the applicant is not generating a favourable impression by this minimalistic approach and it is recommended that a more transparent statement acknowledging the potential for ground contamination from historical and current land uses, clearly stating the approach to identification and assessment (signposting use of established and recognised guidance etc) and summarising what has been identified. The conclusion regarding readily available mitigation measures to manage identified impacts/risks noting further GI and assessment by the Contractor to inform detailed design and discover strategy to refine understanding and address potential for unidentified conditions is questioned.
3.2.175 – 3.2.204		**Historic environment** DMRB Guidance v. NPS - provision for cultural heritage resources: there is a disagreement between the two methods of assigning value to cultural heritage resources, such as listed buildings, which needs to be resolved. No mention is made in any of the documents regarding how the requirements of the Ancient Monuments and Archaeological Areas Act 1979 or the Planning (Listed building and Conservation Area) Act 1990 have been complied with. There should be appropriate reference to them within the Planning Statement. NPSNN paragraph 5.128 states: *'In determining applications the Secretary of State should seek to identify and assess the particular significance of any heritage asset that may be affected by the proposed development (including by development affecting the setting of a heritage asset)'.* There is concern that appropriate consideration has been given to the complete loss of a Scheduled Monument. Section 3.2.188 identifies that the loss of a Scheduled Monument should be seen as wholly exceptional as defined by

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		legislation (which is also identified in paragraph 5.131), Section 3.2.188 does not identify that this will be the total loss and destruction of the Scheduled Monument. The comment on setting in 3.2.180 are irrelevant as the asset will no longer exist. Concerns remain that Paragraph 5.128 has not been met in regard the assessment of designated built heritage where these are threatened with demolition. At present there has been no detailed assessment of the listed buildings proposed for demolition, so their importance has not been assessed. This has been requested since 2018 and has been discussed repeatedly. Within the PS the level of harm is identified but the complete loss of the scheduled Monument is not made clear. It does however clearly state the demolition of the listed buildings is required. There is no assessment of potential relocation which has been mentioned in meetings. Under paragraph 3.2.183 two heritage assets have been identified as being of High Value and it is expected that further sites will be added to this list as the evaluation results are submitted. These will need to be assessed to identify if they are of similar significance to the scheduled monuments. No discussions have taken place with Historic England or Thurrock's advisors on the detailed mitigation methods for the designated or undesignated assets beyond that of the assessment that is taking place at present. Paragraphs 3.2.181-2 reference the REAC Ref No. CH001; AMS-OWSI No. 2 as providing the mitigation proposals. Both of these documents have limited information and do not provide sufficient information to satisfy us that appropriate mitigation is proposed. Considerably more work is required on these documents prior to them being considered as providing an appropriate mitigation strategy for the heritage impact of the scheme. Evaluation reports from the trial trenching are only just being submitted and it will be important that, the significance of these assets are assessed and where they are deemed to be of schedulable quality they are considered as such as defined under paragraph 5.124. The results of this evaluation will need to feed into the REAC and OWSI.

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		Within Appendix A1 the level of harm is not immediately obvious within the text. Within Appendix A2 EN1 makes it clear that there is a presumption in favour of the preservation of heritage assets which is different to that of the NSPNN.
3.2.205 – 3.2.219		**Landscape and visual impact** Commentary on paragraphs 5.144 - 5.146 show how the LVIA complies with the NSPNN requirements. Commentary on paragraphs 5.147 - 5.155 focus predominantly on the effects on the Kent Downs AONB because of its national landscape designation. It is agreed that the LVIA has considered the Local Landscape Character Areas to identify locally important characteristics, and the effects the scheme would have upon these. The fact that these areas have local value, even if not designated, is identified. Areas around Belhus Woods for example are important recreation areas for residents in East London. This accords with 5.156. Mitigation measures have been proposed and included in the EMP etc. Work is still ongoing with finalising proposals for several key areas within the borough. With regards to 5.158, proposals for Tilbury Fields, mitigation around Coalhouse Fort together with potential Legacy measures between Coalhouse Fort and Stanford Le Hope offer opportunities to enhance this coastal/estuarine area. It is recognised that some progress has been made regarding the design of the scheme to meet the requirements of 5.159, particularly the increase in the number of Project Enhanced Structures and green bridges and the lowering of the height of Tilbury Viaduct. There are, however, still significant concerns over the design of the A13 junction and its subsequent land take.

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
3.2.220 – 3.2.229		**Land use including open space and green infrastructure** Paragraph 5.166 - Provision has been made for the direct loss of designated Open Space sites (see below); however, the indirect effects such as noise and air quality have not been addressed. LTC has complied with 5.168; however, the downside is that this has limited the scope to achieve more significant mitigation for example within Orsett Fen. The route does not directly impact mineral sites within the borough. (5.169) 5.175 - The original GI Study was produced with little direct consultation with local authorities. Since it was produced it has been necessary to 'retrofit' mitigation and legacy projects to try to deliver the scale of improvements necessary to achieve the GBI benefits necessary. The comment for 5.177 states that there would be no impact on coastal recreation which is incorrect. The England Coast Path which is proposed under the Marine and Coastal Access Act 2009 runs both sides of the Thames Estuary to Tilbury on the north bank and Dartford Crossing on the south. While measures such as Tilbury Fields could potentially enhance the setting of the route, it is still not clear if the route will require closing during the construction of the north portal adjacent to the route. 5.184 - discussions are still ongoing regarding the scale of WCH mitigation that is necessary. As principally a transport project is it considered essential that through LTC HE helps deliver a step-change in active travel and NMUs. Several existing routes will be closed for several months or years which will significantly hinder this ambition.
3.2.230 – 3.2.240		**Noise and vibration** The planning statement does not cover NSPNN paragraphs 5.189 - 5.193 relating to noise. Commentary from HE should be provided as to how the paragraphs have been complied with. This includes 5.189 where NSPNN asks for noise sensitive premises to be identified. The traveller's site is considered to be noise sensitive but has not been assessed.

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		Paragraph 3.2.239 states that the construction phase would avoid significant adverse impacts on health and quality of life and therefore comply with policy. However, summary of construction traffic impacts has not been covered and how impacts from this source would be relate to an effect level, after mitigation. No specific mitigation measures are provided for construction traffic. With regards to construction plant paragraph 2.236 identifies properties as exceeding the SOAEL (Significant Observed Adverse Effect Level). Therefore, significant adverse impacts on health and quality of life have not been demonstrated. NSPNN paragraph 5.199 requires an indication to be provided of properties to be eligible for compensation. The planning statement does not provide this with regards to noise.
3.2.241 – 3.2.247		**Impacts on Transport Networks** LTC's proposals are contrary to NPSNN policy. The Council continues to have multiple detailed concerns with LTC. These concerns are set out in the **Council's Review of Transport Planning Evidence** (March 2021), which should be read in conjunction with this response. Those concerns are reflected by the SOCG Issues Log which is being maintained by HE. HE's view that LTC complies against NPSNN Transport policies. Failure to meeting national and strategic policy tests is set out in Review of Transport Planning Evidence. Key Council issues remain: ▪ Concerns remain as previously identified in the Council's response to Statutory Consultation (2018): Documents 7.2 App A1 and 7.9 Table 11.1 present HE's view on LTC's compliance against NPSNN policies. It is stated at 7.2 item 2.1 that the crossing "*would support sustainable local development*". It is the Council's opinion that the route sterilises swathes of developable land and does not provide local connections and is therefore contrary to NPSNN. HE states in 7.2 App A1 item 3.17 that 'Green Bridges' and cross connections are to be provided along with adjustments and enhancements to the active travel network, but details of those

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		corridors are required to be agreed with the Council. Tab 11.1 asserts compliance with NPSNN Chapter 2 and states that the TA demonstrates the value of the LTC to the national network but makes no reference to the value to supporting local growth. At policy 5.209 (7.9 page 235) it is restated that the supporting local growth is a LTC objective but there is no evidence of how the scheme achieves that objective. ▪ HE proposes adjustments to sections of PRoW, either directly impacted by the scheme or as part of the scheme's broader proposals, however, the detail has not been provided as to how those measures would be configured and how that would improve strategic access and movement by active travel - contrary to item 2.9 and 3.17 of NPSNN. Document 7.9 Tab 11.1 page 236 item 5.216 identifies proposals to reconnect corridors impacted by LTC. No details are given of the proposed provision – albeit document 7.10 chapter 4 is cited as providing design detail. That document indicates aspired principals only. ▪ LTC does not meet several of HE's strategic policy tests (such as option testing, delivery/facilitation of economic growth and achieving sustainable local growth) and scheme's own objectives of supporting local development and regional economic growth in the medium to long term. ▪ LTC Route should be safeguarded for future upgrades such as: priority bus lanes; autonomous vehicles and rail. ▪ The Council does not agree with the route selection of the detail of the layout of that route. ▪ In its current form the proposed LTC continues to sterilise great swathes of potentially developable land, both during the construction phase and permanently, and provides no local access or facilitates future access to those areas. Connections across the route are proposed at Muckingford Road, Hoford Road, Brentwood Road, Stanford Road, Stifford Clays Road, Green Lane and North Road. These widths hamper opportunities for sustainable transport connections. ▪ Wider network impacts: traffic safety and treatment of existing accident blackspots needs to be discussed. ▪ It is unclear how the delivery of other likely infrastructure developments, such as Tilbury Link Road, will be coordinated with the timing of delivery of the LTC. Opportunities to minimise potential effects on the Borough and the local community through a considered, integrated programme of delivery of linked or nearby schemes should be fully appraised and exploited as far as practicable. ▪ Removal of RASA: In the absence of high-quality connections, drivers requiring a break in their journey or requiring services in the Borough would be forced to access local services through the convoluted

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		connections at Orsett Cock and the Manorway junction, adding further pressure to those busy interchanges and the connecting links. ▪ Concerns about other roads and junctions, i.e. Brentwood Road, Hornsby Lane, The Manorway and others. ▪ Construction Issues: More information is needed on impacts and mitigation during construction, including mitigation around compounds and methods/mitigation to reduce impacts on local communities from extended working hours. ▪ Details of Green Bridges and cross connections should be agreed with the Council. ▪ Haul Roads for Construction; Delivery of TLR; Highway Design; Strategic Items: various concerns as set out in Council's Review of Transport Planning Evidence.
3.2.248 – 3.2.256		**Water quality and resources** Paragraph 3.2.254 relates to the strategy for managing operational surface water drainage through the application of SuDS. The LLFA are happy with the assessment carried out on Water Quality to date, however, would expect further detail to be supplied confirming the scheme's suitability at some later stage in the detailed drainage design process.
3.4 & Appendix B	Local planning, minerals and transport policy & Appendix B	Paragraph 1.3 of NSPNN states that: *'The relevant development plan is also likely to be an important and relevant matter especially in respect of establishing the need for the development.'* The PS should also consider the following policies, as set out in the Council's 'Response to Local Plan Policy Compliance Review' (May 2020), including: ▪ OSCDP1 – Promoting Sustainable Growth and Regeneration in Thurrock ▪ CSSP1 – Sustainable Housing and Locations ▪ CSSP2 – Sustainable Employment Growth ▪ CSSP3 – Sustainable Infrastructure ▪ CSTP5 – Neighbourhood Renewal ▪ CSTP6 – Strategic Employment Provision ▪ CSTP10 – Community Facilities

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		▪ CSTP11 – Health Provision ▪ CSTP12 – Education and Learning ▪ CSTP13 – Emergency Services and Utilities ▪ CSTP14 – Transport in the Thurrock Urban Area: Purfleet to Tilbury ▪ CSTP22 – Thurrock Design ▪ CSTP31 – Provision of Minerals ▪ PMD2 – Design and Layout ▪ PMD9 – Road Network Hierarchy ▪ PMD16 – Developer Contributions. The proposed LTC does not make provision for, and is inconsistent with, the housing and development aspirations for the Borough and for the wider South Essex area as set out in Thurrock's emerging Local Plan and South Essex Joint Strategic Plan. The Council has also engaged with Ministry of Housing, Communities and Local Government, PINS and Homes England at this time in the face of the uncertainty of the potential impacts of the proposed LTC on the plan making process. Following discussion with the bodies listed above, the Council is minded to proceed with a preferred option which is to prepare a full Regulation 18 and 19 Local Plan which meets the totality of the Borough's future development needs over the full plan period. The wider impact on Thurrock's socio-economic mix needs to be considered preferably in a standalone socio-economic study, including 1. the effect on housing delivery 2. how a Lower Thames Crossing will impact on future growth and investment. 3. how future network changes can support economic benefit to Thurrock 4. to help inform how and where new housing could be allocated, and any negative impacts of the LTC on housing supply 5. the wider economic benefits/dis-benefits. LTC does not integrate with development at Stanford le Hope Station, which now has planning consent. In its current form the proposed LTC continues to sterilise areas of potentially developable land, both during the construction phase and permanently, and provides no local access or facilitates future access to those areas.

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		Connections across the LTC route are proposed at Muckingford Road, Hoford Road, Brentwood Road, Stanford Road, Stifford Clays Road, Green Lane and North Road and other crossings in Thurrock. It is unclear if the overall width of the bridge provides allocation that of sufficient width for the provision of segregated, not shared, cycleways and footpaths for sustainable transport users/connections. Contrary to Thurrock's Core Strategy Policy CSSP5 - LTC risks prejudicing the delivery of a sustainable Green grid (Core Strategy Policy CSSP5). The proposed alignment crosses through five of the eight Green grid Improvement Zones. Policy CSSP5 states that development will not be permitted which compromises the integrity of green and historic assets or the overall Green Infrastructure network and that developer contributions will be used to facilitate improvements to the quality, use and provision of multi-functional green assets and linkages.
Chapter 4, 5 and 6: Green Belt, AONB & Open Space		
		Why are these three topics separated out (Green Belt, Kent Downs AoNB and Open Space), it is not explained or justified.
Chapter 4: Green Belt		
4.1 & 4.2	Introduction & Project within the Green Belt	Apart of the tunnel, the LTC is within the Green Belt in Thurrock local authority area. The LTC severs Thurrock in half. The scheme is 'inappropriate development' and harmful to the Green Belt. NSPNN paragraph 5.1.64 refers to the NPPF for the purposes and protection of the Green Belt. Paragraph 5.169 states *'there is a general presumption against inappropriate development within them (Green Belts). Such development should not be approved except in 'very special circumstances.' The Secretary of State will need to assess whether there are very special circumstances to justify inappropriate development. Very special circumstances will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm, is clearly outweighed by other considerations. In view of the presumption against inappropriate development, the Secretary of State will attach substantial weight to the harm to the Green Belt, when considering any application for such development.'* Green Belts can be changed in 'exceptional circumstances', through a review of the Local Plan. This should be undertaken for larger scale development. Paragraph 141 of the NPPF states that '*before concluding that exceptional*

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		circumstances exist to justify changes to Green Belt boundaries, the strategic policy-making authority should be able to ***demonstrate that it has examined fully all other reasonable options for meeting its identified need for development.****'* As LTC is justified by the need of the project, we would expect HE to demonstrate that 'it has examined fully all other reasonable options for meeting it's identified need' in Green Belt terms. Previously, the Council has only been consulted upon the Methodology for Purpose 4 only, previous to receiving the PS. The PS Green Belt Assessment (GBA) (Chapter 4) is the first opportunity the Council has been provided by HE to view and comment on the full Green Belt Assessment methodology and assessment results. A GBA should have been undertaken of all the alternative routes, to help inform the Preferred Route. HE should have consulted LPAs on the GBA methodology ahead of progressing with the GBA. The GBA should of been consulted upon before the DCO was submitted to the SoS, to inform the location, design and mitigation measures to minimise the impact on the Green Belt. There was no opportunity to comment on the different LTC options, in terms of the impact on Green Belt purposes. Therefore, the Council has not been able to comment on the different Green Belt impacts of the proposed LTC alignment compared to the alternatives. Therefore, it is assumed that the assessment of harm to the Green Belt has not informed the alternatives process or selection of the Preferred Route for LTC.
4.3	Relevant national policy	No comment.
4.4	Relevant local policy	The Council published Thurrock Strategic Green Belt Assessment (TGBA), including assessment of the LTC route (as at Nov 2018). Section 4.4. 'Relevant local policy', in the PS, makes no reference to the TGBA. Any assessment of both the alternative options and preferred route for the LTC, in the Thurrock Green Belt, should be informed by the local TGBA.
4.5	Methodology	Section 4.5.5 of the PS splits the LTC into 'appropriate' or 'inappropriate' development. In the context of the Green Belt, the whole LTC should be viewed as a whole, in terms of assessing the harm of development to the Green Belt.

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		Therefore, the Council does not agree identifying parts of LTC development as 'appropriate development' in relation to assessing impact to the Green Belt. The Green Belt assessment does not sufficiently assess the impact of LTC as a whole. Therefore, developments such as footbridges, substations, earth works etc should be considered in the Green Belt assessment. Tables 4.1 and 4.2 do not include the tunnel portals, the road itself and the viaducts and bridges, which all should be included within the Green Belt assessment. Where the LTC results in new replacement or alteration of buildings, a Green Belt Assessment should be undertaken on a case by case basis. Green Belt Parcels identified in Plate 4.2 (page 97) of the PS match the parcel boundaries of the TGBA, which is welcomed as this provides consistency. The LTC methodology assesses each parcel against 'visual' and 'spatial' impact of the Green Belt. The assessment should include the assessment against 3 of the 5 purposes, as set out in the NPPF: ▪ To prevent neighbouring towns merging into one another – the LTC is routed between settlements in Thurrock and would introduce development between settlements. Therefore, this purpose is relevant to the LTC Green Belt assessment. ▪ Assist in safeguarding the countryside from encroachment – the PS accepts this purpose should be included in the Green Belt assessment. ▪ To assist in urban regeneration by encouraging the recycling of derelict and other urban land – there are potential opportunities for the LTC to assist in linking to urban regeneration, which should be explored with the Council. For example, providing a junction at Tilbury to provide links from Kent to south of Thurrock which includes Tilbury Port (and future expansions), Grays and potential future urban growth (1000s of new homes). The Green Belt assessment of parcels in Thurrock has incorrect results, e.g.:

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		▪ Parcel T14 is identified as having a 'Moderate Impact' on the Green Belt. The PS correctly identifies parcel T14 as a 'high' openness rating, due to the character of low-lying, large-scale, flat inland basin with expansive views across the area. Therefore, the LTC in this parcel would have a 'fundamental' impact on parcel T14. ▪ T26 is identified as having a 'minor visual impact' on the Green Belt. Any development of this scale in the Green Belt will have more than a 'minor visual impact' due to the scale and elevation of the LTC development. Parcels H3, H5, H6 and H10 are identified as land within London Borough of Havering. However, part of these parcels are within Thurrock LPA area. All parcels that fall within Thurrock should be included within Table 4.5. Paragraph 4.6.20 sets out that the assessment of 'loss of spatial openness' is undertaken compared to a percentage, 'where major is defined as more than 10% of the area of the parcel'. Green Belt assessment should not be assessed against a percentage. The assessment should be informed by a landscape assessment, Green Belt assessment and full survey of each parcel, to inform the assessment against each Green Belt purpose. A good example of Green Belt assessment methodology is set out in the Thurrock Strategic Green Belt Assessment (1a and b). Without a correct assessment of the Green Belt, it then raises questions to whether the right option was selected in Green Belt terms, and then for the preferred route and design, and whether the right mitigation has been selected to minimise the impact on the Green Belt. The chapter sets out a number of existing uses which will be displaced and provided within the Green Belt, such as Gammon Field travellers' site and Orsett Showground. However, the chapter does not provide a Green Belt assessment for these replacement developments. Selection of the route is justified due to absence of viable alternatives route options for LTC. However, the Council has received insufficient information to make a judgement on the alternative route options, as set out in accompanying HE technical document responses.
Chapter 5: Kent Downs AONB		
No Comments		

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
Chapter 6: Open space, sports and recreational buildings and land		
6.1	Introduction	The Project will have an impact on accessibility for cycling, walking and use of open space for recreation and physical activity. Discussion on open space, sport and recreational buildings and land have been discussed though separate responses/comments provided by the Council to HE. HE and Council discussions are on-going. Key issues include: ▪ The long-term severance of key public rights of way (PRoW) within the borough ▪ The need to help deliver a step-change in walking and cycling provision within the borough ▪ While compensation land has been provided where direct loss of open space occurs no consideration has been given to indirect effects such as noise, air quality and visual intrusion. ▪ The measures as proposed are not seen as adequate to help address the range of health inequalities affecting a large proportion of the borough's population.
6.2	Planning Act 2008	No comment.
6.3	Policy context	Contrary to Thurrock's Core Strategy Policy CSSP5 - LTC risks prejudicing the delivery of a sustainable Green grid (Core Strategy Policy CSSP5). The proposed alignment crosses through five of the eight Green grid Improvement Zones. Policy CSSP5 states that development will not be permitted which compromises the integrity of green and historic assets or the overall Green Infrastructure network and that developer contributions will be used to facilitate improvements to the quality, use and provision of multi-functional green assets and linkages.
6.4	Open space (replacement land to be provided)	Open Space permanently replaced – identified as formal open space (Thurrock): ▪ Ron Evans Memorial Field ▪ Tilbury Green

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		The proposed replacement land for Ron Evans Memorial Field shown in the EMP at the submission of DCO1 evolved following discussions of options presented in the Open Space, Sport and Recreation Needs Assessment. The option south of the A13 was favoured but the initial proposal resulted in small areas of farmland not being included. As these would not be viable for remaining in farming it was agreed they should be included in replacement land to provide a better connection to Long Lane. The plan was redrawn and included in the EMP with all land between the existing housing to the west, Long Lane to the south and the existing Ron Evans field to the east being included. Subsequently a significantly reduced area, broken into two blocks, both close to the major roads, were proposed. These were a 'like-for-like' area to that which would be lost. No regard had been given to the quality and usability of the proposed land. The access would be further from existing residential properties and close to major roads. The Council has agreed a compromise that would incorporate additional ecological mitigation land to form a more appropriate open space. It is important that no further attempt is made to reduce the scale of this area. Tilbury Green is in effect Footpath 200 and the proposed route is acceptable. To date no detail has been provided regarding its width and design (e.g. will it be enclosed by hedges?). Replacement land for Orsett Fen has been proposed within other documents but is not listed in the Planning Statement.
	Open space (no replacement to be provided)	Need to identify the LPA for each asset listed in Table 6.2. <u>Open space assets (no replacement):</u> ▪ Walton Common and Parsonage Common (permanent rights and returns to existing use) ▪ Grangewaters Outdoor Education Centre (permanent rights and returns to existing use) Walton Common is contained within the Tilbury FGP DCO Order Limit and will be developed. A replacement area of common will be provided to the northwest of current area off Fort Road.

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		It is not known what discussions have been had with Grangewaters staff. So long as the remainder of the car park is in use for groups it is envisaged that this should be acceptable.
6.6	Private sports or recreational buildings and land	The construction of links roads, installation of diverted gas pipelines and overhead electricity transmission cables has significant impacts on sport and recreational buildings / land. There are 4 sport and recreational buildings / land directly impacted by LTC: Orsett Royals Football Club (private owned); Orsett Golf Club (private owned); Orsett Showground Site (private owned) and Thurrock Rugby Football Club (public owned land). Overall, there is a knock-on significant impact on the delivery of the secondary school, building of a new leisure centre and reprovision of rugby pitches. The LTC does not comply with NSPNN paragraph 3.3, until the mitigation and programme for sport and recreation is confirmed with the Council. All four of these facilities are located in close proximity to each other within Thurrock. Therefore, the impact on sport and recreational facilities, in that particular area, will have a cumulative impact on the sports facilities for local residents. For all facilities, the Council is unaware of the LTC programme or timescales of the impacts on these facilities, to enable co-ordinated approach to minimise the impacts on sport and recreational facilities. HE need to confirm the programme for these works (including Order Limit boundaries for the work) and agree the programme with the Council. Key issues for each facility are set out below: ▪ Thurrock Rugby Football Club (temporary & permanent rights): the club is located on Council owned land. Part of the Rugby Club land has been transferred to Orsett Heath Academy, which will be a new build secondary school. Currently the Academy land and Rugby Club are affected by LTC temporary works. Overall, there is a significant impact on the delivery of the secondary school, building of a new leisure centre and reprovision of rugby pitches. HE still needs to provide the Council certainty, by confirming the location/size of the temporary land-take, as well as the programme of works. The Council is unaware of how long the rights will last. There are currently temporary classrooms on the site and by next year there will be a need to build the school. The school needs to re-provide the rugby pitches. Sport England will also object if the current rugby pitches are not re-provided (at Blackshots) on time. LTC is holding up building the secondary school; and therefore, this has a knock-on impact on re-providing the rugby pitches; and a knock-on impact building a new leisure centre. The Council should be commencing development of the new leisure

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		by 2025 as the old facility has an end life at 2030. Therefore, there is a requirement for further mitigation, as the LTC does not fit with the timescales for the provision of education and recreational facilities. ▪ Orsett Royals Football Club (temporary impacts & permanent rights): The football club is a private sports facility in Thurrock. The temporary impacts will have an impact on local residents using the facilities, as they will need to arrange use of other facilities. Orsett Royals Football Club is a high grade facility and well maintained, compared to other facilities in the borough. Therefore, even a temporary impact will have an impact on the local population. The club were satisfied with the changes made by HE after meeting HE representatives. ▪ Orsett Showground Site (permanent impact for link roads & temp / perm rights) – private. There will be potentially impact the facilities because of permanent take-up for the link road – that could impact on the leisure facilities. This is the biggest attraction in the area, which hosts approx. 50 events a year, including the Orsett Show (3 day event), wedding venue marque and other events. Lots of people attend this facility which brings in money to local area. Part of the site will remain open and part of the site is affected by the gas pipe. ▪ Orsett Golf Club (temporary impacts & permanent rights): The Council does not have any further information from the Golf Club.
6.7	Proposed recreational sites	Impacts on recreational sites: ▪ Tilbury Fields (landscape earthworks on Goshems Farm – footpaths) The proposal for Tilbury Fields has changed significantly since DCOv1. LTC has presented emerging designs to the Council and other stakeholders outlining the changes. It is now to be an ecological mitigation area with open access including paths to the top of the hills. In addition, new permissive paths are proposed within ecological mitigation areas north of Coalhouse Fort. The proposals provide an opportunity to achieve a more significant open space; however more detail is still to be provided. The Council requires that the emerging proposals are developed to help deliver the emerging SEE Park vision being developed by ASELA. The scheme should deliver a cycleway link in accordance with LTN1/20 along the Two Forts Way, which is being developed into the England Coastal Path. Not all stakeholders support the proposed raised landforms due to their setting within the historic marshland. The council has requested an additional viewpoint to help understand the landforms in the context of Coalhouse Fort. LTC should

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		continue to liaise with the Council and other stakeholders to further refine the design. This needs to be secured within a controlled document.
Chapter 7: Other important and relevant considerations		
		This chapter is only 3 pages long and is very limited in considering other information. There is other important information that the Examining Authority and/or the Secretary of State should consider as important and relevant considerations, to reflect PA2008 requirements, which are not set out in this chapter. This includes: ▪ PINS feedback to October 2020 DCO v1 submission; ▪ The Council's SoCG; ▪ Hatch 'Lower Thames Crossing Economic Costs Study' (February 2020); ▪ Hatch 'LTC Mitigating the Negative Impacts and Maximising the Benefits and Maximising the Benefits to Create a Positive Legacy for Thurrock' (February 2021); ▪ LTC Environment Statement; ▪ Health and Equality Impact Assessment; ▪ Code of Construction Practice (CoCP); ▪ The Register of Environmental Actions and Commitments (REAC); ▪ Sustainability Statement/Carbon & Energy Plan; ▪ Transport Assessment; ▪ ComMA; ▪ Land and Property matters; and ▪ Consultation Report (in particular, the Council's comments and subsequent technical comments on the DCOv1 documents and HE technical documents).
Chapter 8: Overall conclusions and the planning balance		
8.1.2	Scheme Objectives	How are the scheme objectives relevant to this PS, except to state them again?

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
8.1.4 – 8.1.10	National Policy Statements	NPSs response provided in response to relevant Appendices and Chapter 3 (ES topics).
8.1.11 – 8.1.13	National Planning Policy Framework – Green Belt	Green Belt response provided in response to Chapter 4 above.
8.1.14 – 8.1.22	Local planning policy & other policy considerations	Local Planning policy response provided in response to Chapter 3 above.
8.1.23 – 8.1.37	The planning balance	The planning balance section, of the PS, is a series of general statements that attempt to demonstrate that the impacts of the scheme are not material. It does not recognise that there is a need for fundamental design change requirements to enable local sustainable development; that much greater efforts are required towards firming up mitigation are necessary for many technical topics; and that the majority of benefits have not been secured. LTC will have a significant effect on Thurrock that will be adverse and substantially so. The Council has set out in some considerable detail the nature of that adverse impact and its likely significance, particularly in terms of environment impact, economic impact and social and community impact. The considerable detail has been provided throughout the design process, through consultation responses, attendance to many of meetings, continuous update to the SOCG and various responses to HE technical documents. Concern of the emerging Local Plan and its interface with the proposed LTC was identified in the Council's response to the LTC Statutory Consultation (10 October – 20 December 2018), LTC Supplementary Consultation (29 January – 9 April 2020) and LTC Design Refinements Consultation (14 July – 12 August 2020). The Council's concerns have not been addressed and remain unchanged. As a result, the current LTC scheme does not deliver on HE's own scheme objectives '*to* ***support sustainable local development*** and regional economic growth ***in the medium to long term'*** or to *'minimise adverse impacts on health and the environment'*. The Hatch Economic Report (February 2020) presents the effect of the scheme on the existing and future economic prosperity and opportunities of the borough to develop in economic terms and the adverse impacts of the borough's

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		ability to develop in economic terms and effect LTC will have on the widely recognised strategic potential of Thurrock to deliver growth. NPSNN paragraph 1.2 *'Under section 104 of the Planning Act the Secretary of State must decide an application for a national networks nationally significant infrastructure project in accordance with this NPS* ***unless he/she is satisfied that to do so would****:* 1. *(1) lead to the Secretary of State being in breach of any duty imposed by or under any legislation;* 2. *(2) be contrary to legislation about how the decisions are to be taken.* 3. *(3)* ***result in adverse impacts of the development outweighing its benefits'*** NPSNN paragraph 3.3 states *'in delivering new Schemes, the Government expects applications to* ***avoid and mitigate environmental and social impacts*** *in line with the principles set out in the NPPF and the Government's planning guidance. Applicants should also* ***provide evidence*** *that they have* ***considered reasonable opportunities to deliver environmental and social benefits*** *as part of Schemes'.* LTC needs to meet the requirements of NSPNN, in particular paragraphs 1.2 and 3.3 above. However, there remains a large list of environmental, economic and social and community adverse effects on Thurrock which have not been resolved in the design and/or mitigation of LTC. Hundreds of issues still remain on the Issues Log, with many key critical issues, and the majority of legacy benefits have not been secured. Key issues remaining include: 1. A13/ LTC, South Ockendon Junction/ TLR options appraisal – we do not yet have the evidence that supports the case for the preferred option. 2. Inadequacy of the process/ justification for the design of the route and junctions, together with an explanation of the alternatives selected prior to finalising the preferred design. 3. Without guaranteed delivery of South Ockendon/ TLR junctions, or local road network mitigation schemes, there is no certainty that LTC will support sustainable growth and the Local Plan. 4. TLR delivery is fundamental to support the Freeport – there is a need to ensure that there is a deliverable strategy to avoid unnecessary impacts of HGVs accessing LTC on local communities.

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		5. Inability of the local roads/ junctions to cope with additional traffic created, and constraints it places on opportunities to reallocate road space to improve local liveability. 6. There is no credible strategy for public transport access to/ from key Thurrock origins/ destinations, and many public transport journeys will become longer. This does not support or enable public transport growth. 7. PRoW and meaningful support for active travel – should not be based on current measured use and should take into account the vision for a future comprehensive active travel network and increased usage. 8. Concerns around Public Health and Equalities Impacts and how these are going to be addressed. 9. Climate change/ carbon reduction/ mitigation – in the light of the Transport Decarbonisation Plan and Net Zero Plan for Highways – lacks ambition and appears to be inconsistent with 78% Carbon Reduction by 2035 now enshrined in law. Where is the innovation? What thought has been given to future need to allow for/ encourage transport system adaptation? 10. Needs meaningful engagement in skills and employment – there is a once in a generation opportunity to support the local community to develop skills and employment opportunities. This needs to be central to the scheme. 11. The need to secure means of construction impact mitigation, including CoCP/ REAC/ Construction Traffic Management/ Construction Travel Plans/ Materials Handling, etc. – lacks innovation and effective process for monitoring and review. 12. Discharge of requirements – Local Authority needs to have a leading role as the interface between the development of the strategic road network and creating benefit for the future of local residents/ stakeholders. Leaving this to the Secretary of State risks the strategic case dominating future plans, and the local case being overlooked. 13. Requires an understanding of impact of noise and air pollution on local residents during operation. 14. Delays and disruption likely to be caused during construction, and ability to manage identified impact. 15. The impact of migrant construction workers on the limited local housing stock. 16. How Thurrock benefits from accommodating LTC, and how these benefits are secured – open space, increased connectivity, active travel, investment, legacy, etc (local regen, fairness /social equity). 17. How LTC facilitates integrated travel and encourages more sustainable future mobility behaviours.

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
		There still remains inadequate, missing and late critical data, as set out in a joint letter from Thurrock Council, Gravesham Borough Council, London Borough of Havering and Kent County Council, sent to HE on 4th August 2021. Key points, relating to data, are set out below: 1. We have only just received the **updated operational traffic modelling data** for the years 2029, 2036, 2044 and 2051, including the significant additional lane on the LTC to A13 slip road. Thurrock have downloaded the data, but some LAs have had difficulties, thereby adding to the time. It will take some 3-4 weeks to analyse the data, which would then go beyond the current end of consultation and as this analysis is so critical to many aspects of the consultation, any responses would be lacking this critical issue. 2. Due to the late receipt of the traffic modelling data, we understand that we will not be receiving the **air quality and noise updated assessments** until well into September, again after the current consultation is due to close, which will require several weeks to properly analyse and review. 3. Finally, and also due to the delay and effects of matters above, we will not be discussing the **updated health impacts or any attendant mitigation** until later in September at the CIPHAG meetings, again after consultation has ended. The Council has provided the evidence of adverse effects of LTC and missing data/information to HE throughout the whole design period, yet these adverse effects and missing data/information remain. As set out above, the information from HE has been lacking in order for the Council to make reasonable view on some subjects, and the consultations have been lacking. It is therefore evident that submitting the DCOv1 in October 2020 was premature, as it was before all the evidence and data, to inform the best design to bring about benefits at both a local and regional level. Therefore, the Planning Statement is incorrect to conclude that the planning balance weighs towards a positive outcome. As stated in NPSNN 4.4 the potential benefits and potential adverse impacts should be considered at a national, regional and ***local level***.
Appendices A 1 National Policy Statement for National Networks (NPSNN) Accordance Table		
		See response in Sections above.

Relevant Section in the Planning Statement (Oct 2020)		The Council's Comments
Appendix A 2 National Policy Statements for Energy Infrastructure Accordance Tables		
		See Appendix A to this response.
Appendix B Local Authority Policy Review		
		It is not clear why Appendix C is included and how it is dealt with in the PS.
Appendix C Local Thames Crossing Green Infrastructure Study		
		The GI Study appended to the Planning Statement is the same GI Study that the Council provided comments on previously in early 2021. Subsequently, the Council and LTC Planning Team and LTC Legacy Team to develop GI projects within the borough.

Appendix A Utilities Response

Lower Thames Crossing

Response to Planning Statement: Appendix A - Utilities Response

On behalf of Thurrock Council

thurrock.gov.uk

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Document Control Sheet

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1 Introduction

1.1 Overview

1.1.1 As part of its technical engagement relating to the proposed Lower Thames Crossing (LTC) Development Consent Order (DCO) application, Highways England (HE) has issued Thurrock Council (the Council) with the assessment details for the Utilities Response.

1.1.2 This document sets out the Council's comments on the Utilities Response and if there are any suitable opportunities to improve this infrastructure.

1.1.3 This technical note reports the findings of a review undertaken of the previously submitted (now withdrawn) A122 Lower Thames Crossing (LTC) Development Consent Order (DCOv1) (October 2020) in relation to the consideration of utilities diversions, which themselves constitute Nationally Significant Infrastructure Projects (NSIPs). The review contributes to the wider scrutiny by Thurrock Council of the LTC DCOv1 (October 2020), in order to identify deficiencies and provide recommendations to improve the DCO.

2 Purpose and Structure

2.1 Purpose

2.1.1 Thurrock Council has consistently opposed HE's current LTC scheme ('the Project') due to the negative economic, social, engineering and environmental impacts that it will have upon the borough, as well as the constraints it will place upon future growth. This includes construction and operational phase impacts from proposed utilities diversions, which the Council specifically raised concerns about in responses to HE's consultations prior to submission of the DCO application. The Council's main substantive concerns regarding proposed utilities diversions relate to the extent of land-take required and likely impacts on communities and existing infrastructure, including in terms of disruption and safety. Thurrock Council together with other affected local authorities and consultees also previously raised wider concerns regarding environmental and planning impacts from proposed utilities diversions. We acknowledge that some improvements have been made over the past year, but still seek further improvements/mitigations.

2.1.2 To inform Thurrock Council's engagement with HE and position in respect of a revised LTC DCO application, a high-level review of HE's assessment of proposed utilities diversions (including design, environmental impacts and mitigation) has been undertaken. This review has considered the LTC DCOv1 (October 2020). The review focused on assessing compliance with relevant Energy National Policy Statements (NPS), specifically EN-1, EN-4 and EN-5, in respect of proposed utility diversions which themselves constitute NSIPs. However, in doing so the review also identified weaknesses within the approach adopted by HE in their assessment of proposed utilities diversions more generally. Review findings have informed the development of recommendations to improve how utilities diversions and associated impacts are addressed in any future revised LTC DCO, as set out at the end of this note.

2.2 Structure

2.2.1 The remainder of this note is structured, as follows:

- Section 3 provides an overview of relevant information and assessment requirements set out within relevant Energy NPS which are engaged by virtue of the Project including proposed utilities diversions which themselves meet applicable thresholds to qualify as NSIPs;
- Section 4 sets out findings from the review of the LTC DCOv1 (October 2020), including specific comments in respect of individual proposed utility NSIP diversions and general comments regarding the approach adopted by HE; and
- Section 5 provides a suite of recommendations based on the review findings to inform emerging proposals for a future revised LTC DCO application. These recommendations seek to address identified weaknesses and deficiencies in order to improve the application.

3 Relevant National Policy Statements

3.1 Overview

3.1.1 The Project as described in the submitted LTC DCOv1 (October 2020) included one overhead line diversion NSIP and four gas pipeline diversion NSIP's to be undertaken by the Applicant. Resultantly, the overarching National Policy Statement (NPS) for Energy (EN-1), NPS for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4), and NPS for Electricity Networks Infrastructure (EN-5) are relevant considerations for the Secretary of State (SoS) when considering the application.

3.1.2 The DCOv1 application (2020), including Planning Statement (App. 7.2), has been reviewed against the information requirements and key policy tests set within the identified NPS as discussed below.

3.2 Information Requirements

3.2.1 EN-1 sets out the Government's policy on energy and infrastructure development as well as the need for new nationally significant energy. It also covers the cross-NPS Assessment Principles and Generic Impacts which are reflected across the wider suite of NPSs. EN-4 and EN-5 are described as 'technology specific', simply meaning they relate to a particular form of infrastructure. In the case of EN-4, this relates to gas supply and gas and oil pipelines; EN-5 relates to electricity networks. EN-4 and EN-5 sit under the umbrella of EN-1 but draw out specific assessment criteria which are bespoke to their technology. Key policy tests are discussed further below.

3.2.2 A number of the information requirements for EN-1, EN-4 and EN-5 are the same as those set out within NPSNN. The below outlines a number of the key information requirements however this is not an exhaustive list:

EN-1

- Projects that are subject to the European Environmental Impact Assessment Directive must be accompanied by an ES describing the aspects of the environment likely to be significantly affected by the project;
- The ES should include an assessment of the biodiversity and landscape and visual effects of the proposed route and of the main alternative routes considered;
- The ES should provide information on how the effects of the applicant's proposal would combine and interact with the effects of other development (including projects for which consent has been sought or granted, as well as those already in existence);
- Applicants are obliged to include in their ES, as a matter of fact, information about the main alternatives they have studied; and,
- Applicants are required to undertake desktop surveys to identify historic or current mine workings, underground cavities serving industrial usage, the nature of any made ground, waste sites, unexploded ordnance, utility services and any other below surface usage when assessing routes for a pipeline.

EN-4

- Applicants should undertake desktop surveys to identify historic or current mine workings, underground cavities serving industrial usage, the nature of any made ground, waste

sites, unexploded ordnance, utility services and any other below surface usage when assessing routes for a pipeline;

- When choosing a pipeline route, applicants should seek to avoid or minimise adverse effects from usage below the surface; and,
- Mitigation measures to minimise any adverse effects on soil and geology should include measures to ensure that residual impacts on the surface are minor and include appropriate treatment of soil.

EN-5

- Wherever the nature or proposed route of an overhead line proposal makes it likely that its visual impact will be particularly significant, the applicant should have given appropriate consideration to the potential costs and benefits of other feasible means of connection or reinforcement, including underground and sub-sea cables where appropriate. Details regarding the consideration of such measures or how the costs of mitigation have been calculated, is to be presented;
- Concerns of the potential adverse landscape and visual effects of a proposed overhead line are to be balanced against other relevant factors, including the need for the proposed infrastructure, the availability and cost of alternative sites and routes and methods of installation (including undergrounding); and,
- Guidelines for the routeing of new overhead lines, the Holford Rules11, are cross referenced highlighting the need for utility diversions to also have regard to potential impacts on residential areas as well as ensuring customer supply is maintained.

3.2.3 Whilst a number of the information requirements for EN-1, EN-4 and EN-5 are the same as those set out within NPSNN, these need to be addressed directly for the proposed utilities NSIP diversions within the Project. The relevant energy NPSs may impose specific requirement which needs to be considered and therefore upheld. As an example, applicants are obliged to include in their ES, as a matter of fact, information about the main alternatives they have studied. The relevant energy NPSs also impose a policy requirement to consider alternatives and in some circumstances, there are specific legislative requirements as those under the Habitats Directive.

3.2.4 Whilst Part 5 of EN-1 sets out policy on the assessment of impacts which are common across a range of technologies (generic impacts), EN-4 and EN-5 set out a number of bespoke impacts. The requirements set out in EN-4 and EN-5 are additional to those on generic impacts set out in EN-1 and do not replace them. Additional technology-specific considerations set out in EN-4 and EN-5 include the following, however this is not an exhaustive list:

EN-4

- Climate change resilience measures including how the proposal would be resilient to:
    - Increased risk of flooding;
    - Effects of rising sea levels and increased risk of storm surge;
    - Higher temperatures;
    - Increased risk of earth movement or subsidence from increased risk of flooding and drought; and,
    - Any other increased risks identified in the applicant’s assessment.

EN-5

- Biodiversity and Geological Conservation;
- Landscape and Visual;
- Noise and Vibration; and,
- Electro-magnetic Fields.

3.2.5 Applicants are required to assess all likely significant effects of their proposals, including bespoke elements within the NPS's.

3.3 Key Policy Tests

3.3.1 There a number of policy tests set out within the NPSNN, which are detailed within the NPS's. EN-1, EN-4 and EN-5 do however contain a number of bespoke key policy tests including the following, however, this is not an exhaustive list:

EN-1

- Consideration of alternatives;
- Climate change adaptation;
- Air quality and emissions;
- Costal change;
- A presumption in favour of the conservation of designated heritage assets; and,
- Requirement for applicants to consult the local community on their proposals to build on open space, sports or recreational buildings and land.

EN-4

- Hazardous substances.

EN-5

- Individual impacts from individual diversions;
- Undergrounding;
- Climate change adaptation; and,
- Consideration of in-combination effects.

3.3.2 The DCOv1 application needs to demonstrate compliance with policy tests within the NPSNN and bespoke policy tests detailed within the NPS's. EN-1, EN-4 and EN-5.

4 Review of Utilities NSIPs Coverage in LTC DCO Rev 1

4.1 Overview

4.1.1 To provide an assessment of how the proposed utilities NSIP diversions have been considered within the DCOv1 application (2020), documentation submitted as part of the application has been reviewed.

4.1.2 The main DCO documents which include content directly regarding the proposed utilities NSIP diversions within the Project are:

- Schedule 1 of the draft DCO (App 3.1);
- Explanatory Memorandum (App. 3.2);
- Environmental Statement (App. 6.1);
    - ES Appendix 2.1 (Construction Supporting Information);
    - ES Appendix 1.3 (Assessment of Proposed Gas Pipeline Works for the purposes of Section 20 of the Planning Act 2008);
- Environmental Statement Non-Technical Summary (App. 6.4);
- Planning Statement (App. 7.2); and,
- Design Principles (App.7.5).

4.1.3 In addition, the main body of the Planning Statement (App. 7.2) sets out the qualification of NSIPs (section 1.5) with paragraph 1.5.4 setting out the qualification criteria of the OHL works. Paragraph 2.5 of the Explanatory Memorandum (App.3.2) details the overhead electric line NSIP as being Work No. OH6. The full set of proposed utilities diversions including NSIPs and Associated Development is detailed within Schedule 1 of the draft DCO (App 3.1).

4.2 NSIP Specific Comments

4.2.1 This section identifies the utilities NSIP diversions proposed by the Applicant (based on HE's analysis of NSIPs thresholds) and provides comments regarding how they were considered within the DCOv1 application (2020). Whilst all proposed utilities NSIP diversions are described below, comments regarding assessment and mitigation matters are only made in respect of diversions within or otherwise likely to affect the Thurrock Council area.

NSIP 1 - Works No. G2

Contextual Information

4.2.2 NSIP 1 - Works No. G2 is named as "Feeder 5 Phase 1 (LTC asset schedule reference G-NG-HP-0001)" and is within the ownership of National Grid Gas Plc. The proposed gas pipeline is to extend 0.125km extending from grid reference (starting point) Easting: 566379 and Northing: 170326 adjacent to Claylane Woods in Gravesham, Kent to Easting: 566490 and Northing: 170377 within Claylane Woods in Gravesham, Kent (end point).

4.2.3 Table 1.1 of Appendix 1.3 (App. 6.3) identifies G-NG-HP-0001 (Feeder 5 Phase 1) Works No. G2 as qualifying as a NSIP in its own right owing to generating likely significant environmental

effects and satisfying other NSIP thresholds (refer to Section 4 for comments on the NSIP screening approach).

4.2.4 Annex 1 of the Explanatory Memorandum (App. 3.2) provides the required information under regulation 6(4) in respect of each work which constitutes a gas pipeline NSIP to which that regulation applies.

Assessment of Effects

4.2.5 No comment to make as proposed utilities infrastructure is not within Thurrock.

Mitigation & Monitoring

4.2.6 No comment to make as the proposed utilities infrastructure is not within Thurrock.

NSIP 2 - Works No. G3

Contextual Information

4.2.7 NSIP 2 - Works No. G3 is named as "Feeder 18 (LTC asset schedule reference G-NG-HP-0003)" and is within the current ownership of National Grid Gas Plc. The proposed gas pipeline is to extend 1.5km extending from grid reference (starting point) Easting: 566484 and Northing: 170280 within Claylane Woods in Gravesham, Kent to Easting: 567487 and Northing: 171021 north of Shorne Ifield Road in Gravesham, Kent.

4.2.8 Table 1.1 of Appendix 1.3 (App. 6.3) identifies G-NG-HP-0003 (Feeder 18) Works No. G3 as qualifying as a NSIP in its own right owing to generating likely significant environmental effects and satisfying other NSIP thresholds (refer to Section 4 for comments on the NSIP screening approach).

4.2.9 Annex 1 of the Explanatory Memorandum (App. 3.2) provides the required information under regulation 6(4) in respect of each work which constitutes a gas pipeline NSIP to which that regulation applies.

Assessment of Effects

4.2.10 No comment to make as the proposed utilities infrastructure is not within Thurrock.

Mitigation & Monitoring

4.2.11 No comment to make as the proposed utilities infrastructure is not within Thurrock.

NSIP 3 - Works No. G4

Contextual Information

4.2.12 NSIP 3 - Works No. G4 is named "Feeder 5 Phase 2 (LTC asset schedule reference G-NG-HP-0002)" and is within the current ownership of National Grid Gas Plc. The proposed gas pipeline is to extend 2.85km from grid reference (starting point) Easting: 19956779.4 56 566749 and Northing: 170833 to the south of Astra Drive in Gravesham, Kent to Easting: 568359 and Northing: 172221 to the south of A226 Gravesend Road and St Mary's Church in Gravesham, Kent.

4.2.13 Annex 1 of the Explanatory Memorandum (App. 3.2) provides the required information under regulation 6(4) in respect of each work which constitutes a gas pipeline NSIP to which that regulation applies.

4.2.14 Table 1.1 of Appendix 1.3 (App. 6.3) identifies G-NG-HP-0002 (Feeder 5 Phase 2) Works No. G4 in its own right owing to generating likely significant environmental effects and satisfying other NSIP thresholds (refer to Section 4 for comments on the NSIP screening approach).

Assessment of Effects

4.2.15 No comment to make as the proposed utilities infrastructure is not within Thurrock.

Mitigation & Monitoring

4.2.16 No comment to make as the proposed utilities infrastructure is not within Thurrock.

NSIP 4 - Works No. G6

Contextual Information

4.2.17 NSIP 4 - Works No. G6 is named as "HP8 (LTC asset schedule reference G-CG-HP-0008)" and is within the current ownership of Cadent Gas Limited. The proposed gas pipeline is to extend 5.2km extending from grid reference (starting point) Easting: 566078 and Northing: 181450 to the north of A1013 Stanford Road in Thurrock, Essex to Easting: 562151 and Northing: 181373 to the north of Stifford Clays Road and east of Green Lane in Thurrock, Essex.

4.2.18 Table 1.1 of Appendix 1.3 (App. 6.3) identifies G-CG-HP-0008 (HP8) Works No. G6 in its own right owing to generating likely significant environmental effects and satisfying other NSIP thresholds (refer to Section 4 for comments on the NSIP screening approach).

4.2.19 Annex 1 of the Explanatory Memorandum (App. 3.2) provides the required information under regulation 6(4) in respect of each work which constitutes a gas pipeline NSIP to which that regulation applies.

Assessment of Effects

4.2.20 ES Chapter 3 – Assessment of Reasonable Alternatives (App 3.1) notes that four diversion options were considered for NSIP 1 - Works No. G6 (HP8) of which Option 2 was selected due to routing away from the Project, avoiding a historic landfill and providing good maintenance access. The evaluation of the four options only references technical constraints as having been considered but significant adverse environmental (heritage) effects are then introduced at the point of confirming the selection of Option 2. No consideration is given within the appraisal of the other options to heritage or other environmental constraints.

4.2.21 The likely significant adverse effects presented in Table 1.1 of Appendix 1.3 (App. 6.3) against corresponding NSIPs provides an indication of relationships between cultural heritage assets and specific NSIPs. However, ES Chapter 6 (App. 6.1) is not clear in this distinction as utilities are only discussed in general terms, without clarifying which elements comprise individual utilities NSIPs or Associated Development.

Construction Phase Effects – Adequacy & Robustness

4.2.22 Table 1.1 of Appendix 1.3 (App. 6.3) identifies a range of likely significant adverse effects as a result of the utility diversions. Upon reviewing ES Chapter 6 (App. 6.1), paragraphs (6.6.89) permanent construction phase effects are predicted on the 'Springfield' style enclosure and Iron Age enclosures south of Hill House, Baker Street (SM7). A small proportion of the scheduled area, at the eastern end, it noted as being with the working area for buried utilities diversions. As raised above however, with the exception of effects presented in Table 1.1 of Appendix 1.3 (App. 6.3) against corresponding NSIPs, ES Chapter 6 (App. 6.1) does not identify the effect to be directly related to NSIP 4 – Works No. G6.

4.2.23 Upon reviewing ES Chapter 6 (App. 6.1), the effect on this asset a moderate magnitude impact on this high value asset, resulting in a moderate adverse effect after mitigation, which is significant. This conclusion is however within the context of the associated non-designated high value Bronze Age (2108) and Iron Age (2078) cropmark complexes that surround the scheduled area, which are also identified to be physically impacted by the utility diversion. This impact is not cross-referenced in Table 1.1 of Appendix 1.3 (App. 6.3) however it is concluded in paragraph 6.6.94 as a moderate magnitude impact and residual moderate adverse effect, which is significant in the context of the EIA Regulations. Additionally, Table 6.8 of ES Chapter 6 (App. 6.1) identifies several other significant construction phase effects however it is unclear whether these are associated with utilities diversions (whether the proposed utilities NSIP diversions or Associated Development).

Operational Phase Effects – Adequacy & Robustness

4.2.24 Table 6.8 in ES Chapter 6 – Cultural Heritage identifies several significant operational phase effects however the Chapter is unclear as to whether these are related to the utilities works, whether that for elements comprising the proposed utilities NSIP diversions or associated development.

Mitigation & Monitoring

4.2.25 No specific mitigation proposed for NSIP 4 - Works No. G6 beyond general Project-wide mitigation (discussed under the 'Mitigation and Monitoring' subheading below).

NSIP 5 - Works No. OH6

Contextual Information

4.2.26 The Planning Statement (App. 7.2) sets out the qualification of NSIPs (section 1.5) with paragraph 1.5.4 setting out the qualification criteria for electrical transmission OHL works. The installation of an electric line above ground near the A13 is considered to meet all relevant thresholds and thus constitute a NSIP in its own right. Work No. OH6 is located in proximity to Claylane Wood. It runs laterally from approximately 2.5km east of Hornsby Lane before turning north for approximately 700m (See sheets 21, 24, 25, 26, 30, 35 and 39 of the Works Plans (App. 2.6).

4.2.27 Schedule 1 of the draft DCO (App 1.3) lists six other numbered OHL works (OH1 – 5 and OH7). These are assumed not to qualify as NSIPs in their own right and thus form Associated Developments.

Assessment of Effects

4.2.28 No comment to make as the proposed utilities infrastructure is not within Thurrock.

Mitigation & Monitoring

4.2.29 No comment to make as the proposed utilities infrastructure is not within Thurrock.

4.3 General Comments

Identification of Proposed Utilities Diversions within LTC DCO Application

4.3.1 The review of each of the proposed utilities NSIP diversions outlined above and the ability to understand the likely effects (thus acceptability) of all proposed utilities diversions has been hindered by:

- Inadequacy of reporting in respect of individual utilities diversions, especially within technical assessment chapters of the ES. For example, the assessment section within Chapter 9 – Biodiversity includes three general references to 'utilities diversions' as contributing to or generating likely significant effects, without identifying which diversions are responsible (thus it is also not possible to confirm whether these effects arise from the proposed utilities NSIP diversions or Associated Development elements of the Project). In consequence it is not possible to cross-reference the design of individual diversions and any alternatives considered (as detailed within ES Chapter 3 – Assessment of Reasonable Alternatives) with effects identified from the Project including proposed utilities diversions in technical assessment chapters of the ES, or to understand the extent of likely impacts from utilities diversions specifically within Thurrock (or any other geographically discrete area); and,

- Absence of consistent referencing and descriptions even where individual diversions are discussed. Schedule 1 of the draft DCO (App 3.1) and the corresponding Works Plans (App. 2.6) appear to be the only places where each diversion is identified in full as a numbered work. It is particularly problematic that EIA Appendix 1.3 Table 1.1, ES Table 2.11, ES paragraph 2.4.21 (description of 'more complex' diversions) and ES Appendix 2.1 (Construction Supporting Information) do not adopt consistent references (e.g. numbered works from the draft DCOv1) as these are the only places where the utilities diversions are described in detail.

4.3.2 This lack of clarity prevents the reader from gaining a full understanding of exactly what utilities diversions are required and where, design considerations which informed their individual development and consideration of alternatives, and the extent of likely environmental effects which individual diversions would either contribute to or generate. The ES at paragraph 4.1.1 states that the assessment of likely significant effects reported is based on the description of the Project in ES Chapter 2 – Project Description, yet as above this high-level description (especially Table 2.11) is inconsistent with the set of individual utilities diversions listed as numbered works within the draft DCO (App 3.1). Taken together, this means the LTC DCOv1 (October 2020) provides inadequate information regarding the characteristics and assessment of likely environmental effects from proposed utilities diversions (including but not limited to those which qualify as NSIPs in their own right).

4.3.3 It is acknowledged that the ES (App. 6.1)[1] considers the utilities diversion works as split into two classifications,

a) Non-contestable utilities work which can only be undertaken by the utilities providers and their contractors. This includes network design, connections to their network and strategic asset diversions; and,

b) Contestable utilities work which can be undertaken by the Applicant.

4.3.4 These classifications do not have a material bearing on EIA reporting, but are of potential relevance to the implementation of mitigation measures by contractors appointed by HE or other parties, as detailed below.

Classification of NSIPs and Associated Development

Utilities NSIPS

Gas Pipelines

[1] As detailed in 'Application Document: 6.1 Environmental Statement, Chapter 2 Project Description' (paragraph 2.4.118).

4.3.5 Table 1.1 of Appendix 1.3 (App. 6.3[2]) provides HE's determination which of the 27 proposed gas transporter pipeline works are NSIPs. Ten pipelines satisfy the minimum 7 bar (pressure) threshold and other design related NSIP thresholds, of which the following four have been assessed through a qualitative screening process as being likely to result in likely significant effects on the environment and therefore qualify as NSIPs:

- G-NG-HP-0001 (Feeder 5 Phase 1) Works No. G2;
- G-NG-HP-0003 (Feeder 18) Works No. G3;
- G-NG-HP-0002 (Feeder 5 Phase 2) Works No. G4; and,
- G-CG-HP-0008 (HP8) Works No. G6.

4.3.6 The reporting deficiencies identified above regarding lack of consistent referencing and inadequate treatment of individual diversions mean it is not possible to validate the conclusions reached within Appendix 3.1 Table 1.1 regarding the absence of likely significant effects from individual gas pipeline diversions (i.e. that these diversions are therefore not NSIPs). Additionally, Table 1.1 merely provides the title of each affected gas transporter asset rather than any description of the affected pipeline route, location or interactions with other nearby infrastructure. As Table 1.1 does not include numbered works references it is also difficult to pinpoint each individual diversion on the submitted Works Plans (App. 2.6).

4.3.7 The screening assessment presented in Table 1.1 of Appendix 1.3 (App. 6.33) is stated as having taken into consideration the effects identified in the main body of the Environmental Statement (App. 6.1). However:

- Five of the utilities diversions which are considered not to result in any likely significant environmental effects reference individual heritage assets and unnamed ecological receptors as being of relevance. However, the corresponding impact assessments presented in Chapters 6 and 8 of the ES do not provide specific effect conclusions for or even reference the individual utilities diversions within the impact assessment, which makes it difficult to validate the conclusions reached in App 3.1 Table 1.1; and,
- ES chapters are also unclear at times whether the limited references to utilities diversions relate to the proposed utilities NSIP diversions or Associated Development. As an example, Table 2.11 within Chapter 2 Project Description of the Environmental Statement (App. 6.1) provides a high-level summary of major utility diversions in each section of the Project however this does not indicate which elements correspond the proposed utilities NSIP diversions or Associated Development (i.e. numbered works within the draft DCO (App 3.1), and subsequent technical assessment chapters largely do not reference individual diversions as contributing to or generating identified environmental effects. In addition, the Works Plans (App. 2.6) and Engineering Section Drawings (Application Document: 2.9) do not clearly distinguish between utilities diversions which constitute the proposed utilities NSIP diversions or Associated Development.

Electricity Transmission Infrastructure

4.3.8 The Planning Statement (App 7.2) at paragraph 1.5.3 sets out the relevant electrical transmission NSIP qualification criteria and relates this to the proposed electricity overhead

[2] Appendix 1.3: Assessment of proposed gas pipeline works for the purposes of section 20 of the Planning Act 2008, App. 6.3 Environmental Statement Appendices

[3] Appendix 1.3: Assessment of proposed gas pipeline works for the purposes of section 20 of the Planning Act 2008, App. 6.3 Environmental Statement Appendices

line (OHL) works. Pertinent NSIP thresholds are a minimum route distance of 2km and 60m divergence from the existing OHL which needs to be diverted.

4.3.9 Unlike ES Appendix 1.3 for gas pipelines a full list of proposed OHL diversions is not included anywhere within the ES and there is no screening assessment for individual OHL diversions to confirm why only one of the diversions constitutes a NSIP in its own right. This is problematic as the suite of proposed OHL numbered works within Schedule 1 of the Draft DCO (App 3.1) includes multiple works which satisfy the minimum 2km route length threshold, e.g. OH1. It is therefore assumed that all but one of these works fail the 60m divergence requirement or other NSIP thresholds, but no evidence is provided to confirm this. Consideration of whether each proposed OHL work constitutes a NSIP is important as this determines whether and the extent to which relevant tests within Energy NPS EN-5 are engaged in respect of individual impacts from individual diversions, as well as from the Project overall (as it is established the Project includes at least one electrical transmission NSIP).

Associated Development

4.3.10 The Explanatory Memorandum (App. 3.2) states that all utilities works either constitute part of the NSIP or are 'Associated Development' within the meaning of section 115(2) of the 2008 Act, and so it is claimed can properly be authorised by the DCO. However, neither the Explanatory Memorandum nor any other DCOv1 application document explains why those proposed utilities diversions not qualifying as NSIPs in their own right can properly be authorised within the DCO as Associated Development.

4.3.11 It is acknowledged the Explanatory Memorandum identifies a need to avoid overlap and potential duplication between different elements of the Project. However, the scale of proposed utilities diversions, their specific purpose and design characteristics (i.e. relocation of utilities away from the Project) mean there is limited potential for overlap, whilst utilities diversions would generate some specific impacts. HE's stated rationale therefore does not provide a robust basis for the lack of any justification for Associated Development status having been provided in respect of proposed non-NSIP utilities diversions. PINS Guidance (Planning Act 2008: associated development applications for major infrastructure projects (MHCLG, April 2013)) makes clear that Associated Development will be determined by the Secretary of State on a case by case basis, so whilst utilities diversions are listed as potentially being an accepted as Associated Development and there are DCO precedents, this does not negate the need for HE to still confirm why that should be the case for this specific project.

4.3.12 This omission is of particular importance for proposed electrical transmission diversions as, in the event a diversion (or multiple) does not qualify as an NSIP and is not accepted as Associated Development, it would be necessary to seek alternative authorisation under Section 37 of the Electricity Act 1989 and the diversion would need to be assessed as a specific cumulative development. However, the potential need to seek alternative authorisation under Section 37 of the Electricity Act and the implications of this are not identified within App 3.3 – Consents and Agreements Position Statement. App 3.3 refers to all "powers to carry out required utilities diversions" as being incorporated within the DCO application, without consideration of the potential for any utility diversions to not be accepted as Associated Development.

Consideration of Alternatives

4.3.13 Paragraphs 3.4.15 – 19 of the ES explain how the preferred route was developed following multiple consultations regarding candidate crossing locations, routes and types. It is clear that the preferred route was selected based on factors including environmental impacts, but paragraphs 3.4.18-3.4.19 do not reference utilities diversions or associated environmental impacts as factors which were taken into account. Rather, it is clear from ES Chapter 3 that the need for and design of utilities diversions has been considered as a necessary consequence of the preferred route rather than a major design consideration at the outset.

This is unfortunate given the scale of the proposed utilities NSIP diversions (and other utilities diversions) now required to facilitate the project.

4.3.14 As noted above, the LTC DCOv1 (October 2020) suffers from a lack of consistency and clarity regarding the identification of individual utilities diversions. This also applies in terms of the assessment of reasonable alternatives, as whilst paragraphs 3.6.7 – 3.6.19 within ES Chapter 3 outline how five major utilities diversions have evolved, this does not confirm which numbered work(s) the diversions relate to. It is therefore not possible to confirm how these five diversions relate to the proposed utilities NSIP diversions (including four gas pipelines). This matters as it undermines the ability to demonstrate compliance with reasonable alternative requirements within NPS EN-5.

4.3.15 Table 3.5 – Other Design Changes within Chapter 3 of the ES explains that the preferred route was adjusted at Ockendon Landfill Site to avoid the landfill, instead passing through a proposed solar far and crossing a gas pipeline. The table concludes that impacts on the gas pipeline could be mitigated, without providing any details of the affected pipeline or mitigation solution (including whether any diversion would itself generate environmental impacts). In addition the table does not confirm whether any alternative diversion routes to avoid Ockendon Landfill Site without crossing the gas pipeline (details unspecified) are feasible or were considered.

4.3.16 Table A2.2 within the Planning Statement (App. 7.2) Appendix A2 National Policy Statements for Energy Infrastructure Accordance Tables sets out the detail for undergrounding the infrastructure associate with the new 74m pylon, assumed to be NSIP 5 - Works No. OH6 discussed above.

Assessment of Effects

4.3.17 As noted above, key deficiencies regarding the consideration of utilities diversions are a lack of consistent references to individual diversions between (and within) DCOv1 application documents, and the absence of clear assessments of effects generated by individual diversions (either as a standalone impact or where a utilities diversion contributes to a wider impact from the Project). Combined with the assumed treatment of all non-NSIP utilities diversions as Associated Development, the consideration of utilities diversions only in general terms rather than individual references within EIA reporting (i.e. ES technical assessment chapters) significantly hinders the ability to clearly understand the types and levels of environmental impacts associated with each proposed diversion. In consequence, the LTC DCOv1 does not clearly establish the environmental acceptability of all proposed utilities diversions in accordance with relevant requirements set out within EN-1, EN-4 and EN-5.

Mitigation and Monitoring

Undergrounding

4.3.18 LTC DCO documents including Planning Statement Appendix A2 and ES Chapter 3 discuss the possibility of undergrounding electrical transmission cables (currently OHLs) in specific locations to reduce likely environmental effects. However, neither the Planning Statement Appendix A2, ES Appendix 1.3 (App. 6.3) nor the wider ES fully address the tests set out in paragraph 2.8.9 of NPS EN-5 regarding whether:

- Difficulties associated with undergrounding are 'technically surmountable' (our emphasis, NB not economically feasible or preferred on design and/or cost grounds); and,

- The benefits of non-undergrounding (NB not the need for a Project) clearly outweigh extra environmental, social and economic impacts caused by not under-grounding and proceeding with an OHL diversion.

4.3.19 The main deficiencies are that text regarding undergrounding in different LTC DCOv1 documents/sections does not set out consistent and comprehensive criteria regarding firstly the selection of candidate locations for undergrounding and secondly the types of environmental, social and economic impacts which HE has taken into account when balancing extra impacts against the benefits of non-undergrounding. For example, paragraph 3.6.11 of the ES states that undergrounding of an OHL at the A13/A1089 junction was discounted due to horizontal directional drilling (HDD) being required in sensitive locations (Blackshots LWS), land-take and cost. However, no explanation is provided regarding potential impacts on the LWS and, taking account of the designation's local status and HDD requirements, whether these would be more or less acceptable than not under-grounding the OHL.

4.3.20 Additionally, whilst the various justifications provided by HE as to why undergrounding in specific locations is not proposed present a binary choice between the proposed OHL diversion and a specific (discounted) under-grounding design, without reference to potential wider OHL route changes that may well extend the length of diversions but could offer the potential to then under-ground route sections in more feasible locations and thus reduce overall environmental impacts from the utility route.

Relevant Mitigation Measures

4.3.21 Table 4.1 below lists proposed environmental mitigation measures identified through the EIA process and now listed within HE's Register of Environmental Actions and Commitments (REAC, App 6.3) of specific relevance to the implementation of all proposed utilities diversions (including the proposed utilities NSIP diversions). Other elements of Thurrock Councils review have considered the adequacy and proposed details of mitigation measures where appropriate.

Table 4.1: Mitigation Plans and Measures – Utilities

Mitigation Plan or Measure	Secured By	Summary
REAC (App. 6.3) Ref No: LV001	Landscaping scheme - Requirement 5	The detailed design for the alignment of diverted utilities is to avoid trees and vegetation as far as reasonably practicable, and in accordance with the landscaping scheme as approved by the SoS.
REAC (App. 6.3) Ref No: LV002	Landscaping scheme - Requirement 5	Land temporarily impacted by works to divert utilities is to be reinstated to its former condition and composition upon completion, as far as reasonably practicable, unless otherwise specified in the Environmental Masterplan (App. 6.2).
REAC (App. 6.3) Ref No: RDWE008	Protective Provisions – Schedule 14	Where below ground utilities diversions are required, watercourses would be crossed using trenchless techniques in order to avoid disturbance to channel form, flow regimes and riparian habitats and species, unless other techniques are agreed with the Environment Agency or LLFA, where relevant.

4.3.22 The following additional mitigation commitments and measures listed within the REAC (App 6.3) are also of potential relevance to all utilities diversions by virtue of applying to all elements of the Project. However, the wording of these proposed measures does not explicitly relate to utilities diversions.

Table 4.2: Mitigation Plans and Measures – Other considerations

Mitigation Plan or Measure	Relevance to Utilities Diversions
REAC (App. 6.3) Ref No: C004	The Contractor(s) would procure electricity from renewable electricity suppliers to cover the consumption from the Project's construction compounds.
REAC (App. 6.3) Ref No: C007	Electricity used for operation of the Project would be procured from renewable electricity suppliers.
REAC (App. 6.3) Ref No: GS001	The Contractor would complete further Ground Investigations prior to construction to inform detailed design of the Project.
REAC (App. 6.3) Ref No: GS006	All excavated materials and soils proposed for re-use under a Materials Management Plan would be required to meet risk-based acceptability criteria applicable to its intended use.
REAC (App. 6.3) Ref No: GS009	Soils would be handled and stored to allow their sustainable re-use in line with the Defra Construction Code of Practice for the Sustainable Use of Soil on Construction Sites (2009) and the MAFF Good Practice Guide for Soil Handling (2000).
REAC (App. 6.3) Ref No: GS010	Characterisation of the existing soil to determine its resilience to handling and stripping depths would be based on detailed soil surveys.
REAC (App. 6.3) Ref No: GS011	Land required temporarily during the construction phase would be reinstated to support the required end use in-line with land use identified on the Environmental Masterplan.
REAC (App. 6.3) Ref No: GS012	Reinstatement of soils affected by temporary works would aim to avoid any reduction in soil function.
REAC (App. 6.3) Ref No: GS013	Procedures for the management of soil resources.
REAC (App. 6.3) Ref No: GS014	Following soil reinstatement there would be a 5 year aftercare period during which defects would be corrected.
REAC (App. 6.3) Ref No: GS018	The ground gas regime across the Project and especially in close proximity to landfill sites would be investigated.
REAC (App. 6.3) Ref No: GS030	A temporary access road is proposed across the former Esso petrol station on the northside of the A2/M2 junction.

Securing Mechanisms

4.3.23 The CoCP (App. 7.11) details that delivery of the Project has been split into several tranches of contracts to best serve the Project's requirements and programme (paragraph 3.1.1). Whilst each tranche refers to the contracts including the diversion and protection of existing utilities, cross reference to each of the proposed utilities NSIP diversions is not made within the document. This matters as each utilities NSIP should map to clear DCO Requirements and associated implementation plans and mitigation measures in the same way as would be required if the relevant diversion was a standalone DCO application.

4.3.24 The CoCP (App. 7.11) states in paragraph 1.4.4 that the appointed contractors (including those carrying out the utilities works) will comply with applicable environmental legislation at the time of construction, together with any additional environmental controls required under the DCOv1, including commitments set out in the CoCP and the REAC (App.6.3, Appendix

2.2). The requirement for the Contractors to comply with these measures is stated as to be embedded within their contract for the Project.

4.3.25 Requirement 4 in Schedule 2 (Part 1) of the DCO (App. 3.1) requires no part of the authorised development (the Project) to commence until an Environmental Management Plan (EMP2) in accordance with the CoCP (App. 7.11) and which "reflects" the REAC (App 6.3) has been submitted to and approved in writing by the Secretary of State (SoS), following consultation with the relevant planning authority.

4.3.26 Section 1.3 of the REAC (App. 6.3) details all mitigation commitments and securing mechanisms within the DCO. Whilst these commitments would be secured through Requirement 4 within Schedule 2 of the draft DCOv1, they are high level and there is no specific assurance that all identified individual actions and commitments would be implemented as intended when first devised (through the EIA process) within the Environmental Management Plan (EMP2).

4.3.27 The approach adopted by HE therefore limits the ability to secure effective mitigation to prevent, avoid and minimise likely significant effects from the Project, including specifically from proposed utilities diversions. This is of potential concern as HE will have less control over the implementation of 'Non-Contestable' works by (or contractors on behalf of) utilities statutory undertakers rather than by HE, so if specific mitigation measures identified within the ES and subsequently the REAC are not set out in full within the EMP2 there is a risk they could be missed by contractors.

Access/Traffic Diversions for Utilities Works

4.3.28 Neither the REAC (App. 6.3) nor the CoCP (App. 7.11) make specific requirements for traffic/access diversions in relation to carrying out proposed utilities works. However, general traffic/access diversions detailed within the CoCP (App. 7.11) will apply to the whole Project, and thereby all utilities diversions. As required by Requirement 10 of Part 1 of Schedule 2 of the DCOv1, the Contractors will be required to produce Traffic Management Plans for construction before commencing work, focused on:

a) Strategic road network traffic management including lane closures speed control and temporary road closures and diversions;

b) Local road network, including temporary contraflows, road closures, diversions both on-line and off-line and weekend closures; and

c) Traffic management within the worksite, such as traffic routes and workforce pedestrian management, strategic and local road networks due to the different highway authorities.

4.3.29 Table 5.2 Additional working hours of the CoCP (App. 7.11) provides that periods of low demand or traffic flows will be used to carry of utility diversions, without this being further defined or restricted. This means the deliverability and phasing of acceptable traffic/access diversions has not yet been fully confirmed, including in relation to undertaking proposed utilities works.

4.3.30 Embedded mitigation is included within the Design Principles (App. 7.5) or as features presented on Figure 2.4: Environmental Masterplan (App. 6.2). A number of the technical chapters within the ES cross reference best practice with regards to utilities.

5 Summary and Recommendations

5.1 Summary

5.1.1 This technical note reports the findings of a review undertaken of the previously submitted (now withdrawn) A122 Lower Thames Crossing (LTC) Development Consent Order (DCOv1) (October 2020) in relation to the consideration of proposed utilities diversions which themselves constitute Nationally Significant Infrastructure Projects (NSIPs). The review contributes to the wider scrutiny by Thurrock Council of the LTC DCOv1 (October 2020).

5.1.2 Thurrock Council has consistently opposed the Project due to the negative economic, social, engineering and environmental impacts that it will have upon the borough, as well as the constraints it will place upon future growth. This includes construction and operational phase impacts from proposed utilities diversions, which the Council specifically raised concerns about in responses to HE's consultations prior to submission of the DCO application. The Council's main substantive concerns regarding proposed utilities diversions relate to the extent of land-take required and likely impacts on communities and existing infrastructure, including in terms of disruption and safety. Thurrock Council together with other affected local authorities and consultees also previously raised wider concerns regarding environmental and planning impacts from proposed utilities diversions. We acknowledge that some improvements have been made over the past year, but still seek further improvements/mitigations.

5.1.3 To inform Thurrock Council's engagement with HE and position in respect of a revised LTC DCO application, a high-level review of HE's assessment of proposed utilities diversions (including design, environmental impacts and mitigation) has been undertaken. This review has considered the LTC DCOv1 (October 2020). Key findings from this review are:

- Inadequate of reporting in respect of individual utilities diversions, especially within technical assessment chapters of the ES. The LTC DCOv1 discusses utilities diversions in general terms and suffers from a lack of specificity;
- Absence of consistent referencing and diversion descriptions even where individual diversions are discussed;
- By virtue of the above two deficiencies, inability to validate the NSIP screening conclusions reached within Appendix 3.1 Table 1.1 regarding the absence of likely significant effects from gas pipeline diversions (i.e. that proposed diversions are therefore not NSIPs);
- Lack of clear identification and screening of proposed OHL works to confirm whether each qualifies as a NSIP in its own right or requires to be treated as an Associated Development;
- Absence of any justification to support the assumed Associated Development status of all proposed non-NSIP utilities diversions is not helpful and raises concerns regarding the adequacy of App 3.3 – Consents and Agreements Position Statement;
- The need for and design of individual utilities diversions has evidently been considered as a necessary consequence of the preferred route rather than a major design consideration at the outset. This is unfortunate given the scale of the proposed utilities NSIP diversions (and other diversions) and associated land-take now required to facilitate the project;
- Weak and inconsistent application of the undergrounding test set out at paragraph 2.8.9 of NPS EN-5; and,

- Weak approach to EIA mitigation being secured through an EMP2 which merely "reflects" the REAC is of potential concern as HE will have less control over the implementation of 'Non-Contestable' works by utilities statutory undertakers.

5.1.4 The above deficiencies significantly hinder the ability to clearly understand the types and levels of environmental impacts and mitigation requirements associated with each proposed utilities diversion. In consequence, the LTC DCO does not clearly establish the environmental acceptability of all proposed diversions including the proposed utilities NSIP diversions in accordance with relevant requirements set out within EN-1, EN-4 and EN-5.

5.2 Recommendations to inform LTC DCO Rev 2

5.2.1 The review reported in this technical note focused on assessing compliance with relevant Energy NPS, specifically EN-1, EN-4 and EN-5, in respect of proposed utility diversions which themselves constitute NSIPs. However, in doing so the review also identified weaknesses within the approach adopted by HE in their assessment of proposed utilities diversions more generally.

5.2.2 Review findings have informed the development of the following recommendations to improve how utilities diversions and associated impacts are addressed in any future revised LTC DCO application. HE is respectfully requested to carefully consider and implement these recommendations in the preparation of the LTC DCOv2 (all references below to specific DCO application documents refer to LTC DCOv1 which it is assumed will be revised or replaced as appropriate).

Identification of Proposed Utilities Diversions within LTC DCO Application

i. The root cause of many identified weaknesses is a lack of clear and consistent referencing of individual utilities diversions. To address this, consistent referencing of individual diversions should be inserted throughout all DCO application documents based on the numbered works listed within Schedule 1 of any future draft DCO. Full consistency in relation to both referencing and descriptions of proposed works is required between the draft DCO, ES Appendix 1.3, ES Chapter 2 – Project Description and ES Chapter 3 – Assessment of Reasonable Alternatives.

ii. To enhance consistency and enable a full understanding of proposed gas pipeline diversions, ES Appendix 1.3 Table 1.1 (NSIPs screening table) should include an additional column providing a brief description of the locational/route characteristics of each affected pipeline and a cross-reference to the relevant Works Plan(s) showing the proposed diversion.

Classification of NSIPs and Associated Development

iii. To enable the conclusions of ES Appendix 1.3 Table 1.1 to be validated, the reporting of likely effects associated with individual utilities diversions needs to be strengthened. All technical assessment chapters of the ES should confirm whether individual (or multiple) utilities diversions contribute to specific likely environmental effects (significant or not significant) and clearly state which individual diversion(s) is responsible, including by reference to the relevant Works Plan.

iv. Where effects are contributed to or generated by proposed utilities NSIPs (as opposed to by Associated Developments), this should be confirmed within the relevant ES technical assessment chapter.

v. A screening assessment supported by evidence should be provided (as an ES appendix) to explain in full why only one proposed electrical transmission diversion constitutes a NSIP and why each of the other proposed electrical transmission diversions do not. This

screening assessment should cross-reference the numbered OH works listed within Schedule 1 of any future draft DCO.

vi. Works Plans and Engineering Section Drawings should be amended to clearly distinguish between utilities diversions which constitute proposed utilities NSIP diversions or Associated Development.

vii. In accordance with PINS Guidance (2013), a relevant DCO application document (e.g. Planning Statement) should provide a clear justification for why those proposed utilities diversions not qualifying as NSIPs in their own right can properly be authorised within the DCO as Associated Development.

viii. Amend App 3.3 – Consents and Agreements Position Statement to reference the potential need to seek alternative authorisation under Section 37 of the Electricity Act 1989 in the event of any proposed electrical transmission diversion not constituting a NSIP or being accepted as Associated Development.

Consideration of Alternatives

ix. Amend ES Table 3.5 – Other Design Changes in respect of proposed utilities routing at Ockendon Landfill Site to:

    a. Provide details of the affected pipeline and mitigation solution, including whether the proposed utilities routing would generate environmental impacts; and,

    b. Confirm whether any alternative diversion routes to avoid Ockendon Landfill Site without crossing the unnamed gas pipeline are feasible and have been considered by HE.

x. Amend ES Chapter 3 to explain why alterations (2020) to the M25 Junction 29 layout to reduce the extent of required OHL diversion, resulting in major negative visual changes, are considered to be appropriate and acceptable.

xi. Amend ES Chapter 3 to confirm the specific OHL at Chadwell Link which triggered a route realignment (2020) to avoid a utilities diversion.

Assessment of Effects

xii. The above recommendations need to be implemented to enable any future revised LTC DCO application to clearly establish the environmental acceptability of all proposed utilities diversions, including specifically each proposed utilities NSIP in accordance with relevant requirements set out within EN-1, EN-4 and EN-5. In particular, the ES needs to provide clearer assessments of effects generated by individual or multiple diversions (either standalone impact or where a utilities diversion contributes to an impact alongside other elements of the Project).

Mitigation and Monitoring

xiii. Define clear, consistent and comprehensive criteria for:

    a. Identification of candidate locations for potential OHL undergrounding; and,

    b. Consideration of whether undergrounding at each of the candidate locations should be pursued or discounted.

    Selected criteria should cover all relevant environmental, social and economic considerations and should be applied consistently to fully address the tests set out in paragraph 2.8.9 of NPS EN-5.

xiv. Amend the CoCP to include references to individual proposed utilities NSIP diversions where relevant.

xv. Extend the REAC to explicitly state that:

a. Required actions and commitments apply to all elements of the Project, including the utilities NSIPS; and,

b. For the avoidance of doubt, this includes all ‘Non-Contestable’ works to be carried out by utilities statutory undertakers rather than by HE. All REAC measures relevant to proposed utilities works (Contestable and Non-Contestable) must be secured within the Environmental Management Plan (EMP2) and thereafter implemented.

Lower Thames Crossing

Thurrock Council Local Impact Report

Appendix L Annex 7 – LTC DCOv1 Planning Statement, October 2020

highways england

Lower Thames Crossing

7.2 Planning Statement and the National Policy Statement (NPS) Accordance Tables

APFP Regulation 5(2)(q)

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

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Lower Thames Crossing

7.2 Planning Statement and the National Policy Statement (NPS) Accordance Tables

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Executive summary

The Application

This Planning Statement relates to an application (the Application) made by Highways England to the Secretary of State (SoS) pursuant to the Planning Act 2008. The Application is for the A122 (Lower Thames Crossing) Development Consent Order (DCO) which would grant development consent, authorising the construction, operation and maintenance of the A122 Lower Thames Crossing (the Project), along with the compulsory acquisition of all land and rights necessary to enable this.

The Project

The Project involves the 'construction' of a highway within the meaning of section 22(1)(a) of the Planning Act 2008. The Project satisfies section 22(2) in that the highway will (when constructed) be wholly located in England, Highways England as strategic highways company will be the highway authority for the highway, and the area of development is greater than the relevant limit set out in subsection (4), which in this case is 12.5 hectares, and speed limits will be in excess of 50mph. The Project also includes Nationally Significant Infrastructure Projects (NSIPs) under sections 16 and 20 of the Planning Act 2008 in respect of the installation of an overhead electric line and the construction of 4 gas transporter pipelines. Further explanation and justification is included in the Explanatory Memorandum (Application Document 3.2).

The Project would provide an additional crossing of the River Thames, east of London, which would reduce congestion at the existing Dartford Crossing, increase road capacity and provide additional transport resilience in the south-east of the country. The Project would be located within the administrative boundaries of Essex County Council, Kent County Council, Greater London Authority, Thurrock Council, London Borough of Havering, Gravesham Borough Council and Brentwood Borough Council. The extent of the Project is illustrated in Plate 1.1 of this Statement and on the Location Plan as part of the Book of Plans (Application Document 2.1).

Planning considerations: National Policy Statements

The Examining Authority will consider the Application and will make a recommendation to the SoS, who will decide whether development consent for the Project should be granted. The SoS must decide the Application in accordance with any relevant National Policy Statement (NPS), and other important and relevant considerations including the National Planning Policy Framework (NPPF) and may include the development plan policies of the seven 'host' local authorities, together with any other important and relevant considerations.

The National Policy Statement for National Networks (NPSNN), designated in January 2015, sets out the Government's objectives, including environmental and other principles, relating to the development of NSIPs for national road and rail networks in England. The assessment of those matters identified in that document in relation to environmental effects, as assessed within the individual topic chapters within the Environmental Statement (ES) (Application Document 6.1).

As the Project includes both gas pipeline and overhead electric line NSIPs, the Overarching National Policy Statement for Energy (EN-1) (NPS EN-1), National Policy

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Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4) (NPS EN-4) and National Policy Statement for Electricity Networks Infrastructure (EN-5) (NPS EN-5) have effect and have therefore also been considered.

The purpose of this document is to consider the compliance of the Project as a whole with the requirements of relevant planning policy and the overall case for the Project. The Statement draws upon the conclusions of the supporting Application Documents and interprets these against planning policy considerations which have been identified as relevant to the Project.

National planning policy

The Project has been appraised against the relevant polices contained within the NPSNN, NPS EN-1, NPS EN-4, and NPS EN-5.

Each topic chapter in the ES (Application Document 6.1) addresses those paragraphs of the NPS documents which are relevant to the environmental assessment of matters identified in relation to the environmental effects of the Project.

The location of the Project within the Green Belt and the Kent Downs Area of Outstanding Natural Beauty (AONB), and the impacts on these designations, is considered in this Planning Statement. The environmental impacts of the Project within each designated area are fully recognised and reference has therefore been made in responding to the policy requirements of the NPSNN to the relevant policy provisions.

The Project lies within an area of influence of a number of internationally, nationally and locally designated sites. The ES has concluded that the potential effects on terrestrial biodiversity include habitat loss within statutory and non-statutory designated sites, particularly in relation to Shorne and Ashenbank Woods Site of Special Scientific Interest (SSSI). This would be compensated for, in part, with tree planting to the west, north and east of Shorne Woods.

The loss of ancient woodland and veteran trees is fully recognised and whilst replacement woodland is proposed as compensation, this cannot replace these irreplaceable habitats, although in line with policy, a demonstration of the national need for and benefits of the development to outweigh the loss in that location is provided.

Cultural heritage is of relevance to the Project as the Project would result in the removal of statutorily designated archaeological remains and built heritage assets. Mitigation includes detailed survey, investigation and preservation by record, and a clear and compelling need for the Project has been made.

A Flood Risk Assessment (FRA) has identified that the majority of the Project route is located within an area of low probability of flooding (Flood Zone 1), with a small area lying in Flood Zone 3 that benefits from existing flood defences.

A number of open spaces, and recreational buildings and land will be permanently impacted by the Project, and where appropriate replacement is proposed which is equal to or greater in size and is of an equivalent quality and accessibility to that required for the Project.

The ES has concluded that the overall impact of the Project on air quality during the construction and operational phases is not significant. In relation to noise, the findings within the ES show that, with the exception of the surrounding highway network (which has minor impacts above a SOAL ie the level above which significant adverse effects on health

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and quality of life occur), the Project alignment has been designed such that there are no impacts above SOAL.

The Project strongly accords with the NPS documents in all material respects, and on that basis, a presumption in favour of the Project exists under the terms of section 104 of the Planning Act 2008.

Equally, the Project aligns with the key aims of the NPPF, notably by improving the conditions by which people travel. This is a key element of the Project.

The Project supports the delivery of the NPPF's core land-use planning principles, by providing improved infrastructure to support economic growth within the region through improved capacity on the strategic road network (SRN). This will be achieved whilst having regard to the conservation of the natural and historic environment.

Local planning policy

The local planning policies which may be relevant to the Application relate to the environmental effects of the Project, particularly in relation to the Green Belt, Kent Downs AONB, minerals, recreation, air quality, noise, flood risk, nature conservation, heritage and landscape.

Through the assessments undertaken in the ES, the Project has been shown to accord with local planning policy in relation to air quality and noise, nature conservation, recreation, minerals and flood risk. In terms of cultural heritage, the impacts of the Project on statutorily designated assets are acknowledged, notwithstanding the mitigation proposed.

Spatially, the Project would be located in Green Belt land across its route. Green Belt policies are in place for Thurrock Council, the London Borough of Havering and the Greater London Authority, where a presumption against 'inappropriate' development is in place and therefore a demonstration of the 'very special circumstances' in justifying the Project is provided.

The location of the Project across the northern part of the Kent Downs AONB within Gravesham Borough Council raises particular planning issues at a local level. Whilst the impact of the Project within the Kent Downs AONB is contrary to local planning policy, compliance with the policy provisions is based on the 'exceptional circumstances' in justifying the Project within the Kent Downs AONB.

The Project accords with the provisions of the adopted development plans, as well as the relevant policies of the Draft London Plan for each of the 'host' planning authorities.

Other important and relevant considerations

Traffic congestion is regarded as a major constraint to economic development and policies for relieving it are key to the Government's aspirations for sustainable economic growth.

The inclusion of the Project as part of the Government's second Road Investment Strategy (RIS 2) (DfT, 2020) provides a clear recognition of the importance of the Project in meeting national policy aspirations and is therefore an important and relevant consideration in support of the Project.

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Compliance with policy and the planning balance

This Planning Statement seeks to assist the Examining Authority and the SoS in applying the provisions of the Planning Act 2008 that require an application for development consent to be decided in accordance with the relevant NPSs (section 104(3)). Other documents that are likely to contain important and relevant matters in the context of the examination of the Application and decision making are also considered in this Statement.

The analysis of planning, transport and energy policy within the Statement outlines the compliance of the Project with the NPSNN, NPS EN-1, NPS EN-4 and NPS EN-5 in all material respects, indicating that a presumption in favour of it exists under the Planning Act.

This Planning Statement sets out the planning policy position in respect of the Green Belt, the Kent Downs AONB, ancient woodland, veteran trees, landscape and visual impacts, air quality, noise, biodiversity, cultural heritage, minerals, open space and recreational buildings and land, traffic and transport, population and human health. The Statement provides a comprehensive overview confirming the ability of the Project to satisfactorily address the matters identified. The Project is in accordance with the NPSNN, NPS EN-1, NPS EN-4 and NPS EN-5 in all material respects, indicating that a presumption in favour of it exists under the Planning Act 2008

Where there is potential for the Project to have an adverse impact in relation to planning policy, considerable environmental compensation and mitigation is proposed to mitigate the impacts and effects of the Project. However, the residual significant effects identified following the assessments include the following:

a. Permanent and temporary impacts on the Kent Downs AONB

b. Loss of ancient woodland and veteran trees

c. Permanent impact on the Scheduled Orsett Crop Mark Complex

d. Permanent loss of Grade II Listed Buildings at No. 1 and No. 2 Grays Corner Cottages, Thatched Cottage and Murrells Cottages

e. Significant permanent effects on high-value non-designated archaeological assets at the Cropmarks identified at Grey Goose Farm and Long barrow or mortuary enclosure

f. A range of significant effects on the landscape resource and visual receptors

These impacts must be weighed against the need and benefits demonstrated in the Need for the Project (Application Document 7.1) and other aspects of policy compliance explained in this Statement.

On the basis of the need case for the Project, it is clear that there is a compelling case in the public interest for the Project. Against a background of compliance in terms of national and local planning policy, the benefits and overwhelming need for the Project clearly outweigh the adverse impacts associated with the Project.

Accordingly, the policy presumption in favour of the Project and the overall planning balance lie strongly in favour of the grant of development consent.

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1 Introduction

1.1 Project overview

1.1.1 Highways England has submitted an application under section 37 of the Planning Act 2008 for an order to grant development consent for the A122 Lower Thames Crossing (the Project) which would grant development consent, authorising the construction, operation and maintenance of the Project, along with the compulsory acquisition or temporary possession of all land and interests in land necessary to enable this.

1.1.2 The Project would provide an additional crossing of the River Thames, east of London, to reduce congestion at the Dartford Crossing, increase road capacity and provide additional resilience to the Thames crossings and major road network in the south-east of the country. A description of the Project and the Project area is provided in Chapter 2 of this Statement and a more detailed description of the Project can be found in Environmental Statement (ES) Chapter 2: Project Description (Application Document 6.1).

1.2 Scheme Objectives

1.2.1 The Project's key objectives, which comprise three principal categories of economic, community and environment, and transport where developed by Highways England and endorsed by Department for Transport (DfT), after the Government commissioned Highways England to identify and assess options for a new road crossing in the Lower Thames area in 2014 and are shown in Table 1.1:

Table 1.1 Scheme Objectives

Scheme Objectives	
Economic	• To support sustainable local development and regional economic growth in the medium to long term • To be affordable to government and users • To achieve value for money
Community & environment	• To minimise adverse impacts on health and the environment
Transport	• To relieve the congested Dartford Crossing and approach roads and improve their performance by providing free-flowing north-south capacity • To improve the resilience of the Thames crossings and the major road network • To improve safety

1.3 'Host' local authorities

1.3.1 The Project would pass through the administrative areas of seven local authorities and an assessment of development plan policies has been undertaken. The following seven local authority administrative areas, and are shown in Plate 1.1:

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a. Kent County Council

b. Essex County Council

c. Gravesham Borough Council

d. Thurrock Council

e. Brentwood Borough Council

f. London Borough of Havering

g. Greater London Authority

1.3.2 The Planning Act 2008 confers specific duties in respect of 'host' local authorities and those authorities in adjacent areas in relation to pre-application consultation as well as in relation to the Application and the Examination process (as set out in the Consultation Report (Application Document 5.1)). A detailed assessment of the policy framework in place for each 'host' local authority and its relevance to the Project is provided in Chapter 3 of this Planning Statement.

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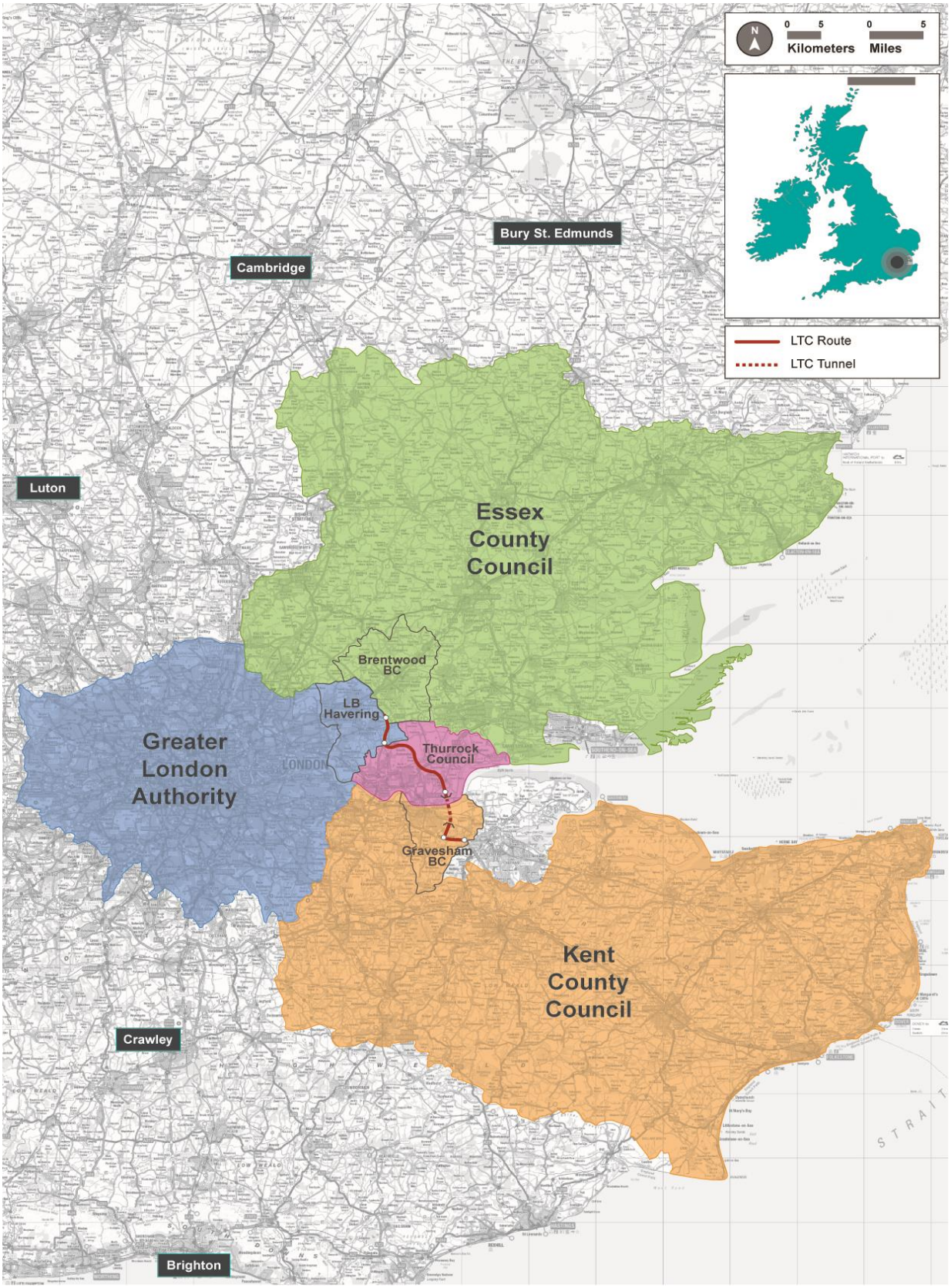
Plate 1.1 Lower Thames Crossing 'host' local authorities



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1.4 Highways England

1.4.1 The Applicant for the Lower Thames Crossing Project is Highways England, which is the Strategic Highway Authority as defined in the Infrastructure Act 2015.

1.4.2 Highways England is the strategic highways company charged with operating, maintaining and improving England's motorways and major A roads. Formerly the Highways Agency, Highways England became a government-owned company in April 2015.

1.4.3 Highways England is responsible for the operation, maintenance and improvement of the strategic road network (SRN) in England.

1.4.4 Highways England would be responsible for the new proposed Lower Thames Crossing which would connect to the M25 and A2 trunk road.

1.5 Qualification as a Nationally Significant Infrastructure Project

1.5.1 The Project is a Nationally Significant Infrastructure Project (NSIP) under section 14(1)(h) of the Planning Act 2008.

1.5.2 The Project involves the "construction" of a highway within the meaning of section 22(1)(a) of the Planning Act 2008. The Project satisfies section 22(2)(a) in that the highway will (when constructed) be wholly located in England, Highways England as strategic highways company will be the highway authority for the highway in line with section 22(2)(b), and the area of development is greater than the relevant limit set out in section 22(4)(b), which in this case is 12.5 hectares, where the speed limits will be in excess of 50mph.

1.5.3 The Project also involves the installation of an electric line above ground near the A13, Works No. OHL6. Accordingly, as this installation is "wholly within England" this element of the Project is also an NSIP under sections 14(1)(b) and 16(1)(a). None of provisions in section 16(3) apply to exclude the installation of the electric line above ground: the nominal voltage is above 132kV, the length is greater than 2km, the distance between the existing line and a new support will be greater than 60m, and it does not fall under a category of work which would not require a consent under section 37(1) of the Electricity Act 1989 under the Overhead Lines (Exemption) (England and Wales) Regulations 2009.

1.5.4 In addition, Works Nos. G2, G3, G4 and G6 (Works Nos. for the Gas Diversions in Schedule 1 of the DCO) are each NSIPs under section 20 of the Planning Act 2008. This is because those works entail the construction of a gas transporter pipeline, to be constructed wholly in England, such works are each likely to have a significant effect on the environment, have a design operating pressure of more than 7 bar gauge and, when constructed, will convey gas for supply (directly or indirectly) to at least 50,000 customers. Accordingly, for each of these works, each of the conditions in sections 20(2) to (5) of the Planning Act 2008 is satisfied.

1.5.5 Further explanation of the status of the NSIPs is included in the Explanatory Memorandum (Application Document 3.2).

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1.6 Purpose and structure of the Planning Statement

1.6.1 This Statement has been prepared in accordance with Regulation 5(2) of the Infrastructure Planning (Applications: Prescribed Forms and Procedures) Regulations 2009 (APFP Regulations 2009) and draws together key considerations which are relevant to the determination of the application.

1.6.2 The Application will be determined in accordance with the Planning Act 2008. Section 104 of the Planning Act 2008 states that, in deciding the Application, the Secretary of State (SoS) must have regard to any relevant National Policy Statement (NPS). Section 104(2)(a) states that in deciding the Application, the SoS must have regard to *'a relevant national policy statement'*. Section 104(3) states that the SoS must decide an application in accordance with any relevant NPS.

1.6.3 The Project is required to be assessed against both the NPSNN as well as the Overarching National Policy Statement for Energy (EN-1), National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4) and National Policy Statement for Electricity Infrastructure (EN-5) (All the energy NPSs were produced by the former Department of Energy and Climate Change (DECC) in July 2011, which is now the Department for Business, Energy and Industrial Strategy (BEIS)). The NPSNN forms the "case-making" basis for the Project, and the need for nationally significant utilities diversions arises solely from the need for the road element of the Project. Notwithstanding this, the assessment principles in the NPSs have been considered with equal weight. All NPSs are designated utilising and conforming to the same legislative requirements, guidance and international obligations, and accordingly, there is consistency across them.

1.6.4 The NPPF is also a relevant consideration in decisions on NSIPs but only to the extent relevant to that project (para. 1.18 of the NPSNN). The NPPF '*makes clear that it is not intended to contain specific policies for NSIPs where quite particular considerations can apply. The National Networks NPS will assume that function and provide transport policy which will guide individual development brought under it'* (para.1.19 of the NPSNN).

1.6.5 This Statement sets out other *'important and relevant'* considerations to be considered by the Examining Authority and the SoS including national and local planning, transport, minerals and waste policies of relevance to the Project. The Statement assesses the Project against these policy considerations within Chapter 3 of this Statement, drawing on the environmental information presented in the ES (Application Document 6.1).

1.6.6 This Statement has also been prepared to take account of section 60 of Planning Act 2008 concerning the preparation of Local Impact Reports (LIRs) by relevant authorities who are invited to submit an LIR, to provide *'details of the likely impact of the proposed development on the authority's area'*. Planning Inspectorate Advice Note One: Local Impact Reports suggests a list of topics which may be of assistance to a local authority in writing an LIR. This includes the following topic areas:

a. '*Relevant development plan policies, supplementary planning guidance or documents, development briefs or approved masterplans and an appraisal of their relationship and relevance to the proposals*

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b. *Relevant development proposals under consideration or granted permission but not commenced or completed'*

1.6.7 As LIRs are not addressed in other documents submitted with the Application (on the basis LIRs are produced following acceptance of the Application), this Statement is also intended to assist local authorities in compiling their LIRs by providing relevant information.

1.6.8 While submission of this Statement is not a mandatory requirement, it has been prepared to accompany the Application and sets out how the Project complies with the relevant planning policy.

1.6.9 In establishing the relevant planning policy framework and in making the overall case for the Project, this Statement draws upon the conclusions of the supporting Application Documents, interpreting these against planning policy considerations which have been identified as having relevance to the Project.

1.6.10 The Statement draws upon, and should be read alongside, the following Application Documents, in particular:

a. Explanatory Memorandum to Draft DCO (Application Document 3.2)

b. Statement of Reasons (Application Document 4.1)

c. Book of Reference (Application Document 4.2)

d. Funding Statement (Application Document 4.3)

e. Consultation Report (Application Document 5.1)

f. ES (Application Documents 6.1 to 6.3)

g. Flood Risk Assessment (FRA) (Application Document 6.3, ES Appendix 14.6)

h. Water Framework Directive Assessment (Application Document 6.3, ES Appendix 14.7)

i. Habitats Regulations Assessment (HRA) (Application Document 6.5)

j. Need for the Project (Application Document 7.1)

k. Project Design Report (PDR) (Application Document 7.4)

l. Design Principles (Application Document 7.5)

m. Transport Assessment (Application Document 7.9)

1.7 Structure

1.7.1 The Planning Statement is structured as follows:

a. Chapter 2 provides a high-level description of the Project on a character area basis.

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b. Chapter 3 considers the extent to which the Project complies with national policy and relevant local planning policies.

c. Chapter 4 assesses the Project's compliance in respect of the Green Belt policies.

d. Chapter 5 assesses the Project's compliance in respect of the policies relating to the Kent Downs Area of Outstanding National Beauty (AONB).

e. Chapter 6 assesses the Project's compliance in respect of open space, sports and recreational buildings and land.

f. Chapter 7 considers other policy matters of relevance to the Project.

g. Chapter 8 reaches conclusions on the overall compliance of the Project with planning policy, principally those policies contained within the NPSs, along with other important and relevant considerations.

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2 The Project

2.1 Introduction

2.1.1 This chapter describes the Application by geographical area within the Order Limits. A fuller description of the Project can be found in ES Chapter 2: Project Description (Application Document 6.1).

2.2 Project description

2.2.1 The Project would provide a connection between the A2 and M2 in Kent, east of Gravesend, crossing under the River Thames through two bored tunnels, before joining the M25 south of junction 29. The Project route is presented in Plate 2.1.

2.2.2 The A122 road would be approximately 23km long, 4.25km of which would be in a tunnel. On the south side of the River Thames, the Project route would link the tunnel to the A2 and M2. On the north side, it would link to the A13 and junction 29 of the M25. The tunnel portals would be located to the east of the village of Chalk on the south of the River Thames and to the west of East Tilbury on the north side.

2.2.3 Junctions are proposed at the following locations:

a. New junction with the A2 to the east of Gravesend

b. Modified junction with the A13/A1089 in Thurrock

c. New junction with the M25 between junctions 29 and 30

2.2.4 To align with NPSNN policy and to help the Project meet the Scheme Objectives, it is proposed that road user charges will be levied. Vehicles would be charged for using the new Lower Thames Crossing tunnel.

2.2.5 The Project road would be three lanes in both directions, except for:

a. link roads

b. stretches of the carriageway through junctions

c. the southbound carriageway from the M25 to the junction with the A13/A1089, which would be two lanes

2.2.6 Technology would be provided for lane control and to apply variable speed limits. The A122 road would have hard strips for most of its length, and emergency areas. Modified sections of the M25 and the A2 would have hard shoulders.

2.2.7 The Project road would be an all-purpose trunk road, with green signs, but would have additional vehicle restrictions imposed and managed through signage so that only motorway traffic would be permitted to use the road.

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2.2.8 The Project would include adjustment to a number of side roads to accommodate the A122 road and to connect with the Project road at the A13 and A2 junctions. There would also be adjustments to a number of public rights of way, used by walkers, cyclists and horse riders. Construction of the Project would also require the diversion of a number of utilities, including gas pipelines, overhead and underground electricity cables, as well as water supplies and telecommunications assets.

Plate 2.1 Lower Thames Crossing route

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2.3 Description of the Project area

2.3.1 Given the length of the Project and the varied landscape through which it travels, a more detailed description of the Project area within the Order Limits and the surrounding area has been provided by the division of the Project into eight character areas running from south to north, from the A2 to the M25. These areas are determined based on their defining characteristics and variations in the landscape. The development of the Project preliminary design is contained in the Project Design Report (Application Document 7.4).

2.3.2 A brief description is provided of the Project proposals within each of the defined character areas.

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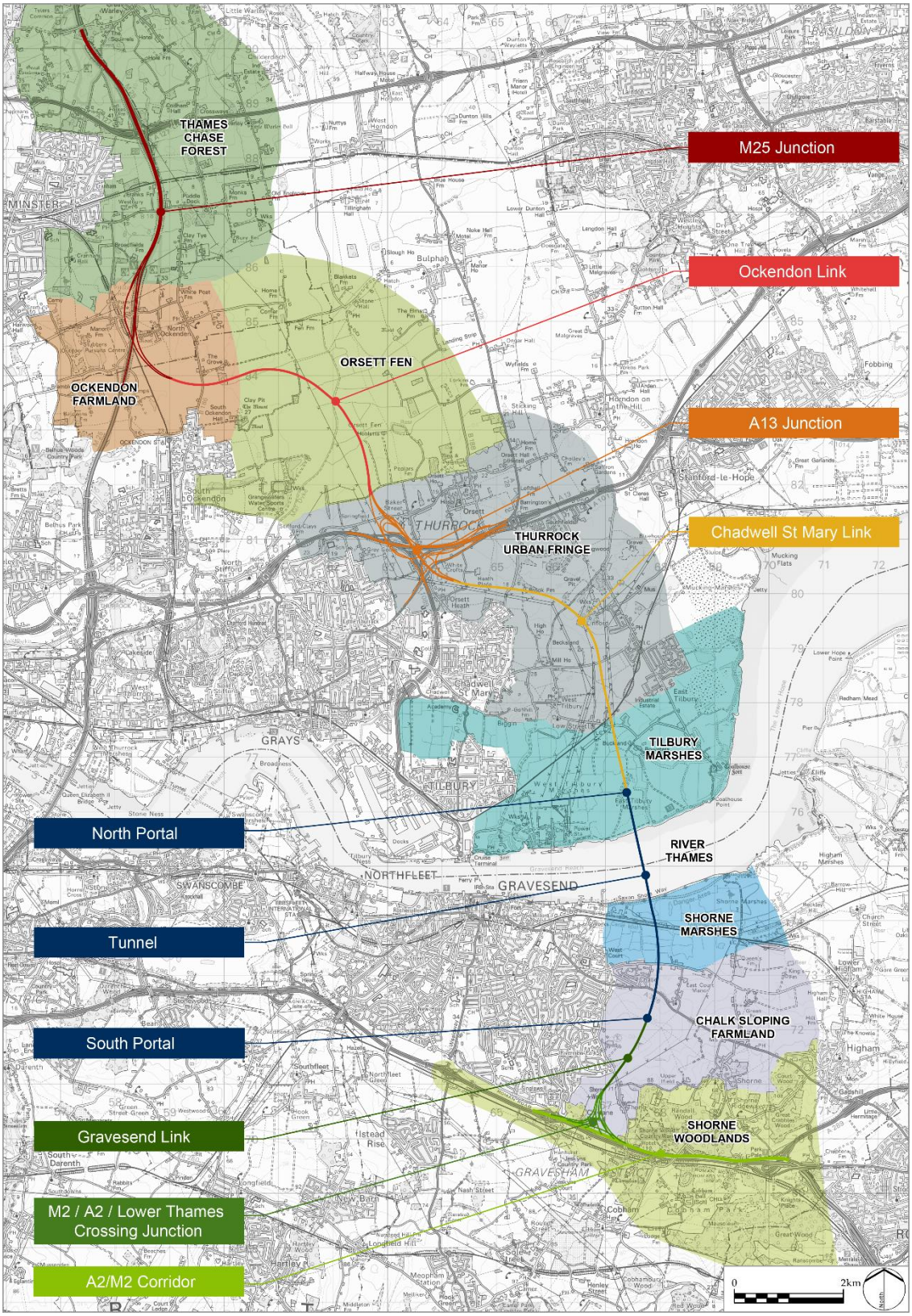
Plate 2.2 Lower Thames Crossing character areas



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Shorne Woodlands

2.3.3 The A2 between its junction with Henhurst Road and Valley Drive through to junction 1 of the M2 has four lanes and a hard shoulder in each direction. The High Speed 1 (HS1) railway line runs along the south of the A2 in a cutting.

2.3.4 The land between the villages of Thong and Shorne and to the south of the A2 forms part of the Kent Downs AONB while a Site of Special Scientific Interest (SSSI) covers much of the woodland east of Thong Village. The land north and south of the A2 is characterised by areas of native woodland. Claylane Wood, north of the A2 adjacent to the edge of Gravesend, and Shorne Woodlands, north of the A2 within Shorne Woods County Park, are both areas of ancient woodland, with smaller areas of SSSI/ancient woodland and an area of woodland planting further east.

2.3.5 The suburban area of Gravesend lies along the north side of the A2, west of Claylane Wood. The edge of the Gravesend urban area sits on the rural/urban divide, with the land to the east more rural in nature. South of the A2 lies Cobham Hall Registered Park and Garden.

2.3.6 The Project proposals in this area are to retain the existing A2 as four lanes each way with hard shoulders on an altered alignment to the west of junction 1 of the M2. Beyond this, the A2 would be widened from three lanes to four, with intermittent hard shoulders along this length.

2.3.7 Two new two-lane connector roads would be provided, north and south of the A2, connecting to the existing A289 and at the eastern end of the A2. Both eastbound and westbound connector roads would have hard shoulders.

2.3.8 To minimise the land-take requirement outside of the existing highway boundary, an area of vegetation in the central reserve of the existing A2 is to be removed. Green bridges would replace the existing Brewers Road and Thong Lane crossings over the A2.

2.3.9 In addition to the highways works, significant utilities works are required in this area, including the installation of a diverted overhead electric line and the diversion of existing underground gas pipelines. The proposed gas transporter pipeline diversions are:

a. Feeder 5 Phase 1 – a short (approximately 125m) diversion running through the south-east corner of Claylane Wood (Works No. G2)

b. Feeder 5 Phase 2 – an approximately 2.5km diversion, running in a south-west direction from Gravesend Road south of St Mary's Church, finishing west of Thong village and north of Claylane Wood (Works No. G4)

c. Feeder 18 – an approximately 800m diversion running from north of Thong village, crossing Thong Lane before diverting south/south-west and finishing in Claylane Wood (Works No. G3)

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2.3.10 The Project incorporates environmental mitigation with ancient woodland compensation planting; extensive woodland planting around the junction; linear planting along the route with visual screening and landscape integration; earthwork features such as false cuttings; walking, cycling and horse-riding (WCH) route realignments; improved connections; and the replacement of public open space. The embedded environmental mitigation is shown in ES Figure 2.4: Environmental Masterplan (Application Document 6.2) and the Project commitments in the Design Principles (Application Document 7.5), along with the Register of Environmental Actions and Commitments (REAC) (Application Document 6.3, ES Appendix 2.2).

Chalk Sloping Farmland

2.3.11 The Chalk Sloping Farmland area north of the A2 is characterised largely by open farmland. The Kent Downs AONB continues north of the A2 to the east of Thong village while Gravesham urban area is located to the west. Southern Valley Golf Course sits between Thong village and the A226, adjoining Gravesend to the west.

2.3.12 In addition, a number of smaller settlements are found in the surrounding area. Thong village, a designated Conservation Area, is separated by a narrow gap from the edge of Gravesend to the west which helps maintain its rural character despite its proximity. Shorne village, another designated Conservation Area, lies to the north of the Kent Downs AONB. Chalk, situated north of Thong village, adjoins Gravesend to the west. A church, the St Mary the Virgin (Grade II* listed), lies beyond the village settlement to the east.

2.3.13 A number of registered footpaths cross this area, linking the Kent Downs AONB and surrounding settlements, including Gravesend, Chalk and Shorne. Two of these registered footpaths, NG 8 and NG 7, run through or adjacent to the Southern Valley Golf Course.

2.3.14 The new M2/A2/Lower Thames Crossing junction east of Claylane Wood would connect the Project to the A2 both eastbound and westbound, and also provide connections to the M2. The Project continues north between Gravesend and Thong, descending into cutting and passing under Thong Lane green bridge in cutting.

2.3.15 From Thong Lane, the Project route crosses the site of the Southern Valley Golf Course towards the A226, passing into the tunnel portal approximately 500m south of the A226.

2.3.16 A 13m wide single-lane access road would join the two carriageways by means of a loop passing over the tunnel at ground level to the north of the tunnel portal connecting to the A226 to the north. These roads would provide access for emergency services and maintenance.

2.3.17 In addition to the highway proposals, significant utilities works are required in this area, including the installation of a diverted overhead electric line and the diversion of existing gas pipelines.

2.3.18 The Project incorporates environmental mitigation with habitat creation, woodland planting, landscape and earthwork features within Chalk Park which would be created, to include recreational WCH loop tracks. The embedded environmental mitigation is shown in ES Figure 2.4: Environmental Masterplan

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(Application Document 6.2) and the Project commitments in the Design Principles (Application Document 7.5), along with the REAC (Application Document 6.3, ES Appendix 2.2).

Shorne Marshes and River Thames

2.3.19 Situated north of the A226, this area is characterised by flat, grazing marsh with few trees. On the south bank of the River Thames to the east of Gravesend and Chalk lie the Thames Estuary and Marshes Ramsar site and South Thames Estuary and Marshes SSSI. These designations cover much of the marsh area and extend downstream to the east, the majority of which is also designated as a Special Protection Area (SPA).

2.3.20 The North Kent Railway line between Gravesend and Rochester runs through this area, immediately south of the disused Thames and Medway Canal. National Cycle Network Route 1 runs parallel to the railway on the north side of the Thames and Medway Canal. A registered bridleway links the railway line with the southern bank of the River Thames to the west of the character area, over the Shorne Marshes. The River is approximately 1km wide in this area, bounded by marshes on both riverbanks, giving it an open character with extensive views.

2.3.21 Other heritage features of note on the southern bank of the River Thames are scheduled monuments including New Tavern Fort and Cliffe Fort.

2.3.22 The proposed tunnel crossing is located approximately 500m south of the A226, to the south-east of Chalk on the south of the River Thames and a point 650m to the north of the River, west of East Tilbury on the north side. The tunnel would pass under the River Thames and the Thames and Medway Canal, North Kent Railway line, the Thames Estuary and Marshes Ramsar site, South Thames Estuary and Marshes SSSI and the Metropolitan Police Service Specialist Training Centre.

2.3.23 The tunnel would be a twin-bore structure, approximately 4.25km in length. Each bored section of the tunnel would have an internal diameter of approximately 16m and would contain operational and safety systems.

Tilbury Marshes

2.3.24 The northern bank of the River Thames is characterised by a low-lying, flat landscape of drained marshland with much of the Tilbury Marshes area lying within Flood Zones 2 and 3. The area is open with expansive views and a mix of arable and grazing land.

2.3.25 To the east of this area are a small number of scattered residential properties along Station Road and ribbon development along Princess Margaret Road. The Tilbury Loop railway line runs through Linford, south of West Tilbury, and into Tilbury.

2.3.26 The Thames Estuary and Marshes SPA and Ramsar site are located to the east of Tilbury Marshes. A registered footpath and National Cycle Network Route 13 run along the northern bank of the River Thames. A registered footpath also links Coalhouse Fort through to Station Road, and a registered Bridleway links East Tilbury with Chadwell St Mary.

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2.3.27 There are four scheduled monuments in the Tilbury Marshes character area. Tilbury Fort lies to the south-west of the character area, while Coalhouse Fort lies to the south-east. Both Forts are located on the north shore of the River Thames. East Tilbury Battery and the Second World War Anti-aircraft Battery at Bowaters Farm are located to the north and north-west of Coalhouse Fort scheduled monument respectively.

2.3.28 Large-scale infrastructure, including Tilbury2 (a new port terminal to the east of the existing Port of Tilbury) and Tilbury Power Station (demolished) are located to the west of the character area's southern boundary. The Port of Tilbury is located further west, beyond the Order Limits and character area.

2.3.29 The tunnel would emerge to the north of the River Thames, with the proposed North Portal approximately 650m north of the river bank and the route alignment reaching ground level about 400m beyond this. A Tunnel Services Building would be located at each portal outside the tunnel within the tunnel headwall.

2.3.30 Flood protection bunds would be provided around the Tunnel Services Buildings and along the length of the Project road north and south. An access road would run along the top of the flood protection bunds.

2.3.31 The Project route continues onto the Tilbury Viaduct as it passes over the Tilbury Loop railway line.

2.3.32 The Project incorporates environmental mitigation with habitat creation in particular for water voles, landscape and earthwork features connected to green bridges, along with Tilbury Fields recreational area, with proposed WCH loop tracks. The embedded environmental mitigation is shown on ES Figure 2.4: Environmental Masterplan (Application Document 6.2) and the Project commitments in the Design Principles (Application Document 7.5), along with the REAC (Application Document 6.3, ES Appendix 2.2).

Thurrock Urban Fringe

2.3.33 The Thurrock Urban Fringe is characterised by gently rolling farmland, divided by hedgerows, with occasional woodland blocks. The exposed urban edges of Grays, Chadwell St Mary and Linford also influence the landscape of this area.

2.3.34 The existing A13 dual carriageway runs south-west to north-east along a low ridge across the area. Existing planting associated with and close to the A13 gives it the appearance of a wooded ridge, as seen from the north and south.

2.3.35 The area north of the A13 has a more rural character, with open views north towards Orsett Fen. Orsett village lies to the north of the A13. National Cycle Network Route 137 runs along Stifford Clays Road, through Baker Street and Orsett. A registered footpath links Chadwell St Mary with Orsett and Orsett to the A13, crossing the B188. Registered bridleways run alongside the A13 from Mill Lane to Baker Street, and along Green Lane, to Stifford Clays Road.

2.3.36 West Tilbury, East Tilbury and Orsett villages are designated Conservation Areas. Hoford Road, which runs north-east from Muckingford Road between Linford and Orsett Golf Club, is designated as a protected lane due to its particular historic and landscape value and is also an important bat commuting and foraging corridor.

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2.3.37 North of the A13 junction at Baker Street there are several listed buildings. A cropmark complex at Orsett, located adjacent to the A13, and a Springfield style enclosure and Iron Age enclosures south of Hill House, Baker Street are both scheduled monuments.

2.3.38 The Project road would pass over Coal Road and under Muckingford Road green bridge, Hoford Road green bridge, and returning at grade, under Brentwood Road.

2.3.39 The Project route continues north, with a new road junction connecting the route to the A13 and A1089. The route would be two lanes in both direction through the junction.

2.3.40 Significant utility works are required in this area, including the installation of electrical overhead lines and associated pylons, as well as the diversion of underground gas pipelines.

2.3.41 The Project incorporates environmental mitigation with habitat creation, woodland planting and landscape works to enhance the character of the river valley, along with earthworks and false cuttings to help integrate the Project into the landscape. Green bridges would provide ecological connectivity and enhanced WCH connectivity. The embedded environmental mitigation is shown in ES Figure 2.4: Environmental Masterplan (Application Document 6.2) and the Project commitments in the Design Principles (Application Document 7.5), along with the REAC (Application Document 6.3, ES Appendix 2.2).

Orsett Fen

2.3.42 North of the A13 the landscape is flat and open, characterised by low-lying fen farmland. Trees line watercourses in the area and there are some shelterbelts and hedgerows.

2.3.43 There are no settlements or roads within the immediate Orsett Fen area. Beyond this area, Orsett lies to the south-east, South Ockendon to the south-west and Bulphan to the north-east.

2.3.44 The Mardyke is the principal watercourse running through the area and a prominent feature in the landscape. The Mardyke flows south-west between Orsett and South Ockendon, joining the River Thames at Purfleet. The area surrounding it lies in Flood Zones 2 and 3. A registered bridleway follows the alignment of the Mardyke while registered footpaths also link Baker Street to Bulphan in the east. To the west of the Character Area, a registered footpath links North Stifford to South Ockendon and on to Bulphan.

2.3.45 The Thames Chase Community Forest, a varied wooded landscape located across London and Essex, extends into this area and areas of landfill to the west.

2.3.46 To the north of the A13, the Project road would return to three lanes northbound, while the southbound carriageway would remain two lanes. The route alignment passes to the west of Orsett and then west passing north of South Ockendon.

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2.3.47 North of the A13/A1089/A122 Lower Thames Crossing junction, the Project road would be at grade for approximately 500m, passing under Green Lane green bridge before rising to cross the Mardyke floodplain for 2km along an embankment. Beyond this, the Project route continues on a 200m long viaduct across Orsett Fen and the Golden Bridge Sewer and a 353m long viaduct across the Mardyke river.

2.3.48 Utilities diversions are required across this area, including the diversion of underground gas pipelines and the realignment of an overhead electric line. The electric line would run laterally from approximately 2.5km east of Hornsby Lane before turning north for approximately 700m (Works No. OHL6). In addition, gas pipeline diversion HP8 would run in an approximate dog-leg shape, starting south of Orsett before turning north for approximately 2km to the south-west of the village and eventually turning west/south-west for a further 2km (Works No. G6).

2.3.49 The Project incorporates environmental mitigation with habitat creation and woodland planting, the re-wetting of the Mardyke fenland, landscape and earthwork features connected to green bridges. The embedded environmental mitigation is shown on ES Figure 2.4: Environmental Masterplan (Application Document 6.2) and the Project commitments in the Design Principles (Application Document 7.5), along with the REAC (Application Document 6.3, ES Appendix 2.2).

Ockendon Farmland

2.3.50 The Ockendon Farmland area is characterised by a gently rolling landscape between the settlements of North and South Ockendon. There are a number of lakes and water bodies associated with former sand and gravel quarries in the area, alongside areas of landfill.

2.3.51 There is a designated Conservation Area at North Ockendon and a registered footpath connecting it to North Road. The Upminster and Grays Branch railway passes through the area, under the M25. The Wilderness, an area of woodland, lies east of the B186.

2.3.52 The M25, and its associated embankments, cuttings and apparatus, is a dominant feature within the area, with a strong north to south orientation. It has four running lanes in each direction. The land use surrounding the M25 is a mix of agriculture and woodland (including the Thames Chase Community Forest Centre) along with the settlements of North and South Ockendon.

2.3.53 The Project route would connect to the M25 between junctions 29 and 30 via a new junction, approximately 3km south of junction 29, near Ockendon Road. It would have north and southbound slip roads for traffic joining the M25. A parallel two-lane link road would be constructed to the west of the existing M25, providing a link to M25 junction 29 and the A127.

2.3.54 As the Project road approaches the M25 it would pass under North Road green bridge and Footpath 252, before diverging. The northbound carriageway would pass under the M25 through an underpass and remain in cutting under the Ockendon Road bridge and proposed Thames Chase footbridge, which would provide a connection over the M25. Approximately 500m north of Ockendon Road the northbound slip road would divide, with two lanes connecting to the M25 northbound and a third lane connecting to junction 29.

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2.3.55 Access to the southbound carriageway of the Project road would be at grade via a new slip road from the M25, south of Ockendon Road.

2.3.56 The Project incorporates environmental mitigation with habitat creation, landscape and earthwork features connected to North Road green bridge providing ecological and enhanced WCH connectivity. The embedded environmental mitigation is shown on ES Figure 2.4: Environmental Masterplan (Application Document 6.2) and the Project commitments in the Design Principles (Application Document 7.5), along with the REAC (Application Document 6.3, ES Appendix 2.2).

Thames Chase Forest

2.3.57 The area has a varied landscape, gently undulating in the south to steeper slopes in the north. This varied topography is unified by the woodland cover across the character area.

2.3.58 The Thames Chase Community Forest is a dominant feature in this landscape, with many pockets of woodland in an area of 38 square miles of countryside. It straddles the M25 to the north of North Ockendon. The Thames Chase Forest Centre is situated between North Ockendon and Cranham.

2.3.59 The Upminster and Grays Branch railway runs underneath the M25 south of junction 29, through Thames Chase Community Forest, and a registered bridleway connects the railway to Codham Hall Lane, east of the M25, crossing the A127. Registered footpaths link the east of the M25 with Warley Street and also Codham Hall.

2.3.60 To the north of the A127, more mature woodland is present, including the Codham Hall Wood ancient woodland which spans the M25 immediately north of junction 29 and Hobbs Hole ancient woodland immediately to the south-east of junction 29.

2.3.61 Franks Farm, a Grade II listed building, is located west of the M25, just south of the Shoeburyness railway line. Cranham Conservation Area, to the west of the character area, south of the A127, surrounds the listed Cranham Hall and All Saints Church.

2.3.62 Through Thames Chase Community Forest, a new footbridge would be provided over the Project route, providing access to the east and west of the woodland. Improvement works and road widening would be undertaken along this stretch of the M25, up to and including junction 29.

2.3.63 The M25 would be reduced to three lanes locally between the diverge of the connection to the junction 29 connecting road and the merge from Project route northbound. North of the connection from the Project route the M25 northbound main road would revert to its existing four lanes with hard shoulder as far as the disconnected junction 29 northbound off-slip. Through junction 29 the M25 would be widened from three lanes to four lanes in both directions. This would involve the widening of the existing viaduct structure over the existing roundabout and A127.

2.3.64 North of junction 29, the northbound on-slip would be modified from a lane gain arrangement to an extended auxiliary lane for about 950m. Southbound, a two-lane link road would be provided, approximately 0.8km long, in place of the existing lane drop.

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2.3.65 Utilities diversions are required across this area, including the installation of underground gas pipelines and overhead electric lines.

2.3.66 The Project incorporates environmental mitigation with habitat creation and woodland planting south and north of Thames Chase Community Forest which would also be used as replacement open space land. Woodland planting north of junction 29 is proposed, with additional woodland planting and habitat creation adjoining Folkes Lane, which would also be used as replacement open space. In this location, there are also landscape and earthwork features proposed along the route alignment including false cuttings. The embedded environmental mitigation is shown on ES Figure 2.4: Environmental Masterplan (Application Document 6.2) and the Project commitments in the Design Principles (Application Document 7.5), along with the REAC (Application Document 6.3, ES Appendix 2.2).

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3 Planning policy

3.1 Introduction

3.1.1 This chapter sets out the national and local planning policy context for the Project. The purpose of this chapter is to summarise the policies which are or may be relevant for the determination of the Application, confirming the compliance of the Project with the relevant policy framework. A more detailed assessment of how the Project complies with national and local planning policy is provided in Appendix A and B of this Statement.

3.1.2 Section 104(2) of Planning Act 2008 provides the basis for determining an application for development consent where an NPS is in force. It requires that in deciding an application for development consent the SoS must have regard to:

a. any relevant NPS

b. any LIR

c. any matters prescribed in relation to development of the description to which the application relates

d. any other matter that the decision maker thinks is both important and relevant to its decision

3.1.3 Under section 104(3), the SoS is required to decide the application in accordance with any relevant NPS, except in certain circumstances specified in subsections (4) to (8). These include circumstances where the adverse effects of a project outweigh the benefits.

3.1.4 This chapter does not consider national and local policy in respect of the Green Belt, the Kent Downs AONB and Open Space all of which would be affected by the Project. These are addressed separately in in Chapter 4: Green Belt, Chapter 5: Kent Downs AONB and Chapter 6: Open Space of this Planning Statement.

3.1.5 The Project is required to be assessed against both the National Policy Statement for National Networks (NPSNN) as well as the Overarching National Policy Statement for Energy (EN-1), National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4) and National Policy Statement for Electricity Infrastructure (EN-5). The NPSNN underlines the need for the highway elements of the Project, and the utilities works which are NSIPs are required as a result of those elements. Notwithstanding, the NPSs have been considered with equal weight on the basis they all “have effect” under section 104 of the Planning Act 2008. The assessment principles and generic impacts sections of the NPSNN, and EN-1, EN-4 and EN-5 do not conflict with each other. The bespoke elements to the policy tests for the utilities related NSIPs are separately addressed in Appendix A2.

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3.2 National Policy Statements

National Policy Statement for National Networks

3.2.1 This section provides an analysis of the Project's compliance with the NPSNN. Each topic chapter of the ES (Application Document 6.1) submitted with the Application addresses the particular assessment provisions of the NPSNN which are relevant to that chapter. The sections below respond in particular to the guidance in Chapters 4 and 5 of the NPSNN which sets out guidance for applicants and decision-makers in relation to environmental and social topics.

3.2.2 The sections below set out a high-level summary of the Project's compliance with key sections and chapters of the NPSNN. The headings, in particular, correspond to headings in the NPSNN. A detailed Accordance Table is provided in Appendix A.

National Policy Statements for Energy (EN-1, EN-4 and EN-5)

3.2.3 The utilities diversions which fall within the threshold of NSIPs are incidental to the highway works and have been developed in response to the functional requirements of the Project. Due regard has been paid to and compliance with EN-1, EN-4 and EN-5 on the basis that these have "effect" in relation to those parts of the Project that comprise utilities NSIPs.

3.2.4 An additional NPS Accordance Table is provided in Appendix A2 of this document. The approach to the Accordance Table has been to identify where there are differences in assessment criteria between the NPSNN and EN-1, EN-4 and EN-5. In order to avoid repetition, where an assessment is not addressed within the EN-1, EN-4 and EN-5 Tables, it is because the relevant assessment is set out and addressed in the NPSNN Accordance Table.

3.2.5 It is also important to recognise that EN-1, EN-4 and EN-5 largely relate to new energy facilities rather than the diversion of existing apparatus. Notwithstanding, these policies have been fully considered and the Project complies with them.

3.2.6 This assessment considers the Need for the Project and the environmental and social impacts before dealing in turn with each section of Chapter 4: Assessment principles and Chapter 5: Generic impacts of the NPSNN.

Need for the Project

3.2.7 Paragraph 1.1 of the NPSNN states that the purpose of the NPS is to establish:

'*The need for, and Government's policies to deliver, development of nationally significant infrastructure projects (NSIPs) on the national road and rail networks in England. It provides planning guidance for promoters of nationally significant infrastructure projects on the road and rail networks, and the basis for the examination by the Examining Authority and decisions by the Secretary of State*.'

3.2.8 NPSNN paragraph 2.2 recognises that there is a critical need to improve the national networks to address road congestion in order *'…to provide safe, expeditious and resilient networks that better support social and economic activity; and to provide a transport network that is capable of stimulating and supporting economic growth.'*

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3.2.9 In the Summary of Need on page 9 of the NPSNN, the following vision and strategic objectives are set out:

'*The government will deliver national networks that meet the country's long-term needs; supporting a prosperous and competitive economy and improving overall quality of life, as part of a wider transport system. This means:*

a. *Networks with the capacity and connectivity to support national and local economic activity and facilitate growth and create jobs.*

b. *Networks which support and improve journey quality, reliability and safety.*

c. *Networks which support the delivery of environmental goals and the move to a low carbon economy.*

d. *Networks* which join up our communities and link effectively to each other.'

3.2.10 The conformity of the Project's objectives with the 'vision and strategic objectives' of the NPSNN is set out in Table 3.1 below.

Table 3.1 Conformity of Project and NPSNN Objectives

NPSNN Summary of Need (NPSNN Chapter 2) Government vision and strategic objectives	Project conformity
The Government will deliver national networks that meet the country's long-term needs; supporting a prosperous and competitive economy and improving overall quality of life, as part of a wider transport system.	The Project would support sustainable local development and regional economic growth in the long term by providing improved journey times and relieving congestion on the Dartford Crossing and approach roads. Through these improvements, the Project would also benefit leisure and business travellers by providing quicker, more reliable journey times locally, regionally and nationally. This would help meet the demands of future traffic growth east of London (see Appendix C and Appendix D of the ComMA. Application Document 7.7). These improvements would make the local area and the South East more attractive for businesses to locate and would contribute to the promotion of a competitive local economy.
Networks with the capacity and connectivity and resilience to support national and local economic activity and facilitate growth and create jobs.	Chapter 5 of the Need for the Project (Application Document 7.1) explains how the Project would reduce congestion at the Dartford Crossing and create additional capacity across the River Thames east of London. Additionally, it explains how the Project would support economic growth, locally, regionally and nationally. The Project would also boost business productivity and open up opportunities for local economic growth. The enhanced connectivity would enable businesses to benefit from knowledge and technology synergies and deeper business and labour markets, which would help strengthen local skills. The Project would also provide scope for delivering more transformational benefits for the local economy by unlocking cross-river trading opportunities

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NPSNN Summary of Need (NPSNN Chapter 2) Government vision and strategic objectives	Project conformity
	that would strengthen competition and enhance business productivity. With more certainty over journey times and commuting costs in the Lower Thames area, firms and workers would both be more willing to look further afield for business and employment opportunities across the river. For example, reductions in commuting journey time and cost would increase labour supply and the propensity for employers to hire people who live on the 'other side of the Thames'. These changes are likely to encourage the development of a large and more competitive single market in the Lower Thames area, spanning both sides of the River. While the Dartford Crossing infrastructure remains available for many years of future service, Highways England has had to implement longer-term closures of critical infrastructure on the Strategic Road Network (SRN). By providing an additional crossing of the River Thames, the Project would improve the resilience of the road network in the event of a longer-term closure of part of the existing Dartford Crossing or approach roads. In addition, the provision of an alternative crossing of the River Thames would provide increased flexibility for undertaking maintenance works while continuing to maintain connectivity across the SRN. This would result in shorter and less-complex diversion routes for certain closures, particularly for larger vehicles.
Networks which support and improve journey quality, reliability and safety.	The Scheme Objectives include relieving the congested Dartford Crossing and the approach roads, improving their performance by providing free-flowing north-south capacity, improving the resilience of the Thames crossing and the major road network, and improving safety. The Transport Assessment (Application Document 7.9) shows the Project would improve journey times and reduce congestion on the Dartford Crossing and approach roads while also providing over 80% additional road capacity across the River Thames east of London[1]. Chapter 5 of the Need for the Project (Application Document 7.1) sets out the reduction in the accident rate (accidents per vehicle kilometre travelled) in the area appraised over a 60-year appraisal period (2027–2086).
Networks which support the delivery of environmental goals and the move to a low carbon economy.	One of the Scheme Objectives is to minimise adverse impacts on health and the environment. Opportunities taken to reduce carbon emissions are discussed in ES Appendix 15.1: Carbon and Energy Plan (Application Document 6.3) and ES Chapter 15: Climate (Application Document 6.1). The impact of the Project on air quality is not considered to be significant and it is not predicted to

[1] LTAM runs CM12, CS12

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NPSNN Summary of Need (NPSNN Chapter 2) Government vision and strategic objectives	Project conformity
	affect the UK's reported ability to comply with the Air Quality Directive. The Project would not have any significant adverse air quality effects. The air quality assessment for the Project is contained within ES Chapter 5: Air Quality (Application Document 6.1).
Networks which join up our communities and link effectively to each other.	The Need for the Project (Application Document 7.1) explains that the Project would help relieve congestion on both sides of the River Thames east of London, and that this additional connectivity would improve the ability for local traffic to cross the River Thames. ES Chapter 13: Population and human health (Application Document 6.1) demonstrates that the Project would also improve connectivity and accessibility for WCH through the creation of new Public Rights of Way (PRoWs). PRoWs impacted by the Project would be upgraded to and redesignated as shared surfaces where practicable, in order to enhance and improve off-road provision for WCH.

3.2.11 The overriding, compelling and clear need for the Project is set out within the Need for the Project (Application Document 7.1).

3.2.12 The document considers Section 2 of the NPSNN and articulates the need for the Project, demonstrating that there is a clear and compelling need to address the long-standing traffic problems at the Dartford Crossing.

3.2.13 As the only crossing of the River Thames east of London, the traffic flows that continue to operate above the design capacity of the Dartford Crossing have resulted in frequent congestion and poor journey time reliability, making the Dartford Crossing one of the least reliable sections of the SRN. While incremental improvements to the Dartford Crossing have helped ease these issues, these have proved short-term fixes and have not resolved the problem.

3.2.14 The Need for the Project (Application Document 7.1) sets out that delays and poor journey time reliability at the Dartford Crossing and surrounding roads is a major impediment to economic growth in the South East of England. The River Thames is therefore seen as a barrier between Kent, Thurrock and Essex, affecting the ability to build strong connections between these communities.

3.2.15 Importantly, the presence of slow-moving traffic and queuing on the approaches to the Dartford Crossing on the SRN, and on the local road network as a result of these ongoing issues, is highlighted, as is the impact on the environment and surrounding communities due to high levels of air pollution and noise being experienced.

3.2.16 The key issues above that have driven the need for the Project are reflected in the Scheme Objectives, set out in Chapter 3 of the Need for the Project (Application Document 7.1). These objectives include relieving congestion at the Dartford Crossing and approach roads, and improving their performance, and the resilience of the Thames crossings and the major road network, both in supporting sustainable local development and regional economic growth, while minimising adverse impacts on health and the environment.

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3.2.17 This approach has led to the development of the Project, consistent with the Government's policy of supporting improvements to the SRN through the commitments made to provide an additional crossing of the River Thames east of London. This includes the commitment to fund the Project and making financial provision for the delivery of the Project within the Government's second Road Investment Strategy (RIS 2) which covers the financial years 2020/21 to 2024/25 (Department for Transport, 2020).

Environmental and social impacts

3.2.18 NPSNN paragraph 3.3 states:

'*Applicants should also provide evidence that they have considered reasonable opportunities to deliver environmental and social benefits as part of schemes*.'

3.2.19 These two component parts of sustainable development, along with economic considerations in meeting the Scheme Objectives, have influenced the design of the Project, both through its development and in its responses to stakeholder engagement and public consultation.

Environment

3.2.20 In order to deliver the Project a total land-take of approximately 2,292 hectares is required (approx. 220 hectares of which is owned by Highways England at present). This land is required for the highway, environmental mitigation and replacement land for areas of permanent land-take affecting public open space. It also provides opportunity for environmental enhancement.

3.2.21 Environmental mitigation and where possible enhancement for the Project have been developed through the preparation of an Environmental Masterplan (Application Document 6.2, ES Figure 2.4), which is submitted as part of the Application. This has been informed by the findings of an accompanying Green Infrastructure Study (Appendix C), which sets out the 'bigger picture' for the delivery of large-scale Green Infrastructure in support of the Project. Proposed measures include the re-planting of areas cleared during construction with native species (so far as possible) to provide habitats and visual screening. Seven green bridges are proposed along the Project route, designed to be multi-functional; reducing habitat fragmentation for ecology and providing a better experience for WCHs, whilst helping to mitigate the Project's impacts on landscape character and the Green Belt.

3.2.22 Highways England has consulted and/or worked with local authorities in order to identify replacement land for areas of permanent land-take required for the Project affecting public open space. Replacement land equal to or greater in size than the land of open space required for the Project and of equivalent quality and accessibility has been identified and is shown on ES Figure 2.4: Environmental Masterplan (Application Document 6.2).

3.2.23 Severed PROW, bridleways and cycle routes would be re-linked across the Project (with the exception of Hornsby Lane) unless better quality routes can be provided in the vicinity, the route can be rationalised to better link communities with the places users want to go, or realigned routes provide better connectivity into the existing walking, cycling and horse riding network. Further detail on the improvements to connectivity and accessibility is outlined under the 'Social' heading, below.

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3.2.24 Chapter 5 of this document addresses in detail the impact of the Project on the Kent Downs AONB and the associated planning balance.

Social

3.2.25 The social benefits of the Project include those associated with the introduction of the Project itself, in tackling current and forecast levels of traffic congestion. This in turn would be a catalyst to improved social and economic activity within the region, brought about by the additional connectivity offered by the Lower Thames Crossing that would improve the ability for local traffic to cross the River Thames.

3.2.26 The Project would provide over 80% additional road capacity[2] across the River Thames east of London resulting in travel time savings for users wanting to cross the River Thames at this point. It would also ease congestion on other key routes.

3.2.27 Journey time comparisons have been produced along key strategic corridors both with the Project and without the Project. These show in 2027 and in 2042, with the Project, there would be substantial decreases in journey time on the Dartford Crossing corridor between M25 junction 29 and M25 junction 2 in both directions. There would also be significant journey time savings on the A2 between the M2/A2/Lower Thames Crossing junction and M25 junction 2, and on the A13 between the A13/A1089/A122 Lower Thames Crossing junction and M25 junction 30. There are however some forecast increases in journey times on the A2 and A13 east of their junctions with the Project, and on the wider M25 both north and south of the River.

3.2.28 Table 3.2 provides journey time comparisons on a number of routes in the Lower Thames area in 2027, both without and with the Project. The table shows significant reductions in journey times in a number of routes.

Table 3.2 Journey times from LTAM (2027) in minutes

	AM peak		PM peak	
	Without Project	**With Project**	**Without Project**	**With Project**
Bexley to Romford	44.8	40.9	43.2	39.7
Rochester to London Gateway Port	61.7	37.5	66.8	44.7
Maidstone to Basildon	59.1	39.9	60.5	44.2
Southfleet to Brentwood	38.0	32.4	36.5	32.2

Source: LTAM run CM12, CS12

[2] LTAM runs CM12, CS12

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3.2.29 If the new crossing is not built, it is expected that the high levels of traffic using the Dartford Crossing would lead to a higher number of incidents, increased journey times and more days where traffic conditions are worse than typically experienced today.

3.2.30 The Project has been designed to provide a free-flow connection between the A2 and M25 with a design speed of 70mph. This includes free-flow junctions at either end as well as free-flow user charging facilities, as is the case at the Dartford Crossing.

3.2.31 A significant proportion of traffic that currently crosses the River Thames using the Dartford Crossing is forecast to use the Project instead, as it is a shorter route for that traffic. The Lower Thames Area Model (LTAM) predicts that the overall level of traffic using the Dartford Crossing would fall by 22% in the opening year (2027), when compared to the situation without the Project. Traffic is also forecast to be reduced on key roads in the Lower Thames area, including the A13 and A2 west of their junctions with the Project.

3.2.32 The Project would provide a less congested, quicker, more reliable alternative for those wishing to cross the River Thames east of London and, by taking traffic from the Dartford Crossing, would release capacity there for local traffic.

3.2.33 Whilst there would be a reduction in congestion at the Dartford Crossing and other key roads in the Lower Thames area as a result of the Project, it is acknowledged that there may be adverse changes in congestion in the road network away from the Project. This is due to changes in traffic flow at particular junctions and along particular roads across the SRN and Primary Road Network, both during construction and operational phases.

3.2.34 As presented in Appendix D: Economic Appraisal Package of the Combined Modelling and Appraisal Report (Application Document 7.7), the reduction in congestion across the road network significantly outweighs the identified impacts. The Outline Monitoring Strategy (Application Document 7.13) sets out a framework which commits to working with relevant authorities and DfT to monitor impacts and, where appropriate, seek funding for interventions on the wider network at a future date.

3.2.35 The Project design incorporates provision of new routes for WCH, designed to improve access to the existing network. All severed PROWs, with the exception of Hornsby Lane, bridleways and cycle routes, would be re-linked across the Project unless better quality routes can be provided in the vicinity; the WCH route can be rationalised to better link communities with the places they want to go; or realigned routes to provide better connectivity into the existing WCH network. Hornsby Lane in Thurrock would be permanently stopped up to avoid further changes to the existing overhead power network and avoid having to move the overhead lines closer to Chadwell St Mary. Despite this closure, only a minimal change in journey length for WCH in this area has been identified.

3.2.36 The Project design includes the creation of green bridges at Brewers Road (over A2), Thong Lane (over A2), Thong Lane (over A122), Muckingford Road, Hoford Road, Green Lane, North Road. The purpose of the green bridges includes to maintain and enhance connectivity for WCH as well as creating habitat corridors.

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3.2.37 Consideration has been given to reducing existing PRoW severance, in addition to maintaining, and where practicable, improving existing access. For example, construction of the M25 impacted the ability of residents within the M25 from accessing countryside beyond it. Through the creation of a new bridge and by reconnecting severed links, the Project aims to create opportunities for people to gain access to the countryside to the east of the M25 by WCH.

3.2.38 The Project design incorporates provision of new routes for WCH, designed to improve access to the existing network, maximise access for users (including those with limited mobility) whilst considering and mitigating potential impacts from misuse and anti-social behaviour through good design. New and improved routes are described below and shown on ES Figure 13.4 (Application Document 6.2):

a. Creation of an alternative route for a national cycle route (NCR177) (a well-used commuter route parallel to the A2) through surface improvements to and re-designation of existing PRoW. The realigned route would connect across the A2 and into Shorne Woods.

b. Modifications to Hares Bridge which crosses HS1 and the A2, to improve connectivity and provide opportunities for users accessing Jeskyns Community Woodland from Gravesend.

c. Creation of a new section of footway/cycleway linking footpath NS174/1 to Thong Lane, and a new surfaced footway around the overflow car park at Jeskyns Community Woodland.

d. Creation of a new roadside route connecting from the Brewers Road roundabout into Gravesend East.

e. A new 20km equestrian route linking Mardyke Woods, Thames Chase Community Forest and Belhus Woods. This would be achieved through the provision of a new crossing at Thames Chase Community Forest, linking footpaths 135 and 136 and undertaking improvement works to Denis Road, which runs in a north south direction to the east of the M25.

f. Upgrade of Rectory Road Bridge including widening to provide an off-road cycle track and equestrian link across the A13.

g. Provision for cyclists along the A1013.

h. An existing shared track along Stifford Clays Road would be extended to the Baker Street area, to improve connectivity between this residential area and its closest secondary school.

i. The existing bridge over the Mardyke would be altered to enable equestrian use.

j. Bridleway BR206 diverted and footpaths FP82 and FP93 would be re-designated as bridleway to help improve connectivity.

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k. Creation of new off-road cycle tracks – for example to the west side of Baker Street to connect the A1013 to Stifford Clays Road, over Rectory Road Bridge and connecting to the existing Rectory Road cycle track, and a new two-direction off-road cycle track to the south of the A1013 to better connect Orsett Cock roundabout with Little Thurrock.

l. New Pegasus crossings at North Road and between the A1013 cycle track and Rectory Road Bridge cycle track.

m. Footbridges, green bridges and underpasses would be accessible to all users, including those using wheelchairs, and would be designed taking into account the safety needs of vulnerable users (for example bridges would have rails at appropriate heights for users with mobility issues, and would include appropriate lighting to ensure maximum safety and security).

3.2.39 New facilities as part of the Project design for WCH would also help improve connectivity and increase opportunities for active travel and levels of physical activity. An active mode appraisal has been undertaken as part of Appendix D of the Combined Modelling and Appraisal Report (ComMA) (Application Document 7.7) which considers the impacts of the Project on physical activity levels for new active travel mode users. For these people there would be a decrease in their mortality rate and, on average, the number of deaths amongst affected people will reduce on any given year. The assessment identifies that the number of deaths avoided as a result of new active travel opportunities equates to approximately 36 deaths per year.

3.2.40 The NPSNN test requires development to consider delivering environmental and social benefits as part of the Project. As highlighted above and within the Need for the Project (Application Document 7.1), the Project delivers significant benefits across a number of areas. While impacts are acknowledged, the Project also delivers positive environmental, social and economic impacts that significantly outweigh its adverse effects. On that basis, it can be concluded that the Project complies with paragraph 3.3 of the NPSNN.

General principles of assessment

3.2.41 The sections below consider, and respond to, the sections/chapter headings of Chapter 4: Assessment principles of the NPSNN.

3.2.42 NPSNN paragraph 4.5 requires that:

'*Applications for road and rail projects (with the exception of those for SRFIs, for which the position is covered in paragraph 4.8 below) will normally be supported by a business case prepared in accordance with Treasury Green Book principles*.'

3.2.43 The approach taken by Highways England has followed DfT's Transport Analysis Guidance (TAG), which applies the Treasury Green Book principles to the appraisal of Transport Schemes.

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3.2.44 NPSNN paragraph 4.6 advises that:

'Applications for road and rail projects should usually be supported by a local transport model to provide sufficiently accurate detail of the impacts of a project. The modelling will usually include national level factors around the key drivers of transport demand such as economic growth, demographic change, travel costs and labour market participation, as well as local factors. The Examining Authority and the Secretary of State do not need to be concerned with the national methodology and national assumptions around the key drivers of transport demand. We do encourage an assessment of the benefits and costs of schemes under high and low growth scenarios, in addition to the core case. The modelling should be proportionate to the scale of the scheme and include appropriate sensitivity analysis to consider the impact of uncertainty on project impacts.'

3.2.45 Due to the scale of the Project, a strategic transport model has been produced in line with DfT guidelines. The LTAM has been developed as a simulation of the transport system in the Lower Thames area. The model contains a detailed representation of the road network in the area and information on where people travelled to and from in an average month (March 2016). It uses an industry-recognised method of predicting future traffic flows and conditions, both with and without the Project, and shows the number of people choosing to travel by road and rail, the route they use now and the route they are forecast to use. This enables predictions to be made on how many vehicles will be using each part of the road network in the future and how long it would take to complete a journey.

3.2.46 In addition to appraising the core scenario (a scenario based on the most unbiased and realistic set of assumptions that will form the central case, ie the 'with Project' scenario), the LTAM has also been used to assess the impacts of high and low growth scenarios, in accordance with guidance in TAG unit M4 and the sensitivity analysis required by paragraph 4.6.

3.2.47 For these reasons, the Project complies with the guidance requirements provided for in paragraphs 4.5 and 4.6 of the NPSNN.

Environmental Impact Assessment

3.2.48 NPSNN paragraph 4.15 states that:

'*All proposals for projects that are subject to the European Union's Environmental Impact Assessment Directive52 and are likely to have significant effects on the environment, must be accompanied by an environmental statement (ES), describing the aspects of the environment likely to be significantly affected by the project*.'

3.2.49 The Application for Development Consent is accompanied by a fully compliant Environmental Impact Assessment, prepared in accordance with the Scoping Opinion issued by the Planning Inspectorate. The ES comprises three volumes:

a. Volume 1 – ES main text (Application Document 6.1)

b. Volume 2 – ES figures (Application Document 6.2)

c. Volume 3 – ES appendices (Application Document 6.3)

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3.2.50 A separate Non-Technical Summary (NTS) of the ES has been prepared which has been included as part of the Application Documents (Application Document 6.4).

3.2.51 Volume 1 of the ES (Application Document 6.1) comprises all relevant assessment topics and is structured as follows:

a. Chapter 1 – Introduction
b. Chapter 2 – Project Description
c. Chapter 3 – Assessment of Reasonable Alternatives
d. Chapter 4 – EIA Methodology
e. Chapter 5 – Air Quality
f. Chapter 6 – Cultural Heritage
g. Chapter 7 – Landscape and Visual
h. Chapter 8 – Terrestrial Biodiversity
i. Chapter 9 – Marine Biodiversity
j. Chapter 10 – Geology and Soils
k. Chapter 11 – Material Assets and Waste
l. Chapter 12 – Noise and Vibration
m. Chapter 13 – Population and Human Health
n. Chapter 14 – Road Drainage and the Water Environment
o. Chapter 15 – Climate
p. Chapter 16 – Cumulative Effects Assessment
q. Chapter 17 – Summary

Habitats Regulations Assessment

3.2.52 A Habitats Regulations Assessment (HRA) has been prepared and is included in the DCO Application Documents (Application Document 6.5). The HRA provides an assessment of the likely significant effect of the Project on European Sites, providing sufficient objective evidence that the requirements of the Conservation (and Natural Habitats) Regulations 2017 (as amended) have been satisfied.

3.2.53 Paragraph 4.25 of the NPSNN states that:

'Where a development may negatively affect any priority habitat or species on a site for which they are a protected feature, any Imperative Reasons of Overriding Public Interest (IROPI) case would need to be established solely on one or more of the grounds relating to human health, public safety or beneficial consequences of primary importance to the environment.'

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3.2.54 The implications of the Project on European sites is assessed and reported in the HRA Information to Inform the Stage 1 Screening Report (Application Document 6.5). The conclusion of the HRA Information to Inform the Stage 1 Screening Report was that, following discussions with Natural England, there remained uncertainty over whether or not a likely significant effect could result from:

a. Habitat loss, as a result of changes in air quality from operational vehicle emissions, within the Epping Forest (Special Area of Conservation (SAC) and North Downs Woodland SAC

b. Habitat loss within the Thames Estuary and Marshes Ramsar and the functionally linked land associated with the Benfleet and Southend Marshes SPA/Ramsar, Medway Estuary and Marshes SPA/Ramsar, and The Swale SPA/Ramsar

c. Disturbance of qualifying features within the Thames Estuary and Marshes Ramsar and within the functionally linked land associated with the Benfleet and Southend Marshes SPA/Ramsar, Medway Estuary and Marshes SPA/Ramsar, and The Swale SPA/Ramsar.

3.2.55 The HRA Statement to Inform the Stage 2 Appropriate Assessment assessed the implications of the effects of the Project on the site's conservation objectives and whether or not it would delay or interrupt progress towards achieving the objectives.

3.2.56 The assessment concluded that there was sufficient evidence to demonstrate beyond reasonable scientific doubt that there would be an absence of adverse effects from the Project alone and in combination with other plans or projects on the integrity of the following European sites:

a. Epping Forest SAC

b. North Downs Woodland SAC

c. Benfleet and Southend Marshes SPA and Ramsar

d. Medway Estuary and Marshes SPA and Ramsar

e. Thames Estuary and Marshes SPA and Ramsar

f. The Swale SPA and Ramsar

3.2.57 These conclusions mean that that the HRA was concluded at Stage 2 Appropriate Assessment. The HRA has demonstrated that the Project would not have an adverse effect on the integrity of a priority habitat or species on a site for which they are a protected feature, therefore requiring no further justification in terms of compliance with paragraph 4.25 of the NPSNN.

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Alternatives

3.2.58 NPSNN paragraph 4.27 states:

'*All projects should be subject to an options appraisal. The appraisal should consider viable modal alternatives and may also consider other options (in light of the paragraphs 3.23 to 3.27 of this NPS). Where projects have been subject to full options appraisal in achieving their status within Road or Rail Investment Strategies or other appropriate policies or investment plans, option testing need not be considered by the examining authority or the decision maker.*'

3.2.59 The Need for the Project (Application Document 7.1) provides a comprehensive overview of the route selection process that has been followed to identify and assess the alternative route options for the Project up to the selection of the preferred route in April 2017.

3.2.60 The document describes the approach that has been followed by DfT, and then by Highways England, to identify and assess potential route options for the Project and how, at key stages, options were identified and assessed for their technical feasibility, environmental acceptability and performance against the Scheme Objectives. Selected options have been taken forward for development in further detail and reappraised.

3.2.61 Prior to the non-statutory public consultation event in 2013 a study undertaken by DfT in 2009 (Parsons Brinckerhoff, 2009) reviewed the current operation of the rail infrastructure for both passengers and freight and considered the need for further improvements. The study found that the inclusion of rail infrastructure within the Project was not considered to have a reasonable business case.

3.2.62 Prior to the Preferred Route Announcement, options were presented in non-statutory public consultation in 2013 and 2016. The findings of the options assessment are contained in the Appendix A of the Need for the Project document.

3.2.63 Particular regard has been paid to the alternative route options in the context of the Green Belt and the Kent Downs AONB due to the significance of the designations. The findings of these assessments are presented in Chapters 5 and 6 of this Statement.

3.2.64 In light of the design changes to the Project, along with new understandings of traffic movements and changes to local development plans, further reappraisals of the historical route options that led to the Preferred Route Announcement have been undertaken in advance of the Application submission to ensure that the previous work undertaken to discount other route options remains valid.

3.2.65 Following this review, it has been concluded that the findings of the original route option identification and selection process are valid and that the currently preferred route option remains the best solution for the Project.

3.2.66 In light of the extensive assessments undertaken as part of the route assessment process, it is clear that the Project's status within the Roads Investment Strategy has been subject to a full options appraisal.

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Design

3.2.67 NPSNN paragraph 4.29 states that:

'*Visual appearance should be a key factor in considering the design of new infrastructure, as well as functionality, fitness for purpose, sustainability and cost.'*

3.2.68 However, NPSNN paragraph 4.30 acknowledges that:

'Given the nature of much national network infrastructure development…there may be a limit on the extent to which it can contribute to the enhancement of the quality of the area.'

3.2.69 NPSNN paragraph 4.34 acknowledges this point, but also recognises that:

'…there may be opportunities for the applicant to demonstrate good design in terms of siting and design measures relative to existing landscape and historical character and function, landscape permeability, landform and vegetation.'

3.2.70 NPSNN paragraph 4.35 advises that:

'*Applicants should be able to demonstrate in their application how the design process was conducted and how the proposed design evolved*.'

3.2.71 The Project Design Report (Application Document 7.4), submitted in support of this Application, describes the preliminary design and integration of the Project into its context and explains how this has been taken into account in the development of the Project design. The Project Design Report also sets out the background to the Project, the policy context of the preliminary design approach and design rationale, demonstrating compliance with paragraph 4.35 of the NPSNN.

3.2.72 A Design Principles document has also been prepared in support of the Application (Application Document 7.5). This has established the principles to be met in the detailed design phase, supplementing the requirements and guidance within the Design Manual for Roads and Bridges (DMRB).

3.2.73 As set out in the Project Design Report (Application Document 7.4), good design, including landscape design, is an essential focus of the Project. In seeking good quality design in all areas within the physical constraints associated with a highway infrastructure project of this nature, the following strategies have been developed to ensure design quality:

a. Developing designs in an integrated team

b. Public consultation and stakeholder engagement

c. Independent design review

d. Incorporating flexibility for future development

3.2.74 The Independent Design Review was undertaken by The Highways England Design Review Panel (HEDRP), which is made up of experts in transport and traffic planning, structural and civil engineering, architecture, urban design, landscape architecture, environmental sustainability, public art and design.

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3.2.75 The engagement with HEDRP played a significant part in helping shape the design, starting with the design narrative (which was subsequently shared with Project Stakeholders for review and comment). The design narrative and comments received have influenced the Preliminary Design during early stages of design development and then have been used to influence and establish the Design Principles (Application Document 7.5).

3.2.76 Volumes B and C of The Project Design Report (Application Document 7.4) details the comments from HEDRP and responses to those comments and how they have influenced the design.

3.2.77 The Project Design Report (Application Document 7.4) sets out that the preliminary design for the Project was as much as was reasonably practicable developed to be:

a. Landscape led – noting that the majority of the Project lies within Green Belt as well as landscapes of exceptional value and variety. The design has been developed to be green and sympathetic to its context as far as reasonably practicable. The design of architectural elements has reflected the nature of the character area while being recognisable as part of the Project

b. Celebrate key moments, differences and thresholds – For the different people using and impacted by the Project, the Project route would be characterised by key moments of transition through the varied landscape, made coherent by an underlying narrative which draws from its context and function.

c. Smarter by design – following the best approach to design by working collaboratively to design elements of the Project that are multi-functional. Mitigation measures would have been developed to meet a variety of environmental needs and to be embedded into the engineering design. Engineering proposals would have also been designed to enhance rather than detract from the local environment where practicable.

d. Safe, resilient and easy to use – To serve its strategic transport objectives, the Project has been designed and built to make the operation, management and maintenance as easy as reasonably practicable, and meet ambitious safety targets within three years of opening in order to achieve Highways England's 2041 strategic goals on safety. It has been designed to be resilient to flood risk and climate change, and to be robust, attractive and durable – considering solutions that represent the best value over the whole life of the Project and are proportionate

3.2.78 The Project complies with the NPSNN guidance by meeting the standards set out in the DMRB, the Project Design Report (Application Document 7.4) and Design Principles (Application Document 7.5) in providing the key design framework for the Project.

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Climate change adaptation

3.2.79 NPSNN paragraph 4.40 states:

'*New national networks infrastructure will be typically long-term investments which will need to remain operational over many decades, in the face of a changing climate.*'

3.2.80 Accordingly, it advises, 'that applicants must consider the impacts of climate change when planning location, design, build and operation.'

3.2.81 NPSNN paragraph 4.41 goes on to say:

'*Where transport infrastructure has safety-critical elements and the design life of the asset is 60 years or greater, the applicant should apply the UK Climate Projections 2009 (UKCP09) high emissions scenario (high impact, low likelihood) against the 2080 projections at the 50% probability level.*'

3.2.82 ES Chapter 15: Climate (Application Document 6.1) has demonstrated the application of the updated UK Climate Projections 2018 (UKCP18) during the estimated lifetime of the Project, presenting information on the mitigation and adaptation measures related to the vulnerability of the Project to climate change. ES Chapter 14: Road Drainage and the Water Environment (Application Document 6.1) provides details of the flood risk impacts taking climate change into account, with information on how the Project has accounted for the projected impacts on climate change.

3.2.83 The findings of the FRA are presented in ES Appendix 14.6 (Application Document 6.3) and have informed the Project design to ensure its resilience to predicted climate change effects on river flows and water levels in the Thames Estuary. Climate change effects on groundwater resources have also been considered in the design of the Project. The findings conclude that there are no significant effects relating to flood risks (to and from the Project) during construction and in operation there is a significant beneficial impact in the Mardyke west catchment through the proposed reduction in discharge rates.

3.2.84 In accordance with the requirements of the NPSNN, the relevant chapters of the ES have set out how the Project would take account of the projected impacts of climate change.

Pollution control and other environmental protection regimes

3.2.85 As set out in NPSNN paragraph 4.48, the Project acknowledges that additional permissions may be required for discharges or emissions that affect air quality, water quality, land quality and the marine environment or which include noise and vibration.

3.2.86 Paragraph 4.56 of the NPSNN, states:

'*The Secretary of State should not refuse consent on the basis of regulated impacts unless there is good reason to believe that any relevant necessary operational pollution control permits or licences or other consents will not subsequently be granted*.'

3.2.87 While the DCO (Application Document 3.1) would provide development consent for the works associated with the Project as well as other consents and powers, the DCO application has been supplemented by a number of other permits,

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consents and agreements that need to be sought separately from the DCO. These are set out in Appendix A of the Consents and Agreements Position Statement (Application Document 3.3) and cover water abstraction and impoundment, noise, vibration, the environmental impacts of construction works, a River Works Licence and Self-Service Marine Licence.

Common law nuisance and statutory nuisance

3.2.88 Paragraphs 4.57 to 4.59 of the NPSNN require that a DCO application for a national networks scheme should consider how possible sources of statutory nuisance under section 79(1) of the Environmental Protection Act 1990 may be mitigated or limited.

3.2.89 The Project acknowledges the provisions set out in regard to nuisance and statutory nuisance in the NPSNN. The Statement of Statutory Nuisance (Application Document 6.6) identifies possible sources of nuisance under section 79(1) of the Environmental Protection Act 1990, setting out how these are to be mitigated or limited.

Safety

3.2.90 NPSNN paragraph 4.66 states that:

'*The Secretary of State should not grant development consent unless satisfied that all reasonable steps have been taken and will be taken to:*

a. *minimise the risk of road casualties arising from the scheme; and*

b. *contribute to an overall improvement in the safety of the Strategic Road Network.'*

3.2.91 The design of the Project has been guided by relevant technical standards, in particular the DMRB. This forms the basis of highway safety design which seeks to minimise the risk of road casualties arising from highway schemes and contribute to an overall improvement in the safety of the SRN.

3.2.92 The safety of road users has been considered as part of developing the preferred route option and design of the Project, including mitigation measures and safety benefits, such as:

a. Modern safety measures and construction standards with technology to manage traffic and provide better information to drivers.

b. Variable Message Signs to display variable speed limits, travel information, hazard warnings and both advisory and mandatory signage to drivers.

c. CCTV cameras to monitor, manage and investigate incidents, maintenance, network usage, to detect stopped vehicles and for asset protection and the prevention and detection of crime.

d. Above ground traffic detection to control automatic traffic management systems (e.g. variable speed limits) and to collect data on traffic flows.

e. Free-flow charging infrastructure.

f. Equipment within the tunnel to monitor and control the tunnel environment during normal and emergency operations.

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3.2.93 Chapter 5 of the Need for the Project (Application Document 7.1) sets out the reduction in the accident rate (accidents per vehicle kilometre travelled) in the area appraised over a 60-year appraisal period (2027–2086).

Security considerations

3.2.94 Paragraph 4.76 of the NPSNN states that:

'*Where national security implications have been identified, the applicant should consult with relevant security experts from CPNI and the Department for Transport, to ensure that physical, procedural and personnel security measures have been adequately considered in the design process and that adequate consideration has been given to the management of security risks*.'

3.2.95 The Project has worked with DfT and CPNI as set out in the NPSNN with discussions ongoing at the point in time this document was authored. In addition, ES Chapter 4: EIA Methodology (Application Document 6.1) considers the likely occurrence of extreme incidences in terms of the Project as a potential source and receptor of Major Events. No significant effects in terms of a risk have been identified.

Health

3.2.96 NPSNN paragraph 4.79 notes that:

'National road networks have the potential to affect the health, well-being and quality of life of the population and can have direct impacts on health because of traffic, noise, vibration, air quality and emissions, light pollution, community severance, dust, odour, polluting water, hazardous waste and pests.'

3.2.97 Paragraph 4.82 of the NPSNN therefore requires that:

'*The applicant should identify measures to avoid, reduce or compensate for adverse health impacts as appropriate*.'

3.2.98 The Health and Equalities Impact Assessment (HEqIA) (Application Document 7.10) sets out the likely effects of the Project on human health and equalities as well as proposed mitigation measures to avoid, reduce or remediate such potential impacts.

3.2.99 Table 8.1 of the HEqIA (Application Document 7.10) sets out a summary of the health outcomes and equalities effects as well as a summary of mitigation. The summary identifies a mixture of positive, neutral and negative effects. The negative effects are experienced primarily during construction and relate to sensitive populations affected as a result of changes in accessibility, severance, noise and vibration, housing and mental health and wellbeing. Positive effects are also anticipated during construction (for example as a result of work and training opportunities) and more so during operation where the negative effects are limited to the topics of noise and vibration and mental health and wellbeing.

3.2.100 Section 4.3 of the HEqIA sets out the project commitments to mitigation, identifying three categories:

a. Embedded mitigation: measures that form part of the engineering Design Principles, developed through the iterative design process

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b. Good practice: approaches and actions identified to avoid or reduce potential impacts, and typically applicable across the whole Project

c. Essential mitigation: any additional Project-specific measures needed to avoid, reduce or offset potential impacts that could otherwise result in effects considered significant.

3.2.101 Embedded mitigation is included within the Design Principles (Application Document 7.5). Good practice and essential mitigation are included in the CoCP (Application Document 7.11) and the REAC (Application Document 6.3, ES Appendix 2.2).

The HEqIA outlines the beneficial impact of the 13 new/improved WCH routes and the wider benefits that this accessibility brings to communities in terms of access to open space. New facilities as part of the Project design for WCH would also help to improve connectivity and increase opportunities for active travel and levels of physical activity.

3.2.102 These commitments outline the Project's compliance with the requirement to identify measures to avoid and reduce adverse health impacts, demonstrating compliance with paragraph 4.8.2 of the NPSNN.

Generic Impacts

3.2.103 The sections below consider, and respond to, the sections/chapter headings of Chapter 5: Generic impacts of the NPSNN.

Air quality

3.2.104 NPSNN paragraph 5.10 states:

'*The Secretary of State should consider air quality impacts over the wider area likely to be affected, as well as in the near vicinity of the scheme. In all cases the Secretary of State must take account of relevant statutory air quality thresholds set out in domestic and European legislation. Where a project is likely to lead to a breach of the air quality thresholds, the applicant should work with the relevant authorities to secure appropriate mitigation measures with a view to ensuring so far as possible that those thresholds are not breached.*'

3.2.105 NPSNN paragraph 5.11 advises that:

'*Air quality considerations are likely to be particularly relevant where schemes are proposed:*

• within or adjacent to Air Quality Management Areas (AQMA); roads identified as being above Limit Values or nature conservation sites (including Natura 2000 sites and SSSIs, including those outside England) …'

3.2.106 NPSNN paragraph 5.12 states:

The Secretary of State must give air quality considerations substantial weight where, after taking into account mitigation, a project would lead to a significant air quality impact in relation to EIA and / or where they lead to a deterioration in air quality in a zone/agglomeration

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3.2.107 Paragraph 5.13 continues, to state:

The Secretary of State should refuse consent where, after taking into account mitigation, the air quality impacts of the scheme will:

- *result in a zone/agglomeration which is currently reported as being compliant with the Air Quality Directive becoming non-compliant; or*
- *affect the ability of a non-compliant area to achieve compliance within the most recent timescales reported to the European Commission at the time of the decision.*

3.2.108 There are currently 45 Air Quality Management Areas declared for exceedances of Air Quality Strategy (AQS) objectives throughout the defined study area. Air quality monitoring data indicates that there are widespread exceedances of the annual mean AQS objective for nitrogen dioxide (NO_2) at roadside locations. There are however no exceedances of the EU limit value for NO_2 predicted by the Defra Pollution Climate Mapping (PCM) in the Project's opening year. There are no monitored exceedances of AQS objectives for particulate matter smaller than 10 microns (PM_{10}).

3.2.109 ES Chapter 5: Air Quality (Application Document 6.1) provides an air quality assessment to consider the impacts of the construction and operation of the Project. The air quality assessment has considered impacts at receptors within the vicinity of the Project route and across the Affected Road Network (ARN) which covers a wider area (see ES Figures 5.1, 5.2 and 5.3 (Application Document 6.2)).

3.2.110 The air quality modelling results show that during construction there would be one human receptor with a small worsening of air quality which is predicted to exceed the annual mean NO_2 AQS objective although this is well below the lower guideline band used to determine the significance of effects on human health (as set out in Section 5.4 of ES Chapter 5: Air Quality (Application Document 6.1). Construction is not predicted to result in significant air quality effects on human or ecological receptors. Commitments AQ001 – AQ006 within the REAC (Application Document 6.3, ES Appendix 2.2) set out measures to reduce impacts on Air Quality during construction.

3.2.111 The air quality modelling results show that the operation of the Project would result in both improvements and deteriorations in local air quality as a result of Project-associated changes in traffic flows. There are no predicted exceedances of AQS objectives/EU Limit Values for PM_{10} or $PM_{2.5}$. There is expected to be a reduction in NO_2 and PM_{10} concentrations by the time the Project is operational, in response to improvements in vehicle emissions over this period.

3.2.112 There are 24 human receptors where an exceedance of the annual mean NO_2 AQS objective and a perceptible change in NO_2 are predicted in the Project's opening year, and these are mainly confined to worst-case receptors on the A282 Dartford Crossing (NO_2 improvements), M2 junction 1 to junction 2 (NO_2 worsenings) and A228 between M20 junction 4 and M2 junction 2 (NO_2 improvements and worsenings).

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3.2.113 The assessment has concluded that the Project would not result in significant air quality effects. The key reasons being:

a. All of the air quality worsenings in annual mean NO_2 are below the lower guideline bands for each magnitude category.

b. Three of the medium magnitude worsenings result in a Do-Something annual mean NO_2 concentrations that marginally exceed the annual mean AQS objective and are likely to fall below the annual mean AQS objective in less than a year.

c. The Project leads to a larger number of receptors experiencing an improvement in air quality rather than a worsening, with five receptors experiencing a large magnitude of improvement.

d. The impacts on ecological sites, as outlined in ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1) and the HRA (Application Document 6.5), are not considered to be significant.

e. There is no risk to the reported date of compliance with the Air Quality Directive.

3.2.114 Therefore, the Project is consistent with the requirements of the air quality section of the NPSNN.

Carbon emissions

3.2.115 NPSNN paragraph 5.17 states

'*It is very unlikely that the impact of a road project will, in isolation, affect the ability of Government to meet its carbon reduction plan targets. However, for road projects applicants should provide evidence of the carbon impact of the project and an assessment against the Government's carbon budgets*.'

3.2.116 Section 15.5 of ES Chapter 15: Climate (Application Document 6.1) outlines how the Project has applied and developed measures to avoid/prevent, reduce and remediate the Project's GHG emissions. This hierarchy has been applied through DMRB LA 114 (Highways England 2019). These measures have been applied and developed and how they help contribute to the UK's target for reduction in carbon emissions.

3.2.117 NPSNN paragraph 5.18 states that:

'*any increase in carbon emissions is not a reason to refuse development consent, unless the increase in carbon emissions resulting from the proposed scheme are so significant that it would have a material impact on the ability of Government to meet its carbon reduction targets*'.

3.2.118 As outlined in ES Chapter 15 (Application Document 6.1), the delivery of the Project would not impact on the ability of the UK Government to meet the UK's carbon budgets. The Project would represent less than 0.085% of total emissions in any five-year carbon budget during which they arise which is not identified as being significant.

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Biodiversity and ecological conservation

3.2.119 NPSNN paragraph 5.22 states that:

'*Where the project is subject to EIA the applicant should ensure that the environmental statement clearly sets out any likely significant effects on internationally, nationally and locally designated sites of ecological or geological conservation importance (including those outside England) on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity and that the statement considers the full range of potential impacts on ecosystems.*'

3.2.120 The assessment undertaken within the ES has considered the likely impacts upon designated sites of international, national and county importance, protected species, habitats and other species of principal importance for the conservation of biodiversity and has sought opportunities to enhance biodiversity interests within the Order Limits and the wider environment.

3.2.121 No impacts have been identified in regard to geological interest within SSSI.

3.2.122 NPSNN paragraph 5.33 states that:

'*Development proposals potentially provide many opportunities for building in beneficial biodiversity or geological features as part of good design. When considering proposals, the Secretary of State should consider whether the applicant has maximised such opportunities in and around developments.*'

3.2.123 The Project has sought to avoid significant harm to features of biodiversity and geological interest during the consideration of route alternatives (Application Document 6.1, ES Chapter 3: Assessment of Reasonable Alternatives). The approach adopted seeks to ensure that where significant effects are anticipated these would be compensated for where it has not been possible to mitigate or avoid such effects. This is subject to ongoing discussion with the relevant regulating authorities.

3.2.124 As described in ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1), the potential effects on terrestrial biodiversity as a result of construction include habitat loss within statutory and non-statutory designated sites and disturbance to species breeding sites. The Project is expected to result in significant permanent habitat loss at Shorne and Ashenbank Woods SSSI during the construction phase as well as a slight beneficial effect arising from habitat creation at Great Crabbles Wood SSSI. The significant impact at Shorne and Ashenbanks Woods SSSI is a result of the widening of the A2. This leads to a loss of 6.55ha woodland, 2.42ha of which would be ancient woodland.

3.2.125 The loss of ancient and SSSI woodland at Shorne and Ashenbank Woods SSSI would be compensated for, in part, with tree planting to the west, north and east of Shorne Woods, designed to link existing areas of woodland, including Great Crabbles Wood, Shorne Woods and Claylane Wood. Although it considered that the SSSI's integrity would be maintained, there would still be a moderate adverse effect on the SSSI which is considered significant.

3.2.126 At paragraph 5.29 the NPSNN advises that development consent should not normally be granted where there is adverse effect on SSSI land, unless the benefits of the development clearly outweigh the impacts of both the harm to the site individually and that to the wider national network of SSSI sites.

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3.2.127 Paragraph 5.32 of the NPSNN presents a similarly strict test in regard to ancient woodland and veteran trees, 10 of which would be lost as a result of the Project. That paragraph sets out:

'*The Secretary of State should not grant development consent for any development that would result in the loss or deterioration of irreplaceable habitats including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the national need for and benefits of the development, in that location, clearly outweigh the loss*.'

3.2.128 In total, the Project would result in the loss of 7.26ha of ancient woodland to the south of the River Thames and 4.35ha of ancient woodland to the north of the River Thames. To compensate for the loss of this woodland, 45.45ha of woodland would be planted south of the River Thames, and 18.39ha to the north of the River Thames (Application Document 6.2, ES Figure 2.4: Environmental Masterplan).

3.2.129 The Project has incorporated mitigation measures to reduce impacts on SSSI and ancient woodland, as well as protected and notable species, which is based on best practice guidance. These measures include the translocation of protected species from construction areas to suitable retained or newly created habitats, as well as embedded design measures to reduce the magnitude of potential effects, for example providing safe crossing points for wildlife over or under the operational highway and using landscape planting to link up existing habitats.

3.2.130 The Project would result in the loss of five veteran trees to the south of the River Thames, and five to the north. This impact would be compensated for through the planting of additional trees, veteranisation of existing trees, retention of suitable dead wood material within the retained areas of woodland and habitat creation within the Order Limits. The wider integrity of the veteran tree resource would be maintained within the Project's zone of influence and both the diversity and level of species populations supported by the trees would likely be sustained resulting in a moderate adverse effect which is significant.

3.2.131 Although the compensatory measures limit the residual impact, there are still significant adverse impacts on SSSI, ancient woodland and veteran trees. This has to be balanced against the compelling and very significant case for the project which is set out in the Need for the Project (Application Document 7.1). The Project has sought to avoid such impacts, however, impacts are sometimes unavoidable and the consideration of the significant benefits the Project delivers are considered to clearly outweigh the impacts identified here and therefore be compliant with the relevant tests, of the NPSNN quoted above.

3.2.132 ES Chapter 9: Marine Biodiversity (Application Document 6.1) presents the assessment of predicted impacts on marine biodiversity receptors resulting from the construction and operational phases of the Project regarding designated sites, protected species and habitats of principal importance in the marine environment. As there are no likely significant effects on marine biodiversity which cannot be avoided or mitigated, biodiversity offsetting specifically for marine receptors is not required. The Project has also considered best practice in the construction methods to avoid potential effects on marine biodiversity.

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3.2.133 Through consultation with Marine Management Organisation (MMO), it has been agreed that a Marine Conservation Zone (MCZ) Assessment is not required as the Project is not considered likely to adversely affect the MCZ in the Thames Estuary.

Waste management

3.2.134 A wide range of material resources would be required to construct the Project. ES Chapter 11: Material Assets and Waste (Application Document 6.1) sets out the proposed arrangements for managing waste produced by the Project, during both the construction and operational phases, with considerably more waste estimated to be generated during the construction phase.

3.2.135 Paragraph 5.42 of the NPSNN states that:

'*The applicant should set out the arrangements that are proposed for managing any waste produced. The arrangements described should include information on the proposed waste recovery and disposal system for all waste generated by the development. The applicant should seek to minimise the volume of waste produced and the volume of waste sent for disposal unless it can be demonstrated that the alternative is the best overall environmental outcome*.'

3.2.136 Waste arising from the Project would relate to activities such as demolition works, materials not suitable for reuse onsite, construction and the installation of new bridges and gantries, road resurfacing and office activities. ES Chapter 11 states that the Project would seek to prioritise waste prevention, followed by reuse, recycling, recovery and, lastly, disposal to landfill, in line with the internationally recognised waste hierarchy.

3.2.137 Contractors would be required to produce a site waste management plan (or equivalent) setting out procedures for the characterisation, management and monitoring of waste arisings and to ensure the waste hierarchy is implemented with opportunities to reduce waste generation or improve recovery/recycled rates.

3.2.138 Para 5.43 of the NPSNN states that:

'*waste arisings should not have an adverse effect on the capacity of existing waste management facilities to deal with other waste arisings in the area.*'

3.2.139 The volumes of hazardous and non-hazardous waste arising from the construction and operational phases of the Project have been forecast and compared with the regional and national waste infrastructure capacity.

3.2.140 Table 3.3 Summary of waste tonnage and volumes (construction) sets out a summary of the waste tonnage and volumes anticipated during construction.

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Table 3.3 Summary of waste tonnage and volumes (construction)

	Calculated tonnes (t)	Management route by weight (%)	Calculated volume (m^3)
Total non-hazardous and inert waste	8,892,627	100	4,397,839
Estimated disposal	1,644,441	18	
Estimated recovery (diversion from landfill)[1]	7,248,186	82	*N/A*
Of which, offsite recovery required	7,214,441		
Of which, annual average in nine-year period	801,605		
Total hazardous waste[2]	707,875	*N/A*	329,766
Estimated disposal	207,378	*N/A*	96,161
Estimated recovery (diversion from landfill)	500,497	*N/A*	*N/A*

Notes:

1. *This figure includes 26,014 tonnes vegetation and 7,013 tonnes demolition materials recovered and reused within the Order Limits*
2. In line with WaFD methodology, hazardous waste is excluded from calculations of compliance with legal targets.

3.2.141 Table 3.4 sets out a summary of the landfill capacity assessment for England and the study area.

Table 3.4 Summary of landfill capacity assessment

	Landfill type	Study area total capacity (m^3)	Project waste forecast (m^3)	Used capacity (%)
England	Inert	124,531,134	413,698	0.3
	Non-hazardous	185,159,783	418,957	0.2
	Hazardous	19,120,846	96,161	0.5
Study area	Inert	10,801,800	413,698	3.8
	Non-hazardous	17,679,105	418,957	2.4
	Hazardous	215,317	96,161	N/A [1]

Notes:

[1]There is one hazardous landfill which accepts asbestos waste within the study area. It is highly unlikely that Project hazardous waste (contaminated soils, coal tar road planings etc) would be sent to this landfill. Should this hazardous waste require landfill disposal it would be managed outside of the study area.

[2] Hazardous waste landfill capacity excludes "restricted" capacity

3.2.142 The ES concludes that 'waste generated during the construction phase (which is assumed to be sent for disposal in landfill), would likely represent less than 1% of the landfill capacity in England for all waste types (non-hazardous, inert

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and hazardous waste).' Furthermore, 'the waste generated during the construction phase (which is assumed to be sent for disposal in landfill), would likely represent 2.4% of the landfill capacity in the study area for non-hazardous (418,957m^3), 3.8% for inert waste (413,698m^3).

3.2.143 It should be noted that approximately half of the total inert landfill capacity used by the Project is within the Order Limits (211,280m3). This was considered to be the best overall environmental outcome as it negates the need to transport the waste.

3.2.144 There is one hazardous landfill which accepts asbestos waste within the study area. It is highly unlikely that hazardous waste from the Project (contaminated soils, coal tar road planings etc) would be sent to this landfill. Should this hazardous waste require landfill disposal it would be managed outside of the study area. The Project would require 0.5% of the available national hazardous waste capacity. It is therefore unlikely to adversely affect the capacity of existing waste management facilities to deal with other waste arisings.

3.2.145 The ES (Application Document 6.1) concludes that the assessment demonstrates that an adverse effect on the capacity of existing waste management facilities, as a whole, to deal with other waste arisings in the area would not occur.

3.2.146 This has demonstrated that sufficient capacity exists within the existing regional waste infrastructure for dealing with waste.

3.2.147 On this basis, it can be stated that the Project complies with the NPSNN in relation to waste.

Civil and military aviation and defence assets

3.2.148 Paragraph 5.56 requires that:

'*The applicant should consult the MoD, CAA, National Air Traffic Services (NATS) and any aerodrome – licensed or otherwise – likely to be affected by the proposed development in preparing an assessment of the proposal on aviation or other defence interests*.'

3.2.149 The National Air Traffic Service (NATS) has been consulted on the Project as part of the Environmental Scoping consultation undertaken by the Planning Inspectorate. In response, NATS advised that, '*The proposed development has been examined from a technical safeguarding aspect and does not conflict with our safeguarding criteria. Accordingly, NATS (En Route) Public Limited Company ("NERL") has no safeguarding objection to the proposal.*'

3.2.150 No further assessment against the NPSNN is required in this topic area.

Coastal change

3.2.151 The Project is not located within a Coastal Change Management Area and therefore paragraphs 5.71 to 5.73 of the NPSNN are not relevant considerations.

3.2.152 Paragraph 5.74 of the NPSNN states that:

'*The applicant should be particularly careful to identify any effects of physical changes on the integrity and special features of Marine Conservation Zones, candidate marine Special Areas of Conservation (SACs), coastal SACs and*

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candidate coastal SACs, coastal Special Protection Areas (SPAs) and potential coastal SPAs, Ramsar sites, Sites of Community Importance (SCIs) and potential SCIs and sites of Special Scientific Interest. For any projects affecting the above marine protected areas, the applicant should consult Natural England and where appropriate, for cross-boundary impacts, Natural Resource Wales and Scottish Natural Heritage, at an early stage.'

3.2.153 Three European designated sites (Southern North Sea SAC, Thames Estuary and Marshes Ramsar Site and Thames Estuary and Marshes SPA) have been identified alongside five nationally sites (Swanscombe MCZ, South Thames Estuary and Marshes SSSI, Mucking Flats and Marshes SSSI, Holehaven Creek SSSI and West Thurrock Lagoon and Marshes SSSI) that have potential to be impacted by the Project's activities. Subsequent engagement with the MMO has resulted in agreement that an MCZ assessment is not required as the Project would be unlikely to affect the MCZ in the Thames Estuary.

3.2.154 Paragraph 5.79 of the NPSNN states that:

'*Applicants should propose appropriate mitigation measures to address adverse physical changes to the coast in consultation with the MMO, the Environment Agency, Natural England, Natural Resource Wales, Scottish Natural Heritage, Local Planning Authorities, other statutory consultees, Coastal Partnerships and other coastal groups, as it considers appropriate. The Secretary of State should consider whether the mitigation requirements put forward by an applicant are acceptable and will be delivered and whether requirements should be attached to any grant of development consent in order to secure their delivery*.'

3.2.155 The Project has long standing engagement with the MMO through the EIA process as well as a series of discussions with the EA which has looked at coastal protection. However, due to the small scale nature of the proposed works in relation to the marine environment, it has been concluded that the Project would not influence coastal protection and therefore no further assessment against the NPSNN tests is required.

Dust, odour, artificial light, smoke and steam

3.2.156 NPSNN paragraph 5.87 advises that:

'*The Secretary of State should be satisfied that all reasonable steps have been taken, and will be taken, to minimise any detrimental impact on amenity from emissions of odour, dust, steam, smoke and artificial light. This includes the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation*.'

3.2.157 The impacts on amenity from emissions of steam and smoke are not considered relevant to the Project as these are not effects that are expected to arise from activities undertaken during construction and operation of the Project. Therefore, no assessment has been undertaken in relation to them.

3.2.158 ES Chapter 5: Air Quality (Application Document 6.1) assesses the impact of the Project on air quality including dust. The assessment concluded that there would be impacts on air quality as a result of dust emissions during the construction phase. Proposed mitigation includes a range of measures to manage dust emissions, as well as air quality monitoring during the construction

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phase. These would be secured through the REAC (Application Document 6.3, ES Appendix 2.2).

3.2.159 There are not considered to be any significant dust and odour emissions during the operation of the Project and therefore no mitigation is needed.

3.2.160 ES Chapter 7: Landscape and Visual (Application Document 6.1) addresses the impacts of artificial lighting during the operational phase of the Project, with reference made to the guidance provided by the Institution of Lighting Professional's (2020) Guidance Notes for the Reduction of Obtrusive Light – Guidance Note 01/2020. This includes details of proposed embedded mitigation on light pollution such as minimising lighting column heights and the use of LED luminaires with reduced light spill.

3.2.161 Within the Kent Downs AONB, the ES acknowledges the effects of artificial lighting during the construction and operational phases of the Project because of the darker skies associated with the Kent Downs AONB and the effect this would have on its tranquillity. The design response has been guided by the principle that, within the Kent Downs AONB, highways structures such as gantries and lighting would be refined to minimise their impact. Lighting column heights would be minimised and the use of LED luminaires would reduce light spill.

3.2.162 The Statement of Statutory Nuisance (Application Document 6.6) concludes that the Project does have the potential to engage four of the statutory nuisances listed in the EPA 1990. However, with the appropriate mitigation measures in place, none of the statutory nuisances identified in section 79(1) of the EPA 1990 are predicted to arise during the construction or operation of the Project.

3.2.163 It is considered, therefore, that the SoS can be satisfied that all reasonable steps have been or would be taken to minimise detrimental impacts on amenity where they arise and that the Project complies with the NPSNN in this regard.

Flood risk

3.2.164 NPSNN paragraph 5.102 states that:

'*The Secretary of State should expect that reasonable steps have been taken to avoid, limit and reduce the risk of flooding to the proposed infrastructure and others*.'

3.2.165 The FRA (Application Document 6.3, ES Appendix 14.6) identifies that the Project would be located within areas at risk of flooding. The Environment Agency's 'Flood Map for Planning' classifies the majority of the Order Land as falling in Flood Zone 1 (low probability of river and sea flooding), with parts of the Project in Flood Zone 3 (high probability of river and sea flooding), indicating that the majority of the Project would be in areas with a low probability of flooding.

3.2.166 Areas of the Project that lie in Flood Zone 3 currently benefit from existing flood defences adjacent to the River Thames (north) and near to the Mardyke (main river).

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3.2.167 The Project has incorporated a suite of flood alleviation measures intended to prevent increases in flood risk elsewhere. This includes the provision of compensatory storage for any permanent losses of floodplain storage volume associated with the Tilbury Main, Mardyke and Mardyke West tributary.

3.2.168 Paragraph 5.100 of NPSNN states:

'*For construction work which has drainage implications, approval for the project's drainage system will form part of any development consent issued by the Secretary of State. The Secretary of State will therefore need to be satisfied that the proposed drainage system complies with any National Standards published by Ministers under Paragraph 5(1) of Schedule 3 to the Flood and Water Management Act 2010*.'

3.2.169 The drainage for the Project is designed to reduce the risk of flooding elsewhere by using attenuation features as shown in ES Figure 2.4: Environmental Masterplan (Application Document 6.2). The proposed drainage design complies with the requirements of all appropriate standards, including the DMRB, as well as the requirements of the Environment Agency and the local highway authorities.

3.2.170 ES Chapter 14: Road Drainage and the Water Environment (Application Document 6.1) concludes that there would be no likely significant adverse effects on water environment receptors and one likely significant beneficial effect linked to a reduction in baseline flood risk in the Mardyke West tributary catchment. On this basis the SoS can be satisfied that the drainage system is compliant with the requirements of paragraph 5.100 of the NPSNN.

Land instability

3.2.171 NPSNN paragraph 5.118 requires that:

'*A preliminary assessment of ground instability should be carried out at the earliest possible stage before a detailed application for development consent is prepared. Applicants should ensure that any necessary investigations are undertaken to ascertain that their sites are and will remain stable or can be made so as part of the development*.'

3.2.172 Appendix 10.1 of ES Chapter 10: Geology and Soils (Application Document 6.1) sets out the potential geotechnical hazards affecting the Order limits and a preliminary assessment of land instability was completed at the early design stage and is presented ES Appendix 10.1: Engineering Geomorphological Assessment (Application Document 6.3). The detailed Engineering Geomorphological Assessment (EGA) (Application Document 6.3, ES Appendix 10.1) provides a comprehensive appraisal of potential geohazards that may be present, with recommendations for the management and reduction of geohazard risk during design, construction and operation of the Project.

3.2.173 The report concludes that there are no significant risks identified relating to land instability and where risk cannot be ruled out, feasible engineering solutions are available to manage the risk. It is therefore reasonable to conclude that the site would remain stable or can be made stable, thereby demonstrating compliance with paragraph 1.118 of the NPSNN.

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3.2.174 The EGA further concludes that no significant issues have been identified among the geohazards identified. The EGA outcomes would help to guide the ground investigations (GIs), engineering design and delivery of the Project.

The historic environment

3.2.175 NPSNN paragraph 5.128 states:

'In determining applications the Secretary of State should seek to identify and assess the particular significance of any heritage asset that may be affected by the proposed development (including by development affecting the setting of a heritage asset).

3.2.176 ES Chapter 6: Cultural Heritage (Application Document 6.1) has considered the potential effects of the Project on heritage assets within the defined study area, during both the construction and operational phases. Information on heritage assets has been obtained from designation records, relevant Historic Environment Records (HERs) covering Kent, Essex and Greater London, other desk-based and archival sources and through field evaluation.

3.2.177 The assessment of effects on heritage assets has been undertaken in accordance with DMRB LA 104 Environmental Impact Assessment and Monitoring (Highways England, 2019) and DMRB LA 106 Cultural Heritage Assessment (Highways England, 2020) as well as best practice advice produced by Historic England and the Chartered Institute for Archaeologists.

3.2.178 In line with this guidance, the assessment process has identified the level of impact on designated heritage assets through an assessment of the magnitude of impact, based on the degree to which this would adversely affect (harm) the value (significance) of heritage assets, in order to identify any total loss of value.

3.2.179 As a result of the assessment, it has been determined that the Project would have significant permanent effects on the following designated heritage assets:

a. Scheduled Orsett Crop Mark Complex (SM1)

b. Grade II listed buildings at Nos. 1 and Nos. 2 Grays Corner Cottages (LB89), Thatched Cottage (LB58) and Murrells Cottages (LB96)

3.2.180 The ES concludes that the scheduled Orsett cropmark complex (SM1) would be affected by construction activity associated with both the main alignment and utility diversions. The majority of the scheduled area is within the Order Limits and would be physically impacted by construction, removing the buried archaeological remains from this multi-period site. The cropmark complex would also experience change to its setting due to the visual and noise disturbance of construction activity within the scheduled area and in adjacent areas to the north and south.

3.2.181 Mitigation of the permanent physical impact of construction activity is proposed by means of archaeological excavation and recording of the whole of the affected scheduled area (see REAC Ref No. CH001; AMS-OWSI No. 4 (Intrusive archaeological fieldwork as set out in ES Appendix 6.9: Draft Archaeological Mitigation Strategy and Outline Written Scheme of Investigation – Application Document 6.3)). The route and scale of the works associated with the Project at this site are so significant that the physical impact cannot be

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avoided. The Crop Mark Complex is within the direct alignment of the Project route, on the northern side of the new A13/A1089/Lower Thames Crossing junction. It is therefore not possible for the mitigation to extend beyond the archaeological excavation and recording of the site. ES Chapter 6: Cultural Heritage (Application Document 6.1) concludes that '*given the scale of impact to this nationally important site this would, even after mitigation, have a permanent major magnitude impact on this high value asset, resulting in a large adverse effect*.'

3.2.182 The loss of three Grade II listed buildings at Nos. 1 and 2 Grays Corner Cottages (LB89), Thatched Cottage (LB58) and Murrells Cottages (LB96) presents a large adverse effect. Murrells Cottages lie to the south of the existing Stanford Road. Stanford Road is pushed south by the additional infrastructure and the Project road alignment runs straight through the cottages resulting in their total loss. Thatched Cottage lies on the edge of the route of the new A122 Lower Thames Crossing but completely within the associated earthworks area as well as being in close proximity to the major work associated with the A13/A1089/A122 Lower Thames Crossing junction. The impact being the unavoidable loss of the heritage asset. Nos 1 and 2 Grays Corner Cottages sit south-west of Thatched Cottage and, while not directly on the path of the new infrastructure (once complete), their removal is necessitated by the construction work associated with the A13/A1089/A122 Lower Thames Crossing junction. In all three cases, mitigation is proposed by way of building recording (see REAC Ref No. CH001; AMS-OWSI No. 2). However, their loss is unavoidable and given the total removal of such high value assets, the mitigation does not fully address the impact.

3.2.183 The ES further advises that two high-value non-designated archaeological assets would experience significant permanent effects, notably:

a. Cropmarks identified at Grey Goose Farm (247)

b. Long barrow or mortuary enclosure (325)

3.2.184 The ES advises that the larger area of the cropmarks identified at Grey Goose Farm are of high value and are located almost entirely within the Order Limits. They would be almost completely removed by construction of the main alignment and utility diversions at the A13/A1089/A122 Lower Thames Crossing junction.

3.2.185 The possible long barrow or mortuary enclosure are located to the south-east of Grey Goose Farm would be completely removed by construction of the main alignment at the southern end of the A13/A1089/A122 Lower Thames Crossing junction. Both the cropmarks at Grey Goose Farm and the possible long barrow or mortuary enclosure are subject to similar impact as the Scheduled Orsett Crop Mark. The location of the assets is such that the extent of the construction works around the A13/A1089/A122 Lower Thames Crossing junction means that unavoidable significant permanent effects would be experienced.

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3.2.186 The assessment also concludes that within the defined study area and Order Limits there are numerous non-designated archaeological and built heritage assets that would be impacted by the Project. This includes a total of 310 archaeological remains and 48 built heritage assets. These impacts would be mitigated through embedded, good practice and essential mitigation.

3.2.187 For the archaeological heritage assets embedded mitigation through design would seek to reduce adverse impacts in the form of earthworks and planting as shown within ES Figure 2.4: Environmental Masterplan (Application Document 6.2).

3.2.188 The NPSNN, at paragraph 5.131, states that Substantial harm to or loss of a Grade II listed building or a Grade II Registered Park or Garden should be exceptional. Whereas Substantial harm to or loss of designated assets of the highest significance, including World Heritage Sites, scheduled monuments, Grade I and II* listed buildings, Registered Battlefields, and Grade I and II* Registered Parks and Gardens should be wholly exceptional (paragraph 5.132).

3.2.189 Paragraphs 5.132 and 5.133 continue to outline the circumstances in which any such harm or loss can be justified, stating:

'*Any harmful impact on the significance of a designated heritage asset should be weighed against the public benefit of development, recognising that the greater the harm to the significance of the heritage asset, the greater the justification that will be needed for any loss*.'

3.2.190 Where the proposed development would lead to substantial harm to or total loss of significance of a designated heritage asset, the SoS should refuse consent unless it can be demonstrated that the substantial harm or loss of significance is necessary in order to deliver substantial public benefits that outweigh that loss or harm.

3.2.191 In regard to defining 'substantial' harm the ES has adopted the approach of converting the impact assessment terminology of the DMRB LA 104 Environmental Impact Assessment and Monitoring (Highways England, 2019) to correlate with the NPSNN. In NPSNN terms, substantial harm or total loss of significance to a designated heritage asset is considered to comprise the total loss of value of the designated heritage asset, therefore in the terms used in DMRB LA 104 this would be described as a major adverse impact and large or very large adverse significance of effect. Substantial harm or total loss of value can occur due to a physical impact to a heritage asset or due to changes to the setting of a heritage asset that cause a severe enough reduction in its value. The assessment in Section 6.6 of ES Chapter 6: Cultural Heritage (Application Document 6.1) identifies whether an effect is significant in EIA terms and whether it constitutes substantial harm or less than substantial harm to a designated heritage asset.

3.2.192 In planning terms, no defined status exists of what may constitute 'substantial'. However, Bedford BC v Secretary of State [2013] EWHC 2847 (Admin) the court considered that to establish substantial harm: '*One was looking for an impact which would have such a serious impact on the significance of the asset that its significance was either vitiated altogether or very much reduced*.' The implication being that 'substantial' harm represents a very high degree of impact.

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3.2.193 The importance of understanding and setting out whether an impact may be substantial is that it triggers the higher threshold of NPSNN test, as set out in paragraph 5.133, insofar as such loss, depending on the designation of the asset, must be demonstrated to be either 'exceptional' or 'wholly exceptional'. The Project results in impacts that need to be demonstrated to be both 'exceptional' and 'wholly exceptional'. This assessment addresses the 'wholly exceptional' test as it represents the higher bar needed to be demonstrated in terms of justification.

3.2.194 The NPSNN requires that the SoS gives great weight to the impact on harm to the significance of a designated heritage asset and that where there is substantial harm or total loss of significance of designated heritage asset, the Applicant must demonstrate that such impact is necessary in order to deliver the substantial public benefits of the Project.

3.2.195 In order to address this, it is important to understand both the value of the wider landscape and the scale of benefits that only this Project can deliver.

3.2.196 The land through which the Project runs is valuable on many levels, particularly in regard to cultural heritage and therefore, as refined as a design can be, some impact on heritage assets is unavoidable. This has been clear since original stages in route planning. In the 2016 Pre-Consultation Scheme Assessment Report (Highways England, 2016), the route options were assessed on a North/Tunnel/South basis, comparing the impacts of the various objectives on a themed basis and identifying preferred options on each sub-category. One of the key objectives was to 'minimise adverse impacts on health and the environment', to which historic environment was a sub-category. All three route options to the north of the river identified impacts on the historic environment, namely:

a. Route 2: Affects two parts of a Conservation Area, direct effects on two scheduled monuments and two Grade II listed buildings

b. Route 3: Directly affects a scheduled monument and two Grade II listed buildings.

c. Route 4: Directly affects a Grade II listed building. Direct impact upon Thorndon Park Registered Park and Garden (Grade II*) and the Thorndon Park Conservation Area

3.2.197 Route 3 was identified as the best performing option in the Historic Environment sub-category and it is the Route 3 route that forms the basis for the proposed alignment.

3.2.198 South of the river, and as identified in the Need for the Project,

3.2.199 The requirement for the Project is clearly set out in the Need for the Project (Application Document 7.1). This discusses the importance of the strategic need to deliver a new crossing of the River Thames, east of London and sets out the many transport, environmental and social, and economic benefits that the Project would deliver. These benefits are summarised as shown in Table 3.5.

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Table 3.5 Key benefits of the Project

What the Project would achieve	
Economic growth (see Section 5.2 of Need for the Project – Application Document 7.1)	Faster and more reliable journeys and improved accessibility would boost the productivity of businesses in the Lower Thames and wider region
	Enhanced connectivity and cross river economic opportunities would further stimulate competition, boosting employment and increasing inward investment
	Benefits would be greatest for high value businesses, but also significant for the local area's lower value transport and construction sectors
	Quicker, more reliable access to key markets, resources, and labour for the region's ports.
Communities and environment (see Section 5.3 of Need for the Project – Application Document 7.1)	Improved access to community and to businesses.
	Reduced congestion in Dartford area would decrease noise and air pollution.
	Enhanced connectivity and facilities for walkers, cyclists and horse riders.
	The application is committed to achieving no net loss in biodiversity by end of RIS 2 and will work towards net biodiversity gain by 2040.
	Improved access to jobs/skills/training across the River Thames for local communities.
Transport (see Section 5.4 of Need for the Project – Application Document 7.1)	Many journeys on both sides of the River Thames as well as those that cross the river, would be quicker (see Table 5.3 of the Need for the Project (Application Document 7.1)).
	Cross-river journey time reliability would be improved, with less frequent delays and uncertainty.
	The Project would significantly reduce congestion at the Dartford Crossing.
	An additional crossing of the River Thames east of London would lead to a more resilient road network in the Lower Thames area.
	The Project would provide substantial additional capacity and new route options across the River Thames east of London, improving connectivity, both across the river and east/west.
	Northbound dangerous goods vehicles would be able to travel through the Lower Thames Crossing tunnels without the need for an escort, reducing disruption for other road users

3.2.200 These substantial benefits can only be delivered by the Project.

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3.2.201 The NPSNN, at paragraph 2.2, is explicit in the need to deliver improvements to national networks, stating: '*there is a critical need to improve the national networks to address road congestion and crowding on the railways to support safe, expeditions and resilient networks that better support social and economic activity; and to provide a transport network that is capable of stimulating and supporting economic growth*'. In order to deliver this critical piece of national infrastructure, a balance of benefit versus impact must be struck.

3.2.202 Impacts on heritage assets as a result of the Project are therefore unavoidable. The engineering solutions presented in the design are those which cumulatively offer the best solution for delivering the Project. While the chosen route option (north of the river) performed most favourably against historic environment in the route appraisals (as shown in the Pre-Consultation Scheme Assessment Report (Highways England, 2016)), no matter which route would have been chosen, substantial harm to some designated and non-designated heritage assets would have likely been identified.

3.2.203 The Project delivers benefits from local to national scale and complies with a NPSNN stated need around the criticality of improving national networks. The benefits that would be delivered can only be realised by the delivery of the Project. However, in order to deliver this critical piece of infrastructure substantial harm to a number of heritage assets must be accommodated. The benefits of the Project reach into social (including transport), environmental and economic strands: delivering tangible benefits across local communities; contributing to regional and national economic growth, and; improving network capacity, resilience and journey times.

3.2.204 As paragraph 5.133 of the NPSNN notes, substantial harm or total loss of certain historic assets must be 'wholly exceptional' and necessary in order to deliver substantial public benefits that outweigh loss or harm. The assessment has sought to demonstrate that in order for the Project to be delivered, there would be impact on the historic environment. However, the need for the project and the wide-ranging public benefits demonstrate a compelling case in favour of delivery that overrides the harm to the historic environment. This is considered to represent the 'wholly exceptional' circumstances which paragraph 5.133 allows for and provides a robust case in favour of the delivery of the Project.

Landscape and visual impact

3.2.205 Chapter 5 of this Statement provides a planning assessment of the Project's impact on the Kent Downs AONB and the test against the exceptional circumstances criteria as set out in paragraph 5.151 of the NPSNN.

3.2.206 Paragraph 5.149 of the NPSNN states that:

'*Landscape effects depend on the nature of the existing landscape likely to be affected and nature of the effect likely to occur. Both of these factors need to be considered in judging the impact of a project on landscape. Projects need to be designed carefully, taking account of the potential impact on the landscape. Having regard to siting, operational and other relevant constraints, the aim should be to avoid or minimise harm to the landscape, providing reasonable mitigation where possible and appropriate.'*

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3.2.207 NPSNN paragraph 5.150 notes that:

'*Great weight should be given to conserving landscape and scenic beauty in nationally designated areas. National Parks, the Broads and Areas of Outstanding Natural Beauty have the highest status of protection in relation to landscape and scenic beauty.'*

3.2.208 NPSNN paragraph 5.151 states:

The Secretary of State should refuse development consent in these areas except in exceptional circumstances and where it can be demonstrated that it is in the public interest.'

3.2.209 NPSNN paragraph 5.153 states:

Where consent is given in these areas, the Secretary of State should be satisfied that the applicant has ensured that the project will be carried out to high environmental standards and where possible includes measures to enhance other aspects of the environment. Where necessary, the Secretary of State should consider the imposition of appropriate requirements to ensure these standards are delivered.'

3.2.210 NPSNN paragraph 5.155 states:

'*The fact that a proposed project will be visible from within a designated area should not in itself be a reason for refusing consent.*'

3.2.211 Paragraph 5.158 of the NPSNN states:

'*The Secretary of State will have to judge whether the visual effects on sensitive receptors, such as local residents, and other receptors, such as visitors to the local area, outweigh the benefits of the development*.'

3.2.212 The landscape character of the defined study area for the Project can be described as follows.

3.2.213 Land to the south of the Thames Estuary falls within either the Kent Downs AONB or its setting. The seascape of the Thames Estuary is set against an immediate landscape environment which includes military features with statutory heritage designation status and ecologically important designated features. To the north of the Thames Estuary, the landscape is not designated but often locally valued for its amenity value and recreational purposes, situated at Greater London's urban edge. This in part continues to form the setting of the Kent Downs AONB.

3.2.214 The assessment of the landscape and visual impacts associated with the Project is set out within ES Chapter 7: Landscape and Visual (Application Document 6.1) and follows the methodology set out in DMRB LA 107 Landscape and Visual Effects Rev 2 (Highways England, 2020).

3.2.215 To the south of the River Thames, the assessment has considered the improved A2 corridor, the new M2/A2/Lower Thames Crossing junction with elevated slip roads, and additional prominent lighting, and restricted woodland replanting due to utility easements, this has resulted in significant residual visual effects to the south of the River Thames, including within the Kent Downs AONB.

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3.2.216 To the north of the River Thames, the provision of new infrastructure would result in a series of notable features, including the elevated Tilbury Viaduct, noticeable earthworks and the broadening in the extent of infrastructure at the A13/A1089/A122 Lower Thames Crossing junction. The elevated highway on embankment and structure through the Orsett Fen, and overbridge structures along the Project route, would create further prominent features.

3.2.217 Mitigation measures include replacement of land and landscape features, proposed green bridge structures along the Project route and extensive woodland planting at the junctions, as well as further additional linear planting and wider hedgerow reinstatement adjacent to the Project route to aid visual screening and landscape integration. In addition, typically 4m high false cutting earthworks would provide permanent visual screening.

3.2.218 The landscape and visual assessment has considered the reasonable worst-case situation as a result of the Project, including effects within the Kent Downs AONB and its setting, both on its landscape character and landscape features, and those experienced by visual receptors. The assessment has concluded that the Project would result in a range of significant effects on the landscape resource and visual receptors.

3.2.219 A full assessment of the impact on Kent Downs AONB is included in Chapter 5 of this Statement and a final conclusion against the NPSNN is addressed there.

Land use including open space and green infrastructure

3.2.220 NPSNN paragraph 5.166 states:

'*Existing open space, sports and recreational buildings and land should not be developed unless the land is surplus to requirements or the loss would be replaced by equivalent or better provision in terms of quantity and quality in a suitable location.'*

3.2.221 Open space, sports and recreational buildings is addressed with in Chapter 6 of this document and Green Belt is addressed in Chapter 5.

3.2.222 ES Chapter 13: Population and Human Health (Application Document 6.1) has identified existing and proposed land uses within the vicinity of the Project, during both construction and operational phases.

3.2.223 Paragraph 5.180 requires that:

'*Where green infrastructure is affected, applicants should aim to ensure the functionality and connectivity of the green infrastructure network is maintained and any necessary works are undertaken, where possible, to mitigate any adverse impact and, where appropriate, to improve that network and other areas of open space, including appropriate access to new coastal access routes, National Trails and other public rights of way*.'

3.2.224 An accompanying Green Infrastructure Study (Appendix C) has provided the 'bigger picture' for the delivery of large-scale Green Infrastructure as part of the Project connecting and enhancing communities and wildlife at the sub-regional and city scale. Proposals include the creation of a network of green infrastructure, reconnecting broken links and WCH routes including seven multi-functional green bridges.

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3.2.225 An evaluation of existing mineral resources and the potential for extractable minerals to be present within the Order Limits has been presented within a Mineral Safeguarding Assessment Report (Application Document 6.3, ES Appendix 11.2).

3.2.226 Within the Order Limits, Mineral Safeguarding Areas have been designated in Kent County Council, Essex County Council and the London Borough of Havering. The importance attached to these designations in policy terms is set out in paragraph 5.182 of the NPSNN, which requires that:

'*Where a proposed development has an impact on a Mineral Safeguarding Area (MSA), the Secretary of State should ensure that the applicant has put forward appropriate mitigation measures to safeguard mineral resources*.'

3.2.227 An evaluation of existing mineral resources and the potential for extractable minerals to be present within the Order Limits has been presented within a Mineral Safeguarding Assessment Report (Application Document 6.3, ES Appendix 11.2).

3.2.228 There are, however, areas deemed unfeasible for the prior extraction of mineral resources, due either to adverse impacts or being economically unviable.

3.2.229 The Project plans to reuse as much material as is needed and practicable. However, as the Project would not retain a significant area of land that is not accessible or other existing infrastructure features are present (that cannot be undermined), it is deemed that the unacceptable sterilisation of mineral resources would not occur, thereby demonstrating compliance with the NPSNN.

Noise and vibration

3.2.230 NPSNN paragraph 5.194 requires that:

'*The project should demonstrate good design through optimisation of scheme layout to minimise noise emissions and, where possible, the use of landscaping, bunds or noise barriers to reduce noise transmission. The project should also consider the need for the mitigation of impacts elsewhere on the road and rail networks that have been identified as arising from the development, according to Government policy.*'

3.2.231 NPSNN paragraph 5.195 adds:

'*The Secretary of State should not grant development consent unless satisfied that the proposals will meet, the following aims, within the context of Government policy on sustainable development:*

a. *avoid significant adverse impacts on health and quality of life from noise as a result of the new development;*

b. *mitigate and minimise other adverse impacts on health and quality of life from noise from the new development; and*

c. *contribute* to improvements to health and quality of life through the effective management and control of noise, where possible.'

3.2.232 Noise and vibration impacts linked to the Project have been fully assessed for both the construction and operational phases and are set out within ES Chapter 12: Noise and Vibration (Application Document 6.1). ES Chapter 12

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also identifies details of the proposed mitigation employed in order to minimise potential impacts, namely:

Embedded mitigation – construction phase:

a. Locating construction compounds and route alignment as geographically removed as possible from sensitive receptors

b. Careful consideration on the layout of compounds

c. Minimising construction traffic

d. Reduction in tunnel boring machine activity

Embedded mitigation – operational phase:

a. Aligning the Project route away from Noise Sensitive Receptors

b. Locating the Project route within a cutting or false cutting/bund

c. Significant use of earth bunding, cuttings and false cuttings

d. Selecting the quietest plant from the tunnel control rooms and ventilation system

3.2.233 Good practice commitments include working methods for the control of construction noise and vibration, as set out within the CoCP (Application Document 7.11). This includes implementing Best Available Techniques where necessary through the construction phase of the Project, along with a set of generic best practice working methods referred to as Best Practicable Means. Operational phase good practice includes surfacing all new and altered roads associated with the Project with a thin surfacing system.

3.2.234 The results of the noise assessment are summarised below.

3.2.235 The assessment of permanent operational noise impacts arising from the Project has been undertaken for the short-term and long-term (15 years after opening) which has predicted that, for both:

a. Significant adverse impacts along the Project route, though in accordance with UK policy on noise these have been mitigated to a minimum. There are areas above a SOAEL on the surrounding network, A228 and other links, but where impacts are above a SOAEL they are limited to minor so are not significant in terms of health and quality of life. Along the project alignment mitigation reduces impacts to below a SOAEL.

b. Beneficial impacts along the by-passed network, though not significant.

c. Operational tunnel ventilation noise is not considered to have a significant impact subject to embedded mitigation and control.

3.2.236 Within the assessment of construction noise impacts, a total of 171 noise sensitive receptors (NSRs) have been selected as representative of the entire Project route's length. The assessment has shown that, other than four

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receptors located on Stanford Road to the south east of the A13 junction, the remaining 167 receptors would not be subject to a potential significant effect (based upon the standards of DMRB LA 111). The noise impact on these four receptors would be in excess of an appropriately defined daytime SOAEL over a short period of time as a result of transient activities on Stamford Road and the adjacent Project to A13 junction. There are no exceedances of a night-time SOAEL predicted in the construction phase. As these exceedances are based upon a reasonable worst case, once a contractor is identified and more specifics of these works concluded, further mitigation will be investigated for these receptors and implemented through the CoPA S61 process.

3.2.237 In relation to terrestrial ecology, noise effects from both the construction and operational phases of the Project on ecological receptors and statutory designated sites are considered likely. Mitigation through noise screening and bunding has been designed to minimise the noise effects on the wider landscape.

3.2.238 In relation to marine biodiversity, underwater noise generated during marine construction has been identified during the construction phase, with mitigation proposed. For the operational phase of the Project, there are no likely significant impacts.

3.2.239 The noise impacts as a result of the Project during both the construction and operational phases are described above, including details of mitigation measures to be implemented to avoid significant adverse impacts on health and quality of life in compliance with national policy.

3.2.240 The Project complies with the NPSNN policy guidance as adverse noise effects above a SOAEL are reduced to the extent that they are not significant in terms of health and quality of life. Along the Project route the effects would be reduced below a SOAEL through mitigation, and so would avoid impacts on health and quality of life.

Impacts on Transport Networks

3.2.241 Paragraphs 5.203 – 5.205 of the NPSNN require that applicants should have regard for policies set out in local plans, should consult the relevant highway authority and consider *reasonable opportunities to support other transport modes in developing infrastructure. As part of this, consistent with paragraph 3.19-3.22 above, the applicant should provide evidence that as part of the project they have used reasonable endeavours to address any existing severance issues that act as a barrier to nonmotorised users*.

3.2.242 A full assessment of compliance of the Project with the local planning policy framework is set out in Appendix 2 to this Planning Statement, while Volume 5 of the Consultation Report (Application Document 5.1) provides details of engagement that has taken place. As set out in paragraphs 3.2.35– 3.2.38 above, the Project has sought to identify and address needs of cyclists and pedestrians and indeed the Project design incorporates provision of new routes for WCH, designed to improve access to the existing network, maximise access for users (including those with limited mobility) whilst considering and mitigating potential impacts from misuse and anti-social behaviour through good design. New and improved routes are described in paragraph 3.2.38 and shown on Figure 13.4 of the ES (Application Document 6.2).

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3.2.243 Paragraph 5.206 of the NPSNN states:

'*For road and rail developments, if a development is subject to EIA and is likely to have significant environmental impacts arising from impacts on transport networks, the applicant's environmental statement should describe those impacts and mitigating commitments. In all other cases the applicant's assessment should include a proportionate assessment of the transport impacts on other networks as part of the application.*'

3.2.244 An EIA was carried out for the Project, which identifies and assesses the impacts arising from the Project and the proposed mitigation measures, the results of which are reported in the ES (Application Document 6.1).

3.2.245 The Transport Assessment (Application Document 7.9) sets out: the Operational Assessment, which includes an assessment of the transport impacts on the strategic and local road network as a result of the Project; the Construction Assessment, which includes an assessment of the construction impacts on the strategic and local road network as a result of the Project, and; the Management of impacts which outlines the proposed measures to manage potential adverse effects during the operation and construction of the Project. This includes the requirement for Travel Plans to be developed by the Contractors for each compound, or compounds where these are closely located with similar levels of accessibility.

3.2.246 The Transport Assessment (Application Document 7.9) identifies that there would be changes to the road network on roads away from the Project alignment in both the construction and operational phases of the Project and that some of these changes would occur as a result of the Project, but others would be as a result of new developments and/or other changes in behaviour on the transport network.

3.2.247 Highways England propose to monitor the impacts of the Project at locations identified in the Outline Monitoring Strategy (Application Document 7.13) on the network and actively engage with local authorities on schemes that could help address these impacts should they materialise. on the network and actively engage with local authorities on schemes that could help address these impacts should they materialise.

Water quality and resources

3.2.248 The Project has signposted the requirements of the NPSNN relating to water quality and resources within Appendix A1.

3.2.249 Paragraphs 5.219 to 5.231 of the NPSNN set out the requirements for national network schemes in relation to the water environment.

3.2.250 The existing water environment (water quality, water resources and physical characteristics) is described in Chapter 14: Road Drainage and the Water Environment of the Environmental Statement (Application Document 6.1), as well as the effects of the Project which are described and assessed.

3.2.251 The surface water bodies located within the Project's Zone of Influence are presented in Drawing 2, Annex 3 of Appendix 14.7 (Application Document 6.3) of the Environmental Statement.

3.2.252 The Environment Agency has been consulted extensively and has agreed methodologies for assessing flood risk, including the required scope of hydraulic modelling of watercourses. A summary of the consultation undertaken with

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regulatory authorities is presented in Table 14.4 of Chapter 14: Road Drainage and the Water Environment of the Environmental Statement (Application Document 6.1).

3.2.253 A Water Framework Directive (WFD) Assessment has been undertaken and is presented in Appendix 14.7 of the Environmental Statement (Application Document 6.3). The assessment has concluded that there would be no deterioration of biological quality, hydromorphology, physicochemical or specific pollutant supporting elements at the surface water body scale, at which WFD compliance is judged. In addition, the Project would not prevent the future attainment of the WFD objectives for each of the respective water bodies, nor pose barriers to implementing future measures described in the River Basin Management Plans to achieve these objectives.

3.2.254 A strategy for managing operational surface water drainage has been prepared centred on the application of Sustainable Drainage Systems (SuDS), appropriate to local conditions. The strategy is summarised in Part 7 of Appendix 14.6: Flood Risk Assessment (Application Document 6.3) in the Environmental Statement. The drainage principles have been discussed and agreed with relevant Lead Local Flood Authorities (LLFAs), as detailed in Chapter 14 of the Environmental Statement (Application Document 6.1).

3.2.255 Section 14.5 in Chapter 14: Road Drainage and the Water Environment of the Environmental Statement (ES) (Application Document 6.1) describes the construction and operational mitigation proposed for the Project. This includes measures delivered through the design of the Project and also via construction methods, as well as good practice embodied in the Design Manual for Roads and Bridges (DMRB) LA 113 on Road Drainage and the Water Environment (Highways England, 2020).

3.2.256 It is considered that the scheme meets the requirements of the NPSNN with regard to water quality and resource.

Conclusions on the NPSNN

3.2.257 Conclusions on the compliance of the Project in relation to the NPSNN are drawn together in Chapter 8: Overall conclusions and the planning balance, along with further references within Chapter 4: Green Belt, Chapter 5: Kent Downs AONB and Chapter 6: Open space, sports and recreational buildings and land of this Planning Statement.

3.3 National Planning Policy Framework

3.3.1 The updated NPPF, published by the Ministry of Housing, Communities and Local Government in February 2019, sets out the Government's economic, environmental and social planning policies for England. These policies promote a national strategy for sustainable development, with the vision of meeting local aspirations and needs.

3.3.2 Paragraph 1.17 of the NPSNN states that the NPS and NPPF are consistent, with paragraph 1.18 going on to say that the NPPF would be an important and relevant consideration, *'but only to the extent relevant to* [the] *project'*. Therefore, it is necessary to consider the extent of any such relevance and compliance with the policies that it contains.

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3.3.3 The NPPF promotes a *'presumption in favour of sustainable development'*. This presumption requires that economic, social and environmental considerations should be assessed in the determination of development proposals.

3.3.4 The NPPF paragraph 3 confirms that the NPSs are the primary decision-making document for NSIPs under the Planning Act 2008.*'*

3.3.5 The significance of planning in economic growth is stated in the overarching objectives, included in paragraph 8 of the NPPF:

'*An economic objective - to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure*.'

3.3.6 The Project strongly accords with the aims of the NPPF, notably by improving the conditions in which people travel. This is a key objective of the Project.

3.3.7 The Project supports the delivery of the NPPF's core land use planning principles. It does so by providing improved infrastructure and supporting sustainable local development and regional economic growth in the long term, as it would result in improved journey times and relieve congestion on the Dartford Crossing and approach roads. Meanwhile, adverse impacts on the environment would be minimised through route design and the enhancement and mitigation measures put in place.

Achieving well-designed places

3.3.8 On design matters, the NPPF does not seek to impose particular architectural styles or tastes, particularly for major infrastructure projects. Notwithstanding, the Project has sought good design, including good landscape design as an essential focus of the Project, despite the physical constraints associated with a large highway project of this nature.

Green Belt

3.3.9 The NPPF sets out that the Government attaches great importance to the Green Belt and that the fundamental aim of this designation is to prevent urban sprawl by keeping land permanently open, as described in ES Chapter 13: Population and Human Health (Application Document 6.1).

3.3.10 The response to the NPPF's Green Belt policy is addressed separately within Chapter 4 of this Statement. It is acknowledged that the Project as a whole represents 'inappropriate' development in the Green Belt and that it would impact on openness and the five purposes of the Green Belt. However, Chapter 4 of this Statement fully demonstrates, in line with national policy, that 'Very Special Circumstances' exist in support of the Project.

Flood risk

3.3.11 The FRA (Application Document 6.3, ES Appendix 14.6) addresses potential sources of flood risk to and from the Project. The FRA identifies that the majority of the Project route would lie in an area of low probability of flooding (Flood Zone 1), with a small area lying in Flood Zone 3 that benefits from existing flood defences The FRA provides further details on the sequential and exception tests in accordance with the NPPF.

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3.3.12 The Project has incorporated a suite of flood alleviation measures intended to prevent increases in flood risk elsewhere.

Natural environment – habitat and biodiversity

3.3.13 The NPPF places particular emphasis on the provision of net gain in terms of the conservation and enhancement of the natural environment (paragraph 170 and 174), with opportunities for measurable net gains for biodiversity.

3.3.14 The ES notes that, in relation to biodiversity, the Project would lie within an area of influence of a number of internationally, nationally and locally designated sites. The ES has concluded that the potential effects on terrestrial biodiversity as a result of the Project include habitat loss within statutory and non-statutory designated sites, particularly in relation to Shorne and Ashenbank Woods SSSI. This would be compensated for, in part, with tree planting to the west, north and east of Shorne Woods.

3.3.15 Paragraph 172 requires that great weight should be given to conserving and enhancing the landscape and scenic beauty in AONBs, recognising the highest status of protection afforded to these areas, alongside National Parks and the Broads. The Project would have a significant impact on the character of the landscape within the Kent Downs AONB would be significant, notwithstanding mitigation and enhancement. However, development within the boundary of the Kent Downs AONB is unavoidable and 'exceptional circumstances' exist to justify the Project, particularly the overwhelming and compelling need for the development.

3.3.16 In total, the Project will result in the loss of 11.61ha of ancient woodland. To compensate for the loss of this woodland, 63.48ha of woodland would be planted.

3.3.17 Environmental mitigation is integrated into the design of the Project, strengthening ecological connectivity along the alignment through the landscape design and the incorporation of green bridges. Although the Project has adverse effects on statutory designed sites and irreplaceable habitats such as ancient woodland, the design has sought to maximise biodiversity gains. A measure of baseline biodiversity value and that achieved by the Project's design posts development is presented within the Sustainability Statement (Application Document 7.12).

Natural environment – ground conditions and pollution

3.3.18 The NPPF places particular emphasis on health and quality of life, as described in paragraphs 180 and 181.

3.3.19 In relation to noise, the findings within the ES show that, with the exception of the surrounding highway network (which has minor impacts above a SOAL), the Project alignment has been designed such that there are no impacts above SOAL and so would avoid impacts on health and quality of life. Where beneficial effects occur, these are expected to benefit health and quality of life.

3.3.20 In terms of air quality, the ES concludes that, from the locations modelled, the overall impact of the Project during construction and operation is not significant.

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Heritage assets

3.3.21 The NPPF places particular emphasis on proposals affecting the historic environment and heritage assets as described in paragraphs 189 and 193 to 196.

3.3.22 Cultural heritage is a particular focus of the NPPF and of relevance to the Project as it would result in the removal of statutorily designated archaeological remains and built heritage assets, some of which would be significant. The predicted temporary effects of the Project on heritage assets during the construction phase would also result in changes to the setting of these assets, some of which would be significant.

3.3.23 In relation to statutorily designated heritage assets, mitigation of the permanent physical impact of construction activity on the scheduled Orsett cropmark complex is proposed by means of archaeological excavation and recording of the affected scheduled area, while the loss of the three Grade II listed buildings at Nos 1 and 2 Grays Corner Cottages, Thatched Cottage, and Murrells Cottages would be mitigated by way of building recording. The permanent construction impacts resulting from the demolition of non-designated built heritage along the northern approach to Thong (CA10) Conservation Area would be mitigated by building recording.

Conclusion

3.3.24 Conclusions on the compliance of the Project in relation to the NPPF are drawn together in Chapter 8: Overall conclusions and the planning balance, along with further references within Chapter 4: Green Belt and Chapter 5: Kent Downs AONB of this Planning Statement.

3.4 Local planning, minerals and transport policy

3.4.1 Although the NPSs are the primary planning policy documents for decision making on NSIPs, adopted local plans and minerals/waste plans may be considered of relevance. Local planning authorities have a statutory duty to prepare a development plan for their area. Approved Local Transport Plans may be considered to be a material consideration. Accordingly, the relevant policy framework for each of the 'host' local authorities is considered.

3.4.2 This section provides a summary of the assessment of the Project against local plans, minerals, waste and transport policies for each of the 'host' local authorities. It considers whether the Project is in accordance with the policy framework at this level, as, whilst acknowledging the NPSNN is the primary policy document, compliance with local policy may be considered by the SoS to be an important and material consideration. Appendix B provides a full assessment of the Project against individual planning, minerals, waste and transport policies but the sections below provide a high level summary of the Project's compliance with these policies.

3.4.3 The various plans in place and their current status are set out in Table 3.6 for each 'host' authority. Where local plans and minerals and waste plans have been adopted, they provide the statutory development plan framework for planning decisions made by those local authorities. The extent to which emerging plans are to be considered to be a material consideration in planning

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decisions would depend on, among other matters, the stage reached in their preparation and the likelihood of any policy amendments of relevance to the Project.

3.4.4 Among the 'host' local authorities, three have emerging local plans at an advanced stage of preparation, namely the London Borough of Havering (2020) Proposed Modifications Consultation, Brentwood Borough Council (2020) Brentwood Local Plan Independent Examination, and the Greater London Authority (2019) Draft London Plan (Intend to Publish Version).

3.4.5 Each of the three local plans has progressed through their respective examinations. However, only the Greater London Authority's (GLA) Draft London Plan (Intend to Publish Version) is subject to a Direction by the SoS, following receipt of the Inspector's Report. This means that this Plan has progressed enough to be assessed in this section, with the relevant policies referred to accepted by the GLA.

Table 3.6 Local Plans, Minerals and Waste Plans and Local Transport Plans

Local authority	Adopted local plan	Emerging local plan	Adopted minerals/waste plan	Approved Local Transport Plan
Kent County Council	-	-	Kent Minerals and Waste Local Plan 2013 - 2030 (Kent County Council, 2016)	Local Transport Plan 4: Delivering Growth without Gridlock 2016-2031
Essex County Council	-	-	Essex Minerals Local Plan (Essex County Council, 2014) Essex and Southend-on-sea Waste Local Plan (Essex County Council, 2017)	The Local Transport Plan for Essex (Essex County Council, 2011)
Gravesham Borough Council	Gravesham Local Plan Core Strategy (Gravesham Borough Council, 2014)	-	-	-
Thurrock Council	Core Strategy and Policies for Management of Development (Thurrock Council, 2015)	-	-	-
The London Borough of Havering	Core Strategy and Development Control Policies	-	-	-

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Local authority	Adopted local plan	Emerging local plan	Adopted minerals/waste plan	Approved Local Transport Plan
	Development Plan Document (London Borough of Havering, 2008)			
Greater London Authority	The London Plan consolidated with alterations since 2011 (Greater London Authority, 2016)	Draft London Plan (Intend to Publish Version) (Greater London Authority, 2019)	The Joint Waste Development Plan for the East London Waste Authority Boroughs (Greater London Authority, 2012)	Mayor's Transport Strategy (Greater London Authority, 2018)
Brentwood Borough Council	Replacement Local Plan (Brentwood Borough Council, 2005)	-	-	-

3.4.6 Appendix B to this Statement identifies the relevant planning, minerals, waste and transport policies and provides a detailed assessment of the compliance of the Project with the relevant policy framework for each of the 'host' local authorities.

Policy assessment

3.4.7 This section provides an overview of the local policy context which is addressed in further detail in Appendix B of this Statement, highlighting the main policy considerations of relevance to each 'host' local authority in the assessment of the Project.

Gravesham Borough Council

3.4.8 The Adopted Gravesham Local Plan Core Strategy (Gravesham Borough Council, 2014) contains detailed policy guidance on key areas relating to the Project including, the Kent Downs AONB, cultural heritage, biodiversity, open space and flood risk.

3.4.9 The location of the Project within the boundary of the Kent Downs AONB would result in both temporary and permanent impacts on the landscape character and features of the Kent Downs AONB's special qualities, notwithstanding the mitigation measures proposed. *Policy CS12: Green Infrastructure* requires that the greatest weight will be given to the conservation and enhancement of the landscape and natural beauty of the AONB and its setting, but as set out in Chapter 5, this is outweighed by the need for the Project.

3.4.10 The Borough contains a number of sites designated for their biodiversity value, including the Thames Estuary and Marshes Ramsar site, South Thames Estuary and Marshes SSSI and Shorne and Ashenbank Woods SSSI. Protection of the Thames Estuary and Marshes Ramsar site near the south bank of the Thames has been ensured by the decision of the Project to use a tunnel instead of a bridge to cross the Thames, along with relocating the South Portal further south in order to safeguard the Ramsar wetland site.

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3.4.11 However, the Project is expected to result in significant permanent habitat loss, including ancient woodland at Shorne and Ashenbank Woods SSSI. This would be compensated for, in part, with tree planting to the west, north and east of Shorne Woods. Despite the area of ancient woodland being considered to be irreplaceable the overall integrity of the SSSI would be maintained. *Policy CS12: Green Infrastructure* requiring that where impacts on protected priority habitats cannot be avoided and where the importance of the development is considered to outweigh the biodiversity impact, compensatory provision will be required. This has been provided for in compliance with the Policy.

3.4.12 *Policy CS12: Green Infrastructure* also seeks to provide the highest level of protection to internationally designated sites, including Ramsar sites, followed by nationally designated Sites of Special Scientific Interest. The Policy requires no net loss of biodiversity, with opportunities to enhance, restore, re-create and maintain habitats sought. The Policy goes on to say that where a negative impact on protected or priority habitats/species cannot be avoided and where the importance of the development is considered to outweigh the biodiversity impact, compensatory provision will be required either elsewhere on the site of off-site, including measures for ongoing maintenance.

3.4.13 In compliance with Policy, in addition to the compensatory woodland planting at Shorne Woods, Highways England has committed to achieving no net loss in biodiversity by the end of RIS 2 in 2025 (DfT, 2020) and is working towards net biodiversity gain by 2040.

3.4.14 A temporary construction compound located close to the Grade II* Listed Church of St Mary would change its current setting resulting in a moderate adverse effect. The change to the setting within the northern parts of the Registered Park and Garden at Cobham Hall Park as a result of the Project would result in a moderate adverse significant effect following mitigation.

3.4.15 The Project would have an impact on Thong Conservation Area (CA10) during construction and operation. The temporary impacts would be a result of noise intrusion on the character of the Conservation Area and the visual changes within its setting, though these would be subject to mitigation. In view of the permanent effects resulting from the demolition of non-designated built heritage along the northern approach to the Conservation Area, mitigation would be secured by building recording.

3.4.16 *Policy CS20: Heritage and the Historic Environment* requires that the weight given to an asset's conservation value will be commensurate with the importance and significance of the asset and the impact of the proposed development on the asset. The Project involves the demolition of non-designated built heritage along the northern approach to the Conservation Area, with mitigation secured by building recording.

3.4.17 Within the Borough, a number of open spaces are permanently impacted by the Project, for which replacement land of equal to or greater in size and of equivalent quality and accessibility to that required for the Project would be provided. This is in line with *Policy CS13: Green Space, Sport and Recreation* which seeks to make adequate provision for and to protect and enhance the quantity, quality and accessibility of green space, playing pitches and other sports facilities.

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3.4.18 The FRA undertaken for the Project has identified an area from the south bank of the River Thames to just north of the A226 as being in a high risk area (Flood Zone 3). However, the FRA notes that at this point the Project route would be in tunnel. The remainder of the Project route within the Borough lies in an area of low probability of flooding (Flood Zone 1). The FRA states that there is no significant risk of flooding and therefore the Project is compliant with *Policy CS18: Climate Change* in respect of flood risk, requiring proposals in areas at risk of flooding to be accompanied by an FRA.

Thurrock Council

3.4.19 The Adopted Core Strategy and Policies for Management of Development (2015) includes a number of detailed environmental policies of relevance to the Project.

3.4.20 The Core Strategy contains specific policy guidance on development within the Green Belt. *Policy CSSP4: Sustainable Green Belt* and *PMD6: Development in the Green Belt* provide a protective policy stance on development within the Green Belt, in line with national policy. Chapter 4 of this Statement has demonstrated the 'very special circumstances' which justify the Project's location within the Green Belt. In terms of enhancements sought by both policies, the Project proposes four green bridges at Muckingford Road, Hoford Road, Green Lane and North Road, designed to be multi-functional, reducing severance for ecology and provide a better experience for walkers, cyclists and horse-riders (WCHs).

3.4.21 An accompanying Green Infrastructure Study to this Statement (Appendix C) provides the *'bigger picture'* for the delivery of large-scale Green Infrastructure as part of the Project. This includes the creation of a network of green infrastructure, reconnecting broken links, the creation of the Mardyke wetland and WCH tracks within the area, with improved access to this fenland landscape from both the southern and western ends of the Ockendon link. This would support the management and enhancement of Greengrid within Thurrock in line with *Policy CSSP5: Sustainable Greengrid for delivering the Council's Greengrid Strategy* and *Policy CSTP18: Green Infrastructure* in ensuring a net gain in Green Infrastructure.

3.4.22 In addressing the adverse effects of the Project on existing WCH routes and networks, improved links are proposed at Muckingford Road, Stifford Clays Road, the A1013 and Rectory Road, North Road, along with Fenland Access, in line with *Policy CSTP15: Transport in Greater Thurrock*, requiring the development and improvement of such routes.

3.4.23 In terms of open space provision, the Ron Evans Memorial Field and two areas of common land at Tilbury Green and Orsett Fen are permanently impacted by the Project. As the existing provision is not considered to be surplus to requirements, it would be replaced in accordance with the requirements of *Policies CSTP20 Open Space and PMD5 Open Spaces, Outdoor Sports and Recreational Facilities*, requiring that such facilities are provided and maintained to meet the needs of the local community. (Orsett Fen is not considered to be open space, as there is no public access).

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3.4.24 In line with Policy *CSTP3: Gypsies and Travellers*, which sets out the standards to be met for new traveller sites, a replacement traveller site has been proposed near the existing site, which is equivalent in terms of size, quality and access arrangements from that at Long Lane. The final design of the site would be developed and refined through a series of workshops, to establish pitch arrangement, road configurations, site access, amenity block design and planting.

3.4.25 *Policy CSTP17: Strategic Freight Movement and Access to Ports* provides support to the logistics and port sectors and the positive impacts of freight activity in Thurrock and beyond. In line with the policy guidance, the Project would directly improve the operation of the SRN by providing additional highway capacity, reducing traffic on the Dartford Crossing, improving journey times and reducing congestion on this road network. Once operational, the Project would lead to a decrease in the level of Heavy Goods Vehicles using the Dartford Crossing, though in combination, flows for both crossings in the opening year, 2027 and in 2042 are forecast to result in a significant increase in total HGV flows.

3.4.26 In relation to terrestrial ecology and biodiversity the Project would impact on the following biodiversity sites at Low street Pit LWS, Blackshots Nature Area LWS, Rainbow Shaw LWS, Mardyke and Tilbury Main. *Policy PMD7: Biodiversity, Geological Conservation and Development* requires development proposals to retain and enhance any significant biodiversity habitat or geological interest of recognised local value on site, though states that where this is not possible there should be no overall net loss of biodiversity habitat or features of geological conservation interest in Thurrock. Proposed enhancements include habitat creation to the north of the River Thames, including the enhancement of watercourses within the vicinity of the Mardyke and the creation of four green bridges at Muckingford Road, Hoford Road, Green Lane and North Road.

3.4.27 *Policy CSTP19 Biodiversity Development* seeks to encourage development proposals to include measures to contribute positively to the overall biodiversity in the Borough. Proposed enhancements include habitat creation to the north of the River Thames, the enhancement of watercourses within the vicinity of the Mardyke and the creation of four green bridges at Muckingford Road, Hoford Road, Green Lane and North Road.

3.4.28 A FRA has identified that the majority of the Project route lies in an area of low probability of river and sea flooding (Flood Zone 1), with parts of the route in Flood Zone 3 (high probability of river and sea flooding). For areas of the Project that lie in Flood Zone 3, these benefit from existing flood defences adjacent to the River Thames and near to the Mardyke. In compliance with *Policy CSTP27: Management and Reduction of Flood Risk and Policy PMD15: Flood Risk Assessment* requiring the appropriate assessments to be undertaken in support of development proposals, the FRA for the Project provides the necessary evidence to satisfy the Exception Test for those areas of the route within Flood Zone 3.

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3.4.29 Incorporation of a suite of flood alleviation measures to prevent increases in flood risk elsewhere, include the provision of compensation storage for any permanent losses of floodplain storage volume associated with the Tilbury Main, Mardyke and Mardyke West tributary in compliance with the Policy provisions.

3.4.30 The Project would involve the demolition of three Grade II Listed Buildings at No. 1 and No. 2 Grays Corner Cottages, Thatched Cottage and Murrells Cottages, resulting in significant permanent impacts, as would the removal of the Orsett Crop Mark Complex scheduled monument. In addition, two high-value non-designated archaeological assets, namely the Cropmarks at Grey Goose Farm and Long barrow or mortuary enclosure would experience significant permanent effects, similar to those at Orsett Crop Mark Complex.

3.4.31 *Policy PMD4: Historic Environment* states that the fabric and setting of heritage assets, including listed buildings, conservation areas, scheduled monuments and other important archaeological sites, and historic landscape features should be appropriately protected and enhanced in accordance with their significance. The Policy also states that the approach set out in the NPPF in the determination of applications affecting Thurrock's built or archaeological heritage assets will be followed.

3.4.32 Mitigation of the permanent physical impact of construction activity on the scheduled Orsett cropmark complex is proposed by means of archaeological excavation and recording of the affected scheduled area, although the scale of impact, even after mitigation, would have a large adverse effect.

3.4.33 The loss of three Grade II Listed Buildings at Nos. 1 and 2 Grays Corner Cottages, Thatched Cottage, and Murrells Cottages would be mitigated by way of building recording, although, given the removal of these heritage assets, mitigation would not fully address the impacts.

3.4.34 Mitigation by means of archaeological excavation and recording of the affected areas at the Cropmarks at Grey Goose Farm and Long barrow or mortuary enclosure is proposed, although would not fully address the impacts.

3.4.35 For each of the designated heritage assets, physical impacts cannot be avoided, either directly as a result of the route alignment and the scale of the works proposed in the case of the scheduled Orsett Crop Mark Complex, the Grade II Listed Buildings at Nos. 1 and 2 Grays Corner Cottages and Murrells Cottages, or where removal is necessitated by construction work in the case of the Cropmarks at Grey Goose Farm and Long barrow or mortuary enclosure. Thatched Cottage lies within an associated earthworks area as well as being in close proximity to the major work associated with the Project route.

3.4.36 In line with Policy PMD4 and its reference to the NPPF, paragraph 195 of that document states that where a development leads to substantial harm to (or total loss of significance of) a designated heritage asset, consent should be refused, unless the substantial harm or total loss is necessary to achieve substantial public benefits outweighing that harm or loss. The Need for Project (Application Document 7.1) has set out the overriding need and benefits of the Project,

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London Borough of Havering

3.4.37 The primary considerations within the Adopted Core Strategy and Development Control Policies Development Plan Document (London Borough of Havering, 2008) of relevance to the Project relate to the Green Belt, recreation and leisure, minerals extraction, biodiversity and geodiversity, heritage, and trees and woodland.

3.4.38 *Policy DC45: Appropriate Development in the Green Belt* promotes uses within the Green Belt provided they fulfil Green Belt objectives. As the Project does not fall within the list of exceptional uses within the Green Belt and is therefore 'inappropriate' development, the 'very special circumstances' justifying the Project within the Green Belt are set out in compliance with policy.

3.4.39 There are no statutorily designated sites of nature conservation interest affected by the Project within the Borough, although there would be moderate adverse significant effects on Codham Hall Wood Local Wildlife Site and ancient semi-natural woodland, the ancient woodland west of M25 junction 29 and present a negligible risk to Cranham Marsh LNR following mitigation. *Policy CP16: Biodiversity and Geodiversity* is primarily concerned with the protection and enhancement of priority habitats, species and sites, with the Project route designed to be a biodiverse wildlife corridor connecting suitable habitats throughout the wider landscape.

3.4.40 *Policy CP18: Heritage* requires all new development affecting sites, buildings, townscapes and landscapes of special architectural, historical or archaeological importance to preserve or enhance their character or appearance. The churchyard of St Mary Magdalene in North Ockendon lies in close proximity to construction works outside the Order Limits and may result in temporary changes to its setting through construction activity, not out of accord with Policy.

3.4.41 *Policy DC60: Trees and Woodland* sets out the policy criteria for protecting and improving the amenity and biodiversity value of trees and woodland, including supporting the implementation of the Thames Chase Plan and ensuring that development within the area makes a positive contribution towards its implementation. The Project would involve the removal of trees within the Thames Chase priority area, along with blocks of ancient woodland further north around junction 29 of the M25 and A127 either side of the M25. In total, the Project would result in the loss of 7.26ha of ancient woodland to the south of the River Thames and 4.35ha of ancient woodland to the north of the River Thames. To compensate for the loss of this woodland, 63.84ha of woodland would be planted (Application Document 6.2, ES Figure 2.4: Environmental Masterplan).

3.4.42 *Policy DC22: Countryside Recreation* seeks increases in informal recreation in the countryside by ensuring that development within Thames Chase makes a positive contribution to the implementation of the Thames Chase Plan. The Project involves the acquisition of land for the proposed highway alignment at the eastern boundary of Thames Chase to be replaced with an area to the south of Thames Chase. The replacement land would be designed to match the existing Thames Chases Community Forest characteristics.

3.4.43 Land is also required during the construction phase at Folkes Lane Woodland (which forms part of the Thames Chase Community Forest) as part of the widening of the M25 and the provision of a footbridge over the M25 to reconnect the Thames Chase Community Centre to the Land of the Fanns project. A

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permanent easement would also be required at Folkes Lane for which replacement land is to be provided.

3.4.44 Proposals also include connecting the Ockendon Link and improved WCH routes to complement the Thames Chase Plan, along improved access through enhancements to the 'Forest circle' and the creation of interconnected 'Greenway routes' through and around the Thames Chase area. These proposals demonstrate compliance with Policy DC22.

3.4.45 A Mineral Safeguarding Assessment Report (Application Document 6.3, ES Appendix 11.2) has been prepared in support of this Application and has identified the opportunity for the prior extraction of mineral resources, although has determined this to be unfeasible due either to adverse impacts or being economically unviable. This complies with *Policy CP13: Minerals Extraction* which will only permit non-mineral development within Minerals Safeguarding Areas subject to a number of exceptions, including where it is not practicable or economic to extract the minerals prior to the development taking place.

Brentwood Borough Council

3.4.46 Within Brentwood, the Project mainly relates to improvements to the existing M25 junction 29 and therefore the relevant policy framework is confined to the following key policy areas.

3.4.47 In accordance with *Policy T2: New Development & Highway Considerations* requiring that planning permission will not be granted where there are unacceptable impacts on the transport system which cannot be mitigated. The Transport Statement (Application Document 7.9) has demonstrated that there will be no unacceptable detrimental impacts on the transport system arising from the Project within the Borough.

3.4.48 *Policy C5: Retention and Provision of Landscaping and Natural Features in Development* states that existing natural features should be retained as part of development proposals, with new landscape works required to enhance any new development. Brentwood Wooded Hills within the Thames Chase Community Forest is identified as being of high landscape value and is affected by the Project, mainly as a result of utility diversions resulting from proposed improvements to the M25, though no significant effects are predicted to this protected landscape. Mitigation including habitat creation and the improvement and enhancement of the Thames Chase Community Forest are proposed in accordance with the Policy provisions.

3.4.49 *Policy C8: Ancient Landscapes and Special Landscape Areas* supports the development of Thames Chase with development proposals within the community forest area expected to make a positive contribution towards its implementation and to comply with Plan policies. Although the Project will not have a significant impact on Brentwood Wooded Hills and therefore mitigation has not been considered, embedded mitigation to the Thames Chase Community Forest is nonetheless proposed in line with Policy.

3.4.50 The guidance in *Policy GB1: New Development* that planning permission will not be granted in the Green Belt except in 'very special circumstances', has been responded to in full in Chapter 4 of this Statement, where a justification, based on the defined and over-riding need for the Project, no viable alternatives, policy support and temporary impacts has been set-out.

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3.4.51 The conclusions of the Environmental Statement (Application Document 6.1) on air quality and noise and vibration are that there are no significant impacts predicted within the Borough. This accords with *Policy PC4 – Noise, Policy PC6 - Transport Pollution* and *Policy CP1 - General Development Criteria* which are concerned with ensuring that development will not have an unacceptable detrimental impact on health, the environment or amenity.

Kent County Council

Kent Minerals and Waste Local Plan (2013-2030)

3.4.52 In compliance with *Policy CSW 2: Waste Hierarchy*, requiring proposals to ascend the waste hierarchy whenever possible, the Project has demonstrated the implementation of the waste hierarchy in dealing with waste arisings. Details are also provided on how the Project will minimise the production of construction, demolition and excavation waste and its management in line with *Policy CSW 3: Waste Reduction.*

3.4.53 *Policy DM 7: Safeguarding Mineral Resources* sets-out policy criteria to be met for non-mineral development within minerals safeguarding areas in order to be considered acceptable. The Mineral Safeguarding Assessment Report (Application Document 6.3, ES Appendix 11.2) has concluded that there are no proposals to extract mineral resources from MSAs in Kent as this is likely to impact on an adjoining Ramsar site.

Kent Local Transport Plan (2016-2031)

3.4.54 Kent County Council, through the Local Transport Plan includes Lower Thames Crossing as a strategic transport priority, noting that the Project will enable the Council's policy of bifurcation (splitting traffic between the two motorway corridors) to be enacted. The Plan states that, *'we are clear that a new Lower Thames Crossing, to the east of Gravesend, is required to unlock growth, improve journey time reliability, improve network resilience, and enable opportunities for regeneration'.*

3.4.55 In response to the Plan's stated Outcomes, those of relevance to the Project, namely *Outcome 1: Economic Growth and Minimised Congestion* and *Outcome 3: Safer Travel*, the Transport Assessment (Application Document 7.9) provides details on how the Project would reduce congestion and improve journey time reliability to enable economic growth, in compliance with the stated Outcomes.

3.4.56 In terms of *Outcome 5: Better Health and Well-being*, the Project aims to be accessible to all, particularly through improved connectivity and accessibility for WCH via the creation of new and improved PRoWs, both within the County and throughout the Project route

Essex County Council

Essex Minerals Local Plan (July 2017)

3.4.57 In response to *Policy S8– Safeguarding mineral resources and mineral reserves*, which seeks to safeguard mineral resources within Mineral Safeguarding Areas (MSAs), the findings of the Mineral Safeguarding Assessment Report (Application Document 6.3, ES Appendix 11.2) has recommended that no mineral resources should be extracted from MSAs within the County as the two sites identified are considered to be unviable or uneconomically viable to extract.

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Essex Transport Strategy: The Local Transport Plan for Essex (June 2011)

3.4.58 In respect of *Policy 5: Connectivity,* which seeks to strengthen transport networks to support a vibrant, successful and sustainable future for Essex and *Policy 6: Freight Movement* on managing the efficient movement of freight within the County, details are provided within the Transport Assessment (TA) (Application Document 7.9). The TA also provides measures for reducing the incidence and severity of road traffic collisions on roads in Essex in compliance with *Policy 10: Road Safety.* In relation to *Policy 15: Walking and Public Rights of Way* seeking the promotion of walking and the use of PRoW, the Project aims to be accessible to all, particularly through improved connectivity and accessibility for WCH via the creation of new and improved PRoWs and bridleways in line with Policy.

Greater London Authority

The London Plan consolidated with alterations since 2011 (2016)

3.4.59 The London Plan includes a number of strategic policies aimed at guiding development within London up to 2036. Those of particular relevance to the Project include Policy 7.16 Green Belt regarding development within the Green Belt, Policy 7.14 Improving Air Quality Policy 5.16 Waste net self-sufficiency, Policy 5.12 Flood Risk Management, Policy 7.18 Protecting Open Space and addressing deficiency, Policy 7.15 Reducing and Managing Noise, Improving and enhancing the Acoustic Environment and Promoting Appropriate Soundscape and Policy 7.8 Heritage Assets and Archaeology. Each of these policies have been fully addressed in the response to the London Borough of Havering's Adopted Core Strategy and Development Control Policies Development Plan Document (2008) in Appendix B of this Statement which is therefore referred to.

Draft London Plan (Intend to Publish Version) (December 2019)

3.4.60 The Draft London Plan (2019 to 2041) provides a strategic planning framework for Greater London and will, on adoption, replace the current London Plan. The main policy provisions of relevance to the Project, namely *Policy SI 12 Flood risk management, Policy T4 Assessing and mitigating transport impacts* and *Policy T7 Deliveries, servicing and construction* remain unchanged from the current London Plan and that provided by London Borough of Havering, which are both addressed above.

Mayor's Transport Strategy (2018)

3.4.61 The Lower Thames Crossing is included in a list of '*Strategic Infrastructure priorities'.* Cross-cutting *Policy 8* of the Transport Strategy seeks the protection, promotion and enhancement of green infrastructure, and cultural heritage assets affected by transport development. These policy issues have been fully addressed within the planning framework provided by London Borough of Havering as local planning authority and is therefore referred to.

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The Joint Waste Development Plan for the East London Waste Authority Boroughs (2012)

3.4.62 *Policy W1: Sustainable Waste Management* is of relevance to the Project providing detailed guidance on a number of aspects of sustainable waste management. In compliance with the policy, the Project has demonstrated the implementation of the waste hierarchy in dealing with waste arisings, with details provided on how the Project will minimise the production of construction, demolitions and excavation waste and the management of this.

Conclusions on local plan policies

3.4.63 Conclusions on the compliance of the Project with the Local Plan policies are drawn together in Chapter 8: Overall conclusions and the planning balance, along with further references within Chapter 4: Green Belt and Chapter 5: Kent Downs AONB of this Planning Statement.

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4 Green Belt

4.1 Introduction

4.1.1 This chapter assesses the planning issues raised by the location of the Project within the Green Belt and provides an overall assessment of the case for the Project within the Green Belt in order to show compliance with the relevant parts of the NPSNN, and the other relevant national and local policies.

4.1.2 Where information relating to the Green Belt is contained elsewhere within this Statement, along with other supporting documents, this has not been repeated in full as part of this assessment, but is cross referenced or briefly summarised. The following submission documents are of particular relevance:

a. ES Chapter 7: Landscape and Visual (Application Document 6.1)

b. Need for the Project (Application Document 7.1)

c. Transport Assessment (Application Document 7.9)

4.1.3 The structure of this chapter is as follows:

a. The Project within the Green Belt

b. The national and local planning policy framework

c. The division of the Project into 'appropriate' and 'inappropriate' development

d. The impact of the Project on the Green Belt including its openness and purposes

e. The consideration of 'very special circumstances' in support of the Project

f. Conclusion on the compliance of the Project with Green Belt policy

4.2 The Project within the Green Belt

4.2.1 The Project would provide a strategic route between Kent, Thurrock and Essex via a road tunnel under the River Thames, linking the M25, A13 and A2 passing through the Green Belt along its length, with the exception of the tunnel sections under the River Thames. The proposed route extends from Gravesham Borough in the south to Thurrock and the London Borough of Havering to the north.

4.2.2 A full description of the Project and the Order Limits is provided in Chapter 2 of this Statement and is not repeated here. A plan of the route and its relationship to the designated Green Belt is provided in Plate 4.1.

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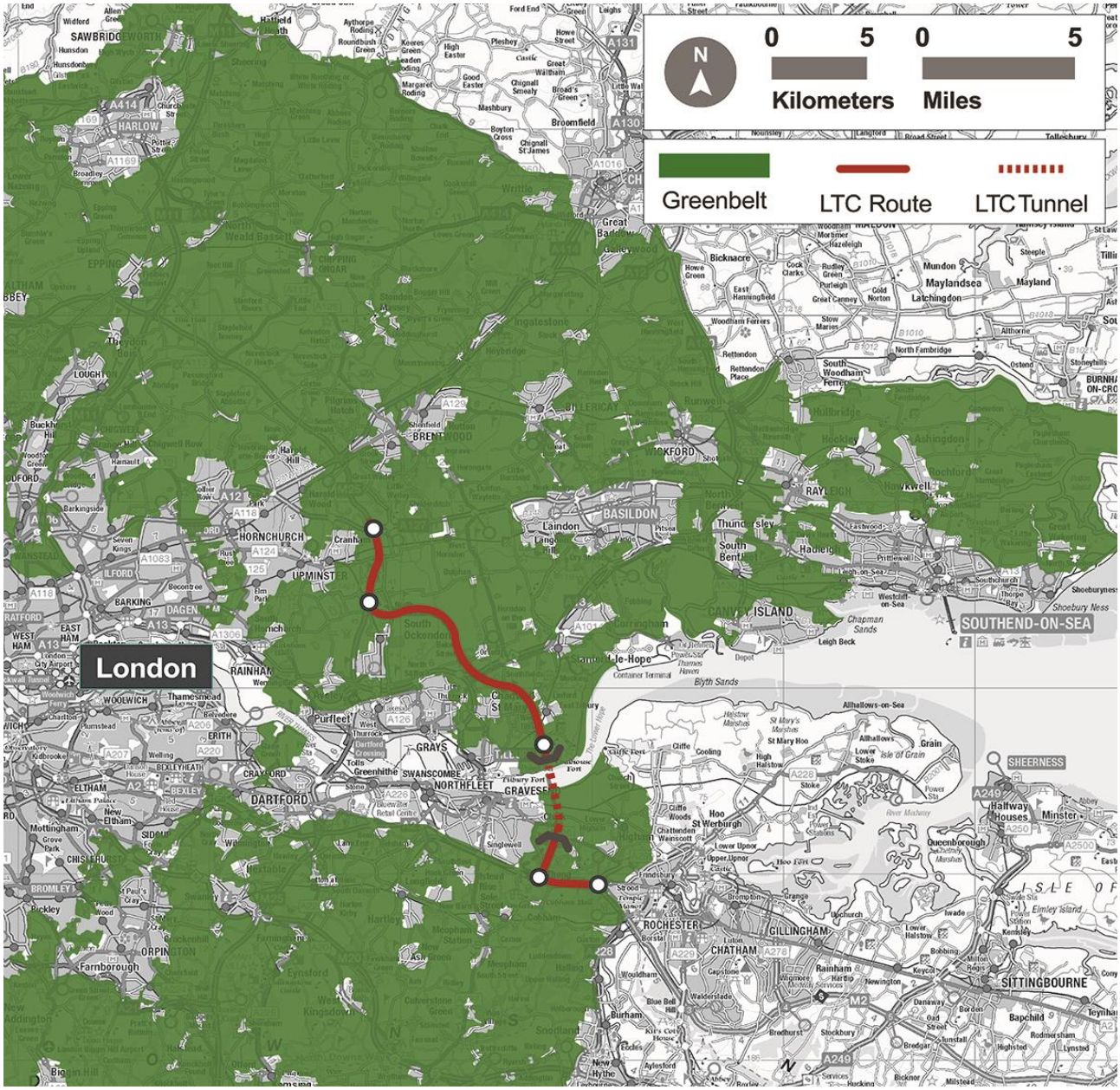
Plate 4.1 Designated Green Belt



4.3 Relevant national policy

4.3.1 This section provides a brief summary of the relevant national policy that underpins the assessment of the Project within the Green Belt, in order to examine the Project in the context of relevant Green Belt policies and to understand the Project's compliance with the policy framework.

4.3.2 The relevant national policy against which the DCO will be determined within the context of the Green Belt is the NPSNN, along with the Overarching National Policy Statement for Energy (EN-1), the National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4) and the National Policy Statement for Electricity Networks Infrastructure (EN-5). The tests and policies relating to the Green Belt are consistent across these NPSs. Further guidance on the acceptability of the Project within the Green Belt is provided by

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the NPPF in which the tests to be complied with are consistent with that set-out in the NPSNN.

4.3.3 Paragraph 5.170 of the NPSNN and paragraph 5.10.10 of EN-1 referr to the general presumption against 'inappropriate' development in the Green Belt and that such development should not be approved except in 'very special circumstances'.

4.3.4 Paragraph 5.10.17 of EN-1 states that *When located in the Green Belt, energy infrastructure projects are likely to comprise 'inappropriate development'. Inappropriate development is by definition harmful to the Green Belt and the general planning policy presumption against it applies with equal force in relation to major energy infrastructure projects.* It continues to advise *In view of the presumption against inappropriate development, the IPC will attach substantial weight to the harm to the Green Belt when considering any application for such development while taking account, in relation to renewable and linear infrastructure, of the extent to which its physical characteristics are such that it has limited or no impact on the fundamental purposes of Green Belt designation.*

4.3.5 Paragraph 5.171 of the NPSNN states that *'the identification of a policy need for linear infrastructure will take account of the fact that there will be an impact on the Green Belt and as far as possible, of the need to contribute to the achievement of the objectives for the use of land in Green Belts.'*

4.3.6 Paragraph 5.164 of the NPSNN which relates to the purposes and protection of Green Belt cross-refers to the NPPF. The following detailed policy guidance of relevance to the Project is provided within the NPPF.

4.3.7 Paragraph 133 of the NPPF sets out the long-established policy framework in relation to Green Belts and states that their fundamental aim is to prevent urban sprawl, with their essential characteristics being their openness and permanence.

4.3.8 Paragraph 134 of the NPPF presents the five purposes for including land in the Green Belt, which are:

a. 'To *check the unrestricted sprawl of large built-up areas;*

b. *To prevent neighbouring town merging into one another;*

c. *To assist in safeguarding the countryside from encroachment;*

d. *To preserve the setting and special character of historic towns; and*

e. *To assist in urban regeneration, by encouraging the recycling of derelict and other urban land*.'

4.3.9 Paragraph 141 of the NPPF states that once a Green Belt is defined, local planning authorities should plan positively, *'to provide access, to provide opportunities for outdoor sport and recreation, to retain and enhance landscapes, visual amenity and biodiversity, or to improve damaged or derelict land.'*

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4.3.10 Paragraph 143 of the NPPF makes clear that 'inappropriate' development should not be approved except in 'very special circumstances'.

4.3.11 Paragraph 144 of the NPPF goes on to say that, *'when considering any planning application, local planning authorities should ensure that substantial weight is given to any harm to the Green Belt. 'Very special circumstances' will not exist unless any potential harm to the Green Belt by reason of inappropriateness, and any other harm, is clearly outweighed by other considerations.'*

4.3.12 Paragraph 145 of the NPPF states that the construction of new buildings in the Green Belt should be regarded as 'inappropriate'. The guidance lists a number of exceptions to this, as follows:

a. 'buildings for agriculture and forestry

b. the provision of appropriate facilities (in connection with the existing use of land or a change of use) for outdoor sport, outdoor recreation, cemeteries and burial grounds and allotments; as long as the facilities preserve the openness of the Green Belt and do not conflict with the purposes of including land within it

c. the extension or alteration of a building provided that it does not result in disproportionate additions over and above the size of the original building

d. the replacement of a building, provided the new building is in the same use and not materially larger than the one it replaces

e. limited infilling in villages

f. limited affordable housing for local community needs under policies set out in the development plan (including policies for rural exception sites)

g. limited infilling or the partial or complete redevelopment of previously developed land, whether redundant or in continuing use (excluding temporary buildings), which would:

    i. not have a greater impact on the openness of the Green Belt than the existing development; or

    ii. not cause substantial harm to the openness of the Green Belt, where the development would re-use previously developed land and contribute to meeting an identified affordable housing need within the area of the local planning authority.'

4.3.13 Paragraph 146 of the NPPF lists certain other forms of development which are also 'not inappropriate' in the Green Belt provided they preserve the openness of the Green Belt and do not conflict with the purposes of including land in the Green Belt. This includes the following exceptions:

a. '*mineral extraction*

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b. *engineering operations*

c. *local transport infrastructure which can demonstrate a requirement for a Green Belt location*

d. *the re-use of buildings provided that the buildings are of permanent and substantial construction*

e. *material changes in the use of land (such as changes of use for outdoor sport or recreation, or for cemeteries and burial grounds)*

f. *development brought forward under a Community Right to Build Order or Neighbourhood* Development Order.'

4.3.14 Overarching National Policy Statement for Energy (EN-1) is of relevance to the Project, which also includes both gas pipeline and overhead electric line works within the Green Belt.

4.3.15 Paragraph 5.10.4 states that, '*Green Belts, defined in a local authority's development plan are situated around certain cities and large built-up areas. The fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the most important attribute of Green Belts is their openness. Green Belt land can play a positive role in providing access to sport and recreation facilities or access to the open countryside. For further information on the purposes of Green Belt policy see PPG2 or any successor to it*.'

4.4 Relevant local policy

4.4.1 The following Green Belt policies are drawn from 'host' local authorities' adopted Local Plans, providing a level of detail reflecting local circumstances, consistent with national planning policy.

4.4.2 Policy CSSP4 (Sustainable Green Belt) within Thurrock Council's (2015) Core Strategy and Policies for Management of Development sets out a wide-ranging policy framework for development proposals within the Green Belt. The policy seeks to support, inter alia, *'the constructive and positive use of the Green Belt for sports and leisure purposes'* and, *'will actively encourage the pursuit of leisure and sports activities appropriate to the Green Belt by improving connectivity between Thurrock's Urban Areas and the Green Belt*.*'*

4.4.3 Policy CSSP4 also seeks to reinforce the existing Green Belt boundary through the enhancement of local landscape features, the implementation of the Greengrid Strategy and in promoting sustainable design and construction.

4.4.4 Policy PMD6 (Development in the Green Belt) states that the council will plan *'positively to enhance the beneficial use of the Green Belt by looking for opportunities to provide access to the countryside, opportunities for outdoor sport and recreation, to retain and enhance landscapes, visual amenity and biodiversity, and to improve damaged and derelict land'*.

4.4.5 Policy GB2 (Development Criteria) within Brentwood Borough Council's (2005) Replacement Local Plan includes the following specific criteria-based policy for

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assessing development proposals within the Green Belt, in which account will be taken of:

a. 'the *effect of proposals on public rights of way*

b. *the need to preserve or enhance existing landscape features*

c. *any building must be satisfactorily located in respect of the surrounding landscape and any adjoining buildings.'*

4.4.6 Policy 7.16 of the Greater London Authority's (2016) London Plan consolidated with alterations since 2011 provides for the protection of the Green Belt, consistent with national planning policy.

4.5 Appropriate/inappropriate development

4.5.1 On the basis that the Project as a whole incorporates a significant amount of physical infrastructure, and for the purposes of a worst-case assessment, the Project 'as a whole' is treated as 'inappropriate' development in line with the policy definition set out within national guidance referred to above.

4.5.2 However, the Project includes numerous component parts, of which a number constitute 'appropriate' development within the Green Belt. This chapter considers the various elements of the Project that are being delivered and whether each element is considered to be 'appropriate' or 'inappropriate' development.

4.5.3 In accordance with a number of DCO precedents (M4 Junctions 3 to 12 Smart Motorway, Knottingley Power Project, and Tilbury2), disaggregating the elements of the Project in this way is considered helpful in understanding the extent of harm to the Green Belt. However, as noted in Kemnal Manor Memorial Gardens v First Secretary of State [2005] EWCA Civ 835, it is readily acknowledged that the Project should not be regarded as being acceptable in Green Belt policy terms on the basis that part of it is considered to be appropriate.

4.5.4 If that analysis is rejected, in any event, there are 'very special circumstances' to justify the Project as a whole in the Green Belt.

Green Belt 'appropriate' development'

4.5.5 This section provides a summary of the elements of the Project which could constitute 'appropriate' development. The following forms of 'appropriate' development are relevant in this context:

a. Local transport infrastructure

b. Engineering operations

c. Material changes in the use of land

d. Facilities for outdoor sport and recreation

e. Mineral extraction

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f. Extension or alteration of a building

g. Replacement of a building

4.5.6 Taking each of the 'exceptions' in turn, their application to the Project is considered further below:

a. While local transport infrastructure bears some relationship to the Project, it is forecast that most journeys along the Project route will be greater than local in length, whether regional, national or international. Although the NPPF does not define local in a planning context, it is assumed that the development of the Project, as a highway scheme of national and regional importance, is likely to be treated for the most part as 'inappropriate' development. Limited exceptions of relevance to the Project are likely to include improvements to the local road network, improved connections onto it, local accesses and road widenings which can demonstrate a requirement for a Green Belt location. In this context, it is worth noting there are established precedents for particular DCO projects relying on this 'exemption' (see, for example the A19 Downhill Lane project).

b. It is likely that elements of the Project may be regarded as 'engineering operations'. Where the use of land is of a temporary nature or involves temporary construction activities or machinery, an 'engineering operation' can therefore be regarded as 'appropriate' development, provided they preserve the openness of the Green Belt and do not conflict with the purposes of including land within it. Whilst a number of temporary elements may individually comprise engineering works, in combination this may make the Project more than an 'engineering operation' and be regarded as either a building, mining or other operation. In such circumstances, those temporary elements would in combination be regarded as 'inappropriate' development.

c. In respect of material changes in the use of land within the Green Belt, such proposals could be regarded as 'appropriate' development where they relate to the exceptions to the normal restrictions on development.

d. Any built development associated with sports and recreation facilities is likely to be considered appropriate provided it is limited to development that is essential, ancillary and of an appropriate scale and design such that it would maintain the openness of the Green Belt. If the proposed facility does not fall within the scope of this definition it would be regarded as 'inappropriate'.

e. The opportunity exists for the prior extraction of mineral resources within designated Mineral Safeguarding Areas through which the Project route passes within Essex County Council, Kent County Council and the London Borough of Havering. (ES Appendix 11.2: Mineral Safeguarding

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Assessment Report (Application Document 6.3) has however determined that areas potentially suitable for mineral extraction prior to construction are unfeasible, due either to adverse impacts or being economically unviable).

f. The extension or alteration of a building is regarded as 'appropriate' development, provided it does not result in a disproportionate addition over and above the size of the original building. This may be relevant to the Project (eg where overhead lines are replaced or upgraded).

g. Similarly, the replacement of an existing building is considered to be 'appropriate' development, provided the new building is in the same use and is not materially larger. This is not considered to be relevant to the Project.

4.5.7 The update to Planning Policy Guidance (PPG) published in July 2019 by the Ministry of Housing, Communities and Local Government includes a new section on the role of the Green Belt in the planning system. This includes advice on offsetting the removal of land from the Green Belt by compensatory improvements where it has been demonstrated necessary to release land from the Green Belt for development. This could for instance include the following proposals, which may be regarded as 'appropriate' development:

a. *'new or enhanced green infrastructure;*

b. *woodland planting;*

c. *landscape and visual enhancements (beyond those needed to mitigate the immediate impacts of the proposal);*

d. *improvements to biodiversity, habitat connectivity and natural capital;*

e. *new or enhanced walking and cycle routes; and*

f. *improved access to new, enhanced or existing recreational and playing field provision.'*

4.5.8 Each of these provisions is regarded as having particular relevance to the Project in view of the extent of landscape mitigation and green infrastructure proposed as part of the wider Project enhancements, along with proposals for new and improved walking and cycle routes.

Disaggregating the Project elements

4.5.9 In disaggregating the constituent parts of the Project into 'appropriate' and 'inappropriate' development, it is necessary for those elements of the Project referred to under the 'appropriate development' headings above to be sufficiently distinct in order to constitute standalone parts. (As noted above, this approach is precedented from other DCO applications, and if rejected, there are notwithstanding 'very special circumstances' in justifying the impacts of the Project to the Green Belt).

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4.5.10 The following criteria are considered to provide a basis on which to assess whether elements of the Project can be regarded as 'appropriate' development or whether each element should be treated as 'inappropriate' development' and not considered further as part of this assessment:

a. The geographic proximity of the constituent parts

b. The extent to which the constituent parts are severable

c. The extent to which the constituent parts have differing purposes

4.5.11 Based on the above considerations, a number of permanent elements of the Project from the earlier list of 'exceptions' to 'inappropriate' development in the Green Belt can be discounted as not meeting the above criteria, along with a number of temporary works that by virtue of their physical connectivity are regarded as more than 'engineering operations'.

4.5.12 The geographic proximity, related purposes and physical/functional relationship of the following constituent parts of the Project to the main highway works are all considered to constitute a single Project element and are not considered further as part of this assessment:

a. Overbridges

b. Underpasses

c. Retaining walls

d. Embankments

e. Highway widening

f. Portals

g. Tunnel

h. Tunnel Services Buildings

i. Emergency refuge areas

j. Turnarounds

k. Viaduct structures

l. Culverts

m. Integral enhancement works

4.5.13 In order to determine whether those standalone elements of the Project can be regarded as comprising 'appropriate' or 'inappropriate' development, a three-stage test has been applied as set out below:

a. Stage 1: Whether the Project elements prima facie meet the definition of elements of 'appropriate' development

b. Stage 2: Whether the Project elements impact on the openness of the Green Belt

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c. Stage 3: Whether the Project elements are consistent with the five purposes of the Green Belt

Stage 1 – Green Belt Project elements

4.5.14 Table 4.1 presents the permanent and temporary Project elements that remain to be assessed. This forms Stage 1 of the three-stage assessment process to determine whether the individual Project elements can be regarded as falling within the express definition of 'appropriate' development.

Table 4.1 Green Belt Project elements (Stage 1)

Project elements	Assessment	Reason
Permanent works		
Gantries Signage Variable message signals CCTV Lighting	Inappropriate development	Proposals represent above ground, permanent building works forming part of the SRN. (Where serving a local need/area or local road network, these elements could be regarded as local transport infrastructure and considered 'appropriate' development.')
Ponds: Balancing Drainage Sediment	Appropriate development	Considered to comprise an engineering operation.
Footbridge WCH routes (walking/cycling/horse-riding)	Appropriate development Appropriate development	Regarded as local transport infrastructure in serving a local need or area. WCH routes are considered to comprise outdoor recreation.
Existing utility diversions - overhead pylons Substations	Appropriate development Inappropriate development	Any extension or alteration of an overhead line and pylon could be regarded as an extension or alteration of an existing building. Proposal represents above ground, permanent building works forming part of the SRN.
Utility diversions - underground pipelines	Appropriate development	Underground pipelines are regarded as an engineering operation.
Mitigation or enhancement land Landscape works Compensation open access land Flood compensation land	N/A	Such works required to mitigate the immediate impacts of the Project forming part of the SRN, and do not constitute a form of inappropriate development on the basis they are not "development" for these purposes.

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Project elements	Assessment	Reason
Access roads Private means of access Public means of access	Appropriate development	Access roads are regarded as engineering operations.
Traveller site (physical structures)	Inappropriate development	Where this involves above ground, permanent building works.
Earthworks	Appropriate development	Considered to comprise an engineering operation.
Fencing	Inappropriate development	Where this relates to the main road highway works associated with the SRN.
Temporary engineering works		
Lighting Construction compounds Ponds WCH routes Earthworks Water course diversion Access roads Mineral extraction	Appropriate development	These Project elements relate to standalone, temporary construction activities. The harm to the Green Belt would be temporary and reversable and the long-term integrity of the Green Belt would be protected.

4.5.15 Through Stage 1 of the assessment, a number of Project elements are, on a preliminary basis and subject to Stages 2 and 3, shown to comprise 'appropriate' development to be taken forward to the next stage of the assessment process. This will consider the extent to which these proposals are considered to preserve the openness of the Green Belt.

Stage 2 – Green Belt openness

4.5.16 In line with national planning policy, the fundamental aim of the Green Belt is in preventing urban sprawl by keeping land within it permanently open.

4.5.17 The update to Planning Policy Guidance (Ministry of Housing, Communities and Local Government, 2019) has included the following factors that may be taken into account in assessing the potential impacts of development on the openness of the Green Belt.

4.5.18 This includes, but is not limited to the following:

a. Openness is capable of having both spatial and visual aspects – in other words, the visual impact of the proposal may be relevant, as could its volume.

b. The duration of the development, and its remendability – taking into account any provisions to return land to its original state or to an equivalent (or improved) state of openness.

c. The degree of activity likely to be generated, such as traffic generation.

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4.5.19 This initial 'test' of openness is concerned with identifying whether the Project elements can be regarded as 'exceptions' to development within the Green Belt and not whether they are acceptable uses in the Green Belt which is considered in detail under Section 4.6 below.

4.5.20 Based on the above considerations, Table 4.2 below presents an assessment of the 'test' of openness in relation to both proposed permanent and temporary elements of the Project, taken forward from the Stage 1 assessment:

Table 4.2 Stage 2 – 'Test' of Openness

Project element	Assessment	Reason
Earthworks (permanent and temporary): • Landscape proposals • Engineering • Flood defences	Inappropriate Development	Engineered embankments and flood defences provide visually intrusive boundaries and will not assist in preserving the openness and amenity of the Green Belt.
Ponds: • Balancing • Drainage • Sediment	Appropriate development	No harm identified to the openness of the Green Belt, as the ponds by virtue of their assimilation in the landscape will preserve the amenity of the surrounding area.
Footbridge (permanent)	Inappropriate development Appropriate development	An intrusive element within the Green Belt resulting in a visual impact on the openness of the Green Belt, as elevated structures in the landscape.
Footbridge (temporary)	Appropriate development	The temporary nature of the above impacts, the reinstatement of the land to its former condition and the non-intrusive public use of the footbridge.
WCH routes (walkways/cycleways)	Appropriate development	Largely open and small-scale pedestrian corridors/cycle routes formed at a low level with non-intrusive public use.
Existing utility diversions - overhead pylons	Appropriate development	No greater intrusion to the openness of the Green Belt as a consequence of the diversion of an existing overhead pylon and therefore does not affect the existing openness of the Green Belt.
Utility diversions - underground pipelines	Appropriate development	No harm identified to the openness of the Green Belt by virtue of being underground.
Access roads • Private means of access • Public means of access	Inappropriate development	Harm caused to the openness of the Green Belt due to the urbanising effect of highways and associated activity from vehicles using it. Will intensify the level of development and associated highway activity.

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Project element	Assessment	Reason
Landscape enhancements • Green Infrastructure	Appropriate development	Will preserve the openness and amenity of the Green Belt.
• Woodland planting	Appropriate development	The scale and impact of woodland planting within the landscape is unlikely to preserve the openness of the Green Belt through the introduction of strong vertical elements in the landscape, though it is not considered to be 'development'.
• Biodiversity Improvements	Appropriate development	Negligible impact on the openness and amenity of the Green Belt.
Watercourse diversion (permanent and temporary)	Appropriate development	No harm identified to the openness of the Green Belt, due to the narrow and low-lying nature of watercourses in the landscape.
Mineral extraction (temporary)	Appropriate development	Minerals can only be worked where they are found and as a temporary activity will be subject to a formal restoration scheme to reinstate the land to its former use.
Fences (permanent and temporary): • Contractor's • Security	Appropriate development	Essentially unobtrusive boundary lines, comprising insignificant features within the context of the Project as a major highway scheme. Will preserve openness.
Lighting – urban areas (local highway network) (permanent and temporary)	Appropriate development	The proposed lighting columns will be slender where sited in an urban setting. No impact of the lighting units on night skies by virtue of the surrounding highway activity and built-up areas.
Lighting – rural areas (local highway network) (permanent and temporary)	Inappropriate development	For rural areas, lighting columns have a greater visual and aesthetic impact including impacts on night-time light pollution.
Contractor's compounds (temporary)	Inappropriate development	Comprising various structures, hardstanding areas, access tracks and materials that collectively will appear as obtrusive features in the landscape.
Signage (temporary)	Appropriate development	Relatively small-scale Contractor's signage generally of a scale that would not impact on the openness of the Green Belt.

4.5.21 The final stage in the assessment process is to determine whether those Project elements identified as meeting the 'test' of openness in Table 4.2 are consistent with the five purposes of the Green Belt.

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Stage 3 – Green Belt purposes

4.5.22 In determining the extent to which harm may be caused to the Green Belt as a result of development proposals, reference is made to the five purposes of the Green Belt, as set out in paragraph 130 of the NPPF. To assist in understanding the meaning of the purposes and how they can be differentiated from each other, the following explanation of the terms has been used.

a. To check the unrestricted sprawl of large built-up areas

Can be defined as the irregular and inefficient spread of an urban area outwards and includes cities, towns or villages.

b. To prevent neighbouring towns merging into one another

Can be defined as the role that an area plays in preventing towns merging and relates to the proximity of neighbouring towns. This can include the physical or visual linking of settlements or areas of built development.

c. To assist in safeguarding the countryside from encroachment

Encroachment can be defined as the gradual advancement of an urban area beyond an acceptable or established limit of development. Can be characterised as the absence of built development or any urbanising influences within an area.

d. To preserve the setting and special character of historic towns

This aspect relates to the impact of a development on the setting and special character of historic towns.

e. To assist in urban regeneration by encouraging the recycling of derelict and other urban land

By restricting the availability of land for development all areas of Green Belt effectively assist in urban regeneration by promoting the reuse of derelict and underutilised land within existing settlements. The extent to which each Project contributes to regeneration aspirations needs to be assessed.

4.5.23 Within the context of this assessment, it is concluded that the most relevant Green Belt purpose in considering the individual elements of the Project is that which seeks '*to assist in safeguarding the countryside from encroachment*'. The nature and scale of the individual Project elements are not, by themselves, considered to have any bearing on the other four purposes of the Green Belt, namely checking the sprawl of large built-up areas, preventing the merger of neighbouring towns, preserving the setting and special character of historic towns or assisting urban regeneration by encouraging the recycling of derelict and other urban land.

4.5.24 For those Project elements that can be described as having an urbanising effect within the landscape, these are not considered, '*to assist in safeguarding the countryside from encroachment*' and are therefore discounted from further consideration, but rather are treated as comprising 'inappropriate' development.

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4.5.25 However, the following Project elements are considered to preserve the rural and open nature of the landscape in line with the policy requirement 'to *assist in safeguarding the countryside from encroachment*'. These elements, comprising both permanent and temporary works, can therefore be regarded as comprising 'appropriate' development within the context of the Project:

a. Ponds
b. WCH routes
c. Existing utility diversions - overhead pylons
d. Utility diversions – underground pipes
e. Earthworks
f. Water course diversions
g. Temporary footbridges
h. Temporary mineral extraction
i. Fences
j. Green infrastructure
k. Biodiversity improvements

4.5.26 In total, approximately 10% of the permanent and temporary land take for the Project in the Green Belt is considered to be for elements of the Project which can be described as 'appropriate' development.

4.5.27 It is important to understand the extent to which some elements of the Project are considered 'appropriate' within the Green Belt. However, it is acknowledged that the Project as a whole comprises 'inappropriate' development for the purposes of a worst case assessment. The sections below conclude there are 'very special circumstances' even if the analysis directly above is rejected.

4.6 Green Belt justification

4.6.1 Notwithstanding the conclusions above in relation to 'appropriate' development, this section provides a worst case assessment assuming the Project as a whole is 'inappropriate' development. In accordance with policy guidance, as an 'inappropriate' form of development within the Green Belt, it is necessary to fully justify the Project's location within the designated Green Belt by reference to the following matters:

a. Harm to Green Belt openness.
b. Harm to the Green Belt purposes.
c. Non-Green Belt harm.
d. Whether those harms are clearly outweighed by the benefits of the Project such that 'very special circumstances' exist to justify the 'inappropriate' development in the Green Belt.

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Green Belt openness

4.6.2 Assuming the Project as a whole represents 'inappropriate' development in the Green Belt, it will cause harm to the Green Belt by reason of its inappropriateness. It is also necessary to consider whether it will harm the openness of the Green Belt in line with national policy guidance. The assessment has focused on the proposed route alignment. The diversion of the existing overhead electric line is largely within the existing infrastructure corridor will have no material impact on the openness of the Green Belt. The proposed gas pipeline diversion will be constructed underground and is therefore not considered to have an impact on the openness of the Green Belt.
When constructed.

4.6.3 As stated earlier, the 'test' of openness is a three-dimensional one, concerned with both the visual as well as the spatial impacts of the proposed development, along with the level of activity generated and its duration. The 'test' applies to permanent as well as temporary uses.

4.6.4 Openness as a characteristic of Green Belts is not formally defined.

4.6.5 The interlinked dimensions of spatial and visual openness can be defined as follows and have formed the basis of this assessment:

a. Spatial openness can be considered to be the two-dimensional, horizontal extent of the Green Belt area without built development.

b. Visual openness relates to the absence of vertical elements interrupting views across the Green Belt.

4.6.6 In order to fully understand the extent of harm to the openness of the Green Belt as a result of the Project, an assessment has been undertaken of its potential impacts utilising Green Belt studies previously undertaken by the 'host' local authorities, namely:

a. Thurrock Council (2019) Thurrock Strategic Green Belt Assessment Stages 1a and 1b

b. Gravesham Borough Council (2018) Gravesham Green Belt Study 2018

c. London Borough of Havering (2018) Site Green Belt Assessment and Sustainability Assessment: Final Report

d. Brentwood Borough Council (2018) Green Belt Study Part II: Green Belt Parcel Definition and Review (Reg 19 Pre-Submission)

4.6.7 The approach taken within each study above has been to divide the respective local authority areas into a series of Green Belt parcels, correlated against the local landscape character areas in establishing the degree of existing openness for each parcel to inform both spatial and visual openness. Any existing (or approved but not yet constructed) built development within the Green Belt parcels has been accounted for in considering the baseline openness.

4.6.8 Plate 4.2 below shows the parcels of land directly affected by the Project as having been assessed.

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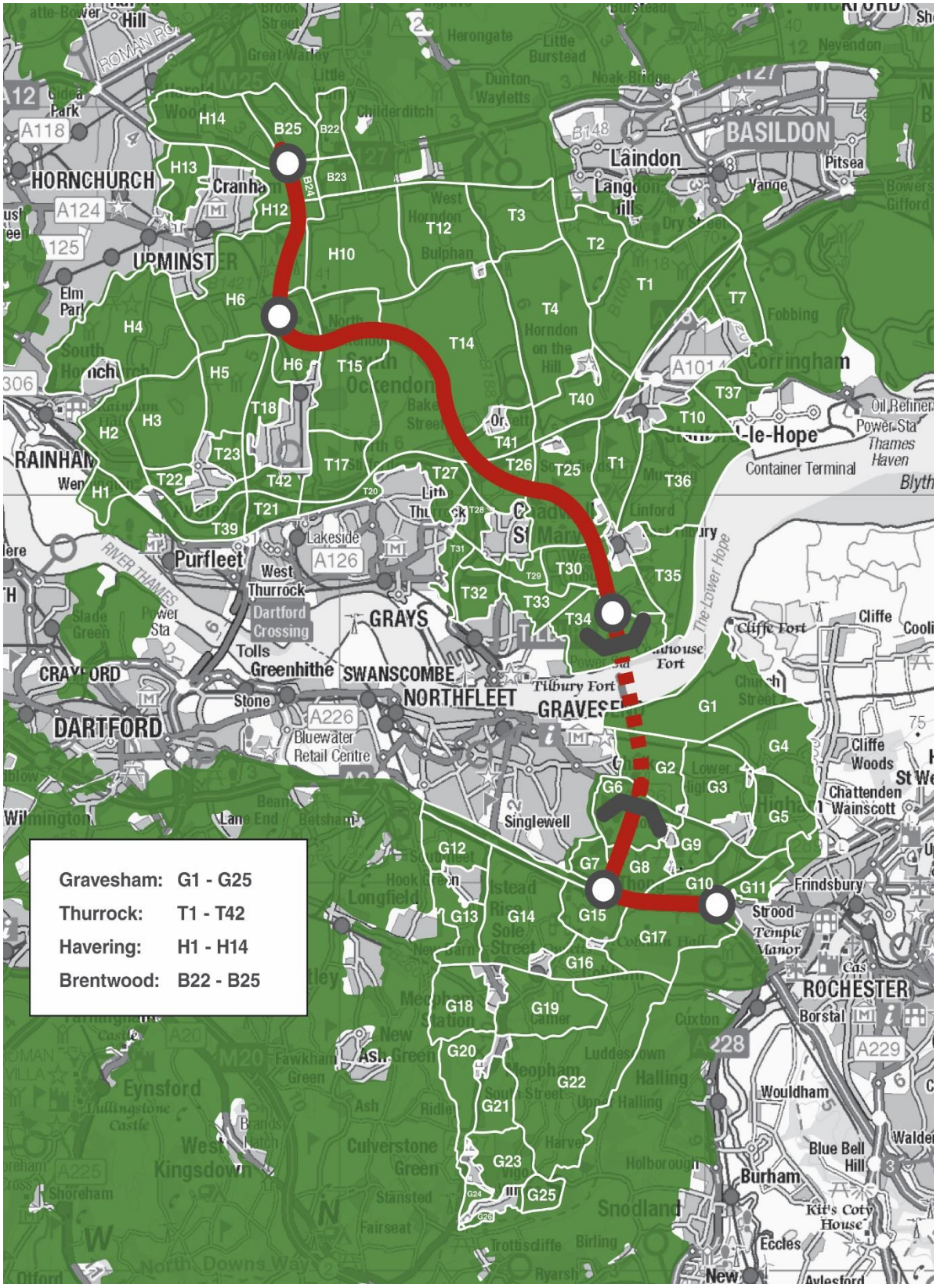
Plate 4.2 Green Belt openness parcels



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4.6.9 The existing visual openness each Green Belt parcel has been defined on a three-point scale as part of this review, as follows:

a. Low: definite sense of enclosure – topography and/or woodland limit views within the parcel.

b. Medium: views across parcel often interrupted to some extent by landform hedgerows or woodland.

c. High: open expansive parcel – little or no interruption to views across parcel.

4.6.10 The change in visual openness for each parcel as a result of the Project has then been assessed as falling within one of four categories:

a. Negligible: minimal change to the sense of openness

b. Minor: noticeable change but limited in nature or extent

c. Moderate: definite changes to the sense of openness

d. Major: substantial alteration to the openness character of the area

4.6.11 Any change categorised above negligible is regarded as not maintaining visual openness. A level of change of moderate or above is considered to have a significant impact. Notwithstanding, all adverse impacts on openness are considered.

4.6.12 In relation to spatial openness, the following three-point scale relating to the approximate proportion of the Green Belt parcel that currently comprises built development has been used:

a. Low: there is considerable built development within the Green Belt area.

b. Medium: there is some built development within the Green Belt area.

c. High: there is little built development within the Green Belt area.

4.6.13 The approximate area of the Project within each parcel has been measured to include all aspects of built development, excluding planting areas. This has been set out as an approximate percentage expressing the change on the area of the parcel that is built as a result of the Project. The percentage impact on the level of spatial openness is then converted into the following categories:

a. Negligible Less than 1%

b. Minor Between 1 and 5%

c. Moderate Between 5 and 10%

d. Major Over 10%

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4.6.14 Any change categorised above negligible is regarded as not maintaining spatial openness. A level of change of moderate or above is considered to have a significant impact.

4.6.15 For the purpose of this assessment, the effects of the Project have been considered some 15 years after opening. This is regarded as the landscape "design year" at which point new woodland planting would be sufficiently mature to fulfil any required screening function and would therefore be impacting on visual openness.

4.6.16 The following tables presented for each of the 'host' local authorities describe the extent of change within each of the identified Green Belt parcels as a result of the Project in relation to both visual and spatial openness separately.

Table 4.3 Gravesham Borough Council

Parcel	Equivalent LLCA	Existing openness	Openness rating	Change
Visual				
G17	West Kent Downs (sub area Cobham)	The landscape offers a moderate level of containment as result of gently undulating topography. There is significant coverage of hedgerow trees and woodland at Cobham Park and Ashenbank Wood.	Low	**Minor** impact Some slight tree loss on northern boundary of this parcel that will increase openness but very little effect south of HS1.
Spatial				
G17	West Kent Downs (sub area Cobham)	The north-western part of the parcel comprises the buildings of Cobham Hall School and its grounds (Cobham Park and West Park). To the east of this are the Rochester and Cobham golf club and its associated club house. The eastern part of the site largely consists of woodland. There is a cluster of buildings around Lodge Farm in Lodge Lane and there are other farms in the parcel (Cobhambury and Knights Place).	Medium	**Negligible** impact Only effect is on WCH route.
Visual				
G15	West Kent Downs (sub area Cobham)	East side Gently undulating topography with coverage of hedgerow trees and woodland.	Medium	**Minor** impact Some slight tree loss on northern boundary but very little effect on sense of enclosure south of HS1.

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Parcel	Equivalent LLCA	Existing openness	Openness rating	Change
	Istead Arable Farmlands	West side Farmlands wide and open views out towards the urban edge of Gravesend and HS1 to the north.		
Spatial				
G15		There is some built development, particularly around Battle Street and Owletts (west of Cobham village) and Jeskyns Court in the westernmost part of the parcel.	Medium	**Negligible** impact WCH route only
Visual				
G11a	West Kent Downs (sub area A2/HS1 Corridor)	The corridor is enclosed by woodland. However, the presence of infrastructure is more dominant with lengthy views east/west – woodland edges are defining characteristic features	Medium	**Minor** impact Extensive remodelling of road infrastructure and associated loss of trees within the corridor increases openness. However, extensive new woodland will be planted within the new junction.
Spatial				
G11a		The parcel comprises the corridors of A2/M2 and HS1 railway line. It also consists of areas between the former A2 corridor, the realigned A2 corridor and the railway line. The area is infrastructure dominated. The buildings of the former Tollgate Hotel are located east of the A227, immediately north of the realigned A2. There are a few other buildings between the A2 and the railway line close to the Marling Cross junction. These include the Esso Petrol station at Cobham and depots associated with HS1.	Low	**Major** impact Extensive remodelling of road infrastructure and loss of existing open space

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Parcel	Equivalent LLCA	Existing openness	Openness rating	Change
Visual				
G7	Higham Arable Farmland (sub area Thong)	Open arable landscape – wide views. Some woodland adjoining A2.	High	**Major** impact. Loss of openness- Significant infrastructure works within area will interrupt views and new woodland planting adjoining urban edge of Gravesend.
Spatial				
G7		Small parcel with some smallholdings with horse paddocks in the eastern part of the parcel. There are a number of dwellings and farm buildings along Thong Lane which form part of Thong village.	High	**Major** impact New interchange has large footprint.
Visual				
G8	West Kent Downs (sub area Shorne) and Shorne Wooded slopes	Extensive woodland is the key distinguishing feature, in combination with the ridge landform. Strong sense of enclosure.	Low	**Minor** impact- Very limited direct impact on area. Remains predominately wooded.
Spatial				
G8		Most of the parcel is woodland and this is largely within the Shorne Woods Country Park. The park has a large car park and a visitor centre which are accessed from Brewers Road. The Inn on the Lake Hotel lies in the south-western corner of the parcel. There are a number of dwellings along Thong Lane which form part of Thong village and a few dwellings accessed from Shorne Ifield Road.	High	**Minor** impact Limited Project footprint in this area
Visual				
G6	Higham Arable Farmland	Gently undulating, there are extensive views across open arable land of a typically	High	**Moderate** impact.

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Parcel	Equivalent LLCA	Existing openness	Openness rating	Change
	(sub area Chalk)	regular pattern of medium to large fields, from within the character area and views out of the character area, towards the marshes and River Thames in the north. A lack of tree cover.		Some loss of openness. The Project road would be in cutting and the southern tunnel portal is mostly below ground. However there is significant amounts of new woodland proposed together with new infrastructure which will affect the existing sense of openness here.
Spatial				
G6		Large areas of the parcel fronting Thong Lane are in recreational use, formed of golf courses, a golf driving range, the Cascades leisure complex and the Thames view School playing fields. The rest of the parcel is largely in arable use with a limited number of buildings along the road frontages.	High	**Major** impact Includes the new land raised area park.

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Table 4.4 Thurrock Council

Parcel	Equivalent LLCA	Existing openness	Openness rating	Change
Visual				
T34	Tilbury Marshes	Strong sense of openness due to open character and absence of development. An open, exposed, flat, low-lying area.	High	**Moderate** impact. Some loss of openness. Viaduct and new woodland will limit views at north-east corner of the parcel. The land raised area south of North Portal will interrupt openness of parcel. However, this will appear naturalistic.
Spatial				
T34	Tilbury Marshes	Almost complete lack of development. There is only the railway which forms the northern boundary of this parcel and the numerous pylons	High	**Major** impact. This area includes the land raised area which will affect spatial openness.
Visual				
T30	West Tilbury Urban Fringe	General sense of openness with some encroachment The area is generally open in character with landcover consisting mostly of large arable fields.	High	**Moderate** impact. Some loss of openness. Viaduct and false cuttings will restrict some east–west views.
Spatial				
T30	West Tilbury Urban Fringe	Includes settlements of West Tilbury and Low Street. There are a number of large farms and several areas of small industrial units, the recycling site and Barvills solar farm	Medium	**Moderate** impact. Includes North Portal and viaduct which have a significant footprint
Visual				
T25	West Tilbury Urban Fringe	Clear sense of openness The area is generally open in character with landcover consisting mostly of large arable fields.	High	**Moderate** impact. Some loss of openness – the road embankments, false cuttings and woodland

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Parcel	Equivalent LLCA	Existing openness	Openness rating	Change
	Linford/Buckingham Hill urban Fringe	Visually prominent broad ridge		planting will restrict some local views to the south-east and north-west across the area. However, the overall sense of openness will remain.
Spatial				
T25		Significant development – particularly to the north of the parcel. Housing and industrial units off Sandown Road, the large Tarmac quarry and industrial complex off Buckingham Hill Road. Orsett golf club and associated buildings and various farms often with associated industrial units or residential properties.	Medium	**Major** impact. Large footprint of new infrastructure.
Visual				
T26	White Croft/Orsett Heath Urban Fringe	Semi-open landscape. Large fields with weak enclosure.	Medium	**Minor** impact Introduction of false cuttings and overbridges together with new hedgerows will slightly reduce openness. The A13/A1089/A122 Lower Thames Crossing junction will introduce additional embankments and overbridges in the north-west section of the area.
Spatial				
T26	White Croft/Orsett Heath Urban Fringe	Includes the settlement of Orsett Heath and several groups of cottages. Gammon Staples Farm, Whitecroft-Runwood home Heath Place Farm.	Medium	**Major** impact Extensive junction interchange.
Visual				
T27	White Croft/Orsett Heath	Strong perception of openness.	High	**Moderate** impact. Some loss of openness due to

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Parcel	Equivalent LLCA	Existing openness	Openness rating	Change
	Urban Fringe	Large fields with weak enclosure.		elements of the A13/A1089/A122 Lower Thames Crossing junction which will introduce additional embankments and overbridges in the north of the area supplementing the existing embankments and overbridge.
Spatial				
T27		Defined by the edge of Chafford Hundred. Includes Gammon Field, William Edwards School – Grey Goose Farm and Little Wellhouse Farm	Medium	**Moderate** impact. Extended junction footprint
Visual				
T41	White Croft/Orsett Heath Urban Fringe Orsett Lowland Farmland	The general perception is of openness enhanced by the elevated and gentle sloping nature of the topography and limited vegetation cover. Large fields with weak enclosure Low-lying, gently undulating fen edge landscape. There are some extensive views out to the north.	High	**Negligible** impact. The Project road would not encroach greatly on this parcel and will not have an effect on openness.
Spatial				
T41		Small parcel between Orsett and the A13. Includes significant housing on Woolings Close and Baker St. as well as Orsett CoE Primary School and cricket club pavilion. Bombers café and Loft Hall Farm off the A128.	Medium	**Moderate** impact The new slip roads associated with the A13/A1089/A122 Lower Thames Crossing junction extend into this parcel.

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Parcel	Equivalent LLCA	Existing openness	Openness rating	Change
Visual				
T14	Thurrock reclaimed fen	Very strong with very limited encroachment. Low-lying, large-scale, flat, inland basin with expansive views across the area.	High	**Moderate** impact. The Project road is elevated through much of this area with embankments or on viaduct. The Project road is on west side of the parcel and would locally diminish openness.
Spatial				
T14		Large parcel with very little development. Greater concentration of farms and residential towards the north-east near Bulphan, together with industrial units off Brentwood Road	High	**Minor** impact. The Project road is elevated through much of this area with embankments or on viaduct. The northern section of new roads associated with the A13/A1089/A122 Lower Thames Crossing junction are in this parcel.
Visual				
T15	Thurrock reclaimed fen	Northern half or parcel is very open Low-lying, large-scale, flat, inland basin with expansive views across the area.	High	**Negligible** impact. The Project road is in cutting in this parcel with limited proposed new woodland planting which mostly replaces existing shelterbelts lost to the Project.
	Belhus Lowland Quarry Farmland	Low-lying, gently rolling, mixed arable and pasture landscape		
Spatial				
T15		Includes large areas of residential development: Brandon Groves, Stifford and Buckles Lane travelling people's site as well as the Top Meadow and Mardyke golf clubs	Low	**Minor** impact. The Project road occupies a relatively small proportion of this area.
Visual				
T16	Belhus Lowland	Strong perception of openness throughout area	High	**Minor** impact. The new woodland planting would

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Parcel	Equivalent LLCA	Existing openness	Openness rating	Change
	Quarry Farmland	with little encroachment by development. Low-lying, gently rolling, mixed arable and pasture landscape		reinforce existing lines of mature trees and hedgerows associated with the railway and existing field boundaries. The false cutting bunding may interrupt some views.
Spatial				
T16		Includes parts of North Ockenden but generally open	High	**Moderate** impact The Project road occupies a relatively small proportion of this area.

Table 4.5 London Borough of Havering

Parcel no	Equivalent LLCA	Existing openness	Openness rating	Change
Visual				
H6	Thurrock reclaimed fen Thames Chase	Predominantly open, sparsely settled arable landscape with some expansive views across the area.	Medium	**Minor** change Works within Thames Chase Community Woodland. Some new embankments associated with A122 Lower Thames Crossing/M25 junction and associated mitigation woodland planting would slightly decrease openness.
	Belhus Lowland Quarry Farmland	Low-lying, gently rolling, mixed arable and pasture landscape.		
Spatial				
H6		Includes James Oglethorpe Primary School, The Coopers Company and Coborn School and Gaynes School Cranham Hall and Farm, Crematorium Houses off Sunnings Lane south of Corbets Tey. Various farms and cottages. The Stubbers Adventure centre and the Thames Chase Forest Centre	Medium	**Minor** impact Creation of new northbound access slip and associated earthworks.

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Parcel no	Equivalent LLCA	Existing openness	Openness rating	Change
Visual				
H11	Thurrock reclaimed fen Thames Chase	Predominantly open, sparsely settled arable landscape with some expansive views across the area.	Medium	**Negligible** change Limited works. Most works within Thames Chase Community Woodland.
	Belhus Lowland Quarry Farmland	Low-lying, gently rolling, mixed arable and pasture landscape.		
Spatial				
H11		Includes a significant number of houses off Ockendon Rd and Clay Tye Rd as well as industrial units north of St Marys land and travelling people housing next to M25.	Medium	**Negligible** change Reprofiling of M25 embankments and realignment of access road.
Visual				
H12	Thurrock reclaimed fen Thames Chase	Well wooded area.	Low	**Negligible** change Limited works – extending M25 embankment.
	Brentwood Wooded Hills	A well-treed undulating rural pasture and arable landscape incised by small watercourses.		
Spatial				
H12		East side of parcel between Cranham and M25 has little development other than a few equestrian/farm buildings. North of Cranham the houses along and off Front Lane are within the Green Belt.	Medium	**Negligible** change. Limited works – extending M25 embankment and realigning access road.
Visual				
H14	Brentwood Wooded Hills	A well-treed undulating rural pasture and arable landscape incised by small watercourses.	Low	**Negligible** change Limited works – extending M25 embankment.

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Parcel no	Equivalent LLCA	Existing openness	Openness rating	Change
Spatial				
H14		Folkes Farm, Woodcroft Farm, Industrial units off Folkes Lane. Houses off Tomkyns Lane.	Medium	**Negligible** change Limited works – extending M25 embankment.

Table 4.6 Brentwood Borough Council

Parcel no	Equivalent LLCA	Existing openness	Openness rating	Change
Visual				
B24	Brentwood Wooded Hills	A well-treed undulating rural pasture and arable landscape incised by small watercourses.	Low	**Negligible** impact Limited works – reprofiling existing grassed M25 embankment.
Spatial				
B24		Undeveloped to the south but intensive industrial/infrastructure uses to the north of the parcel adjoining M25 junction 29. Residential properties off Warley Street. Proposed Brentwood Enterprise Park will reduce openness.	Medium	**Negligible** impact Limited footprint of the reprofiling
Visual				
B25	Brentwood Wooded Hills	A well-treed undulating rural pasture and arable landscape incised by small watercourses	Low	**Negligible** impact Very limited works in this parcel.
Spatial				
B25		Industrial areas around Codham Hall and off Warley Street. South edge of Great Warley Some scattered houses off lanes	Medium	**Negligible** impact Limited footprint

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Spatial openness

4.6.17 All parcels listed above will experience a loss of spatial openness as a result of the Project. Only where the Project is underground will spatial openness be unaffected.

4.6.18 The assessment has shown that the Project would have a major impact on the spatial openness in three of the six Green Belt parcels within Gravesham, where major is defined as more than 10% of the area of the parcel.

Gravesham Green Belt parcels: key impacts

Parcel No. 11a: Major impact approx. 33% of existing open area of the parcel is lost

Parcel No. 7: Major impact approx. 42% of existing open area of the parcel is lost

Parcel No. 6: Major impact approx. 23% of existing open area of the parcel is lost

4.6.19 Two of the remaining three parcels will experience a negligible impact and the third a minor impact.

4.6.20 For Thurrock, seven of the nine Green Belt parcels are identified as experiencing either a major (three parcels) or moderate (four parcels) impact on spatial openness.

Thurrock Green Belt parcels: key impacts

Parcel No. 34: Major impact approx. 17% of existing open area of the parcel is lost

Parcel No. 30: Moderate impact approx. 6% of existing open area of the parcel is lost

Parcel No. 25: Major impact approx. 16% of existing open area of the parcel is lost

Parcel No. 26: Major impact approx. 25% of existing open area of the parcel is lost

Parcel No. 27: Moderate impact approx. 7% of existing open area of the parcel is lost

Parcel No. 41: Moderate impact approx. 10% of existing open area of the parcel is lost

Parcel No. 16: Moderate Impact approx. 7% of existing open area of the parcel is lost

4.6.21 Where the Project passes through a Green Belt parcel, there will be an adverse effect on spatial openness, although the two remaining parcels in Thurrock described will only experience minor impacts.

4.6.22 In the case of the London Borough of Havering, three of the five Green Belt parcels are identified as experiencing a negligible impact with the remaining two experiencing a minor impact.

4.6.23 Brentwood's two Green Belt parcels are identified as experiencing a negligible impact on the openness of the Green Belt.

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Visual openness

4.6.24 In terms of impacts of the Project on the visual openness of the Green Belt, two of the six Green Belt parcels within Gravesham will experience a major or moderate impact on the visual openness of the Green Belt, described below as either major or moderate impacts.

Gravesham Green Belt parcels: major or moderate impacts

Parcel No. 6: Moderate impact – the large areas of new woodland planted at the edge of Gravesend reduce the sense of openness of what is currently open arable fields with limited sense of enclosure.

Parcel No. 7: Major impact – the new infrastructure works will have a significant footprint within this parcel. The vertical elements, slip roads, viaducts, embankments etc. will restrict views across what is currently an open area.

4.6.25 The four remaining parcels are described will experience minor impacts. All of the Green Belt parcels considered within Gravesham will experience some impact on the visual openness of the Green Belt as a result of the Project.

4.6.26 In Thurrock, five of the nine Green Belt parcels are identified as experiencing a moderate impact on the visual openness of the Green Belt as a result of the Project, as described below.

Thurrock Green Belt parcels: significant impacts

Parcel No. 14: Moderate impact – the elevated Project road will interrupt existing open views.

Parcel No. 25: Moderate impact – false cuttings and woodland planting will restrict some local views.

Parcel No. 2: Moderate impact – the extensive junction footprint with embankments and overbridges will reduce openness.

Parcel No. 30: Moderate impact – viaduct and false cuttings will restrict views.

Parcel No. 34: Moderate impact – viaduct and new woodland will limit views and the land raised area south of the North Portal, although naturalistic, will interrupt openness.

4.6.27 The remaining four parcels will experience either a minor (two parcels) or negligible (two parcels) impact as a result of the Project.

4.6.28 Of the four Green Belt Parcels within the London Borough of Havering, three will experience a negligible impact on the visual openness of the Green Belt and one will experience a minor impact. None are therefore considered to have a major impact.

4.6.29 For Brentwood, both Green Belt parcels are considered to experience a negligible impact on the visual openness of the Green Belt.

Conclusion

4.6.30 It can be concluded from the assessment that there will be notable impacts of the Project on the spatial and visual openness of the Green Belt, along the

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entire above ground route. The larger impacts are mostly confined to the following two areas:

a. Between the South Portal and the A2/M2

b. Between the North Portal and the A13

4.6.31 To the north of the Application Site, the Green Belt parcels within Brentwood Borough Council and the London Borough of Havering will not experience major impacts

Green Belt purposes

4.6.32 The Green Belt is a strategic policy tool that has been historically used for the purposes of restricting development around Greater London since it was first established in 1931. It has taken on a particularly important role in more recent times in helping to control London's significant population growth and resultant development pressures.

4.6.33 The area of Green Belt through which the Project passes is characterised by a network of small towns and villages. Development pressures are high and without the Green Belt, there is the real prospect that this wider area of London would come under the influence of continuous or semi-continuous suburban development between settlements. The Green Belt continues to play an important role in containing development and in helping to retain the identity of individual settlements.

4.6.34 As a major form of linear development, the Project represents a different form of incursion into the Green Belt from the more traditional forms of housing and other built development. The effect of the Project as a major form of transport infrastructure on the five purposes of the Green Belt is considered under the individual headings below.

a. To check the unrestricted sprawl of large built-up areas

4.6.35 The Project involves the construction of a new highway and associated works between the A2 in Kent and the M25 south of junction 29 in Greater London, representing a major linear form of highway infrastructure extending over a distance of 43.2km in Green Belt land, with the exception of the River Thames under which the route runs.

4.6.36 The proposed route alignment is located in open countryside throughout its length. The area remains largely undeveloped with the exception of an existing network of road and rail corridors, utility structures such as pylons and powerlines, scattered farmsteads, along with various urban fringe uses such as pony paddocks and catteries, and recreational facilities including golf courses and playing fields.

4.6.37 While the Order Limits covers a wider area than the route alignment (2,292 ha), the Project route is confined to a relatively narrow highway corridor of approximately 228ha. The area of land beyond the physical boundary of the highway works is necessary in order to accommodate a range of associated mitigation and enhancement works, as well as providing replacement amenity and open space land.

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4.6.38 In addition, areas of land within the Order Limits are required for a range of temporary uses in support of the main construction works, such as Contractor's compounds. These areas would be returned to their former state on completion of the main works.

4.6.39 The nature and scale of the Project is such that it is not considered to result in the 'unrestricted sprawl' of large built-up areas or negate the role of the Green Belt in checking urban sprawl along its length. The decision making for any local developments will be a matter for local planning authorities and their respective Local Plans. As a major form of linear development it would not involve the creation of any additional highway junctions other than those required for the operation of the strategic highway route or development (other than those authorised under the Development Consent Order (Application Document 3.1)..

4.6.40 It is not considered that the Project would conflict with this Green Belt purpose.

b. To prevent neighbouring towns from merging into one another

4.6.41 Although the Project route runs close to a number of settlements along its length, the distances involved would not result in the physical or visual merger of any towns or villages as a result of the Project and would not therefore reduce the spatial or perceptual experience of the separation of these existing settlements.

4.6.42 The Project proposals would not involve the creation of any highway junctions serving existing or proposed development sites and would not therefore attract/facilitate additional development to locate beside the Project route or facilitate the merger of neighbouring settlements.

4.6.43 The design of the Project would assist in providing a strong defensible boundary, reinforcing the presence of the proposed route alignment as a physical barrier between neighbouring settlements. The extensive landscape proposals within the immediate vicinity of the route alignment would assist in minimising any impacts and act as an environmental and visual barrier that would reduce the harm on the existing landscape character.

4.6.44 The Project would be physically separated from neighbouring settlements and would not therefore lead to the merger of existing urban areas or their extension into open countryside.

4.6.45 It is not considered that the Project would conflict with this Green Belt purpose.

c. To assist in safeguarding the countryside from encroachment

4.6.46 While the extent of the route alignment represents the limit of built development, a wider area of associated development beyond this, incorporating enhancement works and mitigation proposals, along with temporary land uses represents the full extent of the Project proposals and its encroachment into open countryside.

4.6.47 The nature of the Project as a form of highway infrastructure would provide a strong defensible boundary, thereby limiting the extent of encroachment into the countryside. Nonetheless, it is acknowledged that the Project as a whole would not assist in safeguarding the countryside as the Project introduces highway infrastructure that would encroach into the open countryside.

4.6.48 The Project would result in some conflict with this Green Belt purpose.

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d. To preserve the setting and special character of historic towns

4.6.49 No national policy or guidance currently exists to assess the special character and setting of historic towns within the Green Belt or the potential impact of the Project on these settlements within the Green Belt, although a number of local authorities have undertaken their own studies into the contribution, among other things, the Green Belt makes to the special character of historic towns and cities.

4.6.50 In particular, City of York Council has published detailed draft guidance on these topics, prepared in collaboration with Historic England, as part of the emerging City of York Council Local Plan. The methodology for the Project has been developed drawing upon these publications in order to establish an adaptable method of assessment for general use. It also draws upon elements of the following settlement-specific or regional guidance documents, which contain relevant information:

a. Brentwood Borough Council (2018) Green Belt Study Part II: Green Belt Parcel Definition and Review (Regulation 19 Pre-Submission)

b. City of York Council (2018) City of York Local Plan Topic Paper (TP1) Approach to Defining York's Green Belt

c. City of York Council (2017) Heritage Impact Appraisal (pre-publication Regulation 18 Consultation)

d. City of York Council (2014) The Heritage Topic Paper Update

e. Gravesham Borough Council (2018) Gravesham Green Belt Study

f. Green Balance and David Burton-Pye for English Heritage (2014) The Sustainable Growth of Cathedral Cities and Historic Towns

g. London Borough of Havering (2018) Site Green Belt Assessment and Sustainability Assessment: Final Report

h. Thurrock Council (2019) Thurrock Strategic Green Belt Assessment Stages 1a and 1b

i. Eddy & Petchey and Essex County Council (1983) Historic Towns of Essex: An Archaeological Survey of Saxon and Medieval towns, with guidance for their future planning

4.6.51 Data from the Green Belt assessments listed in paragraph 4.6.50 was utilised to identify historic towns whose special character and setting could potentially be harmed by the Project where it passes through the designated Green Belt. A number of other documents identified in this paragraph (including emerging Local Plan documents produced by the City of York Council in consultation with Historic England) were utilised to create a methodology to articulate the special character and setting of the identified towns, in order to assess how the Project could potentially impact upon them.

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4.6.52 According to the Green Belt assessments of Thurrock Council and the London Borough of Havering, these areas do not contain historic towns. Havering has therefore been excluded from the assessment. However, Thurrock contains the settlement of Horndon-on-the-Hill, which, while generally regarded as a village, was included within English Heritage's Extensive Urban Survey and has therefore been included in the assessment at the request of Essex County Council. (The Urban Survey comprised a series of separate documents, the relevant two for Horndon and Brentwood are covered in Historic Towns in Essex, Horndon-on-the-Hill, Historic Towns Assessment Report (English Heritage and Essex County Council, 1999) and Historic Towns in Essex, Brentwood, Historic Towns Assessment Report (English Heritage and Essex County Council, 1999)).

4.6.53 While Gravesham contains the historic towns of Gravesend and Northfleet, according to Gravesham Borough Council's (2018) Green Belt Study, the Green Belt has *'no real role to play in preserving the setting and special character of Gravesend and Northfleet'.* Gravesend and Northfleet have therefore been excluded from the assessment.

4.6.54 Following the identification of the historic towns, the special character and setting of each historic town has been assessed and defined in a tabular format using seven principal characteristics. An historic town (for which there is no standard accepted definition) does not however comprise a single heritage asset (as defined in the NPPF).

4.6.55 There is currently no nationally accepted methodology for assessing the special character and setting of historic towns. Therefore, a bespoke methodology has been developed, drawing upon a number of existing assessments produced for historic towns in England.

4.6.56 Given that the NPPF refers to *'the setting and special character of historic towns*', villages have therefore been excluded from this assessment (with the exception of Horndon-on-the-Hill – paragraph 4.6.60 below). Cities and towns have been assessed where they meet the following criteria:

a. They are identified as historic towns within individual local authority Green Belt assessments.

Located within 2km of the Project – this study area has been selected drawing upon the maximum extent of the defined study area within the Landscape and Visual Impact Assessment in ES Chapter 7: Landscape and Visual (Application Document 6.1). However, unlike the study area used within ES Chapter 7, this assessment has used a 2km study area from the Order Limits (

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b. Plate 4.3, Plate 4.4 and Plate 4.5 below), rather than a variable size based on zones of theoretical visibility (resulting in a larger study area than that used in ES Chapter 7). As the significance and setting of historic towns within the Green Belt is an issue which goes beyond a 'heritage asset' based approach, the 1km cultural heritage study area (as set out within ES Chapter 6: Cultural Heritage (Application Document 6.1)) has not been utilised for this assessment.

c. They are 'historic'. There is no existing strict definition of an 'historic town' in the context of Green Belt policy. For the purposes of this assessment, this refers to towns established prior to the 20th century (a more expansive criterion than that utilised in the Archaeological Management Guidance for the Historic Towns of Essex (Essex County Council, 1999), which considered towns which were "urban" prior to 1700 AD).

d. Towns are located outside metropolitan built-up areas, such as Greater London.

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Plate 4.3 Towns within the 2km study area

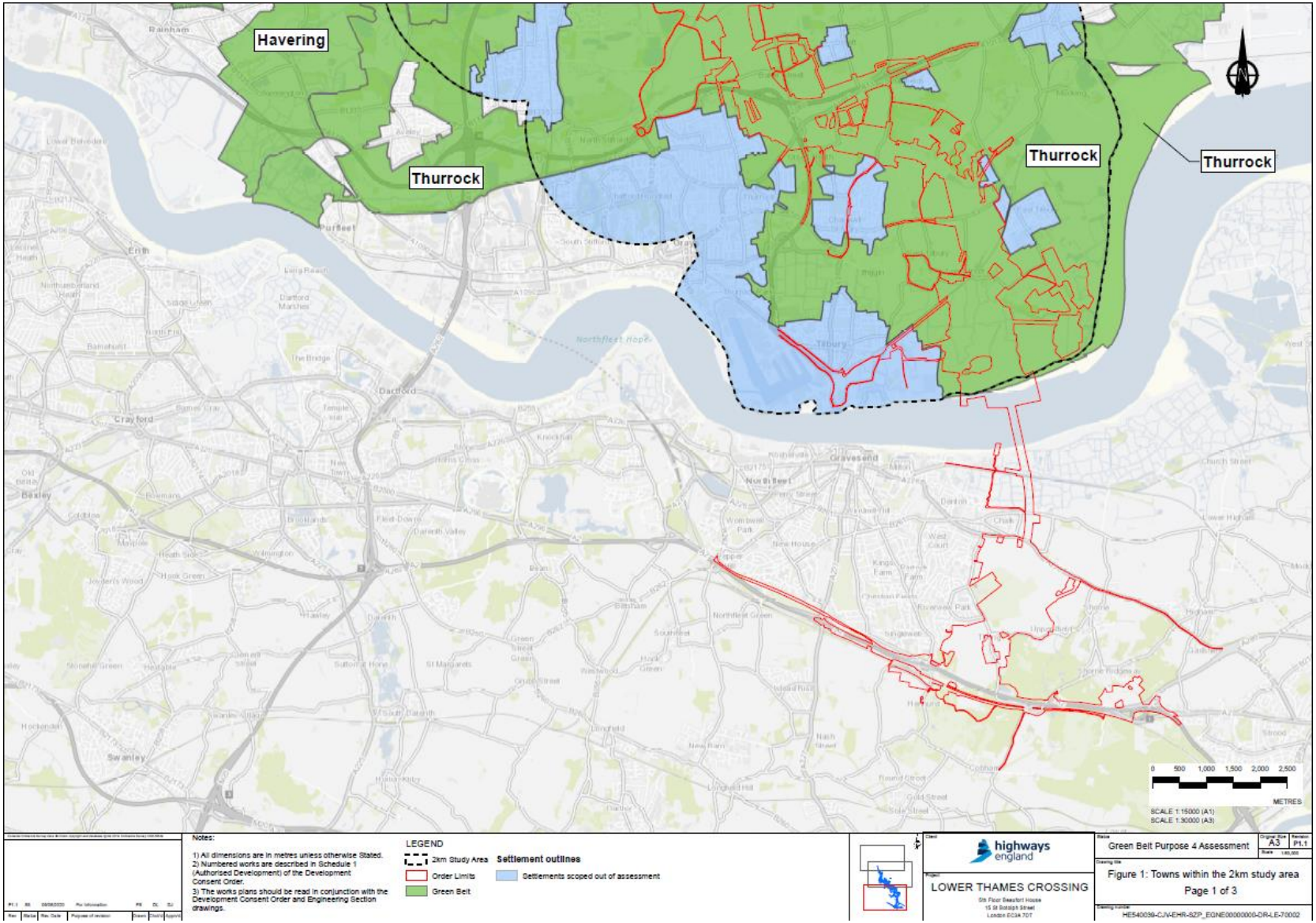

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Plate 4.4 Towns within the 2km study area

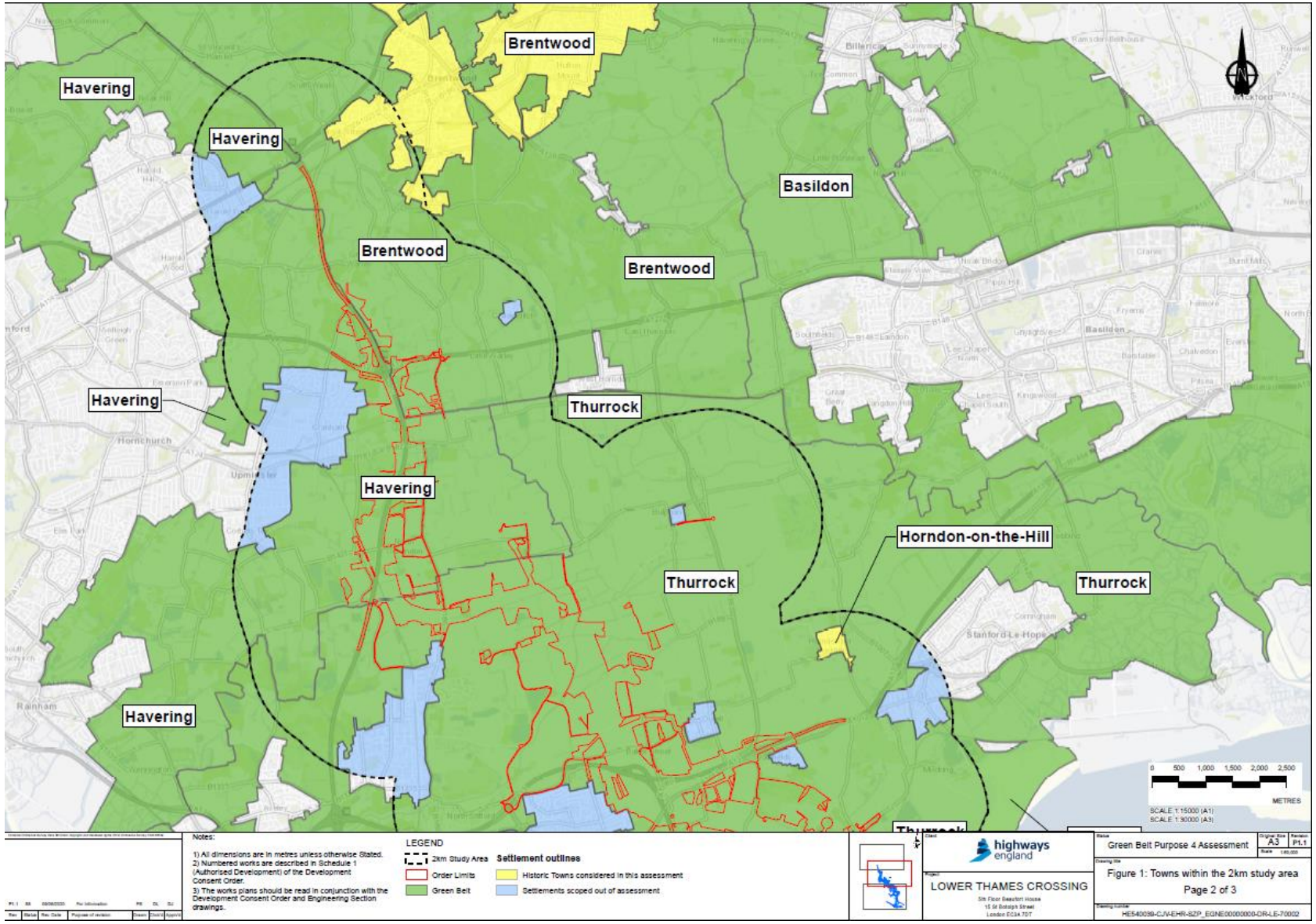

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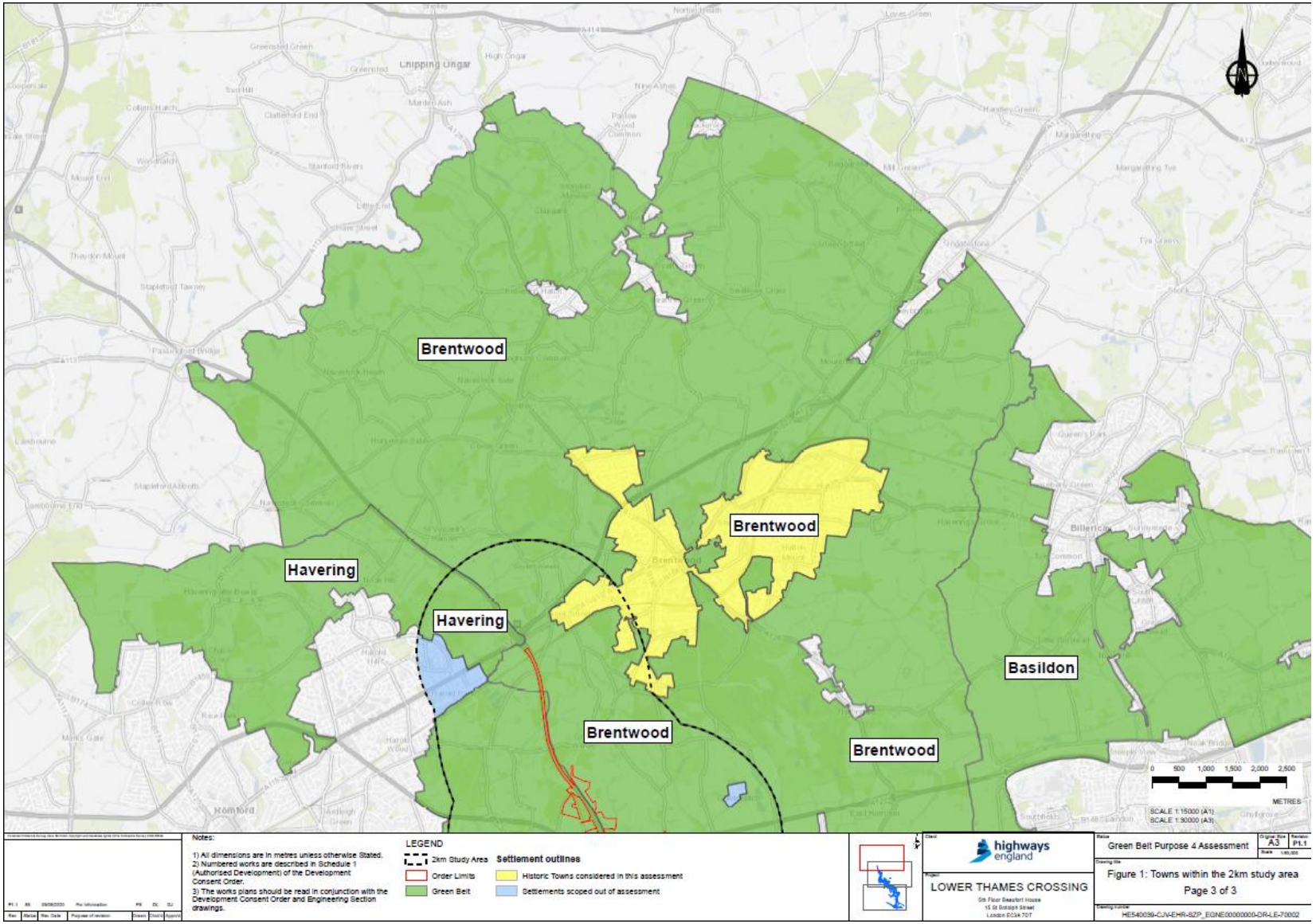
Plate 4.5 Towns within the 2km study area



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4.6.57 Brentwood Borough Council's (2018) Green Belt Study has identified the relationship between the Green Belt parcels and historic towns which has been used to inform this assessment process.

4.6.58 In the absence of a prescribed national methodology, both the Heritage Topic Paper Update (City of York Council, 2014) and Heritage Impact Appraisal (City of York Council, 2017) have been drawn upon to produce generic characteristics for the assessment of the special character and setting of historic towns.

4.6.59 The principal characteristics are set out in Table 4.7 below. For each historic town, an assessment is made of how each of the seven principal characteristics contributes to and forms part of its special character and setting.

Table 4.7 Special character and setting elements

Principal characteristics	Character and setting elements
Nature of urban fabric	Historic character, strong diversity of architectural types or distinctive concentrations of similar architectural types, city walls, quantity or diversity of historic buildings and monuments
Urban form	Compact, linear, multi-focal, distinct districts, key routeways, street pattern, squares, parks, distinctive building plots or massing, key internal views, watercourses influencing urban form, legibility of the spatial and/or chronological development of the urban form
Archaeological resource	Time depth, high archaeological potential due to local conditions, known concentrations of archaeological remains of particular or varied periods
Relationship of urban form to countryside	Softened urban edge or clearly defined boundary between urban and rural, interaction of topography and open space with the urban edge
Relationship of urban form to surrounding settlements	Clearly defined satellite towns or villages, relationships with other settlements, areas of green space preventing coalescence with neighbouring settlements
Views	Important views into and out of the settlement, views of landmark buildings or open spaces allowing views, or built form creating vistas, defined approaches to the town promoting views
Nature of surrounding countryside	Open and flat promoting views or distinctive topography contributing to character, designed landscapes, watercourses, common land, continuing historic land use e.g. orchards, pasture or woodland, pattern and scale of surrounding countryside elements

4.6.60 Consultation has been undertaken with Historic England, Kent County Council and Essex County Council (also representing the London Borough of Havering) in preparing this methodology. In a letter dated 29 April 2020, Historic England stated their support for the proposed approach and agreed with the inclusion of Brentwood and the exclusion of other settlements in Thurrock and Gravesham which do not contain historic towns. Nonetheless, at the request of Essex

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County Council, the settlement of Horndon-on-the-Hill within Thurrock has been included in the assessment.

4.6.61 Using the methodology set out above, the following settlements have been taken forward for assessment:

a. Brentwood.

b. Horndon-on-the-Hill.

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Plate 4.6 Brentwood (including former outlying villages of Brook Street, Pilgrim's Hatch, Shenfield and Hutton)

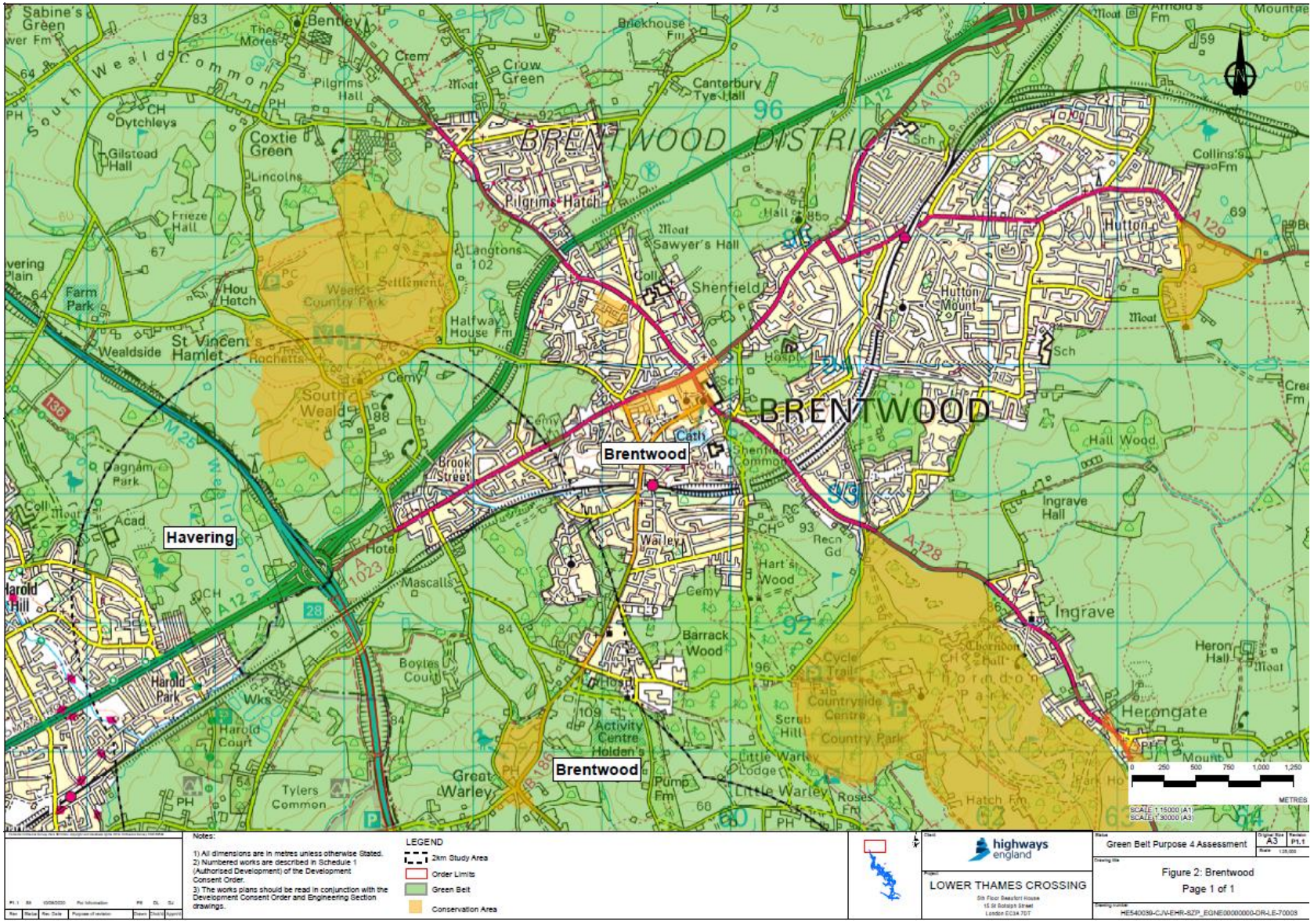

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Table 4.8 Brentwood special character and setting elements

Historic town name: Brentwood	
Principal characteristics	**Assessment of characteristics and setting**
Nature of urban fabric	Encompasses the historic town of Brentwood and the formerly outlying villages of Brook Street, Pilgrim's Hatch, Shenfield and Hutton. Grown in the 20th century to encompass formerly outlying institutions, namely the former County Lunatic Asylum and Warley Barracks. Contains two Conservation Areas: Brentwood Town Centre and Highwood Hospital. The urban area (located outside of the Green Belt) contains six Grade II* listed buildings and 69 Grade II listed buildings. The majority of the listed buildings are focused in the historic cores and institutions above. A small number of listed buildings represent what were formerly rural dwellings and coaching inns along main routeways, now incorporated into the urban area. The majority of listed buildings date from the 18th and 19th centuries, with a smaller number of earlier Post-Medieval and Medieval buildings. Overall, the urban fabric predominately dates from the mid and late 20th century, particularly in the suburban commuter neighbourhoods of Shenfield and Hutton. Pilgrim's Hatch has a core of early 20th century housing established by 1920.
Urban form	The High Street preserves the primary Medieval street pattern (also the route of the former Roman road). The Medieval route of Hart Street runs parallel to part of High Street. A Medieval nucleus survives at High Street, where a block of short building plots and a back lane (Hart Street) is legible. The eastern end of this block formed the site of Medieval marketplace. The Medieval nucleus includes the surviving parts of the chapel of St. Thomas Becket founded c. 1221 and a pilgrim hostel which is now much altered and known until recently as the White Hart Inn. Areas of Post-Medieval expansion were primarily focused in the vicinity of the Medieval nucleus, until the construction of the railway at the then eastern end of the town led to further development near the station and south of the High Street where terraces of worker's houses were built. A multi-focal town: the main focus of the Brook Street/Brentwood coalescence along the London Road/High Street; 19th and 20th century expansion at Warley to the south; two areas of 20th century expansion to the north including the more distinct area of Pilgrim's Hatch separated by the A12 dual carriageway; and the 20th century suburban areas of Shenfield and Hutton separated from one another by the railway. The town is split by a number of major routeways: the London Road/High Street (A1023); the A12 dual carriageway; and the railway. The A128 also bisects the town, forming a prominent

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Historic town name: Brentwood	
Principal characteristics	**Assessment of characteristics and setting**
	crossroads in the Medieval historic core where it crosses the A1023. The town contains a number of prominent green spaces, particularly King George's Park, Shenfield Common and Brentwood Sports Ground, which brings green space close to the historic core and largely separates the town in two (Warley/High Street/Brook Street/Pilgrim's Hatch to the west and Shenfield/Hutton to the east). The town features large number of trees and woodland areas including Shenfield Common, the grounds of Brentwood Community Hospital and Thrift Wood. These trees form an important link with Brentwood's origins as a former woodland town. Contains a number of important views such as those to St. Thomas' church and spire from multiple locations; views from the north, west and east to the landmark of Wilsons Corner former department store; and long views along High Street.
Archaeological resource	While limited archaeological work has taken place there is high potential for below-ground Medieval and Post-Medieval remains to survive. Waterlogged deposits are unlikely to be present, apart from within specific features such as wells. The local soil is alkaline, and conducive to the survive of bone artefacts or skeletal remains. There is less evidence and potential for archaeological remains pre-dating the Medieval period.
Relationship of urban form to countryside	A dynamic interaction with the countryside. The wedge of Shenfield common close to the town centre directly connects southward to the countryside, through King George's Park and Hartswood Golf Club which are connected to The Forest and Thorndon Park (including the Grade II* registered Thorndon Hall and Thorndon Park Conservation Area). These areas all form part of the Green Belt and identified by the Brentwood LCA as F9 Little Warley Wooded Farmland. The countryside also penetrates the centre from the north (Brentwood LCA F8 Doddinghurst Wooded Farmland), separated from the southern part of the Green Belt mentioned above by just 70m. Here, sports grounds straddle the High Street and lead northward to woodland and a network of small agricultural fields in close proximity to the town centre. These areas also all form part of the Green Belt.
Relationship of urban form to surrounding settlements	Surrounded by numerous linear historic hamlets with interspersed farmsteads and cottages. Essex LCA D2 (Brentwood Hills) separates Brentwood from the historic market town of Billericay c. 2.5km to the east. These market towns are linked by the railway and the winding historic route of the A129. Part of the historic village of Hutton extends east of Brentwood (forming a Conservation Area, this village has

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Historic town name: Brentwood	
Principal characteristics	**Assessment of characteristics and setting**
	been only partially incorporated into Brentwood), and the village of Havering's Grove is situated along the A129 between the towns. Mountnessing is a village located c. 4km north-east of Brentwood, also situated close to the A1023, route of the former Roman road and railway. Approximately 2.5km of undulating farmland interspersed with hamlets to the north separates Brentwood from the clustered settlements of Kelvedon Hatch, Doddinghurst, Wyatt's Green and Hook End. Linear hamlets outlying Brentwood are particularly clustered in the Green Belt immediately north-west of Pilgrim's Hatch. Approximately 1.2km of agricultural land, bisected by the M25, separates Brentwood from Romford to the south-west, a suburb of London. This area of Green Belt (Brentwood Landscape Character Areas F13 and F15) is key to preserving the separate identity of Brentwood and preventing coalescence with the Greater London area. Despite this fact, the Green Belt in this area contains a number of commercial premises. The hamlet of Great Warley (including the Great Warley and Warley Place Conservation Areas) is located c. 330m south-west of Brentwood. These areas are dominated by trees and green space, and blend with the landscape of LCA D2 surrounding Brentwood. The linear settlements of Ingrave and Herongate (containing Herongate Conservation Area) are located c. 920m south-east of Brentwood, along the A128.
Views	The Brentwood Landscape Character Assessment notes southward views to the Brentwood urban edge from the southern part of LCA F8 Doddinghurst Wooded Farmland. Open northward views to the southern edge of Brentwood are also noted from northern part of LCA F9. LCA F10 Heybridge Wooded Farmland possesses views south-west to the urban edge of Brentwood. To the south-west of Brentwood, LCA F13 Great Warley Wooded Farmland possesses views to the southern fringe of the Brentwood urban area. Open views to Brentwood's urban edge are possible from the northern part of LCA F14 Ingrave and Herongate Wooded Farmland.
Nature of surrounding countryside	Located within the Brentwood Hills (LLCA D2) with the River Wid to the north-east and the Weald Brook to the south-west. The Brentwood Hills LLCA is an area of high landscape value. Thorndon Park is located to the south-east of Brentwood, and Weald Park is located to the north-west (both registered parks and gardens and Conservation Areas). The character of the surrounding landscape is one of gently to strongly undulating hills and ridges; semi-enclosed character with numerous small woods, large interlocking areas of woodland and

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Historic town name: Brentwood	
Principal characteristics	**Assessment of characteristics and setting**
	frequent hedgerow trees; a patchwork of small irregular pasture and arable fields, with some areas of medium to large arable fields; and a dense linear settlement pattern along the north-east to south-west transport routes. Overall, the nature of the surrounding countryside is one of great time depth, with a range of historic field systems and woodlands. The M25 passes to the south-west of Brentwood, on the eastern side of the Weald Brook, meeting a junction with the A12 and A1023 within the Green Belt c. 600m south-west of the town.

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Plate 4.7 Horndon-on-the-Hill

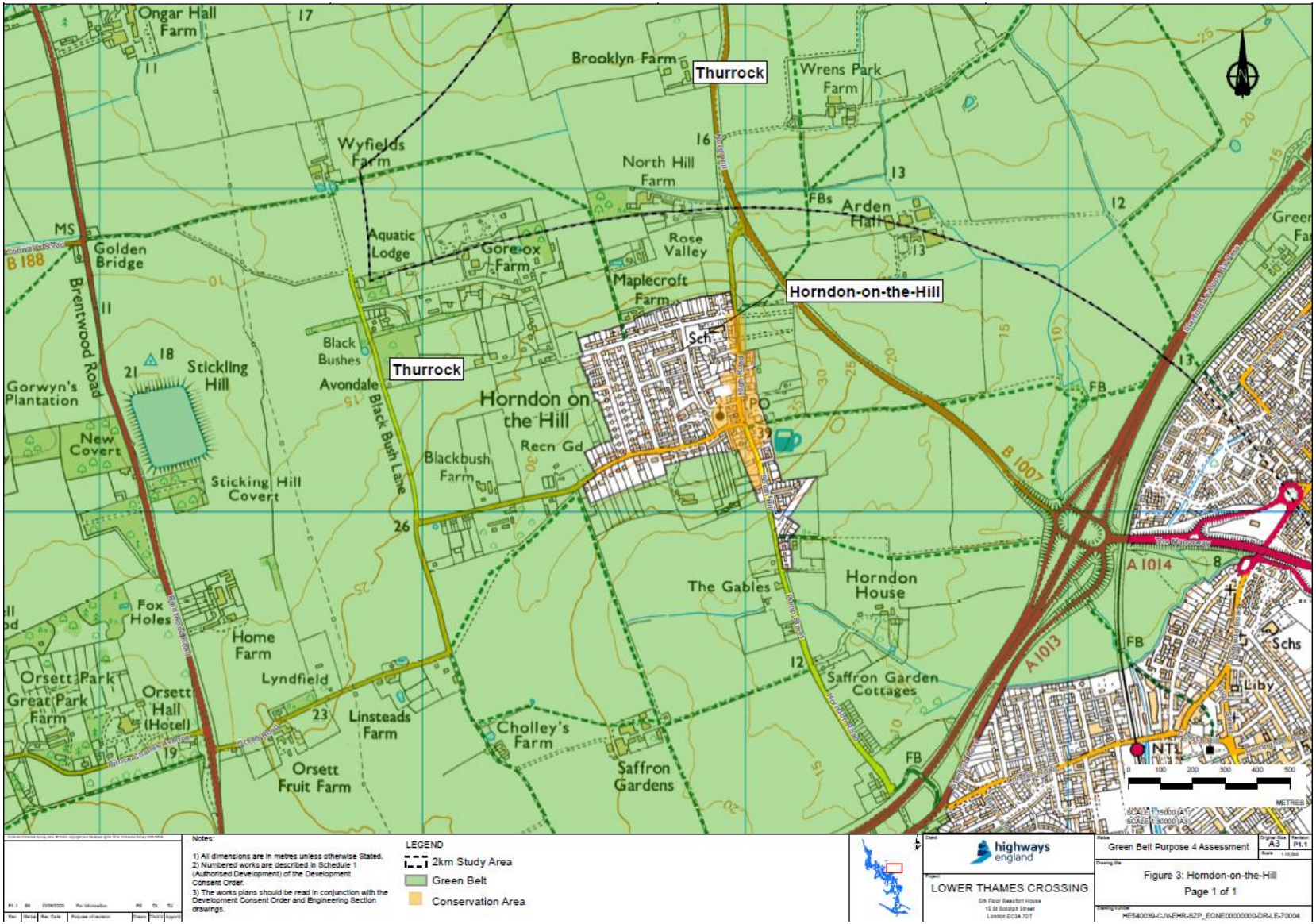

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Table 4.9 Horndon-on-the-Hill special character and setting elements

Historic town name: Horndon-on-the-Hill	
Principal characteristics	**Assessment of characteristics and setting**
Nature of urban fabric	According to Historic England's Extensive Urban Survey of Horndon-on-the-Hill, '*the medieval and post-medieval town consists of the High Road with the village strung out along it, the church which is set back to the west and a possible infilled marketplace sited between the church and High Road*.' This area corresponds with the Horndon-on-the-Hill Conservation Area. Encompasses this Medieval and Post-Medieval core, along with 20th century residential development to the west and south. Contains one Grade I listed building (the Church of St. Peter and St. Paul), two Grade II* listed buildings and 15 Grade II listed buildings. Listed buildings are all located within the historic core and Conservation Area. The church incorporates some reused Roman bricks in its fabric, although the building dates from the 13th century. It is also the only ragstone or flint rubble structure in the village; the other historic buildings are timber-framed or brick. Aside from the church, the dates of the listed buildings are: one 13th century; two each from the 14th, 15th and 16th centuries; one 17th century; one 17th or 18th century; two 18th century; five 19th century and two 20th century. Overall, the urban fabric predominately dates from the mid and late 20th century. A small number of residential properties had been constructed along newly established streets by the 1930s. However, the majority of buildings in the settlement are semi-detached residential properties constructed in the latter half of the 20th century.
Urban form	Essentially a linear Medieval village along High Road with a larger 20th century suburban development on the western side, and a small amount of linear 20th century development extending along High Road to the north and south. The historic routes of High Road and Orsett Road are still extant, with listed buildings closely fronting onto the narrow junction. Medieval tenement plots are still extant on the eastern side of High Road. The lines of two Medieval alleyways survive either side of the Woolmarket. When travelling through Horndon along High Road, it is highly intelligible as a historic linear settlement. In plan form, the historic core is clearly legible as a separate area from the 20th century development to the west. Within the urban area are three primary green spaces: the churchyard, within the Conservation Area; the later graveyard to the west; and the primary school playing grounds to the north.

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Historic town name: Horndon-on-the-Hill	
Principal characteristics	**Assessment of characteristics and setting**
Archaeological resource	A possible defended enclosure (the putative site of the Saxon settlement), along with substantial lynchets, are located outside the settlement to the east of High Road, within the Green Belt. There is potential for remains of Early Medieval, Medieval and Post-Medieval date within the settlement. This includes the potential below-ground remains of a Saxon church pre-dating the existing church. Waterlogged deposits are unlikely to be present, apart from within specific features such as wells. The soil type is conducive to the preservation of man-made artefacts and faunal remains.
Relationship of urban form to countryside	To the east, north and west there is an abrupt boundary between the urban area and the countryside. To the south-west and south, along Orsett Road and High Road (becoming South Hill), the boundary between urban and rural is blurred by linear development and period detached houses or rows of bungalows. Within the Green Belt immediately adjacent to the settlement are two important areas of associated open space: the sports grounds surrounding the cricket club and scout hall to the south-west, and the allotments to the east of High Road.
Relationship of urban form to surrounding settlements	Located on a hill, it retains a distinct identity separate from other settlements in the area. The immediate surrounds of Horndon are formed by a system of rectilinear fields and numerous farmsteads. Separated from the larger urban areas of Stanford-le-Hope and Corringham c. 775m to the south-east, on lower-lying ground, by a number of agricultural fields and the A1013 dual carriageway. The dual carriageway creates a distinct boundary between the rural surrounds of Horndon and these urban areas. The settlement of Southfields c. 1.6km to the south is also separated by large rectilinear fields, farmsteads and the A1013 dual carriageway and junction with the A128. Orsett, c. 2km to the south-west, is linked with Horndon via a series of rural laneways, albeit interrupted by a dualled section of the A128. The settlements to the north are more dispersed and rural, and largely take the form of linear hamlets, with the more sizeable village of Bulphan located some 3.1km to the north-west of Horndon-on-the-hill.
Views	Has a number of key internal views to its Medieval church, and key views along the main streets in the Conservation Area. Long-distance views of the agricultural landscape to the north-east are also possible from High Road within the Conservation Area, overlooking the allotments. Outside the Conservation Area, Horndon's hilltop nature lends itself to frequent long-distance views to the north and south, glimpsed between semi-detached houses on the 20th century streets, particularly Hillcrest Road.

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Historic town name: Horndon-on-the-Hill	
Principal characteristics	**Assessment of characteristics and setting**
	The various approaches to the town create views into and out of the settlement along leafy rural lanes, particularly looking north and south along High Road out of the settlement, overlooking the lower-lying landscape. Various PRoWs enable views into and out of the settlement to the north, east and south, most prominently along York Road to the north.
Nature of surrounding countryside	The topography of the area makes a key contribution to the character and setting of Horndon, with the hill on which it is located having giving rise to its name. The surrounding countryside is an LLCA identified in the Thurrock Landscape Capacity Study (Thurrock Council, 2005) as B1 Sticking Hill Rolling Farmland/Wooded Hills. The Langdon Hills are a particularly prominent landform in views north from Horndon, located within LLCA B1. The area visible in southward views from High Road is LLCA B1 and LLCA D5 Linford/Buckingham Hill Urban Fringe. The nearby village of Orsett is also located within LLCA B1. The location of Horndon on a hill, with descending landscapes to the north, east and south, contributes greatly to its character. The agricultural landscape immediately surrounding Horndon is a historic landscape character unit of medium value.

4.6.62 Having established how each of the seven principal characteristics contributes to and forms the special character and setting of Brentwood and Horndon-on-the-Hill, the impact of the Project on each of the principal characteristics has been assessed below.

Brentwood

Table 4.10 Brentwood Impact Assessment

Historic Town Name: Brentwood	
Principal characteristics	**Impact of the Project on the principal characteristic**
Nature of urban fabric	The Project will not have any impact on this characteristic.
Urban form	The Project will not have any impact on this characteristic.
Archaeological resource	The Project will not have any impact on this characteristic.
Relationship of urban form to countryside	The Project will not have any impact on this characteristic.
Relationship of urban form to surrounding settlements	The Project will not have any impact on this characteristic.
Views	The Project will not have any impact on this characteristic.
Nature of surrounding countryside	The Project will not have any impact on this characteristic.

4.6.63 Overall, Brentwood derives its special character from a combination of its urban fabric, urban form, archaeological resource, and from its setting including the

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relationship of urban form to the countryside, relationship with surrounding settlements, views and the nature of the surrounding countryside.

4.6.64 The Green Belt forms part of the setting of the town which contributes to its special character through the relationship of the urban form with the countryside; the relationship with surrounding settlements; and the nature of the surrounding countryside.

4.6.65 The northernmost part of the Order Limits is located some 665m to the south-west of Brentwood (excluding commercial premises within the Green Belt immediately west of Brentwood) and comprises the existing M25. The proposed enlargement of the existing M25 would be some 3km south of Brentwood and the closest new section of road be some 5.3km south of Brentwood. It is therefore considered that the Project would not have any impact on the special characteristics and setting of Brentwood.

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Horndon-on-the-Hill

Table 4.11 Horndon-on-the-Hill Impact Assessment

Historic Town Name: Horndon-on-the-Hill	
Principal characteristics	**Impact of the Project on the principal characteristic**
Nature of urban fabric	The Project will not have any impact on this characteristic.
Urban form	The Project will not have any impact on this characteristic.
Archaeological resource	The Project will not have any impact on this characteristic.
Relationship of urban form to countryside	The Project will not have any impact on this characteristic.
Relationship of urban form to surrounding settlements	The Project will not have any impact on this characteristic.
Views	The Project will not have any impact on this characteristic.
Nature of surrounding countryside	The Project will not have any impact on this characteristic.

4.6.66 Overall, Horndon-on-the-Hill derives its special character from a combination of its urban fabric, urban form, archaeological resource, relationship of urban form to surrounding settlements, views and nature of the surrounding countryside. It also derives its character from its setting, primarily from views and the nature of the surrounding countryside and to a lesser degree from its relationship with surrounding settlements.

4.6.67 The Green Belt forms part of the setting of the town which contributes to its special character through the nature of the surrounding countryside, views and the relationship with surrounding settlements.

4.6.68 The Order Limits are located within the Green Belt approximately 875m south and 2.6km to the south-west of Horndon. The Project would be constructed to the west of Orsett and would not alter the relationship between the settlements, important views to and from Horndon, or the nature of the countryside surrounding the settlement. It is therefore considered that the Project would not have any impact on the special characteristics and setting of Horndon.

e. To assist in urban regeneration by encouraging the recycling of derelict and other urban land

4.6.69 The Project, along with the wider enhancement and mitigation works, would occupy neither derelict nor urban land and is located in open countryside, outside defined settlement limits. As Green Belts by their very nature restrict the availability of land for development outside urban areas, support to urban regeneration through the recycling and reuse of brownfield land can more easily be achieved.

4.6.70 These purposes support a ‘Brownfield Land First’ agenda, which aims to make the best use of previously developed land in urban areas as the focus for regeneration, before developing land beyond. However, the extent to which the Green Belt can support urban regeneration is difficult to quantify, particularly in the case of major highway schemes outside urban settlements, which do not necessarily provide the opportunities for sustainable local development within urban areas.

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4.6.71 The Project's ability to accommodate the route alignment outside of the Green Belt, including neighbouring settlements, has been fully explored prior to the current Project proposals through the various optioneering stages. The outcome of this process, which has resulted in the proposed route alignment within the Green Belt, is detailed in paragraphs 4.6.110 – 4.6.114.

4.6.72 Through the Project's optioneering stages that has led to the preferred route alignment the current proposals do not support the recycling of derelict and other urban land.

4.6.73 On the basis that the appraisal of the Project does not take account of future land development within urban areas, it is not possible to demonstrate the extent to which the Project will support urban regeneration through the recycling of derelict and other urban land. Therefore, it is accepted that the Project does not accord with this policy purpose

4.6.74 Having regard to the five purposes of the Green Belt within the context of the Project as a whole, it is concluded that the Project proposals would result in some in conflict with the purposes of '*safeguarding the countryside from encroachment*' and in '*assisting in urban regeneration by encouraging the recycling of derelict and other urban land*'. As a consequence, the Project will result in harm to the purposes of the Green Belt, contrary to national policy.

Non-Green Belt harm

4.6.75 In line with paragraph 88 of the NPPF it is necessary to consider *'any other harm'* to the Green Belt as a consequence of the Project, to include other planning matters unrelated to the Green Belt.

4.6.76 Chapter 3 of this Statement has assessed the Project against the national and local planning policy framework, with particular focus on the NPSNN as the primary document for determining the Application, highlighting any non-compliance against the policy provisions. The following areas of the Project have been assessed as resulting in potential harm to the Green Belt within the ES (Application Document 6.1) and are summarised under the following headings:

Landscape and visual

4.6.77 ES Chapter 7: Landscape and Visual (Application Document 6.1) has considered the reasonable worst-case situation resulting from the Project and includes an assessment within the Kent Downs AONB and its setting, both on its landscape character and landscape features and those experienced by visual receptors.

4.6.78 To the south of the River Thames, the assessment has considered the improved A2 corridor, the new M2/A2/Lower Thames Crossing junction with elevated slip roads, and additional prominent lighting, and restricted woodland replanting due to utility easements, this has resulted in significant residual visual effects to the south of the River Thames, including within the Kent Downs AONB.

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4.6.79 To the north of the River Thames, the provision of new infrastructure will result in a series of notable features, including the elevated Tilbury Viaduct, noticeable earthworks and the broadening in the extent of infrastructure at the A13/A1089 junction. The elevated highway on embankment and structure through the Orsett Fen, and overbridge structures along the Project route, would create further prominent features.

4.6.80 The assessment has concluded that the Project would result in a range of significant effects on the landscape resource and visual receptors.

The historic environment

4.6.81 ES Chapter 6: Cultural Heritage (Application Document 6.1) has considered the potential effects of the Project on heritage assets within the defined study area during both the construction and operational phases.

4.6.82 As a result of the assessment, it has been determined that the Project would have significant permanent effects on Scheduled Orsett Crop Mark Complex (SM1), Grade II listed buildings at No. 1 and No. 2 Grays Corner Cottages (LB89), Thatched Cottage (LB58) and Murrells Cottages (LB96).

4.6.83 Two high-value non-designated archaeological assets, namely the Cropmarks identified at Grey Goose Farm (247) and the Long barrow or mortuary enclosure (325) would experience significant permanent effects.

4.6.84 The assessment has also concluded that within the defined study area and Order Limits there are numerous non-designated archaeological and built heritage assets that would be impacted by the Project. This includes a total of 1,520 archaeological remains and 52 built heritage assets.

Biodiversity and ecological conservation

4.6.85 The assessment undertaken within ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1) has considered the likely impacts upon designated sites of international, national and local importance, protected species, habitats and other species of principal importance for the conservation of biodiversity and has sought opportunities to enhance biodiversity interests within the Order Limits and the wider environment.

4.6.86 The Project is expected to result in significant permanent habitat loss at Shorne and Ashenbank Woods SSSI during the construction phase as well as a slight beneficial effect arising from habitat creation at Great Crabbles Wood SSSI. The significant impact at Shorne and Ashenbank Woods SSSI results from the widening of the A2, leading to a loss of 6.55ha woodland, 2.42ha of which would be ancient woodland.

4.6.87 The loss of ancient and SSSI woodland at Shorne and Ashenbank Woods SSSI. This would be compensated for, in part, with tree planting to the west, north and east of Shorne Woods, designed to link existing areas of woodland, including Great Crabbles Wood, Shorne Woods and Claylane Wood.

4.6.88 In total, the Project will result in the loss of 7.26ha of ancient woodland to the south of the River Thames and 4.35ha of ancient woodland to the north of the River Thames. To compensate for the loss of this woodland, 63.84ha of woodland would be planted (Application Document 6.2, ES Figure 2.4: Environmental Masterplan).

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4.6.89 Against those areas that have been assessed as resulting in potential harm to the Green Belt, it is also necessary to consider the positive factors in favour of the development before determining whether 'very special circumstances' have been demonstrated to clearly outweigh the harm to the Green Belt. Consideration of positive impacts arising from the Project in the Green Belt are focused on a range of operational phase embedded mitigation measures, which include those described below:

4.6.90 The Project design incorporates provision of new routes for walkers, cyclists and horse riders (WCH), designed to improve access to the existing network, to increase access for users (including those with limited mobility) while considering and mitigating potential impacts from misuse and anti-social behaviour through good design. Total additional and improved provision equates to 37,115m of routes.

4.6.91 A replacement golf facility is to be provided for the existing Gravesend Golf Centre in order to mitigate the impacts on golf provision in the area.

4.6.92 An area of land for the replacement of Orsett Showground has been included on a precautionary basis whilst discussions are ongoing concerning the nature of the land.

4.6.93 Land has been incorporated into the Project design to make provision for the replacement of Gammon Field travellers' site which is impacted by permanent land-take.

4.6.94 The Project design includes the creation of green bridges at Brewers Road, North Road, Muckingford Road, Holford Road, Green Lane and two at Thong Lane.

Green Belt 'very special circumstances'

4.6.95 'Very special circumstances' will only exist where the potential harm to the Green Belt is clearly outweighed by other considerations.

4.6.96 The 'very special circumstances' justifying the Project, as 'inappropriate' development within the Green Belt, are in summary:

a. The defined and overriding need for the Project

b. The absence of viable alternatives

c. Policy support

d. Temporary or limited impacts

a. The defined and overriding need for the Project

4.6.97 The need case for the Project is provided in the Need for the Project (Application Document 7.1). A summary of both the need for the Project and the benefits which it provides are set out below.

4.6.98 Table 4.12 identifies the key issues currently associated with the reliance on the Dartford Crossing as the only significant road crossing of the River Thames east of London which have made the route one of the least reliable sections of the SRN.

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Table 4.12 Need – key issues

Issue	Description
Capacity	The Dartford Crossing consistently carries more traffic than its design capacity. It was found to have operated above its design capacity for 337 days during 2019. Daily traffic flows for this part of the road network are predicted to increase by nearly 17% in the period 2016 to 2027 (Highways England, 2019).
Congestion	Traffic flows above design capacity of a road result in congestion. As well as affecting journeys across the River Thames, this congestion also affects journeys on local roads around the Dartford Crossing.
Reliability	Traffic flows above design capacity result in slow-moving traffic and uncertain journey times, making the Dartford Crossing one of the least reliable sections of the SRN.
Poor Connectivity	The River Thames acts as a barrier between Kent, Thurrock and Essex, which results in poor connectivity between these areas.
Lack of resilience	The Dartford Crossing is the only river crossing east of London. When this becomes congested or closes due to incidents or bad weather, alternatives to crossing the River Thames involve considerable detours, either through London, or all the way around the M25.
Incidents	Congestion and delays arising from high volumes of traffic at the Dartford Crossing are made worse when incidents occur.
Environment	Increased traffic and congestion at Dartford Crossing results in queuing on the approaches to the Crossing, on the SRN and on the local road network. This results in local communities being exposed to higher levels of air pollution and noise.
Local growth	Currently only 4% of traffic using the Dartford Crossing starts and ends in the local area[3], which includes Purfleet, Grays, Dartford and Gravesend. Poor connectivity severs local labour and product markets, impacting on economic efficiency in the surrounding area and reducing the ability of the population to find work and for local employers to attract a skilled workforce.

4.6.99 The Project would provide a wide range of benefits in addressing these needs, as a result of improved traffic flows within the Lower Thames area. These are summarised below.

Economic benefits

4.6.100 The Project would help unlock economic activity in the local authority areas close to the Project and contribute to wider benefits associated with greater productivity through the concentration of economic activity, tax revenues for government arising from an increase in employment and increased economic output.

4.6.101 The future economic development and transformation of the Lower Thames area is supported by a number of local strategic and economic plans, which show that improved connectivity, both cross-river and east–west, has the potential to strengthen the area's local economic performance and skills base, while the similarity of the area's services sectors, should encourage cross-river competition and dynamic clustering once the Project opens.

[3] LTAM N90 Run 1

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4.6.102 The Project would help relieve congestion at the Dartford Crossing, opening up opportunities for local economic growth, while reductions in commuting journey time and cost will increase the benefits of working and commuting resulting in an increased labour supply.

4.6.103 The Project would also support business growth across the region, opening up a more reliable route across the River Thames for some of the most important UK ports, servicing the local and national import and export markets, as well as providing additional connectivity for the key road corridor to the north via the M25.

Community and environmental benefits

4.6.104 The additional connectivity offered by the Project would improve the ability for local traffic to cross the River Thames. All severed PRoWs, with the exception of Hornsby Lane, bridleways and cycle routes, would be re-linked, with PRoWs impacted by the Project route upgraded to and re-designated as shared surfaces where practicable, to enhance and improve off-road provision for WCH.

4.6.105 The Project will benefit the local community both directly and indirectly by providing jobs during the construction phase within the sub-region.

Transport

4.6.106 The Project would provide an all-purpose trunk road connecting Kent, Thurrock and Essex, providing over 80% additional road capacity[4] across the River Thames. This would result in a more resilient network, leading to travel time savings for users wanting to cross the Thames east of London.

4.6.107 If the new crossing is not built, it is expected that the high levels of traffic using the Dartford Crossing would lead to a higher number of incidents and increased journey times. The Project would provide a less congested, quicker, more reliable alternative for those wishing to travel across the River Thames and, by taking traffic from the existing Dartford Crossing, will release capacity at that crossing for local traffic.

4.6.108 The new route would also give vehicles carrying hazardous materials an alternative route across the River Thames without the need for escort. These vehicles will be able to drive through without waiting for an escort and stopping other traffic, as is the case currently at Dartford Crossing.

4.6.109 The need for the Project, as demonstrated above in addressing the long-standing traffic problems at Dartford Crossing, as well as providing an opportunity to benefit local and regional economic growth, is an important and relevant consideration which should be attributed significant weight in demonstrating the ‘very special circumstances’ in support of the Project.

b. The absence of viable alternatives

4.6.110 A structured approach has been followed by DfT, and then by Highways England, to identify and assess potential alternative route options for the Project. At key stages in the Project development, alternative route options were identified and then assessed for their technical feasibility, environmental acceptability and performance against the Scheme Objectives. Selected options

[4] LTAM runs CM12, CS12

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were taken forward for development in further detail at each stage, and then reappraised. Prior to the Preferred Route Announcement (PRA), options were presented in a non-statutory public consultation before reaching a decision on the preferred route in 2017.

4.6.111 As part of the route appraisal process, the following three location options, (described in Table 4.13 and shown in Plate 4.8 below) were considered which had few impacts on the Green Belt:

a. Location A: Providing additional long-term capacity at the existing Dartford Crossing

b. Location B: Taking the route alignment partly through existing urban areas

c. Location E: Utilising land to the east of Gravesend outside the boundary of the Green Belt

4.6.112 Table 4.13 provides a summary of each of the three route options (identified by their report titles), outlining the reasons why they were discounted from further consideration as potential locations for the Project.

Table 4.13 Lower Thames Crossing: non-Green Belt route options

Route option locations	Reasons for rejection
Location A: Additional Capacity at the Existing Dartford Crossing	• Performed poorly against traffic objectives • Project subject to a 50mph speed limit • Performed poorly in terms of safety, noise and air quality • At least six years to construct with significant delay and disruption to the existing crossing (unlike other options) • Lower Value for Money than other options • Significant impacts on existing development • High cost and complexity of construction • Impacts on access to Bluewater and Lakeside shopping centres • Insufficient space for connections to existing roads • Poor economic benefits; significant impacts on existing and planned development • Major high-voltage overhead cable diversion
Location B: Swanscombe Peninsula Link to the A5089 Passing through the settlements of Swanscombe and Grays	• Jeopardise redevelopment of Swanscombe Peninsula • Likely problems with connections to adjacent junctions and impacts on local roads, particularly the A2 • The A2 likely to be heavily congested due to existing and planned developments in the area
Location E: Isle of Grain Link Running to east of Southend on land outside the Green Belt	• Provides limited relief to the Dartford Crossing. • Poor to low Value for Money • Potential direct and indirect effects on international, European and nationally designated conservation sites

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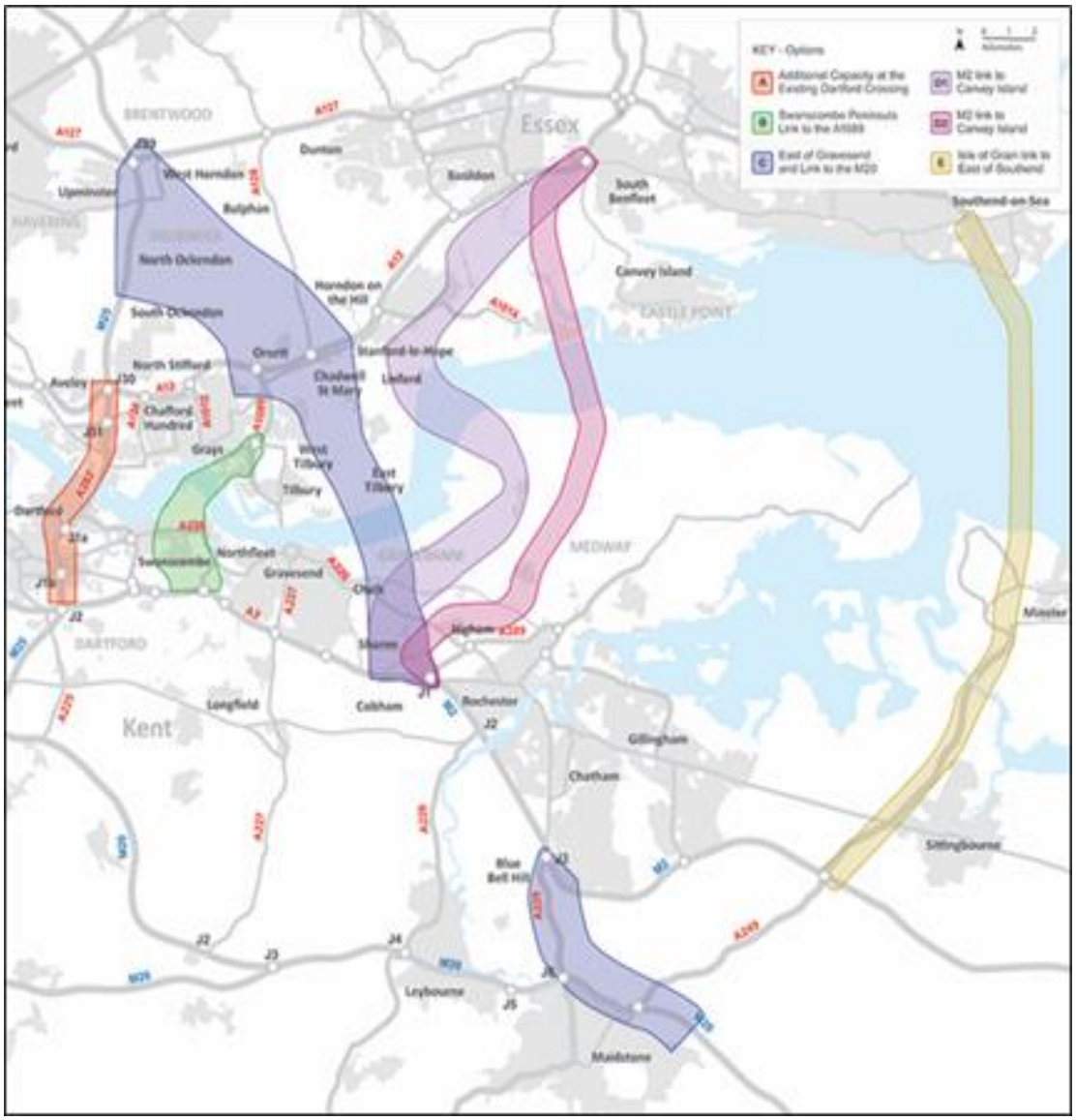
4.6.113 Plate 4.8 shows the location of each of the three non-Green Belt route options considered, alongside other routes assessed as part of the optioneering stage, including the proposed route alignment (Location C).

Plate 4.8 Lower Thames Crossing route options appraisal



4.6.114 The unavailability of route options with less adverse impacts on the Green Belt, as demonstrated above, is considered a relevant consideration for the purposes of demonstrating 'very special circumstances'.

c. Policy support

4.6.115 The wider policy support for the Project is set out in detail in Chapter 3 of this Statement. In addition, specific policy support for the Lower Thames Crossing as a major road infrastructure project and for the proposed route alignment through the Green Belt is provided in the following policy documents.

4.6.116 Section 2 of the National Policy Statement for National Networks (NPSNN) sets out the need for development of the national networks, the Government's policy and strategic vison and objectives. Specifically, paragraph 2.2 of the NPSNN states that '*there is a critical need to improve the national networks to address*

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road congestion and crowding on the railways to support safe, expeditions and resilient networks that better support social and economic activity; and to provide a transport network that is capable of stimulating and supporting economic growth'.

4.6.117 Paragraph 2.4 of the NPSNN recognises that the need to improve the national network is expected to intensify, stating that, *'pressure on our networks is expected to increase even further as the long term drivers for demand to travel - GDP and population – are forecast to increase substantially over coming years'.*

4.6.118 This is supported by paragraph 2.22 of the NPSNN which states that '*without improving the road network, including its performance, it will be difficult to support further economic development … and this will impede economic growth and reduce people's quality of life. The Government has therefore concluded that, at a strategic level, there is a compelling need for the development of the national road network*.'

4.6.119 Paragraph 2.27 of the NPSNN goes on to state that, '*in some cases, to meet the needs of traffic, it will not be sufficient to simply expand capacity on the existing network. In those circumstances new road alignments and corresponding links, including those alignments which cross a river or estuary, may be needed to support increased capacity and connectivity'.*

4.6.120 The policy support for the Project is also set out at a strategic level which is included in a wider package of works for the SRN in the South East of England, as referred to within the Government's Road Investment Strategy (2015/16 – 2019/20) (RIS 1) (DfT, 2015). Lower Thames Crossing is identified in the RIS 1 as a Project to be developed within the next road period.

4.6.121 The Government's Road Investment Strategy 2: 2020–2025 (RIS 2) (DfT, 2020) acknowledges that the demands on the nation's roads continues to evolve and change and that investment is needed to update the network accordingly. The list of road commitments includes Lower Thames Crossing, described as a *'new crossing of the River Thames between Kent and Essex, together with supporting roads linking to the M25, A13 and M2'.*

4.6.122 The Lower Thames Crossing is identified as a Project that will be started or completed in the RIS 2 period that will '*have a national impact, allowing freight traffic to the continent to bypass Dartford, and have an uncongested route to Dover'.*

4.6.123 Highways England's (2015) Delivery Plan 2015–2020 acknowledges the Project as a RIS 2 scheme and states that the Project is being developed *'for an additional crossing to alleviate congestion and support the significant growth plans'* for the South East area.

4.6.124 The House of Commons Budget Report (2020) also refers to RIS 2, stating that the Lower Thames Crossing will be bought forward to *'increase road capacity across the Thames east of London'* whilst the Analysis of the National Infrastructure and Construction Pipeline (Infrastructure and Projects Authority, 2018) lists the Lower Thames Crossing under *'Current priorities still in development'.*

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4.6.125 The National Infrastructure Delivery Plan 2016–2021(Infrastructure and Projects Authority, 2016) refers to the proposals of Highways England for the Lower Thames Crossing for connecting junction 1 of the M2 to the M25 between junctions 29 and 3 under the River Thames, east of Gravesend and Tilbury.

4.6.126 The Road to Growth, Highways England's (2017) first strategic economic growth plan, is intended to provide a long-term strategic framework to 2050 and to inform the Government's future road investment strategies, including RIS 2.

4.6.127 In seeking to optimise the economic impact of the SRN, Highways England's (2017) Road to Growth notes that the success of the UK's economy is underpinned '*by a safe, effective and efficient SRN*', and that this '*is the largest part of the integrated transport system that businesses rely on every day to operate successfully'*.

4.6.128 At a regional level, Road to Growth states that Highways England has developed a number of projects and studies to help businesses improve productivity and to grow, including the Lower Thames Crossing which will '*open up new and significant economic opportunities for existing and future businesses'*.

4.6.129 The South East Local Enterprise Partnership (SELEP) is one of 38 Local Enterprise Partnerships (LEPs) established by the Government in 2011 to identify and support local strategic growth priorities, encourage business investment and promote economic development. A key role of LEPs is to decide the priorities for investment in roads, buildings and facilities in the area as part of an integrated approach to growth and infrastructure development.

4.6.130 SELEP's (2018) Smarter Faster Together: Towards a Local Industrial Strategy refers to the major, long-term infrastructure priorities to be delivered within the SELEP area, including Lower Thames Crossing, stating that:

'*The Government's proposed Lower Thames Crossing, linking Kent, Thurrock and Essex. Through the recent Highways England consultation the relevant local authorities responded reflecting their views. It is important that a scheme of this size maximises the potential benefits and minimises the impacts on local businesses and communities. The scheme could have substantial impacts on the surrounding road network (including the potential to alter strategic traffic flows between Dover and the North).*'

4.6.131 Both the draft London Plan and the Mayor's Transport Strategy (Greater London Authority, 2018) include the Lower Thames Crossing in their list of '*Strategic Infrastructure priorities*'. The latter also states the following:

'*On the M25 orbital motorway, there is already enormous pressure on the Dartford Crossing, an important artery for people and businesses in outer London. The new Lower Thames Crossing being proposed by the Government could help reduce pressure on this important link'.*

4.6.132 The Essex Transport Strategy (Essex County Council, 2011) recognises the current lack of capacity at the Dartford Crossing is an area of key concern, stating that it is '*essential that this issue is addressed, not only to support economic growth and regeneration within the Thames Gateway area, but also for long-term efficiency of this vitally important national route'*.

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4.6.133 Kent County Council's (2016) Local Transport Plan (2016-2031) sets out that *'the Dartford Crossing carries over 50 million vehicles a year and congestion costs the UK economy by constraining growth, impacting on north Kent, south Essex and southeast London'*. The Lower Thames Crossing is identified within the Plan as a strategic priority.

d. Temporary and limited impacts

4.6.134 Section 4.5 of this Chapter has concluded that a number of temporary (as well as permanent) Project elements comprise 'appropriate' development in the Green Belt.

4.6.135 A number of other temporary (and permanent) Project elements constitute 'inappropriate' development because they would fail to maintain the openness of the Green Belt or do not meet the five purposes of Green Belt designation, contrary to Green Belt policy.

4.6.136 It is considered that any potential visual impacts and effects on the landscape character of the Green Belt would be temporary and reversible and therefore amount to 'very special circumstances' that would outweigh the harm to the Green Belt by virtue of inappropriateness, visual impact and encroachment in this instance.

4.6.137 The temporary proposals will ensure that any harm to the Green Belt will be short term with the land returning to its original condition upon removal of these temporary elements.

Conclusions

4.6.138 The assessment has acknowledged that the location of the Project as a whole within the Green Belt represents 'inappropriate' development. It has also established that a number of Project elements, which are 'exceptions' to development within the Green Belt, can be regarded as 'appropriate' development. This provides a more helpful understanding of the extent of harm to the Green Belt, as a result. The Project elements that can be considered 'appropriate' development include a number of permanent and temporary uses, including landscape enhancements, ponds, temporary footbridges, WCH routes, green infrastructure, biodiversity improvements, watercourse diversions, fencing, temporary signage, urban lighting and mineral extraction.

4.6.139 Nonetheless, for the purpose of a worst case assessment, even if the Project is taken to be 'inappropriate' as a whole, the 'very special circumstances' provided above are considered to justify those impacts on the Green Belt.

4.6.140 In relation to the extent of harm to the openness of the Green Belt, the assessment of the potential impacts of the Project on both the spatial and visual openness has been undertaken. This has shown that there are a number of notable impacts to the openness of the Green Belt arising from the proposed route alignment, although these are largely confined to areas between the South Portal and the A2/M2 and the North Portal and the A13. Beyond this, to the north of the Application Site there are no major impacts identified to the openness of the Green Belt.

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4.6.141 The Project would accord with three of the five Green Belt purposes, although would not achieve the stated purposes of *'safeguarding the countryside from encroachment'* and would not *'assist in urban regeneration by encouraging the recycling of derelict and other urban land'.*

4.6.142 The need to demonstrate 'very special circumstances' is therefore engaged. As set out above, and in the Need for the Project (Application Document 7.1), the defined and over-riding economic need for the Project, the unavailability of viable alternatives with fewer impacts on the Green Belt, the wider policy support and the extent of temporary and reversable Project elements following the construction phase of development provide a clear case that 'very special circumstances' exist to justify the Project's impacts on, and location within, the Green Belt.

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5 Kent Downs Area of Outstanding Natural Beauty

5.1 Introduction

5.1.1 This chapter assesses the planning issues raised by the location of the Order Limits within the Kent Downs AONB and provides an assessment of the Project's impact on the AONB and a justification for its location within the Order limits.

5.1.2 While there is an element of overlap between the development proposals in policy terms between the AONB and Green Belt, reflecting the fact that the designated AONB lies within the Green Belt, each designation has been considered separately, reflecting their distinct purposes and the different policy requirements.

5.1.3 The AONB assessment has adopted the following broad structure:

a. A description of the Kent Downs AONB

b. The planning policy framework

c. The extent to which the Project complies with planning policy

d. Concluding comments on the planning case

5.2 Description of the Kent Downs AONB

5.2.1 The Kent Downs AONB is a nationally important protected landscape, designated in July 1968 and stretching from Greater London to the Strait of Dover, covering an area of 878 square kilometres (326 square miles). Aside from a small area within the local authority areas of the London Borough of Bromley and Medway Council, the AONB is situated within the county of Kent and covers around 23% of the total land area of the county.

5.2.2 The Kent Downs AONB is a nationally important protected landscape, whose special characteristics include its dramatic landform and views, rich habitats, extensive ancient woodland, mixed farmland, historic and built heritage and its tranquillity and remoteness. The landscape of the Kent Downs is made up of 13 main character areas in recognition of the local identity of the different areas of the AONB landscape. The 13 areas are as follows:

a. Darent Valley

b. East Kent Downs

c. Hollingbourne Vale

d. Kemsing Vale

e. Low Weald

f. Lympne

g. Medway

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h. Postling Vale

i. Sevenoaks Greensand Ridge

j. South Foreland

k. Stour Valley

l. West Kent Downs

5.2.3 The designated area contains no large settlements, although includes major transport infrastructure, notably the M2 and HS1 and is otherwise characterised by areas of ancient woodland, mixed farmland, historic and built heritage features, along with isolated farms and churches. The area is crossed in three places by the river valleys of the Darent, the Medway and the Stour, all flowing northwards.

5.2.4 The Project route passes through the West Kent Downs part of the AONB for approximately 2.7km and is sited within the local authority areas of Gravesham Borough Council and Kent County Council (Plate 5.1). The Project would involve the provision of new transport and utility infrastructure within the AONB from the A2 approach at its western boundary and junction 1 of the M2 at the eastern boundary.

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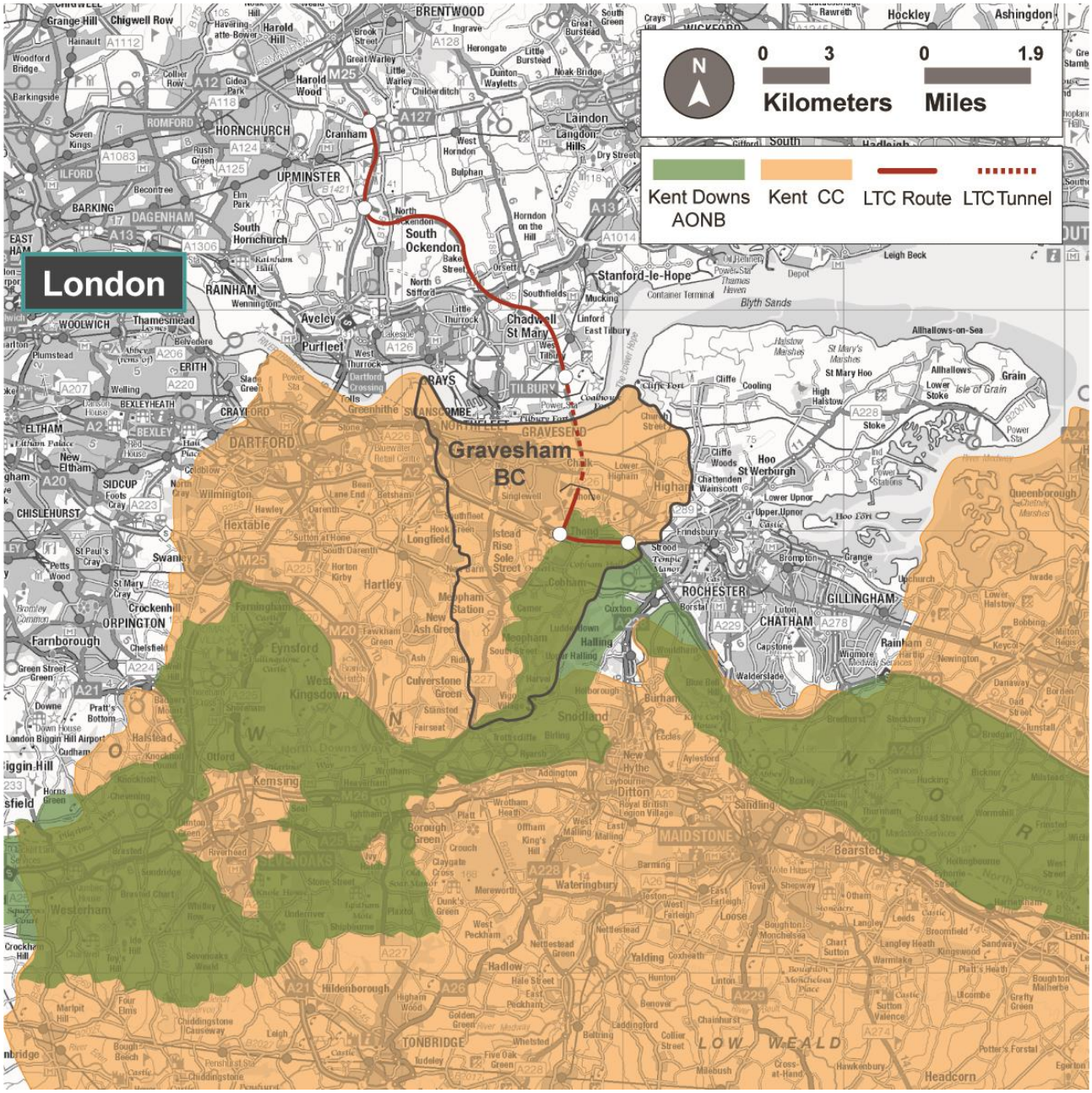
Plate 5.1 Kent Downs AONB



5.2.5 The Kent Downs AONB Management Plan 2014-2019 (Kent Downs Joint Advisory Committee & Kent Downs AONB Unit, 2014) sets out the special characteristics and qualities of the Kent Downs' natural beauty. The following special characteristics and qualities have been identified within the Management Plan as being of the most relevance to the Project and the intrinsic landscape character and visual amenity of the AONB:

a. **Dramatic landform and views**. The Kent Downs dramatic and diverse topography is based on the underlying geology. Long-distance panoramas are offered across open countryside, estuaries, towns and the sea from the scarp, cliffs and plateaux; the dip slope dry valleys and river valleys provide more intimate and enclosed vistas.

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b. **Biodiversity rich habitats**. Rich mosaics of habitats, plant and animal communities of national and local importance are sustained, although they may be isolated or fragmented in a modern agricultural landscape. Sensitive management and conservation of all these features as well as the creation of functional ecological networks is essential to the survival of the AONB's important biodiversity heritage and landscape quality.

c. **Farmed landscape**. The pastoral scenery is a particularly valued part of the landscape. Farming covers around 64% of the AONB. Expansive arable fields are generally on the lower slopes, valley bottoms and plateaux tops.

d. **Woodland and trees**. Broadleaf and mixed woodland cover 23% of the Kent Downs and frame the upper slopes of the scarp and dry valleys and plateaux tops. Some large woodland blocks are present, but many woodlands are small, fragmented and in disparate land ownership and management. Over half of the woodland sites are ancient (continuously wooded since 1600), supporting nationally important woodland plant and animal species.

e. **A rich legacy of historic and cultural heritage**. Fields of varying shapes and sizes and ancient wood-banks and hedges set within networks of driveways and sunken lanes have produced a rich historic mosaic. The diverse range of local materials used, which include flint, chalk, ragstone, timber and tile, contribute to the character and texture of the countryside.

f. **Geology and natural resources**. The imposing landform and special characteristics of the Kent Downs is underpinned by its geology. Much of the AONB provides surprisingly tranquil and remote countryside – offering dark night skies and peace. These are much valued perceptual qualities of the AONB.

5.2.6 The Kent Downs AONB unit has issued a 'Draft Management Plan 2020-2025', which was out for public consultation from July to September 2020. This Management Plan has not been considered as part of the assessment as it is in draft form and for the purpose of this assessment the current plan, as the adopted version, carries weight.

5.3 National and local policy and guidance

5.3.1 The Kent Downs AONB is one of a number of AONBs established in England and Wales under the National Parks and Access to the Countryside Act 1949. Along with National Parks, AONBs are 'protected landscapes' formally recognised in statute as representing the finest countryside in England and Wales, where special policies apply to safeguard, conserve and manage the countryside.

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5.3.2 The Countryside and Rights of Way Act 2000, which revised and partly replaced the AONB provisions of the 1949 Act, provides the statutory framework for AONBs in England, Wales and Northern Ireland and sets out the purposes of AONB designation (section 82 of the Act)

5.3.3 The primary and subsidiary purposes of AONBs were reaffirmed in a 1991 policy statement on AONBs: *'Areas of Outstanding Natural Beauty: A Policy Statement,'* Countryside Commission, 1991, as follows:

a. '*The primary purpose of designation is to conserve and enhance natural beauty;*

b. *'In pursuing the primary purpose of designation, account should be taken of the needs of agriculture, forestry, other rural industries and of the economic and social needs of local communities. Particular regard should be paid to promoting sustainable forms of social and economic development that in themselves conserve and enhance the environment; and*

c. *'Recreation is not an objective of designation, but the demand for recreation should be met so far as this is consistent with the conservation and natural beauty and the needs of agriculture, forestry and other uses.'*

5.3.4 Section 85 of the Countryside and Rights of Way Act 2000 requires that, '*in exercising or performing any functions in relation to, or so as to affect, land*' in National Parks and AONBs, relevant authorities *'shall have regard'* to the purposes for which these areas are designated.

5.3.5 The Countryside Council's (1991) Areas of Outstanding Natural Beauty: A Policy Statement provides a widely accepted definition of the purposes of AONB designation '...*which is to primarily conserve and enhance natural beauty*.' The Statement goes on to say that:

'*In pursuing the primary purpose of designation, account should be taken of the needs of agriculture, forestry and other rural industries and of the economic and social needs of local communities. Particular regard should be paid to promoting sustainable forms of social and economic development that in themselves conserve and enhance the environment*.'

5.3.6 National planning policy, in the form of the NPSNN (Department for Transport, 2014) and NPPF (Ministry of Housing, Communities and Local Government, 2019) states that AONBs, along with National Parks, have the highest standard of protection in relation to landscape and natural beauty. Policy also makes clear that major developments should not take place in these designated areas, other than in exceptional circumstances which are in the national public interest.

5.3.7 Paragraphs 5.150 and 5.151 of the NPSNN state that:

'*Great weight should be given to conserving landscape and scenic beauty in nationally designated areas. National Parks, the Broads and Areas of Outstanding Natural Beauty, have the highest status of protection in relation to landscape and scenic beauty. Each of these designated areas has specific statutory purposes which help ensure their continued protection and which the Secretary of State has a statutory duty to have regard to in decisions*.' (paragraph 5.150)

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'*The Secretary of State should refuse development consent in these areas except in* ***exceptional circumstances*** *and where it can be demonstrated that it is in the public interest. Consideration of such applications should include an assessment of:*

a. *the need for the development, including in terms of any national considerations, and the impact of consenting it, upon the local economy*

b. *the cost of, and scope for, developing elsewhere outside the designated area, or meeting the need for it in some other way; and*

c. *any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated*.' (paragraph 5.151).

5.3.8 Paragraph 5.152 explains the strong presumption against building new roads in the AONB, '*unless it can be shown that there are compelling reasons for the new or enhanced capacity and with any benefits outweighing the costs very significantly'.*

5.3.9 Paragraph 5.153 states that, *'where consent is given in these areas, the Secretary of State should be satisfied that the applicant has ensured that the project will be carried out to high environmental standards and where possible includes measures to enhance other aspects of the environment. Where necessary, the Secretary of State should consider the imposition of appropriate requirements to ensure these standards are delivered'.*

5.3.10 Paragraph 5.148 provides that applicants proposing to build new roads in the AONB should fulfil the requirements set out in Defra's English national parks and the broads: UK government vision and circular 2010 or successor documents.

5.3.11 The Project is required to be assessed against both the NPSNN as well as the Overarching National Policy Statement for Energy (EN-1), National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4) and National Policy Statement for Electricity Infrastructure (EN-5). The Project includes both gas pipeline diversions and overhead electric line diversions within the Kent Downs AONB.

5.3.12 Paragraph 5.9.9 of NPS EN-1 states that, *'National Parks, the Broads and AONBs have been confirmed by the Government as having the highest status of protection in relation to landscape and scenic beauty. Each of these designated areas has specific statutory purposes which help ensure their continued protection and which the IPC should have regard to in its decisions. The conservation of the natural beauty of the landscape and countryside should be given substantial weight by the IPC in deciding on applications for development consent in these areas.'*

5.3.13 Paragraph 5.9.10 of NPS EN-1 goes on to say that, *'nevertheless, the IPC may grant development consent in these areas in exceptional circumstances. The development should be demonstrated to be in the public interest and consideration of such applications should include an assessment of*:

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a. *the need for the development, including in terms of national considerations, and the impact of consenting or not consenting it upon the local economy;*

b. *the cost of, and scope for, developing elsewhere outside the designated area or meeting the need for it in some other way, taking account of the policy on alternatives set out in Section 4.4; and*

c. *any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.'*

5.3.14 Paragraph 5.9.11 of NPS EN-1 states that, *'the IPC should ensure that any projects consented in these designated areas should be carried out to high environmental standards, including through the application of appropriate requirements where necessary'.*

5.3.15 The NPPF explains at paragraph 172 that:

'*Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to these issues. The conservation and enhancement of wildlife and cultural heritage are also important considerations in these areas, and should be given great weight in National Parks. Where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality and the Broads. The scale and extent of development within these designated areas should be limited. Planning permission should be refused for major development other than in exceptional circumstances, and where it can be demonstrated that the development is in the public interest. Consideration of such applications should include an assessment of*:

a. *the need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy;*

b. *the cost of, and scope for, developing outside the designated area, or meeting the need for it in some other way; and*

c. *any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.'*

5.3.16 Planning Practice Guidance (PPG) (Ministry of Housing, Communities and Local Government, 2019) provides further guidance in respect of the NPPF, noting that, '*all development in National Parks, the Broads and Areas of* Outstanding *Beauty will need to be located and designed in a way that reflects their status as landscapes of the highest quality*'.

5.3.17 PPG also advises that Management Plans for AONBs may contain information which is a relevant consideration when assessing planning applications.

5.3.18 The Kent Downs AONB Management Plan 2014-2019 published by the Kent Downs Joint Advisory Committee and Kent Downs AONB Unit in 2014 sets out the special characteristics and qualities of the Kent Downs' natural beauty and

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formulates the policies and actions for its management and for carrying out their functions in relation to it.

5.3.19 ES Chapter 7: Landscape and Visual (Application Document 6.1) states that consideration has been given to the guidance contained within the Kent Downs AONB Management Plan as part of the assessment undertaken of the Project on the landscape resource and on visual receptors during the construction and operational phases. Equally, the Kent Downs AONB Management Plan has been assessed in understanding the implications of the policy context it provides for the Green Infrastructure Study (Appendix C of this Planning Statement).

5.3.20 Table 7.4 in ES Chapter 7 sets out relevant the policies contained within the Kent Downs AONB Management Plan and how they have been considered in relation to landscape and visual matters. The potential effects of the Project on the landscape character and visual amenity in respect of the Kent Downs AONB are considered in ES Appendix 7.9 and ES Appendix 7.10 (Application Document 6.3). Potential indirect effects in the Kent Downs AONB are set out in ES Appendix 7.11 (Application Document 6.3).

In line with PPG, the following management policies within the Management Plan are of particular relevance to the Project:

a. MPP4 – Public bodies and statutory undertakers have a statutory duty of regard for the purposes of the AONB: this will be pursued.

b. MPP8 – The promotion of the importance, qualities and sensitivity of the Kent Downs AONB will be pursued.

c. SD8 – Proposals which negatively impact on the distinctive landform, landscape character, special characteristics and qualities, the setting and views to and from the AONB will be opposed unless they can be satisfactorily mitigated.

5.3.21 The area surrounding the Kent Downs AONB, its setting, is also important to its landscape character and quality. As such, views of the Project from the AONB and views of the AONB from the Project have been considered carefully to ensure that the Project both conserves and enhances the natural beauty and character of the AONB and its setting.

5.3.22 As the relevant local planning authority for the area of the Kent Downs AONB, Gravesham Borough Council provides the development planning framework for the area through the Gravesham Local Plan Core Strategy (Gravesham Borough Council, 2014). Strategic Objective S09 seeks to *'Conserve and enhance the diverse rural landscape including the Kent Downs AONB and its setting'.* The key policies to which this Objective relate are *CS01: Sustainable Development* and *CS12: Green Infrastructure.*

5.3.23 The following extract from *Policy CS12* is of particular relevance to the AONB:

The overall landscape character and valued landscapes will be conserved, restored and enhanced. The greatest weight will be given to the conservation and enhancement of the landscape and natural beauty of the Kent Downs Area of Outstanding Natural Beauty and its setting. Proposals will take account of the

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Kent Downs Area of Outstanding Natural Beauty Management Plan, the Gravesham Landscape Character Assessment, and the Cluster Studies where relevant.

5.4 Planning assessment of impacts on AONB

5.4.1 As a national designation, AONBs are deemed to have the same level of landscape quality and protection as National Parks. The planning system has an important role in controlling development proposals from harming the special qualities of the AONB in the same way, requiring an assessment to be undertaken to demonstrate exceptional circumstances and, more particularly, to consider the following factors from the quoted paragraphs of the NPSNN:

Need for the development (paragraph 5.151(a) of the NPSNN)

5.4.2 The need for the Project is explained in the Need for the Project (Application Document 7.1). That document sets out the compelling and very sufficient need for and benefits of the Project (including national considerations) and provides a basis for concluding exceptional circumstances exist. The paragraphs below expand upon the particular need to consider the local economy.

5.4.3 An appraisal of the economic, environmental and social impacts of the Project has been undertaken in line with DfT's Transport Analysis Guidance (TAG). This includes benefits, disbenefits (sometimes described as negative benefits), revenues and costs. The appraisal methods, key assumptions and appraisal results are presented within Appendix D: Economic Appraisal Package of the Combined Modelling and Appraisal Report (Application Document 7.7).

5.4.4 The planning and construction costs of the Project, taking into account inflation, have been estimated in line with Highways England guidance and are £6,963 million. In line with HM Treasury guidance that enables costs and benefits to be directly compared, these costs are included in the appraisal expressed in 2010 prices and values (£3,279 million), along with the operating, maintenance and renewals costs estimated over the 60-year appraisal period (£434 million). User charge revenues of £836 million (also in 2010 prices and values) from the Project, as well as the change in receipts at the Dartford Crossing and the London Congestion Charge and revenues from the Silvertown and Blackwall Tunnels, are deducted from the total costs in order to calculate the net costs of £2,877 million (Appendix D: Economic Appraisal Package of the Combined Modelling and Appraisal Report (Application Document 7.7)).

5.4.5 A breakdown of the benefits shows the following:

a. 40% of the benefits accrue to people starting and/or ending their journeys in the Lower Thames area (Thurrock, Dartford, Gravesham, Havering, Brentwood and Medway).

b. 31% of the benefits accrue to journeys starting and/or ending in other local authorities in the South East Local Enterprise Partnership (SELEP) region.

c. 21% of the benefits accrue to journeys starting and/or ending in other local authorities in Great Britain.

5.4.6 Economic benefits would be greatest for local businesses in high value economic sectors, for example biotechnology and financial services. They would also be significant for firms in the lower value sectors such as transport

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and construction sectors, given their high transport costs and relative concentration in the Lower Thames area. In addition, the appraisal considers that these gains would feed through supply chains to businesses in other economic sectors, encouraging new business clusters to develop. This would raise employment growth and boost inward investment which would enhance the competitive performance and development of the local area.

5.4.7 As part of the economic appraisal work, the impact of the Project on the local economy was considered. Of the £3,279 million of the core growth benefits (that can be spatially disaggregated), 40% of these accrue to Lower Thames local authorities (Thurrock, Brentwood, Dartford, Gravesham and Medway). These benefits include transport user and provider impacts and agglomeration benefits. Developing outside the AONB or in some other way (paragraph 5.151(b) of the NPSNN)

5.4.8 The existing A2 is part of an infrastructure corridor that extends east-west across the northern section of the Kent Downs AONB. Within this infrastructure corridor are the main A2 alignment as well as local link roads, the High Speed 1 (HS1) railway line and a number of utilities. Development within the Kent Downs AONB rearises from the proposed highway improvements to the existing A2. The proposed alignment of the A122 is located to the west of the AONB, connecting to the A2 to the east of Gravesend (the Western Southern Link (WSL)), which was decided in the Preferred Route Announcement (PRA) in 2017. As the Project has evolved since the PRA, updated transport modelling forecasts helped inform design changes to the WSL and the A2. The Project would now include works comprising widening of the existing A2 corridor across the northern part of the AONB.

5.4.9 As a consequence of these highway works, it is also necessary to divert an existing underground gas pipeline and multi-use utilities corridor (electric and foul water) that lie along sections of the A2 and to the south following existing and new road infrastructure. These changes were initially presented as part of the Statutory Consultation in 2018. Following the Statutory Consultation, design development continued in this area, resulting in the reduction of the width of lane four on both carriageways, and reductions in the central reservation area to reduce the overall footprint of the corridor within the AONB. Further detail was provided on these changes, as well as on the utilities provision, in the Supplementary Consultation in 2020. Additional design refinement took place resulting from engagement with the Statutory Undertakers, and reductions to the utility requirements south of the A2 corridor were presented in the proposals set out in the Design Refinement Consultation, also in 2020.

Consideration of alternative road alignments

5.4.10 Following the preferred route announcement, including the WSL in 2017, further encroachment within the Kent Downs AONB has occurred as a result of the need to increase the width of the A2 highway corridor, in order to meet forecast levels of traffic demand. The changes included the introduction of two connector roads parallel to the main A2 alignment, and the provision of a utility corridor along the northern and southern highway boundaries. These design changes resulted in the WSL further encroaching within the boundary of the designated AONB.

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5.4.11 In relation to the early assessment of route options, undertaken by Highways England as part of the initial optioneering phases of the Project, the same considerations apply in respect of the Kent Downs AONB, as for the Green Belt (Chapter 5).To summarise, potential routes at Locations A, B and E (see Plate 4.8) that would have avoided the Kent Downs AONB all failed to accord with the Scheme Objectives by virtue of having a higher impact on environmentally sensitive sites and on local communities, would not have relieved the existing congestion pressure at the Dartford Crossing, and would not provide value for money. Other reasons for rejection relate to construction cost and time, poor connectivity to the existing highway network, and poor economic benefit, especially in locations of existing and planned development.

5.4.12 The only viable alternative to the WSL identified during the route selection process was the Eastern Southern Link (ESL), which was located to the east of the Kent Downs AONB boundary and connected the southern section of the Project to the M2. The main purpose of the ESL was to create the most direct and cost efficient route from the M25 to the M2 without the need to divert onto other roads. As explained in Appendix A of the Need for the Project (Application Document 7.1), it was concluded that the WSL would best meet the Scheme Objectives, compared to the ESL. Particularly, the WSL would have a materially lower impact than the ESL on the environment and local communities, including less intrusion into the Kent Downs AONB, and its setting.

5.4.13 Prior to Statutory Consultation, in 2018, and again in 2020, a review was undertaken to consider the changes in the Project design south of the River Thames, including increased encroachment into the AONB along the A2. The review identified that these changes resulted in the ESL and WSL having a comparable effect on the AONB. Neither the ESL nor the WSL provide a route that is wholly outside the AONB, as reported in Appendix A of the Need for the Project (Application Document 7.1). These reviews concluded that, even when considering the changes to the A2 highway corridor and the associated utility diversions, the balance of the community and environmental impacts of the ESL remained more significant that the overall balance of impacts of the WSL, therefore the route selection conclusions remain robust and appropriate.

Utilities provision

5.4.14 The existing utility arrangement follows an infrastructure corridor comprising the A2 and the HS1 railway line which cuts through the northern most tip of the AONB. The combination of road, rail and utility infrastructure in one locality lessens the overall visual impact on the AONB. The main works associated with utility provision relate to the proposed highway improvements to the WSL within the boundary of the AONB. This involves the realignment of the existing gas pipelines and overhead electricity transmission lines running across the A2 and over the existing HS1 line. Since the PRA, the design changes to the Project, including the widening of the A2 have resulted in the utility realignment further encroaching into the AONB.

5.4.15 The proposed realignment of the existing utilities would largely remain within the existing infrastructure corridor to minimise further encroachment into the AONB. This would moderate any harm by combining the development with the existing road and rail infrastructure. The gas pipeline along the northern edge of the A2 in close proximity of the AONB (Shorne Woods) and other multi-utilities would

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largely follow the proposed local roads, including a sewer diversion following Halfpence Lane, which would remain underground within the boundary of the AONB. As the existing utilities are sited within the AONB it would not be possible to divert them in a way which would avoid the AONB entirely. However, significant improvements and design refinements have been made to reduce the land-take originally required for the utilities realignment as presented in the Supplementary Consultation (2020).

5.4.16 The utility realignments have been an ongoing process with changes made to further reduce the impact they would have on the AONB. Significant reductions in the utility diversions required to the south of the A2 were presented at the Design Refinement Consultation (2020). These included the removal of the utility diversions south of HS1 within Ashenbank Wood; reductions in the area required for diversions around Jeskyns Farm; and; reductions in the area required for the corridor south of Shorne Woods (which is required for the gas pipeline diversions north of the A2 and has also been reduced further).

5.4.17 In addition to the works to reduce the direct impact within the AONB, several design options were considered in relation to the gas pipeline diversions within and around Claylane Wood. The option to divert the gas pipelines outside of Claylane Wood between the south of Thong and the A226 was discounted as a trenchless crossing would be required under the existing HS1 railway line and the A2, which was considered a significant construction risk. The initial proposal was to have both high-pressured gas pipeline diversions in the same trench to attempt to reduce further impact to the AONB. However, this was discounted as it would be against the Institution of Gas Engineers and Managers (IGEM) TD/1 Section 6.11 requirement of the minimum separation distance and therefore would present a safety risk.

5.4.18 The preferred option has been developed to minimise the ecological and arboricultural damage to Claylane Wood by diverting the route through an area previously cleared for overhead line and gas main installations, currently filled with dense trees, saplings and scrub.

5.4.19 Therefore, while acknowledging that the utilities realignment would impact the AONB, the options taken forward and the design refinements demonstrate that the measures have been adopted to minimise their impact on the AONB as much as possible.

Any detrimental effects on the environment, landscape, recreational opportunities and the extent of moderation (paragraph 5.151(c) of the NPSNN)

5.4.20 In line with NPSNN (paragraph 5.151), an assessment has been carried out to consider any detrimental effects of the Project on the environment, landscape, and recreational opportunities within the Kent Downs AONB, as follows.

Landscape and environment

5.4.21 The temporary effects of the Project through the construction phase are as follows:

a. During construction, large-scale harm on perceived tranquillity and sense of remoteness as a result of increased activity associated with construction of

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the Project over a medium-term duration and reversible impacts as a result of additional Heavy Goods Vehicle movements present along the corridor but also within the wider landscape. These impacts would be heightened along and immediately adjacent to the A2 corridor (especially where the road corridor would be visible), but also perceivable from the surrounding landscape.

b. Construction phase activities on the existing A2 corridor and within the setting of the AONB would be heightened and these would typically be prominent. These effects would contribute to a perceived qualitative change in the special landscape qualities and natural beauty of the AONB designation. This would include the loss of woodland and trees, and the sense of remoteness. These changes would be focused on the A2 corridor due to the wooded nature of the surrounding landscape, with some localised impacts beyond including those within the setting of the AONB to the west and north-west of the designated boundary.

c. Loss of characteristic woodland along Brewers Road adjacent to the A2 corridor, would result in increased perceptibility (audibility and visibility) of construction activity on the A2 corridor.

d. Construction of multi-purpose utilities works would take place in the vicinity of the altered roundabout within the parkland of Cobham Hall Grade II* Registered Park and Garden which would result in the removal of some historic and 20th century planting belts which currently screen the roundabout. While the eastern part of the planting belt pre-dates the 20th century, the majority was established in the late 20th century, several decades after Brewers Road had been constructed and severed the north-western part of the park and Shepherd's Gate. Long-term main construction works would also be present along the A2. The boundary vegetation which would be removed forms part of an important element of the Registered Park and Garden (albeit a late addition reflecting infrastructure encroachment into the park) and its removal would alter the current parkland views north-west from the Grade I Listed Cobham Hall along the north-western approach.

e. Overall, construction activity would result in a perceived qualitative change in the night-time environment of the AONB, due to the increased activity and removed vegetation resulting in additional light spill and glow. Additional light sources would be present at Thong Lane and on Thong Lane/A2 green bridge and Brewers Road green bridge, creating additional prominent night-time features. This would be perceivable from the A2 corridor and its immediate periphery, although impacts within the wider AONB would be limited.

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f. Within the setting of the AONB there would also be perceived qualitative change in the night-time environment due to the extent of activity within the Higham Arable Farmland landscape which is typically unlit and is an area of low district brightness. Additional light sources would be present these associated with construction of the elevated viaduct structure and activity along the improved A2, together with the Thong Lane/A2 green bridge, becoming additional prominent night-time activities. Overall, during construction light sources would span a much broader area – these would be notable against the Kent Downs AONB which is considered an intrinsically dark landscape.

5.4.22 The permanent detrimental effects of the Project on the landscape and environment of the AONB are as follows:

a. Large-scale harm to the integrity of woodland and trees, which are a defining characteristic of this designated landscape. This would result from the partial but permanent loss to a range of landscape features and ecological habitats including ancient woodland at Shorne (approximately 1.62ha) and Brewers Wood (approximately 1.36ha) within Shorne Woods Country Park. Three veteran trees would also be lost and the partial loss of a single protected tree (TPO 1972-001), as well as mature and character defining woodlands within Shorne, Brewers, and Ashenbank woods. In addition, there would be a complete loss of trees within the A2 central reservation and partial loss of vegetation associated with HS1 mitigation planting.

b. Partial but noticeable loss of mature woodland within the setting of the AONB including Claylane ancient woodland (approximately 4.98ha) which includes a protected tree (TPO 1999-001 W1) Claylane Wood, and also Gravelhill Woods (approximately 3.4ha) which includes a veteran tree and another protected tree (TPO 1972-001) on the western edge of Shorne Woods and the Kent Downs AONB. In addition, there would be a further loss of mature woodland along the A2 corridor to the south (approximately 13.1ha) associated with HS1 and the A2 mitigation planting. The widened A2 corridor and loss of vegetation/woodland within Shorne Woods, Gravelhill Woods and Ashenbank Wood along the A2 would be perceptible on the defining wooded ridged skyline characteristic feature within the AONB, from the surrounding areas within the setting of the AONB.

c. Permanent impacts on irreplaceable habitats, ancient woodland and SSSI habitat that form part of the AONB and setting in which these habitats lie. There would be a permanent loss of ancient woodland approx. 8.54ha along the A2.

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d. Permanent changes to landform as a result of the improved A2 with additional retainment of land along the north-western edge of the AONB, and within the setting of the AONB.

e. Harm to the historic parkland landscape on its northern perimeter resulting from the loss of the previous HS1 mitigation planting, associated with the Cobham Hall Grade II* Registered Park and Garden, including its wood pasture and the setting of the Romano-British villa set within Cobham Park.

f. Harm to views of and from within the Kent Downs AONB as a result of the loss of defining woodland and the introduction of new elevated and permanent prominent features (12 new gantries, Thong Lane and Brewers Road green bridges, and street lighting). The resultant vegetation loss would noticeably impact the sky lining woodland in a number of views which are a defining characteristic of the West Kent Downs landscape character. Partial harm to views from the Kent Downs to the surrounding landscape within the setting as a result of new large-scale infrastructure at the M2/A2/Lower Thames Crossing junction.

g. Permanent forecast increases in traffic flows along the improved A2 through the AONB during operation, although this would lead to reduced audibility of traffic noise from the Project within the adjacent landscape and recreational areas including Shorne Woods Country Park and Cobham Registered Grade II* Park and Garden. This is a result of the provision of the acoustic barrier along the northern edge of the improved A2 and low noise surfacing, which would aid mitigation of impacts on the loss of the sense of isolation and remoteness. Overall, however, tranquillity as a perceptual characteristic would be noticeably impacted during operation when in close proximity to the Project, due to increased visibility of infrastructure (series of new portal gantries, street lighting and signage) with vehicle movements.

h. Within the setting of the AONB, perceived qualitative change in the night-time environment due to new light sources within the Higham Arable Farmland landscape and M2/A2/Lower Thames Crossing junction which is currently unlit and is an area of low district brightness. Additional light sources (street lighting and vehicle headlights) would be present on the elevated viaduct structure and along the improved A2, together with the Thong Lane/A2 green bridge and diverted Thong Lane becoming additional prominent night-time light sources. Overall, during operation light sources would span a much broader area – these would be notable against the Kent Downs AONB which is considered an intrinsically dark landscape. This position would not change between the opening year and design year.

i. A permanent major alteration to the scale and rural appearance on the immediate western setting of the AONB as a result of urban encroachment, initially as a result of the permanent loss of arable farmland and

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construction of the elevated M2/A2/Lower Thames Crossing junction and latterly from the presence of new infrastructure at the junction, together with further vegetation loss.

j. In total approximately 9.98ha of woodland vegetation would be lost as a result of the Project within the Kent Downs AONB, broadening the extent and perception of infrastructure within the existing A2 corridor. Here the three independent infrastructure corridors (A2 eastbound, A2 westbound and HS1, these typically between 30m and 70m at their widest) would be broadened to a single consistently wide corridor of approximately 140m through the AONB.

5.4.23 The extent of moderation of the effects on the landscape and environment of the AONB both during construction and operation are as follows:

a. The impact of temporary construction activity adjacent to Brewers Road would be mitigated by the use of hoarding to screen the works. The permanent impact of construction activity would be mitigated by the reinstatement of a replacement planting belt south of Brewers Road, of the same species as those removed if possible.

b. During both construction and operation, the southern and south-eastern areas of Cobham Hall Grade II* Registered Park and Garden would be unlikely to experience any direct change to their setting, and its peaceful, rural character would be preserved, although the northern edge of the park would be impacted by the presence of the widened A2 corridor and realigned Thong Lane/A2 green bridge and Brewers Lane green bridge.

c. Reduce loss of existing vegetation throughout the Project. Commitment to the protection and retention of vegetation identified as retained on ES Figure 2.4: Environmental Masterplan (Application Document 6.3) to aid visual screening and landscape integration of the construction activity and operational Project.

d. To reduce visual clutter barriers and fences will be combined into a single structure wherever technically possible (Clause STR.09, Design Principles (Application Document 7.5)).

e. Minimise lighting columns, their heights, and use LED luminaires with controllable directional lighting reducing light spill. (Clauses LST.01, LST.02, LST.03, Design Principles (Application Document 7.5)).

f. To reduce the impact on the Kent Downs AONB, the width of the A2 corridor will be restricted as far as practicable. The detailed design will be developed to minimise the footprint of the works associated with the Project and diverted utilities in order to maximise the areas available for woodland planting (Clause S1.04, Design Principles (Application Document 7.5)).

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g. A new multifunctional green bridge at Brewers Road (approx. 29.55m wide) will be installed to enhance user experience/recreational access across the improved A2 corridor, aid ecological connectivity through mitigating severance and fragmentation of habitats, and supporting landscape integration and visual screening for visual receptors (Clauses STR.01, STR.03, STR.06, STR.08, STR.11, S1.04, Design Principles (Application Document 7.5)).

h. A new multifunctional green bridge at Thong Lane/A2 (approx. 29.55m wide) will be installed to enhance user experience/recreational access across the improved A2 corridor, aid ecological connectivity through mitigating severance and fragmentation of habitats, and supporting landscape integration and visual screening for visual receptors (Clauses STR.01, STR.03, STR.06, STR.08, STR.11, S1.04, S1.15, Design Principles (Application Document 7.5)).

i. A new 2.0m high visual and acoustic environmental barrier installed adjacent to the north of the A2 corridor between the Inn on the Lake and Park Pale overbridge (Clauses STR.09, STR.10, S1.09, Design Principles (Application Document 7.5)).

j. Micro-siting of elevated gantries along the modified A2 corridor to reduce visual prominence (Clause PRO.02, Design Principles (Application Document 7.5)).

k. Woodland planting (Landscape Elements LE2.1, 2.2, 2.3, 2.4) as identified on ES Figure 2.4: Environmental Masterplan (Application Document 6.2) typically of native species (with some climate change–adapting species) planted as multipurpose features for visual screening, to aid landscape integration and support nature conservation and biodiversity. Planted within the A2 corridor adjacent to retained features but outside the utility easements, and also within the wider landscape as part of the ancient woodland compensation planting (approx. 33,683m^2) (Clause LSP.02, LSP.05, LSP.11, LSP.15, LSP.19, S1.01, S1.02, S1.06, S1.07, S1.08, S1.10, S1.11, S1.13, S1.14, Design Principles (Application Document 7.5)).

l. The impact of temporary construction activity adjacent to Brewers Road would be mitigated by the use of hoarding to screen the works. The permanent impact of construction activity would be mitigated by the reinstatement of a replacement planting belt south of Brewers Road, of the same species as those removed if practicable.

m. Within the setting of the Kent Downs AONB the M2/A2/Lower Thames Crossing junction would include large scale woodland planting (Clause LSP.10, Design Principles (Application Document 7.5)). This would include

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Ancient Woodland Compensation Planting (Clauses LSP.1, S2.03, S2.09, Design Principles (Application Document 7.5)).

n. Within the setting of the Kent Downs AONB minimise impacts on Claylane Ancient Woodland and other vegetation (Clauses S2.06, S2.07, Design Principles (Application Document 7.5)).

o. Within the setting of the Kent Downs AONB new earthworks providing 4m high false cuttings on Project SB to M2 EB slip road (4m higher than the proposed carriageway ground level, typically with a 1(v)4(h) inward facing slope and 1(v)10(h) outward slope) (Clause LSP.09, Design Principles (Application Document 7.5)).

p. Within the setting of the Kent Downs AONB new earthworks providing 4m deep cuttings for approximately 400m south of Thong Lane green bridge (minimum 4m lower than adjacent ground level, typically with a 1(v)4(h) inward facing slope), and a maximum 25m deep cutting for approximately 1,200m north of Thong Lane green bridge (typically with a 1(v)4(h) chalk rock / scree slope). (Clauses LSP.09, STR.02, LSP.18, S3.01, S3.02, S3.03, S3.10, S3.11, Design Principles (Application Document 7.5)).

q. Within the setting of the Kent Downs AONB a new multifunctional green bridge at Thong Lane (approx. 83.35m wide heavy weight) will be installed to enhance user experience/recreational access across the improved A2 corridor, aid ecological connectivity through mitigating severance and fragmentation of habitats, and supporting landscape integration and visual screening for visual receptors. (Clauses STR.03, STR.06, S2.02, S2.04, Design Principles (Application Document 7.5)).

r. Within the setting of the Kent Downs AONB new circular walks connecting recreational areas and access to the Kent Downs AONB, through diversion of PRoW NS167 and NS169 and stopping up of NS367 (Clauses S2.02, Design Principles (Application Document 7.5)).

5.4.24 While the effects of the Project would not be consistent with the AONB's prevailing character, particularly in the immediate vicinity of the Project, this would be tempered by the presence of the existing transport corridor. Beyond the immediate Order Limits, the preserved woodland characteristics would reduce the perception of the impacts along the corridor. At worst, initially following construction there would continue to be a localised perception of increased infrastructure and woodland loss. Mitigation measures including the Thong Lane/A2 green bridge and Brewers Road green bridge would, following construction, improve connectivity over the improved A2 corridor and help to reduce severance and improve recreational access between Shorne and Cobham. The provision of an environmental barrier as noise/visual mitigation adjacent to Park Pale, and between the Inn on the Lake and Brewers Road, would help screen the road corridor at opening year, and provide noise attenuation for receptors within the surrounding recreational areas of Shorne Woods Country Park.

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5.4.25 Overall, there would be a perceivable qualitative change in the night-time environment due to the change in street lighting, which would use LED luminaires, although these would be on reduced height columns with reduced light spill and glow. Additional light sources would be present at Thong Lane and on the Thong Lane/A2 green bridge and Brewers Road green bridge, creating additional prominent night-time features. In addition, new lighting would appear brighter than the baseline situation due to the white light, this seen in context of a broadened lit corridor with additional lanes of noticeable traffic and vehicle headlights. This would be perceivable within the improved A2 corridor and its immediate periphery, although impacts within the wider AONB would be limited.

5.4.26 Over time, the establishment of new landscape features including the replacement ancient woodland planting east of Shorne Woods in the east of the AONB, replacement woodland planting north of the improved A2 corridor adjacent to Shorne and Brewers Wood and linear planting adjacent to HS1 would partially replace the wooded characteristics of this corridor. This would reduce the prominence of infrastructure, albeit this being increased from the baseline situation due to the scale of the corridor and utility easements. The establishment of vegetation associated with the environmental barrier would integrate this feature aiding its integration within the corridor. Proposed shrub planting with intermittent trees and new hedgerow planting above the green bridges would provide a degree of containment. This would reduce the perception of the infrastructure corridor below, with a further reduction in the prominence of the surrounding infrastructure.

5.4.27 The Shorne Woods Country Park and Shorne and Ashenbank Woods SSSI woodlands support protected species such as dormice and great crested newts; these species can be adequately mitigated through European Protected Species (EPS) licencing. Compensation for ancient and SSSI woodland would be provided in the form of replacement tree planting. This replacement planting has been designed to link together areas of ancient woodland to improve connectivity and resilience. The area of ancient woodland compensatory planting is approximately 50ha.

Recreation

5.4.28 The permanent detrimental effects of the Project on the recreational opportunities within the AONB and the extent of moderation/mitigation is set out below.

a. The recreational opportunities within the Kent Downs AONB have been identified within ES Chapter 13: Population and Human Health and ES Chapter 7: Landscape and Visual (Application Document 6.1). Both chapters highlight those assets directly affected by the Project and the measures taken to mitigate and compensate for these effects. The embedded and essential mitigation, replacement land, along with the landscape proposals are set out in ES Figure 2.4: Environmental Masterplan (Application Document 6.2) and the Design Principles (Application Document 7.5).

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b. Proposed permanent works involve the upgrading of an existing footpath to a bridleway within Jeskyns Community Woodland, connecting to other PRoWs in the area, along with temporary impacts due to construction and the associated utilities works within the woodland. Mitigation proposals to the west of the woodland include ancient woodland compensation and replacement woodland planting and the extension of the upgraded bridleway to Gravesend.

c. Shorne Woods Country Park, Shorne Woods, and Ashenbank Woods are directly impacted by the widening of the A2 and M2 with the removal of vegetation from within the highway's central corridor. The Project would permanently impact on the Country Park due to the diversion of utilities and the permanent easements in place, restricting public accessibility. The Project would impact internal trails which are scattered throughout the park and add connections to the existing recreational activities. Proposed mitigation includes open space replacement land, along with landscaping and tree planting connecting existing woodland blocks.

d. The 11-mile-long National Cycle Network Route 177 running through the AONB would be directly impacted by the Project due to the widening of the A2 and M2 and formation of the M2/A2/Lower Thames Crossing junction. During the construction phase, a new permanent route, some 4.5km in length, south of HS1 would be created through Ashenbank Wood and Jeskyns Community Woodland. Once the construction works are complete a new roadside route between the A2 and HS1 would be available to supplement the realigned NCR 177, offering cyclists a choice of route.

e. The strategic walking routes comprising the Timeball and Telegraph Trail, a 97-mile walk between Deal and Greenwich, and the Darnley Trail, linking Shorne Woods Country Park with the countryside over a distance of some 10km, would be directly impacted by the Project both temporarily and permanently. During the construction phase, the trails would be stopped-up and temporary diversions put in place. New walking routes are proposed within Chalk Park, connecting Riverside and Gravesham, through Thong Lane green bridge and around the proposed South Portal connecting to existing footpaths into the Shorne Woods Country Park and the wider AONB. A new continuous footpath between Jeskyns Community Woodland, Ashenbank Wood, Cobham, and Shorne Woods Country Park, would provide easy off-road access to and from Gravesham.

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The presumption against building new roads in the AONB (paragraph 5.152 of the NPSNN)

5.4.29 The policy places a presumption against any significant road widening or the building of new roads in the AONB unless it can be shown there are compelling reasons for the new or enhanced capacity and with any benefits outweighing the costs very significantly.

5.4.30 The Scheme Objectives, agreed by Highways England and the Department for Transport (DfT), include: '*To relieve the congested Dartford Crossing and approach roads and improve their performance by providing free-flowing north-south capacity.'*

5.4.31 The Transport Assessment (Application Document 7.9) sets out the benefits of the Project in terms of improving the operation of the SRN and providing additional highway capacity.

5.4.32 The Dartford Crossing currently experiences high levels of congestion on a regular basis. The Dartford Crossing was found to have operated above its design capacity on 337 days during 2019 (based in Highways England, 2019f).

5.4.33 The Need for the Project (Application Document 7.1) recognises that the lack of capacity across the River Thames and the congestion at the Dartford Crossing, '*threaten to weaken the UK's Industrial Strategy, increasingly disrupt trade flows, stifle employment growth and hamper efforts to raise national productivity levels'*.

5.4.34 The Need for the Project also explains how the Project would reduce congestion at Dartford Crossing, creating additional capacity and increased resilience across the River Thames east of London.

5.4.35 Selection of the preferred Project route option in relation to the AONB is set out in response to paragraph 5.151(b) of the NPSNN above, including the subsequent project development after PRA leading to the proposed widening of the existing A2 corridor across the northern part of the AONB. This route would provide an essential link connecting the A2 and M2 in Kent to the M25 south of junction 29, creating an all-purpose trunk road connecting Kent, Thurrock and Essex and providing over 80% additional road5 capacity across the River Thames.

5.4.36 The compelling and very significant need for the Project is explained in the Need for the Project, in demonstrating not only the need for the Project in addressing the long-standing traffic problems at the Dartford Crossing, but in delivering benefits across a wide range of needs and opportunities. In responding to these ongoing issues, the document concludes that '*it is considered there is a clear and overriding need for the Project, the adverse effects of which are very significantly outweighed by the benefits'.*

5.4.37 In summary, the range of Project benefits can be described, as follows:

a. An additional crossing of the River Thames, east of London, would provide more reliable journeys across the Thames. The enhanced connectivity would provide increased cross river economic opportunities which would

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stimulate competition and boost employment in the region. It would also allow for quicker, more reliable access to key markets, resources and labour for the region's ports.

b. The Project would provide enhanced connectivity and facilities for walkers, cyclists and horse riders, alongside improved access to community and businesses. Additionally, reduced congestion in the Dartford area would decrease air pollution.

c. As a result of the Project, journeys on both sides of the River Thames, as well as those that cross the river, would be quicker and these journeys would be subject to less frequent delays and uncertainty than is currently experienced. Congestion at the Dartford Crossing would be significantly reduced as the Project provides substantial additional capacity and a new route option across the River Thames.

5.4.38 On that basis, and for the reasons set out above and in the Need for the Project (Application Document 7.1), it is considered that there are compelling reasons for the new or enhanced capacity and with any benefits outweighing the costs very significantly.

The Project's high environmental standards (paragraph 5.153 of the NPSNN)

5.4.39 Although not formally defined, the reference within paragraph 5.153 to high environmental standards is taken to mean, for the purposes of this Project, the nature and extent of environmental mitigation proposed for the Project and the standards to which this would be carried-out. The Project secures these high standards through the actions and commitments set out in ES Appendix 2.2: Register of Environmental Actions and Commitments (REAC) (Application Document 6.3), ES Figure 2.4: Environmental Masterplan (Application Document 6.2) and the Design Principles (Application Document 7.5).

5.4.40 The REAC summarises the committed mitigation measures within the Environmental Statement relating to the construction and operational phases of the Project, ensuring that where consent is given in these areas, the Project would be carried out to high environmental standards.

5.4.41 The Environmental Masterplan identifies the embedded environmental mitigation measures for the Project, including proposals affecting the functionality and connectivity of the green infrastructure network.

5.4.42 Embedded mitigation is included within the Design Principles. This sets out ways in which the Project proposes to incorporate appropriate mitigation, including such measures as the provision of green bridges, improving connectivity between existing habitats and reinstating, wherever possible land to its original use as far as reasonably practicable. Design Principles (Application Document 7.5) includes clause LSP.19 ancient woodland compensation and the removal of planting, planting replacement (clauses S1.01-4) that of relevance to embedded mitigation within the Kent Downs AONB.

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5.4.43 Paragraph 5.153 also refers to the measures being undertaken to enhance other aspects of the environment within the AONB. Proposed landscape enhancements have been developed for the Project in accordance with the spatial layout of features identified in the Environmental Masterplan and include the following within the setting of the Kent Downs AONB:

a. The M2/A2/Lower Thames Crossing junction includes large scale woodland planting (Clause LSP.10, Design Principles (Application Document 7.5)) and Ancient Woodland Compensation Planting (Clauses LSP.1, S2.03, S2.09, Design Principles).

b. Minimising impacts on Claylane Ancient Woodland and other vegetation (Clauses S2.06, S2.07, Design Principles).

c. New earthworks providing 4m high false cuttings on Project SB to M2 EB slip road (4m higher than the proposed carriageway ground level, typically with a 1(v)4(h) inward facing slope and 1(v)10(h) outward slope) (Clause LSP.09, Design Principles).

d. New earthworks providing 4m deep cuttings for approximately. 400m south of Thong Lane green bridge (minimum 4m lower than adjacent ground level, typically with a 1(v)4(h) inward facing slope), and a maximum 25m deep cutting for approximately 1,200m north of Thong Lane green bridge (typically with a 1(v)4(h) chalk rock / scree slope slope) (Clauses LSP.09, STR.02, LSP.18, S3.01, S3.02, S3.03, S3.10, S3.11, Design Principles).

e. A new multifunctional green bridge at Thong Lane (approx. 83.35m wide) to be installed to enhance user experience/recreational access across the improved A2 corridor, aid ecological connectivity through mitigating severance and fragmentation of habitats, and supporting landscape integration and visual screening for visual receptors (Clauses STR.03, STR.06, S2.02, S2.04, Design Principles).

5.4.44 New circular walks connecting recreational areas and access to the Kent Downs AONB, through diversion of PRoW NS167 and NS169 and stopping up of NS367 (Clauses S2.02, Design Principles).

Compliance with Defra UK Government Vision and Circular 2010

5.4.45 Paragraph 5.148 of the NPSNN explains that the requirements set out in this Circular apply to AONBs where significant road widening or the building of new roads is proposed. The English National Parks and the Broads: UK Government Vision and Circular 2010 (the Circular) (Defra, 2010) sets out a number of key outcomes which support the vision for the English National Parks and the Broads.

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5.4.46 The Government believes progress towards achieving the vision can be made through authorities and key partners together focusing on the achievement of the following key outcomes:

a. A renewed focus on achieving the park purposes

b. Leading the way in adapting to and mitigating climate change

c. A diverse and healthy natural environment, enhanced cultural heritage and inspiring lifelong behaviour change towards sustainable living and enjoyment of the countryside

d. Foster and maintain vibrant, healthy and productive living and working communities

e. Working in partnership to maximise the benefits delivered

5.4.47 The Circular makes clear that achieving these key outcomes should be the Government's priority for the National Parks and the Broads. Fulfilling the requirements of the Circular (or successor document) for any significant road widening or the building of new roads within the AONB is a requirement set out in paragraph 5.148 of the NPSNN.

5.4.48 This section therefore provides a response to the key outcomes listed above, with the exception of outcome (d) which focuses on the delivery of affordable housing and communications infrastructure and is not considered relevant to the Project within the AONB. The responses are provided under the themed headings below, based on evidence taken from a number of supporting DCO documents and technical reports, providing cross-references where necessary for ease of reference.

Key outcome – park purposes

Sustainable development as part of the Project proposals

5.4.49 The Sustainability Statement (Application Document 7.12) recognises the importance of sustainability and sets out the key sustainability themes and outcomes for the Project. The intention is to embed sustainability into the Project through the preliminary design, direct specification, challenging Contractors to promote sustainable outcomes or including them in the REAC.

5.4.50 By linking the areas of the AONB that are severed by the A2 works and linking the AONB to the wider landscape the Project uses Green Infrastructure to embed sustainable development into the proposals.

5.4.51 Green Infrastructure forms an integral part of the Project, underpinning the concept of environmentally sustainable development. Green Infrastructure is important in providing a strategically planned network of high quality multi-functional green spaces and interconnecting links and other environmental features. These are designed, developed and managed to meet the environmental, social and economic needs of communities.

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5.4.52 The delivery of Green Infrastructure within the Project is presented in the Green Infrastructure Study, attached in Appendix C to this Statement The Study sets out the 'bigger picture' for the delivery of large-scale Green Infrastructure and is intended to focus attention *'on land that is to be safeguarded, managed or secured in positive ways to create a multifunctional network of green spaces and assets for which investment can deliver the greatest range of sustainable benefits.'*

5.4.53 The identification of Green Infrastructure needs and opportunities has encompassed a wider study area and includes Green Infrastructure opportunities within the AONB. The recommendations made for future investment and enhancement as part of the Project have been used to inform the Environmental Masterplan (Application Document 6.2, ES Figure 2.4), providing information on existing and future landscape and environmental commitments, as well as identifying embedded environmental mitigation measures within the AONB.

Project's impact on the AONB, conserving/enhancing the landscape

5.4.54 An assessment of the impacts of the Project during both the construction and operational phases on the landscape character of the area is provided in ES Chapter 7: Landscape and Visual (Application Document 6.1). The assessment has followed the methodology set out in DMRB LA 107 Landscape and Visual Effects *(*Highways England, 2020).

5.4.55 The assessment includes reference to the Kent Downs Landscape Character Assessment Update (Kent Downs AONB Unit, 2020) (with project refinements) and their assessment of impacts to the setting of the AONB. An overview of the likely landscape impacts of the Project in relation to the special qualities of the AONB has been undertaken.

5.4.56 The landscape and visual effects have considered the reasonable worst-case impacts resulting from the Project, including those within the Kent Downs AONB and on its setting, both on its landscape character landscape features, and those experienced from visual receptors. It has also considered the embedded and essential mitigation measures, as described in Section 7.5 of ES Chapter 7.

5.4.57 Section 7.5 of ES Chapter 7 sets out the mitigation measures to minimise the landscape and visual impacts of the Project. This has specifically considered the effects of the Project during the construction and operational phases on the landscape characteristics and special qualities of the AONB, highlighting the extent to which the landscape is being conserved and enhanced through mitigation.

5.4.58 An assessment of the potential indirect effects of the Project within the Kent Downs AONB has also been undertaken, based on a methodology agreed with the Kent Downs AONB Unit and Natural England, as set out in ES Chapter 7. Full details of the Indirect Effects Assessment are set out in ES Appendix 7.11 (Application Document 6.3) and show a slight to moderate increase in vehicular traffic on the identified links across the network during operation which are overall unlikely to make traffic on identified roads a more prominent feature in the wider landscape in views from, within and across to the AONB.

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Exceptional circumstances

5.4.59 Whilst it is acknowledged that the test of 'exceptional circumstances' justifying the Project within the AONB is quite different to 'very special circumstances' applicable to the Green Belt, the same tests can be applied. The existence of 'exceptional circumstances' in support of the Project within the AONB are, in summary:

a. The defined and overriding need for the Project in benefiting local and regional economic growth

b. The unavailability of viable route alternatives with less adverse impacts within the AONB

c. Specific policy support for Project as a major new road infrastructure project

5.4.60 The Need for the Project (Application Document 7.1) articulates the case for the Project, demonstrating that there is a clear and compelling need to address the long-standing traffic problems at the Dartford Crossing, while providing the opportunity to benefit local and regional economic growth. The Need for the Project concludes that any adverse impacts caused by the Project would be very significantly outweighed by the benefits.

5.4.61 Selection of the preferred Project route option in relation to the AONB is set out in response to paragraph 5.151(b) of the NPSNN above, demonstrating the unavailability of viable route alternatives with less adverse impacts within the AONB.

5.4.62 Policy support for the Project as a major new road infrastructure project at a national and local level is provided in Chapter 3, demonstrating the Project's compliance against the NPSNN, NPPF and the planning policy framework of Gravesham Borough Council and Kent County Council.

5.4.63 ES Chapter 7: Landscape and Visual (Application Document 6.1) explains that consideration has been given to the guidance contained within the Kent Downs AONB Management Plan as part of the assessment undertaken of the Project on the landscape resource and on visual receptors during the construction and operational phases. Equally, the Kent Downs AONB Management Plan has been assessed in understanding the implications of the policy context it provides for the Green Infrastructure Study (Appendix C of this Statement).

5.4.64 The introductory section to this chapter identifies the relevant policies within the Management Plan and Section 5.4 above provides an assessment of the impacts of the Project on the AONB. Table 7.4 of ES Chapter 7 sets out relevant policies contained within the Kent Downs AONB Management Plan.

5.4.65 The potential effects of the Project on the landscape character and visual amenity in respect of the Kent Downs AONB are considered in ES Appendix 7.9 and ES Appendix 7.10 (Application Document 6.3). Potential indirect effects in the Kent Downs AONB are set out in ES Appendix 7.11 (Application Document 6.3).

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Key outcome – leading the way in adapting to and mitigating climate change

Managing existing woodlands and proposals to increase woodland cover – innovative approaches

5.4.66 The Kent Downs AONB lies predominantly south of the A2 but extends north to include woodland between Thong and Shorne, and significant areas of ancient woodland close to the proposed M2/A2/Lower Thames Crossing junction. This includes Claylane Wood, north of the road corridor, adjacent to the edge of Gravesend and the wooded central reservation of the existing A2 reinforcing the wooded character of the area and helping to break up the dominance of the existing A2/M2 corridor.

5.4.67 ES Chapter 7: Landscape and Visual (Application Document 6.1) presents an assessment of the landscape and visual impacts associated with the Project, including mitigation measures, residual effects and future monitoring.

5.4.68 The assessment notes that the landscape to the south of the Thames Estuary falls within either the boundary of the Kent Downs AONB or its setting. Within the AONB, the loss of existing woodland as a result of the improved A2 corridor is referred to, which along with other impacts that are considered, would result in a series of residual significant effects to the south of the River Thames.

5.4.69 Reference is also made within the assessment to proposed mitigation measures, including the replacement of land and landscape features, extensive woodland planting at highway junctions, as well as further additional linear planting and wider hedgerow reinstatement adjacent to the route alignment to aid visual screening and landscape integration. Details of the embedded environmental mitigation measures are set out in the Environmental Masterplan (Application Document 6.2, ES Figure 2.4), which provides details of the new woodland planting, including ancient woodland replacement planting, together with other woodland planting.

5.4.70 ES Appendix 7.12: Arboricultural Impact Assessment (Application Document 6.3) details woodland quality and its retention/loss within the Order Limits, including the AONB. As a defined high priority area (by virtue of identified environmental sensitivities) the A2 road corridor is highlighted as containing areas of mature woodland, ancient woodland, veteran/ancient trees and other high quality arboricultural features. The Assessment notes that the woodland along the northern extent of the A2 road corridor would be noticeably affected with tree loss within the area of ancient woodland at Claylane Wood.

5.4.71 The assessment accordingly identifies a requirement for further arboricultural input during the detailed design stages of the Project. This would include additional surveys and assessments to determine the location and number of verified veteran and ancient trees to aid the retention of high value trees and to develop an effective tree protection strategy for those trees considered retainable with protection. Consideration should also be given to root protection area (RPA) extension from nearby trees, particularly in relation to veteran and ancient trees whose RPAs can be significantly larger than other trees.

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5.4.72 A comprehensive tree protection strategy is secured in the REAC (Clauses LV028, LV030, LV033, TB002, TB003) (Application Document 6.3, ES Appendix 2.2).

Protecting and enhancing biodiversity

5.4.73 ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1) assesses the potential effects of the Project on biodiversity during both the construction and operational phases and the likely impacts to important ecological features.

5.4.74 The assessment of the construction phase of the Project has identified the adverse effects on a number of receptors south of the River Thames, including the following:

a. Moderate adverse significant effects of construction at Shorne and Ashenbank Woods SSSI

b. Large adverse significant effects within Claylane Wood ancient semi-natural woodland (ASNW) through habitat loss

5.4.75 The protection afforded to biodiversity through Project mitigation is based on best practice guidance relevant to terrestrial biodiversity. This includes securing the requisite Natural England licences, appropriate working practices and ensuring method statements are in place to facilitate the implementation of mitigation, prior to construction works commencing. Proposed mitigation also includes further surveys to monitor botanical diversity, habitat condition assessments and operational surveys to inform the management and assess the effectiveness of mitigation for protected species and invertebrate assemblages.

5.4.76 During construction, activities are confined to the minimum areas required for the works through the use of best practice construction measures where practicable, as outlined in the Code of Construction Practice (CoCP) (Application Document 7.11). Best practice would also be followed to ensure that the risk of disturbance or damage to species and habitats is minimised.

5.4.77 Compensatory measures are proposed to counteract the significant effects on biodiversity that cannot be avoided or mitigated. This includes habitat creation to offset losses of ancient woodland and the provision of dormouse nest tubes and boxes. Habitats would be restored, where practical, where temporary works are proposed, with additional new habitats of biodiversity value created to provide green corridors adjacent to and across the Project, via green bridges, to minimise habitat fragmentation.

5.4.78 The Green Infrastructure Study (Appendix C to this Statement) recognises the value of linear infrastructure and its footprint in supporting biodiversity and ecosystems in assessing the impact of the Project on Green Infrastructure. These are explored through identifying opportunities to develop better connected biodiversity networks, improved flood risk management and new recreational assets linking Green Infrastructure. These opportunities are embedded within ES Figure 2.4: Environmental Masterplan (Application Document 6.2).

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Safeguarding higher grade soils

5.4.79 ES Chapter 10: Geology and Soils (Application Document 6.1) within the Environmental Statement sets out the assessment of the Project on geology and soils during its construction and operation. Agricultural Land Classification (ALC) surveys have been undertaken to assess the extent of best and most versatile (BMV) land present within a defined study area, details of which are presented in ES Appendix 10.2: ALC Assessment Report (Application Document 6.3).

5.4.80 ES Chapter 10 notes that the proposed route alignment has been optimised to minimise the land-take required to construct and operate the Project, with consideration given to avoiding land of higher agricultural quality.

5.4.81 The chapter goes on to say that current and historic land uses have been considered as part of an evolving Project design and investigated through desk-based and intrusive ground investigation to establish soil quality and potential contamination levels.

5.4.82 The provisional ALC mapping has shown that in relation to the AONB, the area of land between the M2/A2/Lower Thames Crossing junction and Gravesend link is classed as a mix of Grade 1, 2 and 3. Grade 1 land is shown to occur around the proposed M2/A2/Lower Thames Crossing junction.

5.4.83 A series of good practice measures are proposed in order to safeguard soil resources, including those of higher grades. This includes the following measures:

a. Soils to be handled and stored to allow their sustainable reuse in line with the Construction Code of Practice for the Sustainable Use of Soil on Construction Sites (Defra, 2009) and the Good Practice Guide for Handling Soils (MAFF, 2000)

b. Full details of the soil resources present and the approach to soil management to be set out prior to any soil stripping works commencing

c. Characterisation of the existing soil to determine its resilience to handling and stripping depths based on detailed soil surveys

d. The approaches to the management of soil resources, handling and reuse are incorporated in the REAC within the Environmental Statement (Application Document 6.3, ES Appendix 2.2)

Key outcome – a diverse and healthy natural environment, enhanced cultural heritage and inspiring lifelong behaviour change towards sustainable living and enjoyment of the countryside

Complimentary measures for non-motorised vehicles

5.4.84 The Transport Assessment (Application Document 7.9) identifies that the Project would affect existing PRoWs used by walkers, cyclists and horse-riders (WCH) where these cross the Project route.

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5.4.85 The Project Design Report (Application Document 7.4) incorporates a WCH strategy that seeks to reconnect severed links by way of overbridges or underpasses as close to their original alignment as far as practicable.

5.4.86 Further consideration to WCH routes affected by the Project is provided in the Design Principles (Application Document 7.5). This seeks to ensure that such routes are reconnected as previously unless better quality routes can be provided in the vicinity, are rationalised to better link communities with the places that the public want to go to, or realigned to provide better connectivity into the existing WCH network.

5.4.87 WCH proposals within the AONB include the creation of routes between Shorne Woods Country Park, Ashenbank Wood and Jeskyns Community Woodland, linked with existing routes from Gravesend. Between Claylane Wood and Shorne Woods Country Park, an existing PRoW would be connected via a new green bridge at Thong Lane. PRoWs NS167 and NS169 would be integrated into a new circular WCH route connecting around the proposed M2/A2/Lower Thames Crossing junction.

Key outcome – working in partnership

Local planning authority/Statutory Environmental Bodies engagement

Local authority engagement

5.4.88 The location of the AONB within the administrative areas of Gravesham Borough Council and Kent County Council has involved consultation and engagement with both local authorities as part of Project's development. A summary of the main activity undertaken is as follows.

Formal consultation

5.4.89 Both local authorities have been consulted through the pre-application consultation process, while Gravesham Borough Council was also consulted on a Scoping Opinion at an early stage in the Project. Consultation has included both statutory and supplementary public consultation events held under section 42 of the Planning Act 2008, the first from 10 October 2018 to 20 December 2018 and the second from 29 January 2020 to 2 April 2020. Full details of consultation can be found in the Consultation Report (Application Document 5.1). The key issues raised by each local authority in relation to the AONB through the consultation events can be summarised as follows:

a. Kent County Council:

   i. Use of noise screening and planting to mitigate noise and visual impacts

   ii. New planting to be protected and managed to prevent degradation

   iii. Widening of green bridges to facilitate wildlife movement

   iv. Temporary uses of land to be returned in an enhanced state

   v. Strong concerns over loss of ancient woodland and impact on SSSI

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vi. All planting and landscape work to utilise a diverse palette of local provenance native shrub and tree species appropriate to this area

vii. Request for a cross-cutting and comprehensive mitigation strategy

viii. Need to demonstrate that the environmental losses are unavoidable by exploring all options

ix. Further clarity sought on impact of proposals and proposed mitigation

b. Gravesham Borough Council:

i. Strong concerns over loss of ancient woodland and impact on SSSI

ii. Significant reduction in tranquillity

iii. Widening of green bridges to facilitate wildlife movement

iv. Additional viewpoints needed to illustrate impacts on the historic environment and heritage assets

v. Impact of tunnel portal on the landscape

vi. Transport modelling must examine implications for the wider area

vii. Reduce speed of the road to mitigate impacts

viii. Issues of compensation

ix. Request a cross-cutting and comprehensive mitigation strategy

x. Further clarity sought on impact of proposals and proposed mitigation

Informal consultation

5.4.90 Informal working arrangements have been established with both local authorities through officer meetings held approximately every month to provide general progress updates on the Project. Since they were first established in September 2018, two meetings have specifically been held to discuss AONB related matters on 7 November 2018 and 4 June 2020.

Kent Downs AONB Unit engagement

Formal consultation

5.4.91 Through the statutory and supplementary public consultation process, the following issues have been raised by Kent Downs AONB Unit:

a. Support minimising footprint of the M2/A2, however these benefits are wholly offset by the utility diversions.

b. Major alterations to the A2 corridor result in greater physical severance between landscapes on either side.

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c. Major worsening of the environmental impacts from the Project consulted on in 2018.

d. Implications of utility diversions on the environment questions decision to proceed with the Project in this location.

e. Thorough review of route choice needed in the light of the additional impacts.

f. Change in design of the proposed M2/A2/Lower Thames Crossing junction encroaching into Claylane Wood.

g. The loss of ancient woodland and associated irreplaceable habitats. Cannot replace Claylane Wood as ancient woodland is an irreplaceable habitat.

h. Inability to replace lost vegetation *in situ* due to utility wayleaves.

i. AONB Unit not involved in discussions regarding compensatory woodland planting.

j. Disappointed that more replacement woodland not proposed within the AONB.

k. Project conflicts with purpose of AONB designation.

l. Strongly oppose extinguishment of part of Byway NS195.

m. Support upgrading existing public footpaths to shared paths along with additional paths.

n. Support additional cycle route to the south of the A2.

o. Welcome widening of green bridge over the Project link road near Thong village.

p. Brewer's Road and Thong Lane green bridges over the A2 to be substantially widened.

Informal consultation

5.4.92 Informal consultation and engagement with the Kent Downs AONB Unit has taken place throughout the period of the Project's development since 2017. This has included consultation on the Environmental Impact Assessment Scoping Report in December 2017 followed by meetings held with Natural England in November 2017 and August 2018 to discuss Project development and potential impacts to Kent Downs AONB. Kent Downs AONB Unit also took part in a Statutory Environmental Bodies joint meeting in September 2018 to present the Statutory Consultation. Further meetings with the Kent Downs AONB Unit to discuss potential mitigation for the Project took place in March 2019, April 2020 and June 2020.

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Natural England

5.4.93 As a key consultee in the DCO process and on matters relating to the AONB, extensive engagement has been undertaken with Natural England through the statutory consultation process and informal engagement held during the pre-application period.

5.4.94 This has raised a number of issues regarding the encroachment of the Project within the AONB, principally in relation to the impacts of the proposed utility diversions along the A2 corridor on habitat loss within Shorne and Ashenbank Woods SSSI and within areas of ancient woodland and other habitats. Given the severance of existing habitats across the route, Natural England has maintained that greater emphasis should be placed on ensuring connectivity is enhanced for biodiversity as well as for pedestrians, cyclists and equestrians.

5.4.95 In response to Natural England's comments, the landscape strategy for new areas of woodland planting aims to link areas of retained ancient woodland to improve connectivity and reduce fragmentation effects, which would provide wider biodiversity benefits. Further details are provided in ES Chapter 7: Landscape and Visual (Application Document 6.1).

5.4.96 Natural England has stated its intention to work with Highways England and the Kent Downs AONB Unit to ensure that the impacts are fully understood and that a holistic approach to the consideration of ecological and landscape mitigation measures is adopted.

5.4.97 Other key stakeholders engaged with through the pre-application process have included the Environment Agency, Royal Society for the Protection of Birds, Bumblebee Conservation Trust, Forestry England, Historic England, Kent Countryside Access Forum, Forestry Commission and Shorne Parish Council.

Integration with Local Transport Plan

5.4.98 The current Local Transport Plan (LTP) for the Kent Downs AONB is the Local Transport Plan 4: Delivering Growth without Gridlock 2016–2031 (Kent County Council, 2017), prepared by Kent County Council, as highway authority.

5.4.99 Consultation undertaken during the preparation of the LTP generated objections from the Kent Downs AONB Unit that the Kent Downs AONB was not covered within the LTP and that references should be made to the environmental impacts on the AONB and to an Active Travel Plan. In response, references are now made within the LTP to an Active Travel Strategy.

Lighting Strategy

5.4.100 Section 5.2 above highlights the essential character of the AONB as an intrinsically dark landscape and that once operational, light sources from the Project would span a much broader area, with perceived qualitative change in the night-time environment due to new light sources evident in particular areas.

5.4.101 The Project design response to the integration of the highway into its context has been guided by the principle that within the AONB, highways structures such as gantries and lighting would be refined to minimise impact. Lighting column heights would be minimised and LED luminaires with reduced light spill would be used. Where the highway passes through the AONB, it would be in partial cutting, which aims to further reduce any potential light spill.

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Conclusions

5.4.102 In line with the NPSNN and as a major infrastructure development within the AONB, an assessment has been undertaken of the impact of the Project on the AONB and a justification for the Project route within its boundary, particularly with reference to the exceptional circumstances in justifying the Project.

5.4.103 The assessment has also had regard to the purposes of designation and an acknowledgement of the highest status of protection afforded to the AONB in terms of landscape and scenic beauty.

5.4.104 As an important policy consideration, the Project has been assessed against each of the relevant paragraphs of the NPSNN in the preceding sections of this chapter. As the policy provisions within the NPPF align with those of the NPSNN the conclusions reached provide a demonstration of the Project's compliance with the national policy framework, along with other relevant policy considerations.

5.4.105 Paragraph 5.151 of the NPSNN makes clear that consent should only be granted within AONBs in 'exceptional circumstances' and where this is in the public interest, while paragraph 5.152 explains the strong presumption against building new roads in the AONB unless there are compelling reasons for doing so and with any benefits outweighing the costs very significantly.

5.4.106 In response, this chapter has set out the need for new highway capacity and the extent to which its benefits outweigh the costs very significantly and has considered the following 'exceptional circumstances' of relevance to the Project in justifying its development within the AONB:

The defined and overriding need for the Project in benefiting local and regional economic growth

5.4.107 A demonstration has been provided of the clear and compelling need for the Project in addressing the long-standing traffic problems at the Dartford Crossing, while identify the overriding Project benefits, including the opportunity to benefit local and regional economic growth.

5.4.108 The economic appraisal work undertaken to assess the impact of the Project on the local economy has shown that of the £4,148 million of core growth benefits (that can be spatially disaggregated), 40% of these would accrue to Lower Thames area local authorities, including Gravesham Borough Council.

The unavailability of viable route alternatives with less adverse impacts within the AONB

5.4.109 The consideration of alternative road alignments has focused on the historic route options appraisal undertaken by Highways England during the initial optioneering phases of the Project which explored the scope for developing outside the AONB in relation to the proposed Western and Eastern Link roads. The conclusion reached, that development within the boundary of the AONB has been unavoidable, has remained unchanged following more recent reviews confirming that the proposed Project route remains the optimal solution.

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Specific policy support for Project as a major new road infrastructure project

5.4.110 The policy support for the Project as a major new road infrastructure project beyond the planning policy considerations set out in Chapter 3 is provided in Chapter 7 in relation to other policy considerations. The inclusion of the Project within the Government's current investment programme, as referred to within the National Infrastructure Delivery Plan 2016–2021 (Infrastructure and Projects Authority, 2016) and the Road Investment Strategy 2: 2020-25 (Department for Transport, 2020) is clear recognition of the importance of the Project in meeting the Government's national policy aspirations.

5.4.111 Paragraph 5.151 of the NPSNN also references any detrimental effects of the Project on the environment, landscape and recreational opportunities and the extent of any moderation. A summary of each is provided below.

Environment and landscape

5.4.112 The findings of the assessment on the effects of the Project on the landscape and environment of the AONB detailed earlier in this chapter acknowledges that these proposals would not be consistent with the AONB's prevailing character, particularly in the immediate vicinity of the Project. Whilst the Project route would be tempered by the presence of the existing highway corridor, the established features within this part of the AONB reducing the perception of the infrastructure corridor and the extent of woodland replacement planting, it is concluded that the scale of the Project is out of character with the AONB, resulting in overall damage to the sense of place especially in close proximity.

Recreation

5.4.113 In line with the policy requirements, temporary and permanent mitigation measures are proposed for recreational assets affected by the Project at Jeskyns Community Woodland, Shorne Woods Country Park and Ashenbank Woods, along with National Cycle Network Route 177 and other strategic walking routes affected by the Project.

5.4.114 Paragraph 5.153 of the NPSNN is concerned with ensuring that the Project is carried out to high environmental standards and where possible, including measures to enhance other aspects of the environment.

5.4.115 Within the scope of high environmental standards defined for this Project, the landscape mitigation measures and the standards to which these would be carried out through the REAC (Application Document 6.3, ES Appendix 2.2), along with the landscape enhancements proposed within the Environmental Masterplan show compliance with this requirement.

5.4.116 In line with PPG consideration has been given to the guidance contained within the Management Plan in assessing the impacts of the Project on the landscape resource and visual receptors during the construction and operational phases. The Plan has also been assessed in understanding the implications of the policy context for the Green Infrastructure Study.

5.4.117 The potential effects of the Project on the landscape character and visual amenity of the AONB have been assessed, with conclusions reached that the Project would be in conflict with parts of the Management Plan.

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5.4.118 Paragraph 5.148 of the NPSNN requires new road proposals within the AONB to fulfil the requirements of Defra's (2010) English National Parks and the Broads: UK Government Vision and Circular 2010. This has particular relevance to the Project as a major road infrastructure scheme. The key outcomes of relevance have been fully responded to and the following conclusions drawn.

Sustainable development as part of the Project proposals

5.4.119 Reference is made to the Green Infrastructure Study identifying Green Infrastructure opportunities along the Project route, including the AONB. The Study recommendations have been used to inform the Environmental Masterplan providing information on existing and future landscape and environmental commitments, as well as identifying embedded environmental mitigation measures within the AONB.

5.4.120 The Sustainability Statement sets out the key sustainability themes for the Project and seeks to embed sustainability into the Project by promoting sustainable outcomes or including them in the REAC (Application Document 6.3, ES Appendix 2.2).

Project's impact on the AONB, conserving/enhancing the landscape

5.4.121 Reference is made to the assessments undertaken of the landscape and visual effects of the Project on the landscape character of the area, based on the reasonable worst-case impacts, along with the mitigation measures to minimise the landscape and visual impacts of the Project.

Managing existing woodlands and proposals to increase woodland cover – innovative approaches

5.4.122 Further arboricultural input is recommended during the detailed design stages of the Project, as well as a comprehensive tree protection strategy within the REAC.

Protecting and enhancing biodiversity

5.4.123 The Project would result in adverse effects on Shorne and Ashenbank Woods SSSI and Claylane Wood ancient semi-natural woodland (ASNW). The protection afforded to these protected sites through mitigation measures is based on best practice guidance relevant to terrestrial biodiversity. Compensatory measures include habitat creation to offset losses of ancient woodland and the provision of dormouse nest tubes and boxes. Additional habitats of biodiversity value would be created to provide green corridors via green bridges to minimise habitat fragmentation.

Safeguarding higher grade soils

5.4.124 The Project route has been optimised to minimise land-take for the Project, with consideration given to avoiding land of higher agricultural quality. A series of good practice measures are proposed to safeguard soil resources, including those of higher grades.

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Complimentary measures for non-motorised vehicles

5.4.125 The Project would affect existing PRoWs within the AONB. Affected routes would be reconnected unless better quality routes can be provided in the vicinity, are rationalised to better link communities, or realigned to provide better connectivity into the existing WCH network.

Local planning authority/Statutory Environmental Bodies engagement

5.4.126 Extensive engagement and consultation has been undertaken with both Gravesham Borough Council and Kent County Council whose administrative areas cover the AONB, along with Natural England as a key consultee on matters relating to the AONB, during the pre-application period.

Lighting Strategy

5.4.127 As an intrinsically dark landscape, light sources from the Project would result in perceived qualitative changes in the night-time environment of the AONB in particular areas. Highway structures such as gantries and lighting would be refined to minimise impact, lighting column heights would be minimised and LED luminaires with reduced light spill would be used. Within the AONB, the Project route would be in partial cutting which aims to further reduce any potential light spill.

5.4.128 In forming part of the Green Belt, both the need for the Project and the justification for not developing within it have been fully explored, and based on its location within the designated boundary, similar considerations apply in respect of the AONB.

5.4.129 The assessment within this chapter has demonstrated, by reference to the ‘exceptional circumstances’ the need for the Project, an explanation of why it cannot be developed outside the AONB, whilst acknowledging the detrimental effects on the environment and landscape despite the extent of moderation.

5.4.130 In respect of other matters of relevance to the Project, details have been provided in line with the policy requirement on replacement land for affected recreational assets, the Project’s response to sustainable design, the management of existing woodlands, safeguarding of higher grade soils, the measures in place for non-motorised vehicles, lighting strategy and the engagement undertaken with the local planning authorities and other key stakeholders.

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6 Open space, sports and recreational buildings and land

6.1 Introduction

6.1.1 This section of the Planning Statement sets out in detail how that issue has been considered from a planning policy perspective. The land acquisition of open space, common land and allotments (and specifically the tests in sections 131 and 132 of the Planning Act 2008) is considered in Chapter 7 of the Statement of Reasons (Application Document 4.1).

6.1.2 As detailed in Chapter 2 of this Statement and Chapter 7 of the Statement of Reasons (Application Document 4.1), the Project would result in the loss of existing open space land (either permanently, temporarily, or through the permanent acquisition of rights) that is either currently designated public open space or common land or allotment (though, in respect of the latter, it is unlikely to be an allotment falling under sections 131 and 132 of the Planning Act 2008).

6.1.3 This chapter of the Planning Statement also includes private facilities and land which would be either permanently, temporarily, or through the permanent acquisition of rights, impacted by the Project. These sites are not open space or common land for the purposes of sections 131 and 132 of the Planning Act 2008.

6.1.4 This chapter should be read alongside ES Chapter 13 (Application Document 6.1) which contains an assessment of the Project on population and human health for the construction and operational phases of the Project. The assessment shows the impact of the Project on accessibility, opportunities for cycling, walking and the use of open space for recreation and physical activity (as well as 'community land' which is wider than the definition of 'open space'). There is an assessment of impact on the population and human health receptors as resulting from the construction and operational phases of the Project within section 13.6 of ES Chapter 13. Section 13.5 of the ES Chapter 13 outlines the embedded mitigation measures to reduce these effects, which include replacement land discussed within this chapter of the Statement. The cumulative impact on human health is also considered in the Health and Equalities Impact Assessment (HEqIA) (Application Document 7.10).

6.2 Planning Act 2008

6.2.1 As mentioned above, the land acquisition aspects and the application of sections 131 and 132 of the Planning Act 2008 are considered in the Statement of Reasons (Application Document 4.1). Notwithstanding, a summary of these provisions is provided below.

6.2.2 Section 131 of the Planning Act 2008 applies to the compulsory acquisition of any open space, common land, fuel or field garden allotment. Section 131(3) of the Planning Act 2008 states that the compulsory acquisition of that land will be subject to the special parliamentary procedure unless the Secretary of State (SoS) is satisfied that one of subsections (4) to (5) applies. Subsections (4)(a) and (4)(b) apply to the Project in that replacement land is to be offered in exchange and this replacement land will be vested with the same rights, trust and incidents as apply to the Order land.

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6.2.3 Replacement land is defined for the purposes of section 131 as:

'"*replacement land" means land which is not less in area than the order land and which is no less advantageous to the persons, if any, entitled to rights of common or other rights, and to the public.*'

6.2.4 Section 132 relates to the acquisition of rights over open space, common land, fuel or field garden allotment and broadly follows the same approach as Section 131. Subsection (4) equally applies to the Project in that replacement land is to be offered in exchange and this replacement land will be vested with the same rights, trust and incidents as apply to the Order land. In addition, for some sites, section 132(3) applies (i.e., the land will be no less advantageous to the relevant persons when burdened with the right).

6.2.5 Replacement land is defined for the purposes of section 132 as:

'"replacement land" means land which will be adequate to compensate the following persons for the disadvantages which result from the compulsory acquisition of the order right—

a. *the persons in whom the order land is vested,*

b. *the persons, if any, entitled to rights of common or other rights over the order land, and*

c. *the public.'*

6.2.6 For the purposes of sections 131 and 132 of the Planning Act 2008, open space, common land and fuel or field garden allotment are defined as having the same meaning as section 19 of the Acquisition of Land Act 1981.

6.2.7 The Acquisition of Land Act 1981 in turn defines these terms as follows:

'*"common" includes any land subject to be enclosed under the Inclosure Acts 1845 to 1882, and any town or village green,*

"fuel or field garden allotment" means any allotment set out as a fuel allotment, or a field garden allotment, under an Inclosure Act,

"open space" means any land laid out as a public garden, or used for the purposes of public recreation, or land being a disused burial ground.'

6.3 Policy context

6.3.1 There is specific policy guidance in relation to a wider category of land including open space, sports and recreational land and buildings in the NPSNN (Department for Transport, 2014). In relation to the loss of these sites, paragraph 5.166 of the NPSNN states:

'*Existing open space, sports and recreational buildings and land should not be developed unless the land is surplus to requirements or the loss would be replaced by equivalent or better provision in terms of quantity and quality in a suitable location. Applicants considering proposals which would involve developing such land should have regard to any local authority's assessment of need for such types of land and buildings.'*

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6.3.2 Paragraph 5.174 of the NPSNN relates to the grant of consent for development on open space land and states that:

'*The Secretary of State should not grant consent for development on existing open space, sports and recreational buildings and land, including playing fields, unless an assessment has been undertaken either by the local authority or independently, which has shown the open space or the buildings and land to be surplus to requirements, or the Secretary of State determines that the benefits of the project (including need) outweigh the potential loss of such facilities, taking into account any positive proposals made by the applicant to provide new, improved or compensatory land or facilities.'*

6.3.3 Paragraph 5.181 of the NPSNN relates to the mitigation of adverse effects in order to be granted consent for development for development on open space land and states that:

'The Secretary of State should also consider whether mitigation of any adverse effects on green infrastructure or open space is adequately provided for by means of any planning obligations, for example, to provide exchange land and provide for appropriate management and maintenance agreements. Any exchange land should be at least as good in terms of size, usefulness, attractiveness, quality and accessibility. Alternatively, where Sections 131 and 132 of the Planning Act 2008 apply, any replacement land provided under those sections will need to conform to the requirements of those sections.'

6.3.4 The Overarching National Policy Statement for Energy (EN-1) contains materially the same thresholds. Paragraphs 5.10.6 and 5.10.14 sets out:

'*Applicants will need to consult the local community on their proposals to build on open space, sports or recreational buildings and land. Taking account of the consultations, applicants should consider providing new or additional open space including green infrastructure, sport or recreation facilities, to substitute for any losses as a result of their proposal. Applicants should use any up-to-date local authority assessment or, if there is none, provide an independent assessment to show whether the existing open space, sports and recreational buildings and land is surplus to requirements.*'

'*The IPC should not grant consent for development on existing open space, sports and recreational buildings and land unless an assessment has been undertaken either by the local authority or independently, which has shown the open space or the buildings and land to be surplus to requirements or the IPC determines that the benefits of the project (including need), outweigh the potential loss of such facilities, taking into account any positive proposals made by the applicant to provide new, improved or compensatory land or facilities. The loss of playing fields should only be allowed where applicants can demonstrate that they will be replaced with facilities of equivalent or better quantity or quality in a suitable location.*'

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6.4 Open space (replacement land to be provided)

6.4.1 The public open space which is proposed to be permanently acquired or subject to permanent rights, and in respect of which replacement land is provided is presented in Table 6.1 below. An explanation of how sections 131 and 132 of the Planning Act apply and the exemptions relied on is set out in the Statement of Reasons (Application Document 4.1).

Table 6.1 Open space to be permanently acquired and/or subject to the permanent acquisition of rights

Location and reference	Amount of land proposed to be permanently acquired or subject to permanent rights	Description	Reason for loss
Ron Evans Memorial Field, Thurrock Council (Plot 26-03, 26-07, 30-21)	68,729m^2	Located beside the A13/A1089 junction and is used by dog walkers and cyclists. The park has a number of formal and informal footpaths passing through it, including PRoW 97 running in a north-east direction from Long Lane. The site is currently accessed off Long Lane and Fairfield Way through two PRoWs. The park is well used for recreational purposes by residents from adjacent residential areas.	Included for the following main elements: • Permanent acquisition for A13/A1089/A122 Lower Thames Crossing junction and earthworks (Works Nos. 7E, 7K) • Permanent acquisition of rights for diversion and modification of overhead lines and utility works, including the installation or diversion of underground utilities within a multiutility corridor (Works Nos. MU20, OH5, OH6)
Thames Chase Community Forest, London Borough of Havering (Plots 41-09, 41-10, 41-11, 41-20, 41-22, 41-23, 41-24, 42-12, 42-52)	117,613m^2	Located either side of the M25 north of Ockendon Road, and the site consists of open fields, walking tracks and a mix of vegetation including memorial trees. The site is accessed by a main vehicle entrance off	Included for the following main elements: • Permanent land acquisition for new A122 Lower Thames Crossing/M25 junction, improvements to the M25 both

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Location and reference	Amount of land proposed to be permanently acquired or subject to permanent rights	Description	Reason for loss
		Pike Lane into an internal carpark. There is also pedestrian access off Pike Lane through Cranham Golf Course, under the M25 through culvert. On the east side of the M25 there is pedestrian access off Ockendon Road along PRoW.	northbound and southbound, plus associated earthworks and drainage facilities. (Works Nos. 9A, 9C, 9D, 9E, 9R, E30) • The new bridge to carry PRoW from FP232 to FP230 with the construction of a new bridge and realignment of WCH route (Works No. 9O) • Permanent acquisition of rights for utility works, including the installation or diversion of underground utilities within a multiutility corridor (Works No. MU27, MU28)
Tilbury Green, Thurrock Council (Plots 17-69, 20-148)	9,455m^2	This area of land is designated as common land and allows the public to freely roam over it. This land includes Footpath 200 and links into other footpaths within the surrounding area.	Included for the following main elements: • Permanent acquisition for new A122 Lower Thames Crossing, Tilbury Viaduct and associated access tracks and earthworks (Works number 4A, 5A, 5B, 5C, 5D, 5E, 5F, 5G, 5H, 5J, 5K, 5L, 5M, 5N, E8, E9, E10, E11, E36, FCA1, FCA2) • Diversion of existing public

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Location and reference	Amount of land proposed to be permanently acquired or subject to permanent rights	Description	Reason for loss
			right way FP200 (Work Number 5M)
Shorne Woods Country Park, Gravesham Borough Council (Plots 02-74, 02-90, 02-124, 02-125, 02-233, 02-239, 02-235, 02-239, 02-247, 02-248)	31,558m^2	Located north of the A2/M2 and to the east of Thong Village. The site can be accessed via foot or vehicle. There are different entry points around the park via footpath, cycling track and bridleways into the main site. There is vehicle access off Brewers Road into the main centre and carpark. There are also tracks within the Country Park. The current use of the site is for recreational purposes and consists of woodland, walking tracks and educational walks.	Included for the following main elements: • Permanent acquisition for new bridge to carry the realigned Thong Lane over the A2 (Works Nos. 1C, 1H) • Permanent acquisition of right for diversion of a medium pressure gas main and utility works, including the installation or diversion of underground utilities within a multiutility corridor (Works Nos. G1, MU1, MU4)
Folkes Lane Woodland, London Borough of Havering (Plots 44-05, 44-08, 44-12, 44-14, 44-17, 44-18, 44-15, 44-34)	21,619m^2	Located beside the M25, north of junction 29. The site consists of open fields, walking tracks and a mix of vegetation.	Included for the following main elements: • Permanent acquisition for improvements to M25 northbound and southbound. Plus, improvements to link road between M25 junction 29 roundabout and M25 northbound (Works Nos. 9E, 9K) • Permanent acquisition of right for diversion of a

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Location and reference	Amount of land proposed to be permanently acquired or subject to permanent rights	Description	Reason for loss
			high-pressure gas main and utility works, including the installation or diversion of underground utilities within a multiutility corridor (Works Nos. G11, MU34)

6.4.2 The open space detailed above comprises land that was either designated by Gravesham Borough Council, Thurrock Council or the London Borough of Havering as formal open space. The common land described above is designated by the Commons Act 2006 but is open to use by the public, hence its inclusion in the table above.

6.4.3 The parcels of replacement land identified in this section are shown on the Special Category Plans (Application Document 2.4) and the accompanying text presents the proposals for replacement land in accordance with the requirements of the NPSNN policies.

6.4.4 For the avoidance of doubt, the Orsett Fen common land site has not been considered in this section because land within that site is subject to an exception under the Countryside and Rights of Way Act 2000. It is, nonetheless, common land under the Commons Act 2006 and the application of sections 131 and 132 of the Planning Act 2008 in respect of that site is considered in the Statement of Reasons (Application Document 4.1).

6.4.5 It is necessary to consider in more detail the value of the *existing* open space land and the impact on its functionality in land use terms as a result of that permanent acquisition. The sections directly below therefore consider the existing use of the sites, and then present how the proposed replacement complies with the requirements of the NPSs.

Ron Evans Memorial Field

6.4.6 The Thurrock Open Spaces Study (Thurrock Council, 2017) provides information relating to the quality and value of open space within the local authority area. Ron Evans Memorial Field is an area of designated public open space which covers an area of approximately 22ha and is located to the west of Baker Street and to the south of the A13. The field is currently well used by members of the local community for informal recreational purposes such as dog walking and off-road cycling. There are a number of formal and informal footpaths passing through it, including Footpath 97 running in a north-east direction from Long Lane. Permanent acquisition of the site would be required for the construction of the Project and associated earthworks.

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6.4.7 The area proposed to be acquired would be around 31% of the total extent of the existing open space and would not impact the main access and direct access to the site from Long Lane.

6.4.8 The replacement land for this site is immediately adjacent to the existing field and is greater in size than the land proposed to be acquired with a total 214,711m^2. The replacement land is proposed to have landscaping to match the existing site and its use and would allow for the spaces to interlink together and function as one. The replacement land would be equally as accessible as the existing site for the wider community and users. The site would be accessed through the existing site and from Long Lane and Fairfield Way; access would be further developed in consultation with stakeholders as set out in the Design Principles (Application Document 7.5).

6.4.9 As set out above, replacement land is being provided for this site in respect of the permanent acquisition of land. Notwithstanding, in respect of the plots 26-03 and 30-21 where rights are required, the land would be no less advantageous. This is because the proposed utility works on this site include the installation or diversion of underground utilities within a multiutility corridor and the Applicant is only seeking to acquire permanent rights in respect of underground asset. This would not affect the use of these plots once the rights are imposed.

6.4.10 The effect on this open space land has been assessed as slightly beneficial in ES Chapter 13 (Application Document 6.1). The replacement land is proposed to have improved characteristics as compared to the current site which would provide additional amenity to the wider community. The replacement land would be designated as open space, and it would be designed to interlink with the existing site. The replacement land could be used in the same way the existing site. The additional area of replacement land would also help increase the quality and quantity of open space sites within the Thurrock, as there is an under supply of open space area within the Council's area.

6.4.11 For the reasons set out above, the Applicant considers paragraphs 5.166, 5.174 and 5.181 of the NPSNN are complied with in respect of this site.

Thames Chase Community Forest

6.4.12 The Havering Open Space Assessment and Standards Paper (London Borough of Havering, 2016) provides a review of open space provision, quality, accessibility and value of open space within the local authority area. The Thames Chase Community Forest covers approximately 46ha of land to the north of North Ockendon and Cranham and straddles the M25 in this location. Thames Chase Community Forest was established in 1990 from disused farmland and today is recognised as a site of particularly high quality and value, and one of the most popular recreational sites in Havering. Thames Chase Community Forest is considered to have a wider regional role given its overall quality and the recreational opportunities it provides. The site offers footpaths for all abilities, cycling and horse riding in addition to a visitor centre with a café and gift shop. The visitor centre can be used as a meeting venue for community groups and societies. A proportion of the site is used for the planting of trees in memory of the deceased. Thames Chase Community Forest is managed by a community group (Thames Chase Trust). Future proposals for the site include establishing a community tree nursery to assist in tree stock replenishment and to benefit social interaction opportunities.

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6.4.13 Permanent acquisition of land would be required over this site at the eastern boundary for the construction of the Project road. The area lost would be around 25% of the total extent of the public open space but would not impact the main access and direct access to the site from the central carpark within the forest.

6.4.14 The replacement land for this site would be split into three parts: one area immediately adjacent to the south, one area immediately adjacent to the north, and one area is on the western side of the M25 to the north adjacent to western side of Thames Chase Community Forest. The replacement land (which is greater in size than that affected) would be designed to match the existing Thames Chase Community Forest characteristics and is being developed in collaboration with stakeholders. The replacement land would be accessed through the existing site and internal footpath network of Thames Chase Community Forest. There would be additional access from the new footbridge over the M25 reconnecting Thames Chase Community Forest to the Land of the Fanns and wider environment. The proposals would also provide access from Ockendon Road and Clay Tye Road. There would also be further opportunities to provide access to Thames Chase Community Forest to the north of the site from St Mary's Lane.

6.4.15 In respect of the overall provision of replacement land, the total land proposed comprises approximately 260,970m^2 against a total loss of approximately 117,625m^2. Therefore, the quantity of the replacement land is greater than the part of the site proposed to be acquired, with a surplus balance of approximately 143,345m^2. This land is proposed to be used for dual uses. New woodland would be planted, and biodiversity mitigation would comprise the planting of a mixture of grassland, scrubs, and trees, for species that have been displaced. These dual land use parcels would then provide additional benefits to the wider community and site users.

6.4.16 As set out above, replacement land is being provided for this site in respect of the permanent acquisition of land. Notwithstanding, in respect of the plots 41-07, 41-09, 41-11, 41-17, 41-18, 41-26 and 42-08 where rights are required, the land would be no less advantageous. This is because the proposed utility works on this site include the installation or diversion of underground utilities within a multiutility corridor and the Applicant is only seeking to acquire permanent rights in respect of underground asset. This would not affect the use of these plots once the rights are imposed.

6.4.17 For the reasons set out above, the Applicant considers paragraphs 5.166, 5.174 and 5.181 of the NPSNN are complied with in respect of this site.

Tilbury Green – Common Land

6.4.18 This site is registered as common land under the Commons Act 2006, which the public has a right of access over. Tilbury Green has an area of 1.59ha and the existing site is currently used as a footpath (Footpath 200).

6.4.19 Permanent acquisition of land over this site is required for the construction of the Project and associated earthworks from the existing footpath from Station Road to the edge of the earthworks are proposed to be upgraded. The area lost would be around 33% of the total extent of the existing common land.

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6.4.20 Of the 9,455m^2 existing common land required for the Project, 5,314m^2 would be permanently lost. The remainder would be upgraded *in situ*. To mitigate for the land lost, 5,398m^2 of replacement land would be provided. This replacement land would connect the two severed parts of the existing common land. More land is replaced than lost, with a surplus balance of approximately 84m^2

6.4.21 The replacement land would be no less advantageous than the existing land to be acquired and would continue to provide a footpath and allow the public to enjoy the same rights which they have over the existing common land. The characteristic of the setting would be better, with woodland planting and the walking, cycling and horse riding (WCH) route being of a higher standard than the existing footpath.

6.4.22 For the reasons set out above, the Applicant considers paragraphs 5.166, 5.174 and 5.181 of the NPSNN are complied with in respect of this site.

Shorne Woods Country Park

6.4.23 An Open Space Assessment Report prepared for Gravesham Borough Council in April 2016 (Knight Kavanagh & Page, 2016) provides information relating to the condition, distribution and overall quality of areas of open space. Shorne Woods Country Park is located immediately to the north of the A2, with access off Brewers Road. The Country Park covers an area of 119ha and is managed and maintained by Kent County Council. Facilities include a visitor centre, café, toilets and a gift shop. There are a variety of walking trails and two adventure play areas. The Country Park was one of two particularly high-quality scores as part of the Open Space Assessment, recognised as being attractive, well maintained and offering good quality ancillary facilities.

6.4.24 Permanent land acquisition over this site is required for the construction of the Project, associated earthworks, and the acquisition of rights and imposition of restrictions required to protect the diverted utility assets would impact the existing function and value of Shorne Woods Country Park. The area of lost and impacted land would be around 2.6% of the total extent of the existing public open space and would not affect the main access and direct access to the site from the central carpark within the Country Park.

6.4.25 The replacement land is immediately adjacent to the west of Shorne Woods Country Park. The replacement land would be landscaped to match the existing site and use, to allow for the spaces to interlink together and function as one. The new area of woodland to be provided to the east would link Shorne Woods with Great Crabbles Wood, which would create new recreational areas.

6.4.26 The replacement land comprises approximately 100,446m^2 against a total loss of approximately 31,558m^2. Therefore, more land is replaced than lost, with a surplus balance of approximately 68,888m^2. Land in this area is required for woodland mitigation, and in order to improve the amenity provision, this land is proposed to be open space in addition to other replacement land. The replacement land would be used for dual uses; the primary use of this land is for ancient woodland replacement land, as well as open space replacement land. The open space provision would be limited to WCH routes and open grassland within the replacement land, which is equal to 42,000m^2. These dual use parcels would have additional benefits to the wider community and Shorne Woods Country Park users.

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6.4.27 For the reasons set out above, the Applicant considers paragraphs 5.166, 5.174 and 5.181 of the NPSNN are complied with in respect of this site

Folkes Lane Woodland

6.4.28 Folkes Lane Woodland is located north of junction 29 on the western side of the M25. The Folkes Lane Woodland is an additional 43ha of woodland which forms part of the wider Thames Chase Forest area and, as with Thames Chase Forest itself, is classified in Havering Open Space Assessment (London Borough of Havering, 2016) as being of high quality and value.

6.4.29 Land acquisition over this site is required for the construction of the Project with the widening of the M25, associated earthworks, and the acquisition of rights and imposition of restrictions is required to protect the diverted utility assets would impact the existing function and value of Folkes Lane Woodland. The area proposed to have rights acquired would be around 5% of the total extent of the existing public open space and would not impact the main access and direct access from Folkes Lane and Folkes Lane footbridge.

6.4.30 The replacement land comprises approximately 81,850m^2 against a total loss of approximately 21,619m^2. Therefore, more land is replaced than acquired (or subject to permanent rights), with a surplus balance of approximately 60,231m^2. This replacement land would be accessible from the existing site and from Folkes Lane and Beredens Lane via a footbridge over the M25 (as is currently the case). The replacement land is to include new woodland planting and design of the site would be secured in line with the Environmental Masterplan (Application Document 6.2) and Design Principles (Application Document 7.5).

6.4.31 For the reasons set out above, the Applicant considers paragraphs 5.166, 5.174 and 5.181 of the NPSNN complied with in respect of this site.

Summary

6.4.32 The NPSNN states under paragraphs 5.166 and 5.174 that replacement land should be at least as good as the land being removed in terms of size, usefulness, attractiveness, quality and accessibility. Notwithstanding this, the NPSNN also states that, alternatively, where sections 131 and 132 of the Planning Act 2008 apply, any replacement should conform to the requirements of those sections. The latter paragraph also permits the Secretary of State to determine that the benefits of the Project (including need) outweigh the potential loss of such facilities, taking into account any positive proposals made by the Applicant to provide new, improved or compensatory land or facilities.

6.4.33 As demonstrated above, the Applicant has taken a positive and proactive approach to the provision of replacement of open space and common land. The replacement land provided is greater than the loss arising as a result of the Project. The Project has created multiple land use parcels that would have additional benefits to the wider community and users where suitable.

6.4.34 As part of NPSNN (paragraph 5.181) appropriate management and maintenance agreements of the proposed replacement land would be further discussed and agreed with the affected local authorities. These discussions would be documented as part of the developing Statements of Common Ground.

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6.4.35 In respect of the above sites, therefore, the Applicant considers paragraphs 5.166, 5.174 and 5.188 of the NPSNN complied with. As outlined above, the Statement of Reasons (Application Document 4.1) sets out the application of sections 131 and 132 of the Planning Act 2008 to the Project. This chapter of this Planning Statement has been provided to confirm compliance with the NPSNN.

6.5 Open space (no replacement to be provided)

6.5.1 This subsection sets out the open space subject to permanent acquisition or the acquisition of permanent rights where no replacement land is proposed. In summary, no replacement has been proposed because the proposed acquisition would not cause the land to be less advantageous. This is considered in further detail below.

Table 6.2 Existing areas of public open space to be subject to the permanent acquisition of rights

Location and reference	Amount of land impacted	Description	Works planned
Jeskyns Community Woodland	60,010m^2	The current use of the site is for outdoor recreation, walking and biking. The users are predominantly from the local communities, including Gravesend, Thong, and nearby villages such as Cobham. The site is host to a range of user groups and has recently become a focus for the Forest Schools Programme. The site is designated as public open space by Gravesham Borough Council.	The temporary impact on the open space asset would be around the existing National Grid overhead lines and pylons which are already within the Jeskyns Community Woodland. The land would be returned to the owners and there are no proposed additional permanent rights over the land, as the works can be accommodated within the corridor of the existing rights. The Applicant proposes upgrading an existing footpath, which would connect into a wider WCH network. The land would be retained as open space public land and part of Jeskyns Community Woodland. Once the works are completed, the land would be returned to its existing land use.
Michael Gardens Play Area	1,616m^2	The current use of the site is public garden, footpath and playground. Users are from the general public and local community, coming from	The proposed permanent works would include upgrading the existing footpath, which would offer improved access to the wider WCH network.

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Location and reference	Amount of land impacted	Description	Works planned
		Gravesend and Thong Village. The site is designated as public open space by Gravesham Borough Council.	The land would be retained as open space public land and part of Michael Gardens. Once the works are completed, the path and play area would be returned to its existing land use.
Shorne Woods and Ashenbank Woods	7,876m^2	The current use of the site is for recreational purposes and consists of open fields, walking tracks and educational walks and interaction.	Upgrading an existing footpath, which would connect into a wider WCH network. The land would be retained as open space public land and part of Shorne and Ashenbank Woods. Once the works are completed, the land would be returned to existing land use.
Cyclo Park	93,178m^2	The current use of the site is for walking and cycling. The users are local residents and Cyclo Park users and they come from Gravesham and surrounding areas. The site is designated as public open space by Gravesham Borough Council.	The works proposed in this location would involve upgrading the cycling track and laying a power cable underground, which would supply power to the South Portal. The Applicant is only seeking to acquire permanent rights in respect of the underground asset, and the proposed works would only occur over a short period of time. The Cyclo Park site would be returned to Gravesham Borough Council and would operate in the same way that it currently does. The vegetation and cycle track which is being impacted would be reinstated.
Walton Common and Parsonage Common	33,380m^2	The land is currently designated as common land and comprises an area of 39.17ha. The site is not considered to be well used due to its isolated location and poor accessibility due to overgrown entrances.	The Applicant would acquire permanent rights in connection with a power supply for the North Portal. Once the works are completed, the land would be returned to its existing land use.

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Location and reference	Amount of land impacted	Description	Works planned
Grangewaters Outdoor Education Centre	2,501m^2	The land is currently used as a carpark for the Grangewaters outdoor education centre.	The Applicant would acquire permanent rights for utility works, including the installation or diversion of underground utilities within a multiutility corridor. Once the works are completed, the land would be reinstated to its existing land use.

6.5.2 Table 6.2 details the various areas of public open space that would be impacted on a temporary basis and may be subject to permanent rights acquired in connection with the works to be carried out. The land affected varies from higher-value large sections of sites to smaller, less-valuable areas in respect of their amenity value. In most cases, the possession would not inhibit the use of the land that surrounds it and, in this respect, the temporary possession and active use of surrounding areas can reasonably coexist. This land is only to be taken over in the short term and would be returned to its former condition following the construction works or, in the case of environmental mitigation works, with an enhanced appearance and/or function. There is also a small number of areas where rights over land would be secured on a permanent basis, following temporary possession. Once again, following the construction works, these areas of land would be returned to their existing uses. The rights over land are to ensure that Highways England and statutory undertakers can maintain accessibility to associated infrastructure that supports the safe operation of the Project and the Statutory Undertaker's asset.

6.5.3 As the sites identified are to be returned to their current use and would be at least equal in terms of area, quantity, quality and accessibility, no replacement land is proposed. For the reasons set out above, the use of the above sites are compliant with paragraphs 5.166 and 5.174 of the NPSNN.

6.6 Private sports or recreational buildings and land

6.6.1 In addition to impacting open space, the Project would also impact a number of private sports or recreational buildings and land. These sites do not constitute open space for the purposes of sections 131 and 132 of the Planning Act 2008 but may be considered as "sports or recreational buildings and land" under paragraph 5.166. The impacted sites are listed below and impacts on them are also assessed in the ES Chapter 13: Population and Human Health (Application Document 6.1).

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Southern Valley Golf Club

6.6.2 The site consists of a private members' golf club. The Applicant proposes to permanently acquire the site for the Project route and for landscaping. The Applicant is not proposing to replace the golf club. Instead, a new parkland area would be created on part of the site, which is of equivalent or better provision in terms of quantity and quality in a suitable location and would be accessible to the public following construction.

6.6.3 The new recreational landscaped area ("Chalk Park") would provide public open space, recreational routes built around existing PRoWs, along with landscape and environmental mitigation. The proposed area would connect Riverside and Gravesham through Thong Lane green bridge and proposed footpaths around the South Portal, connecting to existing footpaths into Shorne Country Park and the wider AONB. Chalk Park is greater in area than the entire area of golf course to be acquired and would be functional and accessible for the wider community with connection to the wider environment. The proposed open space would have a similar setting with open views to the AONB and the River Thames, with woodland planting to integrate with the landscape.

6.6.4 The site would form part of public open space provision in line with the Design Principles (Application Document 7.5), Project Design Report (Application Document 7.4) and ES Figure 2.4: Environmental Masterplan (Application Document 6.2).

6.6.5 As noted above, paragraph 5.174 of the NPSNN (and the equivalent provision in EN-1) permits the Secretary of State to determine that the benefits of the Project (including need) outweigh the potential loss of such facilities, taking into account any positive proposals made by the Applicant to provide new, improved or compensatory land or facilities.

6.6.6 The compelling and very significant need for and benefits of the Project and its significant benefits have been demonstrated in the Need of the Project (Application Document 7.1). It is considered that this need and the significant benefits outweigh the loss of the Southern Valley Golf Club. In addition, the Applicant has provided positive proposals in lieu of a replacement golf facility (see section 6.7 for further information regarding Chalk Park).

6.6.7 For the reasons set out above, the proposed alternative recreational area of Chalk Park is considered to comply with paragraph 5.174 of the NPSNN.

Gravesend Golf Centre

6.6.8 The site consists of a nine-hole pitch-and-putt golf facility with a driving range. The Applicant proposes to permanently acquire part of the golf centre, where the pitch and putt is located, for the landscaped parkland area around the South Portal. An alternative site would be provided to the south-east of the Cascades Leisure Centre, currently part of the Southern Valley Golf Club site, enabling the Gravesend Golf Centre business to continue. This site would have public access to Chalk Park and from Thong Lane. The site would have a treed mixed species hedgerow to form the boundary. The alternative site is greater in area and would be developed to equal or better terms of quality and accessibility to the community.

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6.6.9 For the reasons set out above, the Applicant considers paragraphs 5.166, 5.174 and 5.181 of the NPSNN are complied with in respect of this site.

Orsett Royals Football Club

6.6.10 Part of the site, which includes a number of football pitches, is required for temporary use to install a diverted gas pipeline over an 18-month period. The Applicant shall work with the landowner and the football club to reconfigure the football pitches during construction to ensure they can remain in use. Permanent rights would be acquired over a limited corridor of land within this site to operate and maintain the gas pipeline which may restrict future types of land use on part of the site. Once construction works are completed, the land would be returned to the current owner.

6.6.11 For the reasons set out above, the Applicant considers paragraphs 5.166, 5.174 and 5.181 of the NPSNN are complied with in respect of this site.

Orsett Golf Club

6.6.12 Part of this site would be used for construction and for diversion of a gas pipeline, but Orsett Golf Club would remain open during construction and the works would not impact the use of the club. Permanent rights would be required over a limited corridor of land within this site to operate and maintain the gas pipeline.

6.6.13 For the reasons set out above, the Applicant considers paragraphs 5.166, 5.174 and 5.181 of the NPSNN are complied with in respect of this site.

Thurrock Rugby Football Club

6.6.14 Part of this site would be used for the diversion of overhead electricity transmission cables, but the Applicant does not expect these works to impact the use of the rugby club. Permanent rights would be required over this site for the operation and maintenance of those utilities.

6.6.15 For the reasons set out above, the Applicant considers paragraphs 5.166, 5.174 and 5.181 of the NPSNN are complied with in respect of this site.

Top Meadow Golf Club

6.6.16 Part of this site would be used for restringing the existing overhead electricity transmission cables for a limited period. Permanent rights would be required over this site for the operation and maintenance of those cables. The Applicant does not expect these works to significantly impact the use of the golf club.

6.6.17 For the reasons set out above, the Applicant considers paragraphs 5.166, 5.174 and 5.181 of the NPSNN are complied with in respect of this site.

Orsett Showground site

6.6.18 Part of this site would be required permanently for the construction of link roads to the Orsett Cock roundabout and the A13. The Applicant also proposes to divert a gas pipeline along the southern boundary of the site, and permanent rights would be required over a limited corridor of land to operate and maintain the gas pipeline.

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6.6.19 The Applicant continues to investigate the status of the Orsett Showground site. A replacement area has been included within the Order Limits to compensate for the area of land required permanently, or subject to restricted use, should it be necessary to do so. However discussions are ongoing with the landowner as to whether this replacement area is required.

6.7 Proposed recreational sites

6.7.1 There are two recreational sites proposed which would provide a wider benefit to community. A full assessment of the proposed recreational sites is presented within the ES Chapter 13: Population and Human Health (Application Document 6.1) and the Project Design Report (Application Document 7.4). Detailed design and development in accordance with design principles S9.02 and S3.04 (Application Document 7.5).

Tilbury Fields

6.7.2 New sculptural landscape earthworks on Goshems Farm would be designed with elevated areas to create vistas (above the surrounding landfill) across the Thames Estuary and guide views to features such as Tilbury Fort and Coalhouse Fort, which reflect the military history of the Thames. The earthworks shall be designed to be capable for use as pastoral agriculture with suitable gradients. They would be publicly accessible, via the Two Forts Way, from informal footpaths through the landforms that would follow historic routes and allow users to reach the elevated areas.

Chalk Park

6.7.3 The Project seeks to generate a positive legacy of Green Infrastructure, and the design proposals include provision of a recreational landscape for north-eastern Gravesend and Chalk, currently an area of limited public open space provision. The new recreational landscape (named as Chalk Park) would both provide open space and create a desirable separation between the South Portal and the edge of Gravesend. Recreational routes are proposed that build upon the routes of existing PRoWs and respond to the proposed topography. The Chalk Park would comprise an area of over 84 hectares, which is greater than the entire area of the Southern Valley Golf Club proposed to be acquired, and would be publicly accessible.

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7 Other important and relevant considerations

7.1 Introduction

7.1.1 This section identifies other p and considerations which may be considered by the Examining Authority and/or the Secretary of State as important and relevant considerations in support of the Project to be considered alongside national and local planning policy referred to in Chapters 4 to 6.

National Infrastructure Delivery Plan 2016–2021 (Infrastructure and Projects Authority, 2016)

7.1.2 The Executive Summary to the National Infrastructure Delivery Plan states that the Plan updates and replaces the previous National Infrastructure Plan (HM Treasury, 2014), providing details of the £483 billion of investment in over 600 infrastructure projects and programmes across the UK to 2020-21 and beyond.

7.1.3 In relation to roads infrastructure, paragraph 3.3 notes, *'that a reliable and high-performing road network helps improve productivity, but over decades, the quality of the network has declined and congestion, noise and poor air quality have become problems at certain hotspots. Poor or missing links mean cities which are close together do less business with one another.'*

7.1.4 Paragraph 3.4 goes on to say that, '*the Government is committed to addressing these challenges by building a better network with smarter roads that use technology and modern road building techniques. In this way it can ensure the country has a road network that drives, instead of constrains, growth*.'

7.1.5 For those projects identified as being in development, paragraph 3.15 refers specifically to Lower Thames Crossing, stating the aim to provide, *'a new crossing to reduce congestion at the Dartford Crossing and support economic growth. After careful assessment, Highways England has proposed connecting Junction 1 of the M2 to the M25 between junctions 29 and 30. This crosses under the River Thames just east of Gravesend and Tilbury. A consultation on routes north and south of the river is currently open ahead of a final decision.'*

Road Investment Strategy 2: 2020-25 (Department for Transport, 2020)

7.1.6 The Department for Transport's (DfT's) second Road Investment Strategy (RIS 2) sets out a long-term strategic vision for the road network in England, specifying the performance standards Highways England must meet. Planned enhancement schemes are listed, with details of the funding to be made available during the RIS 2 period, which covers the financial years 2020/21 to 2024/25.

7.1.7 The Strategic Vision for RIS 2 states that traffic growth on the SRN is forecast to grow between 29% and 59% by 2050, driven by forecast increases in the number of car trips and trip distances, as well as increasing Light Goods Vehicle traffic. It highlights that this follows the recent growth of approximately 11% in vehicle numbers on the SRN between 2013 and 2018.

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7.1.8 In order to achieve this vision for the SRN, RIS 2 recognises that DfT, Highways England and other partners must take action across multiple areas in order to achieve the outcomes that the Government aspires to, set out as:

a. A network that supports the economy
b. A greener network
c. A safer and more reliable network
d. A more integrated network
e. A smarter network

7.1.9 RIS 2 explains that the Strategy is based on a series of investment commitments with an expectation that projects will be constructed by 1 April 2025. The list of road commitments during this period includes Lower Thames Crossing, described as a new crossing of the River Thames between Kent and Essex, together with supporting roads linking to the M25, A13 and M2.

7.1.10 The supporting text to Lower Thames Crossing road commitment states that, *'RIS1 proposed to investigate a new crossing of the River Thames, to relieve the heavy congestion at Dartford. This not only creates serious delays for those seeking to cross the Thames, but also serves as a barrier to the development of the Thames Estuary – an area with significant levels of deprivation. In late 2018, Highways England outlined its detailed plans for a new tunnel between Essex and Kent, coupled with supporting link roads. This will provide three lanes across the Thames in each direction, almost doubling capacity east of the Blackwall Tunnel. This project will also have a national impact, allowing freight traffic to the Continent to bypass Dartford, and have an uncongested route to Dover. We expect to investigate linked improvements on the A2 into Kent as part of the pipeline of work for the next RIS.'*

The Road to Growth: Our strategic economic growth plan (Highways England, 2017)

7.1.11 The Road to Growth is Highway England's first strategic economic growth plan, intended to provide a long-term strategic framework to 2050 and to inform the Government's future road investment strategies, including the RIS2.

7.1.12 In operating and improving the SRN on behalf of government, Highways England recognises its key role in managing investments in the SRN in delivering the RIS.

7.1.13 In seeking to optimise the economic impact of the SRN, the plan notes that the success of the UK's economy is underpinned, *'by a safe, effective and efficient SRN*' and that this *'is the largest part of the integrated transport system that businesses rely on every day to operate successfully.'*

7.1.14 The plan recognises that the SRN's role in supporting business productivity and competitiveness should not be viewed in isolation but be seen as part of a wider and integrated transport system, enabling regional and national connectivity.

7.1.15 At a regional level, the plan states that Highways England has developed a number of projects and studies to help businesses improve productivity and to grow, including Lower Thames Crossing, which the plan notes will *'open up new and significant economic opportunities for existing and future businesses.'*

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Strategic Business Plan 2015-2020 (Highways England, 2014)

7.1.16 The Strategic Business Plan 2015-2020 was Highways England's first published document after taking over responsibility for the SRN from the Highways Agency in 2015. The plan sets out Highways England's main activities and details how the organisation will deliver the Government's Investment Plan.

7.1.17 Tackling congestion and delay and providing better connections are highlighted as being at the forefront of the organisation's plans to provide a modern network that supports a modern economy. It is considered that this, *'will ease congestion, reduce delays and improve journeys for all our customers. A network that is safer, more sustainable and more accessible to all users including pedestrians and cyclists.'*

7.1.18 By reference to major road investments, the plan states its intention to support regional and local growth by addressing a number of specific bottlenecks and heavily congested routes across the country. Proposals to *'consult the public on options for a much needed further Lower Thames Crossing in early 2016, which subject to the necessary planning consents and funding mechanisms, will start construction by 2021,'* are highlighted.

Smart Faster Together: Towards a Local Industrial Strategy (South East Local Enterprise Partnership, 2018)

7.1.19 The South East Local Enterprise Partnership (SELEP) is one of 38 Local Enterprise Partnerships (LEPs) established by the Government in 2011 to identify and support local strategic growth priorities, encourage business investment and promote economic development. A key role of LEPs is to decide the priorities for investment in roads, buildings and facilities in the area as part of an integrated approach to growth and infrastructure delivery.

7.1.20 The SELEP works in partnership with central government and its key agencies to pursue and attract major investment into the South East to deliver significant economic growth. Publication of its Economic Strategy Statement – Smart Faster Together: Towards a Local Industrial Strategy – in 2018 set out the actions to be taken over the following five years to deliver on the Government's National Industrial Strategy.

7.1.21 In relation to transport infrastructure, the Strategy refers to the major, long-term infrastructure priorities to be delivered within the SELEP area, including the Lower Thames Crossing, stating that:

'The Government's proposed Lower Thames Crossing, linking Kent, Thurrock and Essex. Through the recent Highways England consultation the relevant local authorities responded reflecting their views. It is important that a scheme of this size maximises the potential benefits and minimises the impacts on local businesses and communities. The scheme could have substantial impacts on the surrounding road network (including the potential to alter strategic traffic flows between Dover and the North).

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8 Overall conclusions and the planning balance

The Application

8.1.1 This Planning Statement relates to an application (the Application) made by Highways England to the Secretary of State (the Secretary of State) pursuant to the Planning Act 2008. The Application is for the A122 (Lower Thames Crossing) Development Consent Order (DCO) which would grant development consent, authorising the construction, operation and maintenance of the A122 Lower Thames Crossing (the Project), along with the compulsory acquisition of all land and rights necessary to enable this.

Scheme Objectives

8.1.2 The Scheme Objectives are to:

a. Support sustainable local development and regional economic growth in the medium to long term

b. Be affordable to government and users

c. Achieve Value for Money

d. Minimise adverse impacts on health and the environment

e. Relieve the congested Dartford Crossing and approach roads and improve their performance by providing free-flowing north-south capacity

f. Improve the resilience of the Thames crossings and the major road network

g. Improve safety

Planning considerations

8.1.3 The Examining Authority will consider the application for development consent and will make a recommendation to the Secretary of State, who will decide whether development consent for the Project should be granted. In so doing, the Secretary of State must have regard to the matters listed in section 104(2) including any relevant National Policy Statement, and other important and relevant considerations.

National Policy Statements

8.1.4 The Project has been appraised against the various polices contained in the NPSNN in relation to the highway works of the Lower Thames Crossing. The Overarching National Policy Statement for Energy (EN-1), National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4) and the National Policy Statement for Electricity Networks Infrastructure (EN-5) have been appraised in relation to the gas pipeline and overhead line elements of the Project.

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8.1.5 The appraisals undertaken have had regard in particular to the assessments undertaken within the Environmental Statement in relation to those identified environmental matters, providing an analysis of the Project's compliance with the National Policy Statements.

8.1.6 In relation to noise and vibration, flood risk, marine biodiversity, waste management, open space, Green Infrastructure, climate change adaption, health, minerals, design, air quality, the Habitats Regulations Assessment and Water Framework Directive, the Project is shown to accord with the National Policy Statements in all material respects. In respect of the landscape and visual assessment, this has considered the reasonable worst-case situation and concluded that the Project would result in a range of significant effects on the landscape resource and visual receptors.

8.1.7 In relation to cultural heritage, the loss of designated and non-designated heritage assets is acknowledged, although through the assessments undertaken has addressed the 'wholly exceptional' test in terms of policy justification.

8.1.8 The Project would result in habitat loss within statutory and non-statutory designated sites and disturbance to species breeding sites. Mitigation measures have been incorporated to reduce the impacts including those on veteran trees. The Project would also result in the loss of ancient woodland both to the south and north of the River Thames, though replacement planting is proposed.

8.1.9 Although the compensatory measures would limit the residual impacts on terrestrial biodiversity, there are still significant adverse impacts that would need to be balanced against the compelling case for the Project to accord with policy.

8.1.10 In respect of the Project's development within the Green Belt and the Kent Downs AONB, the Project would result in a number of adverse impacts which must be addressed in line with the relevant policies in the NPSs. Reference is made to the 'very special circumstances' in the case of the Green Belt, and the relevant policy tests within the NPSNN in respect of the AONB, including 'exceptional circumstances' in order to comply with the policy provisions.

National Planning Policy Framework

8.1.11 The Project aligns with the aims of the NPPF, notably by improving the conditions in which people travel. This is a key objective of the Project.

8.1.12 The Project supports the delivery of the NPPF's core land-use planning principles, by providing improved infrastructure to support economic growth within the region through improved capacity on the SRN. This would be achieved whilst conserving the natural environment to a greater extent.

8.1.13 Development within the Green Belt is a key issue within the NPPF. It is acknowledged that the Project represents 'inappropriate development' within the Green Belt and for that reason, a full assessment of the Project against the relevant policy tests has been carried out, demonstrating the 'very special circumstances' that exist in support of the Project within the Green Belt.

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Local planning policy

8.1.14 The planning policy issues raised by the Application across all seven 'host' local authorities relate to the environmental effects of the Project, particularly in relation to air quality, noise, flood risk, minerals, nature conservation, heritage and landscape.

8.1.15 Through the assessments undertaken in the ES, the Project has been shown to accord with local planning policy in relation to the key policy areas of air quality and noise, nature conservation, recreation, minerals and flood risk. In terms of cultural heritage, the impacts of the Project on statutorily designated sites is acknowledged, with limited mitigation for the loss of listed buildings, a scheduled monument and non-designated archaeological assets.

8.1.16 Spatially, the Project is located in the Green Belt across its route. Green Belt policies are in place for Thurrock Council, the London Borough of Havering and the Greater London Authority, where a presumption against 'inappropriate' development is stated and a demonstration of the 'very special circumstances' in justifying the Project is provided.

8.1.17 The location of the Project across the northern part of the Kent Downs AONB within Gravesham Borough Council raises particular planning issues at a local level. Whilst the impact of the Project within the AONB is contrary to local plan policy, compliance with the policy provisions is based on the 'exceptional circumstances' in justifying the Project within the AONB.

8.1.18 There is a clear distinction between development plan policies which support the principle of the Project and the benefits it can deliver and policies which in particular, seek to prevent harm to the AONB and Green Belt. There is a fine balance to be drawn in this regard and the potential harm is not understated in the assessments undertaken. However, it is considered that the demonstrable need for the Project and the wider public benefits would outweigh the impacts and potential conflicts with particular plan policies.

8.1.19 It is therefore concluded that the Project accords with the provisions of the adopted development plans and the relevant policies of the Draft London Plan for each of the 'host' planning authorities.

Other policy considerations

8.1.20 The inclusion of the Project within the Government's current investment programme, as referred to within the National Infrastructure Delivery Plan 2016–2021 (Infrastructure and Projects Authority, 2016) and RIS 2 (Department for Transport, 2020) is a recognition of the importance of the Project in meeting the Government's national policy aspirations.

8.1.21 The potential effects of the Project on the landscape character and visual amenity of the AONB have been assessed, with conclusions reached that the Project would be in conflict with parts of the Kent Downs Management Plan, particularly in relation to the potential effects on the landscape character and visual amenity of the AONB.

8.1.22 Both Kent County Council's Local Transport Plan and the Mayor's Transport Strategy support the development of the Lower Thames Crossing as a strategic transport priority.

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The planning balance

8.1.23 This Statement has identified the traffic problems arising from the Dartford Crossing, describing the need for the Project in order to increase road capacity and provide additional transport resilience in the south-east of the country. It has highlighted the traffic problems resulting from the Dartford Crossing as the only crossing of the River Thames east of London, with traffic flows that continue to operate above the design capacity of the Dartford Crossing, resulting in frequent congestion and poor journey time reliability, making the Dartford Crossing one of the least reliable sections of the SRN. Delays and poor journey time reliability at the Dartford Crossing and surrounding roads are a major impediment to economic growth in the South East of England.

8.1.24 These problems and the consequent need for the Project are articulated in national and regional strategies, reinforced by the Government's commitment to support the Project through its current road investment programme. A full explanation of the need for the Project is contained in the Need for the Project (Application Document 7.1).

8.1.25 Alternative route options to address these problems have been considered as part of a wide ranging and detailed optioneering exercise undertaken by Highway's England, resulting in a preferred route announcement in April 2017. The Project has been developed since and through further public consultation and stakeholder engagement, the design of the Project has been developed to that now set out within the DCO application.

8.1.26 The Project has been identified as the best option to meet the defined need and Scheme Objectives, by not only offering an effective solution to the long-standing traffic problems at the Dartford Crossing, but in providing real and tangible benefits to the local area and the wider economy of the South East.

8.1.27 Transport benefits include reduced journey times, additional highway capacity, improved safety, resilience and journey time reliability locally, regionally and nationally. This would help meet the demands of future traffic growth East of London.

8.1.28 Economic benefits of the Project include boosting business productivity, opening up opportunities for local economic growth and employment across the River Thames and facilitating growth exports at the region's ports.

8.1.29 The social benefits of the Project include those associated with the introduction of the Project itself, in tackling current and forecast levels of traffic congestion, this in turn would be a catalyst to improved social and economic activity within the region, brought about by the additional connectivity offered by the Lower Thames Crossing that would improve the ability for local traffic to cross the River Thames.

8.1.30 The review of planning policy within this Statement has confirmed the ability of the Project to demonstrate compliance with the relevant National Policy Statements, including the Government's strategic vision for the development of the national road network, wider policies for economic performance, safety, technology, sustainable transport and accessibility.

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8.1.31 The Project also complies with other relevant national planning and transport policies, along with the development plans of the seven 'host' local authorities. Relevant legal obligations, as set out in the NPSNN, including those under the Habitats Regulations and Water Framework Directive are also complied with.

8.1.32 Where potential is shown for the Project to result in adverse impacts, compliance with the policy provisions of the NPSs has been demonstrated, as follows:

a. The 'very special circumstances' justifying the Project, as 'inappropriate' development within the Green Belt, based on the defined and overriding need, the lack of viable alternatives, wider policy support and its temporary or limited impacts.

b. The 'exceptional circumstances' justifying the Project within the AONB, based on the defined and overriding need, the unavailability of viable route alternatives with less adverse impacts within the AONB and the stated policy support as a major new road infrastructure project.

c. Based on the need for the Project and the benefits identified, compelling reasons are presented on the need for new capacity with the benefits outweighing the costs very significantly.

d. A demonstration of the substantial public benefits to outweigh the significant permanent effects on designated heritage assets, through a clear and compelling need for the Project.

e. In addition to the mitigation proposed in respect of habitat loss at Shorne and Ashenbank Woods SSSI and the loss of ancient woodland and veteran trees (though acknowledging that these are irreplaceable habitats), the national need for and benefits of the Project that clearly outweigh the loss in their locations.

8.1.33 Under section 104(3) of the Planning Act 2008, the Secretary of State must decide the Application in accordance with any relevant national policy, except where subparagraphs (4) to (8) of that section apply. This Planning Statement has demonstrated that the Project accords with the relevant national policy statements. In addition, for the purposes of section 104(7) of the Planning Act 2008, this Planning Statement has demonstrated that the benefits of the Project outweigh its adverse its impacts.

8.1.34 It is evident that traffic congestion at the Dartford Crossing is a major constraint to economic development and that relieving it is key to the Government's aspirations for sustainable economic growth locally, regionally and nationally.

8.1.35 Addressing the current congestion accords with the national policy position. The strong support given to improving the SRN by Government through the development of improved highway infrastructure lends further weight to the Project.

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8.1.36 The inclusion of the Project as part of the Government's current investment programme provides a clear recognition of the importance of the Project in meeting national policy aspirations, emphasising the need case for the Project, and must be seen as a strongly important and relevant consideration in support of the Project.

8.1.37 On the basis of the need case for the Project, it is clear that there is a compelling case in the public interest for the Project. Accordingly, the policy presumption in favour of the Project and the overall planning balance lie strongly in favour of the grant of development consent.

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Glossary

Term	Explanation
Adverse	A negative/harmful effect
Ambient noise	Ambient noise is the total sound in a given situation at a given time usually composed of sound from many sources, near and far.
Air Quality Management Area	An area, declared by a local authority, where air quality does not meet Defra's national air quality objectives.
Air Quality Strategy	The Air Quality Strategy for England, Scotland, Wales and Northern Ireland describes the plans drawn up by the Government and the Developed Administrations to improve and protect ambient air quality in the UK in the medium-term. The Strategy sets objectives for the main air pollutants to protect health. Performance against these objectives is monitored where people regularly spend time and might be exposed to air pollution.
Affected Road Network	In air quality assessment, the network of roads to be considered within the air quality model (selection of the roads within the model depends on a number of criteria such as changes in Heavy Duty Vehicle flows).
Baseline	The conditions against which potential effects arising from the Project are identified and evaluated.
Biodiversity	The variety of life. The term embraces the full range of habitats, species, and the variation found within species (including genetic variation).
Bund	A barrier, dam or mound used to contain or exclude water (or other liquids). Can either refer to a bund made from earthworks material, sand etc. or a metal/concrete structure surrounding, for example, a fuel tank.
Carbon dioxide	A colourless gas, naturally occurring in the Earth's atmosphere. CO_2 is a significant long-lived greenhouse gas. Anthropogenic emissions of CO_2 since the Industrial Revolution have rapidly increased its concentration in the atmosphere.
Cumulative effect	Incremental effects that result from the accumulation of a number of individual effects, either caused by different types of effect from the same project (intra-project effects), or by the interactions between the likely effects of other reasonably foreseeable developments with the likely effects of the proposed project (inter-project effects).
Department for Environment, Food and Rural Affairs	The government department responsible for environmental protection, food production and standards, agriculture, fisheries and rural communities in the UK.
Design Manual for Roads and Bridges	A comprehensive manual containing requirements, advice and other published documents relating to works on motorway and all-purpose trunk roads for which one of the Overseeing Organisations (Highways England, Transport Scotland, The Welsh Government or the Department for Regional Development (Northern Ireland)) is highway authority. For the Lower Thames Crossing the Overseeing Organisation is Highways England.
Designated heritage receptor	A heritage receptor which is protected under legislation such as the Planning Act 1990. These are nationally important receptors which are protected under law.
Destructive search	A destructive search is the final means of ensuring any given site is free from protected species. Destructive searching can involve a number of different services, depending on the species that have been cleared from the sites and depending on the habitat and terrain.
Development Consent Order	A Development Consent Order is the means of obtaining permission for developments categorised as Nationally Significant Infrastructure Projects.
Driver stress	Driver stress is defined for the purposes of environmental assessment as the adverse mental and physiological effects experienced by a driver traversing a road network.
Ecology	The study of interactions between organisms and their environment.

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Term	Explanation
Environmental Impact Assessment	A process by which information about environmental effects of a proposed development is collected, assessed and used to inform decision making. For certain projects, EIA is a statutory requirement, reported an Environmental Statement.
Environmental Statement	A document produced to support an application for development consent that is subject to Environmental Impact Assessment (EIA), which sets out the likely impacts on the environment arising from the proposed development.
Interim Advice Note	Interim Advice Notes are issued by Highways England. They contain specific guidance which shall only be used in connection with works on motorways and trunk roads in England.
Landscape	An area, as perceived by people, the character of which is the result of the action and interaction of natural and/or human factors.
Landscape Character Areas	The '*discrete geographical areas of particular landscape type*' (source of definition: GLVIA3). Note: Local Landscape Character Area is referred to as LLCA.
Landscape Character Type	Distinct types of relatively homogeneous landscape, generic in nature but '*...share broadly similar combinations of geology, topography, drainage patterns, vegetation and historical land use and settlement pattern, and perceptual and aesthetics attributes*' (source of definition: GLVIA3).
Landscape receptors	Defined aspects of the landscape resource that have the potential to be affected by a proposal (source of definition: GLVIA 3).
Limits of deviation	The tolerances, both laterally and vertically, that any parts of the works can be constructed from the lines and situations shown on the works plans and the levels shown on the engineering drawings and sections.
Mitigation	Measures that have been identified through the assessment process to avoid or further reduce adverse effects.
National Character Area	NCAs divide England into 159 distinct natural areas. Each NCA is defined by a unique combination of landscape, biodiversity, geodiversity, history, and cultural and economic activity. Their boundaries follow natural lines in the landscape rather than administrative boundaries.
Noise Important Area	Defra published noise maps for England's roads in 2008, with the noise action plans following 2 years later in 2010. The action plans set out a framework for managing noise, and were designed to identify 'Important Areas' that are impacted by noise from major sources and therefore must be investigated. NIAs are where the 1% of the population that are affected by the highest noise levels from major roads are located, according to the results of Defra's strategic noise maps.
National Policy Statement for National Networks	Sets out the need for, and Government's policies to deliver, development of Nationally Significant Infrastructure Projects (NSIPs) on the national road and rail networks in England. It provides planning guidance for promoters of NSIPs on the road and rail networks, and the basis for the examination by the Examining Authority and decisions by the Secretary of State.
National Planning Policy Framework	A framework published in March 2012 by the UK's Department of Communities and Local Government, consolidating previously issued documents called Planning Policy Statements (PPS) and Planning Policy Guidance Notes (PPG) for use in England. The National Planning Policy Framework was updated in February 2019 by the Ministry of Housing, Communities and Local Government.
Walkers, cyclists and horse riders	Considered to be pedestrians, cyclists and equestrians. Particular consideration is to be given to the needs of disabled people, who may use any of these modes or other equipment such as wheelchairs. Users of electrically assisted pedal cycles or powered wheelchairs that conform with current Department for Transport regulations and may legally be used on pedestrian or cycle facilities, are also considered to be WCHs.
Nitrogen dioxide	A reactive gas introduced into the environment by natural causes, including entry from the stratosphere, bacterial respiration, volcanos, and lightning. It is also introduced by the emissions of internal combustion engines burning fossil fuels.

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Term	Explanation
Nuisance	In this document nuisance is intended to generally refer to 'bother' or 'annoyance' and is not necessarily the same as that used in some statutory documents.
Opening Year	In the case of this Project, Opening Year is expected to be 2027.
Order Land	Land contained within the defined Order Limits
Order Limits	The outermost extent of the Project, indicated on the Plans by a red line. This is the Limit of Land to be Acquired or Used (LLAU) by the Lower Thames Crossing. This is the area in which the DCO would apply.
Public Right of Way	A right possessed by the public, to pass along routes over land at all times. Although the land may be owned by a private individual, the public may still gain access across that land along a specific route. The mode of transport allowed differs according to the type of public right of way which consist of footpaths, bridleways and open and restricted byways.
Residual impact	Effects on the environment that occur after mitigation of potential impacts have been implemented.
Setting	The surroundings in which a heritage receptor is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral.
Study area	The spatial area within which environmental effects are assessed i.e. extending a distance from the Project footprint in which environmental effects could occur (this may vary between topics).
Townscape Character Area	Unique areas which are the discrete geographical areas of a particular townscape type. Townscape character is a distinct, recognisable and consistent pattern of elements in the built environment that makes one landscape different from another, rather than better or worse.
Transport Analysis Guidance	TAG provides information on the role of transport modelling and appraisal. The guidance provides advice on how to: set objectives and identify problems, develop potential solutions, create a transport model for the appraisal of the alternative solutions and how to conduct an appraisal which meets the department's requirements. Projects or studies that require government approval are expected to make use of this guidance.
Tree Preservation Order	An order made by a local planning authority in England to protect specific trees, groups of trees or woodlands in the interests of amenity. An Order prohibits the cutting down, topping, lopping, uprooting, wilful damage or wilful destruction of trees without the local planning authority's written consent.
Visual amenity	Overall enjoyment of a particular area, surroundings, or views in terms of people's activities - living, recreating, travelling through, visiting, or working (source of definition: GLVIA 3).
Visual receptors	Individuals and/or defined groups of people who potentially could be affected by a project (source of definition: GLVIA 3).
Zone of Visual Influence	Area within which a proposed development can have an influence or effect on visual amenity.
Abbreviation	In Full
ALC	Agricultural Land Classification
APFP 2009	Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009
AQMA	Air Quality Management Area
AQS	Air Quality Strategy
ARN	Affected Road Network

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Term	Explanation
BCR	Benefit Cost Ratio
BHS	Biological Heritage Site
CIfA	Chartered Institute for Archaeologists
CO_2	Carbon dioxide
CO_{2e}	Carbon dioxide equivalent
DCO	Development Consent Order
Defra	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
DMRB	Design Manual for Roads and Bridges
EAR	Environmental Assessment Reports
ECC	Essex County Council
ES	Environmental Statement
FRA	Flood Risk Assessment
HRA	Habitats Regulations Assessment
IAN	Interim Advice Note
KCC	Kent Country Council
LCA	Landscape Character Area
LCT	Landscape Character Type
LIR	Local Impact Reports
LPA(s)	Local planning authority(ies)
MMP	Materials Management Plan
NCA	National Character Area
NIA	Noise Important Area
WCH	Walkers, cyclists and horse riders
NPSNN	National Policy Statement for National Networks
NO_2	Nitrogen dioxide
NPPF	National Planning Policy Framework
NPPG	National Planning Practice Guidance
NPS	National Policy Statement

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Term	Explanation
NSIP	Nationally Significant Infrastructure Project
NTEM	National Trip End Model
NTM	National Transport Model
PM_{10}	Particulate matter (less than 10 microns in diameter)
PRoW	Public Right of Way
RIS	Road Investment Strategy
rMCZ	Recommended Marine Conservation Zone
SMP	Soil Management Plan
SOAEL	Significant Observed Adverse Effect Level
SoS	Secretary of State
SPA	Special Protection Area
SRN	Strategic road network
SSSI	Site of Special Scientific Interest
TAG	Transport Analysis Guidance
TCA	Townscape Character Assessment
TPO(s)	Tree Preservation Order(s)
ZTV	Zone of theoretical visibility
ZVI	Zone of Visual Influence

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Appendix A1 National Policy Statement for National Networks (NPSNN) Accordance Table

See document 7.2 Planning Statement Appendix A1 National Policy Statement for National Networks (NPSNN) Accordance Table (Application Document 7.2)

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Appendix A2 National Policy Statements for Energy Infrastructure Accordance Tables

See document 7.2 Planning Statement Appendix A2 National Policy Statements for Energy Infrastructure Accordance Tables (Application Document 7.2).

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Appendix B Local Authority Policy Review

See document 7.2 Planning Statement Appendix B Local Authority Policy Review (Application Document 7.2).

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Appendix C Lower Thames Crossing Green Infrastructure Study

See document 7.2 Planning Statement Appendix C Lower Thames Crossing Green Infrastructure Study (Application Document 7.2).

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Lower Thames Crossing

Thurrock Council Local Impact Report

Appendix L Annex 8 – Case Law on 'Any Other Harm' – 'Secretary of State For Communities and Local Government, Reigate & Banstead BC, Tandridge DC vs Redhill Aerodrome Ltd

Case No: C1/2014/2773, 2756 and 2874

Neutral Citation Number: [2014] EWCA Civ 1386

IN THE COURT OF APPEAL (CIVIL DIVISION)
ON APPEAL FROM THE HIGH COURT OF JUSTICE
QUEENS BENCH DIVISION
PLANNING COURT
MRS JUSTICE PATTERSON
CO/1361/2014

Royal Courts of Justice
Strand, London, WC2A 2LL

Date: Friday 24th October 2014

Before:

LORD JUSTICE SULLIVAN
LORD JUSTICE TOMLINSON
and
LORD JUSTICE LEWISON

- -

Between:

SECRETARY OF STATE FOR COMMUNITIES AND LOCAL GOVERNMENT	**First Appellant**
REIGATE AND BANSTEAD BOROUGH COUNCIL	**Second Appellant**
TANDRIDGE DISTRICT COUNCIL	**Third Appellant**
- and -	
REDHILL AERODROME LIMITED	**Respondent**

- -

(Transcript of the Handed Down Judgment of
WordWave International Limited
A Merrill Communications Company
165 Fleet Street, London EC4A 2DY
Tel No: 020 7404 1400, Fax No: 020 7831 8838
Official Shorthand Writers to the Court)

- -

James Maurici QC and **Richard Kimblin** (instructed by **Treasury Solicitors)** for the **First Appellant**
Stephen Whale (instructed by **Tandridge District Council Legal Services and Reigate and Banstead Borough Council**) for the **Second and Third Appellants**

Christopher Katkowski QC and Alistair Mills (instructed by **Wragge Lawrence Graham CO LLP**) for the **Respondent**

Hearing dates: 9th October 2014

- - - - - - - - - - - - - - - - - - - -

Judgment

Lord Justice Sullivan:

Introduction

1. On the 9th October 2014 we allowed this appeal, set aside the Judge's Order quashing the Inspector's decision, and dismissed the Respondent's application under section 288 of the Town and Country Planning Act 1990 ("the Act"). We said that we would give our reasons in due course. These are my reasons for allowing the appeal.

Green Belt policy

2. The protection of the Green Belt around our main urban areas is one of the twelve "Core planning principles" in the National Planning Policy Framework ("the Framework") (paragraph 17). Paragraphs 87 and 88 of the Framework say that:

> "87. As with previous Green Belt policy, inappropriate development is, by definition, harmful to the Green Belt and should not be approved except in very special circumstances.
>
> 88. When considering any planning application, local planning authorities should ensure that substantial weight is given to any harm to the Green Belt. 'Very special circumstances' will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm, is clearly outweighed by other considerations." (emphasis added)

The Issue

3. Do the words "any other harm" in the second sentence of paragraph 88 of the Framework mean "any other harm to the Green Belt" as submitted by the Respondent, and found by the Judge, or do they include any other harm that is relevant for planning purposes, such as harm to landscape character, adverse visual impact, noise disturbance or adverse traffic impact, as submitted by the Appellants?

The Inspector's decision

4. In a decision dated 18th February 2014 a Planning Inspector dismissed the Respondent's appeal against the refusals of planning permission by the Second and Third Appellants for the construction of a hard runway to replace the existing grass runways, together with ancillary infrastructure, at Redhill Aerodrome. The Aerodrome, which straddles the boundary between the two local planning authorities, is located in the Metropolitan Green Belt.

5. There is no challenge to the Inspector's conclusion that the proposal was inappropriate development in the Green Belt. In paragraph 19 of her decision the Inspector said:

> "Submissions were made as to whether the Green Belt balancing exercise should follow the approach set out in the *River Club* judgment. Even though the judgment was made on the policy set out in Planning Policy Guidance 2, the wording in the Framework is very similar and I intend to follow the interpretation in the judgment. Furthermore this approach is

> reflected in decisions by the Secretary of State since the publication of the Framework."

6. The Inspector duly followed the *River Club* approach (see below, paragraphs 7 and 8). In her conclusions in paragraph 123 she said:

> "123. The harm to the Green Belt by reason of the inappropriate development, the loss of openness and the encroachment into the countryside has substantial weight. The harm to landscape character has moderate weight and the slight adverse visual impact a small amount of weight. The limited harm to the quality of life and learning environment through noise disturbance and the failure to satisfactorily resolve the capacity and mode of travel issues provide additional weight against the proposal. The overall weight against the proposal is
>
> very strong. This conclusion takes account of the mitigation afforded by the use of planning conditions and planning obligations."

Having identified in paragraph 124 the other considerations on the positive side – safeguarding employment, the prospect of additional jobs, the expansion of business aviation and support to business initiatives in the area – the Inspector concluded in paragraph 125:

> "125. The other considerations, when taken together, do not clearly outweigh the potential harm to the Green Belt and the other identified harm. Very special circumstances to justify the development do not exist. The proposed hard runway development fails to comply with national policy to protect the Green Belt set out in the Framework…"

River Club

7. In *R (on the application of River Club) v Secretary of State for Communities and Local Government* [2009] EWHC 2674 (Admin), [2010] JPL 584 Frances Patterson QC (as she then was) sitting as a Deputy High Court Judge considered the meaning of the words "any other harm" in paragraph 3.2 of Planning Policy Guidance 2: Green Belts ("PPG2"). Paragraphs 3.1 and 3.2 of PPG2 were in these terms:

> "3. Control Over Development
>
> Presumption against inappropriate development
>
> 3.1 The general policies controlling development in the countryside apply with equal force in Green Belts but there is, in addition, a general presumption against inappropriate development within them. Such development should not be approved, except in very special circumstances.
>
> 3.2 Inappropriate development is, by definition, harmful to the Green Belt. It is for the applicant to show why permission should be granted. Very special circumstances to justify

> inappropriate development will not exist unless the harm by reason of inappropriateness, and any other harm, is clearly
>
> outweighed by other considerations. In view of the presumption against inappropriate development, the Secretary of State will attach substantial weight to the harm to the Green Belt when considering any planning application or appeal concerning such development."

8. The Claimant in *River Club* had submitted that the "other harm" referred to in the third sentence of paragraph 3.2 meant harm to the purposes or objectives of the Green Belt, so that as a matter of law "any other harm" was constrained to Green Belt harm: see paragraph 21 of the judgment. The Deputy Judge rejected that submission for the reasons set out in paragraphs 26 and 27 of her judgment.

> "26. Paragraph 3.2 of PPG2 is within the section of the PPG entitled "Control over development" and, within that part, subheaded "Presumption against inappropriate development". In my judgment, paragraph 3.2 is dealing with what is required to make inappropriate development acceptable in the green belt. That means considering the development as a whole to evaluate the harm that flows from it being inappropriate, together with any other harm that the development may cause, to enable a clear identification of harm against which the benefits of the development can be weighed so as to be able to conclude whether very special circumstances exist so as to warrant grant of planning permission.
>
> 27. It is of note that there are no qualifying words within paragraph 3.2 in relation to the phrase "and any other harm". Inappropriate development, by definition, causes harm to the purposes of the green belt and may cause harm to the objectives of the green belt also. "Any other harm" must therefore refer to some other harm than that which is caused through the development being inappropriate. It can refer to harm in the green belt context, therefore, but need not necessarily do so. Accordingly, I hold that "any other harm" in paragraph 3.2 is to be given its plain and ordinary meaning and refers to harm which is identified and which is additional to harm caused through the development being inappropriate. It follows that I reject the argument that the phrase is constrained and applied to harm to the green belt only"

The judgment below

9. The Respondent applied under section 288 of the Act to quash the Inspector's decision on the ground that she had erred in taking non - Green Belt harm into account when deciding whether the "other considerations" clearly outweighed the potential harm to the Green Belt by reason of inappropriateness and any other harm. The Respondent submitted before Patterson J:

   (i) that *River Club* was wrongly decided;

(ii) alternatively, that the policy context now contained in the Framework was so different that it required a different approach to the meaning of the words "any other harm" in paragraph 88: see paragraph 30 of the judgment.

10. Having referred in paragraph 53 to her earlier decision in *River Club*, Patterson J accepted the Respondent's submission (ii) for the reasons set out in paragraphs 54 – 57 of her judgment:

> "54. Now, as Mr Katkowski QC submits, the policy matrix is different in that all of planning policy is contained within the NPPF which is to be read and interpreted as a whole. That includes when, for individual considerations in a planning application, it is appropriate to refuse planning permission. For each of the individual considerations a threshold is set which, when it is reached or exceeded, warrants refusal. It is for the decision maker to determine whether the individual impact attains the threshold that warrants refusal as set out in the NPPF. That is a matter of planning judgement and will clearly vary on a case by case basis.
>
> 55. Here, the individual non Green Belt harms did not reach the individual threshold for refusal as defined by the NPPF. Was it right then to take them into account either individually or as part of the cumulative Green Belt harm assessments?
>
> 56. On an individual basis given the clear guidance given in the NPPF I have no difficulty in concluding that, in this case, it was not right to take the identified non Green Belt harms into account. The revised policy framework is considerably more
>
> directive to decision makers than the previous advice in the PPGs and PPSs. There has, in that regard, been a considerable policy shift. Where an individual material consideration is harmful but the degree of harm has not reached the level prescribed in the NPPF as to warrant refusal, in my judgment, it would be wrong to include that consideration as "any other harm".
>
> 57. That leaves the question of whether individual considerations can be considered together as part of a cumulative consideration of harm even though individually the evaluation of harm is set at a lower level than prescribed for refusal in the NPPF. In my judgement it would not be right to do so. That is because the Framework is precisely as it says: a framework for clear decision making. It is a re-writing of planning policy to enable that objective to be delivered. It has no words that permit of a residual cumulative approach in the Green Belt when each of the harms identified against a proposal is at a lesser level than would be required for refusal on an individual basis. Without such wording, to permit a combination of cumulative adverse impacts at a lesser level than prescribed for individual impacts to go into the evaluation of harm of a Green Belt proposal seems to me to be the

> antithesis of the current policy. It would re-introduce a possibility of cumulative harm which the NPPF does not provide for. It is clear that the NPPF does contemplate findings of residual cumulative harm in certain circumstances, as is evident in paragraph 32, where it deals with the residual cumulative impact of transport considerations. Such phraseology does not appear in the Green Belt part of the NPPF."

11. Patterson J did not accept the Respondent's submission (i) (above). In paragraph 60 of her judgment she said:

> "60. In those circumstances I do not need to hold that my previous decision in *River Club* was wrong. It was taken in a different policy context where there was greater scope for flexible interpretation. That is not to say that I am ignoring or disregarding the jurisprudence in *Ex Parte Taj*. The fact is that the instant decision had to be determined in a NPPF policy context. If the consequence of that means that non Green Belt harms of a lesser effect than those which would warrant refusal on an individual basis cannot be considered as part of a cumulative impact of a development proposal, as set out, that is due to the effect of the wording of the NPPF."

The Respondent's case

12. There was no Respondent's Notice, and the Respondent's Skeleton Argument did not suggest that *River Club* was wrongly decided in the policy context of PPG2. At the outset of the hearing we asked Mr. Katkowski QC to confirm that the Respondent was not submitting that *River Club* was wrongly decided. Although he was reluctant to concede that *River Club* was rightly decided in the context of PPG2, he did not pursue a submission that it was wrongly decided, and confirmed that he was content to base the Respondent's case on its submission (ii) (above).

13. Before Patterson J the Respondent had relied on *Doncaster Metropolitan Borough Council v Secretary of State for the Environment, Transport and the Regions* [2002] JPL 1509 in support of its submission that *River Club* was wrongly decided: see paragraph 31 of Patterson J's judgment. That reliance was misplaced. In his oral submissions before us Mr. Katkowski accepted that the only "other" harm that had been found by the Inspector in *Doncaster* in addition to the harm by reason of inappropriateness was harm to the openness and purpose (preventing urban encroachment into the countryside) of the Green Belt: see paragraph 19 of the judgment in that case. Thus the issue raised in *River Club* – whether "any other harm" was confined to harm to the Green Belt other than harm by reason of inappropriateness – did not arise in *Doncaster*.

14. *River Club* was decided on the 7th October 2009. I have referred to it at some length because the *River Club* approach to the meaning of "any other harm" in paragraph 3.2 of PPG2 was well established as the existing Green Belt policy background against which the policies in the NPPF were prepared, and published in March 2012. An earlier example of the same approach to the meaning of "any other harm" in paragraph 3.2 of PPG2 can be seen in *R (on the application of Basildon District Council) v First Secretary of State* [2004] EWHC 2759 (Admin), [2005] JPL 942: see

paragraph 18 of that judgment. Mr. Katkowski accepted that there was no authority which supported a different approach to the meaning of "any other harm" in the context of PPG2.

The Framework

15. It is common ground that excluding non – Green Belt harm from "any other harm" in the second sentence of paragraph 88 of the Framework would make it less difficult for applicants and appellants to obtain planning permission for inappropriate development in the Green Belt because the task of establishing "very special circumstances", while never easy, would be made less difficult. All of the considerations in favour of granting permission would now be weighed against only some, rather than all of the planning harm that would be caused by an inappropriate development.

16. If it had been the Government's intention to make such a significant change to Green Belt policy in the Framework one would have expected that there would have been a clear statement to that effect. Mr. Katkowski accepts that there is no such statement. In my judgment, all of the indications are to the contrary:

(i) While there have been some detailed changes to Green Belt policy in the Framework, protecting the Green Belt remains one of the Core planning principles, the fundamental aim of Green Belt Policy to prevent urban sprawl by keeping land open, the essential characteristics of Green Belts, and the five purposes that they serve, all remain unchanged. By contrast with paragraph 86 of the Framework, which does change the policy approach to the inclusion of villages within the Green Belt, paragraph 87 emphasises the continuation of previous Green Belt policy (in PPG2) in respect of inappropriate development: "As with previous Green Belt policy."

(ii) The Impact Assessment in respect of the Framework published by the Department for Communities and Local Government in July 2012 said that "The government strongly supports the Green Belt and does not intend to change the central policy that inappropriate development in the Green Belt should not be allowed." Under the sub-heading "Policy Changes" the Impact Assessment said that "Core Green Belt protection will remain in place." It then identified four proposed "minor changes to the detail of current policy" which would resolve technical issues, but not harm the key purpose of the Green Belt, "as in all cases the test to preserve the openness and purposes of including land in the Green Belt will be maintained." On the face of it, paragraphs 87 and 88 of the Framework would appear to constitute the "central policy" which the Government did not intend to change.

(iii) That there was no intention to change this aspect of Green Belt policy is confirmed by the Inspector's statement in paragraph 19 of her decision: that the *River Club* approach to "any other harm" in the balancing exercise is reflected in decisions by the Secretary of State since the publication of the Framework. We were not referred to any decision in which a different approach has been taken to "any other harm" since the publication of the Framework.

17. I readily accept that these indications are not conclusive. The Framework means what it says, and not what the Secretary of State would like it to mean: see the authorities cited by the Judge in paragraphs 18 and 19 of her judgment. However, if the Framework has effected this change in Green Belt policy it is clear that it has done so unintentionally. Mr. Katkowski did not submit that there was any material difference

between paragraphs 3.1 and 3.2 of PPG2 and paragraphs 87 and 88 of the Framework. He was right not to do so. The text of the policy has been reorganised (see paragraphs 2 and 7 above), but all of its essential characteristics – "inappropriate development is, by definition, harmful to the Green Belt", so that it "should not be approved except in very special circumstances", which "will not exist unless the harm by reason of inappropriateness, and any other harm, is clearly outweighed by other considerations", and the "substantial weight" which must be given to "harm to the Green Belt" – remain the same. Mr. Katkowski submitted that the change in policy was to be inferred, not from the wording of paragraphs 87 and 88, but from the other policies in the Framework which "wrapped around" Green Belt policy, and which were, he submitted, very different in some respects from previous policies in the earlier policy documents which were replaced by the Framework. At an early stage in his submissions he said that at the heart of his case was "Context, context, context."

Paragraph 88

18. There is no dispute that the words in paragraph 88 should not be construed in isolation, and must be construed in the context of the Framework as a whole, but Mr. Maurici QC and Mr. Whale for the Appellants rightly submit that the

starting point must be the words of the policy in paragraph 88. Not only are the words "any other harm" in the second sentence of that paragraph unqualified, they are contained within a paragraph that expressly refers, twice, to "harm to the Green Belt." When the policy wishes to restrict the type of harm to harm to the Green Belt it is careful to say so in terms.

19. The Appellants also submit that the Judge's approach to "any other harm" would lead to an imbalance in the weighing exercise that is at the heart of paragraph 88. In paragraph 51 of her Judgment, having rejected the Second and Third Appellants' submission that the effect upon landscape character and the visual impact of the proposed development were harms to the Green Belt, Patterson J continued:

> "51. …The effect upon the landscape character and the visual impact of a development proposal are clearly material considerations but are different from a consideration of harm to a Green Belt. If a development proposal contributed to the enhancement of the landscape, visual amenity and biodiversity within the Green Belt those could well be factors in its favour as part of a very special circumstances balancing exercise…."

20. It is common ground that all "other considerations", which will by definition be non-Green Belt factors, such as the employment and economic advantages referred to by the Inspector in her decision in this case, must be included in the weighing exercise. On the Judge's approach, if an inappropriate development in the Green Belt is beneficial in terms of the appearance of the landscape, visual amenity, biodiversity or, presumably any other matter relevant for planning purposes such as the setting of a listed building, or transportation arrangements, it must be weighed in the balance when deciding whether "very special circumstances" exist; but if the inappropriate development is harmful to any of those non-Green Belt considerations, that harm must not be weighed in the balance when deciding whether "very special circumstances" exist. I accept the Appellants' submission that this imbalance is illogical. If all of the "other considerations" in favour of granting permission, which will, by definition, be non-Green Belt factors, must go into the weighing exercise,

there is no sensible reason why "any other harm", whether it is Green Belt or non-Green Belt harm, should not also go into the weighing exercise.

21. Mr. Katkowski submitted that it was not illogical to exclude non-Green Belt harm from the weighing exercise because the underlying purpose of the policy was to protect the openness of the Green Belt so that it could continue to serve one or more of the five purposes identified in paragraph 80 of the Framework. Since there is no suggestion that the underlying policy purpose has changed as between PPG2 and the Framework – the essential characteristics and the five purposes of the Green Belt all remain the same – this argument is, in reality, a return to the submission that *River Club* was wrongly decided. There is no dispute that the underlying purpose of the policy was, and still is, to protect the essential characteristic of the Green Belt – its openness – but there is nothing illogical in requiring all non-Green Belt factors, and not simply those non-Green Belt factors in favour of granting permission, to be taken into account when deciding whether planning permission should be granted on what will be non-Green Belt grounds ("very special circumstances") for development that is, by definition, harmful to the Green Belt.

The wider policy context

22. It is true that the "policy matrix" (see paragraph 54 of the judgment) has changed in that the Framework has, in the words of the Ministerial foreword, replaced "over a thousand pages with around fifty, written simply and clearly." Views may differ as to whether simplicity and clarity have always been achieved, but the policies are certainly shorter. There have been changes to some of the non-Green Belt policies, and there have also been changes to detailed aspects of Green Belt policy, not all of which were identified in the Impact Assessment: see eg. *Europa Oil and Gas v Secretary of State for Communities and Local Government* [2014] EWCA Civ 825, [2014] JPL 1259.

23. However, I do not accept the premise which underlies the Respondent's case, which was accepted by the Judge, that the other policies "wrapping around" the Green Belt policy in paragraphs 87 and 88 of the Framework are "very different" from previous national policy (see paragraph 24 of the judgment), or that, as the Judge put it, there has been "a considerable policy shift": see paragraph 56 of the judgment.

24. The Judge listed the policy differences relied upon by the Respondent in paragraph 23 of the judgment. Mr. Katkowski placed paragraph 32 of the Framework at the forefront of his submissions, and it is the only policy expressly relied upon by the Judge in her conclusions: see paragraph 57 of the judgment. I will deal with paragraph 32 below (paragraphs 26 - 33). I am not persuaded that any of the other policies relied upon by Mr. Katkowski is an example of a change of substance, as opposed to a shorter, and in the Minister's view, a simpler and clearer, statement of well established policy. The policy in respect of heritage considerations is the best illustration of this point. In his oral submissions Mr. Katkowski accepted that the policy contained in paragraph 133 of the Framework was not substantially different from the policy guidance which was replaced by the Framework.

25. The Judge did not refer to paragraph 134 of the Framework which says that when a development would cause less than substantial harm to the significance of a designated heritage asset, that harm must be weighed against the public benefits of the proposed development. Mr. Katkowski accepted that this approach did not represent any practical change from previous policy. If less than substantial harm to the

significance of a designated heritage asset must be weighed against the public benefits of the proposed development in all cases, it is difficult to see why, in the case of an inappropriate development in the Green Belt which would cause harm that is less than substantial to the setting of a listed building, that harm should not be included as "any other harm" when the public benefits of the proposed development are being weighed in the balance as the "other considerations" in favour of granting permission for the inappropriate development.

Paragraph 32

26. Paragraph 32 of the Framework requires all developments that would generate significant amounts of traffic to be supported by a Transport Statement or Transport Assessment. Account must be taken of a number of factors, including whether:

> "improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development."

Paragraph 32 continues:

> "Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe."

27. The "residual cumulative impacts" referred to in paragraph 32 are impacts on the transport network. There is nothing new in the proposition that such residual cumulative impacts – ie those traffic impacts which would remain after any highway improvement to limit the significant impacts of the development have been carried out – are a material planning consideration which may, in appropriate cases, justify a refusal of planning permission. What is new is that part of the policy which, unusually, sets out the only basis on which planning permission should be refused on this ground: permission should only be refused on transport grounds "where the residual cumulative impacts of development are severe" (emphasis added).

28. While this is a change in transport policy, which is now more prescriptive in this respect, it does not provide any support for the Respondent's submission that the Framework has implicitly effected a change in Green Belt policy. It does not follow from the (new) policy that permission should only be refused on transport grounds where the residual cumulative impacts of a development are severe, that when considering whether permission for inappropriate development in the Green Belt should be granted, an adverse residual cumulative transport impact of that development that is less than severe should be ignored when an Inspector is deciding whether "the potential harm to the Green Belt by reason of inappropriateness, and any other harm", is clearly outweighed by "other considerations", which would include any beneficial transport considerations, eg an offer to provide a bus service to the development, or to fund the construction of a new railway station.

29. Mr. Katkowski repeated the submission that is referred to in paragraph 25 of the judgment: that if the *River Club* approach to "any other harm" is followed an applicant for planning permission is "cheated" of the benefit of those policies in the Framework which prescribe the threshold at which particular harms will justify a refusal of planning permission. Paragraph 37 of the Respondent's Skeleton Argument explained the basis of that submission, as follows:

> "37. To take an easy example of the consequences of applying the *River Club* approach to the [Framework]: if a development is sited outside the green belt, it can "only" be refused on transport grounds if the impact would be "severe" (paragraph 32) but if the site is in the green belt then either instead of or in addition to this very specific policy test, any adverse transport impact (even if far less than "severe" and even if the impact was on roads outside the green belt) would lead to a refusal of permission unless "clearly outweighed" by "very special circumstances" under [paragraph] 88."

30. The Judge accepted that submission, saying in paragraph 56 of her judgment:

> "Where an individual material consideration is harmful but the degree of harm has not reached the level prescribed in the [Framework] as to warrant refusal …. it would be wrong to include that consideration as "any other harm"."

It is not clear whether the Judge considered that where an individual non-Green Belt consideration did reach the impact level for refusal prescribed in the Framework, eg where there would be "significant harm" to biodiversity, such a consideration could then be taken into account in the weighing exercise as "any other harm". If that was the Judge's approach, it was not supported by Mr. Katkowski who submitted that non-Green Belt harm, whether or not it reached the impact level prescribed for refusal in the Framework on another ground, such as transport or biodiversity, was not "any other harm" for the purposes of paragraph 88 of the Framework.

31. In my judgment, there are two fallacies in this submission. There is no question of an applicant or appellant being "cheated" of the benefit of another policy in the Framework which prescribes a threshold for a refusal of permission on a particular ground, such as transport or biodiversity. First, the submission assumes that if the threshold for a refusal of planning permission on transport or biodiversity grounds is not met in the case of a proposed development outside the Green Belt any adverse impact on transport or biodiversity must simply be ignored when a decision is taken whether to grant or refuse planning permission. That assumption is incorrect. Take the example of a proposal for a large scale commercial development in the countryside outside the Green Belt. If, as is likely, the proposal is not in accordance with the policies in the development plan for the protection of the countryside, planning permission must be refused in accordance with the development plan "unless material considerations indicate otherwise": see section 70(2) of the Act and section 38(6) of the Planning and Compulsory Purchase Act 2004, and paragraphs 11 and 12 of the Framework.

32. The Framework does not purport to alter the statutory duty to have regard to "any other material consideration" when determining a planning application or appeal: see section 70(2) of the Act. When deciding whether "material considerations indicate otherwise" the local planning authority or the Inspector on appeal will consider all of the material considerations, those which point in favour of granting permission, and those considerations which, in addition to the conflict with the development plan, point against the grant of permission. In the former category there may well be employment and economic considerations of the kind referred to in the Inspector's decision in the present case. If the proposed development would cause some, but not

significant harm to biodiversity; some, but not substantial harm to the setting of a listed building; and some, but not severe harm in terms of its residual cumulative transport impact, those harmful impacts will fall within the "material considerations" which point against the grant of permission. The fact that a refusal of planning permission on biodiversity grounds, heritage grounds or transport grounds would not be justified does not mean that the harm to those interests would be ignored. The weight to be given to such harm would be a matter for the Inspector to decide in the light of the policies set out in the Framework, but it would not cease to be a "material consideration" merely because the threshold in the Framework for a refusal of planning permission on that particular ground was not crossed. The position is no different if development is proposed within the Green Belt, save that the "very special circumstances" test will be applied if the proposal is for inappropriate development in the Green Belt.

33. The second fallacy in the Respondent's submission is the proposition that "any adverse transport impact, even if far less than severe….would lead to a refusal of planning permission unless 'clearly outweighed' by 'very special circumstances.' " The harm that must be "clearly outweighed by other considerations" is not simply the less than severe transport harm, but the harm to the Green Belt by reason of inappropriateness and "any other harm", which would include, but would not be limited to the less than severe transport harm. If, having carried out this balancing exercise, the Inspector concluded that "very special circumstances" did not exist, she would refuse planning permission, not on transport grounds, but on the ground that the proposed development did not "comply with national policy to protect the Green Belt set out in the Framework": see the Inspector's decision in this case (paragraph 6 above).

Sustainable Development

34. There is one respect in which it can fairly be said that there has been a change in policy. The Framework now places a presumption in favour of sustainable development at the heart of national planning policy: see paragraph 14 of the Framework. The Judge mentioned this new presumption in paragraph 47 of her judgment, but it does not assist the Respondent. One of the circumstances in which the policy that permission should be granted where relevant policies in the development plan are out of date (which was conceded by the Second and Third Respondent in respect of some of their development plan policies, see paragraph 12 of the Inspector's decision) does not apply is if "specific policies in this Framework indicate development should be restricted.[9]" Footnote 9 gives a number of examples of such policies. Those examples include policies relating to land designated as Green Belt. Thus, far from there being any indication that placing the presumption in favour of sustainable development at the heart of the Framework is intended to effect a change in Green Belt policy, there is a clear statement to the contrary.

Conclusion

35. The Inspector's approach to "any other harm" was correct.

Lord Justice Tomlinson:

36. I agree.

Lewison LJ:

37. I also agree.