



16.0 Conclusion

16.1 Introduction

- 16.1.1 An assessment of the Proposed Development in respect to the scoped areas of potential environmental concern has shown that if the identified additional mitigation is implemented during the design, construction and operational stages of the Proposed Development, that a number of the identified environmental effects can be appropriately mitigated and reduced to a level which is not considered to be significant in EIA terms.
- 16.1.2 There will however be remaining residually significant adverse effects in regard to landscape and visual impact and energy. These have been mitigated for as far as is practicable, and this has been discussed further in more detail within the sections below.
- 16.1.3 Detailed below are the conclusions of the post mitigation effects assessment from each chapter, together with a table summarising how the proposed additional mitigation measures could be secured.

16.2 Landscape and Visual

- 16.2.1 A number of key measures have been incorporated into the parameter plans and framework masterplan with the aim to minimise the initial predicted impacts of the Proposed Development. Nevertheless following the implementation of these measures a number of residual adverse significant effects remain.
- 16.2.2 It is anticipated that there will be substantial adverse construction effects on the Site's landscape, and visual effects to visitors to King's Court Palace scheduled monument and residents on the edge of Gillingham at Kingscourt Road, Cale Way and the cul-de-sacs of Kingfisher Avenue. Given the nature of these construction works, no additional mitigation to reduce these effects can be implemented, it is therefore considered that these will remain as residual adverse and significant effects albeit that they will be temporary in nature and will vary depending on the particular phasing of the development being built out at the time.
- 16.2.3 At the operational phase, in the first year post construction, it is anticipated that the effects at the same receptors will also be substantial adverse. But with the establishment of the design mitigation, it is considered that by year 15 post construction, these effects will have reduced to moderate which still represents a residual adverse and significant effect.
- 16.2.4 The significant adverse effects on the landscape character of the site is not unexpected given the extent and nature of the proposed development, which will inevitably represent a permanent and long term change to the landscape character of the site. The development of what is now an agricultural field on the southern edge of Gillingham will introduce new elements in the form of housing and associated infrastructure including landscape planting. However, these are not necessarily uncharacteristic in the receiving landscape, as the urban edge of Gillingham lies to the north.
- 16.2.5 While there are three visual receptors that will experience significant adverse effects these are very close to the site or on the boundary. The majority of the receptors will have no significant visual effects and the extent of visibility is very limited, being contained by the existing urban development of Gillingham and the topography, trees, woodlands and hedgerows within the wider landscape.
- 16.2.6 Whilst additional mitigation has been recommended, given the outline nature of the application and the uncertainty regarding its full implementation, a further reduction in the residual effects at year 15 to a non significant level cannot be confirmed; however it is considered that if implemented the measures could help lessen the perceived changes. These measures include;

- Minimising scale and articulation of built form;
- Architectural design and control of colour/materials used in buildings;
- Quality of boundary treatments, street furniture and hard landscaping;
- Further provision of soft landscaping; and,
- Minimising night time effects through careful design and location of lighting.

16.3 Ecology

- 16.3.1 The ecological assessment identified that the Proposed Development has the potential to result in significant effects (pre additional mitigation) at both the construction and operational phases of the development.

- 16.3.2 It is therefore recommended that the following additional mitigation measures be implemented.

Construction

- 16.3.3 Mitigation during the construction phase will include a Construction Environmental Management Plan (CEMP) which include good working practices to include an Ecological Clerk of Works.
- 16.3.4 In addition to this, an Ecological Mitigation and Management Plan (EMMP) will be submitted for each reserved matters application. These will include further details relating to habitat creation to reduce the impacts on habitats, in particular on species rich hedgerows. These EMMPs will also set out a suitable strategy, design measures and monitoring programme to allow the success of the great crested newt, reptile translocation to be assessed and revised as appropriate. The plan will be in accordance with relevant Natural England guidance documents.
- 16.3.5 The EMMP will also set out a number of species specific mitigation measures with regards to reptiles, amphibians, breeding birds, bats, badgers and water voles which have been proposed and are outlined in detail within in chapter 7. This, in addition to the aforementioned translocation programmes, includes the provision of bird and bat nest boxes, habitat creation and where necessary will detail the requirements for species specific European Protected Species Licences which will be required to undertake some of the works.

Operation/Monitoring

- 16.3.6 The Ecological Mitigation and Management Plan's (EMMPs) submitted for each reserved matters application will also provide details on future site management and will lay out a management and maintenance schedule for habitat's within the Site, as well as ongoing management of those habitats retained and/or created for great crested newts, birds, badger and water vole.
- 16.3.7 Assuming that the mitigation and management measures outlined above are implemented and the EMMPs and CEMP are created and adhered to, it is considered that the proposed development will have no likely long-term significant residual effects on the overall ecological value of the Site.

16.4 Traffic and Transport

- 16.4.1 It was determined that through the implementation of best practice construction methods the impacts of construction traffic and transport will be negligible. These steps will be included within a CEMP that will detail preferred routes for construction vehicles, requirements to cover loads and highway network cleaning.
- 16.4.2 The operational assessment identified significant adverse effects in relation to driver delay and fear and



intimidation on pedestrians (which is the proximity of people and/or lack of protection in relation to movement of heavy good vehicles).

- 16.4.3 Following the implementation of additional mitigation, which incorporates a comprehensive sustainable transport strategy including a travel plan, a series of offsite highways improvements and offsite walking and cycling improvements, it is considered that the identified impacts will be reduced. Once this mitigation has been implemented it is anticipated that there would be moderate beneficial effects on driver delay, pedestrian delay and pedestrian amenity which is considered to be significant.

16.5 Flood Risk and Drainage

- 16.5.1 The assessment has shown that through the implementation of best practice construction methods, via the implementation of a CEMP, the potential construction related effects on flood risk and drainage could be mitigated to a level that is not significant.
- 16.5.2 The assessment has shown that through the implementation of an appropriate drainage strategy, there are no significant effects to flood risk and drainage as a result of the operational phase of the proposed development.

16.6 Noise and Vibration

- 16.6.1 The assessment has shown that through the implementation of best practice construction methods, via the implementation of a CEMP, the potential construction related effects on noise and vibration could be mitigated to a level that is not significant.
- 16.6.2 The noise assessment has shown that there are no significant noise effects associated with increase in traffic to identified receptors resulting from the completed development.

16.7 Air Quality

- 16.7.1 The assessment has shown that through the implementation of best practice construction methods, via the implementation of a CEMP, the potential construction related effects on air quality could be mitigated to a level that is not significant.
- 16.7.2 The air quality assessment did not identify any potentially significant effects arising from the completed development.

16.8 Cultural Heritage

- 16.8.1 The assessment has identified undetermined geophysical anomalies (resulting from previous geophysical surveys) and given the size of the development this mean that there is a high potential for previously unrecorded archaeological remains and deposits. Therefore, any construction works are considered likely to result in an adverse and significant effect. To reduce these effects to a non significant level, it is recommended that additional mitigation in the form of a programme of further archaeological assessment is undertaken. This should take the form of archaeological evaluation trenching to determine the character, extent and, if relevant, date of the identified undetermined geophysical anomalies.

- 16.8.2 It is considered that there is the potential for construction effects on the settings of designated and unlisted heritage assets; however, it is considered that the implementation of a CEMP should help reduce these effects to a non significant level.
- 16.8.3 The operational assessment has identified potentially significant effects on the setting of non designated heritage assets; however, it is recommended that the reserved matters applications should comprise good design, layouts and partial screening in the final design which will allow these effects to be reduced to a level which is non significant.

16.9 Ground Conditions

- 16.9.1 The assessment has shown that there are no significant effects in respect to ground conditions during the construction phase of the proposed development, as any potentially significant effects can be mitigated through the implementation of a CEMP.
- 16.9.2 The assessment has identified the potential for minor adverse effects on future users due to localised areas of contamination, however, it has been identified that further ground investigation work is required prior to reserved matters which would identify if remedial measures are required. Following these additional studies there would be no significant residual effects.

16.10 Socio Economic

- 16.10.1 The socio-economic assessment identified that the construction phase of the development will have minor beneficial effects to both Gillingham and the wider economy from both the creation of construction jobs and the additional spending in the local economy during the construction works.
- 16.10.2 At the operational phase, it is considered that the increase in working age population created by the development would represent a major/intermediate beneficial to the wider economy which is considered significant.
- 16.10.3 The socio-economic assessment for the Proposed Development has also demonstrated that the proposals will help to meet the strategic housing objectives at both a local and district level which is considered to represent a beneficial and significant effect.
- 16.10.4 Whilst additional mitigation is not required it is considered that it may be possible to maximise these economic benefits of the scheme locally through measures such as encouraging local recruitment for new job opportunities offered at the construction phase.

16.11 Energy

- 16.11.1 The assessment has shown that whilst the construction phase will result in production of greenhouse gases, predominantly through the emissions of construction vehicles, as a CEMP will be implemented to limit these effects as far as possible, the effects would not be significant.
- 16.11.2 Whilst the carbon footprint of the Proposed Development at the operational phase will be very low when compared with emissions scenarios at different geographic scales, including regional, national and international scales, in relation to climate change effects which mainly manifest themselves at a national and global scale. However, regardless of this, it is reasonable to conclude that the project in accumulation with the other developments proposed in the locality, region, nationally and internationally could, in



combination with the other projects, give rise to moderate environmental effects at those scales. However, mitigations within the submitted design as stated in 15.4 of Chapter 15 have been proposed to minimise the energy use and carbon emissions during the operation of the development.

16.12 Summary

16.12.1 An assessment has been undertaken for the Proposed Development in respect to the scoped areas of potential environmental concern. This has shown that if the identified additional mitigation is implemented during the design, construction and operational stages of the development, the majority of operational and construction stage effects identified can be appropriately mitigated or compensated and reduced to a level which is not considered to be significant. Table 16.1 summarises the additional mitigation measures proposed, together with an indication of how these can be secured.

16.12.2 However, there remain a small number of adverse effects that are still considered to be significant in EIA terms following additional mitigation. These effects are listed below:

Landscape and Visual Impact Assessment – Construction Phase;

- Impact on the Site Landscape;
- Impacts on the visual effects King's Court Palace Scheduled Monument;
- Impacts on the visual effects from residential properties on the edge of Gillingham, namely those properties on Kings Court Road, Cale Way and the cul-de-sacs off Kingfisher Avenue.

Landscape and Visual Impact Assessment – Operational Phase;

- Impact on the Site Landscape;
- Impacts on the visual effects King's Court Palace Scheduled Monument;
- Impacts on the visual effects from residential properties on the edge of Gillingham, namely those properties on Kings Court Road, Cale Way and the cul-de-sacs off Kingfisher Avenue.

Energy – Operational Phase;

- The carbon footprint of the development and the potential greenhouse gas emissions.

16.12.3 Mitigation measures have been incorporated into the design as far as practical to retain the most valuable environmental assets and features. Nevertheless, the quantum of development limits the feasibility of certain mitigation measures therefore to address the identified remaining residual significant impacts discussion with NDDC should be undertaken to determine the provision of appropriate related compensation.

16.12.4 In addition, there are also beneficial effects through job creation at the construction and operational phases and the delivery of new homes. Due to the transport improvements proposed, there will also be a beneficial effects on driver delay, pedestrian delay and pedestrian amenity.



Table 16.1 Summary of Method for Securing Mitigation

Identified Effect where additional mitigation (Not design mitigation) has been identified	Type of additional mitigation measures (prevent, reduce, Offset, enhance)	Means by which mitigation measure may be secured	To be delivered by	Auditable by
Landscape and Visual Impact Assessment				
Operation				
Effects on visual impact from King's Court Scheduled Monument and residential receptors on edge of Gillingham	Reduce Further consideration at detailed design stage to be given to built form, architecture, colours/materials, boundary treatments, soft and hard landscaping and lighting will help to lessen the impact of the perceived changes	Planning Condition	Developer	Discharge of Planning Condition
Ecology				
Construction				
Pollution prevention measures, protection zones around retained habitats	Prevent Good working practices to include Ecological Clerk of Works Site manager/contractor to take on responsibility of implementation of CEMP (construction section)	Planning Condition - CEMP	Developer	Discharge of Planning Condition
Direct harm (GCN and Reptiles)	Prevent Translocation programme	Planning Condition - European Protected Species Licence and EMMP	Developer	Discharge of Planning Condition
Impacts to roosting bats.	Prevent Pre-application and pre-construction assessment of trees to be affected in each phase; climbed tree assessment and/or dusk emergence/dawn return surveys if required. If a roost is present all works to be completed under an EPSM licence from Natural England.	Planning Condition - European Protected Species Licence and EMMP	Developer	Discharge of Planning Condition
Nest loss, and disturbance to nesting birds (all species)	Prevent/Reduce Pre-construction barn owl surveys; 150m buffers until chicks have fledged.	Planning Condition - EMMP	Developer	Discharge of Planning Condition



Identified Effect where additional mitigation (Not design mitigation) has been identified	Type of additional mitigation measures (prevent, reduce, Offset, enhance)	Means by which mitigation measure may be secured	To be delivered by	Auditable by
	All vegetation clearance completed outside breeding bird season; or areas checked by a suitably qualified ecologist in advance; buffer zones established and nests left in situ until young have left.			
Impacts to water vole burrows and direct harm	Prevent Pre-application and pre-construction surveys for water voles for bridge works; bridge locations to avoid areas of confirmed water vole activity. Alternatively, if avoidance is not possible, works to proceed under a Natural England licence. Following construction, banks to be reinstated.	Planning Condition – Water Vole Licence and EMMP	Developer	Discharge of Planning Condition
Damage to badger sett.	Prevent Pre-application and pre-construction surveys for new setts for each phase; setts identified to be protected through protection fencing. Alternatively, if protection is not possible, works to proceed under a Natural England development licence.	Planning Condition – Badger Licence and EMMP	Developer	Discharge of Planning Condition
Operation				
Recreational pressure (Habitats)	Prevent Detailed design to avoid sensitive features. Post-development management and monitoring.	Planning Condition - EMMP	Developer	Discharge of Planning Condition
Disturbance (GCN, breeding birds, badger, otter, water vole)	Prevent Detailed design to avoid sensitive features. Post-development management and monitoring.	Planning Condition – EMMP and EPSL	Developer	Discharge of Planning Condition
Traffic and Transport				
Construction				
Minimise construction traffic impacts and impacts on local highway network	Reduce Preferred traffic routing outlined in CEMP	Planning Condition	Developer	Discharge of Planning Condition



Identified Effect where additional mitigation (Not design mitigation) has been identified	Type of additional mitigation measures (prevent, reduce, Offset, enhance)	Means by which mitigation measure may be secured	To be delivered by	Auditable by
Operation				
Potential impact on driver delay, pedestrian delay, pedestrian amenity and fear and intimidation	Reduce/Offset Comprehensive Transport Strategy including details for travel plan, a series of offsite highways improvements and offsite walking and cycling improvements	Planning Condition	Developer	Discharge of Planning Condition
Hydrology and Flooding				
Construction				
Impact on surface/ground water quality during construction	Prevent Development of a Detailed Construction Drainage Plan and contractor's CEMP with specific method statements following best practice standards	Planning Condition	Developer	Discharge of Planning Condition
Operation				
Impact on surface/ground water quality from urban discharges during operation	Prevent Further development and agreement of the Detailed Drainage Plan at detailed application stages.	Planning Condition	Developer	Discharge of Planning Condition
Noise and Vibration				
Construction				
Noise from construction works	Reduce Good working practices outlined in CEMP	Planning Condition	Developer	Discharge of Planning Condition
Air Quality				
Construction				
Dust arising from construction works	Reduce Good working practices outlined in CEMP	Planning Condition	Developer	Discharge of Planning Condition
Cultural Heritage				



Identified Effect where additional mitigation (Not design mitigation) has been identified	Type of additional mitigation measures (prevent, reduce, Offset, enhance)	Means by which mitigation measure may be secured	To be delivered by	Auditable by
Construction				
Impact on previously recorded and unrecorded archaeological remains and deposits	Prevent/Reduce Programme of further archaeological assessments involving trial trenching and to record and inform of character and extent	Planning Condition. Works could be secured through a planning condition, with a WSI to be agreed in advance with the Archaeological Adviser to NDDC	Developer	Discharge of Planning Condition
Potential effects on the Settings of Designated and non Designated Heritage Assets	Reduce Good working practices outlined in CEMP	Planning Condition	Developer	Discharge of Planning Condition
Operation				
Effects on Settings of non designated heritage assets	Reduce Further consideration at detailed design stage to layouts and landscaping/screening will help to reduce the effects	Planning Condition	Developer	Discharge of Planning Condition
Ground Conditions				
Construction				
Construction workers/ site users	Prevent/Reduce Complete physical ground investigation before construction works commence	Planning Condition	Developer prior to Construction	Discharge of Planning Condition
Potential for ground contamination during construction works	Prevent/Reduce Good working practices outlined in CEMP	Planning Condition	Developer	Discharge of Planning Condition



16.13 In-combination Effects

- 16.13.1 In accordance with the EIA Regulations, it is also necessary to identify the in-combination effects (also known as inter-relationship) arising from the Proposed Development. These are the effects which in isolation may only represent a slight effect upon a receptor, but in conjunction with the other effects arising from the topic assessments, may represent a greater effect and need to be given further consideration. For example, a local resident might be affected by the noise from the construction phase, but might also be affected by dust and increased traffic. Individually, these might not be assessed as being significant, but in combination they might become significant.
- 16.13.2 This form of cumulative assessment is based upon the residual effects as it has been assumed that the additional mitigation detailed above will be implemented, as it can be readily secured through the planning system.
- 16.13.3 Only those effects which have been determined to be minor/slight or above have been considered to represent an effect on identified receptors and are therefore represented in the in-combination effects table.
- 16.13.4 The in-combination effects assessment identified a number of in-combination effects on a single receptor or group of receptors, as is the case for local residents. However, primarily for the timescale reasons given above, in combination effects are not considered to be magnitudinally greater than those effects identified by individual topic chapters and as such no additional mitigation or compensation is required. Furthermore, the number of beneficial effects on local residents and the wider community at the operational phase of the development are considered to outweigh the number of minor adverse effects which will result from the development.



Table 16.2 In-Combination Effects during Construction

Nature of Effect (Post Additional Mitigation)	Construction Workers	Local Residents	Wider Community	Landscape Features and Designations (e.g. local footpaths, woodland)	Surface/Ground water	Heritage features	Ecological Receptors (Hedgerows, trees , badger and bat)
LVIA Site Landscape	-	-	-	Major Adverse	-	-	-
LVIA Visual effects on Scheduled Monument and Residential Receptors	-	-	-	Major Adverse	-	-	-
Noise Noise emissions generated through construction related activities	-	Minor adverse	-	-	-	-	-
Cultural Heritage Impact on Designated and unlisted Heritage assets and Gillingham Forest Deer Park	-	-	-	-	-	Minor/Intermediate Adverse	-
Cultural Heritage Impact on previously unrecorded archaeological remains	-	-	-	-	-	Minor/Intermediate Adverse	-
Hydrology Potential for contamination of surface and ground water	-	-	-	-	Minor adverse	-	-
Hydrology Potential for increased surface water runoff	-	-	-	-	Minor adverse	-	-
Socio Economic Construction employment	Moderate beneficial	Moderate beneficial	Minor beneficial	-	-	-	-



Table 16.3 In-Combination Effects during Operation

Nature of Effect (Post Additional Mitigation)	Local Residents	Wider Community	Landscape Features and Designations (e.g. local footpaths, woodland)	Local Watercourses	Heritage features	Ecological Receptors (Hedgerows, trees, badger and bat)	Background levels of NO ₂ and PM ₁₀
LVIA Site Landscape	-	-	Moderate adverse	-	-	-	-
LVIA Visual effects on Scheduled Monument and Residential Receptors	-	-	Moderate Adverse	-	-	-	-
Transport Effect on Severance and accidents and safety	Minor beneficial	Minor beneficial	-	-	-	-	-
Transport Effect on driver delay, pedestrian delay, pedestrian amenity	Moderate beneficial	Moderate beneficial	-	-	-	-	-
Transport Effect on fear and intimidation	Minor adverse	Minor adverse	-	-	-	-	-
Noise Road Traffic Noise	Minor Adverse	-	-	-	-	-	-
Noise Vibration (building damage and human exposure)	Minor Adverse	-	-	-	-	-	-
Air Quality Increase in NO ₂ and PM ₁₀	-	-	-	-	-	-	Minor Adverse
Cultural Heritage Impact upon setting of Scheduled Monument, listed buildings and unlisted built assets	-	-	-	-	Minor/Intermediate Adverse	-	-



Nature of Effect (Post Additional Mitigation)	Local Residents	Wider Community	Landscape Features and Designations (e.g. local footpaths, woodland)	Local Watercourses	Heritage features	Ecological Receptors (Hedgerows, trees, badger and bat)	Background levels of NO ₂ and PM ₁₀
Hydrology and Flooding Impact on Water Usage	Minor adverse	Minor adverse	-	-	-	-	-
Hydrology and Flooding Surface Run off	-	-	-	Minor beneficial	-	-	-
Hydrology and Flooding Potential contamination of surface water	-	-	-	Minor adverse	-	-	-
Socio Economic Potential for increase in the working age population	Major-Intermediate beneficial	Major-Intermediate beneficial	-	-	-	-	-
Socio Economic Reduction in deprivation	Moderate beneficial	Moderate beneficial	-	-	-	-	-
Socio Economic Increase in new homes	Major beneficial	Moderate beneficial	-	-	-	-	-
Socio Economic Increase in local expenditure	Major beneficial	Moderate beneficial	-	-	-	-	-
Socio Economic Provision and access to new facilities, sports, education etc	Minor beneficial	-	-	-	-	-	-