

Cambridge Waste Water Treatment Plant Relocation Project
Anglian Water Services Limited

Environmental Statement

Chapter 22: Cumulative effects

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Summary

Introduction

This chapter assesses the potential for inter-related and cumulative effects as a result of the construction and operation of the Proposed Development (including the decommissioning of the existing Cambridge WWTP for the purpose of permit surrender).

Inter-related effects may occur where several different effects resulting from the Proposed Development have the potential to affect a single receptor (for example a temporary effect on air quality, experienced at the same time as increase in noise disturbance and a change to views). Individually the effects resulting from these impacts may not be significant, but the accumulation of effects may collectively cause an overall significant effect at the receptor.

Cumulative effects are where there is the potential for two or more developments that are reasonably foreseeable and/or consented, but not yet constructed or operational, within close enough proximity to the Proposed Development to lead to effects on the same receptor.

Inter-related effects

The assessment of inter-related effects has considered the potential for the effects of minor significance and above, identified within each of the technical assessments, to combine at individual receptors.

Receptors such as ecological receptors and water resources are assessed in terms of the predicted change or impact on the resource or receptor, considering all impacts from a variety of sources e.g. changes to habitats, changes to water quality or volumes, or change in view. These effects are considered in combination in the relevant technical chapters 6-20 of the ES and are not repeated here.

Inter-related effects may also occur for individual receptors where different environmental pathways, such as visual, noise, traffic and emissions result in effects at the same time. These effects are likely to occur where activity is taking place in close proximity to the receptor. For example, receptors which are in close proximity to the Shaft 4 construction compound will experience, for a limited period, minor visual impact, minor noise disturbance, minor traffic activity and the minor potential for dust. Similarly, users of public rights of way or permissive footpaths in close proximity to the WWTP may experience occasional odour and a change in views. The inter-related effects at these locations are not considered to be more significant than the individually assessed effects and are all controlled through the Code of Construction Practice (CoCP) Parts A and B (App Doc Ref 5.4.4.2 and 5.4.4.2) as implemented through the approved detailed Construction Environmental Management Plan (CEMP) for each phase, and through the approved Construction Transport Management Plan (CTMP) aligned with the CTMP (App Doc Ref 5.4.19.7).

Other examples include users of public rights of way or permissive footpaths in close proximity to the proposed WWTP. These users may experience occasional odour and the change in the local landscape as well as being able to see elements of the proposed WWTP. Any odour effects would be not significant and temporary which in combination with landscape impacts not considered to be more significant when experienced together than the individually assessed effects.

Cumulative effects

The assessment of cumulative effects has considered the potential for cumulative effects from other developments within 2km of the order limits, in combination with the Proposed Development. Information available in relation to identified developments has been reviewed to understand predicted environmental impacts or likely significant impacts (for those developments where scoping information is available). Information available in the case of plans and programmes has been reviewed to understand likely environmental impacts and policy controls. The assessment has taken into account the implementation of mitigation measures on individual developments, in particular through the use of environmental management plans and construction traffic management plans as approved by the relevant local authorities.

It is recognised that the Proposed Development overlaps with the approved proposal for the relocation of Waterbeach station and Waterbeach New Town, the proposals related to Waterbeach New Town East and proposals within the extent of the North East Cambridge Area Action Plan, and in relation overlapping construction activities that could give rise to cumulative effects there is a requirement to develop and agreed control measures through engagement with the developers. These measures would be reflected in the CEMP developed for the Proposed Development.

Through consideration of the available information for each of the identified developments, and taking into account mitigation, no significant cumulative effects have been identified, other than the beneficial multiplier socio-economic effects associated with the relocation of the existing Cambridge WWTP, which facilitates the development of North East Cambridge.

1 Introduction

1.1 Purpose of this chapter

- 1.1.1 This chapter assesses the potential for inter-related and cumulative effects as a result of the construction and operation of the Proposed Development (including the decommissioning of the existing Cambridge WWTP).
- 1.1.2 Inter-related effects may occur where several different effects resulting from the Proposed Development have the potential to affect a single receptor (for example a temporary effect on air quality, experienced at the same time as increase in noise disturbance and a change to visual amenity). Individually the effects resulting from these impacts may not be significant, but the accumulation of effects may collectively cause an overall significant effect.
- 1.1.3 Cumulative effects are where there is the potential for two or more developments that are reasonably foreseeable and/or consented, but not yet constructed or operational, within close enough proximity to the Proposed Development lead to effects on the same receptor. Technical chapters 6 to 20 of this Environmental Statement (ES) present high-level conclusions of potential cumulative effects. A summary of the potential cumulative effects is provided in this chapter. A detailed description of the assessment methodology for cumulative effects can be found in ES Chapter 5: EIA Methodology (App Doc Ref 5.2.5).
- 1.1.4 The assessment presented in this chapter draws on the assessment of effects provided in ES Chapters 6 to 20, and information in the public domain relating to other known developments within the study area, or Zone of Influence (Zoi).

1.2 Competency statement

- 1.2.1 Summaries of the qualifications and experience of the Chapter authors are set out in **Table 1-1**.
- 1.2.2 Summaries of the qualifications and experience of each of the technical assessments is provided within Chapters 6 to 20 of the ES.

Table 1-1: Competent experts

Qualification / Professional Membership	Years of experience	Project experience summary
<p>■</p> <p>BSc Environmental Science</p> <p>MSc Aquatic Resource Management</p> <p>PG Cert Geographical Information Science</p>	20	<p>20 years postgraduate experience in EIA, ESIA, environmental management and monitoring. Focussing on major infrastructure in rail, ports, water and energy.</p> <p>Experience in UK based applications under TCPA, hybrid bill and TWAO consenting regime.</p>

Qualification / Professional Membership	Years of experience	Project experience summary
		Experienced in developing and delivery comprehensive environmental management and monitoring programmes. Experience in UK consenting of works affecting watercourses and water quality regulation.
<p>■</p> <p>BSc Geography MSc Environmental Impact Assessment & Management Practitioner member of the Institute of Environmental Management and Assessment</p>	4	Supporting environmental coordinator and co-author of the Environmental Statement for a Transport and Works Act Order project. Authored the cumulative effects assessment as part of the EIA. Environmental lead and co-author of the Environmental Statement for a flood alleviation scheme consented through Town and Country Planning Act. Environmental support on a number of water, transport and international projects
<p>■</p>	30	EIA contributor on a number of TCPA, s36 and DCO projects, including Brig-y-Cwm, South Hook CHP, Thurrock Flexible Generation Plant and Gatwick Second Runway.
<p>■</p>	6	EIA co-ordination on a number of DCO projects, including Thurrock Flexible Generation Plant and Gatwick Northern Runway.

1.3 Planning policy context

National Planning Statement (NPS) requirements

- 1.3.1 National planning policy for nationally significant waste water projects, is contained in the National Policy Statement (NPS) for Waste Water (Department of Environment, Food and Rural Affairs, 2012).
- 1.3.2 Table 1-2 sets out how the scope proposed in this chapter complies with the NPS for Waste Water.

Table 1-2: Scope and NPS compliance

NPS requirement	Compliance of ES scope with NPS requirements
3.2.3 When considering cumulative effects, the ES should provide information on how the effects of the applicant's proposal would	Table 2-6: Cumulative Effects Long List of Developments provides the long-list of developments which have been considered

NPS requirement

combine and interact with the effects of other development (including projects for which consent has been sought or granted, as well as those already in existence. The examining authority and the decision maker may also have other evidence before it, for example from appraisals of sustainability of relevant NPSs or development plans, on such effects and potential interactions. Any such information may assist the decision maker in reaching decisions on proposals and in assessing the mitigation measures that have been proposed by the applicant or considered in the examination

Compliance of ES scope with NPS requirements

by each topic as part of the cumulative effects assessment.

3.7.8 The examining authority and decision maker should be satisfied that development consent can be granted taking full account of environmental impacts. This will require close cooperation with the Environment Agency (EA) and/or the pollution control authority, and other relevant bodies, such as the MMO, Natural England, Drainage Boards, and water and sewerage undertakers, to ensure that in the case of potentially polluting developments:

- the relevant pollution control authority is satisfied that potential releases can be adequately regulated under the pollution control framework
- the effects of existing sources of pollution in and around the site are not such that the cumulative effects of pollution when the Proposed Development is added would make that development unacceptable, particularly in relation to statutory environmental quality limits.

Regular liaison has been undertaken by the Applicant with the relevant statutory bodies, notably the Environment Agency, Natural England and the Internal Drainage Board.

Discharges to the receiving water environment from this type of project are regulated by the Environment Agency as is the operation of both the existing and the proposed WWTP.

The design of the Proposed Development has been guided by the consultation with relevant bodies to ensure that it is acceptable in terms of adhering to statutory environmental quality limits, when considering the existing sources of pollution in-combination with the development proposals.

1.4 Consultation

- 1.4.1 The Applicant has undertaken several forms of consultation as part of the design development process. This includes statutory consultation with statutory bodies and interested parties, as well as other forms including targeted Technical Working Groups for topic-specific matters. Further details of matters discussed in relation to the interaction of effects and cumulative effects are set out in the specific technical assessment to which the comment relates. The Consultation Report (Application Document Reference 6.1) also demonstrates how the Applicant has had regard to comments raised at the statutory consultation, including those which relate to cumulative effects.

Scoping

1.4.2 Table 1-3 provides a summary of key points raised during scoping.

Table 1-3: Key points raised during scoping

ID	Ref	Inspectorate's comments	Response
2.1.2	Paragraphs 2.4.14, 2.9.36, 5.4.25	<p>Figure 2-2 shows a temporal overlap between decommissioning of the existing Cambridge WWTP and the construction of the new sewage works, and a temporal overlap between the decommissioning of the existing Cambridge WWTP and the construction of the Proposed Development.</p> <p>The ES should clearly set out the periods of transition between the two facilities and the assessment of any interactive effects based on evidenced worst-case assumptions in this regard and whether there are any new or different environmental effects as a result of the transition. The relevant aspect chapters should therefore consider any temporary changes or effects arising from the gradual transfer of flows from one sewage works to another.</p> <p>The detail of the decommissioning activities are yet to be defined but is expected to include the draining / cleaning of existing tanks (including waste treatment / disposal), ensuring mechanical and electrical safety and security, and prevention of rainwater storage in open top tanks. However the Applicant states that "Other decommissioning activities, including the demolition of structures and site preparation for the site's redevelopment are outside of the scope of the relocation project DCO and will be carried out by the site developer in accordance with a separate planning permission".</p> <p>As set out in section 2.4 of the Scoping Opinion, the key objective of the WWTP relocation is to support the delivery of South Cambridgeshire District and Cambridge City Councils' deliver a new low-carbon city district in North East Cambridge. The Inspectorate acknowledges the Applicant's intention to include consideration of demolition of structures and site preparation of the existing Cambridge</p>	<p>Chapter 2 Project Description section 1.4 (App Doc Ref 5.2.2) in particular Figure 1 .1 sets out the relationship between the Proposed Development and future third-party development of the existing Cambridge WWTP.</p> <p>Section 3.7 within this Chapter sets out assumed details in relation to the existing Cambridge WWTP as part of the North East Cambridge Area Action Plan (NECAAP).</p> <p>Section 4.3 considers the future redevelopment including full decommissioning and demolition at a high level commensurate with a Tier 3 plan or proposal as set out with Advice Note 17. This assessment is based on assumptions since there is no current programme available.</p>

ID	Ref	Inspectorate's comments	Response
3.10.5	PINS	<p>WWTP as part of the cumulative effects assessment. The ES for the Proposed Development should describe the future decommissioning activities at the existing WWTP that will be required to the extent that they can be reasonably foreseeable to facilitate any future development that will be subject to a separate planning permission. This should describe the decommissioning activities involved, identify the waste arisings, and consider any temporary and permanent effects.</p>	<p>The future decommissioning would be subject to separate planning permissions and separate EIA. The EIA prepared by the developer(s) would include a consideration of cumulative effects.</p>
3.14.6	PINS	<p>The Inspectorate notes that the Milton Landfill and Waterbeach Recycling centre fall just outside of the 3km study area currently shown. The ES should consider the potential for cumulative effects with these facilities despite falling just outside the arbitrary 3km boundary.</p>	<p>Clarity on the chosen study area with justification is provided in the ES Chapter 14 Land quality (App Doc Ref 5.2.140 Section 2.3 (Study area).</p>
3.12.3	PINS	<p>"The Applicant proposes to scope out the effects of waste generated from demolition activities at both existing sewage works. This is because the decommissioning activities will not involve demolition of any structures within either site.</p> <p>However, paragraph 5.4.25 of the Scoping Report states that "Demolition of structures and site preparation for the site's redevelopment are outside of the scope of the DCO". The Inspectorate refers the Applicant to comments made at ID 2.1.2 above (ie the need for a description of the likely decommissioning works to the extent that</p>	<p>Chapter 2 Project Description section xx to xx (App Doc Ref 5.2.2) sets out the relationship between the Proposed Development and future third party development of the existing Cambridge WWTP.</p> <p>Section 3.7 within this Chapter sets out assumed details in relation to the existing Cambridge WWTP as part of the North East Cambridge Area Action Plan (NECAAP).</p>

ID	Ref	Inspectorate's comments	Response
		they are foreseeable). On the basis that it is unclear whether significant cumulative effects in terms of waste could occur, the Inspectorate does not agree that this matter can be scoped out of the assessment at this time."	Section 4.3 considers the future redevelopment including full decommissioning and demolition at a high level commensurate with a Tier 3 plan or proposal as set out with Advice Note 17. This assessment is based on assumptions since there is no current programme available
	GCSP	Paragraph 10.5.6 states that the future baseline includes developments detailed in Chapter 5 (Table 5-5). We would like clarity if any cumulative climate impacts resulting from the building-out of these developments (for example, increased levels of storm water run-off and Urban Heat Island (UHI) effects) will be considered within the climate impacts for the Proposed Development.	<p>The Future baseline developments partially built out are identified as Waterbeach New Town, Waterbeach New Town East, Marleigh and Cambridge Northern Quarter. In the case of storm water these would all be subject to local policy requirements in relation to drainage which would achieve greenfield runoff rates and therefore should not result in additional storm water peaks within the local drainage network.</p> <p>These developments are not within a distance of the proposed WWTP such that an urban density would be created sufficient to cause a UHI effect. The areas of farmland in between the WWTP and the developments would give a buffer to localised heat build-up. .</p>
	GCSP	The cumulative health assessment should include the works being undertaken at Waterbeach to build a new town c~11000 dwellings together with the relocation of the railway station.	<p>The cumulative assessment in relation to Health does not include an assessment of the effects of the construction of Waterbeach since this would be included within the respective environmental impact assessments for Waterbeach New Town and Waterbeach New Town East.</p> <p>The overlap of the construction of Waterbeach station ongoing works in relation to Waterbeach New Town East and Waterbeach New Town and the Proposed Development are considered at a high level insofar as is possible with the information available. This is included within section 4.3 of this Chapter.</p>
	PHE	Any assessment of impacts arising from emissions or activities due to construction and decommissioning should consider potential impacts on all receptors and describe monitoring and mitigation during these	The assessment of traffic impacts such as driver delay that could occur as a result of vehicle movements in combination with construction traffic movements of overlapping projects

ID	Ref	Inspectorate's comments	Response
		<p>phases. Construction and decommissioning will be associated with vehicle movements and cumulative impacts should be accounted for. We would expect the applicant to follow best practice guidance during all phases from construction to decommissioning to ensure appropriate measures are in place to mitigate any potential negative impact on health from emissions (point source, fugitive and traffic-related) and activities. An effective Construction Environmental Management Plan (CEMP) (and Decommissioning Environmental Management Plan (DEMP)) will help provide reassurance that activities are well managed. The applicant should ensure that there are robust mechanisms in place to respond to any complaints made during construction, operation, and decommissioning of the facility.</p>	<p>is included within the forecast data used for the purpose of modelling and therefore this assessment is inherently cumulative and, as such, the assessment is included in the Chapter 19: Traffic and Transport (App Doc Ref 5.2.19) and in the case of emissions to air within the ES Chapter 7 Air Quality (App Doc Ref 5.2.7).</p> <p>Chapter 11 and Chapter 12 of the ES consider the in combination effects of emissions to air, vehicle movements and noise.</p>
	PHE	<p>Large complex schemes that involve significant effects on communities or significant cumulative effects can benefit from identifying impacts and reporting at an individual community level. This assists in the identification of the overall potential effects across a range of impacts. These community level reports will also aid local communities to engage with consultations by providing relevant and accessible information</p>	<p>Chapter 11 and Chapter 12 of the ES report Community and Health impacts and report on a community basis.</p>
	Historic England	<p>Within the assessment cumulative impact should also be considered.</p>	<p>The ES Chapter 13 has considered cumulative developments</p>
	Natural England	<p>The assessment should also include the cumulative effect of the development with other relevant existing or proposed developments in the area. In this context Natural England advises that the cumulative impact assessment should include other proposals currently at Scoping stage. Due to the overlapping timescale of their progress through the planning system, cumulative impact of the proposed development with those proposals currently at Scoping stage would be likely to be a material consideration at the time of determination of the planning application.</p>	<p>The ES Chapter 8 has been completed to consider the potential impacts of cumulative schemes.</p>

Bilateral and Technical Working Groups

1.4.3 **Table 1-4** provides a summary of key points raised during engagement with Technical Working Groups.

Table 1-4: Key points raised during engagement with Technical Working Groups

Date	Consultee	Points raised	How and where addressed
April 2022 August 2022	SCDC as part of Biodiversity TWG	Waterbeach area and the development affecting reptiles and the coordination of reptile mitigation including relocation Avoidance of repeat movement of reptiles	Code of Construction Practice requirement for Reptile Mitigation Strategy Code of Construction Practice Part B includes specific requirements in relation to interface with developers of Waterbeach New Town East and Waterbeach Station Construction Environment Management Plans would be provided to the LPA for approval prior to the commencement of works
June 2022	Traffic and Transport TWG	Design details relating to Horningsea Road and Greenways Challenges relating to equestrian use	Horningsea Road footway improvements developed in consultation with GCSP to align with forthcoming Greenway proposals

Statutory consultation

1.4.4 **Table 1-5** provides a summary of key points raised during statutory s42 consultation.

Table 1-5: Key points raised during statutory s42 consultation

Date	Consultee	Points raised	How and where addressed
August, October, December 2022	GCSP	General discussions including status of Greenway proposals	Horningsea Road footway improvements developed in consultation with GCSP to align with forthcoming Greenway proposals.

Bilateral meetings

- 1.4.5 The developers of Waterbeach station have been consulted in relation to the location of temporary works for the construction of the northern extent of the Waterbeach pipelines. An area of land required for the construction is within the extent of land included within the permission for the construction of the relocated station.
- 1.4.6 Meetings have been held with WBDC and SLC Rail from November 2022 in relation to coordination of activities to understand the potential overlap of the schemes. During a meeting in November 2022 discussions were progressed regarding the potential to work together to deliver an integrated layout, incorporating the Waterbeach Pumping Station, construction access via the new station access road and a revised layout for the station attenuation pond, which has a large surface area due to the shallow ground water. Discussions were also held on managing the interface between construction compounds and access, as well as the potential to lay a section of the Waterbeach pipeline at an early stage during or ahead of construction of the station. These discussions are ongoing.

Public consultation

- 1.4.7 The Consultation Report (App Doc Ref 6.1) describes the consultation process that CWWTPR has followed, and the Consultation Report Appendices (Appendix 6.1.1 – 6.1.34, App Doc Refs 6.1.1 – App Doc Ref 6.1.34) details the responses to all comments made during this consultation. Matters raised in relevance to cumulative effects include:

- potential cumulative travel impacts of other developments (in Waterbeach).

These matters are addressed within this chapter and within the ES Chapter 19 (App Doc Ref 5.2.19).

2 Approach to Cumulative Effects Assessment

2.1 Introduction

- 2.1.1 This section explains the approach to the inter-related effects assessment (Section 2.2) and cumulative effects assessment (Section 2.3).

2.2 Inter-related effects

Study area

- 2.2.1 The study areas for interrelated effects are taken from Chapters 6 to 20 of the ES. Study areas reflect the distance that likely effects will be experienced (i.e. the Zone of Influence).

Baseline data

- 2.2.2 The sources of data for the assessment of inter-related effects are the information used for the specialist environmental assessments presented within Chapters 6 to 20 of the ES.

Effect criteria

- 2.2.3 The assessment of inter-related effects does not assign significance levels; instead the assessment is to be used to identify where there is the potential for inter-related effects. A statement is made as to whether the inter-related effects would be worse or better than the effects considered alone, and if so, whether this would be adverse or beneficial.

Approach to assessment

- 2.2.4 A four stage process has been adopted as summarised in Figure 2.1 and discussed in the following paragraphs.

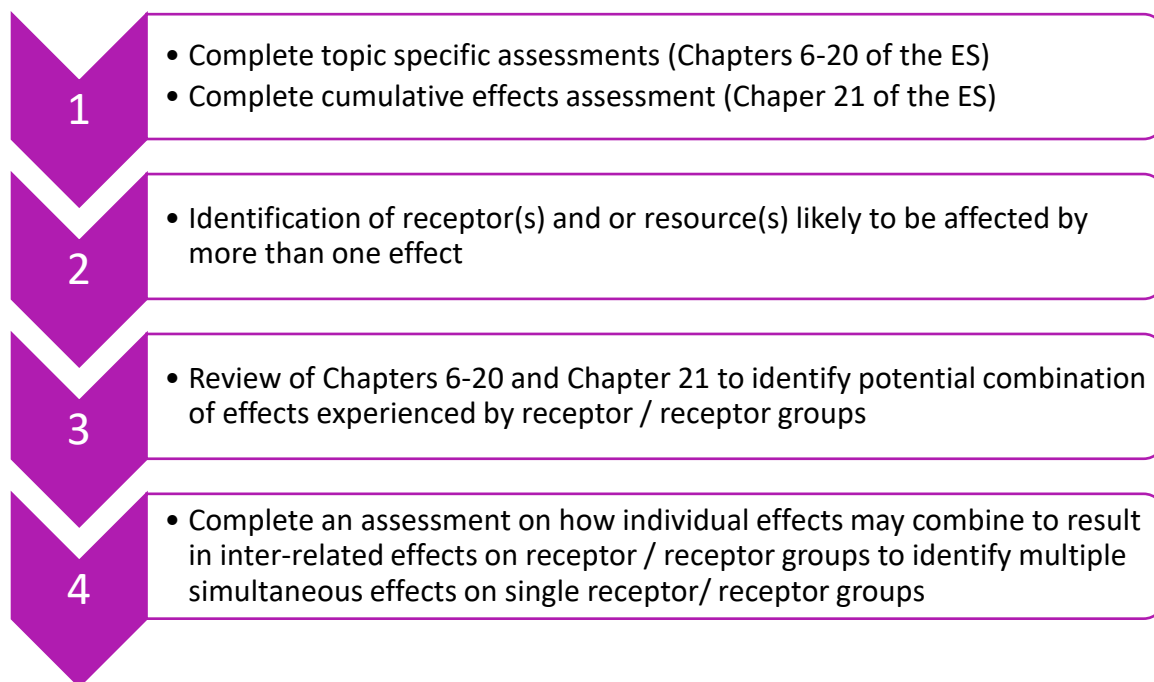


Figure 2.1: Staged approach to the inter-related effects assessment

Topic based assessments

- 2.2.5 Initial assessments take primary and tertiary mitigation into account. The assessments of residual effects take both primary and tertiary and any further mitigation measures into account. These assessments are reported within the relevant topic chapters of the Environmental Statement (ES) (Chapters 6-20).
- 2.2.6 Each topic-based assessment has considered the construction, operation (including maintenance) of the Proposed Development and decommissioning of the existing Cambridge WWTP within a set of development parameters which means that the assessment provides a reasonable worst-case scenario.
- 2.2.7 The potential interactions between individual effects have been identified by reviewing the final conclusions of the assessments within the topics presented in Chapters 6 to 20 of the ES. Some of these chapters address interactions between different types of impact relating to specified environmental resources and receptors, as described below:
- Chapter 7: Air quality (App Doc Ref 5.2.7) includes an assessment of the potential impacts of construction dust and nitrogen deposition upon ecological receptors. These have also been taken into account in the assessment of effects upon Biodiversity as reported in Chapter 8: Biodiversity.
 - Chapter 8: Biodiversity (App Doc Ref 5.2.8) takes into consideration the potential for air quality, light, dust and noise impacts and therefore how they could (in combination with other ecological impacts, such as habitat loss) affect ecological receptors.

- Chapter 9: Climate resilience (App Doc Ref 5.2.9) includes an In-combination Climate Change Impact (ICCI) assessment, which addresses the in-combination effects of a changing climate and the Proposed Development on receptors in the surrounding environment. Potential ICCIs have been assessed by technical disciplines and collated within Chapter 10.
 - Chapter 11: Community (App Doc Ref 5.2.11) takes into consideration the potential for air quality, light, dust and noise, traffic and landscape impacts and therefore, how they affect people and communities in-combination.
 - Chapter 12: Health (App Doc Ref 5.2.12) takes into consideration the potential for air quality, light, dust and noise, traffic and landscape impacts and therefore how they affect people and communities in-combination.
 - Chapter 14: Land quality (App Doc Ref 5.2.14) considers the potential impacts of soils disturbance and mobilisation of contamination on ecological receptors.
 - Chapter 20: Water resources (App Doc Ref 5.2.20) considers the potential impacts of climate change upon flood risk and drought.
- 2.2.8 Geological resources, mineral resources and soils are not considered likely to be affected by impacts other than those identified within the assessment in Chapter 6: Agricultural Land and Soils (App Doc Ref 5.2.6) and Chapter 14: Land quality (App Doc Ref 5.2.14), and are therefore not subject to consideration for inter-related effects.
- 2.2.9 Potential effects that may occur as a result of the in-combination of different types of impacts which form an inherent part of the technical assessments listed above are not included within this Chapter. The inter-related effects assessment considers only those effects which could occur as a result of multiple impacts on individual receptors which have not been identified elsewhere within this ES.

2.3 Cumulative effects

2.3.1 The requirement for cumulative effects assessment responds to Regulation 5(2), 14(2) and Schedule 4(5) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.

2.3.2 Schedule 4(5) requires

“A description of the likely significant effects of the development on the environment resulting from, inter alia –

...(e) the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources;”

2.3.3 The approach to cumulative assessment considers each of the following categories of project: approved development that has not yet been implemented; other

applications for development that are under consideration and those for which an EIA scoping request has been made.

- 2.3.4 The assessment considers existing development that is complete and operational at the time when construction of the Proposed Development would commence as part of the baseline. Development that is approved, but not yet developed or in operation, is included in the ‘future baseline’ scenario.
- 2.3.5 Other projects for which less detail is available to make a judgement are those that are identified in local planning authority development plans or frameworks for future development approvals. There is less clarity on when such projects may be implemented, or what the baseline situation will be at a future point in time.
- 2.3.6 Due to the complexity of considering multiple developments in various stages of project development or delivery, the consideration of cumulative effects in the ES is of a qualitative nature for many of the environmental aspects scoped into the assessment. Where it is necessary to have a descriptive consideration of cumulative effects, levels of effect or significance are not attributed in the assessment.
- 2.3.7 The transport, air quality and noise assessments factor in underlying growth associated with development and incorporate this in the relevant future baseline in each case. Therefore, the cumulative assessment does not specifically address operational traffic and the associated operational air quality and noise emissions as potential operational cumulative impacts associated with other developments are already included in the respective topic assessments.
- 2.3.8 Table 2-1 summarises the stages and activities involved in the CEA process described in the Planning Inspectorate’s Advice Note Seventeen: “Cumulative effects assessment relevant to nationally significant infrastructure projects” (The Planning Inspectorate, 2019).

Table 2-1: Summary of stages and activities involved in the CEA process

CEA Stage	Activity
Stage 1 – Establish the project’s Zol and establish a long-list of other developments	The Project undertakes a desk study to identify the Zol for the development for the topics that are proposed to be scoped into the EIA. The Zol analysis is documented (i.e. table of topics and Zol), with supporting Geographic Information System (GIS); The long list of other plans and projects/activities is drawn up through a desk study of planning applications, development plan documents, relevant development frameworks and any other available sources to identify ‘other development’ within the Zol; Information on each project (location, development type and timing, etc.) is documented, along with the certainty or tier assigned to the ‘other development’ (i.e. confidence it will take place in the current form and when it will take place in relation to the project); and Advice Note Seventeen notes that the project should then consult with the relevant planning authority/authorities and statutory consultees regarding the long list (and ideally prior to the submission of the Scoping Report) (See Chapter 5: EIA Methodology).

CEA Stage	Activity
Stage 2 – Screening of long list: Identify a shortlist of other developments for the CEA	PINS have provided advice on the matters which the inclusion/exclusion threshold criteria should address, against which the potential for other development to give rise to significant cumulative effects by virtue of overlaps in temporal scope, the scale and nature of the ‘other developments’ and/or receiving environment, or any other relevant factors is assessed. From this assessment, a shortlist of ‘other developments’ to be included in the CEA is produced by the Applicant. It is noted that documented information on each of the ‘other development’ is likely to be high level at this stage, outlining the key issues to take forward. Advice Note Seventeen notes that the proposed inclusion/exclusion should ideally be finalised prior to the request for a Scoping Opinion, and the project must consult with the relevant planning authorities and statutory consultees regarding the shortlist.
Stage 3 – Information gathering	Information on the ‘other developments’ within the shortlist generated at Stage 2 is collated to inform the CEA.
Stage 4 – Assessment (this chapter)	Impacts associated with the project are assessed cumulatively with other plans and projects included within the shortlist and based on the information gathered at Stage 3. The assessment also includes, where relevant, consideration of any mitigation measures where adverse cumulative effects are identified and signposts to the relevant means of securing mitigation (e.g. DCO requirements and associated mitigation plans). It may be appropriate at this stage to ascertain the contribution of each development to the effect (done via professional judgement).

2.3.9 CEA project tiers Table 2-2 describes the tiered approach to defining cumulative projects, as defined in the Planning Inspectorate’s Advice Note Seventeen: “Cumulative effects assessment relevant to nationally significant infrastructure projects” (The Planning Inspectorate, 2019).

Table 2-2 CEA project tiers

Tier	Description
Tier 1	Under construction
	Permitted application(s), whether under the PA2008 or other regimes, but not yet implemented. Submitted application(s) whether under the PA2008 or other regimes but not yet determined (including those under appeal or with right to appeal).
Tier 2	Projects on the Planning Inspectorate’s Programme of Projects where a scoping report has been submitted.
Tier 3	Projects on the Planning Inspectorate’s Programme of Projects where a scoping report has not been submitted.
	Identified in the relevant Development Plan (and emerging Development Plans – with appropriate weight being given as they move closer to adoption) recognising that there will be limited information available on the relevant proposals.

Tier	Description
	Identified in other plans and programmes (as appropriate) which set the framework for future development consents/approvals, where such development is reasonably likely to come forward.

2.4 Study area

2.4.1 For the consideration of inter-related effects the study area for each topic is defined within the relevant section of Chapters 6 to 20.

2.4.2 The Zol for the cumulative assessment for each of the environmental aspects is set out in Table 2-3.

Table 2-3: Zones of influence (Zol) for environmental aspects to be assessed

Aspect	Zone of influence
Agricultural Land	Construction – farm holdings wholly or partly within the Site. Operation – farm holdings wholly or partly within the Site.
Air Quality	Construction – 350m from the Site and 200m from roads meeting the EPUK assessment criteria due to increase in vehicles from construction traffic. Operation – 200m from roads meeting the EPUK assessment criteria due to changes in operational traffic. Energy plant (CHP, boiler plant) included within final design are of small scale, so emissions have been assessed based on the contour plots showing the location and spatial distribution of effects associated with these sources, based on the air quality assessment.
Biodiversity	International statutory designated sites – 10km from the Site. National statutory designated – 10km from the Site. National non-statutory designated sites – 5km from the Site. Waterbodies with potential for great crested newt – 250m from the Site. Ancient Woodlands – 200m from the Site. Habitats of Principal Importance – 100m from the Site. Protected species and Species of Principal Importance – 100m to 300m from the Site, depending on species. Desk Study – Results from a biological records search undertaken to obtain records of protected or notable species within a 5km radius of a central point (grid reference: TL 49740 61214) in the Core Zone are discussed within this section. Records were provided by the Cambridgeshire and Peterborough Environmental Records Centre (CPERC).
Community and Health	Construction – PRoW, business impacts: developments within 1km of site boundary and pipeline routes. Construction – PRoW, business impacts – developments within 1km of the Site.

Aspect	Zone of influence
	<p>Construction employment and employee spending – major development sites within the local authority area that are likely to have a comparable employee base.</p> <p>Operation – PRoW: developments within 500m for the Proposed Development Site. Local spending – employment-generating Proposed Developments of comparable size and skillsets within the local authority area.</p>
Historic Environment	1km from the Site.
Land Quality	250m from the Site.
Landscape and Visual Effects	2km from the Site.
Material Resources	<p>Construction materials: Sources of raw and secondary materials within Cambridgeshire and East of England.</p> <p>Construction waste: Waste management facilities within 10km of the Site.</p> <p>Operation – no impact operationally due to infrequent use of materials and low generation of waste from maintenance activities.</p>
Noise and Vibration	<p>Construction – 300m from any construction works areas (including the main treatment site, pipelines, access roads and construction compounds).</p> <p>Operation – Area to include the closest noise sensitive properties to the main treatment site and any new fixed noise generating noise plant or equipment (no greater than 2km from the proposed WWTP boundary or other new plant and equipment).</p>
Odour	The extent of the odour study area is based on odour dispersion modelling and odour surveys within the broader study area.
Traffic and Transport	<p>Construction – the local and strategic highway network where disruption or severance is cause by the location of construction works.</p> <p>Construction and operation – where traffic flows on highway links increase by 30% or more, and/ or where sensitive areas experience traffic flows increasing by 10%.</p>
Water Resources	<p>Waterbodies located within 1km of the EIA Scoping boundary.</p> <p>An upstream reach of the Quy Water, together with a reach of the Bottisham Lode downstream of the Quy Water, are located within 1km of the boundary for zones comprising the EIA Scoping boundary. The study area includes the entire length of the Quy Water between these upstream and downstream areas.</p> <p>Stow-cum-Quy SSSI.</p> <p>Some flood zones along the western side of the River Cam extend more than 1km from the boundary for zones comprising the EIA Scoping boundary. The full extent of these flood zones has been included in the study area.</p>

2.5 Assessment years

2.5.1 The assessment considers stages in the construction, operation and maintenance of the Proposed Development, and the assessment years are as follows:

- Construction years 1 -4 (currently indicated as 2024-2028) to cover all aspects of the construction of the Proposed Development that could overlap with the delivery of other schemes
- Operation year 1 (currently indicated as 2028) to cover one full year of operation
- Operation year 7 (currently indicated as 2035) to consider activities associated with construction of the final AST and PST

2.6 Topics addressed elsewhere or not relevant to CEA

2.6.1 Certain aspects of impact assessments have been scoped out of the cumulative assessment or have been inherently included in the topic specific assessment reported in individual chapters. Those aspects are listed in Table 2-4. As such, those aspects have not been considered further as part of the cumulative effects assessment reported on in Section 4.

Table 2-4: Aspects scoped out of the CEA

Topic	Aspect	Justification for scoping out of the CEA
Agricultural Land and Soils	Impacts to farm businesses	There are no farm businesses identified within the Scheme Order Limits of the Proposed Development at risk of being impacted by any other development within the Zol. As such, impacts on farm businesses have not been further considered as part of the cumulative effects assessment.
Air Quality	Impacts on air quality from operational emissions	Cumulative assessment for operational traffic and plant emissions is inherent in the dispersion model and, as such, is included in Chapter 7: Air Quality (App Doc Ref 5.2.7).
Biodiversity – international designations	Impacts on internationally designated sites	Impacts upon internationally designated sites and the associated in-combination effects assessment with other developments within the Zol is undertaken and presented within the HRA Report (Application Document Reference 5.4.20.11).
Carbon	Greenhouse Gas (GHG) assessment	As set out within section 4.6.29 of ES Chapter 10: Carbon (App Doc Ref 5.2.10) [APP-042] , the nature of GHG emissions means that the ultimate receptor is the global climate system. The GHG assessment does not consider cumulative effects as GHG emissions do not result in a localised effect on climate, and therefore the effect of the Proposed Development’s emissions on climate would not differ when combined with other developments in the area.

Topic	Aspect	Justification for scoping out of the CEA
Climate Resilience	Climate resilience assessment	<p>Cumulative assessment for climate resilience is limited in its applicability in that the developments that are reasonably foreseeable fall within a much shorter timescale than the climate resilience assessment.</p> <p>Where reasonable assumptions can be made regarding future development through this century, information has been used within the Proposed Development design and the climate resilient assessment, for example future wastewater volumes from forecast population growth plus housing development areas included within the Local Development Framework.</p> <p>Uncertainties around the details of future growth within the local area, beyond the period considered for the Cumulative Assessment, mean that cumulative effects cannot be further carried out against long term climate trends</p>
Material Resources and Waste	Impacts on the sources of material resources and waste infrastructure	There are no operational cumulative effects likely for material resources and waste due to infrequent use of materials and low generation of waste from maintenance activities during operation of the Proposed Development.
Noise and Vibration	Noise effects from operational traffic	The assessment of operational traffic-related noise effects is inherently cumulative and, as such, is included in the Chapter 17: Noise and Vibration.
Odour	Odour assessment	Other developments located in the area are not sources of odour and, therefore, have not been considered further.
Traffic and Transport	Operational traffic	The assessment of operational traffic impacts such as driver delay that could occur as a result of operational vehicle movements in combination with traffic movements of overlapping projects is included within the forecast data used for the purpose of modelling and therefore this assessment is inherently cumulative and, as such, the assessment is included in the Chapter 19: Traffic and Transport (App Doc Ref 5.2.19).
	Drivers delay	The assessment of drivers delay that could occur as a result of overlapping projects is included within the traffic forecast data used for the purpose of modelling, which is inherently cumulative and, as such, is included in Chapter 19: Traffic and Transport (App Doc Ref 5.2.19).

2.7 Baseline data

- 2.7.1 The sources of data for the assessment of inter-related effects are the information used for the specialist environmental assessments presented within Chapters 6 to 20 of the ES.

2.7.2 The sources of data for the assessment of cumulative effects are summarised in Table 2-5.

Table 2-5: Summary information sources to inform the assessment of cumulative effects

Committed development or allocation	Reference	Information referred to	Source
Waterbeach New Town (Waterbeach Barracks and Airfield)	S/0559/17OL - Outline Planning Application for up to 6500 dwellings and associated other uses and infrastructure – U&C	EIA Non Technical Summary	Waterbeach Barracks and Airfield Outline Planning Application Environmental Statement Non-Technical Summary ((Urban and Civic, 2018)
		Waterbeach Barracks and Airfield, Waterbeach, Cambridge Site-Wide Framework Travel Plan	Waterbeach Barracks and Airfield Waterbeach Transport Assessment (PBA, Transport Assessment , 2018)
		Waterbeach Barracks and Airfield, Cambridgeshire Lighting Assessment	Waterbeach Barracks and Airfield, Cambridgeshire Lighting Assessment (PBA, Lighting Assessment Version 3, 2017)
		Waterbeach Barracks and Airfield, Flood Risk Assessment	Waterbeach Barracks and Airfield, Cambridgeshire Flood Risk Assessment (PBA, Flood Risk Assessment 2017)
Waterbeach New Town East	S/2075/18/OL – Outline Planning Application for up to 4500 dwellings and associated other uses and infrastructure - RLW	EIA Non Technical Summary	Waterbeach New Town East Environmental Statement Non Technical Summary (LDA Design, Planning – Planning Application Documents, 2019)
		Waterbeach New Town: East Flood Risk Assessment and Surface Water Drainage Strategy	Flood Risk Assessment and Surface Water Drainage Strategy (MacDonald, 2019a)
		Waterbeach New Town East Outline Planning Application Transport Assessment Addendum Volume 1 Main Report March 2019	Transport Assessment Addendum Volume 1 Main Report March 2019 (WSP, Planning – Planning Application Documents, 2019)
		Waterbeach New Town East Outline Planning Application Lighting	Waterbeach New Town East Outline Planning Application Lighting

Committed development or allocation	Reference	Information referred to	Source
		Lighting Assessment May 2018	Assessment May 2018 (MacDonald, 2019a)
Waterbeach Station Relocation	S/0791/18/FL	Ecology impact assessment Figure 1: Biodiversity impact assessment figure	Full Planning Application :Station Ecological Assessment (LDA Design, Waterbeach New Town East Full Planning Application: Station Ecological Assessment, 2018)
		Flood Risk Assessment	Waterbeach Railway Station Relocation Flood Risk Assessment and Surface Water Drainage Strategy (MottMac Donald, 2018)
		Transport Assessment and Framework Travel Plan February 2018	Transport Assessment and Framework Travel Plan February 2018 (WSP, Greater Cambridge Shared Planning, 2018)
Cambridge North Station proposals	S/3102/15/FUL	Construction vehicle data, Transport Assessment	Cambridge Science Park Station Interchange Transport Assessment (Network Rail, May 2015)
Thanet Parkway station	KCC/TH/0256/2019	Constructability report	Thanet Parkway Station, Constructability report, Bam Nuttall , November 2019
A428	NA	ES Chapter 10 Material Assets and Waste	A428 Black Cat to Caxton Gibblet ES Chapter 10:Materials Assets and Waste (Highways England, 2022)
Redevelopment Cambridge North Residential Quarter	20/03464/SC OP	Scoping Report	Cambridge North Residential Quarter Scoping Report (Bidwells, Cambridge North Residential Quarter Redevelopment Scoping Report, 2020)
Cambridge East Area Action Plan (AAP) 2008	NA	Sustainability Appraisal (NTS)	North East Cambridge Area Action Plan Sustainability Appraisal: Non-Technical Summary (LUC, North East Cambridge Area Action Plan Sustainability Appraisal:Non Technical Summary, 2021)
		Habitats Directive Assessment	Habitats Regulation Assessment Part 1 (Cambridge City Council, 2014)
GCSP Greenways scheme	NA	Horningsea Greenway - Project summary	Horningsea Greenway Project Summary (GCSP, Horningsea Greenway, 2022)

Committed development or allocation	Reference	Information referred to	Source
North-East Cambridge AAP (in consultation)	NA	HRA Report	Habitats Regulation Assessment (LUC, 2021)
		A Biodiversity Assessment	North East Cambridge, A Biodiversity Assessment, (MKA, 2020)
		Topic Paper: Open Space & Recreation	North East Cambridge Area Action Plan Proposed Submission, Topic Paper: Open Space & Recreation (GCSP, Greater Cambridge - North East Cambridge Area Action Plan Document Library Topic Paper Open Space & Recreation, 2021)
		The Greater Cambridge Green Infrastructure Opportunity Mapping (LUC, 2021)	The Greater Cambridge Green Infrastructure Opportunity Mapping (LUC, Greater Cambridge Green Infrastructure Opportunity Mapping, 2021)
		Sustainability Appraisal	North East Cambridge NEECAP Sustainability Appraisal (LUC, North East Cambridge Area Sustainability Appraisal: Non-Technical, 2021a)
Outline Water Cycle Study 2021	Water Cycle Strategy (Stantec, Document Library -Integrated Water Management Study - Outline Water Cycle Strategy (Stantec), 2021)		

2.7.3 The other developments identified and included in the assessment of cumulative effects have been categorised into three principal tiers (as outlined in), which assigns each according to the level of detail that is likely to be available and therefore the ‘certainty’ that may be attributed to the assessment of potential effects.

2.7.4 Each environmental aspect scoped into the cumulative assessment has been considered in relation to the temporal scope, scale and nature of the other developments identified in Stage 1, which were then used to determine which should be taken forward to Stage 2 and therefore be subject to CEA.

2.7.5 **Table 2-6: Cumulative Effects Long List of Developments** sets out the long-list of developments that have been considered for the cumulative effects assessment and

identifies those developments that have been taken forwards for further assessment at Stages 3 and 4 of the process.

- 2.7.6 Other developments that have been considered as part of this Stage 4 cumulative assessment are shown on Figure 2.2.

Table 2-6: Cumulative Effects Long List of Developments

Scheme or plan ref No.	Stage 1: Application reference ID	Applicant for 'other development' and brief description	Distance from Order Limits	Status	Tier	Within Zol?	Taken to Stage 2?	Stage 2: Overlap in temporal scope?	Scale and nature of development likely to have significant impact? Other factors?	Taken to stage 3 / 4?
1	S/2075/18/OL	<u>Waterbeach New Town East</u> OPP for development of up to 4,500 dwellings, business, retail, community, education and leisure uses.	Within	Application submitted 30/05/2018, Resolution to grant, awaiting decision.	Tier 1	Falls within Zone of Influence for all environmental aspects	Yes	OPP not yet granted – expected in 2023 There are no formal phasing plans; the first phase is anticipated to be near the relocated station but as this permission has not been granted there is no certainty that this might happen.	Yes Large scale development site (231ha). Some construction could commence prior to the start of the construction of the proposed WWTP although this is uncertain. The build out will mean elements are future baseline with the majority to be delivered in a period that follows the construction phase of the Proposed Development.	Yes
2	S/0791/18/FL	<u>Waterbeach Station</u> Relocated railway station comprising platforms pedestrian bridges access road pedestrian and cycle routes car and cycle parking with other associated facilities and infrastructure	Within	Application granted permission 09/07/2020.	Tier 1	Falls within Zone of Influence for all environmental aspects.	Yes	Anticipates that the Waterbeach Station project will be completed in 2025(GCSP, 2023)	Construction likely to cover the overlap with year 1 and year 2 of construction in particular in relation to Waterbeach pipeline early start, requiring coordination between parties. Cumulative scheme in relation to construction of the Proposed Development and future baseline in relation to the operational phase of the Proposed Development.	Yes
3	S/0559/17/OL	<u>Waterbeach New Town</u> OPP for up to 6,500 dwellings, business, retail, community, leisure, education and sports use.	590m	Application granted permission 27/09/2019. Reserved Matters application granted 06/07/2021	Tier 1	Falls within biodiversity, community & health (PRoW), historic environment, landscape and visual, material resources (waste), and water (surface water and flood risk) ZOI.	Yes	Based on the Greater Cambridge Housing Trajectory and Five Year housing Land Supply Report (GCSP, 2023) development starting in 2023 with 111 units in 2023/24 rising to 300 a year by 2028/29 which then continues to 2041 and beyond (GCSP, 2023)	Construction to commence prior to the construction of the proposed WWTP. In relation to Waterbeach New Town (Waterbeach Barracks)(S/0559/17/OL) a review of the Greater Cambridge Housing Trajectory and Five Year housing Land Supply Report (GCSP, 2023) it is understood that development is starting in 2023 with 111 units in 2023/24 rising to 300 a year by 2028/29 which then continues to 2041 and beyond (GCSP, 2023). On this basis there could be up to 111 unit representing a future baseline in construction year 1, progressively increasing throughout the construction period so that the future baseline in year 1 of operation could be in the order of a 1000 units. The build out will mean a combination of completed elements being part of the future baseline with the majority to be delivered after the construction phase of the Proposed Development.	Yes
4	S/2682/13/OL	OPP at <u>Marleigh</u> for up to 1,300 dwellings, school food store, community and open spaces.	200m	Application granted permission 30/11/2016. Reserved	Tier 1	Falls within Zone of Influence for all	Yes	Unlikely as possibly completed before year 1 of construction	Yes Large scale consented development site (61ha).	No

Scheme or plan ref No.	Stage 1: Application reference ID	Applicant for 'other development' and brief description	Distance from Order Limits	Status	Tier	Within ZOI?	Taken to Stage 2?	Stage 2: Overlap in temporal scope?	Scale and nature of development likely to have significant impact? Other factors?	Taken to stage 3 / 4?
	23/01255/SCRE	Screening for phase 3 for a further 150 houses		Matters application granted 15/12/2020 Positive screening response received		environmental aspects			Likely to be fully built prior to construction of the proposed WWTP. Rather than inclusion as a cumulative scheme, this development forms part of the future baseline.	
	23/01939/S73	S73 to vary condition 1 (Approved plans) of reserved matters application 20/02569/REM to replace six two-storey houses (C2 and C3) within phase 1b with three-storey houses and to replace five carports with garages (D4).		Awaiting decision					Change minor in scale	
	23/01938/S73	S73 to vary condition 1 (Approved plans) of planning permission 22/03432/S73 (S73 to vary condition 29 of ref: 22/02554/S73 to enable retail unit 2 to be used for purposes covered under Use Class E(a), E(b), E(c), E(d), E(e) and E(gii) within Class E) g) to re-orientate seven houses that front Gregory Park (Lot D3) and to replace eight carports with garages (D3).		Awaiting decision					Change minor in scale	
5	18/0481/OUT	OPP at land north of Cherry Hinton for up to 1,200 dwellings, retail, education and community facilities.	1.3km	Application granted permission 18/12/2020	Tier 1	Falls within biodiversity, landscape and visual, noise and vibration (operational), material resources and water (surface water and flood risk) ZOI.	Yes	Yes 2023 onwards	Yes Large scale consented development site (70ha). Construction to commence prior to the construction of the proposed WWTP. Separation distance mean that any cumulative effects are likely to be insignificant. Rather than inclusion as a cumulative scheme, this development forms part of the future baseline.	No
7	S/4629/18/FL	Hybrid application for demolition of gym trinity centre, and innovation centre and construction of hotel and commercial floorspace with outline for building of up to 7 stories with B1 floorspace at 24 Cambridge Science Park.	140m	Application granted permission 20/12/2019.	Tier 1	Falls within Zone of Influence for all environmental aspects with the exception of	Yes	Possible - scheme likely to be constructed from 2022 onwards	This small scale consented development (2.55ha) is only likely to influence traffic flows once built and during construction. These would be captured in the future growth prediction in the traffic assessment. No other likely cumulative impacts.	No

Scheme or plan ref No.	Stage 1: Application reference ID	Applicant for 'other development' and brief description	Distance from Order Limits	Status	Tier	Within Zol?	Taken to Stage 2?	Stage 2: Overlap in temporal scope?	Scale and nature of development likely to have significant impact? Other factors?	Taken to stage 3 / 4?
						agricultural land				
8	20/04010/FUL	One and two storey building containing offices, custody suite and associated facilities south of Milton Park and Ride.	865m	Application granted permission 03/2021.	Tier 1	Falls within Zone of Influence for all environmental aspects except for land quality and agricultural land.	Yes	Unlikely (likely to be completed before 2024)	No. Small scale consented development (5ha). Likely to be fully built prior to construction of the proposed WWTP. Rather than inclusion as a cumulative scheme, this development forms part of the future baseline.	No
9	22/02771/OUT	<u>Cambridge North Residential Quarter</u> A hybrid planning application for: a) An outline application (all matters reserved apart from access and landscaping) for the construction of: three new residential blocks providing for up to 425 residential units and providing flexible Class E and Class F uses on the ground floor (excluding Class E (g) (iii)); and two commercial buildings for office use, ii (research and development) providing flexible Class E and Class F uses on the ground floor (excluding Class E (g) (iii)), together with the construction of basements for parking and building services, car and cycle parking and infrastructure works. b) A full application for the construction of three commercial buildings for offices ii (research and development), providing flexible Class E and Class F uses on the ground floor (excluding Class E (g) (iii)) with associated car and cycle parking, the construction of a multi storey car and cycle park building, together with the construction of basements for parking and building services, car and cycle parking and associated landscaping,	220m	Application submitted 15/06/2022, awaiting appeal decision.	Tier 1	Falls within Zone of Influence for all environmental aspects with the exception of agricultural land.	Yes	Yes - unlikely to be completed before 2024	Yes Large scale development (4.29ha). Potential to give rise to cumulative effects across several environmental aspects.	Yes

Scheme or plan ref No.	Stage 1: Application reference ID	Applicant for 'other development' and brief description	Distance from Order Limits	Status	Tier	Within ZOI?	Taken to Stage 2?	Stage 2: Overlap in temporal scope?	Scale and nature of development likely to have significant impact? Other factors?	Taken to stage 3 / 4?
		infrastructure works and demolition of existing structures.								
10	20/03523/FUL	Erection of 5 storey and 6 storey building for commercial/business use, transport hub and carpark with demolition of existing building (St John's House) and associated structures.	100m	Application submitted Granted permission on 22/07/2022	Tier 1	Falls within Zone of Influence for all environmental aspects with the exception of agricultural land	Yes	Unknown	No. Small scale consented development (2.56ha). Only likely to influence traffic flows once built and during construction. These would be captured in the future growth prediction in the traffic assessment. No other likely cumulative impacts.	No
11	20/0098/FUL	Application for continued temporary use of Cowley Road Park and Ride site as a depot until 19 th December 2023.	Within	Application granted 07/2020	Tier 1	Falls within Zone of Influence for all environmental aspects	Yes	Operation to cease from December 2023.	Will cease operation prior to construction of the Proposed Development.	No
12	20/03802/FUL	Residential development of 75 dwellings along with access, car parking, landscaping and all associated infrastructure.	1.6km	Granted Permission on 16/09/2021	Tier 1	Falls within biodiversity, landscape and visual, noise and vibration (operational), material resources and water (surface water and flood risk) ZOI.	No	Unknown	No Small scale development (0.4ha). Given location and nature of the development, only likely to influence traffic flows once built and during construction. These would be captured in the future growth prediction in the traffic assessment. No other likely cumulative impacts.	No
13	S/4191/19/FL	<u>Orchard Park</u> Erection of new private rented residential block comprising a total of eighty studio one and two bedroom apartments.	1.9km	Granted permission on 28/04/2020	Tier 1	Falls within biodiversity, landscape and visual, noise and vibration (operational), material resources and water (surface water and flood risk) ZOI.	Yes	Unknown	No Small scale development (0.31ha). Given location and nature of development, only likely to influence traffic flows once built and during construction. These would be captured in the future growth prediction in the traffic assessment. No other likely cumulative impacts.	No
14	A428	Road scheme expected to be completed by March 2026	>20km	Consented scheme (NSIP)	Tier 1	Outside of ZOI but raised at scoping.	Yes	Construction expected to begin in 2023 and be completed by March 2026	Estimated waste arisings from construction are indicated as generating approximately 1,311 tonnes (570m ³) of hazardous	No

Scheme or plan ref No.	Stage 1: Application reference ID	Applicant for 'other development' and brief description	Distance from Order Limits	Status	Tier	Within Zol?	Taken to Stage 2?	Stage 2: Overlap in temporal scope?	Scale and nature of development likely to have significant impact? Other factors?	Taken to stage 3 / 4?
									construction and demolition waste, of which an estimated 262 tonnes (114m ³) is forecast to require off-site disposal to landfill (Highways England, 2022). These totals equate to 0.01% of the 1,156,000m ³ of hazardous (merchant) landfill capacity within the waste management study area, and 0.0006% of the 18.4 million cubic metres of hazardous (merchant) landfill capacity within England. No likely significant effects are identified and there will be no significant cumulative effect on waste management capacity in the region or nationally as a result of the waste volumes. No other cumulative effects have been identified.	
15	South Cambridgeshire Local Plan Policy SS/4	Area, shown on the South Cambridgeshire Local Plan Policies Map, and illustrated in Figure 6, is allocated for high quality mixed-use development, primarily for employment within Use Classes B1, B2 and B8 as well as a range of supporting uses, commercial, retail, leisure and residential uses (subject to acceptable environmental conditions).	Within	Adopted allocation	Tier 3	Falls within Zone of Influence for all environmental aspects	Yes	Unknown	Yes Large scale development. Potential to give rise to cumulative effects across several environmental aspects.	Yes – Covered by assessment of NECAAP (Ref 18) which will supersede this policy if it is adopted so excluded from the cumulative assessment to avoid double counting of cumulative effects.
16	Cambridge City Local Plan	Policy 15	Within	Adopted allocation	Tier 3	Falls within Zone of Influence for all environmental aspects	Yes	Yes	Yes Large scale development. Potential to give rise to cumulative effects across several environmental aspects.	Yes - Policy equivalent of SS/4 for Cambridge City Administrative area. Covered by AAP so excluded from cumulative assessment to avoid double counting of cumulative effects.
17	Cambridge East Area Action Plan	<u>Cambridge East Area Action Plan</u> A new urban quarter of Cambridge of approximately 10,000 to 12,000 dwellings with appropriate employment, services, facilities and infrastructure.	Within	Adopted allocation	Tier 3	Falls within Zone of Influence for all environmental aspects	Yes	Unknown	Yes Large scale development (518ha). Potential to give rise to cumulative effects across several environmental aspects.	Yes

Scheme or plan ref No.	Stage 1: Application reference ID	Applicant for 'other development' and brief description	Distance from Order Limits	Status	Tier	Within Zol?	Taken to Stage 2?	Stage 2: Overlap in temporal scope?	Scale and nature of development likely to have significant impact? Other factors?	Taken to stage 3 / 4?
18	Emerging North East Cambridge AAP (Policy 1)	<u>North East Cambridge Area Action Plan</u> The planning policy framework that guides this process of regeneration of North East Cambridge in particular the creation of a new high quality mixed-use city district, providing approximately 8,350 new homes, 15,000 new jobs, and new physical, social and environmental infrastructure that meets the needs of new and existing residents and workers as well as delivering benefits for surrounding communities.	Within	Emerging allocation in Reg 18 Local Plan	Tier 3	Falls within Zone of Influence for all environmental aspects	Yes	Yes	182 hectares of brownfield land Development will take place across North East Cambridge over the next 20 years and beyond.	Yes
19	Emerging Greater Cambridge Local Plan Policy S/NEC	Once developed in full, which will extend beyond the Local Plan period of 2041, North East Cambridge is anticipated to deliver 8,350 new homes, 15,000 additional jobs as well as a wide range of necessary infrastructure to support the development including new schools, community and cultural facilities, open spaces as well as enhanced and new walking and cycling connections into and through the NECAPP area. Development amount is predicated on the relocation of the existing Waste Water Treatment Works. Is reliant on implementation of the North East Cambridge Trip Budget, calculated to ensure that there are no additional vehicle trips on Milton Road at peak times (from 2017 levels) and subsequently not result in queuing on the A14 at Milton Interchange (Junction 33).	Within	Emerging allocation in Reg 18 Local Plan	Tier 3	Falls within Zone of Influence for all environmental aspects	Yes	Yes	Within	Yes - Covered by assessment of NECAPP (Ref 18) so excluded from the cumulative assessment to avoid double counting of cumulative effects.
20	New Pumping station and decommissioning (demolition) the Waterbeach WRC	The decommissioning of the WRC will be undertaken by Anglian Water as agreed with the Environment Agency in order to surrender the existing Environmental Permit relating to discharge to a controlled water. The developer of Waterbeach New Town East will undertake the demolition of the WRC and any further remediation.	Within	The developer for Waterbeach New Town East (The Waterbeach Development Company WDC) are currently in the	Tier 3	Falls within biodiversity, landscape and visual, noise and vibration (operational), material resources and water	Yes	The sequence of activities is yet to be determined. Dates and approach to full decommissioning are linked to the construction of a new pumping station construction and installation of a new rising main for which the	Decommissioning the Waterbeach WRC will lead to a reduction in flow in Bannold Drain. This can be compensated by surface water management for Waterbeach New Town. The Waterbeach WRC is a relatively small asset which can be decommissioned in a similar way to the existing Cambridge WWTP, over a limited period (6-12 months). Its removal can be done as part of the phasing of Waterbeach New Town with no cumulative	Yes – Covered by assessment of Waterbeach New Town East (Ref 1) so excluded from the cumulative assessment to avoid double counting of

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		The pumping station will be installed by either Anglian Water as part of developer services obligations to serve Waterbeach New Town with waste water drainage provision or by the developer of Waterbeach New Town East. The location of the pumping station is understood to be identified by WDC but the planning application has not yet been finalised.		process of submitting s screening request to South Cambridgeshire District Council in relation to the pumping station planning application.		(surface water and flood risk) ZOI.		timeframe is currently not finalised.	traffic effect. Its removal will be beneficial in terms of landscape and visual effects. Temporary noise effects can be controlled in accordance with a CEMP.	cumulative effects.
21	Decommissioning (demolition) the existing Cambridge WWTP	To be completed by the master developers who will become responsible for the existing Cambridge WWTP site.	Within	Known to be required not currently allocated to a specific party	Tier 3	Falls within biodiversity, landscape and visual, noise and vibration (operational), material resources, odour and water (surface water and flood risk) ZOI.	Yes	Operational phase overlap. Assumed to commence shortly after the existing permit for Cambridge WWTP is surrendered	Decommissioning the existing Cambridge WWTP will lead to a reduction in local discharges to the River Cam. The existing Cambridge WWTP is a relatively large asset which will be demolished and removed over an extended period expected to exceed 12 months. Its removal could be completed as part of the phasing of the redevelopment of the site with no cumulative traffic effect. Its removal is likely to be beneficial in terms of landscape and visual effects.	Yes - Covered by assessment of NECAPP (Ref 18) so excluded from the cumulative assessment to avoid double counting of cumulative effects.
22	21/05178/SCOP	<u>Cambridge North Commercial Quarter</u> Request for a formal scoping opinion for Hybrid Planning Application comprising Full Planning Permission for c47,280sqm (GEA) of Class E floorspace comprising an office building (One Milton Avenue) and two lab buildings together with ground floor amenity uses, a Mobility Hub comprising of c1031 car parking spaces including 254sqm of Class E floorspace at ground floor level, a temporary car park of c379 spaces, a wildlife habitat area, Network Rail compound area, enabling works and associated infrastructure; and Outline Planning Permission for c41,940 sqm (GEA) of Class E floorspace comprising one lab building and one office building, together with ground floor amenity	Adjacent (overlaps with application REF 9 22/02771 /OUT)	EIA Scoping report Issued on 09/02/2022	Tier 1	Falls within Zone of Influence for all environmental aspects with the exception of agricultural land	Yes	Unknown although if granted in 2024 reasonable to assume construction could overlap with construction of the Proposed Development	Land is within the NECAAP allocation area. Potential to give rise to cumulative effects across several environmental aspects.	Yes

Scheme or plan ref No.	Stage 1: Application reference ID	Applicant for 'other development' and brief description	Distance from Order Limits	Status	Tier	Within Zol?	Taken to Stage 2?	Stage 2: Overlap in temporal scope?	Scale and nature of development likely to have significant impact? Other factors?	Taken to stage 3 / 4?
		uses, enabling works and associated infrastructure.								
23	23/02953/SCO P	<u>Cambridge Science Park Milton Cambridge South Cambridgeshire CB4 OWA</u> Request for a Formal Scoping Opinion for the demolition of existing units 210, 211, 214, 220, 230, 240 and redevelopment with Use Class E(g) floorspace (office (E(g)(i), Research and Development (E(g)(ii)) with ancillary facilities (Use Class E (a-g)) along with access, landscaping and supporting infrastructure	667m	Awaiting decision	Tier 1	Community and health, Historic environment, Landscape, biodiversity, material resources and waste, Water resources	Yes	Unknown although if granted in 2024 reasonable to assume construction could overlap with construction of the Proposed Development	Given the size of development, the influence traffic flows once built and during construction would be minor. These would be captured in the future growth prediction in the traffic assessment. Air quality and noise associated with demolition activities would be short term and subject to the controls within an environmental management plan covering these activities. No other likely cumulative impacts.	No - future traffic movements would be small relative to those already incorporated in to the forecast used for modelling, and noise and air quality would be managed through approved CEMP implemented by the developer.
24	23/01509/FUL	<u>Vitrum Building St Johns Innovation Park Cowley Road Cambridge Cambridgeshire CB4 OWS</u> Demolition of existing buildings and substructures and the erection of a Research and Development building (use Class E) with basement levels for car and cycle parking and building services, and associated landscaping, cycle parking, infrastructure works and plant.	Adjacent	Submitted 19/04/2023 Awaiting decision	Tier 1	Falls within Zone of Influence for all environmental aspects with the exception of agricultural land	Yes	Unknown although if granted in 2024 reasonable to assume construction could overlap with construction of the Proposed Development	Land is within the NECAAP allocation area Given the size of development, the influence traffic flows once built and during construction would be minor. These would be captured in the future growth prediction in the traffic assessment. Air quality and noise associated with demolition activities would be short term and subject to the controls within an environmental management plan covering these activities. No other likely cumulative impacts.	No - future traffic movements would be small relative to those already incorporated in to the forecast used for modelling, and noise and air quality would be managed through approved CEMP implemented by the developer.
25	23/01878/FUL	<u>Change of use and refurbishment of existing car showroom and new-build two-storey extension to create a new Operational Hub, reconfiguration and refurbishment of existing MOT garage to provide upgraded office and storage space, car and van parking, cycle parking, landscaping, and associated infrastructure</u>	Adjacent	Validated 15/05/2023 Awaiting decision	Tier 1	Falls within Zone of Influence for all environmental aspects with the exception of agricultural land	Yes	Unknown although if granted in 2024 reasonable to assume construction could overlap with construction of the Proposed Development	No Land is within the NECAAP allocation area Small scale development (c 1.5ha). Given the size and type of development, the influence on traffic flows once built and during construction would be minor. These would be captured in the future growth prediction in the traffic assessment (and therefore air quality assessment related to vehicle movements). No other likely cumulative impacts.	No
26	23/00835/FUL	Taylor Vinters Merlin Place 460 Milton Road Cambridge Cambridgeshire CB4 ODP <u>Demolition</u>	Adjacent	Validated 01/03/2023	Tier 1	Falls within Zone of Influence for	Yes	Unknown although if granted in 2024 reasonable to assume	Land is within the NECAAP allocation area Given the size of development, the influence traffic flows once built and during	No - future traffic movements would be small

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		of 2,730 sqm office building construction of 13,096 sqm research and development accommodation including ancillary accommodation broken down as follows: i. Office accommodation (4,648 sqm) ii. Laboratory space (4,388 sqm) iii. Café (161 sqm) iv. Ground floor car park incorporating 45 no. car parking spaces (1,047 sqm) v. Plant space (924 sqm) vi. Cycle parking spaces (276 for staff and 37 for visitors, total 313) vii. Access and circulation areas, engineering works and footpaths/cycleways viii. Drainage and servicing infrastructure, and ix. Hard and soft landscaping.		Awaiting decision		all environmental aspects with the exception of agricultural land		construction could overlap with construction of the Proposed Development	construction would be minor. These would be captured in the future growth prediction in the traffic assessment. Air quality and noise associated with demolition activities would be short term and subject to the controls within an environmental management plan covering these activities. No other likely cumulative impacts.	relative to those already incorporated in to the forecast used for modelling, and noise and air quality would be managed through approved CEMP implemented by the developer.
27	22/01632/FUL	Orchard Park Parcels Com4 And L2 Topper Street Orchard Park Cambridgeshire An aparthotel / hotel with the addition of mixed-use facilities, includes the erection of a building above a basement, car parking, landscaping, and other associated works.	1.9km		Tier 1	Landscape biodiversity,	Yes	Unknown although if granted in 2024 reasonable to assume construction could overlap with construction of the Proposed Development	No Given distance from the Proposed Development and the nature of development, only likely to influence traffic flows once built and during construction. These would be captured in the future growth prediction in the traffic assessment. No other likely cumulative impacts.	No - future traffic movements would be small relative to those already incorporated in to the forecast used for modelling
28	23/02764/SCRE	440 Cambridge Science Park Milton Cambridge South Cambridgeshire CB4 0QA EIA Screening Opinion under the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 for 13,000 sqm of employment floor space in buildings up to maximum 27 metres in height with associated car parking, cycle parking and landscaping	1km	Validated 17/07/2023 EIA screening positive	Tier 1	Falls within Zone of Influence for all environmental aspects with the exception of agricultural land	Yes	Unknown although if granted in 2024 reasonable to assume construction could overlap with construction of the Proposed Development	No Given location and nature of development, only likely to have a minor influence on traffic flows once built and during construction. These would be captured in the future growth prediction in the traffic assessment. No other likely cumulative impacts.	No - future traffic movements would be small relative to those already incorporated in to the forecast used for modelling
29	23/01287/FUL	Quy Mill Hotel Church Road Stow Cum Quy Cambridgeshire CB25 9AF Extensions and alterations to hotel to provide additional bedrooms and associated facilities including extension to restaurant and spa and gym, demolition of outbuildings, single storey extensions on northern elevation of main building, creation of opening on southern elevation of Quy Mill building and removal of internal walls and fabric to enable alterations and enhancements to Quy Mill and Mill House together	750m	Refused 28/07/2023	Tier 1	Falls within biodiversity, community & health (PRoW), historic environment, landscape and visual, material resources (waste), and	No	Uncertain as would be dependent on an appeal process and eventual start date	In the event appeal was successful and the development proceeded, the nature of the of development is only likely to have a minor influence on traffic flows once built and during construction. These would be captured in the future growth prediction in the traffic assessment. No other likely cumulative impacts.	No – high level of uncertainty owing to refusal and if successful upon appeal future traffic movements would be small relative to those already incorporated in to the forecast

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		<u>with associated car parking provision, landscaping and associated infrastructure</u>				water (surface water and flood risk) ZOI				used for modelling
30	NA	<u>Local Highways using powers to carry out works within the public highway under legislation (Highways Act 1980) for implementation of a series of 'GREENWAYS'. However consultation details programme refers to obtaining planning permission. No planning applications have been identified.</u>	Adjacent	In progress	Tier 1	Falls within biodiversity, community & health (PRoW), historic environment, landscape and visual, material resources (waste), and water (surface water and flood risk) ZOI	Yes	No - from 21 August until early 2024 work will be underway on the Horningsea Greenway to widen the shared-use path alongside Horningsea Road (B1047) from the Horningsea Village sign south to Fen Ditton Primary School No - Waterbeach greenway phase 2 currently in consultation assumed that construction would be after construction has completed	The development of proposals on Horningsea Road have been completed in consultation with GCSP including with the Greenways team. The Horningsea Road proposals included within the Application integrate Greenway aspects and the detailed design and approval stage will involve continued consultation and engagement with the Greenway team to align with emerging Greenway design. Waterbeach construction activities would be completed by the time the Greenway is brought forward. There are no operational features or activities that conflict with the expected route of the phase 2 aspect of the Waterbeach greenway.	No -Horningsea Road proposals managed through ongoing engagement and then detailed design process. Waterbeach would not overlap

2.8 Assumptions and limitations

- 2.8.1 The cumulative effects assessment does not consider other developments that are already constructed and operating, as such existing developments are already accounted for in the baseline conditions established for the main assessments within Chapters 6 to 20.
- 2.8.2 Limitations relating to the individual assessments are detailed within Chapters 6 to 20 of the ES.
- 2.8.3 The assessment of cumulative effects is based upon information currently available regarding other potential or committed developments in the vicinity of the Proposed Development as of October 2023.
- 2.8.4 Where a planning application for a development has not been formally submitted for determination, the assessment is constrained by the limited environmental information available within the public domain. Similarly, where plans are not yet adopted or relevant reasonably foreseeable activities are not yet scheduled, (i.e. demolition of the existing Waterbeach WRC and existing Cambridge WWTP), assumptions have been made to provide a reasonable basis for assessing the likely effects.
- 2.8.5 It is assumed that other Proposed Developments would be subject to the National Planning Policy Framework (NPPF) and will require mitigation and control measures to be adopted during the construction such as through management plans to avoid and/or reduce impacts including (but not limited to) controls on dust generation, noise and vibration, emissions to air and water, waste generation and resource use, lighting, and vehicle movements over existing habitats.

Existing water recycling assets

- 2.8.6 For Waterbeach WRC, it is assumed that the facility will be demolished at some point during 2027–2033 by the developer for Waterbeach New Town East after the new access road is constructed to Waterbeach Station and potentially the new A10 link road.
- 2.8.7 It is assumed that concrete would be crushed and reused in the construction of Waterbeach New Town or Waterbeach East. Similarly metal will be recovered and recycled at an off-site location. The anticipated traffic volumes associated with decommissioning the Waterbeach WRC would be small and managed through construction traffic management plans associated with the development, with negligible cumulative effect. Demolition would be completed within a period of 4 to 8 months and this would be completed by the developer(s).
- 2.8.8 The Waterbeach pumping station would be constructed by Waterbeach Development Company and commissioned by the Applicant within a 12 month period, before the Waterbeach WRC is decommissioned.

2.8.9 For the existing Cambridge WWTP, it is currently assumed that the facility would be demolished progressively at the earliest from 2028 onwards, after it has been decommissioned. Concrete would be crushed and reused in the construction of North East Cambridge and/or other local developments. Metal would be recovered and recycled at an off-site location. Traffic volumes would be managed through construction traffic management plans associated the developments, with no significant cumulative effects. It is assumed that demolition would be completed within a period of 12 to 24 months however this would be determined by the future developer and potentially could be in phases.

Waterbeach station relocation

- 2.8.10 It is currently understood that the works related to Waterbeach station would commence in January 2026 with the station to open by August 2027. A haul road to facilitate construction of both housing and the station would be needed by December 2025 however the routing and details of this remain in discussion.
- 2.8.11 At the time of assessment limited information is available in relation to construction of the relocated Waterbeach station including predicted construction movements.
- 2.8.12 The Transport Assessment prepared for the Waterbeach station relocation accompanying the planning application does not contain specific information on construction vehicle movements or confirmed construction routes. No predicted traffic movements have since become available.
- 2.8.13 In relation to construction traffic movements the assessment of cumulative impacts has considered information from two similar railway station developments, Cambridge North Station, and Thanet Parkway Station, as comparable sites that would provide a similar level of construction traffic.
- 2.8.14 The two comparable railway sites have longer platform lengths and larger car parks and may present a slight overestimation of construction vehicles. Both applications indicate that around 40 construction vehicle movements per day would be expected and this is suitable to determine a reasonable worst-case assessment of cumulative impacts.

3 Other Developments Considered in Cumulative Assessment

3.1.1 The following four 'other developments' were shortlisted from Table 2-6 for inclusion in the assessment of cumulative effects:

- Waterbeach New Town East (Ref. 1);
- Waterbeach Station Relocation (Ref. 2);
- Waterbeach New Town (Ref. 3); and
- Cambridge North Residential Quarter (Ref. 9).
- Cambridge North Commercial Quarter (Ref 22)

3.1.2 The following local planning authority development plans have been shortlisted for inclusion in the assessment of cumulative effects:

- Cambridge East AAP (Ref. 17); and
- Emerging North East Cambridge AAP (Policy 1) (Ref. 18).

3.1.3 Of these, the North East Cambridge AAP encompasses two of the development plans or specific allocations within them.

3.1.4 The demolition of both the existing Waterbeach WRC and the existing Cambridge WWTP are also considered within the list of cumulative activities under consideration, the former associated with the outline proposals associated with Waterbeach New Town East and the latter NEECAAP.

3.1.5 This following sub-sections provide a summary of the above.

3.2 Waterbeach New Town East

Overview

3.2.1 The Site is located approximately 6km northeast of the urban edge of Cambridge, adjacent to the existing village of Waterbeach. It comprises 231ha of land between the 'Fen Line' railway that links Cambridge and King's Lynn, and the former Waterbeach airfield and barracks. The existing Anglian Water Waterbeach Recycling Centre (WRC) is located within the south east of the development site.

3.2.2 Outline planning granted for the provision of up to 4,500 residential units, including up to 450 carehome/residential institution dwellings, retail use, employment use, a new secondary school and sixth form centre, community and leisure facilities, relocated railway, energy centre, and new landscaping including formal and informal accessible land.

3.2.3 Construction dates are not provided, and the permission is not yet granted. Based on assumed consent in 2023 and assuming a build out rate of up to 400 units per year

the construction phase is assumed to be between 10 to 15 years from no sooner than 2023 to 2033/2038.

Assessment findings

Environmental assessment

3.2.4 The following summarises details from the Non Technical Summary of the ES (LDA Design, Planning – Planning Application Documents, 2019).

3.2.5 The ES Addendum for Waterbeach New Town East comprises:

- A Non-Technical Summary (NTS) Update. The NTS (this document) which has been updated to reflect the updates to the Original ES; and
- ES Addendum: The updated, replacement and supplementary text, figures and appendices that are to be incorporated within the Original ES.

Air quality

3.2.6 The changes in traffic associated with the Proposed Development are expected to have a negligible impact on new and existing receptors. Overall, the impacts on air quality are not significant.

Ecology

3.2.7 There are no statutory designated sites located within the site boundary. The closest statutory site is Cam Washes Site of Special Scientific Interest (SSSI) located 2km to the northeast of the Site.

3.2.8 An area to the east of the existing Waterbeach WRC is earmarked as a reptile receptor site (this overlaps with the area of land required for the construction of the Waterbeach pipeline).

3.2.9 There will be no significant residual effects other than on breeding birds as a result of the loss of arable farmland. The Fenland Park and the areas to the north and east will help compensate some of the loss although due to the large area and number of territories lost, there will be a significant, residual adverse effect at local level.

Historic environment

3.2.10 It is assessed that there would be glimpsed views of the Proposed Development possible from the village core. The majority of the Proposed Development would however be screened by buildings and vegetation. The effect on the character and appearance (and therefore heritage significance) of the Conservation Area is considered to be negligible, resulting in a negligible adverse permanent effect.

3.2.11 The change in the setting of RAF Waterbeach is considered to result in a negligible adverse permanent effect.

3.2.12 No significant residual effects are identified within the assessment.

Landscape and visual

- 3.2.13 The assessment concludes that overall, the effects on the character of the Fenland Landscape Character Area (LCA) would be at most of minimal significance and neutral. Permanent major adverse and major-moderate adverse effects would be experienced by people using public rights of way (PRoW), residents and motorists along Bannold Drove; Cross Drove and Long Drove; and within areas of Waterbeach village adjacent to the Site.
- 3.2.14 The assessment concludes that the greatest effects would be relatively localised and restricted to visual receptors within or immediately adjacent to the Site, where views are possible through and above intervening vegetation. Permanent major adverse and major-moderate adverse effects would be experienced by people using public rights of way, residents and motorists along Bannold Drove; Cross Drove and Long Drove; and within areas of Waterbeach village adjacent to the Site).
- 3.2.15 The assessment identifies visual effects would reduce with distance from the Site boundary resulting in moderate to slight effects by receptors at locations up to approximately 750m to the north of the Site and up to the eastern bank of the River Cam to the east of the Site. Receptors in these locations include recreational users of the River Cam, users of PRoW, including the Fen Rivers Way and residents in a small number of properties. Permanent effects are neutral from these locations.
- 3.2.16 Beyond these areas, the Proposed Development would result in permanent effects that are at most minimal and neutral. This includes locations within Waterbeach village (not immediately adjacent to the Site); along Long Drove (north of Dog & Duck Farm) and along the River Cam north of Swaffham Lock; on land east of the River Cam; and north and north west of the Site (including within Denny Abbey).

Land quality

- 3.2.17 The assessment identified the potential for significant effects to occur in relation to:
- Potential effects on future Site users from direct contact with reused soils in areas of gardens and public open space; and
 - Permanent loss of agricultural soils during construction works and beneath proposed buildings.
- 3.2.18 These potential significant effects would be mitigated by implementing targeted ground investigation, particularly in areas where future end users will be in contact with public open space and where the Waterbeach Airfield previously encroaches into the Site. There would also be a Materials Management Plan (MMP) or environmental permit prepared to cover reuse of potentially contaminated soil. The effect on future land users is permanent minor adverse.
- 3.2.19 The effect on agricultural land is permanent minor adverse.

Noise and vibration

- 3.2.20 The assessment included noise modelling which identified noise level increases associated with development traffic are generally below 1 decibel and therefore represent a negligible impact.
- 3.2.21 In some cases, there are decreases in noise levels with an exception identified in the vicinity of Orchard Drive, Bannold Box Cottages and some properties at Abbey Place where the increase in noise will be greater than 1 decibel. These increases are still below the upper threshold of unacceptable noise and therefore not significant.
- 3.2.22 The school requires primary mitigation in form of acoustic bund to reduce noise effects.

Population and human health

- 3.2.23 The construction phase assessment has identified that there will be minor temporary adverse effects arising from changes to community resources as a result of disruption and reduced connectivity within Waterbeach village.
- 3.2.24 Overall, no significant adverse effects on health are considered to occur as a result of the development proposals.

Traffic and transport

- 3.2.25 The Transport Assessment identifies that one link (Ely Road south of junction with A10) will experience an increase in vehicle movements of more than 30%.
- 3.2.26 Following the implementation of mitigation measures, the pedestrian, cycle and public transport networks will be largely unaffected by construction activities at the Site as construction access would be routed via the A10. However, it is noted that in the event that a strategic link to the A10 via Waterbeach New Town West is delayed, there would be negligible to moderate negative temporary effects for pedestrians and cyclists along Bannold Road, Cody Road and Bannold Drove.

Water resources

- 3.2.27 The assessment does not indicate any significant effects (taking into account mitigation), but entire development is on basis that there is a new WRC or that flows are diverted to the existing Cambridge WWTP.

Decommissioning and demolition of Waterbeach WRC

- 3.2.28 There will be a need to demolish the existing Waterbeach WRC in the future which is within the development area for Waterbeach New Town East.
- 3.2.29 There is currently no specified timeframe for this activity which will depend on a number of factors such as the build rate of specific parts of Waterbeach New Town. This activity would be after the completion of the works to construct the Waterbeach pipeline and pumping station.

- 3.2.30 This demolition activity is expected to be the responsibility of the developer of Waterbeach New Town East. The decommissioning and surrender of the water quality Environmental Permits will be undertaken by Anglian Water .
- 3.2.31 The timeframe for this is likely to be approximately 4 to 8 months, but the approach or details on aspects relating to this activity, such as waste volumes are not known but would be relatively small.
- 3.2.32 This relatively minor demolition exercise would be undertaken in accordance with applicable health and safety controls and a CoCP/CEMP applicable to the application. This would ensure construction and demolition activity is effectively controlled to minimise the duration and magnitude of any temporary effects.

3.3 Waterbeach Station Relocation

Overview

- 3.3.1 A full planning application for the relocation of Waterbeach Station has been granted and application documents indicated that this would be completed by 2021. From consultation with the Waterbeach Development Company (in November 2022) it is understood that the programme is to construct the station for opening by December 2025 with construction likely to commence in December 2024.
- 3.3.2 These activities are not yet initiated and it as a worst case it is assumed the work would overlap with the construction of the Waterbeach pipeline.
- 3.3.3 The programme for the Waterbeach Station redevelopment is indicated as taking 12 to 18 months to complete the construction works for the station and its link road.
- 3.3.4 The Committee report stated: *“In terms of accessing the site for construction, this is normally dealt with through the submission of a construction management plan (CEMP) submitted as a planning condition. The choice of routes for construction traffic will depend on a number of factors, such as what is being delivered and when it will be delivered. Some elements for the construction of the new railway could be delivered by rail, and some could use Cody Road and / or Bannold Road. It may be possible, depending on the timing of the construction of the proposed railway station and access road with the determination of the two outline planning applications, for some construction traffic to use the former barracks site to access the site. This issue will be dealt with by the submission of a CEMP required by planning condition”.*
- 3.3.5 A non material amendment application (reference S/0791/NMA1) was submitted in August 2022 and approved in September 2022. This approved an amendment to the wording of a number of planning conditions to allow ‘site layout operations’ to commence before pre-commencement conditions need be discharged. The effect of this is to allow the developer to make a lawful start on site. The ‘site layout operations’ will trigger the implementation of the planning permission and therefore keep it extant.
- 3.3.6 There would be a small area of overlap between the area of land required for the Waterbeach pipeline and the boundary of the relocation development.

- 3.3.7 These activities are not yet initiated and would potentially interact with construction of the northern part of the Waterbeach pipeline, either before, during or after this is installed. In many respects it would be useful to undertake both projects in parallel to minimize potential disturbance and potentially to provide an alternative access via the former barracks site to the north. As a worst case in terms of traffic and available space, it is assumed the work would overlap with the construction of the Waterbeach pipeline. Ideally, this section of the Waterbeach pipeline would be laid at an early stage of the Waterbeach Station development and would not interfere with it. Alternatively if the pipeline was installed after the station is in place, there would be a need to reinstate any disturbed ground, or landscaping.

Assessment findings

Air quality

- 3.3.8 The Air Quality Assessment (Mott MacDonald, 2018) undertaken for the development concluded that there are no likely significant construction dust effects.
- 3.3.9 Additionally, the assessment found that the development is not predicted to cause any exceedances of the annual mean NO₂, PM₁₀ or PM_{2.5} objectives. The assessment also demonstrated that the short-term objectives for NO₂ and PM₁₀ are not expected to be exceeded at nearby sensitive receptors. The overall change in concentrations of these pollutants as a result of the Proposed Development is not predicted to be significant.

Ecology

- 3.3.10 No construction or operational impacts on statutory or non-statutory designated sites are predicted, therefore no additional mitigation, compensation or enhancement measures are considered.
- 3.3.11 Ecological assessment has identified potential impacts on habitats as a result of loss of 70m of hedgerow within the south western section of the development, dredging or modification of the wet ditch east of Bannold Drove and permanent loss of semi-improved grassland.
- 3.3.12 Potential impacts on protected species include impacts from construction and operational lighting on bat activity patterns, foraging behaviour and commuting routes, potential impacts on badgers, water voles and breeding birds and loss of suitable reptile habitat.
- 3.3.13 Proposals include provision of a landscape ecology management plan and range of habitat mitigation measures in addition to net gain proposals. Some of that land proposed for habitat creation overlaps with the land required for the construction of the Waterbeach pipeline.

Health

- 3.3.14 The Health Impact Assessment undertaken for the development has identified indirect health benefits from improved access to transport and its associated indirect health benefits from the employment and training opportunities. These benefits

have been assessed as being of permanent moderate benefit. Additionally, development is providing indirect health benefits as a consequence of reducing crime and public safety through safe urban design.

- 3.3.15 It also notes that the development contributes to adverse health outcomes as a consequence of reduced social cohesion as well as reduced neighbourhood amenity through the relocation of the existing station. A minor short-term adverse health outcome was predicted due to construction noise, though these are associated with night-time works, which will be limited in both duration and frequency.

Land quality

- 3.3.16 A geo-environmental preliminary risk assessment identified the following risks:

- potential for ground gas due to the potential peat deposits within the development location;
- unknown quality of the soil within the development location; and
- unknown quality of groundwater and its flow.

- 3.3.17 All mitigated risks were assessed as low assuming the associated control measures and mitigation were implemented.

Landscape and visual

- 3.3.18 The landscape and visual appraisal concluded that there are potential moderate adverse effects to the Western Claylands Landscape Character Area (LCA) in the area of the development itself and its immediate context. Beyond the immediate context, the effects on the Western Claylands LCA are neutral.

- 3.3.19 The landscape and visual appraisal identified moderate adverse effects on receptors in close proximity to the development, notably users of Bannold Drove, residents in areas in the northern area of Waterbeach and motorists along stretches of Long Drove and Bannold Road south and south east of the development, moderate neutral effects on the users of the Fen Rivers Way and slight neutral effects on the users of Bannold Road, Long Drove north and locations north east of the development.

Lighting

- 3.3.20 The Lighting Impact Assessment (MottMac Donald, 2018) identified minor adverse residual effects from construction. During operation, minor adverse effects are expected on residential areas and access routes, negligible effects on railways and **moderate adverse effects** on certain viewpoint locations in the area.

Noise and vibration

- 3.3.21 The Noise and Vibration Impact Assessment (Mott MacDonald, 2018a) has specified that the significant adverse effects for residential receptors can be avoided by specifying a readily attainable noise limit during construction. Additionally, construction vibration is unlikely to result in significant adverse effects.

3.3.22 Operational traffic arising from the construction of the new access road, noise from the operational railway and operational vibration is not expected to result in a significant adverse effect. A negligible noise reduction is expected for the villages of Clayhithe and Horningsea.

Transport

3.3.23 Transport Assessment (WSP, 2018) identified increases of highway flows on the A10 north of Waterbeach Road, Denny End Road, Bannold Road and Cody Road as these form the main access route to the station. The main impact is on Cody Road, which would experience an average hourly increase of 73 vehicles during peak period. This is not considered a severe impact as it is just over 1 vehicle per minute on average.

3.3.24 Highway flow reductions are likely on the A10 between Waterbeach Road and Car Dyke Road, along with reductions on Car Dyke Road itself, Station Road and High Street passing the Primary School.

3.3.25 Overall, the assessment considered it is that the impacts of the Proposed Development could be 'cost effectively limited through the proposed improvements in the transport network, and that the residual cumulative impacts of the relocation are not severe'.

3.3.26 The assessment also concluded that there are significant transport benefits to be secured by the removal of station-related travel demand in the vicinity of the existing Waterbeach station and reduced risk at the level crossing.

3.3.27 The construction route for vehicular access is indicated to be from the A10 following Denny End Road, Bannold Road and Bannold Drove to access the construction site. This is intended to be managed through a Construction Environmental Management Plan (CEMP), secured through a planning condition. No construction numbers are included in the transport assessment included in the current planning application (WSP, 2018).

3.3.28 On completion of the construction, the vehicular access for the new station will be via Cody Road and the new link road. Bannold Drove will be changed to a walking and cycling only route connection from Bannold Road. Vehicle access from Bannold Drove will only for access/egress to adjacent properties.

3.3.29 As the wider development of Waterbeach New Town is progressed a new access road from the A10 will be provided. This future provision of the A10 access road will reduce vehicular access needs from Bannold Road and Cody Road.

3.3.30 During construction, transport flows would be managed through the respective CEMP/CTMPs for each project.

FRA

3.3.31 The FRA for completed for the station relocation application (MacDonald, 2019a) states that:

- Flood Zone mapping shows that while some of the Proposed Development lies in Flood Zone 1, the majority lies in Zone 2. A small section in the

south-east corner lies in Zone 3. On the basis of the NPPG Flood Risk Vulnerability Classification Table (Figure 4) the proposed “essential infrastructure”, “less vulnerable” and “Water compatible” developments can all be placed in Flood Zone 1. On the basis of the geology encountered and the infiltration test results, it is considered that disposal of surface water to ground via infiltration is not feasible.

- As part of the strategic surface water runoff management strategy for the wider development it is proposed to incorporate SuDS features to best mimic current greenfield conditions, as well as provide source control, water quality, biodiversity and amenity benefits. These features could include swales, filter strips, ponds and permeable paving.

3.3.32 The site has also been considered for groundwater, pluvial, surface water overland flow, sewer capacity, Pump Station failure, Flood Defence Breach, tidal and estuary flooding. The following was concluded:

- There are pockets of the development at “more risk” of flooding from pluvial sources, and mitigation has been proposed to reduce the risk of this.
- The existing site comprises undeveloped greenfield land. It is considered that the risk of sewer capacity flooding is low.
- The site is at negligible risk of flooding from reservoir failure.
- The impact of any failure of pumps at Bottisham Lock and Cam pumping stations is considered unlikely to impact the Waterbeach Railway Station Relocation development.
- In a worst-case scenario breach, modelling shows a depth of flooding of approximately 0.53m in the area of the Proposed Development and mitigation measures have been proposed to reduce any potential impact should this occur. The existing railway line and proposed station platforms are above the modelled flood level and therefore considered to be at negligible risk of flooding in a breach event.
- The risk of potential of tidal and estuary flooding event causing a tidal lock at the confluence of the Ouse and Cam rivers, combined with a fluvial event in the River Cam is considered to be low.

3.4 Waterbeach New Town

Overview

- 3.4.1 The Application Site (S/0559/17/OL) is approximately 293ha and is located immediately north of Waterbeach village. It is approximately 5km north of the Cambridge urban area but within the district of South Cambridgeshire.
- 3.4.2 Outline planning was granted in 2019 for up to 6,500 dwellings (including up to 600 residential institutional units), business, retail, community, leisure and sports uses; a

hotel; new primary and secondary schools; green open spaces including parks, ecological areas and woodlands; principal new accesses from the A10 and other points of access; associated infrastructure, groundworks and demolition; with all matters reserved except for the first primary junction from the A10.

- 3.4.3 No detailed phasing of the scheme was provided in the information available at the time of this assessment, with the exception of the proposed first phase of new build development located north of the lake, with primary access from the existing Cambridge Research Park roundabout on the A10.
- 3.4.4 The EIA supporting the outline planning assumed that the construction of the Waterbeach New Town would take place over a 16 to 20 year period from 2017-18 until 2033/4 to 2037/8.

Assessment findings

- 3.4.5 The applicant (Urban and Civic) prepared an EIA and reported in an ES in 2017. Subsequent to the 2017 assessment the EIA was updated to account for changes to environmental assessments as a result of the further and revised information.

Waterbeach New Town Environmental assessment (2017)

Agriculture

- 3.4.6 The Application Site includes 44.8ha of land capable of being put to agricultural use, of which some 21.8ha hectares was determined through a soil survey of the Site as being “best and most versatile” land (sub-grade 3a). No land is categorised as either grade 1 or 2.
- 3.4.7 The loss of best and most versatile agricultural land has been assessed as having a **moderately adverse effect**.
- 3.4.8 No changes were made to the Agricultural and Soil Resources chapter as a result of the update to the ES in 2018.

Air quality and odour

- 3.4.9 The air quality assessment was updated to include a review and update of air quality policy, an update of local air quality monitoring data and an update in vehicle emissions factors and background data since the initial assessment. In addition, the initial phase of 1,600 residential units (Early Phase) was assessed
- 3.4.10 The assessment states that the construction effects would be managed through the application of a CEMP and would not be significant.
- 3.4.11 Although moderate adverse impacts were predicted at residential receptors along the A10, the overall effects of development traffic on existing human health receptors were judged to be not significant as the predicted pollutant concentrations are well below the relevant air quality objectives. To further reduce the impacts, a site-wide Framework Travel Plan and Low Emissions Strategy were developed and included within the application.

3.4.12 In the future, the modelling predicts a **negligible effect on air quality** at all off-site and on site receptors in terms of nitrogen dioxide and particulate matter. Whilst the odour source potential from the Waste Management Park is judged to be large, the frequency of odour exposure at the Application Site is infrequent due to the prevailing wind direction and overall it is considered to have a **minor adverse effect**.

Ecology

3.4.13 The updated assessment incorporated the findings of further surveys. No changes to the 2017 assessment were identified.

3.4.14 The Waterbeach New Town Ecological Assessment (EA) identified the potential for some minor adverse and indirect impacts on Wicken Fen and Cam Washes during the construction phase as a result of pollution. The EA states those impacts could be effectively mitigated through good construction management practices.

3.4.15 The Waterbeach New Town Ecological Appraisal determined that the completed development could, before mitigation, result in **negligible or minor impacts** on habitats and species (grassland, wetlands, woodlands, trees, lichens, reptiles, breeding birds, overwintering birds, bats, great crested newts, brown hare, flora and invertebrates and badgers).

3.4.16 Mitigation and measures to enhance the ecological resource would result in only **negligible or positive (residual) impacts**.

Historic environment

3.4.17 The assessment was reconsidered to account for changes to the Proposed Development relating to the widening of the extent of the buffer area in the northern central part of the site, to the south of Denny Abbey. This change resulted in shifting the extent of built development further south. The buffer area was reduced in width slightly in the northeast and north-west corners of Application Site (pulling the extent of built development further north).

3.4.18 The original assessment identifies slight and moderate adverse effects upon a number of heritage assets are determined to be likely, prior to mitigation; with the likely effect on the setting of Denny Abbey and archaeological deposits being **moderate and adverse**.

3.4.19 The creation of a buffer and screen planting was taken into account to mitigate the impact upon Denny Abbey to a slight effect upon completion and recording and publishing of archaeological finds during the construction phases will mitigate the impact upon archaeology.

3.4.20 The change to the buffer area was reassessed and considered to reduce the impact of built development on the identified heritage assets within the northern part of the site (the retained Causeway and Soldiers Hill) and upon Denny Abbey, to the north of the site. The assessed benefit is not such that the potential effects and residual effects upon heritage assets would change from those set out in the submitted Environmental Statement.

Hydrology flood risk and drainage

- 3.4.21 The updated incorporated modelling and an updated Flood Risk Assessment and a revised flood extents plan.
- 3.4.22 The initial assessment states that construction effects would be managed through the application of a Construction Environment Management Plan (CEMP) and would **not be significant**. This remains unchanged.
- 3.4.23 Subject to the implementation of SuDS and other measures in the drainage strategy the effect on flooding within and beyond the site, and the effect on water quality, is identified as **negligible**. This remains unchanged.
- 3.4.24 The increased demand for potable water and increased waste water discharge is identified as a moderate and major adverse impact respectively if not mitigated. The assessment considers that there is some water supply capacity available for the Proposed Development but that there is limited capacity for the treatment of sewage at the existing Waterbeach Water Recycling Centre (WRC) and the connecting sewers.
- 3.4.25 In addition, updated information is provided regarding the strategy for foul water and the intention of Anglian Water to build a new Water Recycling Centre; and updated water quality monitoring data was appended for completeness.
- 3.4.26 The assessment notes that there is existing capacity in the network to be used to support initial level of development prior to the construction of new water supply infrastructure. However, improved and new waste water drainage infrastructure is required for the completed development. The assessment defers to an Anglian Water proposed new Water Recycling Centre to support the development.
- 3.4.27 The assessment also accounts for the implementation of water conservation measures would be implemented to further mitigate impact of water demand and waste water generation. Following mitigation, the effects area assessed as being reduced to **minor adverse**.

Landscape and visual

- 3.4.28 The Landscape and Visual Impact Assessment (LVIA) was updated.
- 3.4.29 The initial assessment states that the greatest effect of the construction activities associated with the Waterbeach New Town on views would be limited to receptors near or adjacent to the Site, varying largely from **negligible to moderate adverse** depending on the nature and location of the receptors. These effects would be minimised through implementation of mitigation, such as preventing construction traffic through villages, retaining and protecting existing vegetation and managing construction lighting.
- 3.4.30 The effect of construction activity on the landscape character is considered to be **negligible to minor adverse** for most parts of the landscape and **moderate adverse** at Denny Abbey during works to the north of the site.

3.4.31 The assessment concludes that at the post-completion stage, the greatest effects of the Proposed Development would remain to receptors in close proximity. The implementation and establishment of the proposed green infrastructure and landscape measures would reduce most of the effects to **negligible** or **minor adverse**, with many improving to **minor** or **moderate beneficial**. At night-time, it is concluded that, provided lighting mitigation measures are implemented, the impact would be no greater than the daytime effects.

3.4.32 The LVIA Addendum concludes the following changes in likely effects, as a result of changes to the development proposals:

- For Denny Abbey, the development would be pulled back further from the northern boundary of the Application Site and a retained causeway approaching from the south, reducing effects on the landscape surrounding the Abbey from moderate adverse to **minor-moderate adverse** on completion of the development. Similarly, effects on views from and surrounding Denny Abbey would reduce from moderate-major adverse to **moderate adverse**. Long term effects would be **neutral** as reported in the 2017 ES.
- For properties to the west of Denny Abbey (viewpoint 18), the increase in width of the northern parkland (as a result of pulling the development back from the northern boundary) would improve the likely effects from minor-moderate adverse to minor adverse immediately on completion of the development. Long term effects would improve to **neutral**, as reported in the 2017 ES.
- For residents on Orchard Drive, the reduction in building heights in the south-east corner of the Site would improve the effect of the completed development (on views directly to the west and northwest) from **minor beneficial** to **minor-moderate beneficial**.

3.4.33 In terms of cumulative impacts, the update considers the proposed Energy from Waste facility on the Amey Cespa site and that it would have a significant effect on the immediately surrounding landscape and views, including Denny Abbey. Although the effect of that development would remain into the long term, the effect of the Proposed Development on the Application Site would reduce to **neutral**, with any increase in the combined effect of these developments remaining **negligible**.

Noise and vibration

3.4.34 The assessment concludes that the construction effects would be managed through the application of a CEMP and would **not be significant**.

3.4.35 Operation phase effects mitigated through design measures at the detailed stage and leading to an overall impact associated with noise and vibration would be **negligible**.

3.4.36 Post-completion impacts are also assessed as being adequately mitigated through design measures at the detailed stage and leading to an overall impact associated

with noise and vibration as **negligible**. This is also the case for the proposed energy centres that would be controlled via layout and design and appropriate conditions on operations.

Transport

- 3.4.37 The assessment establishes, with reference to the accompanying Transport Assessment, that a quantity of development (including 1,600 dwellings) can be constructed, alongside a range of defined transport improvements and travel planning measures, with only **minor adverse** impacts upon the transport network.
- 3.4.38 Major adverse effects without mitigation of which the details are to be identified through the A10 Study, each with their own separate assessments. Measures are stated as a new Park & Ride at or close to the Application Site, a new Busway to serve the Application Site, a capacity enhanced A10, and strategic improvements to the A14 and A10 Milton Interchange and relocation of Waterbeach Station.
- 3.4.39 The Transport Assessment accompanying the Outline Planning Application was substantially altered based upon revised modelling of transport impacts. The conclusions reached on the effects associated with the Proposed Development (reliant as the strategy is upon managing impacts going forward through an adaptive Monitor and Manage approach) did not differ from the previous conclusions.

3.5 Cambridge North Residential Quarter

- 3.5.1 Development proposals brought forward in relation to an area of land within the Northern East AAP. The South Cambridgeshire Local Plan 2018 local plan policy SS/4 (Cambridge Northern Fringe East and Cambridge North railway station) applies to this area.
- 3.5.2 The development proposals would provide the following:
- Approximately 700 private rental sector (PRS) residential units;
 - Approximately 11,000 square metres of office space (Use Class B1 (a));
 - Approximately 1,450 square metres of retail use (Use Classes A1/A2/A3/A4/A5);
 - A maths college comprising 2,430sqm of Class D1 use; and
 - Landscaping, public open space, parking, sustainable drainage and associated infrastructure works.
- 3.5.3 A Scoping Opinion was provided by Greater Cambridge Shared Planning (GCSP) in October 2020 which confirmed that the development proposals are Schedule 2 development as described in the EIA Regulations, being an urban development project, which exceeds the applicable thresholds/criteria (Category 10b, Urban Development Project). Given the characteristics of the development, the location of the development, and the characteristics of the potential impact, the Proposed Development constitutes EIA development.

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Scoping Report

Air quality

- 3.5.4 Effects likely to result from construction activities are associated with dust and PM₁₀, with the potential to cause nuisance and health impacts at nearby sensitive receptors. Traffic-related emissions generated by construction traffic have potential to result in impacts on local air quality. Impacts on local air quality are also likely during operation as a result of changes in traffic-related emissions associated with the development.

Ecology

- 3.5.5 Potential likely significant effects on ecology are due to loss of Open Mosaic Habitat, spread and management of invasive species, impacts on reptiles, birds, bats and invertebrates.
- 3.5.6 There is no readily available information about the potential impacts on designated sites.

Flood risk and drainage

- 3.5.7 The scoping report indicates that during construction, the effects of all potential impacts can be mitigated through implementation of a robust CEMP.
- 3.5.8 During operation, potential impacts may include an increase of the rate and volume of surface water run-off to River Cam catchment, thus increasing downstream flood risk and impacts on surface water and groundwater quality.

Historic environment

- 3.5.9 There are no Scheduled Monuments or Listed Buildings identified on the site or within the 500m of its boundary. There are also no Registered Parks or Gardens or historic battlefields in close proximity to the site.

Landscape and visual

- 3.5.10 There are likely significant effects to the visual receptors in close proximity to the development. Longer-distance views appear to be substantially screened by intervening vegetation and built form.

Noise and vibration

- 3.5.11 Potential impacts during construction include noise and vibration from construction activities and construction traffic. Potential impacts during operation include operational noise from the development such as building services plant, operational traffic noise generated by the development and the risk of adverse effects on the development itself from existing noise sources.

Odour

- 3.5.12 No significant sources of odour form part of the development resulting in no likely effects on odour.

Soils and groundwater

- 3.5.13 Potential impacts include impacts on human health from potential exposure of on- and off-site users to contaminants in soils, groundwater and ground gasses, impacts on controlled waters from potential infiltration of leachable contamination and migration of contaminated water, and impacts on infrastructure due to potential exposure of materials to a potentially aggressive environment causing damage.

Transport

- 3.5.14 Potential impacts on transport due to an increase in construction vehicles during the construction phase of the development and potential impacts on transport network during operation due to increase in vehicular movements associated with the operational development.

Subsequent application (June 2022)

- 3.5.15 The planning application in relation to the Cambridge North Residential Quarter was submitted in June 2022. In relation to the topics described above, as detailed in the summary of effects (Bidwells, 2022) no significant adverse residual effects are predicted to occur during construction/operation of the scheme for: air quality; historic environment; ecology; flood risk and drainage; soil and groundwater; and transport.
- 3.5.16 There are moderate beneficial effects on human receptors, which are significant, as the Proposed Development would address surface water flood risk associated with poor drainage of the existing car park at the site, and will provide new surface water drainage systems designed to manage the risk of flooding for the life of the development, accounting for the effects of climate change.
- 3.5.17 In addition, there are significant beneficial health effects reported in relation to the operation phase on accessible housing, housing mix and affordability, walking and cycling, open space, play space and access to nature, and local employment.
- 3.5.18 Significant adverse residual noise and vibration effects have been identified during the construction phase, with associated significant adverse health effects. In addition, the Proposed Development will result in one significant visual effect associated with the erosion of the rural context of Cambridge, as experienced from the Public Right of Way to the north of Fen Ditton.

Cambridge North Commercial Quarter application 21/05178/SCOP – Commercial

- 3.5.19 Application overlapping with Cambridge North Residential Quarter. The potential impacts identified are similar to those reported within the scoping report for the residential quarter.

3.6 Cambridge East AAP

Overview

- 3.6.1 The Cambridge East AAP has been prepared jointly with Cambridge City Council. The AAP identifies the site for a sustainable new urban quarter of approximately 10,000 to 12,000 dwellings and associated development as well as the off-site infrastructure needed to deliver and serve the urban quarter.
- 3.6.2 There is no firm timeframe indicated in the policy documents, and the development of Cambridge East is stated to take ‘many years to complete’. The AAP provides a general policy framework for the development as a whole, and more detailed policies for first phase of development of land to the north of Newmarket Road that can take place ahead of the relocation of Cambridge Airport. It also identifies potential for land north of Cherry Hinton to come forward before the Airport is relocated. There is currently no confirmation that the airport would be relocated.

Assessment findings

Development Plan Document Habitats Directive Assessment (South Cambridge District Council, 2007)

- 3.6.3 The report states that the conclusion of the screening assessment is that the Draft Cambridge Local Plan 2014 is not likely to have any significant effects on the Natura 2000 or Ramsar sites identified. The City Council therefore considers that it is not necessary to proceed to further stages of appropriate assessment (Cambridge City Council, 2014).
- 3.6.4 There is no readily available information about the potential impacts on nationally and locally designated sites and protected species as those will be considered as part of environmental assessments for individual developments.

Sustainability Appraisal

- 3.6.5 Relevant social, environmental and economic issues and problems identified in the report:
- Development will create additional demands of water supply (for homes, industry, etc.) in an area where the capacity of natural systems is limited.
 - Limited stock of brownfield land means new development will inevitably result in the loss of high-quality agricultural land.
 - The rural nature of the district means that development may result in the loss or deterioration of local habitats such as hedgerows and verges.
 - The district straddles several important transport arteries, and addressing local transport issues such as encouraging a modal shift to public transport will not solve the whole problem.

- Uncontrolled or unsympathetic development could harm local landscape character if it occurs on a large enough scale, or repeatedly through a particular area.
- South Cambridgeshire's archaeological heritage could be threatened by development that in effect sterilises known sites, or which harms the setting of sites with important historical or cultural associations.
- Development may encroach on existing areas of open space, amenity and recreation value, or it may harm their setting and tranquillity.
- Stow cum Quy Fen lies approximately 2km to the north, comprising neutral grassland of 'unfavourable but recovering' status, and areas of standing water important for dragonfly breeding. The report states that the site is currently subject to an English Nature enforcement notice requiring management procedures and improvements to prevent fluctuation in water levels (note that water quality is not mentioned specifically)¹. Supporting detail for policy CE/26 indicates that water draining of the eastern side of the site passes through Quy Water which crosses the north-western side of the SSSI.

- 3.6.6 The development(s) of Cambridge East will be subject to EIA, will provide the necessary infrastructure to support the development and is not likely to commence before the Proposed WWTP is completed and commissioned. The Proposed WWTP will treat flows associated with Cambridge East. It will have its own SuDS design to manage surface water effectively and waste water and surface water drainage systems will be separate. All other environmental effects will be mitigated and managed to an acceptable level and being consecutive, no significant cumulative effects are expected that are more significant than the effects of Cambridge East in isolation.
- 3.6.7 The AAP documents and associated policies contain mitigation proposals for almost half of the policies. It is noted within the Sustainability Appraisal that 'many of these proposals require further investigation or monitoring to better understand the likely impacts of the development once an initial Master Plan showing the layout of the main land uses, transport links, etc., has been prepared, and once the timing of building the different parts of the urban quarter can be interpreted in terms of its effect on construction activities at different points and on the surrounding villages and roads' (South Cambridge District Council,, 2007).
- 3.6.8 It goes on to state that the mitigation requirements would be delivered either through planning activities, or through the EIA prepared for the development(s). Furthermore, it is stated that the application may also be subjected to planning conditions (which may include 'Grampian' style conditions) linking the start and phasing of development to the availability of waste water infrastructure.

¹ The enforcement is no longer in place and the site is classed for 3 features as having a condition 'Unfavourable – recovering' (Natural England, 2021)

3.7 North East Cambridge AAP

Overview

- 3.7.1 Cambridge City Council and South Cambridgeshire District Council, working with Cambridgeshire County Council and Highways England, are jointly preparing an Area Action Plan (AAP) for the North East Cambridge (NEC) area. This plan is currently at the consultation stage. It is currently expected that the consultation period on the Proposed Submission for the NEC AAP will take place around 2024 (Greater Cambridge Shared Planning, 2022).
- 3.7.2 It covers the development of new high environmental quality urban land either side of city border. Development of 12,000 houses near employment creating 5,000 new jobs, with green spaces and public transport access, cycle routes and footpaths. This AAP encompasses the entirety of the existing Cambridge WWTP.
- 3.7.3 The HRA Report (LUC, 2021), the NTS of the sustainability appraisal (LUC, 2021a), the Outline Water Cycle Strategy (Stantec, 2021), the Biodiversity Study (MKA, 2020), Topic Paper for Open Space (GCSP, 2021) and Topic Paper for Transport (GCSP, 2020) have been reviewed.

Greater Cambridge North East Cambridge Area Action Plan - Habitats Regulations Assessment 2021

- 3.7.4 The findings of the HRA screening stage determined that impacts from recreation and water quantity and quality could result in a likely significant effect in relation to:
- Recreation – in relation to Wicken Fen Ramsar SAC and Fenland SAC.
 - Water quantity and quality – in relation to Ouse Washes SAC, SPA and Ramsar site, Wicken Fen Ramsar site, Chippenham Fen Ramsar site and Fenland SAC.
- 3.7.5 The Appropriate Assessment stage then concluded no adverse effect on integrity as a result of increased recreational pressure in relation to Wicken Fen Ramsar site and Fenland SAC provided safeguards and mitigation measures required by the plan in Policy 8: Open spaces for recreation and sport, Policy 5: Biodiversity and Net Gain and Policy 27: Planning Contributions are successfully implemented. These are summarised below:
- Development proposals will be required to make provision for new or enhanced open space and recreation sites. These will be in line with the Cambridge City local standards of provision of all relevant types of open space and the Councils' open space and sports strategies, where applicable.
 - Development proposals in the NECAAP will make provision for and deliver a total of 22.54ha of additional open space alongside the protection of existing open space located at Cambridge Science Park and St John's Innovation Parks. All informal open space requirements are expected to be met within the North East Cambridge area.

- Applicants for development will be required to provide open space and to secure it in perpetuity, and provide arrangements for its future management and maintenance.
- Specific off-site contributions will be sought towards a new pedestrian/cycle bridge over the railway to improve recreational access to the River Cam and wider countryside as part of the wider green infrastructure network.
- Protection of existing open spaces, including Cambridge Science Park and St John's Innovation Parks.
- All residential housing proposed in the plan will be within a five minute walk of an open space and will align with Natural England Accessible where all homes will be within 300m of an open space (>2ha).
- Protection and enhancement of habitats is required to ensure a coherent and high quality ecological network in North East Cambridge and the surrounding areas.
- All development will be required to avoid any adverse impacts on the conservation value of any designated environmental and nature conservation sites and protected habitats.
- All new development proposals within NEC are required to contribute towards the necessary supporting infrastructure, through both on-site provision and financial contributions to relevant area-wide requirements. Including management and maintenance of strategic infrastructure, and green infrastructure.

3.7.6 The Appropriate Assessment concluded no adverse effect on integrity as a result of increased demand for water supply in relation to Ouse Washes SAC, SPA and Ramsar, Wicken Fen Ramsar, Chippenham Fen Ramsar and Fenland SAC provided that the safeguards and mitigation measures within Policy 4a: Water Efficiency and Policy 4b: Water quality of the plan are successfully implemented and that the WRE Water Management Plan with adequate new water supply sources identified is in place prior to adoption of the plan. Policy 4b requires the following:

- Development proposals will need to demonstrate that they will be served by an adequate supply of water that will not cause unacceptable environmental harm, that there is appropriate sewerage infrastructure, and that there is sufficient sewage treatment capacity to ensure that there is no deterioration of water quality.
- For phased development, each phase must demonstrate sufficient water supply and waste water conveyance, treatment and discharge capacity. A planning condition or obligation may be secured to ensure all necessary works relating to water supply, quality and wastewater have been carried out prior to development being occupied.

- All development proposals should include an assessment of the measures taken to protect and enhance water quality within the surrounding water environment including local surface water and groundwater, in particular, where there is known or potential land contamination; the proposal alters ground conditions; and in the consideration of the form(s) of sustainable drainage scheme to be incorporated.

3.7.7 The Appropriate Assessment concluded no adverse effect on integrity as a result of increased demand for water supply in relation to Ouse Washes SAC, SPA and Ramsar, Wicken Fen Ramsar, Chippenham Fen Ramsar and Fenland SAC provided that appropriate wastewater treatment infrastructure with sufficient capacity is delivered as part of the relocation of the Cambridge WRC being undertaken by Anglian Water.

3.7.8 For water quality the additional mitigation measures implemented through Policy 4b: Water quality and ensuring supply, are also applicable. This policy requires new development to demonstrate appropriate sewerage infrastructure and that there is sufficient sewage treatment capacity before development is permitted. Through Policy 4a: Water Efficiency, which ensure high water efficiency standards and Policy 4c: Flood Risk and Sustainable Drainage requires that development includes a suitable Sustainable Drainage System (SuDS) in line with best practice. These are considered to result in multiple benefits including minimising surface water run-off rates from development and helping to improve the quality of the run-off.

Sustainability Appraisal: Non-Technical Summary (NTS)

3.7.9 The Sustainability Appraisal NTS states that in-combination effects are likely to be limited, given the separation of the A14 and the existing built-up nature of North East Cambridge. In-combination effects are likely with regards to SA objective 6 (landscape), which are mitigated by the design of the proposed WWTP and its integrated landscape plan.

3.7.10 Positive in-combination effects on SA objective 14 (economy) are expected as the development of NEC is facilitated by the relocation of the existing Cambridge WWTP. The effects of the development of NEC will be considered in detail in the EIA accompanying the planning application, which will include consideration of in-combination effects, mitigation of likely significant environmental effects on factors such as traffic, noise, air quality, visual impact, health and well-being. Overall, it is expected that both developments make a positive contribution which are multiplicative.

3.7.11 A cumulative effects assessment is presented for each of the 16 Sustainability Appraisal objectives, these are summarised in Table 3-1.

Table 3-1: Summary cumulative assessment of NECAAP Sustainability Appraisal objectives

SA Objective	Cumulative assessment
1 - Minimise the irreversible loss of undeveloped land,	The majority of NEC consists of previously developed land and AAP seeks to make efficient use of land in this area. As such,

SA Objective	Cumulative assessment
protect soils and economic mineral reserves	cumulative significant positive effects (++) are expected for this SA objective
2 - Improve air quality and minimise or mitigate against sources of environmental pollution	Overall, cumulative significant positive uncertain effects (++?) are expected for this SA objective. Uncertainty arises because the AAP aims to reduce vehicle trip generation below current levels, which could be very challenging to achieve, given the scale of development in the AAP. If this is not achieved, there is potential for negative effects to arise, given the potential effects on the A14 Corridor AQMA.
3- Protect and where possible enhance the quality of the water environment	Overall, cumulative minor positive effects (+) are expected for this SA objective
4 - Avoid adverse effects on designated sites and protected species	Taking into account the findings of the Habitats Regulations Assessment at this stage of plan-making, cumulative mixed minor positive effects (+) are expected for this SA objective.
5- Maintain and enhance the range and viability of characteristic habitats and species and improve opportunities for people to access and appreciate wildlife and green spaces	Open Spaces for Recreation and Sport may lead to creation of green space with biodiversity value. Overall, cumulative minor positive effects (+) are expected for this SA objective
6 - Maintain and enhance the diversity and local distinctiveness of landscape and townscape character	The AAP seeks to create a distinctive, attractive city district, through the policies set out in Chapter 3 – Design and Built Character. In particular, Policy 6a: Distinctive Design for North East Cambridge is expected to ensure development is integrated into and contributes positively to the existing landscape and townscape. A number of other policies also require improvements to the quality of the public realm, providing spaces for movement, and interaction, which will help ensure a vibrant townscape. Overall, a cumulative significant positive effect (++) is expected for this SA objective.
7 - Minimise impacts on climate change (including greenhouse gas emissions)	Overall, cumulative significant positive and minor negative effects (++/-) are expected for this SA objective.
8 - Reduce vulnerability to future climate change effects	Overall, the AAP includes a number of measures to help development adapt to climate change, therefore cumulative significant positive effects (++) are expected for this SA objective
9 - Maintain and enhance human health and wellbeing and reduce inequalities	Overall, cumulative significant positive effects (++) are expected for this SA objective.
10 - Improve the quantity and quality of publicly accessible open space	The 'centres' policies (10a to e) also include provision of open/civic space. Overall, cumulative significant positive effects (++) are expected for this SA objective

SA Objective	Cumulative assessment
11 - Ensure everyone has access to decent, appropriate, and affordable housing	Policies 13b to 13f give further details on the variety of housing to be provided, which together are expected to provide a suitably diverse range of housing stock. As such, cumulative significant positive effects (++) are expected for this SA objective.
12 - Redress inequalities related to age, disability, gender, race, faith, location, and income	Overall, a cumulative minor positive effect (+) is expected for this SA objective.
13 - Improve the quality, range and accessibility of services and facilities (e.g. health, transport, education, training, leisure opportunities)	Overall, cumulative significant positive effects (++) are expected for this SA objective.
14 - Improve the efficiency, competitiveness, and adaptability of the local economy	Overall, cumulative significant positive effects (++) are expected in relation to this SA objective, as the AAP will help provide jobs for NEC and the wider area, as well as boosting the local economy.
15 - Support appropriate investment in people, places, communities, and other infrastructure	Overall, cumulative significant positive effects (++) are expected for this SA objective
16 - Reduce the need to travel and promote more sustainable travel choices	The AAP has a strong focus on reducing the need to travel and promoting sustainable modes of transport, including walking and cycling connectivity, particularly via Policy 16: Sustainable Connectivity, Policy 18: Cycle Parking, Policy 19: Safeguarding for Public Transport and Policy 21: Street Hierarchy. North East Cambridge Area Action Plan 33

Source: (LUC, North East Cambridge Area Sustainability Appraisal: Non-Technical, 2021a)

In combination effects

3.7.12 The appraisal includes a consideration of in-combination effects including a consideration of the relocation of the existing Cambridge WWTP. The assessment acknowledges the location of the proposed WWTP is relatively close to the AAP area and indicates that in-combination effects are likely to be limited, given the separation of the A14 and the existing built-up nature of North East Cambridge. The following summarises the in-combination assessment presented in the AAP documentation.

Water quality

3.7.13 It is concluded that there is potential for negative in-combination effects with regards to water quality (SA objective 3), given:

- the proximity of both sites (NEECAPP and the proposed WWTP) to the River Cam, the potential for release of contaminants into waterbodies and ground water at North East Cambridge; and
- the increased demand on wastewater as a result of development at North East Cambridge, and other housing/employment provision within the adopted Local Plans, and potentially the Greater Cambridge Local Plan.

Landscape

3.7.14 Adverse in-combination effects are also considered likely with regards to SA objective 6 (landscape). This attributed to the density of development at North East Cambridge being increased and the proposed WWTP bringing a degree of urbanisation to the east of NEC, on the other side of the A14. The assessment considers that cumulatively, and along with development proposed in the emerging Greater Cambridge Local Plan, this could detract from the setting of the historic city of Cambridge and affect views into and out of the city.

Economy

3.7.15 The appraisal identified potential for positive in-combination effects on SA objective 14 (economy) as the relocation of the WWTP may create new jobs in itself (although additional long-term employment opportunities are likely to be limited) and significant new job creation at North East Cambridge.

Carbon / GHG emissions

3.7.16 The appraisal notes that there would be carbon emissions resulting from construction of the new WWTP and embodied carbon in the construction materials. It then refers to the Anglian Water commitment to achieving an operationally net zero plant. As such, increases in carbon emissions from the WWTP are likely to be negligible, resulting in no in-combination effects in this regard.

3.7.17 The appraisal defers the assessment of effects of the WWTP being 'considered in detail in the Environmental Impact Assessment (EIA) accompanying the DCO, which will include consideration of in-combination effects.'

Designated sites

3.7.18 The NEC Sustainability Appraisal (2021) identifies potential recreational pressures at Bramblefields Local Nature Reserve but does not include reference to Stow-cum-Quy Fen.

Water Cycle Strategy 2021

3.7.19 This document aims to provide an evidence base to support the AAP proposals. This includes identifying the water services infrastructure requirements, including their phasing and costs, to support this development strategy.

3.7.20 The Water Cycle Strategy estimates an increase in the Greater Cambridge population (from 2020 to 2041) to be approximately 104,000. It states that 'the additional capacity being constructed at Cambridge WRC is equivalent to approximately 86,300,

or approximately 83% of the Greater Cambridge future requirement'. The document states that whilst the relocated WWTP would be meet most growth needs, it would not be possible from all growth locations where local treatment options are also viable.

- 3.7.21 The report notes that the approach to the assessment of environmental permit requirements of WRCs to meet water quality objectives at points downstream [of the effluent discharge location] and throughout the catchment is to undertake catchment water quality modelling. It states that this is normally a function undertaken by the Environment Agency in partnership with the water company.
- 3.7.22 The report states that it is assumed that a new facility (the proposed WWTP) will be constructed and commissioned before 2030 and that the [future development] proposals outlined in the North East Cambridge AAP are dependent on the relocation of the existing Cambridge WWTP.

A Biodiversity Assessment (MKA 2020)

- 3.7.23 The MKA (2020) report identifies that 'the development of NEC provides a unique opportunity to create a new biodiversity hotspot at Chesterton Fen which can deliver a suite of priority habitats and species that reflect the local landscape. This feature would also serve as a green gateway on the edge of the city which connects to wider schemes such as the National Trust Wicken Vision and the River Cam green corridor'. The assessment does not go on to identify any conflict in relation to recreational pressure but does however conclude that development of NEC would offer greater opportunities for public engagement with nature, and the subsequent health and well-being benefits.

Topic Paper: Open Space & Recreation (2021) & The Greater Cambridge Green Infrastructure Opportunity Mapping (LUC, 2021)

- 3.7.24 The Open Space Topic Paper refers to another study investigating assessed Green Infrastructure assets both individually and collectively. The Greater Cambridge Green Infrastructure Opportunity Mapping (LUC, 2021) includes a consideration of Stow cum Quy SSSI as part of Strategic Initiative 4: Enhancement of the eastern fens. In relation to recreational pressures this document states that negative impacts from access and recreational pressure are minimised through habitat buffers and educating visitors.

Topic Paper: Transport (GCSP, 2020)

- 3.7.25 Topic Paper recognises a new approach to managing transport impacts is needed in relation to development as part of North East Cambridge. This concerns the future management of the developments that would be brought forward within the land currently used for the existing Cambridge WWTP.

Demolition of the existing Cambridge WWTP

- 3.7.26 There will be a need to demolish the existing Cambridge WWTP in the future which is within the emerging NEC AAP allocation and redevelopment of the existing Cambridge WWTP.

- 3.7.27 There is currently no indicative timeframe or phasing for this activity which will depend on a number of factors. This activity would be the responsibility of the developer and could begin once the decommissioning related to permit surrender has been completed. It is likely to be phased over an extended period as and when land is needed and to achieve a cleared site as and when required. As a worst case it is expected that demolition would commence in 2028 and take one to two years to complete.
- 3.7.28 The precise timeframe for this, the approach or details on aspects relating to this activity, such as estimated waste volumes are not known but it is anticipated that re-use, recycling and recovery of materials would be maximised. Policy 2 of the Proposed Submission Area Action Plan requires planning applications to demonstrate actions to reduce life-cycle carbon emissions and also to reduce construction waste. Development must be designed to reduce construction waste, integrate the principles of Design for Deconstruction, and address the requirements of the RECAP Waste Management Design Guide or successor documents.
- 3.7.29 Redevelopment of the existing Cambridge WWTP would be subject to separate consents and supported by an assessment of environmental impacts including the development of mitigation measures. These measures would cover demolition activities and would also be controlled via measures within a CEMP/CTMP prepared by the developer(s) and approved by the local authority in advance of works commencing.

3.8 Summary

- 3.8.1 Figure 3.1 provides the likely worst case temporal overlap with the construction and operation of the Proposed Development with the short list developments and plans.



Figure 3.1: Likely worst case temporal overlap

4 Assessment of Cumulative Effects

4.1.1 Recognising the interface of the Waterbeach station relocation and the construction of the Waterbeach pipeline focus is provided on the potential cumulative effects related to the overlap of the construction of the Proposed Development with the construction of the new station.

4.1.2 This section therefore comprises:

- an assessment focusing on the interface of the Proposed Development with the Waterbeach station redevelopment and works brought forward in relation to the construction of Waterbeach new town; and
- an overarching assessment of cumulative effects in relation to the short listed developments identified in Section 3.

4.2 Cumulative assessment Waterbeach station relocation

Vehicle movements

4.2.1 This section sets out the consideration of vehicle traffic movements occurring in Waterbeach as a result of a number of development proposals in this area, i.e.:

- Waterbeach New Town East;
- Waterbeach New Town West; and
- Waterbeach station relocation.

4.2.2 Specific attention is made to the approved development to relocate Waterbeach station owing to the partial overlap of the Proposed Development limits and the development boundary for the station (Figure 4.1).

4.2.3 The cumulative assessment considers scenarios where the potential construction projects in this location could all occur simultaneously. Due to delays in the construction programme to the Waterbeach station relocation and Waterbeach New Town development sites this is assumed to be a reasonable worst-case assumption.

4.2.4 Construction overlap for different developments would mean that some road links could be used by more than one development. Although each development would apply control measures, the overlapping developments could mean incremental traffic increases resulting in greater or different effects than if each project were completed in isolation.

4.2.5 The completion of the Waterbeach pipelines could be in year 1 or year 4 of the programme for the Proposed Development. Each of these is considered in the following assessment.

4.2.6 As part of the Waterbeach New Town West development there will eventually be a purpose built haul road connecting the land parcel to the A10.

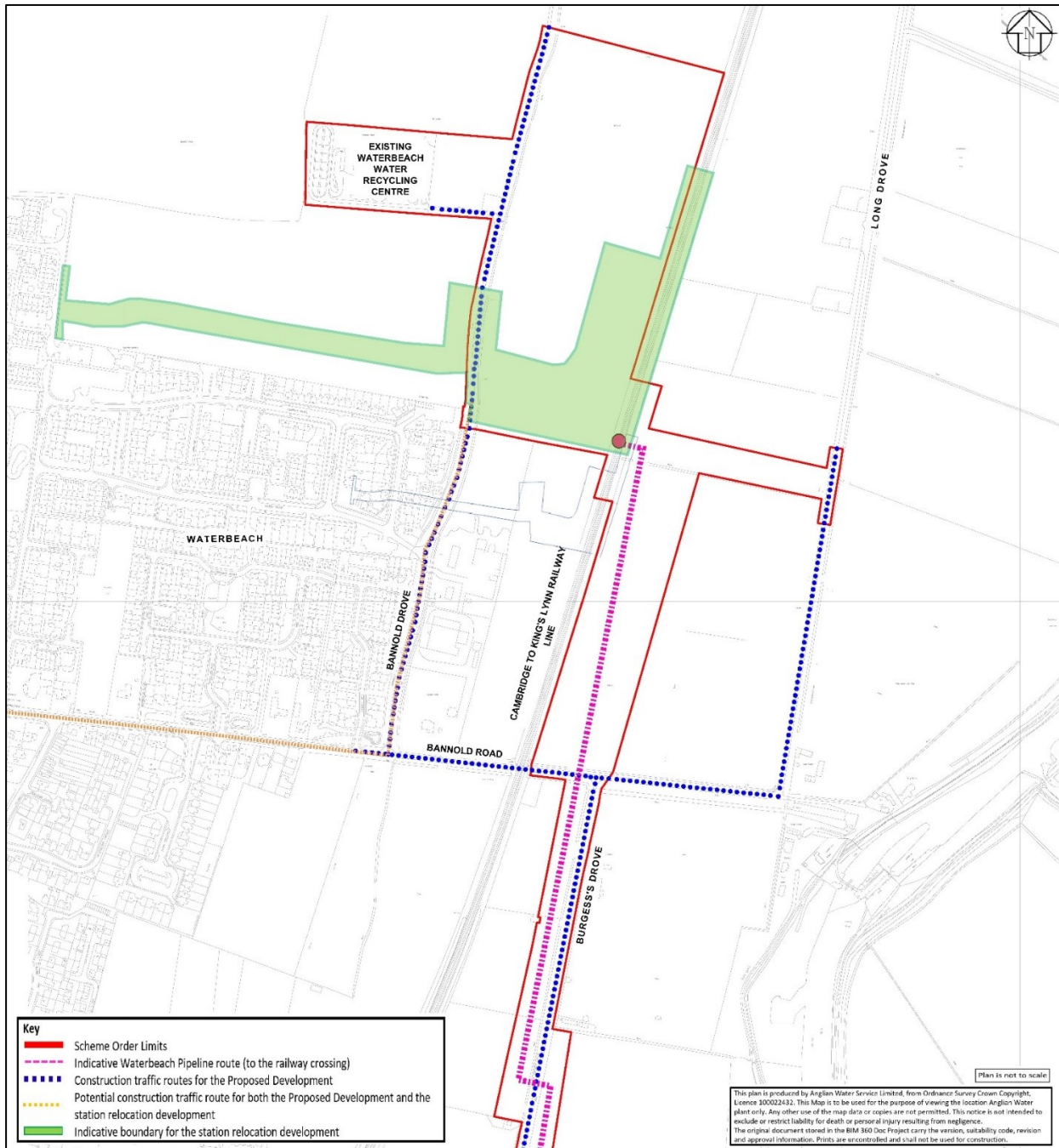


Figure 4.1: Overlap of Proposed Development and Waterbeach Station relocation development

Cumulative assessment scenarios vehicle movements

Waterbeach pipelines construction early start

- 4.2.7 The construction of the Waterbeach pipelines could be carried out early, in Year 1, in advance of the peak construction of the proposed WWTP but potentially coinciding with the construction of the relocated Waterbeach Station. This may also coincide with the initial housing construction phase for the Waterbeach New Town East development and ongoing works for the Waterbeach New Town West.
- 4.2.8 Construction traffic for the Waterbeach New Town West development is still assumed to use the access from Denny Road junction, close to the A10 junction.

Waterbeach station construction phase traffic and access

- 4.2.9 Vehicles will travel from the A10 along Denny End Road, Bannold Road and Bannold Drove to access the area of land required for the construction of the station.
- 4.2.10 The Transport Assessment (WSP, 2019) sets out that there is a preference to avoid Cody Road, which is also reiterated by the planning authority. The Condition 14 within the Decision Notice (GCSP, S/0791/18/NMA1 Non-Material Amendment (Section 96A) to amend wording of conditions on Planning Permission, 2021) requires the developer to prepare a CEMP. Of this part parts a-d and l-s, are relevant to construction traffic management:

- No development shall commence, apart from site layout operations, until a site wide Construction Environmental Management Plan (CEMP) has been submitted to and approved in writing by the Local Planning Authority. The CEMP shall include the consideration of the following aspects of construction:
 - a) Indicative site wide construction and phasing programme;
 - b) Contractors' access arrangements for vehicles, plant and personnel including the location of construction traffic routes to and from the site, details of their signing, monitoring, location of contractors' compound / offices and method of moving materials, building material plant and equipment storage around the site and enforcements;
 - c) Construction hours and days for work undertaken within the boundaries of the operational railway ii. Construction hours and days for work undertaken within the remainder of the site;
 - d) Delivery times for construction purposes;
 - l) Access and protection arrangements around the site for pedestrians, cyclists and other road users;
 - m) Procedures for interference with public highways, including permanent and temporary; realignment, diversions and road closures;
 - n) External safety and information signing and notices;

- o) Liaison, consultation and publicity arrangements including dedicated points of contact;
- p) Consideration of sensitive receptors;
- q) Prior notice and agreement procedures for works outside agreed limits;
- r) Complaints procedures, including complaints response procedures; and
- s) Membership of the Considerate Contractors Scheme.

4.2.11 It is therefore assumed that the CEMP prepared for the Waterbeach station relocation will include confirmed access arrangements and predicted vehicle movements.

4.2.12 As there are no available data for predicted vehicle movements the construction volumes prepared for a different but similar station assessment has been considered. The two similar stations considered are Cambridge North and Thanet Parkway, Kent. The application details for these sites are contained in Table 2-6. This sets construction vehicle movements to 42 vehicle movements per day. The split between types of vehicles is assumed to be 12 HGVs and 30 cars/van/LGVs.

Waterbeach pipelines construction late start

4.2.13 The alternative for the construction of the Waterbeach Pipelines is that it could be carried out later. Assuming this takes place in year 4, based on the current programme information, the relocated Waterbeach Station would be in operation, and the first 200 houses of Waterbeach New Town East could have been delivered and be occupied (occupation of the property is contingent on the station being relocated).

4.2.14 Construction traffic for both Waterbeach New Town East and West development are assumed to use the purpose-built construction haul road at this point.

Summary of potential cumulative vehicle movements within Waterbeach

4.2.15 Table 4-1 shows the indicative traffic volumes obtained from the relevant planning application documents or assumed.

Table 4-1: Indicative traffic volumes for cumulative projects in Waterbeach

Scenario	Affected road links	Assumed year	Peak movements
Waterbeach early start coincides with Waterbeach station construction and	Denny end Road – A10 junction	Year 1 of construction	Waterbeach pipeline – 8 weeks start/finish - peak 110 daily vehicle movements
	Denny End Road – Bannold Road junction		Waterbeach station construction peak assumed as 42 vehicle movements
	Bannold Drove		

Scenario	Affected road links	Assumed year	Peak movements
Waterbeach New Town East initial and West ongoing construction routes.			Waterbeach New Town East construction of initial 200 units average daily 234 vehicle movements Waterbeach New Town West construction access via Denny End Road average daily 590 vehicle movements
Waterbeach late start occurs once Waterbeach station is operational	Denny end Road – A10 junction Denny End Road – Bannold Road junction Cody Road	Year 3 of construction	Waterbeach pipeline – 8 weeks start/finish peak 110 daily vehicle movements Waterbeach station in operation year one usage hourly 73 vehicle movements Waterbeach New Town East and West developments use the proposed A10 haul road for construction traffic

Construction phase impact assessment

4.2.16 The information set out in Table 4-1 is indicative but presents a reasonable worst case should the Waterbeach station and New Town developments coincide with the Waterbeach pipeline construction phase.

Waterbeach early start

4.2.17 Should the construction periods overlap as set out in Table 4-1 then a short term major significant effect on driver delay at the junctions of Denny End Road with the A10 and Bannold Road would be expected during the 8 week start and end period of the Waterbeach pipeline construction. This would mean that traffic would be delayed when passing through these junctions, without management. Overall traffic flow increase is likely to have a minor effect on the road links themselves.

4.2.18 The CTMP (Application Document Reference 5.4.19.7) submitted as part of the Proposed Development has provision for traffic management measures in the form of prohibiting peak hour movements for construction vehicle. Furthermore, it includes the provision for traffic management at the Denny End Road / Bannold Road to manage peak traffic volumes.

4.2.19 Taking account of planning condition 14 for the planning permission for Waterbeach Station there would also be traffic control measures as part of the CEMP to be submitted for the Waterbeach station relocation.

4.2.20 The requirements for all projects to agree construction traffic control measures (either within a CTMP or CEMP) with the local authority would mean peak delivery periods could be managed between the individual developers and the highway authority in order to minimise the likelihood and impacts of coincident construction of the individual developments.

4.2.21 During a meeting between The Applicant and Waterbeach Development Company (on 9 November 2022) it was proposed that an interface plan be developed to manage coincidental development. This would provide a platform to develop a realistic scenario for the timing of construction vehicle movements and would be facilitated by the respective CEMP/CTMP interfaces and joint management of construction traffic to minimize and manage movements during the peak hour. This is common practice.

4.2.22 The potential significant effect could be reduced to a non significant effect through the CTMP / CEMP for each development which could include the following:

- Delivery time restrictions or staggering to avoid peaks
- Construction start / finish times for the Waterbeach pipelines construction mobilisation period to avoid peaks
- Use of traffic management on potentially affected road links (for example signal controls, temporary parking restrictions, use of radio control for one way traffic control)
- Sequencing of activities to allow earlier use of the station access road
- Sequencing activities to delay works to Bannold Drove

Waterbeach later start

4.2.23 Assuming the later start for Waterbeach pipeline, the overlap of the Waterbeach pipeline construction period and the operation of the relocated Waterbeach station and occupation of the first 200 homes within Waterbeach New Town West would be likely to have a moderate to major significant effect on driver delay at the Denny End Road / Bannold Road junction. This would mean that traffic would be delayed when passing through this junction, without management.

4.2.24 The use of the CTMP for the Proposed Development would be the primary mechanism for controlling construction vehicle movements for a late Waterbeach start scenario to ensure that there are no significant effects.

4.2.25 Further to the use of the CTMP the Applicant would maintain dialogue with the Waterbeach Development Company, the promoter of Waterbeach New Town and Greater Cambridge Shared Planning in order to refine detailed plans and scheduling to avoid and minimise impacts resulting from operational phase overlap.

Mitigation summary

- 4.2.26 Ongoing dialogue with the local highway authority and the developers of the Waterbeach Station and New Town is expected to provide greater clarity on timings and vehicle volumes as well as the sequencing of temporary and permanent accesses for each development. As this information becomes available the assessment of the cumulative impacts can be updated and the CTMP mitigation measures will be updated in line with the updated impact assessment findings.

Biodiversity

Construction phase impact assessment

Waterbeach early & late start

- 4.2.27 This area is known to support a population of reptiles and as such without coordination either an early or late start could result in impacts to reptiles through isolated application of mitigation measures leading to the translocation of individuals either multiple times, or into locations that may become unsuitable or fragmented.
- 4.2.28 This could lead to direct impacts on the populations of reptiles in this area.

Mitigation summary

- 4.2.29 Ongoing dialogue with the developers of the Waterbeach Station and New Town will provide greater clarity on timings of works including pre works checks and ecological management in particular in relation to reptiles. The Applicant will continue to engage with the developers in relation to the timing and approach to mitigation of habitats and protected species. In the event third party activities proceed in advance of construction the Applicant will work with the developer to avoid any relocation activities that would be subject to disturbance as a result of the construction of the Waterbeach pipeline. Similarly should Waterbeach pipeline construction commence in advance of third party activities specifically related to reptile mitigation the Applicant will develop a reptile mitigation strategy in consultation with the developers. The CoCP Part A (paragraphs 7.2.47-7.2.50) require a Reptile Mitigation Strategy to be prepared by the contractor prior to works commencing, and this strategy will be agreed by the local authority ecologist. This strategy would include details of the interface between adjacent projects. This is a site specific requirement of the CoCP Part B section 3 (App Doc Ref 5.2.2.2).

Water resources

Construction phase impact assessment

Waterbeach early start

- 4.2.30 Without coordination temporary drainage arrangements could mean the same receiving waterbodies are affected by temporary drainage management activities. These are permitted activities and it is expected there would be no significant cumulative effects as the regulator(s) would account for adjacent activities. Without

coordination there is the potential for the construction of the Waterbeach pipeline to interfere with drainage proposals forming part of the station redevelopment.

Waterbeach late start

- 4.2.31 Without coordination the late start could result in disturbance to installed drainage infrastructure or works in progress in relation to drainage, including any temporary drainage arrangements. This could adversely impact the drainage system and result in localised flooding or surface water ponding. This could result in adverse impacts to both projects as well as secondary impacts to water quality in surrounding ditches from run off. Similar to the early start there would be permitting to govern the activities of each party in relation to drainage and dewatering and no significant cumulative effects in relation to surface water drainage networks are expected.

Mitigation summary

- 4.2.32 Ongoing dialogue with the developers of the Waterbeach Station and New Town will provide greater clarity on timings of works including temporary and permanent drainage works, surface flood risk management arrangements. The Applicant will continue to engage with the developers to coordinate overlapping works in particular temporary surface water drainage arrangements associated with the construction of the Waterbeach pipelines. As the information in relation to detailed mitigation plans and the timing of implementation becomes available the interface measures will be developed and included in the detailed CEMP of each respective development.

Landscape and visual

Construction phase impact assessment

Waterbeach early start

- 4.2.33 In the event there are overlapping construction phases this would represent an increase in temporary works within this location including temporary lighting and compounds. The level of activity, structures and temporary lighting associated with the Waterbeach pipeline construction will be of a smaller scale than the those required for the station relocation which would be the dominant activity in this location.

Waterbeach late start

- 4.2.34 Similar to the early start, the Waterbeach station works would be expected to be the dominant source of change to the landscape and views. In addition, the late start would mean that the station works would be significantly completed with the permanent station building being a more prominent feature in the landscape and views than the pipeline works.

Mitigation summary

- 4.2.35 Ongoing dialogue with the developers of the Waterbeach Station and New Town is expected to provide greater clarity on timings of temporary and permanent works for each development. As this information becomes available the Applicant can

coordinate with developers in relation to measures to minimise lighting and coordinate the siting and layouts of temporary compounds to limit the impacts to the local landscape . The CEMP mitigation measures will be updated to account for coordinated activities agreed with each party working in this location. The Applicants detailed CEMP would be submitted to the relevant local authority for approval.

4.3 Cumulative effects assessment

4.3.1 This section provides an assessment of cumulative effects in relation to the shortlisted projects and plans indicated in Section 3.

Construction phase

4.3.2 Table 4-2 presents the assessment of cumulative effects associated with the construction phase of the Proposed Development.

4.3.3 There would be no additional cumulative overlap of construction phase of the NEC AAP (policy dependent on the operation of the Proposed Development) and the demolition of existing Cambridge WWTP as these activities would be undertaken by the same developer. Similarly, there would be no additional cumulative overlap of the demolition of existing Waterbeach WRC and development of Waterbeach New Town, as these activities would be undertaken by the same developer. Therefore, no potential cumulative effects are anticipated in association with construction of those developments. As such, they are excluded from consideration in Table 4-2.

Table 4-2: Potential cumulative effects during construction

Discipline	Cumulative scheme(s) within the Zol	Potential impact	Assessment of cumulative effects	Likely significant cumulative effect	Mitigation and monitoring
Agriculture and soils	Waterbeach Station Relocation	Cumulative loss of agricultural land	The Proposed Development will result in the permanent loss of 63ha Grade 2 and 50h Grade 3a land. None of the permanently lost land is located within the Waterbeach pipeline area.	No likely cumulative effects	None required
	Waterbeach New Town East		<p>Most of the land within the Waterbeach New Town East and Waterbeach Station Relocation developments which is overlapping with the Proposed Development is arable farmland. As per the Provisional Agricultural Land Classification, agricultural land impacted by all three developments is identified as Grade 2 and Grade 3.</p> <p>Agricultural land is a national resource and, as such, the potential cumulative effect from the Proposed Development, Waterbeach New Town East and Waterbeach Station Relocation is not considered significant on a national scale.</p>		
		Loss or damage to soil resources	Loss of or damage to soil resources from the construction of the Proposed Development and all other developments within the Zol are resulting in temporary or permanent construction effects which are expected to be managed through Soil Management Plans. The purpose of SMPs is to ensure there are no residual effects to soil resources. As such, there are no likely cumulative effects on soil resources.	No likely cumulative effects	None required

Discipline	Cumulative scheme(s) within the ZoI	Potential impact	Assessment of cumulative effects	Likely significant cumulative effect	Mitigation and monitoring
Air quality	Waterbeach Station Relocation Waterbeach New Town East Cambridge North Residential Quarter CEAAP	Dust generation from construction activities	The dust assessment identified no residual effect from the Proposed Development during construction. All other developments are expected to include suitable mitigation measures to minimise dust emissions in accordance with local policy and would also not lead to significant dust emissions. Should construction of developments happen simultaneously, communication between the respective principal contractors is recommended to minimise dust emission and reduce the likelihood of cumulative effects.	No likely cumulative effects	Approved CEMP to include coordinated measures through discussion with parties completing adjacent developments
		Construction plant emissions	Emissions associated with the construction plant would quickly disperse and would be localised to the source resulting in a negligible residual effect and an unlikely cumulative effect. Each respective development would be subject to controls through the application of approved CEMP	No likely cumulative effects	None required
		Construction traffic	The increase in construction traffic for the Proposed Development with other committed developments may result in a temporary increase in emissions. However, this is unlikely to be of a magnitude that would result in significant adverse cumulative effects, especially when assessed in relation to the low background concentrations presented in Chapter 7: Air Quality (App Doc Ref 5.2.7).	No likely significant cumulative effects	None required
Biodiversity	Waterbeach New Town Waterbeach Station Relocation	Impacts on nationally and locally designated sites	The Proposed Development is likely to result in a slight adverse, not significant effect on Stow-cum-Quy Fen SSSI (statutory designated sites); moderate adverse, significant effect on the river bed of the River Cam CWS (non-statutory designated site); and neutral, not	No likely cumulative effects	None required

Discipline	Cumulative scheme(s) within the ZoI	Potential impact	Assessment of cumulative effects	Likely significant cumulative effect	Mitigation and monitoring
	Waterbeach New Town East Cambridge North Residential Quarter CEAAP		<p>significant effect on Low Fen Drove Way Grassland, Hedges CWS and Milton Road Hedgerows CiWS (non-statutory designated sites).</p> <p>There are no likely impacts on the same designated sites from construction of the Waterbeach New Town, Waterbeach Station Relocation and Waterbeach New Town East. Natural England response to Waterbeach New Town agreed with the findings of the associated EIA which concluded that the development is unlikely to have significant effects on Stow cum Quy SSSI as a result of recreational pressures (Natural England, 2018)</p> <p>There is no readily available information about the impacts on nationally and locally designated sites from Cambridge North Residential Quarter and CEAAP, although as these do not interface directly with the CiWS it is unlikely this receptor would be affected cumulatively.</p>		
		Loss of / disturbance to habitats	<p>The Proposed Development is likely to result in a moderate beneficial, significant effect on terrestrial habitats, slight adverse, not significant effect on the ditch parallel to the River Cam and to the aquatic habitat of the River Cam and neutral, not significant effect on hedgerows.</p> <p>Due to the distance between the Proposed Development and the Waterbeach New Town, the CEAAP and the Cambridge North Residential Quarter, there is no spatial overlap of the impacted habitats and, as such, there is no potential for a cumulative effects.</p>	No likely significant cumulative effects	None required with the exception of CEMP measures for the Proposed Development to be developed in consultation with the Waterbeach Station relocation project to ensure that neither

Discipline	Cumulative scheme(s) within the Zol	Potential impact	Assessment of cumulative effects	Likely significant cumulative effect	Mitigation and monitoring
			<p>There will be some disturbance, losses and potential degradations of hedgerow and ditch habitats which overlap with those being affected by the Waterbeach pipeline route, as a result of the Waterbeach Station and Waterbeach New Town East developments.</p> <p>All developments are expected to include suitable mitigation measures to minimise impacts on habitats. These would be enforced through approved planning permissions and approved management plans for each development. For sites downstream of the existing Cambridge WWTP, the existing permit conditions derived through catchment model to set limits which serve to deliver no deterioration.</p> <p>In the case of the land required for the Waterbeach Station Relocation and Waterbeach New Town East, the requirements to apply the CoCP to the Proposed Development including reinstatement of hedgerows and ditches, and measures to prevent water quality impacts, would mean that there are no residual significant effects that would affect habitat mitigation proposals of other parties which interface with an element of the Waterbeach pipeline. Furthermore the CoCP Part B requires coordination with the developers so that the delivery of the Waterbeach pipeline is sequenced to avoid affecting completed habitat mitigation and drainage works.</p>		<p>project results in new or exacerbated impacts to habitats and that mitigation measures (habitat creation) remain effective</p>
		Impact on protected species	The Proposed Development has the potential to result in neutral, not significant effect on otters; slight	Based on the information available on other	None required with the exception of CEMP measures

Discipline	Cumulative scheme(s) within the Zol	Potential impact	Assessment of cumulative effects	Likely significant cumulative effect	Mitigation and monitoring
			<p>adverse, not significant impact on water voles, bats, badgers, reptiles and breeding birds.</p> <p>Waterbeach New Town – negligible or minor impacts on reptiles, breeding birds, bats and badgers were noted within the available information.</p> <p>Waterbeach Station Relocation – potential impacts on bats (commuting and foraging) as a result of lighting; construction related impacts on badgers; habitat losses and disturbance impacts to water voles; habitat loss impacts on breeding birds; and habitat loss and potential killing/injury impacts upon reptiles.</p> <p>Waterbeach New Town East – impacts on breeding birds as a result of the loss of arable farmland.</p> <p>Cambridge North Residential Quarter – potential impacts on reptiles, bats and birds.</p> <p>CEAAP – no readily available information on potential impacts on protected species. The Final Environment / Sustainability report (Scott Wilson, 2006) states that the most significant impact is the loss of a large area of open space at the airfield site (which is south of the A14 and south of the Proposed Development) which supports locally characteristic species. It indicates that a new habitat will need to be created nearby to compensate for its loss and that a green corridor running through the southern half of the site reflects the Plan’s recognition of the role of new landscaping features in support of biodiversity.</p>	<p>developments, there are no likely significant effects on protected species.</p>	<p>for the Proposed Development to be developed in consultation with the and the Waterbeach Station relocation project to ensure that neither project results in new or exacerbated impacts and that mitigation measures (habitat creation) remain effective.</p>

Discipline	Cumulative scheme(s) within the Zol	Potential impact	Assessment of cumulative effects	Likely significant cumulative effect	Mitigation and monitoring
Community	Waterbeach New Town	Employment	The Proposed Development is likely to result in a beneficial effect on employment due to the necessity of a construction workforce, which is not considered to be significant.	No likely significant cumulative effects across communities are expected	None required
	Waterbeach Station Relocation		There is no spatial overlap between the Proposed Development and the extent of CEAAP and Cambridge North Residential Quarter.		
	Waterbeach New Town East	Land requirement	Most of the land within the Waterbeach New Town East and Waterbeach Station Relocation developments which is overlapping with the Proposed Development is arable farmland, which is not a community resource.	No likely cumulative effects	None required
	Cambridge North Residential Quarter CEAAP				
	Amenity	Potential residual noise, air quality and visual effects are unlikely to produce any in-combination amenity impacts. This is based on no significant cumulative traffic, air, odour, visual amenity or noise effects as a result of the Proposed Development.	No likely cumulative effects due to mitigation measures undertaken	None required	
	Recreational resources and open spaces	There would be no significant changes in access to recreational spaces as a result of construction activities. Further mitigation measures (within the CTMP and COCP) keep the residual effect as not significant No other schemes/ plans interface directly with the River Cam.	No likely cumulative effects	None required	
Health	Waterbeach New Town	Access to health and	There would be no significant changes in access to health and social care services as a result of construction activities.	No likely cumulative effects	None required

Discipline	Cumulative scheme(s) within the Zol	Potential impact	Assessment of cumulative effects	Likely significant cumulative effect	Mitigation and monitoring
	Waterbeach Station Relocation	social care services			
	Waterbeach New Town East	Access to outdoor recreational space and to the River Cam	There would be no significant changes in access to recreational spaces as a result of construction activities.	No likely cumulative effects	None required
	Cambridge North Residential Quarter CEAAP		No other schemes/ plans interface directly with the River Cam.		
Historic environment	Waterbeach New Town	Impact on heritage assets	A review of information available on the developments in the area identified a slight effect on Denny Abbey from Waterbeach New Town and no impacts on heritage assets from the Waterbeach New Town East development and the Proposed redevelopment of Cambridge North Residential Quarter. There is no readily available information about heritage assets potentially affected by the Waterbeach Station Relocation and the CEAAP.	No likely cumulative effects	None required
	Waterbeach Station Relocation				
	Waterbeach New Town East				
	Cambridge North Residential Quarter CEAAP		The assessment undertaken for the construction of the Proposed Development did not identify effects on the above specified heritage assets thus indicating no potential for cumulative effects.		
		Archaeology	The investigation and recording of archaeological remains and publicly accessible dissemination of this knowledge will offset the physical loss of the archaeological remains within the footprint of the Proposed Development. However, the irreplaceable resource will still be lost. Therefore, the residual effect	No likely cumulative effects	None required

Discipline	Cumulative scheme(s) within the Zol	Potential impact	Assessment of cumulative effects	Likely significant cumulative effect	Mitigation and monitoring
			<p>on archaeology from the Proposed Development is still a large adverse significant effect.</p> <p>However, the loss of the archaeological remains within the Proposed Development and more precisely within the proposed WWTP are not predicted to cause a significant negative direct nor indirect cumulative effect in conjunction with other developments within the Zol on the overall archaeological landscape.</p>		
Landscape and visual	Waterbeach New Town Waterbeach Station Relocation Waterbeach New Town East Cambridge North Residential Quarter CEAAP	Visual impacts	<p>Construction of the Proposed Development, Waterbeach Station Relocation and the Waterbeach New Town East has the potential to result in temporary cumulative effect on VP39 (residents in northern Waterbeach) due to introduction of construction into the view. Additionally, there are potential temporary cumulative effects on VP38 (residents on Bannold Road) and VP40 (users of Byway Waterbeach 247/14) due to the increased extent of the construction in view of those receptors.</p> <p>Due to the distance and existing landscape screening between the Proposed Development and the Waterbeach New Town, Cambridge North Residential Quarter and the CEAAP, there are no likely cumulative effects identified on views.</p>	Potential temporary cumulative effects on VP38, VP39 and VP40 unlikely to change the Proposed Development assessment findings.	None required with the exception CEMP measures for the Proposed Development to be developed in consultation with the Waterbeach Station relocation project to ensure that temporary construction works activities including compounds in close proximity do not result in new or worse temporary impacts to visual

Discipline	Cumulative scheme(s) within the Zol	Potential impact	Assessment of cumulative effects	Likely significant cumulative effect	Mitigation and monitoring
					amenity including controls on lighting and the positioning / heights of temporary structures.
		Impacts on Landscape Character Areas	Due to partly overlapping construction footprints of the Proposed Development, Waterbeach Station Relocation and Waterbeach New Town East, there is potential for a cumulative impact on the Western Fen Edge Claylands LCA. However, since a small proportion of the LCA would be affected by each development when considered separately and they would affect the same area of the LCA, this remains the case when their cumulative effects are considered. Therefore, the cumulative effect is expected to remain neutral.	Neutral cumulative effects	None
	Waterbeach Station Relocation	Lighting	Construction of the Proposed Development, Waterbeach Station Relocation and the Waterbeach New Town East has the potential to result in temporary cumulative effect on lighting. Temporary construction works associated with each development may include compounds in close proximity and could result in new or worse temporary impacts to visual amenity		Requirement for interface plan between the Proposed Development to be developed in consultation with the Station relocation project to ensure temporary works areas do

Discipline	Cumulative scheme(s) within the ZoI	Potential impact	Assessment of cumulative effects	Likely significant cumulative effect	Mitigation and monitoring
					combine to result in lighting impacts to nearby residents
Land quality	Waterbeach New Town Waterbeach Station Relocation Waterbeach New Town East Cambridge North Residential Quarter CEAAP	Impacts to the MSAs (Chalk MSA and Sand and gravel MSA)	<p>The Proposed Development is not likely to result in effects on the Sand and Gravel MSA during construction as the resources which are likely to be excavated will be reused. As such, there is no potential for cumulative effect on the Sand and Gravel MSA.</p> <p>Permanent above ground infrastructure associated with the proposed WWTP will sterilise 0.18% of the Chalk MSA, which is considered a negligible, not significant effect. CEAAP has the potential to sterilise the same Chalk MSA, however, when combined, the two developments will sterilise 0.8% of the Chalk MSA should the entire area of the CEAAP be developed. As such, the cumulative effect remains negligible, which is not significant.</p>	No likely cumulative effects	None
		Contaminated land	The contaminated land assessment identified no residual effect from the Proposed Development during construction. All other developments are expected to include suitable mitigation measures to avoid/minimise pollution in accordance with the best practice and local policy and would also not lead to significant effects.	No likely cumulative effects	None
Material resources and waste	Waterbeach New Town Waterbeach Station Relocation	Impacts on sources of material resources and on	There is the potential that most of the short-listed developments could have an adverse impact on the capacity of receiving waste management facilities within the two study areas. It is anticipated that the developments would all generate waste and require	No likely cumulative effects	None

Discipline	Cumulative scheme(s) within the Zol	Potential impact	Assessment of cumulative effects	Likely significant cumulative effect	Mitigation and monitoring
	Waterbeach New Town East Cambridge North Residential Quarter CEAAP	landfills and other waste management infrastructure	<p>materials during construction phase and that such waste would require treatment and/or disposal at third party waste management facilities. There would also be a significant requirement for materials, particularly during the construction of each of the developments unrelated to the Proposed Development.</p> <p>The waste and materials anticipated to be generated or used by these short-listed developments or the timescales over which waste would be generated and materials required are not known at this time. Thus, it has not been possible to assess the cumulative effects due to the lack of waste and materials arisings information. However, it is recognised that the cumulative effects are likely to be greater than the individual effects, although good practice would seek to reuse material on the development sites where possible to reduce waste arisings as far as practicable.</p> <p>Mitigation measures will be implemented as part of the construction of the Proposed Development. Other developments will also be subject to the National Planning Policy Framework and will require mitigation and control measures to be adopted during their construction through management plans to reduce impacts to the environment, including dust generation and potential mobilisation of contaminants.</p>		
Noise and vibration	Waterbeach New Town	Construction traffic	The increase in construction traffic for the Proposed Development with other committed developments may result in temporary increase in noise levels, however,	No likely significant cumulative effects	None required

Discipline	Cumulative scheme(s) within the Zol	Potential impact	Assessment of cumulative effects	Likely significant cumulative effect	Mitigation and monitoring
	Waterbeach Station Relocation		would not be of a magnitude that would result in significant adverse cumulative effects.		
	Waterbeach New Town East Cambridge North Residential Quarter CEAAP	Construction and decommissioning noise and vibration from plant and equipment	<p>The greatest cumulative impacts would occur during the worst-case scenario assuming concurrent construction activities between the Proposed Development and relevant committed developments. Given the duration of works in most areas through Waterbeach, significant cumulative effects are however unlikely.</p> <p>In the case of Waterbeach Station Relocation, management of construction traffic would be needed through continued dialogue and coordination with the promoters of the station development. Considering this mitigation, no significant cumulative effects are likely as construction vehicle traffic movements will be managed through coordination of CEMP and CTMP.</p> <p>Other committed developments including the Cambridge North Residential Quarter and CEAAP area on the south side of the A14 are too distant from the Proposed Development to result in noise impacts that would result in a cumulative effect on receptors identified within Chapter 16: Noise and Vibration.</p>	No likely significant cumulative effects	None required
Traffic and transport	Waterbeach New Town Waterbeach Station Relocation Waterbeach New Town East	Construction traffic	The construction of Waterbeach New Town East has the potential to overlap with the construction of the Proposed Development and may cause cumulative effects along the A10, Denny End Road and Bannold Road which are not considered to be significant. The construction of Waterbeach Station Relocation has the potential to overlap with the construction of the	No likely significant cumulative effects	Requirement for CEMP measures for the Proposed Development to be developed in consultation with the the Station

Discipline	Cumulative scheme(s) within the Zol	Potential impact	Assessment of cumulative effects	Likely significant cumulative effect	Mitigation and monitoring
	Cambridge North Residential Quarter CEAAP		<p>Proposed Development and the Waterbeach New Town East. However, due to the lack of readily available construction traffic information, it is not possible to determine whether the cumulative effect of the simultaneous construction of the three developments would result in a significant cumulative effect.</p> <p>However, should construction of developments happen simultaneously, each developer would need to agree their Construction Transport Management Plan with the relevant highway and local planning authority. Suitable mitigation measures would need to be implemented to ensure that the potential cumulative effects arising from the construction are not significant.</p> <p>Similarly, there could be cumulative traffic movements in the event that construction overlaps with the construction activities in the land associated with the Cambridge North Residential Quarter and development as part of CEAAP.</p>		relocation project to develop aligned traffic control measures
Water resources	Waterbeach New Town Waterbeach Station Relocation Waterbeach New Town East Cambridge North Residential Quarter	Impacts on water quality	<p>No significant residual effects have been identified in relation to surface water quality or groundwater quality from the Proposed Development during construction. All other developments are expected to include suitable mitigation measures to avoid/minimise pollution, surface water run-off and silt-laden discharge in accordance with the best practice and local policy and would also not lead to significant effects.</p> <p>Each development would be responsible for obtaining required consents and permits in relation to temporary</p>	No likely cumulative effects	None required

Discipline	Cumulative scheme(s) within the Zol	Potential impact	Assessment of cumulative effects	Likely significant cumulative effect	Mitigation and monitoring
	CEAAP		discharges to water course / dewatering thus ensuring no residual effects on water quality.		
		Incremental increase in flood risk owing to temporary structures in the floodplain	Each development is obligated to complete FRA and to integrate surface water drainage design to meet greenfield run-off rates. This will avoid increasing surface water and fluvial flood risk elsewhere and, as such, any potential cumulative effects.	No likely cumulative effects	None required
	Waterbeach Station Relocation		<p>The station relocation may overlap with works to construction the Waterbeach pipeline including affecting the delivery of surface water management features required for the relocated station.</p> <p>As with the Proposed Development the Waterbeach station relocation will be required to manage the risk of flooding to and from its site when in construction. To ensure that flood control measures are mutually compatible there will be an interface plan and ongoing coordination between the Applicant for the Proposed Development and the promoters of the Waterbeach Station Redevelopment.</p>	No likely cumulative effects	Requirement for CEMP measures for the Proposed Development to be developed in consultation with the Station relocation project to ensure temporary works areas, including compounds, do not result in an overall increase in flood risk

Operation phase cumulative effects assessment

- 4.3.4 This assessment considers the overlap with developments to 2035 which represents year 7 of operation and represents the assumed year where additional tanks would be construction within the proposed WWTP.. Phase 2 of the Proposed Development which would include relatively minor works to increase the proposed WWTP capacity from 275,000 to 300,000 Population Equivalent (PE) would be limited to construction activities within the boundary of the proposed WWTP. The traffic scenarios have accounted for peak movements in the future.

Table 4-3: Potential cumulative effects during operation

Discipline	Cumulative scheme(s) within the Zol	Potential Impact	Assessment of cumulative effects	Likely significant cumulative effect	Mitigation and monitoring
Agriculture and soils	Waterbeach Station Relocation Waterbeach New Town East Cambridge North Residential Quarter NECAAP Demolition of existing Cambridge WWTP Demolition of existing Waterbeach WRC	Loss of or damage to soil resources	There are no operational effects on soil resources as any impact on soil resources is considered as a permanent construction impact and, as such, considered as part of the construction phase.	No cumulative effects – no pathway	None required
Biodiversity	Waterbeach New Town Waterbeach Station Relocation Waterbeach New Town East Cambridge North Residential Quarter CEAAP NECAAP Demolition of existing Cambridge WWTP Demolition of existing Waterbeach WRC	Impacts on nationally and locally designated sites / habitats / protected species	Due to the operational nature of the Waterbeach pipeline, there are no likely interactions of the Proposed Development with the Waterbeach New Town during operation. No significant effects as a result of the mitigation, compensation and enhancement measures within each proposal. In the case of Waterbeach Station Relocation, the requirements to apply the CoCP including reinstatement would mean that there are no residual significant effects to the habitat mitigation proposals which interface with an element of the Waterbeach pipeline.	Potential for beneficial cumulative effects	Requirement for interface plan between the Proposed Development and the Station relocation project to ensure that under the late start Waterbeach scenario there would be no disturbance to any areas used for species relocation by the station

Discipline	Cumulative scheme(s) within the Zol	Potential Impact	Assessment of cumulative effects	Likely significant cumulative effect	Mitigation and monitoring
			Potential cumulative benefits to biodiversity over time in particular if NECAPP AAP policies in relation to net gain and recreational are effectively implemented.		
Community	Waterbeach New Town	Employment	The Proposed Development would not create or stimulate additional employment during operation. Slight beneficial effects may occur, but there would be no significant changes to employment during operation.	Potential for beneficial cumulative effects	None required
	Waterbeach Station Relocation				
	Waterbeach New Town East				
	Cambridge North Residential Quarter	Land requirement	N/A	N/A	N/A
	CEAAP NECAAP Demolition of existing Cambridge WWTP	Amenity	The assessment of the Proposed Development has not identified any in-combination amenity effects during operation, therefore there are no cumulative amenity impacts expected during operation.	No likely cumulative effects	None required
	Demolition of existing Cambridge WWTP Demolition of existing Waterbeach WRC	Recreational resources and open spaces	Slight beneficial improvements are likely, but there would be no significant changes in access to recreational spaces during operation.	No likely cumulative effects as a result of landscape mitigation measures in place (including monitoring users of the Landscape Masterplan area and instigating feedback mechanism to	No further mitigation required

Discipline	Cumulative scheme(s) within the Zol	Potential Impact	Assessment of cumulative effects	Likely significant cumulative effect	Mitigation and monitoring
				adaptively manage the LERMP area)	
Health	Waterbeach New Town Waterbeach Station Relocation Waterbeach New Town East Cambridge North Residential Quarter CEAAP	Access to health and social care services	There would be no significant changes in access to health and social care services as a result of construction activities during operation.	No likely cumulative effects	None required
	NECAAP Demolition of existing Cambridge WWTP Demolition of existing Waterbeach WRC	Access to outdoor recreational space and to the River Cam	Slight beneficial improvements are likely, but there would be no significant changes in access to outdoor recreational space and to the River Cam during operation.	No likely cumulative effects	None required
Historic environment	Waterbeach New Town Waterbeach Station Relocation Waterbeach New Town East	Impact on heritage assets	A review of readily available information did not identify residual effects from other developments to the same receptors identified as impacted by the Proposed Development.	No likely cumulative effects	None required

Discipline	Cumulative scheme(s) within the Zol	Potential Impact	Assessment of cumulative effects	Likely significant cumulative effect	Mitigation and monitoring
	Cambridge North Residential Quarter CEAAP NECAAP Demolition of existing Cambridge WWTP Demolition of existing Waterbeach WRC				
Landscape and visual	Waterbeach New Town Waterbeach Station Relocation Waterbeach New Town East Cambridge North Residential Quarter CEAAP NECAAP Demolition of existing Cambridge WWTP Demolition of existing Waterbeach WRC	Visual impacts	<p><u>Waterbeach New Town, Waterbeach Station Relocation, Waterbeach New Town East and demolition of the existing Waterbeach WRC</u></p> <p>The Waterbeach pipeline will be underground, and the land disturbed in construction will be restored to its former condition, with at most, very localised minor adverse effects close to the route of the pipeline in year 1 of operation due to removal of vegetation. The visual effects of the four committed developments in Waterbeach and the Waterbeach pipeline will not overlap.</p> <p><u>Cambridge North Residential Quarter, NEAAP and demolition of existing Cambridge WWTP</u></p> <p>There will be no overlapping effects of the Proposed Development and the Cambridge North Residential Quarter, NEAAP area or the demolition of the Cambridge WWTP because of the distance between the Proposed Development and the committed developments/AAP/Cambridge WWTP sites and the intervening screening provided by existing built</p>	No likely cumulative effects	None

Discipline	Cumulative scheme(s) within the Zol	Potential Impact	Assessment of cumulative effects	Likely significant cumulative effect	Mitigation and monitoring
			<p>development and vegetation lining the River Cam corridor and the railway line.</p> <p><u>CEAAP</u></p> <p>There will be no overlapping effects of the Proposed Development and the CEAAP because of the intervening screening between the two sites provided by vegetation bordering the dismantled railway line and along High Ditch Road.</p>		
		<p>Impacts on Landscape Character Areas</p>	<p><u>Waterbeach New Town, Waterbeach Station Relocation, Waterbeach New Town East and demolition of the existing Waterbeach WRC</u></p> <p>The Waterbeach pipeline, being underground, will have at most, very localised minor adverse effects close to the route of the pipeline in year 1 of operation due to removal of vegetation. The landscape effects of the four proposed developments in Waterbeach and the Waterbeach pipeline will not overlap.</p> <p><u>Cambridge North Residential Quarter, NEAAP and demolition of existing Cambridge WWTP</u></p> <p>There will be no overlapping landscape effects of the Proposed Development and the Cambridge North Residential Quarter, NEAAP area or the demolition of the Cambridge WWTP because of the distance between the Proposed Development and the committed developments/AAP/Cambridge WWTP sites and the intervening screening provided by existing built development and vegetation lining the River Cam corridor and the railway line.</p>	<p>No likely cumulative effects</p>	<p>None</p>

Discipline	Cumulative scheme(s) within the Zol	Potential Impact	Assessment of cumulative effects	Likely significant cumulative effect	Mitigation and monitoring
			<p>CEAAP</p> <p>There will be no overlapping landscape effects of the Proposed Development and the CEAAP because of the intervening screening between the two sites provided by vegetation bordering the dismantled railway line and along High Ditch Road.</p>		
Land quality	Waterbeach New Town Waterbeach Station Relocation Waterbeach New Town East	Impacts to the MSAs (Chalk MSA and Sand and gravel MSA)	The impact of permanent infrastructure on MSA and potential cumulative effects with other developments are considered as a permanent construction effect and included in the table above.	N/A	N/A
	Cambridge North Residential Quarter CEAAP NEAAP Demolition of existing Cambridge WWTP Demolition of existing Waterbeach WRC	Contaminated land	The contaminated land assessment identified no residual effect from the Proposed Development during operation. All other developments are expected to include suitable mitigation measures to avoid/minimise pollution in accordance with the best practice and local policy and would also not lead to significant effects.	No likely cumulative effects	None
Noise and vibration	Waterbeach New Town Waterbeach Station Relocation Waterbeach New Town East Cambridge North Residential Quarter CEAAP	Operation noise and vibration from plant and equipment	There is no spatial overlap within 300m of the operational WWTP and committed developments, with the exception of CEAAP. Taking into account the distance to noise sensitive receptors, presence of the A14 as the dominant source of noise and the low level of noise related with operation of the proposed WWTP there are no cumulative effects for noise associated with the Proposed Development.	No likely cumulative effects	None

Discipline	Cumulative scheme(s) within the Zol	Potential Impact	Assessment of cumulative effects	Likely significant cumulative effect	Mitigation and monitoring
	NECAAP Demolition of existing Cambridge WWTP Demolition of existing Waterbeach WRC		Operational vibration from the Proposed Development is scoped out from assessment. Therefore, there are no resulting residual effects from operational vibration.		
Water resources	Waterbeach New Town Waterbeach Station Relocation Waterbeach New Town East Cambridge North Residential Quarter CEAAP NEAAP Demolition of existing Cambridge WWTP Demolition of existing Waterbeach WRC	Impacts on water quality	The proposed WWTP includes consideration for population growth and as such inherently mitigates impacts to surface water quality resulting from increased discharges associated with future residential development in the area. The operation of the Proposed Development is therefore considered as a requirement to avoid cumulative effects of the developments in the area. All developments in the wider catchment area would be responsible for obtaining required consents and permits in relation to temporary and permanent discharges to surface water or groundwater thus ensuring no residual effects on water quality.	No likely cumulative effects	None required
		Incremental increase in flood risk owing to permanent structures in the floodplain	The proposed WWTP is located outside of the fluvial floodplain and does not impact flood plain storage. Each development is obligated to complete an FRA and to integrate surface water drainage design to reduce surface water runoff to greenfield rates. Future development should therefore have a negligible impact on surface water and fluvial flood risk elsewhere and, as such, any potential cumulative effects.	No likely cumulative effects	None required

Discipline	Cumulative scheme(s) within the Zol	Potential Impact	Assessment of cumulative effects	Likely significant cumulative effect	Mitigation and monitoring
	Waterbeach New Town East	Bannold Drain water levels	The ceasing of treated effluent to Bannold Drain will occur once the Waterbeach WRC flows are transferred to the Waterbeach pipeline. There are no additional changes to Bannold Drain required as part of the Proposed Development.	No likely cumulative effects	None required as subject to detailed design and management measures as part of Waterbeach New Town East

4.4 Inter-related effects

- 4.4.1 Receptors such as ecological receptors, water resources and the landscape area are assessed in terms of the predicted change or impact on the resource or receptor, considering all impacts from a variety of sources e.g. changes to habitats, changes to water quality or volumes, or change in view. These effects are therefore inherently assessed in combination in the relevant chapters of the ES and do not need to be repeated here.
- 4.4.2 Inter-related effects may also occur for individual receptors where different environmental pathways, such as visual, noise, traffic and emissions result in effects at the same time. These effects are likely to occur where activity is taking place in close proximity to the receptor. For example, receptors which are in close proximity to the Shaft 4 construction compound will experience, for a limited period, minor visual impact, minor noise disturbance, minor traffic activity and the potential for dust. Similarly, users of public rights of way or permissive footpaths in close proximity to the WWTP may experience occasional odour and a change in views. The inter-related effects at these locations are not considered to be more significant than the individually assessed effects and are all controlled through measures within the Code of Construction Practice (CoCP) Parts A and B (App Doc Ref 5.4.4.2 and 5.4.4.2) as implemented through the approved detailed Construction Environmental Management Plan (CEMP) for each phase and through the approved Construction Transport Management Plan (CTMP) aligned with the CTMP (App Doc Ref 5.4.19.7)..
- 4.4.3 For other receptors, no inter-related effects are expected.

5 Conclusion and Summary

5.1 Inter-related effects

5.1.1 The assessment of inter-related effects has considered the potential for the effects of minor significance and above, identified within each of the technical assessments reported within Chapters 6 to 20 of the ES), to interact and combine inter-related effects during either construction or operation of the Proposed Development. This assessment concludes that there would be no significant inter-related effects during either construction or operation of the Proposed Development.

5.2 Cumulative effects

5.2.1 The assessment of cumulative effects has considered other developments within 2km of the order limits (identifying 20 developments for consideration at Stage 1 in the longlist, and ten for inclusion in the shortlist of developments and assessment at Stages 3 and 4); the potential for cumulative effects to occur, from one or several of these developments in combination with the Proposed Development has been assessed. Through consideration of the available information for each of the identified developments, no significant cumulative effects have been identified, other than the beneficial multiplier socio-economic effects associated with the relocation of the existing Cambridge WWTP, which facilitates the development of North East Cambridge.

5.3 Securing mitigation

5.3.1 A summary of mitigation is provided in Table 5-1.

Table 5-1:Securing mitigation

Description of impact	Design/mitigation measures adopted as part of the project	Phase	Approving mechanism	Securing mechanism
Cumulative effect to habitats and protected species as a result of construction of the Proposed Development and relocation of the Waterbeach station	<p>Code of Construction Practice Part B Section 3 which requires that the detailed CEMP is to include any site specific measures required as a result any overlapping construction activities associated with developments that could give rise to cumulative effects will be included within a detailed CEMP. These measures will be developed and agreed through engagement with the developers identified through a review of emerging developments whereby their construction could overlap with the construction of the Proposed Development to ensure each project is managed so that neither project results in new or exacerbated impacts to habitats and that mitigation measures (habitat creation) remain effective.</p>	Construction	A construction environmental management plan for the phase is to be submitted to and approved by the relevant planning authority prior to the start of construction	DCO Schedule 2 Requirement 8 CoCP DCO Schedule 2 Requirement 9 CEMP
	<p>Code of Construction Practice Part A Section 7.2, (Reptiles) Reptiles which requires that a Reptile Mitigation Strategy is produced by the contractor prior to works commencing on site. The strategy will include a method statement of works that will be agreed by the local authority ecologist. To include but not be limited to a combination of reptile fencing (around the proposed WWTP), sensitive vegetation clearance and management including hard searches as appropriate, and local translocation. Herpetofaunal fencing may be required to be installed and maintained during works in areas of higher density reptile</p>	Construction	A construction environmental management plan inclusive of the Reptile Mitigation Strategy for the phase is to be submitted to and approved by the relevant planning authority prior to the start of construction	DCO Schedule 2 Requirement 8 CoCP DCO Schedule 2 Requirement 9 CEMP

Description of impact	Design/mitigation measures adopted as part of the project	Phase	Approving mechanism	Securing mechanism
	populations or as directed by the agreed method statement. The ECoW will provide a reptile specific ‘tool-box talk’ to site staff prior to any work being carried out.			
Cumulative effect on landscape and visual amenity, including lighting, as a result of construction of the Proposed Development and relocation of the Waterbeach station occurring concurrently	<p>Code of Construction Practice Part B Section 3 which requires that the detailed CEMP is to include any site specific measures required as a result any overlapping construction activities associated with developments that could give rise to cumulative effects will be included within a detailed CEMP. These measures will be developed and agreed through engagement with the developers identified through a review of emerging developments whereby their construction could overlap with the construction of the Proposed Development to ensure each project is managed so that neither project results in new or exacerbated impacts to habitats and that mitigation measures (habitat creation) remain effective.</p>	Construction	A construction environmental management plan for the phase is to be submitted to and approved by the relevant planning authority prior to the start of construction	DCO Schedule 2 Requirement 8 CoCP DCO Schedule 2 Requirement 9 CEMP
	<p>Lighting Design Strategy Management of lighting through the Lighting Design Strategy (Appendix 2.5 App Doc Ref 5.4.2.5) and the CoCP Part A, Section 5.9 (Lighting) (Appendix 2.1 App Doc Ref 5.4.2.1) which requires that the contractors incorporate a strategy for temporary lighting into the CEMP(s) (secured through requirements in the DCO), which will collectively secure deliver appropriate mitigation of light during construction.</p>	Construction	A construction environmental management plan for the phase is to be submitted to and approved by the relevant planning authority prior to the start of construction	DCO Schedule 2 Requirement 8 CoCP DCO Schedule 2 Requirement 9 CEMP

Description of impact	Design/mitigation measures adopted as part of the project	Phase	Approving mechanism	Securing mechanism
	<p>Code of Construction Practice Part A CoCP Part A, Section 5.9 (Lighting) (App Doc Ref 5.4.2.1) which requires that the contractors incorporate a strategy for temporary lighting into the CEMP(s) (secured through requirements in the DCO), which will collectively secure deliver appropriate mitigation of light during construction.</p>			
Cumulative traffic effects as a result of construction of the Proposed Development and relocation of the Waterbeach station occurring either concurrently or sequentially	<p>Code of Construction Practice Part B Section 3 which requires that the detailed CEMP is to include any site specific measures required as a result any overlapping construction activities associated with developments that could give rise to cumulative effects will be included within a detailed CEMP. These measures will be developed and agreed through engagement with the developers identified through a review of emerging developments whereby their construction could overlap with the construction of the Proposed Development to ensure each project is managed so that neither project results in new or exacerbated impacts to habitats and that mitigation measures (habitat creation) remain effective.</p>	Construction	A construction environmental management plan for the phase is to be submitted to and approved by the relevant planning authority prior to the start of construction	DCO Schedule 2 Requirement 8 CoCP DCO Schedule 2 Requirement 9 CEMP
	<p>Construction Traffic Management Plan Implementation of the CTMP in particular:</p> <ul style="list-style-type: none"> Section 3 (Community & Stakeholder Engagement) to appoint a Community Liaison Officer responsible for ensuring that relationships and lines of communication are maintained throughout the construction period including communication of changes to 	Construction	A construction environmental management plan for the phase is to be submitted to and approved by the relevant planning authority prior to the start of construction	DCO Schedule 2 Requirement 9 CEMP including a detailed construction traffic management plan which must accord with the measures set out in the

Description of impact	Design/mitigation measures adopted as part of the project	Phase	Approving mechanism	Securing mechanism
	<p>access because of PRow realignment or diversion</p> <ul style="list-style-type: none"> • Section 5.2 (Temporary access points and construction road signage) which requires the use of temporary signage along all proposed construction haul roads. As a minimum this will include internal haul road speed limits, warning (hazard signs), potential vehicle or pedestrian crossing points and distances to destinations. • Section 6.3 Adherence to Designated Routes • Section 7.2 of the CTMP requires that the Principal Contractor(s) will implement a system for monitoring the movement of vehicles associated with the construction of the Proposed Development, this will include the following: <ul style="list-style-type: none"> – Documented pre-commencement meetings with the site management team as a contractual requirement; – Active traffic management; and – FORS and CLOCS accreditation 			<p>construction traffic management plan</p>
Flood risk	Code of Construction Practice Part B	Construction	A construction environmental	DCO Schedule 2 Requirement 8 CoCP

Description of impact	Design/mitigation measures adopted as part of the project	Phase	Approving mechanism	Securing mechanism
	<p>Section 3 which requires that the detailed CEMP is to include any site specific measures required as a result any overlapping construction activities associated with developments that could give rise to cumulative effects will be included within a detailed CEMP. These measures will be developed and agreed through engagement with the developers identified through a review of emerging developments whereby their construction could overlap with the construction of the Proposed Development to ensure each project is managed so that neither project results in new or exacerbated impacts to habitats and that mitigation measures (habitat creation) remain effective.</p>		<p>management plan for the phase is to be submitted to and approved by the relevant planning authority prior to the start of construction</p>	<p>DCO Schedule 2 Requirement 9 CEMP</p>

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You can view all our DCO application documents and updates on the application on The Planning Inspectorate website:

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