

13. Summary

13.1. Introduction

- 13.1.1. This chapter forms the summary of the Environmental Statement ("ES") which addresses any likely significant environmental effects as a result of the Proposed Development on land within Halsnead Garden Village, Knowsley, Phase 3 (the "Application Site" or "Site").
- 13.1.2. This ES has been prepared on behalf of Taylor Wimpey UK Limited (the "Applicant") in support of a hybrid application for the erection of up to 190 residential dwellings comprising:
- Phase A – Full planning application for the erection of 93 dwellings with associated works (including access, public open space, landscaping, sustainable urban drainage systems and other associated works); and
 - Phase B – Outline planning application for up to 97 dwellings (with all matters reserved for future approval). ('the Proposed Development').
- 13.1.3. The Application Site is situated within the administrative area of the Knowsley Metropolitan Borough Council (KMBC).
- 13.1.4. The ES has been coordinated and managed by Pegasus Group. Pegasus Group is one of the founding members of the Institute of Sustainability and Environmental Professionals (ISEP) Quality Mark, which is a mark of excellence in EIA co-ordination and management. The consultants who have contributed to the preparation of this ES are referenced in the Competency Statement at the front of this document, along with information demonstrating their "expertise to ensure the completeness and quality of the ES", in accordance with the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) (amended in 2018).

Availability and Comments

- 13.1.5. This ES can be viewed online on KMBC website and at their offices (please contact KMBC for details). Additional copies of the Non-Technical Summary ("NTS") (no charge), ES Volume 1 (£100 plus postage) and the Technical Appendices (£150 plus postage) are available from Pegasus Group, Central House, Queen Street, Lichfield, WS13 6QD. The complete ES can also be obtained in CD format for £10 from the same address. Comments on the planning application should be sent to KMBC Planning Department.

13.2. The Environmental Statement – Scope and Methodology

- 13.2.1. In order to determine the scope of the EIA, the EIA Regulations make provision for, but do not statutorily require, an applicant to request that the local planning authority (LPA) provide a written opinion as to the information to be provided within the ES.
- 13.2.2. A request for a Scoping Opinion was submitted to KMBC on 30 January 2025 to define the scope of ES. The request set out the site context, the nature and purpose of the Proposed Development, and the proposed scope and structure of the EIA.
- 13.2.3. The scoping request included an additional parcel of land proposed for further residential development identified as Phase 2b, located to the north east of the Proposed Development

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subject to this ES. However, following submission, the planning strategy was amended and only the development in Phase 3 is being progressed under this planning application. The Scoping Opinion remains relevant, and the scope has been reviewed to confirm that the requested information remains appropriate. Given that the Proposed Development is now smaller than that originally scoped, the approach is considered robust.

- 13.2.4. KMBC issued its Scoping Opinion on 27 March 2025, following consultation with a range of statutory and non-statutory consultees. In general, KMBC agreed with the proposed scope of the EIA, but requested that Water and Biodiversity/Ecology be scoped into the ES.
- 13.2.5. Accordingly, this ES has addressed those environmental issues agreed in the scoping process which are considered pertinent and that could potentially result in “likely significant effects” as required by the EIA Regulations.
- 13.2.6. Each technical chapter has identified ‘likely significant effects’ using a pre-determined assessment criteria which often, but not always, reflects the relationship between the magnitude or severity of an effect; and the sensitivity, importance or value of the resource or receptor.
- 13.2.7. Where necessary, mitigation measures have been proposed to ameliorate effects specific to an environmental theme, many of which are purposely incorporated into the design of the proposals and are highlighted as ‘mitigation by design’. ‘Additional mitigation’ measures may also be proposed, which may be subject to appropriate planning conditions or obligations.

13.3. The Application Site and Context

- 13.3.1. The Site is located immediately north of the M62 motorway and east of Junction 6, with Whiston located c. 1.2km to the north and is c. 12km east of Liverpool City Centre. The Site extends to 8.71ha, comprising Phase 3A (5.47ha) and Phase 3B (3.24ha).
- 13.3.2. The Site forms part of the wider South of Whiston and Land South of M62 Sustainable Urban Extension (SUE), which is allocated for development under Policy SUE2 of the Knowsley Local Plan Core Strategy (January 2016). The allocation provides for approximately 1,500 dwellings, 22ha of employment land and a country park. The Halsnead Garden Village Masterplan Supplementary Planning Document (SPD) was adopted in June 2017, and the Site is identified within this framework as Phase 3 of the wider Halsnead Garden Village.
- 13.3.3. The Site is centred at National Grid reference 347329 (Easting), 389861 (Northing) and is bound to the north by Halsnead Caravan Park, beyond lies a field and the under construction Land south of Lickers Lane residential scheme (reference 20/00399/OUT). To the east, the Site is bound by the consented and under construction Fox’s Lane residential scheme (reference 20/00417/FUL), beyond which lies Fox’s Bank Lane and Blundell’s Hill Golf Club. The M62 Motorway bounds the south of the Site, beyond which lies Symmetry Park. To the west, the Site is bound by an area of woodland (with an associated pond known as ‘Big Water’), beyond which lies the consented and under construction land north of M62 motorway residential scheme (reference 18/00283/HYB), with Windy Arbor Road and the M62 Motorway further west.
- 13.3.4. The Site is proposed to be accessed via Taylor Wimpey’s Phase 2a scheme which is approved and currently under construction (reference 20/00417/FUL).
- 13.3.5. The Site currently comprises a disused arable field, characterised by tall ruderal vegetation and modified neutral grassland in the north, with treelines and scattered broadleaved trees

along the southern and western boundaries and semi-natural broadleaved woodland in the southwest. There are no Public Rights of Way (PRoW) within or adjacent to the Site, there are informal paths within the adjacent Big Water. Site levels fall from approximately 47m Above Ordnance Datum (AOD) in the northeast to 33m AOD near the western boundary.

- 13.3.6. There are no statutory ecological or nature conservation designations within the Site. Within 10km, the Mersey Estuary is designated as a Ramsar site, Special Protection Area (SPA) and Site of Special Scientific Interest (SSSI), located approximately 6.4km to the south. There are no national or local statutory ecological designations within 5km of the Site.
- 13.3.7. There are 25 non-statutory locally designated ecological sites within 2km of the Site. The closest are The Old Wood North Local Wildlife Site (LWS) and Big Water and Big Water Wood LWS, both of which lie immediately adjacent to the western boundary. Old Wood North, located outside but adjacent to the Site, is designated Ancient Woodland and is subject to Tree Preservation Orders (TPOs). Halsnead Park 1 Ancient Woodland also lies to the north of the Site.
- 13.3.8. There are no designated heritage assets within the Site. Within 1km, there are eight Grade II listed buildings, four of which were identified in the consultation response as falling within the wider setting of Phase 3: Barn at Snape Gate, Old Halsnead, Carr House Farmhouse, and the Paddock and Stables to Carr House.
- 13.3.9. The nearest Conservation Area is Rainhill Area 2, located approximately 1.9km north east of the Site. Stadt Moers Country Park lies approximately 840m north west of the Site.
- 13.3.10. Two non-designated heritage assets have also been identified through consultation: Halsnead Park and Halsnead Park Wall. Halsnead Park is extensive and incorporates the whole of the Site and wider area, around which stretches Halsnead Park Wall with the nearest section located over c. 400m to the east along Fox's Bank Lane.
- 13.4. According to the Environment Agency's Flood Map for Planning the Site is located entirely within Flood Zone 1 and the majority of the Site has a very low risk of surface water flooding. An Ordinary Watercourse appears to flow southwards from a pond to the north-west, likely into Big Water and out further south through Old Wood.

13.5. The Proposed Development and Alternatives

- 13.6. The Application seeks hybrid planning permission for

"The erection of up to 190 residential dwellings comprising:

Phase A – Full planning application for the erection of 93 dwellings with associated works (including access, public open space, landscaping, sustainable urban drainage systems and other associated works); and

Phase B – Outline planning application for up to 97 dwellings (with all matters reserved for future approval). ('the Proposed Development')."

- 13.6.1. The ES has set appropriate development parameters which are illustrated on **Figure 4.1 Parameters Plan** (1474-PMP-3-01c) which encompasses both the detailed and outline element of the planning application.

Summary

- 13.6.2. Each principal land use for the purpose of assessment is summarised in the table below and is based on **Figure 4.1**.

Land Use	Quantum / Description
Development parcels	190 dwellings over c. 5.8 ha, including incidental open space/landscaping, internal road network and parking and supporting infrastructure
Green Infrastructure	c.2.9 ha including public open space, natural green space, proposed strategic planting, retained vegetation and proposed Sustainable Drainage System/ponds (not including incidental open space within development parcels which is shown on detailed plans)

Green Infrastructure and Landscape Strategy

- 13.6.3. The Proposed Development includes c.3 ha of 'green infrastructure' which includes public open space, natural green space, proposed strategic planting, retained vegetation and proposed Sustainable Drainage System/ponds.
- 13.6.4. The Landscape Strategy for the Site provides a robust landscape led approach – in keeping with Garden Village principles. Existing vegetation will largely be retained and the proposals include a range of new planting such as woodland, hedges and ponds.
- 13.6.5. A green buffer is proposed along the Site's southern boundary with the M62, this area will incorporate SUDs features designed to add ecological value and retain low levels of water. Green buffers are also proposed between new houses and existing properties on adjacent areas, including along the northern boundary with Halsnead Park, and also along the western boundary adjacent to woodland and Big Water.
- 13.6.6. A series of greenspaces are located throughout the Site, focused around existing and new landscape features, or at the heart of the new residential areas.

Vehicle Access

- 13.6.7. Vehicular access to the Site is proposed via Taylor Wimpey's Phase 2a scheme which is approved and currently under construction (reference 20/00417/FUL) adjacent to the east of the Site. Two points of access are proposed which will require extension of the 'streets', as shown on **Figure 4.1**.
- 13.6.8. New pedestrian and cycle links are proposed through the Site, allowing increased connectivity to existing recreational routes, public open spaces and new non-residential facilities.

Consideration of Alternatives

- 13.6.9. Where alternatives have been considered, the EIA Regulations state that an ES should "*include a description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects*".
- 13.6.10. The main alternatives to the Proposed Development which the Applicant has considered include:

- The 'No Development' Alternative;
- Alternative Locations for the Proposed Development;
- Alternative Uses for the Site; and
- Alternative designs.

13.6.11. The 'no development' alternative would result in the Site remaining in its current condition, with the beneficial and adverse effects identified in this ES not arising and baseline environmental conditions remaining unchanged. However, as the Site is allocated for housing within the Local Plan and forms an integral part of the housing supply and distribution strategy, a no-development scenario would fail to contribute to meeting identified housing needs. In contrast, the Proposed Development would make a meaningful contribution towards housing delivery and, together with the wider allocation, support employment opportunities and the achievement of sustainable development. As such, a no-development option would risk undermining the effectiveness of the Local Plan and the Site's role in delivering sustainable growth.

13.6.12. Regarding alternative locations and uses, the Local Plan was subject to a lengthy site selection process including the consideration of reasonable alternatives, with this location confirmed as being suitable and sustainable. The allocation within the Local Plan for residential development also demonstrates its suitability for the proposed use and importance in meeting the housing need.

13.6.13. As part of the iterative EIA and design process, the design of the Proposed Development has evolved to take account of various environmental constraints and opportunities. In this respect, environmental desktop reviews, interim assessments of the emerging Proposed Development and relevant knowledge gained from environmental baseline surveys and consultation with consultees, have influenced the evolution of the proposals at an early stage in the design process. In adopting this iterative design process has enabled the early identification of mitigation measures which have then become inherent in the design. This process is outlined within the Design and Access Statement (DAS) which accompanies the planning application.

13.7. Socio Economics

13.7.1. This chapter of the ES has assessed the socio-economic impacts arising from the Proposed Development and mostly related to the effects of the Proposed Development on the human population who will live in the vicinity of the Site.

Baseline Conditions

13.7.2. A baseline review of Knowsley's socio-economic context revealed the following:

- Between 2014 and 2024, Knowsley's population has grown faster than the rate seen across the North West and England. In this time, the highest percentage of the population growth in Knowsley was from people aged 65 and over. This trend is projected to continue between 2022 and 2042.
- The LSOAs within which the Site falls, Knowsley O13C and Knowsley O17C, are within the top 40% and 50% most deprived LSOAs in England.

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- There was no employment growth in Knowsley between 2015 and 2024, which compares to growth at a regional and national scale of 12.4% and 9.6% respectively.
- Economic output in Knowsley has increased at a slower rate than the regional average between 2013 and 2023, but at a faster rate than the national average.
- The proportion of people aged 16–64 in Knowsley claiming benefits as of November 2025 is above the rates in the North West and England.
- The affordability ratio data for Knowsley show that housing in the LPA is relatively more affordable than housing at a regional and national level.

Likely Significant Effects

- 13.7.3. During the construction phases the following impacts are assessed as having a significant beneficial effect:
- 128 temporary jobs could be supported on-site and in the wider economy per annum during the 5-year build phase.
 - £9.5million in Gross Value Added (GVA) per annum could be generated during the 5-year build phase.
- 13.7.4. During the construction period the Proposed Development is assessed as having a significant adverse effect on neighborhood amenity given the visual disturbance as a result of construction activities. This will be short term and temporary.
- 13.7.5. During the operational phase the following impacts are assessed as having a significant beneficial effect:
- An estimated 204 economically active residents in employment living on-site, £5.3million in household spend generated per annum, and an estimated £0.5million of council tax revenue generated per annum.
 - The delivery of 190 dwellings over five years gives an average delivery of 38 dwellings per annum. This equates to 6.3% of Knowsley annual housing target.

Mitigation and Enhancement

- 13.7.6. The Proposed Development is set to deliver new green infrastructure, totaling c. 3ha. The majority of this provision will be publicly accessible. A Construction Environmental Management Plan (CEMP) could be secured by planning condition. Developer contributions in association with the Proposed Development comprise the roof tax attached to the Garden Village Masterplan SPD, covering Education, Health, Green Infrastructure and Off-Site Highways.

Conclusion

- 13.7.7. Overall, the Proposed Development is considered to provide significant beneficial effects during the construction phase in relation to employment and economic contribution.
- 13.7.8. Once operational, significant beneficial effects are expected in relation to the economy and housing, and open space.

- 13.7.9. While there is a significant adverse effect in relation to visual disturbance to neighbourhood amenity during the construction phase, it is temporary in nature and will be reversed once the scheme is operational.

13.8. Landscape and Visual

- 13.8.1. This chapter has assessed the effects of the Proposed Development on landscape character and visual amenity. In particular it has identified and assessed the anticipated effects of change resulting from the Proposed Development on the character and features of the landscape, and on people's views and visual amenity within the Landscape and Visual Impact Assessment Study Area.

Baseline Conditions

- 13.8.2. The Site is not subject to any statutory landscape designations, is not designated for its landscape value, and does not meet the National Planning Policy Framework (NPPF) criteria for a 'Valued Landscape'.
- 13.8.3. The Knowsley Landscape Character Assessment identifies the Site as falling within the 'Urban Fringe Parkland' Landscape Character Type and the 'Halsnead Estate' Character Area, where landscape character is influenced by remnants of the former estate, including boundary walls, a gatehouse and woodland clumps, and is adversely affected by the visual and noise intrusion of the M62. Land to the east of Fox's Bank Lane falls within St Helens Borough Council and is characterised as Broad Rural Slopes (Landscape Character Area BRS5 'Rainhill Slopes'). Landscape receptors comprise the Halsnead Estate and Rainhill Slopes character areas, together with the Site's own landscape features.
- 13.8.4. The Site is well contained by existing and under construction residential development to the north and east, tree planting along the M62 to the south, and mature trees around Big Water to the west, resulting in limited intervisibility with the wider landscape. With no public access to the Site, potential effects on views are confined to footpaths around Big Water, routes within Halsnead Park, and views experienced by motorists on the M62.

Likely Significant Effects

Construction

- 13.8.5. During the construction phase, significant adverse effects are predicted on the Knowsley Landscape Character Area 'Halsnead Estate', as construction activity would be at odds with the existing landscape context; however, the Site lies within an urban fringe location allocated for development, and the principle of change is therefore considered acceptable. Significant adverse effects on views would also be experienced by users of footpaths around Big Water and routes within Halsnead Park, particularly during winter months, although these effects would be short-term and temporary.
- 13.8.6. Effects on the adjacent St Helens Landscape Character Area BRS5 'Rainhill Slopes', as well as on views experienced by motorists on the M62, would be not significant. While construction would result in the temporary loss of grassland, the majority of the existing trees would be retained, with no significant effects upon key landscape features within the Site.

Summary

Operation – (Yr1)

- 13.8.7. On completion of the Proposed Development (Year 1), no significant landscape or visual effects are predicted.
- 13.8.8. Minor adverse landscape effects would occur within the Knowsley Landscape Character Area (LCA) 'Halsnead Estate', experienced across the Site and its immediate setting as a result of permanent land-use change. Effects on the adjacent St Helens LCA BRS5 'Rainhill Slopes' would be negligible. Minor beneficial effects on landscape features within the Site would arise from the introduction of new landscape elements, including native tree and hedgerow planting, areas of species-rich wildflower grassland, and new waterbodies.
- 13.8.9. Minor-moderate adverse visual effects would be experienced from paths around Big Water and routes within Halsnead Park, where the development would be partially visible or glimpsed, moderated by building set-back, intervening vegetation, landscape buffers, and existing development. Views from the M62 would be negligible due to extensive screening by vegetation and the wide landscape buffer.

Operation – Residual Effects (Yr15)

- 13.8.10. By Year 15, the proposed green infrastructure would be fully established, integrating the development into the surrounding landscape. There would be no significant adverse residual landscape or visual effects. There would be significant beneficial effects upon landscape features. Effects would be long-term and permanent.
- 13.8.11. Residual effects on the Halsnead Estate LCA would reduce to negligible-minor adverse, while effects on the St Helens LCA ('Rainhill Slopes') would remain negligible. Within the Site, the mature green infrastructure would enhance structural patterns, habitat connectivity, and visual amenity, resulting in moderate beneficial effects.
- 13.8.12. Established landscape buffers would enhance screening and filtering of the built form, reducing levels of adverse visual effects in the longer term, resulting in no significant residual visual effects.

Mitigation and Enhancement

- 13.8.13. Throughout the construction process, all vegetation indicated for retention within the Arboricultural Impact Assessment (AIA) would be appropriately protected and retained.
- 13.8.14. Proposed housing is limited to a maximum of 2.5 storeys / 9.5m above proposed ground level to reflect the scale of surrounding residential development and reduce potential landscape and visual effects. Existing trees would be retained, with peripheral vegetation forming a strong landscape framework that integrates the development into its setting, supports the open space network and reinforces local landscape character. A green corridor of approximately 60m in width is proposed along the southern boundary, incorporating open space, structural planting, SuDS features and a shared footpath and cycleway to strengthen landscape containment and connectivity. Landscaped buffers along the western boundary adjacent to Big Water and along the interface with Halsnead Park would provide separation from sensitive receptors, soften built form and create a naturalistic landscape setting with opportunities for informal recreation. Collectively, these measures constitute embedded mitigation and align with the principles of the Halsnead Garden Village Design and Local Distinctiveness Guide.

- 13.8.15. Construction-phase landscape and visual effects would be mitigated through the implementation of a CEMP, secured by planning condition. No additional mitigation is proposed for the completed development; however, the assessment accounts for the maturation of proposed green infrastructure, assuming that structural tree planting reaches at least 8 m in height 15 years post-planting.
- 13.8.16. Established landscape buffers would enhance screening and filtering of the built form, reducing levels of adverse visual effects in the longer term, resulting in no significant residual visual effects.

Conclusion

- 13.8.17. The Application Site is not designated for its landscape value and lies within the Halsnead Garden Village allocation. The Site is well contained by surrounding development, vegetation, and topography, limiting intervisibility. During construction, significant temporary adverse effects on landscape character and visual amenity would occur, particularly within the Halsnead Estate LCA and from nearby footpaths. These effects reflect typical construction impacts and are temporary in nature.
- 13.8.18. Upon completion and maturity of the Proposed Development, including retained trees, landscape buffers, peripheral planting, and internal green infrastructure, residual landscape and visual effects would be minor or negligible. Within the Site, maturing vegetation would provide moderate beneficial effects by enhancing structural patterns, habitat connectivity, and visual amenity. Overall, long-term landscape and visual effects would be largely mitigated, and there is no landscape or visual reason why development of the Site would be inappropriate. The proposals integrate with the surrounding context and support local landscape enhancement.

13.9. Ecology and Nature Conservation

- 13.9.1. This chapter has assessed the likely significant effects of the Proposed Development on the environment in terms of ecology and arboriculture.

Baseline Conditions

- 13.9.2. Internationally designated sites Mersey Estuary SPA/Ramsar designated for estuarine habitats and important bird assemblages lie 6.4km south of the Site. Thirteen non-statutory designated Local Wildlife Sites (LWS) lie within 1km of the Site, one of these sites is also considered to be ancient woodland.
- 13.9.3. The Old Wood North LWS and Big Water and Big Water Wood LWS lie adjacent to the Site in the west. Halsnead Residential Park lies north of the Site and borders the Site perimeter and the M62 motorway borders the Site in the south. The immediate surrounding landscape is predominantly residential development with the M62 acting as a key wildlife barrier to the south of the Site.
- 13.9.4. Tree cover associated with the Site is exclusively at the boundaries and much of it is outside the application area. There is continuous canopy cover along the southern and western boundaries and scattered trees along the northern boundary. Woodland to the south-west of the Site, known as Old Wood, is Ancient Semi-Natural Woodland, in addition to parcel to the north known as Halsnead Park 1 Ancient Woodland.

Summary

- 13.9.5. Two trees on Site were assessed to have potential to support roosting bats. Desktop study identified records for various species of bat within the 1km search area. The woodland edge habitat provides good foraging and commuting potential for bats with the boundary tree habitat associated with the southern and western boundaries also providing some foraging and commuting potential.
- 13.9.6. The assessment has considered the following key features:
- Mersey Estuary Ramsar/ SPA;
 - The Old Wood North LWS and The Old Wood South LWS
 - The Old Wood Ancient Woodland Inventory
 - Big Water and Big Water Wood LWS
 - All other Local Wildlife Sites within 0.5km;
 - Semi-natural broad-leaved woodland;
 - Scattered Trees; and
 - Bats

Likely Significant Effects

Construction Phase

- 13.9.7. The internationally designated sites and majority of LWS, including the Old Wood Merseyside Ancient Woodland inventory, are considered to be far enough from Site to avoid any direct or indirect impacts resulting from construction activities. Therefore, no significant effects are anticipated.
- 13.9.8. With the implementation of relevant mitigation measures such as the CEMP, Arboricultural Method Statement (AMS), green infrastructure strategy and sensitive lighting strategy no significant adverse effects are anticipated on any of the identified receptors during the construction phase.

Operational phase

- 13.9.9. Due to the provision of ample Public Open Space as part of the Proposed Development and that proposed as part of the wider Halsnead Garden Village (along the M62 corridor), no significant effect has been assessed to occur on the Mersey Estuary or all other Local Wildlife Sites within 0.5km of the Site as a result of the operational phase of the completed development.
- 13.9.10. Given the ample Public Open Space provision and the inclusion of homeowners packs and increased signage no significant effects as a result of recreational pressure are anticipated The Old Wood North and South LWS, The Old Wood Ancient Woodland Inventory, and Big Water and Big Water Wood LWS.
- 13.9.11. With the incorporation of a sensitive lighting strategy and bat boxes no significant adverse effects are identified on bats as a result of the Proposed Development once operational.

- 13.9.12. Furthermore, the mitigation and enhancement measures detailed in the following section will have a beneficial effect for scattered trees, roosting bats and foraging and commuting bats.

Mitigation and Enhancement

- 13.9.13. A CEMP detailing measures that will be followed to avoid potential impacts from both windborne and run-off related pollution during the construction phase will be produced and adhered to.
- 13.9.14. An AMS detailing measures to be implemented to ensure protection of retained trees and hedges during construction will be produced and adhered to.
- 13.9.15. Precautionary Working Method Statement (PWMS) detailing measures that will be implemented during the construction phase to ensure no harm to amphibians, nesting birds, badger, reptiles, brown hare or hedgehog during construction will be produced and adhered to.
- 13.9.16. A bat and bird box plan will be produced and adhered to; this will identify where additional bird nesting and bat roosting habitat will be incorporated into the Proposed Development.
- 13.9.17. A Habitat Management and Monitoring Plan (HMMP) will be produced and adhered to. The HMMP will detail measures that will be implemented during the initial stages of habitat establishment and also outline ongoing management requirements to ensure strengthening and functionality of created habitats. It will include measures to ensure retained habitat is managed to promote an increase in biodiversity and management of bat and bird boxes to ensure nesting or roosting provision remains viable.
- 13.9.18. A Sensitive Lighting Strategy detailing measures to be incorporated into lighting design will be produced and adhered to. This will ensure features suitable for bat foraging, commuting and roosting are protected from disturbance from light spill.
- 13.9.19. Homeowner's packs will be produced and given to residents at the point of sale to include information about the internationally designated Sites, as well as the local wildlife Sites. Signage will be included at the exits of the Site detailing similar information in order to reduce recreational pressure on those Sites.

Conclusion

- 13.9.20. The Proposed Development at the Application Site, with implementation of the proposed mitigation would be subject to Negligible effect, in EIA terms, for all of the features taken forward for assessment.

13.10. Cultural Heritage

- 13.10.1. The assessment has considered the indirect effects of the Proposed Development on the setting of designated and non-designated heritage assets considered to be sensitive to the design proposals. It has assessed the overall effect and the significance of these predicted effects.

Baseline Conditions

- 13.10.2. There are no designated heritage assets recorded within the Site. There are eight Grade II listed buildings recorded within 1km of the Site, two of which were considered to be

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potentially sensitive to the Proposed Development due to the former historic association, comprising Barn at Snape Gate and Old Halsnead. These are considered to be of medium importance/value.

- 13.10.3. There is one non-designated heritage asset located within the Site comprising Halsnead Park. This asset incorporates the whole of the Site, although it does not contain any parkland features from which this asset derives much of its significance. The Big Water ornamental lake is located immediately to the west of the Site, however, although this is being retained and enhanced as part of the wider development within Halsnead Garden Village. The Proposed Development will infill one of the remaining areas of open rural agricultural landscape within the park. This non-designated heritage asset is considered to be of low importance/value.

Likely Significant Effects

- 13.10.4. The assessment established that there are two Grade II listed buildings, the Barn at Snape Gate and Old Halsnead which may be sensitive to the Proposed Development within their wider setting. Whilst the listed buildings form part of the former Halsnead Estate, there is no intervisibility with the Site and it has been assessed that there will be no effects as a result on their importance/value.
- 13.10.5. The Site is situated within a non-designated heritage asset, Halsnead Park. The value of this asset is derived from its open character and views across the landscape, together with its component parkland features, none of which lie within the Site. One parkland feature lies to the west of the Site, the Big Water ornamental lake, which will be retained and enhanced as part of the wider Halsnead Garden Village. The built line will be set back from the area of the Big Water by a buffer and an area of landscaping. The adverse effect resulting from the Proposed Development to the non-designated heritage asset will be in terms of the infilling of one of the remaining open parkland areas. This will result in a change of character to this part of the parkland and has been previously accepted to be a consequence of the wider Halsnead Garden Village, and is outweighed by the public benefits provided by the proposals.
- 13.10.6. Based on the above, the assessment did not identify any significant effects in EIA terms for the designated or non-designated heritage assets during either the construction or operational phases of the Proposed Development.

Mitigation and Enhancement

- 13.10.7. Design measures have been incorporated into the Proposed Development to reduce any potential impacts to the non-designated heritage parkland, including planting proposed in the green infrastructure strategy. A buffer and landscaping are included within the design of the proposals to set back the built line from the Big Water ornamental lake to the west of the Site.

Conclusion

- 13.10.8. It is considered that the Proposed Development will not result in any significant effects in EIA terms for the designated or non-designated heritage assets during either the construction or operational phases.

13.11. Transport and Access

13.11.1. This chapter has assessed the likely significant effects of the Proposed Development upon the traffic and transportation conditions within the vicinity of the Site, in relation to:

- Severance of communities;
- Driver delay;
- Non-motorised user delay;
- Non-motorised amenity;
- Fear and intimidation on and by road users; and
- Road user and pedestrian safety.

13.11.2. Significance criteria used for the assessment is set out within The Institute of Environmental Management and Assessment (IEMA) guidelines 'Environmental Assessment of Traffic and Movement' was published in July 2023. This suggests two broad rules-of-thumb as criteria to assist in delimiting the scale and extent of the environmental assessment:

- Include highway links where traffic flows will increase by more than 30% (or the number of heavy goods vehicles will increase by more than 30%); and
- Include highway links of high sensitivity where traffic flows have increased by 10% or more.

Baseline Conditions

13.11.3. In order to establish the existing levels of traffic on the highway network, reference has been made to 2024 traffic count survey data.

13.11.4. In order to consider the potential impact of the development on road safety, a review of the Crashmap website (www.crashmap.co.uk) has been undertaken for the most recent five-year period available (2020 to 2024) in the vicinity of the Site. The data reviewed has not identified any accident clusters.

13.11.5. Footways are provided throughout the Phase 2a development located to the east of the Site, which ensure safe movement for pedestrians and cyclists around the Site and surrounding area. There are a number of local cycle tracks within the vicinity of the Site.

Likely Significant Effects

13.11.6. The effects of the construction with respect to Severance, Driver Delay, Non-Motorised User Amenity and Delay, Fear and Intimidation, and Road Safety at all receptors will be negligible in the long term at the local level, which is not significant.

13.11.7. The effects of the completed and operational development with respect to Severance, Driver Delay, Non-Motorised User Amenity and Delay and Fear and Intimidation at all receptors will be minor adverse in the long term at the local level, which is not significant. The effects of the completed and operational development with respect to Road Safety at all receptors will be negligible in the long term at the local level, which is not significant.

Summary

Mitigation and Enhancement

- 13.11.8. Pedestrian and cycle access is proposed throughout the Site and pedestrian and cycle routes across the Site will generally be lit, surfaced, overlooked and be of high quality to ensure access on foot and by cycle is maximised.
- 13.11.9. A CEMP can be secured by condition and would include measures such as:
- Construction vehicle routeing regime for access to the construction. The regime will ensure that construction vehicles avoid residential and other sensitive areas wherever possible;
 - Access arrangements to the Site;
 - The estimated number of vehicles per day / week;
 - Details of the vehicle holding areas;
 - Wheel washing facilities;
 - Estimates for the number and type of parking suspensions that will be required;
 - Details of any diversion, disruption or other abnormal use of the public highway during demolition, excavation and construction works;
 - A strategy for coordinating the connection of services on site with any programmed work to utilities upon adjacent land; and
 - Work programme and / or timescale for each phase of the demolition, excavation and construction works.
- 13.11.10. Once operational in order to manage the travel by residents of the Proposed Development, a Travel Plan will be implemented based on the Framework Travel Plan (**Appendix 9.2**).

Conclusion

- 13.11.11. The effects of the Proposed Development with respect to Severance, Driver Delay, Non-Motorised User Amenity and Delay, Fear and Intimidation, and Road Safety at all receptors during both the construction and operational phase is not significant.

13.12. Air Quality

- 13.12.1. This chapter has assessed the impacts and consequential effects on air quality as a result of the Proposed Development. The assessment includes effects associated with dust and emissions generating from temporary construction activities and operational effect from road traffic emissions and has considered effects on both human and ecological receptors.

Baseline Conditions

- 13.12.2. KMBC presently has no Air Quality Management Areas (AQMAs) declared within its administrative area. The closest AQMA to the Site is the Liverpool City AQMA declared exceedences of the annual mean NO₂, located approximately 2.5km west of the Site and has therefore been screened out based on proximity.

- 13.12.3. KMBC NO₂ monitoring data has been used at locations in proximity to the Site, the monitoring locations display a general downward trend in concentrations between 2020–2024.
- 13.12.4. Defra background air quality concentration maps for the baseline (2024) and the completed development (2031) show all of the mapped background concentrations presented are well-below the respective annual mean Air Quality Assessment Levels (AQAL).

Likely Significant Effects

- 13.12.5. An industry standard qualitative construction assessment has been undertaken in accordance with Institute of Air Quality Management (IAQM) guidance to inform the extent of dust control measures, proportionate to localised risks. With these measures implemented, construction dust effects are considered to be ‘not significant’.
- 13.12.6. A quantitative assessment of road traffic emissions has been undertaken to identify operational impacts on existing and proposed human receptors associated with the Proposed Development. This has comprised the use of ADMS–Roads v5.1 dispersion model.
- 13.12.7. In accordance with the Environmental Policy Implementation Community (EPIC) & IAQM guidance methodology applied, effects at all receptors as a result of road traffic emissions generated by the Proposed Development are found to be below the AQALs, and the level of effect is concluded to be ‘not significant’.

Mitigation and Enhancement

- 13.12.8. Mitigation measures embedded within the design of the Proposed Development include:
- Electric Vehicle (EV) charging stations – to incentivise the use of lower emission vehicles including EVs.
 - Cycleways and footpaths – to encourage the use of active travel through appropriate provisions.
 - Travel Plan – which includes a series of measures/actions to encourage the use of sustainable and active modes of travel and decrease reliance on private vehicle trips.
- 13.12.9. During construction activities would be undertaken in accordance with best practices techniques and measures will be implemented to control dust. These measures would be implemented through the CEMP, and would include measures such as (but not limited to):
- Appropriate storage of stockpiled materials.
 - Effective communication in place including the implementation of a dust management plan to be approved by the Local Authority.
 - Monitoring through regular site inspections.
 - Appropriate use of machinery, such as ensuring all vehicles are switched off when not in use.

Conclusion

- 13.12.10. No significant effects are anticipated on air quality as a result of the Proposed Development.

Summary

13.13. Noise and Vibration

- 13.13.1. The noise and vibration chapter has assessed the impact of the Proposed Development on existing noise sensitive receptors, including measures to minimise construction noise and an evaluation of any additional traffic noise generated on the local highway network once the development is operational. It also considers the influence of existing environmental noise on the Proposed Development.

Baseline Conditions

- 13.13.2. A baseline environmental noise survey has been carried out in May and September 2024 to determine the ambient noise climate at a location on the Site representative of the proposed first row of dwellings facing the M62 Motorway. The baseline survey found a moderate noise environment currently present influenced primarily by road traffic from the M62.
- 13.13.3. The methodology for assessing noise impacts of the temporary construction phase of the development has by necessity been qualitative rather than quantitative. This is because at this (pre-planning consent) stage contractors have not been appointed and there is no detailed information available regarding the type of construction plant, operations, programme, etc. The assessment has therefore focussed on the need to mitigate the impact of construction noise on residential areas as far as is reasonably practicable.

Likely Significant Effects

- 13.13.4. It has been concluded that, without the implementation of appropriate noise mitigation measures, construction Site noise may give rise to short-term noise impacts of up to Moderate Adverse significance during periods where the noisiest activity is taking place at the closest points to existing noise-sensitive properties that border the Site.
- 13.13.5. Therefore, there is a need to mitigate construction noise, as far as is reasonably practicable, by implementing appropriate measures in accordance with the 'best practice' guidance that is set out in BS5228-1. It has been concluded that with the implementation of appropriate mitigation measures, the residual noise impact from construction works is likely to be no more than of Minor Adverse significance (not significant).
- 13.13.6. For the operational phase, potential long term traffic noise impacts resulting from operation of the completed development have been assessed using a comparative approach. This has involved investigating the difference between calculated traffic noise levels for the 'without development' and 'with development' scenarios, based upon the anticipated future traffic flows.
- 13.13.7. Noise impacts have been evaluated for existing noise sensitive receptors on, or near, a sample of roads in the area. The calculated increases in traffic noise, using a nationally recognised calculation procedure, range from 0.1 to 0.8 dB for the fully completed development. In terms of environmental noise impact these increases are low and are of Negligible significance (not significant).
- 13.13.8. In respect of the potential impact of existing noise on the proposed dwellings, the potential noise impact on the majority of proposed dwellings would be Negligible (not significant).
- 13.13.9. For the small number of proposed dwellings most exposed to noise from M62, the potential noise impact would be Moderate Adverse without mitigation. Subject to appropriate

mitigation, in the form of enhanced glazing and ventilation specifications, the residual noise impact is anticipated to be Negligible (not significant).

Mitigation and Enhancement

- 13.13.10. During construction the implementation of a CEMP is anticipated, which will apply industry best practice measures in accordance with BS5228 to control noise at source. These measures include but are not limited to:
- Restricting construction activities to daytime hours only.
 - Use of well-maintained plant fitted with noise limiting enclosures.
 - Locating any fixed plant, compounds and haul routes away from noise-sensitive receptors where practicable.
 - Designing vehicle routes and site logistics to minimise reversing manoeuvres and associated warning alarms.
 - Adoption of appropriate speed limits on-site and provision of directional signage.
 - No percussive piling unless agreed in advance with the Local Planning Authority.
- 13.13.11. The proposed new dwellings are set back from existing residential properties, and a landscaped green buffer between the motorway and the first row of dwellings forms part of the design of the scheme.
- 13.13.12. Additional mitigation for the operational development include upgraded glazing and associated ventilation provisions at the most exposed façades, together with localised acoustic fencing to a select number of gardens.

Conclusion

- 13.13.13. With the incorporation of mitigation measures no significant noise impacts are anticipated as a result of the Proposed Development.

13.14. Water Resources (including Flood Risk and Drainage)

- 13.14.1. The likely significant effects of the Proposed Development on the water environment have been assessed. This focuses on flood risk and drainage. Email correspondence has been undertaken with the Environment Agency, Knowsley Metropolitan Borough Council, and United Utilities to support the preparation of a Flood Risk Assessment and a Drainage Management Strategy. These documents provide the evidence base for this assessment.

Baseline Conditions

- 13.14.2. Information about flood risk, drainage and groundwater conditions at the Site has been gathered from published mapping, technical studies, Site surveys and consultation with relevant authorities.
- 13.14.3. Consultation with the Environment Agency confirmed there is no recorded history of river flooding affecting the Site. Flood mapping shows the Site is located within Flood Zone 1, meaning it is at low risk of flooding from rivers, including in the future with climate change.

Summary

The nearest main watercourse is located several hundred metres away and does not pose a flood risk to the Site.

13.14.4. In terms of surface water (rainfall) flooding, most of the Site is at very low risk. There are some small low-lying areas along the southern and western boundaries where there is higher potential for temporary ponding during heavy rainfall. Groundwater mapping also indicates that part of the south-eastern corner of the Site may have relatively shallow groundwater levels during extreme rainfall events.

13.14.5. Currently, the Site drains naturally toward Big Water, located along the western boundary. Review of the online datasets, and initial ground investigations suggest that infiltration will not offer a viable drainage solution. The presence of shallow groundwater also prevents the use of an infiltration-based surface water drainage solution for the Proposed Development.

Likely Significant Effects

Construction Phase

13.14.6. During the construction phase, in the absence of mitigation, there are potential effects as a result of the Proposed Development including increased surface water runoff and pollution. These have the potential to cause adverse effects to Big Water, the downstream watercourse network, existing properties, infrastructure, and construction workers.

13.14.7. Investigations have identified that groundwater is close to the surface in parts of the Site. During construction, this shallow groundwater could occasionally emerge, potentially causing temporary flooding or affecting the stability of excavations and foundations, without appropriate mitigation. Where groundwater is removed (dewatered) to allow works to proceed, there is a risk of local erosion or temporary increases in water flow, and small changes in groundwater levels could mobilise existing contaminants.

13.14.8. If not properly managed, these effects could impact nearby rivers, streams, or ponds, and also create minor risks for construction workers. However, with the implementation of the mitigation measures described in the following section no significant effects are likely as a result of the Proposed Development.

Operation Phase

13.14.9. During the operational phase, the main receptors that could be affected are the downstream rivers and streams, neighbouring developments and infrastructure, and people living or using the Site. Most of these are considered highly sensitive, except neighbouring buildings and infrastructure, which are of medium sensitivity. Potential effects, without mitigation, relate to increased flood risk, sedimentation, and pollution.

13.14.10. Shallow groundwater could limit the effectiveness of some SuDS features, reducing the available storage capacity for surface water. This may lead to occasional exceedance of the drainage system and could also increase the risk of groundwater entering buildings or causing pressure on foundations and buried infrastructure.

13.14.11. With the mitigation measures secured, there will be no significant negative residual effects during the operational phase. Water quality within Big Water, and the downstream watercourse is considered likely to improve and provide a moderate beneficial effect once the Proposed Development is operational as a result of the inclusion of a blue-green corridor, and the sustainable drainage systems proposed.

Mitigation and Enhancement

- 13.14.12. A detailed CEMP will be developed prior to commencement of works, incorporating a variety of good environmental practices in accordance with the Environment Agency's Pollution Prevention guidelines and CIRIA 532 Control of Pollution from Construction Sites.
- 13.14.13. The drainage strategy for the Proposed Development has been designed to reflect the existing drainage situation. Surface water generated by the development will be managed through SuDS and will formally discharge to Big Water at a restricted greenfield runoff rate. Proposed features include two swales to direct water flow, and two attenuation basins to temporarily store water. These measures are designed to improve water quality, reduce peak runoff, and manage flow rates.
- 13.14.14. Foul water from the Proposed Development will connect into the existing wider drainage network within the adjacent under construction Phase 2a scheme. Due to existing ground levels, a pumped solution may be required.
- 13.14.15. Specific mitigation measures include:
- Finished floor levels and site grading designed to manage flood risk across the Site;
 - Roads and drainage systems designed to safely manage surface water and foul water;
 - SuDS incorporated, including swales, attenuation basins, and permeable surfaces, to control runoff, improve water quality, and provide biodiversity and amenity benefits;
 - Vulnerable parts of the development located in areas of lowest flood risk;
 - Surface water runoff will continue to discharge to Big Water, maintaining the existing drainage pattern but at a controlled rate to avoid increasing flood risk downstream;
 - Drainage designed to handle extreme rainfall events, including allowances for climate change;
 - SuDS features will include polishing swales downstream of storage areas to improve water quality;
 - SuDS features will be lined where shallow groundwater is present to prevent water ingress;
 - Good environmental practices implemented during all works to manage runoff, sediment, and pollutants, including following relevant guidance;
 - Groundwater monitoring carried out during Site works and any dewatering will be licensed and carefully managed;
 - Maintenance and management plan implemented to ensure all drainage and SuDS features operate effectively over the life of the development;
 - Sediment management measures included where required, such as catchpits, silt traps, or forebays, to protect downstream watercourses and water quality; and

Summary

- A blue-green corridor incorporated along the southern boundary to convey and attenuate surface water, improve water quality, enhance biodiversity, and provide open space and amenity benefits.

Conclusion

- 13.14.16. Subject to the implementation of the embedded and additional mitigation measures, including the restriction of surface water discharge to greenfield runoff and incorporation of climate change allowances, no significant adverse residual effects are predicted during the construction or operational phases of the Proposed Development. The Proposed Development would result in a moderate beneficial effect (significant) on Big Water and downstream watercourse. The development will not increase flood risk on-site or elsewhere.

13.15. Cumulative and In-Combination Effects

- 13.15.1. The ES responds to the requirement in the EIA Regulations to assess the cumulative effects of the Proposed Development. Within EIA, cumulative effects are generally considered to arise from inter-project cumulative effects (the combined effects of development schemes which may, on an individual basis be insignificant, but cumulatively, have significant effects); and intra-project cumulative effects (the combined effect of individual effects on a single receptor where deemed potentially significant).
- 13.15.2. Each technical assessment considers inter-project cumulative effects (**Chapters 5-12**) for each of the identified cumulative schemes set out in **Chapter 2: Assessment Scope & Methodology**.
- 13.15.3. It is acknowledged that the Site forms part of a large sustainable urban extension 'South of Whiston and Land South of M62' which is allocated for development within the Knowsley Local Plan Core Strategy (January 2016) under Policy SUE2 for approximately 1,500 dwellings, 22ha of employment and a country park. This covers 2 parcels of land north and south of the M62. The Application Site subject to this ES, falls within the parcel north of the M62. Whilst the entire allocation has yet to be subject to planning approvals, consideration to the potential for cumulative effects with the wider allocation has been given to an appropriate level of detail in relation to key disciplines, proportionate to the level of information that is available.
- 13.15.4. As a result of this assessment, a limited number of significant cumulative impacts alongside the Proposed Development are identified. Significant cumulative adverse effects are identified for Halsnead Estate LCA due to the loss of open grassland, however the presence of existing development, retention of key landscape features and the masterplanned green infrastructure help to moderate this effect.
- 13.15.5. Significant beneficial socioeconomic cumulative effects have been identified on the local economy and housing provision. A significant cumulative beneficial effect is anticipated on landscape features as a result of the wider Halsnead Garden Village, given the wider green infrastructure strategy across all proposed parcels.
- 13.15.6. The second category, intra-project cumulative effects, is concerned with the combination of some or all of the effects predicted by the EIA affecting a particular receptor which may collectively cause a change of greater significance than individually. These are referred to as synergistic effects and have been assessed by professional opinion. An example of a synergistic effect could be construction related visual intrusion, dust, noise and vibration combining to generate a significant adverse effect affecting a sensitive receptor.

13.15.7. The EIA has taken into consideration synergistic effects on identified receptors as a consequence of collective actions (refer to **Chapters 5–12**). Constraints and identified sensitive receptors, including Old Wood LWS and Ancient Woodland, Big Water and Big Water LWS and Halsnead Park, have been considered in detail throughout the Proposed Development's design evolution, including the consideration of proposed site preparation and construction techniques. The aim of this process has been to address the potential for significant adverse effects and ultimately to address significant residual effects in isolation or in-combination (i.e. synergistic effects). The measures identified to address the potential for significant effects have, for the most part, been designed-in to the Proposed Development and considered in the EIA as embedded or designed-in mitigation. Any measure that is not specifically designed-in feature of the Proposed Development is described as an additional mitigation measure in the relevant technical chapters. Mitigation measures are included in **Table 13.1** below. These are also of relevance when considering synergistic effects. Key considerations in terms of the intra-project effects relating to these measures include:

- Old Wood LWS and Ancient Woodland located in proximity to the Sites western boundary is included in both the air quality and ecology assessment. These assessments have concluded that with the implementation of mitigation measures embedded within the design of the proposals, including an appropriate green buffer, that no significant effects are likely. It is not considered there would be any significant in-combination effects.
- Big Water and Big Water Wood LWS is located adjacent to the western boundary of the Site. This has been assessed as part of the ecology, landscape and water assessments. A landscaped buffer along the western boundary is included within the design of the Proposed Development. With this in place no significant effects are concluded for the landscape and ecological assessments once operational. During construction a significant visual effect is anticipated, however this is short term and temporary. A significant beneficial effect is anticipated on Big Water and the downstream watercourse in the water assessment given the SuDS features proposed as part of the drainage design, landscaping and the proposed maintenance and management plan. In this context, no significant adverse cumulative effects are anticipated on Big Water, whilst there is a significant beneficial effect reported in the water assessment, this is a benefit of the scheme and is not likely to be exacerbated in-combination with landscape and heritage effects.
- Halsnead Park is considered within both the heritage and landscape assessments. During construction significant visual effects are anticipated given the proximity to the Proposed Development, however this would be short term and temporary. Mitigation measures are embedded within the design of the scheme such as the landscaped green buffer and the retention and enhancement of the parkland features as part of the wider Halsnead Garden Village. With these measures in place, once operational no significant effects are anticipated on Halsnead Park in both the landscape and heritage assessments. It is not considered there would be any long term significant in-combination effects.
- During the construction period, the Proposed Development is expected to result in a significant adverse effect on nearby neighbourhood amenity due to visual, noise, activity, and general disturbance associated with construction works. This effect would be short-term and temporary, lasting only for the duration of the construction period. It is not considered there would be any long term significant in-combination effects.

Summary

- 13.15.8. The iterative design process has ensured that intra-project cumulative effects have been thoroughly considered.

13.16. Conclusions

- 13.16.1. This Environmental Statement (ES) has been submitted as part of a hybrid planning application seeking to obtain planning permission for the erection of up to 190 residential dwellings comprising:

- Phase A – Full planning application for the erection of 93 dwellings with associated works (including access, public open space, landscaping, sustainable urban drainage systems and other associated works); and
- Phase B – Outline planning application for up to 97 dwellings (with all matters reserved for future approval). ('the Proposed Development').

- 13.16.2. The aim of the ES has been to assess the 'likely significant effects' of the Proposed Development in accordance with the Town and Country Planning Environmental Impact Assessment Regulations 2017¹. Detailed assessments with respect to pertinent environmental topics have therefore been undertaken in accordance with definitive standards and legislation where available. The ES forms part of the planning application documentation submitted to KMBC and will inform their decision making process.

- 13.16.3. The design process has been informed by the detailed environmental assessments so to ensure that key design measures are integral to the Proposed Development (and its construction), so to limit any significant adverse effects. As a result of this process, adverse significant residual effects are limited to construction phase landscape and visual effects on the Knowsley LCA 'Halsnead Estate' and on views by users of footpaths around Big Water and routes within Halsnead Park, although these effects would be short-term and temporary. It is also recognised that there will inevitably be disturbance to neighbourhood amenity during the construction phase, although this would be short term and temporary. Once operational no significant adverse effects are anticipated as a result of the Proposed Development.

- 13.16.4. Significant beneficial effects are identified for socio-economic effects, specifically in relation to employment and its economic contribution during the construction phase and longer term significant beneficial effects in relation to the wider economy, housing and open space provision. A significant beneficial effect for the improvement of water quality for Big Water and the downstream watercourse is also anticipated as a result of the drainage strategy delivered by the proposals. Significant beneficial effects are also anticipated on landscape features within the Site once the proposed green infrastructure has matured over time. All other effects with the inclusion of relevant mitigation are considered to be not significant as a result of the Proposed Development.

- 13.16.5. In conclusion, the ES demonstrates that the design of the Proposed Development and its construction has taken into account the potential environmental effects and where necessary mitigation measures form an integral part of the scheme, so to ensure that the environment is suitably protected and any impacts from the Proposed Development are minimised.

¹ The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 SI 571

13.17. Summary of Mitigation Measures

13.17.1. The below table outlines the mitigation and enhancement measures identified within each of the environmental disciplines included within this ES, many of which are an integral part of the design of the Proposed Development.

Table 13.1 Summary of mitigation and enhancement measures

Environmental discipline	Measure to avoid, reduce or manage any adverse effects and/or to deliver beneficial effects	How measures would be secured		
		By Design	By S.106	By Condition
Socioeconomics	CEMP			X
	Roof tax associated with Garden Village Masterplan SPD		X	
	Social Value Contribution		X	
Landscape and Visual	Retention of existing vegetation	X		
	Provision of landscape buffers	X		
	Maximum height parameter of 2.5 storeys / 9.5m above proposed ground level	X		
	Proposed green infrastructure	X		
	CEMP			X
	Management of green infrastructure		X	
Ecology and Nature Conservation	Drainage strategy to avoid run-off and wastewater pollution	X		X
	15m buffer from adjacent ancient woodland and green corridor maintained	X		
	Additional habitat provision and green infrastructure, including tree and shrub planting, wildflower planting, formal hedging of native and ornamental species and Public Open Space areas.	X		
	Pollution prevention measures detailed within a CEMP			X

Summary

	Tree and hedge protection measures detailed within an AMS			X
	General animal welfare measures detailed within a PWMS			X
	Habitat management measures detailed within a HMMP			X
	Light disturbance prevention through designing a Sensitive Lighting Strategy for bats			X
	Homeowner packs and signage to reduce effects on nature designated sites			X
	Biodiversity Enhancement Plan incorporating bat and bird box, hedgehog highways, hibernacula, bug hotels and bee bricks			X
Cultural Heritage	Tree planting and a green buffer around the Site	X		
Transport and Access	Pedestrian and cycle routes across the Site	X		
	Construction Environmental Management Plan (including Construction Traffic Management Plan)			X
	Travel Plan			X
Air Quality	Electric Vehicle (EV) charging stations – to incentivise the use of lower emission vehicles including EVs.	X		
	Cycleways and footpaths – to encourage the use of active travel through appropriate provisions.	X		
	Travel Plan – which includes a series of measures/actions to encourage the use of sustainable and active modes of travel and decrease reliance on private vehicle trips.			X
	CEMP			X
Noise	<u>Construction: Noise Management</u> Implement CEMP incorporating BS 5228 good practice.			X

	<u>Construction: Working Hours</u> Restrict working hours and control any out-of-hours works.			X
	<u>Operational: Internal Noise Levels</u> Acoustic design to achieve BS 8233 internal noise criteria. The required measures are limited to upgraded glazing and associated ventilation provisions at the most exposed façades, together with localised acoustic fencing to a select number of gardens.	X		X
	<u>Operational: External Noise Levels</u> Provide external amenity areas designed with regard to BS 8233 external guidelines.	X		X
Water Resources	Appropriate level design including: - External levels; - Finished floor levels; and - Road design; To mitigate the risk of flooding to and resulting from the Proposed Development from all sources.			X
	Intra-site sequential approach to development.	X		
	Implementation of a sustainable drainage system for the management of surface and foul water.	X		X
	Proposals to discharge surface water generated by the Proposed Development to Big Water (mimicking the existing drainage regime).	X		X
	The surface water runoff rate is to be restricted to the greenfield runoff rate, to ensure no increase in flood risk downstream.	X		X
	Incorporation of SuDS features to provide improvement to water quality, and enhancement to ecology and biodiversity post-development. This is likely to include 2no. attenuation basins and 2no. swales.	X		X

Summary

	Lining of the SuDS features proposed to mitigate the potential ingress of groundwater when the Proposed Development is operational.	X		X
	Implementation of a detailed CEMP to mitigate impact during the construction phase, in accordance with best practice.			X
	Preparation of a Maintenance and Management Plan to ensure that the proposed drainage system remains operational for the design life of the Proposed Development.			X
	Detailed drainage design.			X
Enhancements				
Ecology and Nature Conservation	A range of bat and bird boxes will be installed within the Proposed Development. These will be installed on mature trees, and where possible onto the built residential units, with a minimum equivalent of one box per residential unit. The boxes will be positioned to face onto vegetated habitats around the periphery of the Site that represent retained or newly created potential foraging and commuting habitats, and bat boxes will be located away from permanent security or street lighting. Hedgehog highways, amphibian and reptile hibernacula/log piles, bug hotels and bee bricks will also be incorporated into the design.			
Water Resources	The development proposals incorporate a blue-green corridor along the southern boundary of the Site. A blue-green corridor provides multiple environmental, social and economic benefits by integrating water management with landscape and ecological design.			
	This can improve surface water management by conveying and attenuating run-off through swales and basins, thereby reducing downstream flood risk and improving water quality through filtration and sediment settlement.			
	Ecologically, the presence of a blue-green corridor creates and connects habitats, enhancing biodiversity and enabling species movement. Where the attenuation basins and swales are planted accordingly, improvement to water quality can be further enhanced within this space.			
	Socially, the blue-green corridor delivers attractive multifunctional open space, supporting recreation, health and wellbeing, and improving placemaking. Blue-green corridors provide visual amenity, and when coupled with the other benefits as discussed, align with the objectives set out in both national and local planning policy. Moderate beneficial effects are			

	expected through provision of a blue-green corridor to the downstream watercourses/waterbodies, neighbouring residential areas, and for future residents/users of the Proposed Development.
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