

Cambridge Waste Water Treatment Plant Relocation Project  
Anglian Water Services Limited

# Phase Two (Statutory Phase One) Section 47 Community Consultation Materials

Application Document Reference: 6.1.17  
PINS Project Reference: WW010003  
APFP Regulation No. 5(2)q



# Cambridge Waste Water Treatment Plant Relocation Project



Phase Two Community Consultation Leaflet  
June 2021



# Introduction

**We have launched our phase two consultation on the Cambridge Waste Water Treatment Plant Relocation project. We want to hear your views on our emerging proposals for the new site, including our mitigation measures and any other opportunities for environmental enhancement you would like us to explore further. You can access our consultation materials and provide your views at any point between 23 June and 18 August. All feedback is valued.**

This consultation leaflet presents and summarises our proposals. Further information is provided through topic specific factsheets, which include more detail on key areas of the project, including on the tunnel / pipeline corridors and a connection to Waterbeach. Copies of this leaflet and accompanying factsheets are available via our website ([www.cwwtpr.com](http://www.cwwtpr.com)) and on request via our contact details listed on the back of this leaflet. More information is also presented through our website via our virtual exhibition and digital engagement platform.

Please don't hesitate to get in touch with our consultation team if you have any questions on our phase two consultation or require information to be provided in alternative formats. You can reach us using the contact details on the back page of this leaflet, including by phone or post.

# About the relocation project

**Anglian Water is planning to build a modern, low carbon water recycling centre for Greater Cambridge. The new facility will provide vital services for the community and environment, recycling water and nutrients, producing green energy, helping Cambridge to grow sustainably.**








Anglian Water's vision goes beyond just building a new plant. It isn't simply about moving an old facility to a new location. We will build a facility of the future where waste water becomes a valuable resource, alongside establishing new habitats for wildlife and creating improved access to the Cambridgeshire countryside. We want to create a place where water, people and landscape come together.

In January 2021, following extensive public consultation and a series of rigorous environmental, community, planning, operational, and economic assessments, we concluded the most appropriate location for the new site is the area north of the A14 between Fen Ditton and Horningsea. This site provides the greatest opportunity to deliver not only a modern treatment facility for Greater Cambridge, but also on many of the issues residents told us are important to them during our phase one consultation.

# Contents

About the relocation project	page 3
The journey so far	page 5
Our phase two consultation	page 6
Our proposals	page 8
People	page 12
Places	page 16
Value	page 28
Climate	page 30
The construction Phase	page 32
Next steps	page 34
Get in touch	page 35

# The project at a glance

 Enabling sustainable economic and housing growth	 Building for the future with a state-of-the-art facility	 Creating new and improved access to the Cambridgeshire countryside	 Designing an operationally net zero carbon and energy neutral facility
 Protecting against climate change	 Delivering new and improved habitats for wildlife	 A Discovery Centre to help people understand and explore what we do	 Supporting local projects in your community

## Closing the facility at the current site on Cowley Road will:



Allow the existing site to be redeveloped, delivering around 5,600 of the 8,000 much-needed new homes in North East Cambridge, including around 40% affordable housing (rented and shared ownership)



Provide a mix of homes, workplaces, shops and community spaces with good connectivity, that are fully integrated with surrounding communities



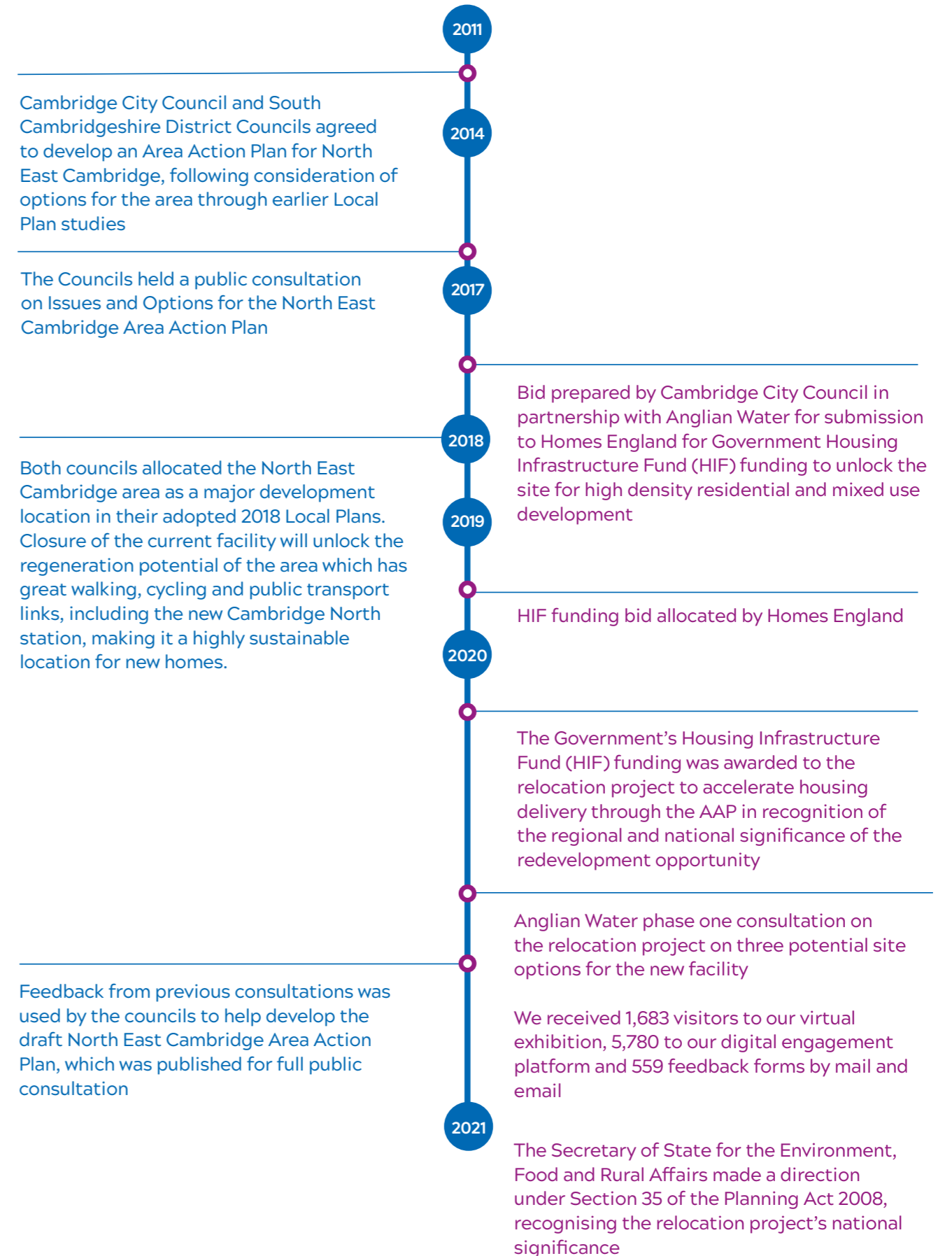
Enable improvements to walking, cycling and public transport connectivity, helping to address climate change through reducing car use



Create new parks and open spaces that will form an accessible green space network with a wide range of plants and wildlife, linked with parks in the wider area



## The journey so far



# Our phase two consultation

**Our phase two consultation is open between 23 June and 18 August. You can access our consultation materials and provide your views at any point during this time.**

## What we are consulting on

As part of this consultation, we want to hear your views on our emerging proposals for the site, including our mitigation measures and any other opportunities for environmental enhancement you would like us to explore further. All feedback is valued.

As part of this consultation we are asking for your views on:

- Our emerging proposals for the new facility and surrounding site
- The landscape proposals designed to screen the facility including an earthwork bank, further screening and on the finish of the more visible features including the anaerobic digesters and the gateway building
- Our proposed options for providing a new permanent access point for vehicles during the long-term operation of the new facility
- The mitigation measures and opportunities for environmental enhancement you would like to see around the site, including landscaping, habitats for wildlife, and recreational connectivity for the local community to access the site area and enjoy the surrounding countryside
- How our proposals can align with local projects and aspirations such as the Wicken Fen Vision, Nature Networks and Greenways, or if there are any other projects you think are important for us to consider
- Information on the proposed approach to the construction phase

## How to find out more

We have recently published our Statement of Community Consultation (SoCC), which explains how we will continue to consult the local community and how you can help shape our proposals as they develop. Our SoCC and the full suite of phase two consultation materials are available from the document library on our project website (██████████). The document library also includes all of our phase one consultation materials, as well as reports on how consultation feedback informed our site selection and our early design proposals.

This consultation leaflet presents and summarises our proposals. Further information is provided through our virtual exhibition and digital engagement platform, which can be accessed via our project website. Topic specific factsheets are also available, providing more detail on key areas of our proposals. The factsheets are available online as well as in hard copy from the Community Access Points listed on the back of this leaflet.

We will be holding a number of community webinars during our phase two consultation. Dates and times of these are provided below. If you would like to join one of our community webinars, you can register your interest by getting in touch with the project team using the contact details on the back page of this leaflet.

## How to have your say

You can access our consultation material and provide your views in the following ways:



**Project website:** our dedicated project website ██████████ is available for you to find out more information, including our full suite of phase two consultation documents.



**By post:** feedback forms have been posted together with the consultation leaflet to all homes and businesses within our core consultation zone. These can be filled in and posted back to us via FREEPOST, feedback forms will also be provided on request via post.



**Webinars:** join our community webinars by video call or by phone, to hear more from the project team and ask your questions. Get in touch to register.



**Digital engagement platform:** you can view our plans, post comments on our interactive map and see feedback from other members of the community on our digital engagement platform, accessed through our project website.



**Virtual exhibition:** visit our virtual exhibition to view information about the project. You can access this through our project website. Our virtual exhibition will remain open throughout the consultation period.



**Community Access Points:** hard copies of consultation materials are available during the consultation period from the locations listed on the back of this leaflet.



**Communications lines:** our free-to-use communications lines are open throughout the consultation period. You can speak to a member of our consultation team to ask questions, request information (including in alternative accessible formats), and provide feedback by calling **0808 196 1661** or emailing **info@cwwtpr.com**.

## Phase two webinar dates



**Wednesday**  
**07 July**  
**(2pm-3pm)**



**Thursday**  
**08 July**  
**(7pm-8pm)**



**Saturday**  
**10 July**  
**(10am-11am)**

Register by calling or emailing us using the details above

# Our proposals

## Our vision

Anglian Water's vision for the project goes beyond just building a new plant. It isn't simply about moving an old facility to a new location. We will build a facility of the future: where waste water becomes a valuable resource, recycling it and recovering nutrients to produce biofertilizer to help enrich local farmland; where we will generate renewable energy to power the facility and heat homes; all before returning cleaned water to the River Cam improving its flow and overall volume.

We will establish new habitats for wildlife and create improved access to the Cambridgeshire countryside, as well as connecting to existing footpaths and access routes. We want to create a place where water, people and landscape come together.

Underpinning our vision are the National Infrastructure Commission's design principles. You can learn more about how we have applied these and how we are embracing circular economy principles across people, place, climate and value in this consultation leaflet, our factsheets and virtual exhibition, available through our website [\[redacted\]](#).

We are continuing to receive advice and guidance on design good practice from the Design Council, an independent charity and the Government's strategic advisor on design, who will continue to help us develop our proposals. We will also engage with the local Cambridgeshire Quality Panel as part of our phase two consultation to receive their feedback on our design.



Computer-generated image showing indicative ground level view of the proposed facility with mature planting on top of earthwork bank



### People

This is a project for the whole community of Greater Cambridge. By taking on board a range of views the new facility is being designed to reflect social needs, managing resources carefully and sharing benefits widely. We will deliver improved green connectivity routes for pedestrians, cyclists and equestrians so that people can better access and enjoy nature and green spaces, responding to the feedback we have received so far. By using modern technologies and processes our design will ensure that nuisance odour does not adversely affect people's homes or enjoyment of the surrounding area. Our Discovery Centre will also enable people to understand and interact with water recycling processes, showing what we do while offering unique educational opportunities. [Read more on pages 12-15.](#)



### Places

We present a design that supports and, over time, enhances the natural environment. It will sit sensitively in and seeks to make a positive contribution to the local landscape within and beyond its boundary. The design takes its inspiration from the local landscape character – both past and present – creating a place with a strong sense of identity. The project's design supports and enriches local ecology, contributing to the restoration of Greater Cambridge's wildlife. We propose to include new trees, hedgerows and grassland habitats within our plans, creating both a visually rich new landscape and making space for nature with at least a 10% increase in biodiversity. Opportunities for rewilding, both within the boundaries of the project and beyond are also being explored. [Read more on pages 16-27.](#)



### Value

We are also exploring opportunities to maximise value by enabling wider social and environmental benefits beyond the boundaries of the project, whilst delivering best value for public funding. The new footpaths and bridleways will give the community improved access to the countryside. As the site sits at the southern end of the National Trust's Wicken Fen Vision area, our proposals will be carefully designed to tie-in with the ambitions of this and other local projects including Cambridge Nature Network and Greater Cambridge Greenways. [Read more on pages 28-29.](#)



### Climate

We will build a modern, low carbon, water recycling centre for Greater Cambridge. The new facility will provide vital services for the community and environment, recycling water and nutrients, producing green energy, helping Cambridge to grow sustainably. It will help to mitigate wider climate impacts by improving capacity to treat storm flows before returning cleaned water to the River Cam improving its flow and overall volume. [Read more on pages 30-31.](#)

# Our proposals

## Our design evolution







Our emerging proposals have been developed with the input and feedback we've received from stakeholders and the local community. They are driven by our vision to create a water recycling centre of the future. The visual illustrations shown here are designed to stimulate dialogue and feedback on our ideas.

As part of this consultation, we want to hear your views on our emerging proposals, potential mitigation measures to minimise impacts on local communities, and any other opportunities for environmental enhancement you would like us to explore. See our Feedback Form or visit our digital consultation platform via our website [\[redacted\]](#)



An aerial sketch of our emerging proposals for the site, showing a circular earthwork bank surrounding the facility and one of the proposed site access options

Our proposal takes its inspiration from the local landscape character, both past and present, and is guided by the following core principles:

-  **to create a state-of-the-art, low carbon water recycling centre of the future;**
-  **to create a strong identity for the site while screening the facility and reducing visual impacts on the surrounding community and landscape;**
-  **to re-use excavated material on site which can be used to screen the facility and also reduce the carbon and traffic impact from construction;**
-  **to increase biodiversity and create new wildlife habitats;**
-  **to improve access to the countryside with new paths and accessible open spaces; and**
-  **to connect the site into the wider landscape and establish new wildlife corridors.**

Our proposals show a 22-hectare facility enveloped within a high circular earthwork bank. This has been inspired by local historic structures, such as Fleam Dyke and Devil's Dyke and circular Iron Age hillforts such as the Wandlebury Ring and Belsar's Hill. As it matures, alongside the planting, it will soften and the slopes will provide new grassland habitat for wildlife. It will effectively screen all but the tallest elements of the facility from all directions. Further screening will come through additional offsite landscaping and tree planting, creating both new habitats and reducing impacts on viewpoints such as from the villages of Horningsea, Fen Ditton and Stow cum Quy.



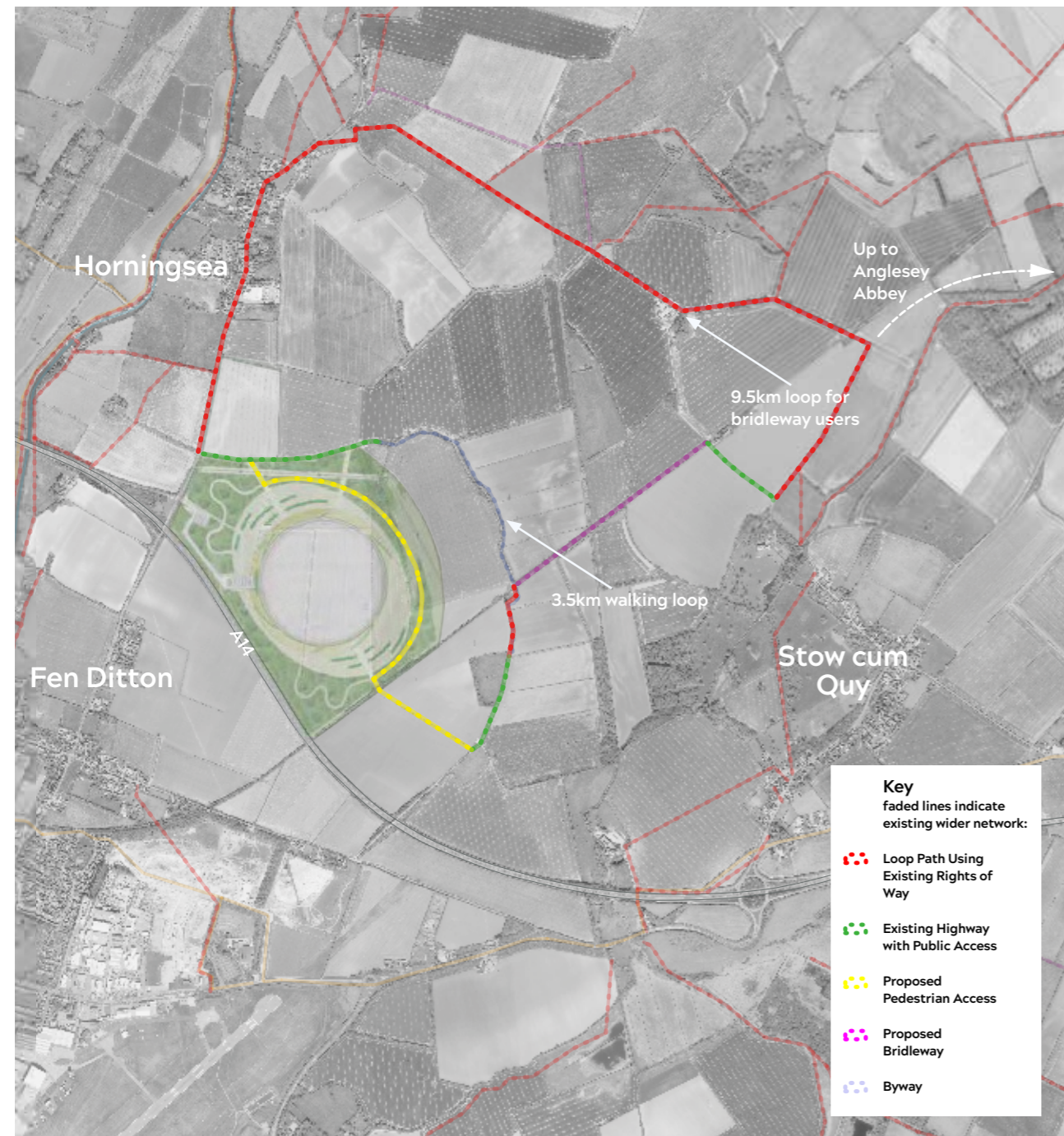
Fleam Dyke

# People



## Improving access to green spaces

We want to design the setting and appearance of the new facility in collaboration with the local community. During our phase one consultation you told us that enjoying open green spaces is vital for health and wellbeing. Now more than ever, access and the freedom to be able to explore high-quality green spaces is important. We plan to create new footpaths and bridleways to open up recreational access in the area, including to Quy Fen and Anglesey Abbey. Our proposals would form part of a new circular walking route from the facility of 3.5km and longer 9.5km loop for bridleway users, as shown in the image below.



Aerial plan showing new and existing paths

**What other opportunities for improved recreation for the local community to access the site area and surrounding countryside would you like us to consider?**

See Question 5 in our Feedback Form or visit our digital engagement platform via our website

## Discovery Centre

We want to create a place where people can interact with the water recycling process helping to increase understanding of its vital role in supporting communities and the environment.

We will create a Discovery Centre for visitors. This will provide an educational resource supporting the sustainability curriculum so that local children and communities can interact with and learn about the importance of water and the role which water recycling plays in the circular economy. Dedicated parking may be provided for visitors to the Discovery Centre at the gateway of the facility.

**What opportunities would you like to see on offer at the proposed new Discovery Centre?**

See Question 6 in our Feedback Form or visit our digital engagement platform via our website



Computer-generated image showing visitor parking and potential access to Discovery Centre



# People

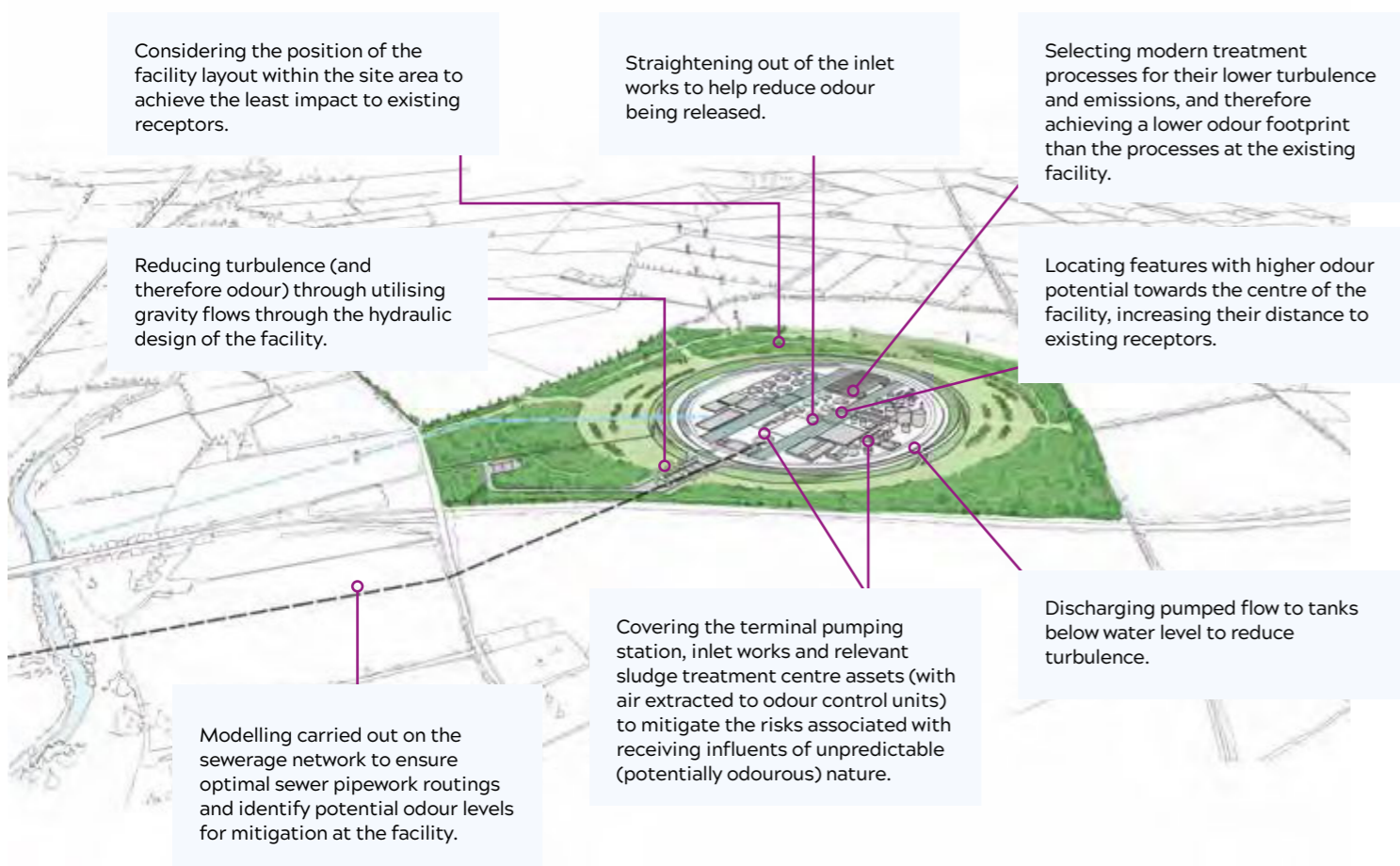


## Minimising odour at source

Minimising odour as far as possible for local communities is of paramount importance to us. Whilst the nature of the job waste water treatment plants are designed to do means that it is difficult to eliminate odour completely, one of the benefits of the relocation project is that we can utilise the latest technologies and embed solutions into the design of the facility.

This, alongside using modern operational practices to control odour, both prior to it reaching the facility and once the waste water enters the treatment process, means that nuisance odour will not adversely affect people's homes or enjoyment of the surrounding area.

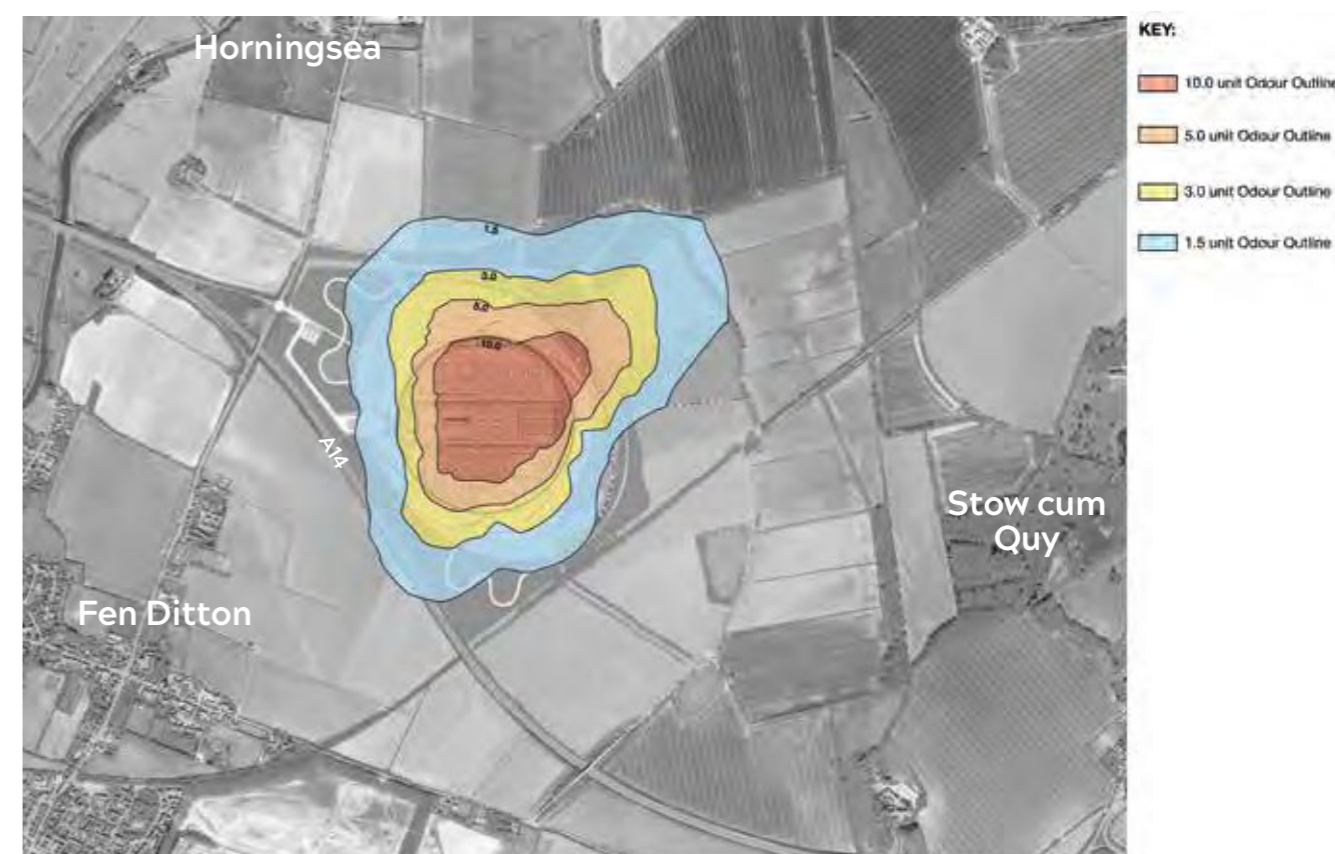
We have made a commitment to deliver the lowest, 'negligible' impact of odour at people's homes, in line with the Institute of Air Quality Management (IAQM) guidance. Our Odour Statement, available on our website [redacted] sets out the planned odour assessment methodology including the level at which odour is considered to have a 'negligible' impact.



Graphic indicating how we can minimise odour at source

Minimising the potential for an odour impact (higher than 'negligible') beyond the site boundary has been a key consideration, both at the site selection stage and throughout the initial design stages. The proximity of residential properties, recreational routes, prevailing wind direction, and community feedback are all being taken into account. It will continue to be a focus as the design of the facility evolves through the project life cycle.

We have been continuing to carry out dedicated odour assessment and modelling as part of our design process as the facility layout, process and technology choices continue to develop. Additional measures are being explored which will further reduce odour, including placing the most odourous elements at the centre of the site, flow handling techniques to reduce turbulence, and covering of process units where appropriate.



Indicative odour model output for the new facility

You can find out more about what we're doing to minimise odour at source and deliver the lowest negligible levels of odour for local communities in our Odour Factsheet.

All of our odour assessment information, together with an odour management plan which we will consult local communities on as part of our phase three consultation, will be submitted for public examination as part of our final Development Consent Order (DCO) application to the Planning Inspectorate (PINS).

# Places



We are committed to developing a high-quality design in partnership with the local community and other stakeholders. The project's design takes its inspiration from the local landscape character – both past and present – creating a place with a strong sense of identity. This is to ensure that the new facility sits sensitively in and seeks to make a positive contribution to the local landscape within and beyond its boundary, enhancing the environment, providing new habitats for nature and creating a sense of place for visitors and local residents. We are asking for your views on the architectural finish of the externally facing buildings and features of the new facility. This includes a gateway building, the anaerobic digesters, and any screening on top of the earthwork bank.

## Gateway building



Illustrative visualisation of the gateway building with a gabion wall architectural finish

**What would you like to see prioritised in selecting the architectural finishes for the externally facing buildings and features of the new facility?**

See Question 7 in our Feedback Form or visit our digital engagement platform via our website

## Anaerobic digester cladding



Illustrative visualisation of the anaerobic digester cladding with a natural, matt finish behind additional screening on top of the earthwork bank

## Earthwork bank screen

Access to the top of the earthwork bank could provide opportunities for visitors to visually experience and understand the entire water recycling process within a safe environment, as well as enjoy views looking out onto the surrounding Greater Cambridge landscape.

We are exploring additional screening on top of the earthwork bank, which could utilise a variety of materials and forms, to further reduce visual impacts and create a welcoming place for visitors.



Illustrative visualisation of screening option on top of earthwork bank, see page 8 for a further option

You can find more visualisations on our digital engagement platform and virtual exhibition available through our website.

# Places



## Visual impacts and mitigation

The tallest element of the plant will be the two anaerobic digesters. They will be a maximum of 26m relative to finished ground level, and will therefore be visible above the earthwork bank, including any screen on top. We will deliver a comprehensive programme of additional landscaping including tree and hedge planting, supported by a long-term management plan, to limit the impact of our proposals on the views of local residents and users of local roads and footpaths. We will ensure that this planting is appropriate to the area and respects the landscape tradition and existing vegetation.

The illustrative visualisations that follow show examples of the likely visual impact once the construction of the new facility is complete and landscaping fully matured. We plan to phase the planting and screening aspects of the construction phase early on so they mature as the new facility is being built. You can access more examples and at different stages on our website: [redacted].

**Do you have any further comments for us to consider when developing our proposals to mitigate the potential visual impacts of the new plant?**

See Question 8 in our Feedback Form or visit our digital engagement platform via our website [redacted]



Current view from Horningsea Road



Illustrative visualisation of the new facility, with mature planting viewed from Horningsea Road



Current view from Fen Ditton



Illustrative visualisation of the new facility, with mature planting viewed from Fen Ditton



Current view from Low Fen Drove Way



Illustrative visualisation of the new facility, with mature planting viewed from Low Fen Drove Way

# Places

## Landscape and biodiversity

Our design proposals will support and, over time, enhance the natural environment and make a positive contribution to the local landscape and ecology beyond the site boundary.

One of the key ways Anglian Water is driving down its carbon emissions is through natural capital solutions such as rewilding. As well as helping us tackle our carbon challenge by reducing carbon within the region this also creates new habitats for wildlife, increasing biodiversity. We are currently exploring a range of options for landscaping and environmental mitigations beyond the edge of the facility's earthwork bank. This includes planting new woodland, which will introduce a new habitat and help to further screen the works from view, and creating new species-rich grassland meadow and hedgerows.

Our landscape proposals will seek to deliver the following environmental benefits:



A minimum of 10% biodiversity net gain



Up to 25ha of proposed new woodland, which could deliver around 60,000 trees



Up to 4,000 linear metres of proposed new native hedgerow



Aligning with the Wicken Fen Vision and Cambridge Nature Network



Up to 35ha of proposed new species rich grassland



Promotion of rewilding and regenerative farming



Aerial plan showing landscape proposals for our site

### LEGEND

- Existing intermittent tree groups and hedgerow trees
- Existing hedgerow
- Proposed areas of woodland
- Proposed tree belts
- Proposed native hedgerow and hedgerow tree
- Proposed areas of Calcareous Loam Meadow Grassland
- Proposed new pedestrian links
- Existing line of pylons
- Proposed red line boundary
- Proposed areas of off-site landscape enhancements

What would you like to see prioritised as we further develop our landscape proposals?

See Question 9 in our Feedback Form or visit our digital engagement platform via our website

# Places



## Permanent traffic and access options

The facility will require a new permanent access point for vehicles.

We have explored a range of potential vehicle access options, including through engagement with Highways England and Cambridgeshire County Council as the relevant highway authorities. Of paramount importance is the safety of all road users. A key consideration is also managing potential disruption to local communities and the existing road network.

As a result of this work, we have identified three potential access options for our proposals.

These are:

**Option 1:** Access off Junction 34 (Fen Ditton), which consists of two sub options (Option 1A and 1B)

**Option 2:** Access off Junction 35 (Quy)

**Option 3:** A new junction on the north side of the A14

We want to hear your views on these options. Feedback will be considered alongside our ongoing technical assessments and engagement with the relevant highway authorities to help us confirm the most suitable access solution. Your feedback will also inform associated mitigation measures that may be explored to further reduce potential impacts to the local community and surrounding environment.

Our Traffic and Access Factsheet provides more detail on each of these options, including consideration given to pedestrians and non-motorised users and our ongoing assessment process.

**Which of our proposed permanent vehicle access route options do you think is the most suitable for the relocation project?**

See Question 10 in our Feedback Form or visit our digital engagement platform via our website





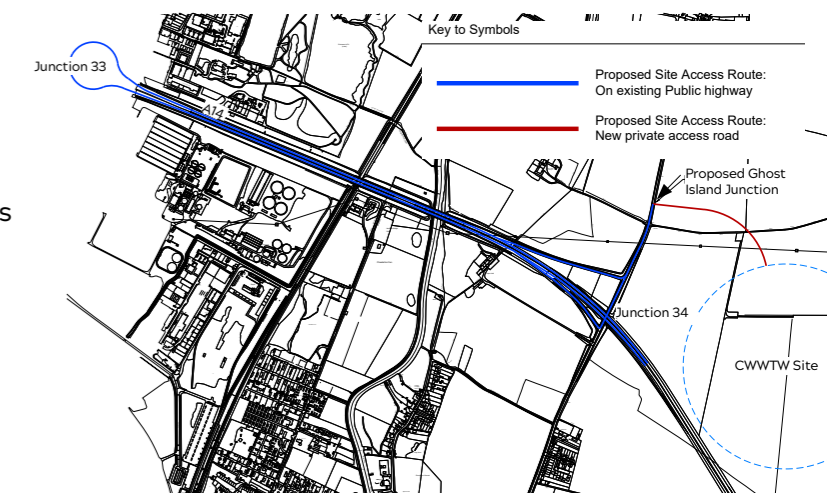
### Option 1: Access off Junction 34 (Fen Ditton)

This option utilises the existing A14 slip road to access the site via Junction 34 of the A14, and off Horningsea Road. Sub-option 1A would involve a 'Ghost Island Junction', which includes road markings to create an additional lane for traffic waiting to turn right off Horningsea Road onto a new road to the facility.

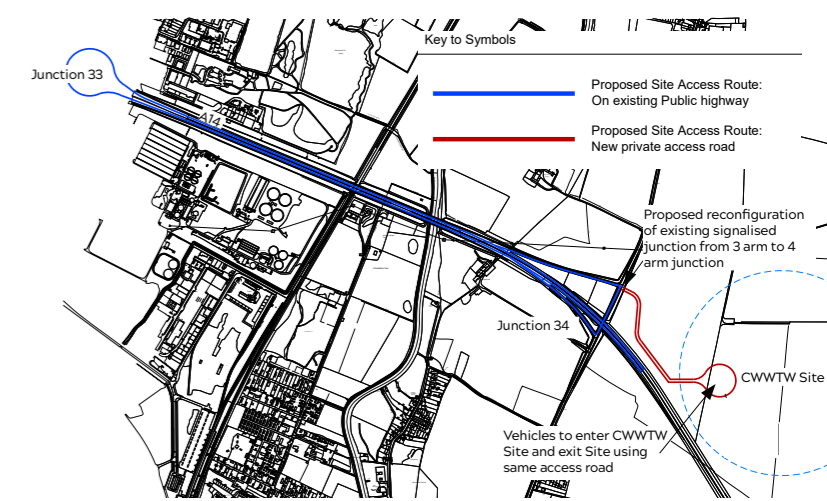
Sub-option 1B would involve reconfiguring the existing junction between the A14 east bound exit slip road and Horningsea Road into a 4-arm signalised junction, also connecting to a new road to the facility.

-  Relatively low biodiversity and green belt impacts
-  Makes appropriate use of existing highway infrastructure and minimises new road construction
-  Keeps HGV traffic movements primarily to the strategic road network
-  Option 1B has minimal impact on non-motorised user (NMU) routes
-  Compliant with local and national transport policies

-  Option 1B potentially causes disruption or closure to the existing junction during construction of the new access, and requires larger volumes of material than Option 1A
-  Option 1A would require further land take and crosses existing Low Fen Drive Way and would require traffic management



Option 1A, requiring road markings to create an additional lane for traffic waiting to turn off Horningsea Road








Option 1B, requiring a 4-arm signalised junction off Horningsea Road

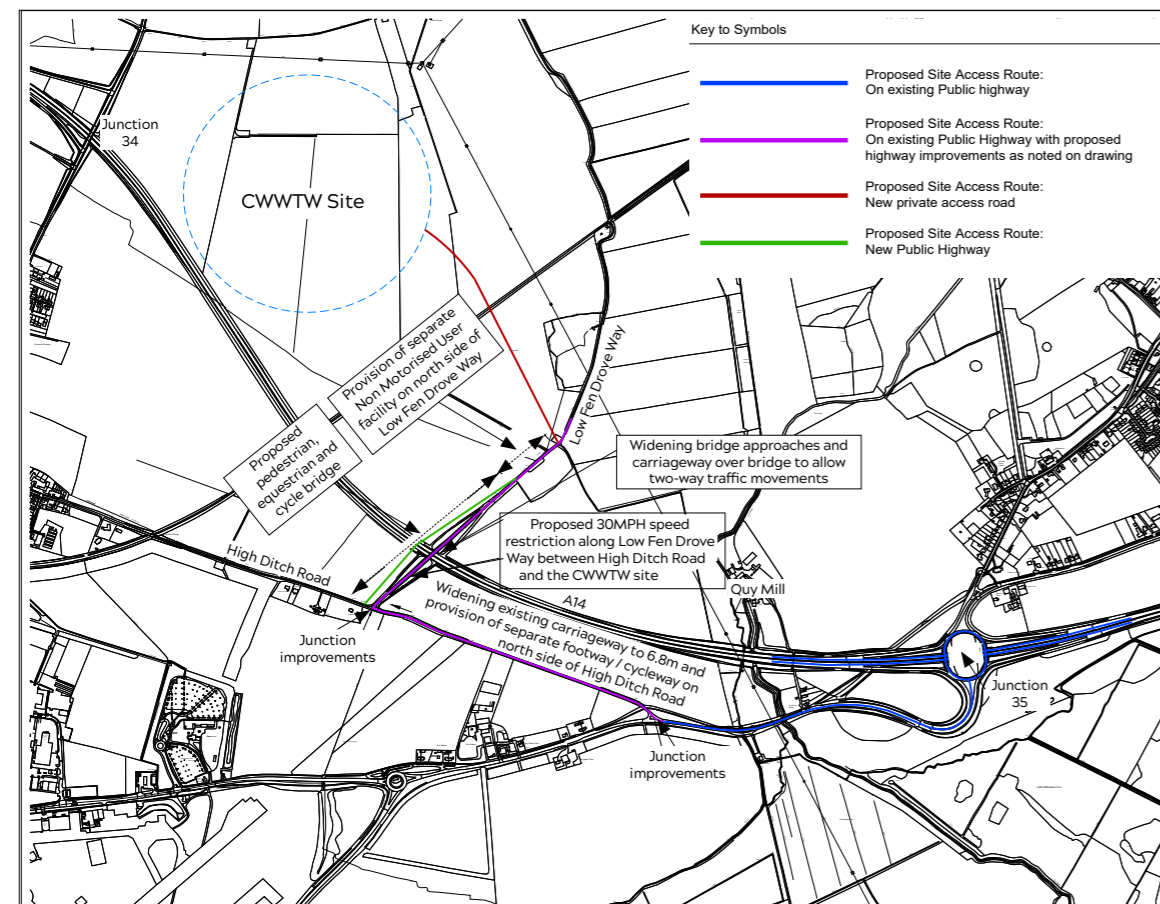
# Places



## Option 2: Access off Junction 35 (Quy)







This option utilises J35 south off the A14 and the existing highway network of Newmarket Road, High Ditch Road and Low Fen Drive Way. This would involve significant works to improve the existing highway network to mitigate the impacts of HGV traffic movements along the proposed routes. This includes junction improvements between Newmarket Road and High Ditch Road, the widening of High Ditch Road, the provision of a separate footway and cycleway, and improvements to the existing bridge on Low Fen Drive Way as it crosses over the A14.

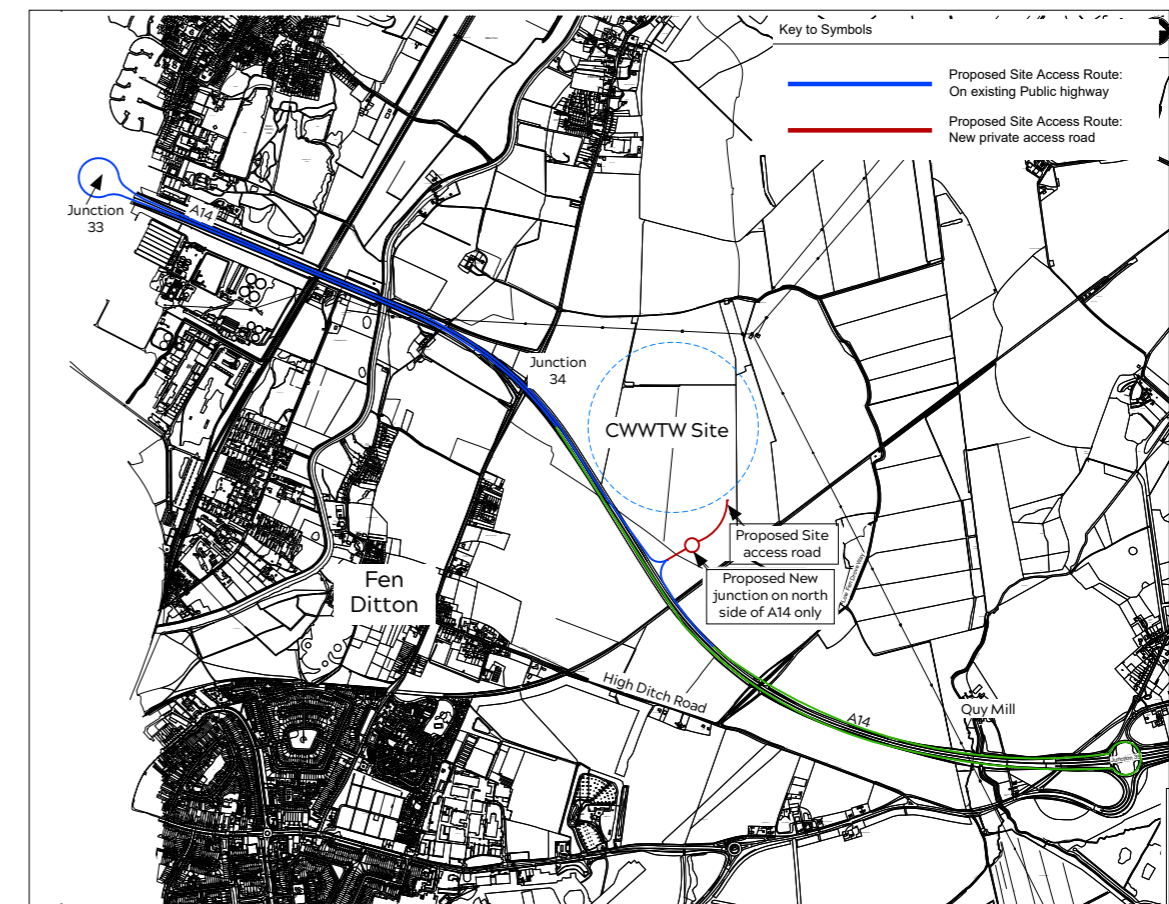
-  Provides east and west bound access to A14
-  Closer to residential properties than other options (High Ditch Road)
-  Largely relies on using existing A14 junction infrastructure, compliant with transport policy
-  Requires significant improvements to the existing highway network to mitigate the impacts of HGV traffic movements along the proposed route and replacement access for non-motorised users
-  Larger carbon footprint than other options



## Option 3: A new junction on the north side of the A14

This option would involve constructing a new junction on the north side of the A14 only, between the current junctions 34 and 35. A new road would be constructed from this junction to the facility.

-  Minimises the impact of HGVs on the wider highway network
-  Significant construction work required and disruption to the operation of the A14 during this time
-  No significant environmental impacts
-  Highest programme and cost risks and challenges, as well as extending the length of time temporary vehicle access is required.
-  Minimal impact on Green Belt
-  Does not comply with Department for Transport policy on constructing additional junctions on the strategic highway network when there are other viable options



# Value












## Maximising public value

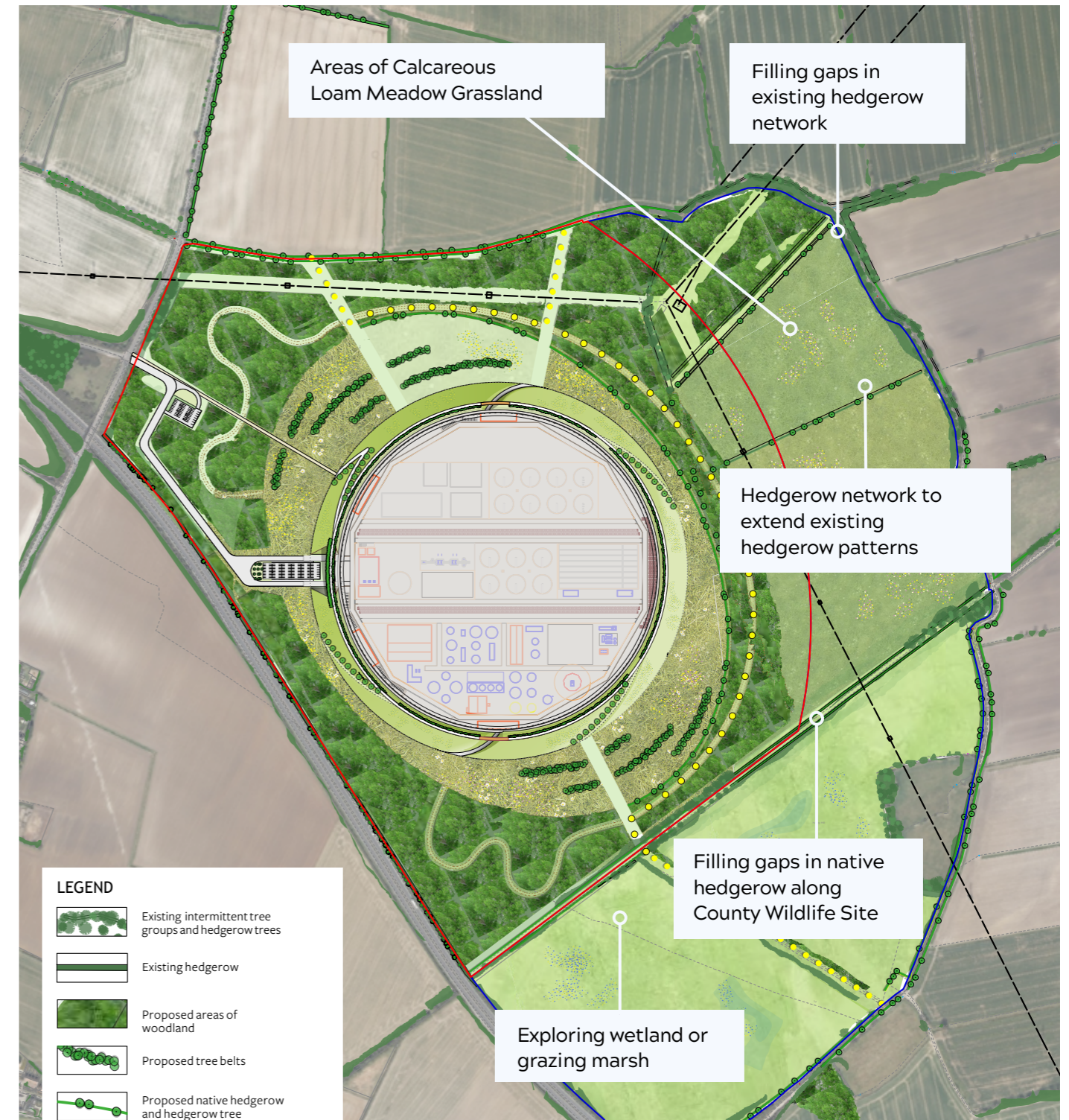
We want to use the opportunity this project presents to provide wider benefits and maximise the public value we can deliver. This will be achieved through a combination of our proposals directly and by working in partnership to support the delivery of local aspirations, creating value both within and beyond the boundaries of the project. This achieves the highest potential for realising environmental and social benefits as a publicly funded project.

As well as supporting Cambridge City and South Cambridgeshire District Councils to enable their long-held vision for a new low-carbon city district in North East Cambridge, we are also seeking to work in partnership with the local community, land managers and other stakeholders such as the National Trust, to unlock the potential for environmental benefits beyond the new site's boundary.

We are exploring collaborative opportunities to contribute to South Cambridgeshire District Council and Cambridgeshire County Councils' policy objectives of restoring wildlife on a large scale and doubling nature, as well as helping South Cambridgeshire to become zero-carbon by 2050. Our aspiration for maximising public value through the relocation project includes:

-  **Creating an entirely new, modern facility that will deliver for the climate, people and place as well as enabling the regeneration of North East Cambridge**
-  **Unlocking Cambridge City and South Cambridgeshire District Councils' plans for a new low-carbon city district, creating 8,000 new homes and 20,000 jobs over the next 20 years**
-  **Reducing the new facility's carbon footprint and generating renewable energy through sustainable design**
-  **Providing an opportunity to reduce heavy goods vehicle traffic at the A10/A14 junction, once the existing facility is decommissioned**
-  **Turning Greater Cambridge's waste water into a valuable source of renewable energy that may power the facility or heat homes before returning it to the River Cam**
-  **Improving green connectivity routes for pedestrians, cyclists and equestrians, better connecting the local community to nature and green spaces**
-  **Promoting restoration of wildlife on a large scale and contributing to doubling nature in Cambridgeshire**
-  **Aligning our plans to help enable the Wicken Fen Vision, The Cambridge Nature Network, and supporting the delivery of the Greater Cambridge Greenways**
-  **Exploring opportunities for reusing the water we recycle to further support local water resources, playing our part in protecting the future population needs**

We are keen to explore opportunities to support wider benefits beyond our site boundary through working in partnership with local land managers. The image below shows what some of these opportunities could look like.



Aerial plan indicating environmental opportunities that could be delivered in partnership beyond our site boundary

**What opportunities would you like to see us explore in our plans for the relocation project to deliver public value and promote collaborative opportunities?**

See Question 11 in our Feedback Form or visit our digital engagement platform via our website



# Climate



## Net zero carbon

The design of the facility will contribute to Anglian Water's goal to reach net zero carbon emissions by 2030 by reducing energy consumption and contributing towards the circular economy. The new facility will significantly reduce emissions compared to the existing Cambridge facility and will be operationally net zero. We will also seek to reduce "capital" or "embedded" carbon during the construction phase.

Reducing both capital and operational carbon is a key objective as we continue to develop the design of the new facility, including through the use of lower carbon materials. One of the benefits of the relocation project is that we will create a brand new, state-of-the-art net zero carbon emissions facility from scratch, with a reduced footprint of 22 hectares, around half the size of the current facility.

The opportunity to condense the footprint of the site, combined with new efficient treatment processes and harnessing renewable energy generation on site, will reduce the overall energy consumed. This smaller facility area and the compact design, alongside the site's shorter distance to return treated water to the River Cam, reducing overall lifetime carbon emissions compared to the current facility.

You can learn more about how the new facility will contribute to our goal to reach net zero carbon emissions by 2030 in our Carbon and Climate Factsheet.

## Flood risk

As a water company, it's our job to treat and manage water safely and effectively. The new facility is being designed to treat the waste water of Greater Cambridge, prevent flooding by managing storm flows, and serve the environment. This includes taking account of a growing population and climate change.

The new site is located in the Environment Agency's lowest risk Flood Zone 1. However, we will still be carrying out a detailed Flood Risk Assessment (FRA) for the project and consulting on this with the relevant Internal Drainage Board, Lead Local Flood Authority, and the Environment Agency. We are also exploring a range of Sustainable Drainage Systems (SuDS) to manage surface water on the new site and further reduce the risk of flooding.

More detailed information will be made available as part of our preliminary environmental information, which will be presented at our third phase of consultation next year. In the meantime you can learn more about what we're doing in our Flood Risk and Climate Change Factsheets.

**Are there any other measures you would like us to explore for the project to support climate change resilience?**

See Question 12 in our Feedback Form or visit our digital engagement platform via our website

[\[Redacted\]](#)

## Storm flow

Storm overflows also play a vital role in our combined waste water network systems as they work like pressure release valves to protect homes and businesses from flooding during periods of extreme rainfall. The Environment Agency (EA) issues permits for our storm overflows.

Over the next five years Anglian Water is investing £811 million as part of our Water Industry Natural Environment Programme (WINEP). This includes work on protecting the environment and improving river water quality. Ours is the largest plan of any water company, with double the number of obligations than in the last five years.

Working with the Environment Agency, we are also exploring alternative means of treating storm water with the objective of meeting better outcomes for the environment, utilising a less carbon intensive installation at the treatment facility. We continue to work with the Environment Agency to identify and implement the most appropriate storm management processes for the new works.

The pumping infrastructure of the new facility has been designed to receive all flow conditions (including storm) without having a negative impact on the existing Cambridge sewer network. Should the level of flow ever exceed the facility's 'flow to full treatment' capacity, storm pumps will start working to divert the excess incoming flows to the facility's stormwater storage and treatment plant. This stormwater management solution will be in accordance with the agreement reached with the Environment Agency as part of the treatment facility permit, and will greatly minimise the risk of release of raw sewage to the environment.

## Growth and resilience to climate change

For 125 years the current site on Cowley Road has been serving the needs of Cambridge and Greater Cambridge and we want the new facility to continue to provide these vital services, treating waste water and storing storm flows to serve a growing population for as long as, or even longer than, the existing facility has done.

One of the benefits of the new site is that it was found to be the best long-term strategic option, providing a sustainable location away from the Cambridge Urban Fringe and areas of potential future development. We have used a 2050 'Design Horizon', which is typical when planning such facilities to accommodate changes in water usage, demand management and population growth. The design will include for flexibility to alter the internal facility footprint after this design horizon to enable it to respond to growth past 2050 without the need to expand outside the current 22 hectare site area.

The new facility is being designed with provisions for climate change resilience. The new facility sits outside the high flood risk area. We will work with the Environment Agency to ensure that the facility is designed to be resilient to increases in rainfall and extreme weather into the 2080s. The new tunnel infrastructure and storm handling capabilities of the new works has been modelled using a 1 in 100 year storm return period.

# The construction phase

We appreciate that our chosen construction and assembly methods can impact the local community if they are not mitigated and managed robustly. We are committed to minimising these potential impacts.

## Construction programme

Technical studies, environmental surveys and further consultation on the proposals will continue until 2022. Following this, if our application for a Development Consent Order (DCO) is approved, construction and decommissioning works will then commence on-site from 2024. We expect these works will take four years to complete, with most of the construction work carried out in the first two and a half years, before the new facility becomes operational in 2028.

## Mitigating impacts and promoting good construction practice

Through our construction and commissioning works we will adopt good practices that reduce our impact on the community and environment. We are aiming to be an exemplar delivery scheme and we are working to identify solutions that reduce our impact. For example we are looking to:

- Reuse excavated soils within the design, minimising the waste that has to be removed from site
- Specify the works materials to be used, so that we can promote the use of recycled products
- Utilise and reuse materials from the existing facility, where appropriate
- Promote offsite fabrication and assembly techniques to reduce traffic movements and time on site
- Reduce our carbon impact by 70% when compared to a baseline delivery model.
- Minimise our energy and water needs and explore providing these through renewable methods

We will also develop a number of focused plans to manage issues that may arise through construction. These include:

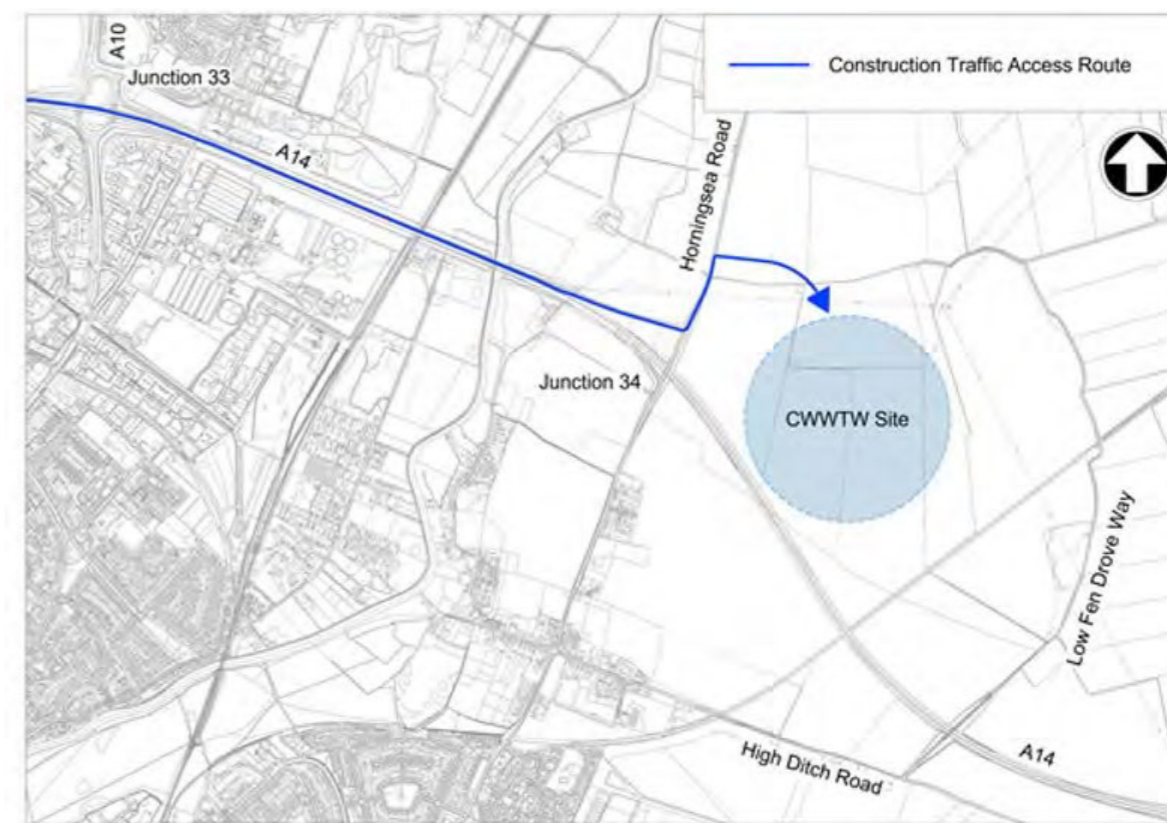
- A **Construction Environmental Management Plan** to respond to and mitigate the environmental, ecological and community impact identified during the design stage
- A **Traffic Management Plan** to manage construction traffic flows
- A **Health, Safety and Welfare Plan** to manage health safety and welfare risks on site
- A **Green Transport Plan** to reduce our transport needs and our impact on the local area
- A **Community Engagement Plan** to drive better communications and integration with the local community

Local communities and stakeholders will be consulted on these as part of our phase three consultation before we submit our DCO application. Our factsheets include more detail on our emerging construction information.

## Temporary access requirements

A separate, temporary access will be required for preliminary construction works, which we anticipate will be from Horningsea Road. Therefore, should Options 2 or 3 be selected for for the permanent access, it is likely that construction traffic would initially access the site via Option 1A until the permanent access has been constructed. You can find out more about these permanent access options on pages 24-27 of this leaflet.

We are continuing to consult with the relevant highway authorities to explore access for construction traffic which minimises disruption to local communities. Site access will be designed to segregate vehicles and pedestrians, as well as delivery vehicles from private cars. Sufficient parking and storage areas will also be provided so that our site operations do not impact the local area.



Plan showing anticipated temporary access for preliminary construction works.

## Construction traffic

It is estimated that construction traffic will range from 100-200 vehicle movements per day (one movement each time a vehicle either enters or leaves the site), to 200-300 vehicle movements per day during the peak of the construction period (estimated within the first two and a half years of construction), as well as light delivery and construction worker traffic.

### Indicative construction activities and the estimated construction vehicle movements associated with each activity

Vehicle movement for specific tasks	Vehicle movements per day
Imported stone for site infrastructure and temporary working platforms	55-70
Large concrete pours to bases of process units	120-150
Arrival of precast concrete units for tank walls	35-50
Road surfacing material	25-35

### Are there any other measures you think we should consider when preparing for the construction phase of the project?

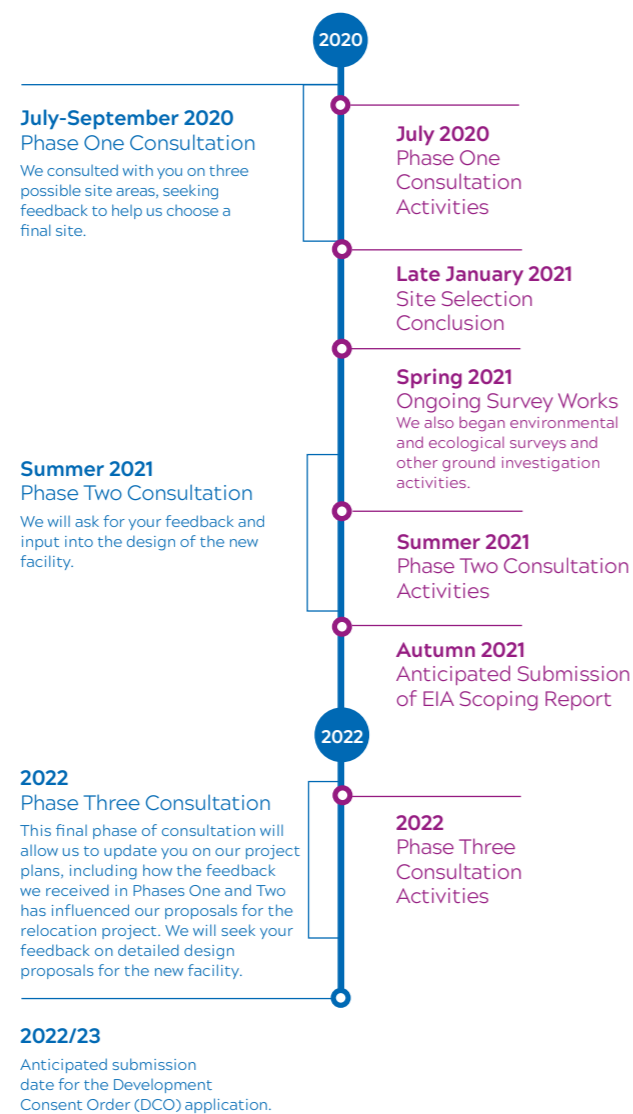
See Question 13 in our Feedback Form or visit our digital engagement platform via our website

## Next steps

Following the end of our phase two consultation on 18 August, we will take the time to carefully consider all feedback received. This will be considered alongside our studies, surveys and ongoing technical assessments to help us develop our detailed design proposals. This includes measures to reduce potential environmental impacts and enhance the surrounding environment, such as for areas for landscaping, biodiversity and recreational amenity, and connecting pedestrian and cycle routes.

We are undertaking a full Environmental Impact Assessment (EIA) for the relocation project, which will inform our developing design. EIA is a detailed process where the likely environmental effects of the proposed development are studied, surveys are carried out and mitigation measures to reduce or remove environmental impacts are identified. This includes continuing to carry out environmental and ecological surveys, ground investigation activities, and gathering additional archaeology and local heritage information and survey data, before submitting our initial EIA Scoping Report to the Planning Inspectorate (PINS) later this year. We will present the findings of our preliminary environmental studies in our Preliminary Environmental Information Report (PEIR) as part of our phase three consultation next year, where we will seek feedback on the detailed environmental information presented, and mitigation measures proposed.

## Community consultation timeline



## Get in touch

**Our dedicated project website, email address, Freephone information line and Freepost address are open if you have any questions.**

You can contact us by:

Emailing at [info@cwwtpr.com](mailto:info@cwwtpr.com)

Calling our Freephone information line on **0808 196 1661**

Writing to us at **FREEPOST: CWWTPR**

Visiting our website at [REDACTED]

Hard copies of consultation materials are available during the consultation period from the locations listed below. If you would like this document in large print, audio or braille formats, please contact us using the details above. Requests for translated summary documents will also be considered.

## Community access points

### South Cambridgeshire District Council,

South Cambridgeshire Hall, Cambourne Business Park, Cambourne, Cambridge, CB23 6EA:  
Mon – Fri 8am – 5:30pm

### East Cambridgeshire District Council,

The Grange, Nutholt Lane, Ely, CB7 4EE:  
Mon – Fri 8:45am – 5pm

### Bottisham Library Access Point,

Bottisham Village College, Lode Road, Cambridge, CB25 9DL:  
Tue 6pm – 8pm, Thu 3pm – 5pm, Sat 10am – 12pm

### Waterbeach Library, Community Centre,

High Street, Waterbeach, Cambridge CB25 9JU:  
Open for appointments

### Barnwell Road Library, 87 Barnwell Road,

Cambridge CB5 8RQ:  
Tue 10am – 2pm, Fri 1pm – 5pm

### St. Peter's Church, St. John's Lane,

Horningsea, Cambridge CB25 9JQ:  
Wed 10am – 3pm, Sun 10am – 3pm



## Get in touch

**Our dedicated project website, email address, Freephone information line and Freepost address all remain open if you have any questions.**

You can contact us by:



Emailing at [info@cwwtpr.com](mailto:info@cwwtpr.com)



Calling our Freephone information line on **0808 196 1661**



Writing to us at **FREEPOST: CWWTPR**

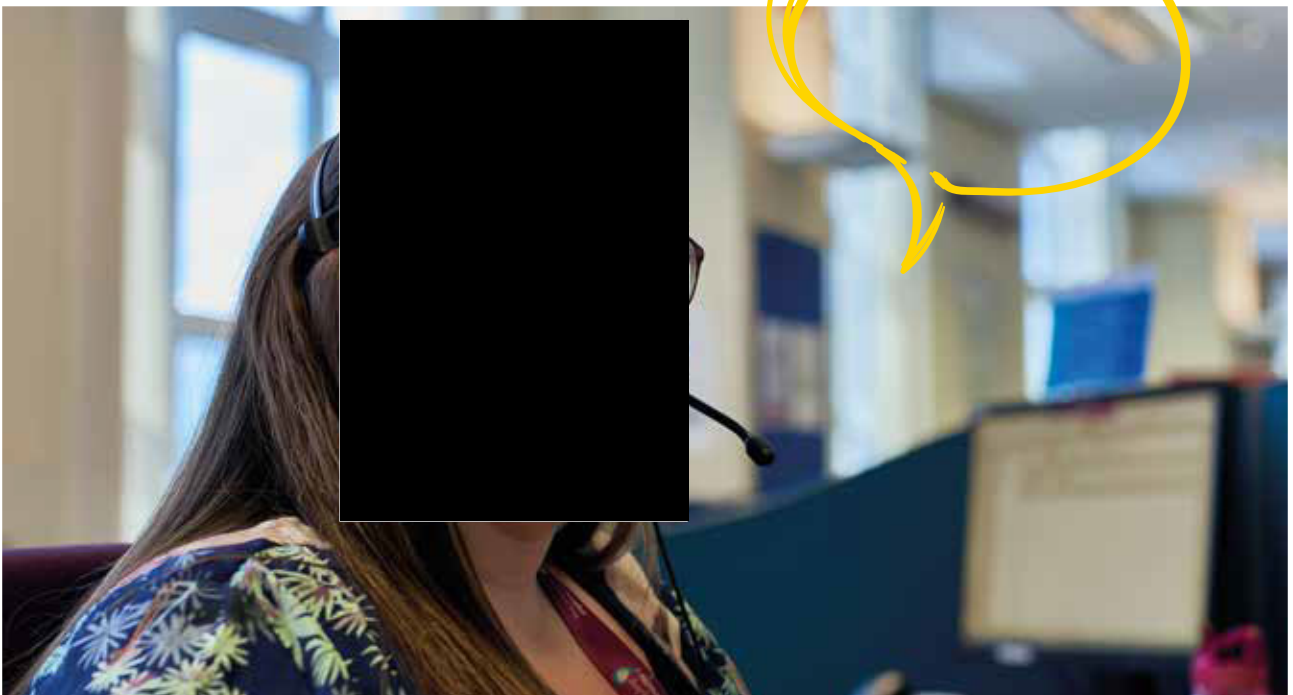


Visiting our website at 



**If you would like this document in large print, audio or braille formats, please contact us using the details above.**

All graphics and maps in this document are for illustrative purposes.



# Cambridge Waste Water Treatment Plant Relocation Project

## Phase two consultation 23 June – 18 August 2021

Anglian Water is proposing to relocate its Cambridge Waste Water Treatment Plant on Cowley Road and build a new, low carbon waste water treatment facility that will continue to provide vital services for the community and the environment, recycling water and nutrients, producing green energy, and helping Cambridge to grow sustainably by unlocking the development potential of North East Cambridge.

We want to hear your views on our early design proposals for how the relocation project look, how it might operate, how we are proposing to reduce environmental impacts and which opportunities for environmental mitigation, improved habitats for wildlife and recreational connectivity for the local community we should explore.

You do not have to supply personal details; however, it will help us to work towards engaging the community during the consultation period and to enable us to contact you regarding the Cambridge Waste Water Treatment Plant Relocation (CWWTPR) project. Your personal details will be stored in compliance with the Global Data Protection Regulation (GDPR) by Counter Context acting on behalf of Anglian Water and will not be shared with third parties.

## Registration details

Name:  Title:  Date:

Organisation: (if applicable)

Address:

Postcode:  Telephone:

E-mail address:

## 1) How would you describe your interest in the proposed Cambridge Waste Water Treatment Plant Relocation (CWWTPR) project? Please tick the most relevant.

Local resident

Local representative

Landowner

Local business owner

Regular visitor

Local interest group member (if so, please name)

Statutory organisation

Other (please specify):

## 2) Would you like to receive our community newsletters to keep up to date with the progress of CWWTPR?

Yes via post

Yes via email

No

## Part A

### What's most important to you?

During our phase one consultation in summer 2020 we invited comments on the issues that are most important to you. This feedback has been used to inform our early design proposals for the new facility.

We will be undertaking an Environmental Impact Assessment (EIA) for the relocation project. EIA is a detailed process where the likely environmental effects of the proposed development are studied, surveys are carried out and mitigation measures to reduce or remove environmental impacts are identified. Our initial environmental findings will be shared in a Preliminary Environmental Information Report (PEIR) which we will publish as part of our phase three consultation.

### 3) What environmental issues relating to the relocation project are most important to you?

Please tick the relevant boxes.

You can also provide feedback using the interactive map on our digital engagement platform via our website at [www.cwwtpr.com](#) which can be used to pin comments about certain issues which you think are important to specific areas of the proposals.

Local ecology and biodiversity	Landscape and views	Archaeology and local heritage	Climate change	Flood risk and water quality
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Air quality, noise and vibration	Odour	Traffic and access	Local amenity	Other (please provide details)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### 4) Why do you think these things are most important?

## Part B

### Our Proposals

Our early design proposals include information about how the new plant could look and how it might operate, measures to reduce potential environmental impacts, and opportunities to enhance the surrounding environment and deliver on many of the issues local communities have already told us are important to them, such as improving habitats for wildlife and recreational connectivity to the countryside.

We welcome your feedback on our early design proposals for how the plant could look and how it might operate. You can view these proposals in our Consultation Leaflet and online at [www.cwwtpr.com](http://www.cwwtpr.com).

### Our vision for the site follows four key themes:

- People
- Places
- Value
- Climate

You can read more about our proposals on pages 08-31 of our Consultation Leaflet to help answer questions 5-12.

## People



### 5) What other opportunities for improved recreation for the local community to access the site area and surrounding countryside would you like us to consider? Please tick the relevant boxes.

Please see page 12 of our Consultation Leaflet for more information

- |   |  |   |
|---|--|---|
| <input type="radio"/> Access to the site area through new woodland footpaths  | <input type="radio"/> Access to the site through new grassland footpaths | <input type="radio"/> A new bridleway along the old railway line, creating a new 9.5km circular network |
| <input type="radio"/> Access to the top of the earthwork bank, allowing views of the new facility and surrounding countryside | <input type="radio"/> Other (please specify)                             |   |

Please explain why you think this.

**6) What opportunities would you like to see on offer at the proposed new Discovery Centre? Please tick the relevant boxes.**

Please see page 13 of our Consultation Leaflet for more information.

- Opportunities to view and interact with the new facility.
- Facilities for school trips and educational activities.
- Interactive opportunities to learn about the water recycling centre and circular economy
- Other (please specify)

**Please explain why you think this.**

## Places

**7) What would you like to see prioritised in selecting the architectural finishes for the externally facing buildings and features of the new facility?**



**A)** This will include the gateway building, and the anaerobic digesters as the tallest elements of the facility. Please see pages 16-17 of our Consultation Leaflet for more information. Please tick your preference.

- More subtle sky-like finishes to reduce the visibility of taller elements from a distance
- More natural finishes to blend in with the surrounding landscape
- More engineered, contrasting finishes to establish the facility as a new local landmark
- Other (please specify)

**B)** In addition to the gateway building and anaerobic digesters we are also exploring additional screening on top of the earthwork bank. Please tick your preference.

- A more organic, planted screen (please see page 8 of our Consultation Leaflet)
- A more engineered, constructed screen (please see page 17 of our Consultation Leaflet)
- Other (please specify)

**Please explain why you think this.**

**8) Do you have any further comments for us to consider when developing our proposals to mitigate the potential visual impacts of the new plant?**

**9) What would you like to see prioritised as we further develop our landscape proposals? Please tick the relevant boxes.**

Please see pages 22-23 of our Consultation Leaflet for more information

- Delivering a net gain in biodiversity on the site compared to now
- Planting trees to deliver new woodland
- Delivering new linear hedgerows
- Aligning with other local proposals, including the Wicken Fen Vision and Cambridge Nature Network
- Delivering new areas of species rich grassland
- Encouraging rewilding of land on the site, which is currently used for agriculture
- More offsite planting from specific viewpoints
- Other (please specify)

**Please provide any further comments on our landscape proposals, including any other local proposals you would like to see our landscaping support.**

**10) Which of our proposed permanent access route options do you think is the most suitable for the relocation project? Please tick your preferred option.**

Please see pages 24-27 of our Consultation Leaflet for more information

- Option 1: Access off Junction 34 (Fen Ditton)
- Option 2: Access off Junction 35 (Quy), south off the A14
- Option 3: A new junction on the north side of the A14

**Please explain why you think this.**

## Value



**11) What opportunities would you like to see us explore in our plans for the relocation project to deliver public value and promote collaborative opportunities?**

Please see pages 28-29 of our Consultation Leaflet for more information

**Please provide your comments.**



# Climate



12) Are there any other measures that you would like us to explore for the project to support climate change resilience?

Please see pages 30-31 of our Consultation Leaflet for more information

 Yes No

Please explain why you think this.

13) Are there any other measures you think we should consider when preparing for the construction phase of the project?

Please see pages 32-33 of our Consultation Leaflet for more information

14) Based on the information provided in our consultation material, overall how supportive are you of our emerging proposals for a new facility at our selected site north of the A14?

I strongly support the emerging proposals

I support the emerging proposals

I am neither supportive or unsupportive

I do not support the emerging proposals

I strongly oppose the emerging proposals

Please explain why you think this.

**Part C**

**Our consultation process**

15) How did you find out about this consultation?

- I received a leaflet
- I saw it advertised in local media
- I received an email
- Via a local community group
- Word of mouth
- I registered to be kept informed
- Other (please specify):

16) Did you visit the virtual public exhibition on our project website [www.cwwtpr.com](http://www.cwwtpr.com), or attend one of our community webinars.

- Yes
- No

17) Did you find the consultation methods and materials available were informative about our early design proposals for the relocation project?

- Very informative
- Quite informative
- Not informative
- No opinion

18) Please provide any comments or suggestions on the consultation, what we could have done differently and how you would like us to consult you in the future.

19) Do you feel your views are being considered as the proposals for the project develop? Please indicate?

- Strongly agree
- Agree
- Disagree
- Strongly disagree
- Don't know

If you have received our feedback form in the post or downloaded it from our website, you can either send it to us via post or email it using the details below. If you have any further questions or want more information, please contact the project team using one of the channels below.

You can also provide feedback using the interactive map on our digital engagement platform via our website at [www.cwwtpr.com](http://www.cwwtpr.com) or via [www.cwwtprproposals.commonplace.is](http://www.cwwtprproposals.commonplace.is) which can be used to pin comments about certain issues which you think are important to specific areas of the proposals.

If you have received our feedback form in the post or downloaded it from our website, you can either send it to us via post or email it using the details below. If you have any further questions or want more information, please contact the project team using one of the channels below. If you need more space to provide your comments please include additional sheets with your response.



Email at [info@cwwtpr.com](mailto:info@cwwtpr.com)



Write to us at **FREEPOST: CWWTPR**



Call us at **Freephone: 0808 196 1661**



Visit our website at [www.cwwtpr.com](http://www.cwwtpr.com)

Please note that the deadline for the submission of feedback for our phase two consultation is 23:59 on **18 August 2021**. Our phase three consultation will follow in Spring 2022, before we submit our final Development Consent Order (DCO) application to the Planning Inspectorate (PINS) in late 2022 or early 2023.



## Get in touch

**Our dedicated project website, email address, Freephone information line and Freepost address all remain open if you have any questions.**

You can contact us by:



Emailing at [info@cwwtpr.com](mailto:info@cwwtpr.com)



Calling our Freephone information line on [0808 196 1661](tel:08081961661)



Writing to us at [FREEPOST: CWWTPR](#)

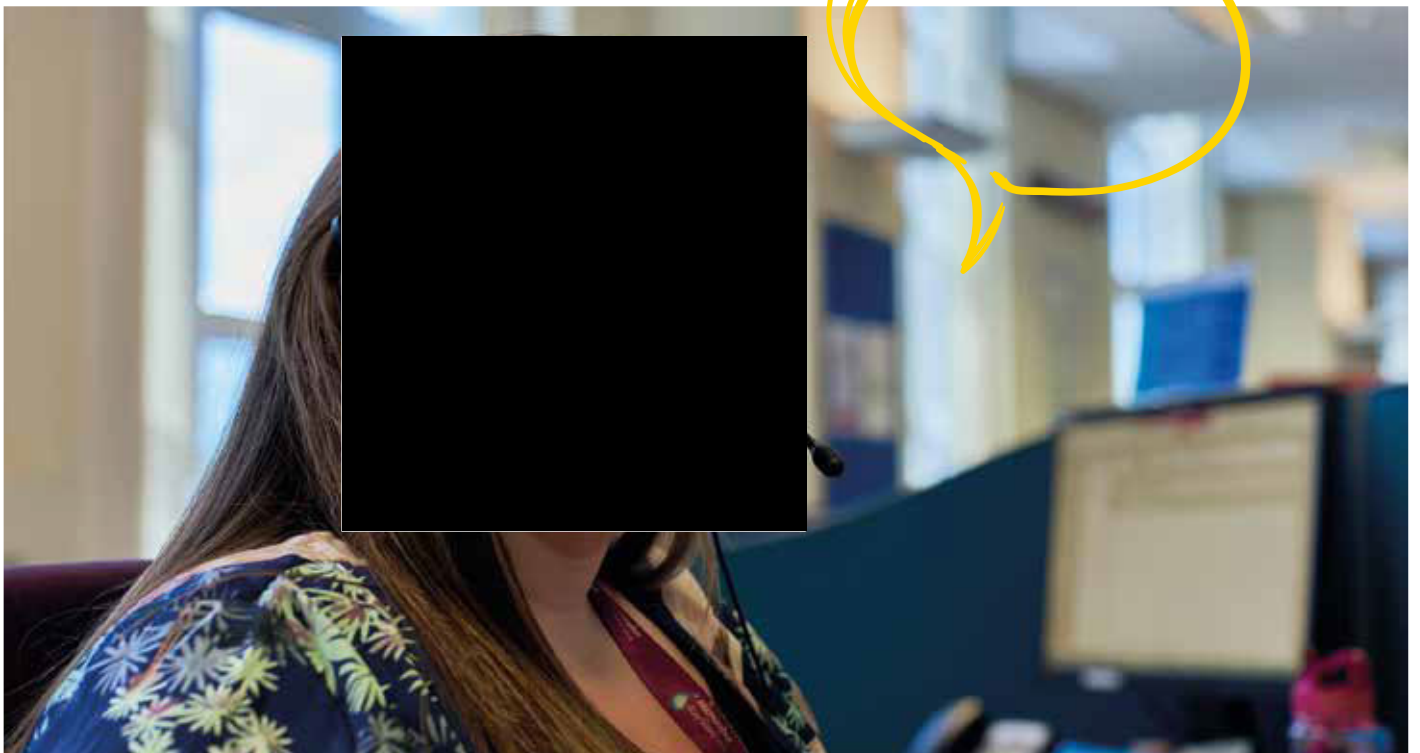


Visiting our website at [\[REDACTED\]](#)



**If you would like this document in large print, audio or braille formats, please contact us using the details above.**

All graphics and maps in this document are for illustrative purposes.



## Construction Techniques Factsheet

### Programme

The construction and commissioning of the facility and its associated development is programmed to take 3½ years to complete from 2024 with most of the construction activities being carried out in the first 2½ years of the programme.

In order to better describe and programme the construction activities for the new facility the construction phase has been split into 4 phases, these are as follows:

1. Site set up and enabling works
2. Construction and assembly
3. Wet and dry commissioning of the new works
4. Decommissioning of the existing works

### Phase 1 - Site set up and enabling works

#### *Site compounds*

To manage the construction phases outlined above a main site compound will be built during site set up in Phase 1, its exact location within the indicative boundary is yet to be established but it will fall outside of the earth bank screen which will encircle the facility. It is likely that we will also need to establish satellite compounds at the existing Cambridge facility, at the shaft locations on the transfer tunnel, and at the discharge chamber adjacent to the River Cam. These satellite compounds will be smaller compounds and will provide offices, welfare and storage areas in order to limit movements between the main compound and the above locations.

The main compound will be established as soon as we commence works on the site and will remain for the duration of the construction phase. The satellite compounds will remain only for the period of the construction work they are managing.

#### *Temporary construction access*

It is anticipated that the temporary construction access will be via Horningsea Rd, as shown in the phase 2 consultation leaflet. The option selected for the permanent access will determine how long the temporary access will be required. As with the permanent site access, the temporary construction access will be designed to minimise impacts on both motorised and non-motorised users of the local road network, including where the access crosses Low Fen Drove Way. Sufficient parking and storage areas will be provided so that our site operations do not impact the local area.

### Phase 2 – Construction and Assembly

#### *Delivery of the works*

When developing our plans and the methods to construct and commission the works we will adopt best practices that reduce our impact on the community and the environment. Examples of ways in which we can reduce our impact locally and also reduce our carbon emission and subsequent impact on climate change include:

- The reuse of excavated soils on site to minimise waste production and need for removal from the site.
- Specifying the works materials so that we can use recycled products.
- Reusing and recycling plant and equipment from the existing Cambridge facility.
- Offsite fabrication and assembly to reduce traffic movements and time on site.

We have set ourselves a challenging 70% target to reduce our carbon impact when compared to a baseline delivery model. We are also looking at our construction energy and water needs and how these can be reduced and/or provided by renewable methods. You can read more about our proposals around Carbon and reducing our impact on climate change as well as constructing a climate resilient facility on [REDACTED].

We understand that our chosen construction and assembly methods have the potential to impact on the local community and surrounding environment during the construction phases. Impacts such as a result of noise, odour, emissions to air such as dust, poor construction traffic management and excessive illumination have the potential to have an adverse impact on the local community if they are not mitigated and managed robustly. As part of our commitments to minimising environmental, social and economic impacts and in line with our ambitions and best practice in the construction industry, we will develop a suite of management plans which will be implemented and adhered to during the construction phases, including:

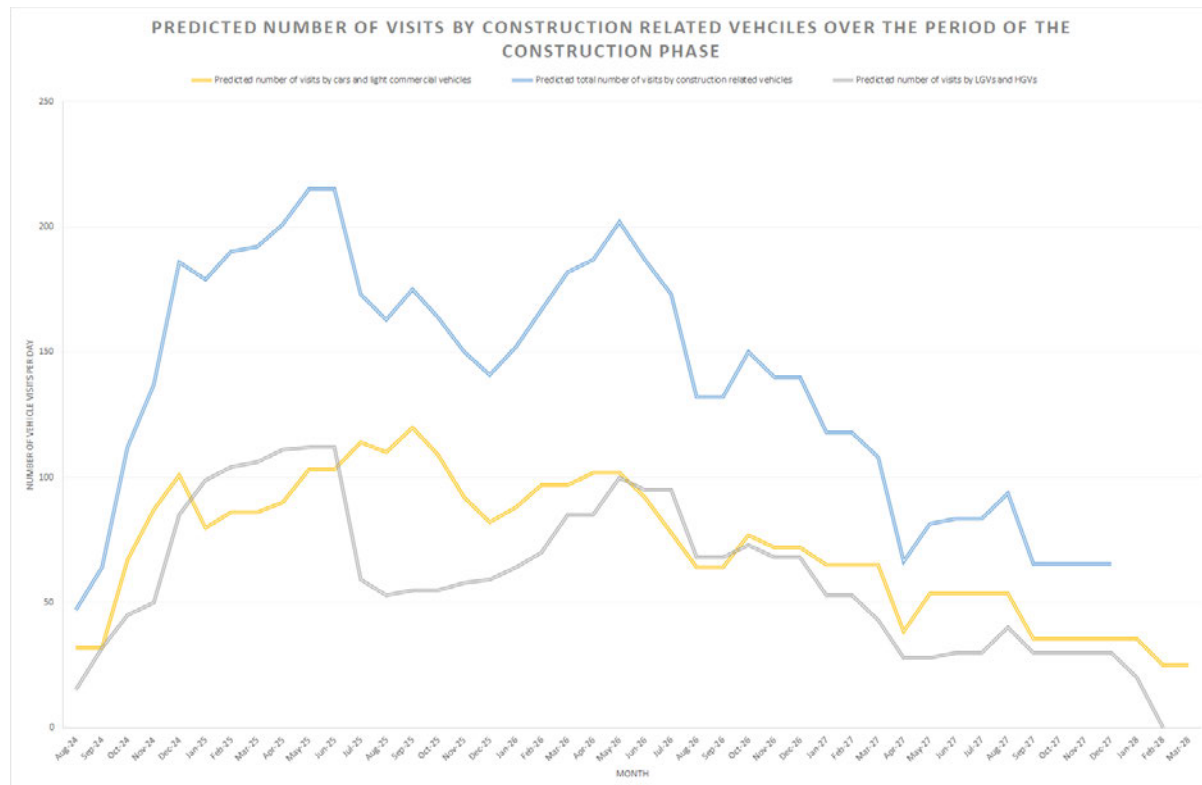
- a Construction Environment Management Plan (CEMP) to outline how we will avoid, minimise or mitigate effects on the environment and surrounding area during the construction phases.
- a Health Safety and Welfare Plan to manage health safety and welfare risks on site.
- a green Transport Plan to reduce our transport needs, promote sustainable travel options and reduce potential impacts on the local area.
- a Community Engagement Plan to drive better communications and integration with the local community.

Our site will be fully compliant with current Health, Safety and Environmental regulations. We intend to use construction techniques which are considered industry best practices that minimise the risk to the health and welfare of our neighbours, workforce and visitors. We will be regularly inspected and audited by regulators in this field and will welcome their comments and observations.

During the construction phase all vehicle and pedestrian movements will be managed by a Construction Traffic Management Plan (CTMP) which will be developed with input from key stakeholders such as the local highways authority and the local community. We will adopt best practices and look to reduce both heavy goods vehicle and private car use by our workforce wherever possible. The design of both the compounds and their access roads will be sympathetic to the local surroundings and take into account how the local community use the surrounding highway network.

Predominant vehicle types and construction traffic volumes will differ across the construction phases and will be influenced by the construction activities being undertaken at the time. Predicted visit frequencies (a visit calculated as arrival and departure) over the course of the construction programme are indicated in the graph below.

**Predicted construction traffic visits over the period of the construction phase**



For our satellite compounds we will follow a similar approach, working with the local highway authorities and key local stakeholders to develop the best solution.

As well as developing temporary construction accesses into the main and satellite compounds we are also planning to establish a construction crossing on the Horningsea Road to link the construction compound to the new discharge point and the discharge chamber. This crossing will operate whilst we construct the new treated effluent pipeline and the discharge chamber. The health, safety, and welfare of both existing users and our workforce will be paramount when designing this and all other access points.

**Construction of the new Facility**

The facility itself will be encircled by an earth bank screen to visually screen all but the tallest elements of the waste water treatment process from view. It envisaged that the earth bank will be constructed solely from material excavated from the works (including the pipelines) in order to prevent the need to import additional material. Detailed below is a summary of the key elements of the facility and an indication of both the construction techniques used and if they will be constructed insitu or assembled offsite.

**Bases, Walls and ground and suspended slabs**

Reinforced insitu cast concrete will be used to construct the bases, walls and slabs of the tanks and chambers that form the structural elements of each of the above ground process tanks. Where possible, and with the added benefit it provides from an economic and construction programme perspective together with health safety, welfare and environmental benefits, we may seek to replace insitu concrete techniques with either precast concrete or an alternative material, such as

recycled plastic. These alternative techniques are often used to form smaller chambers, or for the walls and suspended slabs within the process tanks.

For smaller above ground tanks, glass coated steel tanks sitting on a concrete slab will be used. These will be brought to site in segments and assembled in their final location.

### ***Pipework***

Between the process tanks there will be below and above ground interconnecting pipework. The below ground pipework will generally be constructed using open cut techniques. The pipe materials have not yet been selected but could be made from concrete, ductile iron, Un-plasticised Poly Vinyl Chloride (UPVc) or Glass-fibre Reinforced Polyester (GRP). The above ground pipework will be supported on galvanised steel frames and depending on use, could be made from stainless steel, ductile or plastic. Some of the above ground pipework will be clad in insulation to protect it from freezing.

### ***Access, mechanical and electrical equipment Platforms***

To support mechanical and electrical equipment and provide access to the tanks, galvanised steel walkways and platforms will be constructed. These will be fabricated off site and imported to site for installation.

### ***Process and control buildings***

Some of the mechanical equipment and the electrical control panels will require housing in process buildings or kiosk. These buildings will be in the form of Kiosks or galvanised steel frame structures with profiled steel cladding. The choice of is dependent on the size and type of equipment housed within it. For the kiosk solution these will be fabricated off site and imported to site as a complete unit or as segmental units which will be assembled on site. For the steel framed solution, they will be fabricated offsite before being imported to site where they will be erected and cladding panels installed once the structure is complete and self supporting.

### ***Mechanical equipment***

The mechanical equipment required for each process within the facility will be manufactured offsite and delivered for installation into or adjacent to the process tanks and buildings noted above. They will be installed on site by specialised sub-contractors.

### ***Electrical Equipment***

As with the mechanical equipment, the primary electrical equipment and control panels will be assembled and tested off site and then imported to site and installed (e.g. Motor Control Center (MCC) panels). Smaller electrical components which have to be fitted and connected locally to mechanical equipment will require insitu installation.

### ***Cabling***

Both high and low voltage electrical cables are required to link mechanical and electrical equipment together. Above ground cables will be supported on steel cable trays. Below ground cables will generally be installed in cable ducts. Some High voltage cables may be laid directly into the ground.

### Phase 3 - Wet and dry commissioning

Once a process unit is assembled and the civil, mechanical and electrical works are complete the unit is ready to be tested. Three types of test are usually required, namely water testing, dry testing and wet commissioning.

The water test checks that the tank or pipe will hold water at the design pressure and not leak. This can involve large volumes of water standing in the tanks for a number of days. The water used for these tests is often extracted from a local water course or from a temporary lagoon constructed for this purpose. However, due to the challenges that Climate change brings to the water cycle in Cambridgeshire, we shall also be investigating an option to use final effluent, produced at the existing Cambridge facility which will be transferred to the new works via the newly constructed transfer main. The source of this water will be agreed as part of a commissioning plan but due to the quantity required, the need to use water other than final effluent will be kept to a minimum.

Dry testing checks that the mechanical and electrical equipment has been installed correctly and works when required, producing its anticipated output e.g. air flows for blowers, switch limits for control panels.

Wet Commissioning is when the plant starts to treat the effluent as it is designed. This is a planned sequence of activities that seeds the process tanks with the biological enzymes and the sludge centre with sludge that each process can treat. This operation will start to turn the flows from the existing works to the new works and on completion we will look to start the process of closing down the existing works. To speed up the process biological enzymes can be taken from the existing Milton works, this can have multiple benefits from a cost, time and odour perspective.

Once a process unit is assembled and the civil, mechanical and electrical works are complete the unit is ready to be tested. Three types of test are usually required, namely water testing, dry testing and wet commissioning.

#### **The sewage transfer main from the existing Cambridge facility to the new site**

To transfer the sewage and storm water flows from the existing Cambridge facility to the new facility we will construct a 2.6km long, 2.4m diameter pipe around 15-20m below the ground. To do this we have selected pipe jacking<sup>1</sup> techniques over traditional tunnelling methods. This method of tunnelling was selected after reviewing the available techniques against a number of environmental and programme criteria.

To use the pipe jacking method we will need to construct 5 shafts, 3 of which will be temporary, with 2 installed as permanent structure for inspection and maintenance purposes. The temporary shafts will be used to install the 2.4m diameter pipes. Once the pipes are installed these temporary shafts will be removed. The 2 other shafts will be part of the permanent works design.

As part of our drive to reduce waste and reuse material where we can the soil arising from the pipe jack and shaft construction will be moved from the shaft compounds and taken to the main works

---

<sup>1</sup> Pipe jacking is a technique for installing underground pipelines, ducts and culverts. Powerful hydraulic jacks are used to push specially designed pipes through the ground behind a shield at the same time as excavation is taking place within the shield.



for reuse. Material which will be used to refill the temporary shafts will be appropriately stored close to the shaft location to minimise vehicle movements.

### **Treated effluent pipeline to the River Cam**

The treated effluent main will be installed using traditional pipelaying techniques and, generally, the three 1.5m diameter pipes will be installed within an open excavation. The excavations will vary in depth as the ground level varies.

Prior to laying the pipes a working easement will be established up to 40m wide and fenced on both sides. The easement width will allow for a sufficient area to stockpile topsoil, sub soil, allow room to string out the pipes and provide a working area to lay the pipes whilst also allowing access to the rest of the pipeline and the outlet chamber. The easement will be accessed from the compound on the main site.

Adjacent to the River Cam there will be a discharge structure built into the existing flood embankment. It is envisaged that it will be constructed using insitu cast or precast concrete and is likely to be built within a sheet pile cofferdam (an enclosure built within a body of water). The cofferdam will be designed to maintain the flood protection levels currently provided by the flood embankment. Only when the new structure is complete and connected to the flood embankment will the temporary protection be removed. The discharge structure will be accessed along the pipeline easement from the main construction compound.

### **Phase 4 – Decommissioning**

Following the successful wet commissioning of the new facility we will then be able to start to decommission the existing site at Milton. The decommissioning will happen in different stages that we will define throughout the project development. The existing plant is regulated under permits issued to us by the Environment Agency. As part of the decommissioning, all parts of the existing works (Water Recycling Centre (WRC) and Sludge Treatment Centre (STC)) will need to be made electrically and mechanically safe to prevent risk of hazards to Health & Safety for the demolition, visitors or trespassers. The demolition of the site will be undertaken by future developers and therefore will not fall within the scope of the Development Consent Order (DCO).

One of the steps which Anglian Water will need to carry out prior to any demolition works being undertaken and after the closure of the existing facility is to surrender all permits including the Industrial Emissions Directive (IED) permit. As part of the surrender process, we are obligated to carry out decontamination works. This will include all remaining liquids processed on site being exported for decontamination or transferred to the new facility for processing, any surplus chemicals being decanted and reused or disposed and the removal of chemical, contaminated media and other elements outlined in our IED permit. The decontamination process will remove all hazardous liquids.

All of the process tanks and units will be drained in accordance with Anglian Waters operating and maintenance procedures. Final cleaning will be completed by a specialist contractor using a jet/vac vehicle typically a rigid Light Goods Vehicle (LGV) but may be an articulated LGV. Once the existing facility is no longer treating flows, it is likely that the jet/vac vehicles will discharge back at the new

facility. This operation will repeat until the tanks and process units are safe to enter and free from sludge or detritus.

We will also carry out the testing and analysis of air, ground and water samples before the permit can be surrendered to make sure we are in accordance with the IED stipulations.

Where possible during the decommissioning process, we will look to reuse or relocate suitable process or mechanical equipment in line with the waste hierarchy principles of rethink, reduce, reuse and recycle. Where mechanical equipment cannot find another use elsewhere, it will be made electrically and mechanically safe. Where appropriate some of the mechanical equipment may be sent for recycling.

## Ecology Factsheet

### Background

Cambridgeshire is home to a diverse array of wildlife, and many of the species of plants, animals, and habitats present are protected by law.

Ecology was an important factor in the site selection for the new facility. In 2020, ecologists undertook a Preliminary Ecological Appraisal (PEA), which involved mapping habitats and assessing their potential to support protected and notable species. Anglian Water is now carrying out more detailed ecology surveys to identify and understand potential ecological constraints in and around the relocation site. This will further inform our decision-making process and help us in providing avoidance measures, making sure our impact on biodiversity is as minimal as possible. Additionally, we are committed to delivering an ambitious scheme of habitat creation, restoration, and enhancement, delivering a “biodiversity net gain” (BNG). Our surveys and analysis will also help us to understand the best way to do this.

This factsheet provides a background to our ecological surveys. We have worked with stakeholders such as Natural England to inform and agree on the scope of these surveys. We will provide further ecological information during our third phase of consultation when we publish our Preliminary Environmental Information Report (PEIR).

### Key ecological features

We have collected a range of information through available habitat data, our preliminary surveys, and discussions with stakeholders. The area of the proposed site is generally of low ecological value. However, there is a County Wildlife Site (CWS) to the south-east of the proposed facility, known as Low Fen Drove Grasslands and Hedges CWS

The CWS is likely to be a key foraging/commuting link for birds and bats, as well as supporting various invertebrates (such as insects, beetles, spiders) and other species. Although there are no other designations within the site, it is recognised that sites and features of high biodiversity up and downstream of the proposed connection with the River Cam and within 10km of the site also need to be considered in our assessments. This includes the Stow-cum-Quy Site of Special Scientific Interest (SSSI), Wilbraham Fens SSSI, other SSSIs, and statutory designated sites (e.g. Wicken Fen Ramsar, Fenland Species Area of Conservation (SAC) and Devil’s Dyke SAC). Our assessments will therefore include further surveys to understand the ecological features of the Cambridge Waste Water Treatment Plant (CWWTP) site.

### What surveys are we undertaking?

Our experienced ecology experts are in the process of completing surveys of different species, such as great crested newt and reptiles, as well as general habitat surveys which cover large areas of grassland, farmland, hedgerows, watercourses, and woodland. The timing of surveys is matched to appropriate times and seasons depending on the species or habitat. Our ecologists are appropriately licensed in respect of protected species and will be carrying out work throughout this year, at different times of the day and night. Our survey programme has been developed in consultation with stakeholders. More details about the different surveys we will be completing are given overleaf.

**Table 1: Survey Types**

Survey type	Summary details
Vegetation	Several vegetation surveys are being undertaken across the site. These general and specialist non-intrusive (not damaging) surveys help identify and record plant species that are either common or scarce and also where these plants are located. Examples of some of the vegetation surveys to be undertaken are general habitat site surveys, hedgerow surveys, river habitat surveys (RHS), and the national vegetation classification (NVC) surveys.
Terrestrial invertebrates	Surveys for terrestrial invertebrates (land-living animals that lack a backbone such as bees, butterflies, moths, snails, slugs, and spiders) will be completed at various locations across the site identified as being of high invertebrate interest. Surveys started in May and will continue through to September, using a range of survey techniques such as pitfall trapping, vane trapping, beating, sweeping and blossom sampling as appropriate to the habitat at that site.
Bats	Different types of surveys will be completed to understand the presence or absence of bats within the site <sup>1</sup> , including how they use the site. These surveys include preliminary work to assess the potential presence of bat roosts in structures, buildings, and trees. Additional surveys will be completed such as dusk emergence and dawn re-entry surveys of potential roost features, and bat activity transects. The bat activity transect surveys will also be supported using static bat detectors <sup>2</sup> which were deployed at four locations in May, and will be deployed again in July and September. These will be left for one week at a time to record bat activity across the site. Habitats that provide continuous high-quality habitat that is well connected to the wider landscape can be used by commuting and foraging bats. These include habitats such as rivers, streams, hedgerows, lines of trees, and woodland edge.
Great crested newts	Suitable ponds and ditches within 250m of the site were surveyed for great crested newts (GCN) between March and mid-June 2021. These surveys incorporated presence/absence surveys (including environmental DNA (eDNA) surveys – see Fact Box below)). To date, no GCN have been found. Where GCN are confirmed during the presence/absence surveys, six population size class assessment surveys will inform a European Protected Species (EPS) mitigation licence, if required.
Badgers	Surveys to identify sett types and locations have been completed for the site plus 100m during spring. These assessment surveys involve walking along field boundaries and hedgerows looking for signs of badgers such as dung pits, scratching posts, hair evidence around setts and under fences, badger paths between setts and foraging signs.
Otters and water voles	Combined otter and water vole surveys will be completed 100m on either side of the part of the site for the proposed treated effluent transfer pipeline and associated discharge location on the River Cam. Surveys will also be completed along all other suitable (i.e. wet) watercourses, ditches, and ponds within the site and 50m outside of the site boundary. Surveys will comprise four visits with two visits between mid-April and September 2021 and two further visits through the autumn/winter 2021/2022.

<sup>1</sup> These surveys will cover the proposed WWTP site facility, the existing WWTP works at Milton, pipeline, and tunnel areas and where necessary and will be undertaken within the project's indicative boundary beyond the site by plus 100m.

<sup>2</sup> a machine that records and converts the echolocation made by bats, to audible frequencies, so that they can be analysed after ward.

Breeding birds	All birds are protected during their breeding season, and surveys will be completed to identify breeding locations. These surveys include identification of suitable habitat for nesting and foraging birds, such as the River Cam and with its adjacent floodplain grazing marsh, as well as other waterbodies including standing water, arable farmland with fields separated by hedgerows, small copses of woodland, scrub, and scattered trees. Specialist species surveys will also be completed for priority species such as turtle dove, grasshopper warbler, barn owl, kingfisher, and Cetti's warbler in suitable river, hedgerow, scrub, woodland habitats. Surveys started in April and will continue through to August 2021.
Aquatic macrophytes	Surveys for aquatic plants (macrophytes) will be completed on the River Cam using 100m transects within the project's indicative boundary. Surveys will be undertaken by boat between June and September 2021. Macrophyte surveys will be taken on the ditches within 100m of the project's indicative boundary following Buglife Guidance <sup>3</sup> , which proportionality samples the ditch network based on the number of ditches and size of the survey area. Each ditch will be surveyed once between June and September 2021.
Aquatic macroinvertebrates	A macroinvertebrate survey will be completed at two points upstream and downstream of the current discharge location on the River Cam. Two survey visits were completed in Spring and will be undertaken again in Autumn 2021 to account for seasonality and understand the current macroinvertebrate community in the river. Macroinvertebrate samples will be taken on ditches within 100m of the project's indicative boundary following Buglife Guidance which proportionality samples the ditch network based on the number of ditches and size of the survey area. Each ditch will be surveyed once between June and September 2021.
Fish	Surveys for fish will be completed on the River Cam at two locations – up and downstream of the current Waste Water Treatment Works outfall location. Survey methods will be a combination of electro-fishing <sup>4</sup> or seine netting and eDNA. A physical survey will be completed between June and October 2021, and samples collected for eDNA in spring (April to June) and autumn (September to November).
Reptiles	Surveys for reptiles (lizards and snakes) will include all suitable habitats within the site plus any contiguous habitat within 50m. This includes the existing facility at Milton, the Low Fen Drove Grasslands and Hedges CWS, and grasslands adjacent to the River Cam associated with the treated effluent pipeline and shaft works. Seven survey visits in each area started in April and will continue to September 2021, avoiding the warmest months of July and August where possible (as reptiles will seek shade, bask less and therefore not be as easy to detect).

**Fact Box: About environmental DNA (eDNA):**

eDNA analysis uses a non-invasive technique to understand the presence (or absence) of species and their distribution. eDNA consists of small parts of genetic material left in the environment (water, sediment or soil) by animals. Our surveys collect samples which are then sent for analysis. The sample is sequenced and compared with DNA sequences available in open global genetic databases through a process called metabarcoding. Using eDNA alongside established monitoring methods can help with faster and regular monitoring of species and their distribution, and help identify changes in habitat quality through repeat surveys.

<sup>3</sup> Buglife is a NGO which specialises in the conservation of terrestrial and aquatic invertebrates, as part of their work in conservation they have published a variety of guidance on invertebrates species and their management.

<sup>4</sup> Electrofishing - this is a scientific approach used to sample fish populations by passing a controlled electrical current into the water. This shocks the fish, allowing them to be caught without harming them with hooks. The fish are collected by a small hand net and temporarily placed in a holding tank where they recover and be observed for data collection before being returned to the river.

The data collected from the ecological surveys will be used to form a baseline of information for the Environmental Impact Assessment (EIA). This body of information will be used to support our ongoing assessment of the new facility and help us to understand how we can avoid negative impacts to the natural habitats, plan our works to avoid and mitigate against disturbance to ecological features during construction, and inform the design so that there are mitigation, compensation, and enhancement features embedded into the project that seeks to benefit biodiversity.

### Example survey images



*Examples of linear ditch features that may be used by foraging and commuting bats (left) and tree features (right) that may provide potential bat roost features. (Mott MacDonald)*



*Ecologists look for signs of badgers such as footprints and assess the activity of badger setts. (Mott MacDonald)*



*Reptile surveys are being completed as part of the project. Common lizard has been recorded at Low Fen Drove Grasslands and Hedges CWS. (Mott MacDonald)*

## Potential impacts on biodiversity

We recognise that, without appropriate mitigation, the construction of the new facility and presence of permanent infrastructure has the potential to impact existing ecological features. Based on our assessment of the site so far, it is understood that the construction of the new facility, without mitigation, has the potential to:

- Result in hydrological changes to designated sites.
- Result in disturbance from noise and vibration which could damage habitats and harm wildlife.
- Result in the removal of habitats, resulting in habitat loss, fragmentation and severance. This could result in the loss of CWSs, priority habitats such as coastal and floodplain grazing marsh, deciduous woodland, hedgerows and ponds.
- Contribute to increased collision risk to wildlife from construction vehicle movements.
- Temporarily change local air quality and create dust which could impact sensitive plants and habitats, particularly within designated sites.
- Cause some wildlife to move to new locations, in particular nocturnal animals and other sensitive wildlife.

The operation of the new facility, without mitigation, has the potential to:

- Create a lighting nuisance to retained habitats (such as Low Fen Drove Way Grasslands and Hedgerows CWS) resulting in disturbance to and severance of wildlife corridors, which may impact biodiversity on and adjacent to the Proposed Development.
- Result in changes to the water quality at river discharge locations which may affect aquatic wildlife and plants.

## Opportunities for enhancements and mitigation of impacts

Our proposals will include a range of mitigation measures which will seek to avoid or reduce any potential impacts. This could include planting and habitat creation, for example. Depending on the location, extents and types of planting, the creation of new habitats has the potential to result in a positive impact on biodiversity.

A hierarchy of measures will be applied to limit negative impacts on biodiversity and achieve a biodiversity net gain (BNG). The sequential steps for the mitigation hierarchy include avoidance measures, minimisation of impacts through mitigation, and as a last resort compensation measures for losses that cannot be avoided.

The design, where possible, will seek to embed mitigation features to avoid or minimise impacts. These could include:

- Careful siting of permanent and temporary development to avoid the most sensitive habitats.
- Selecting technology which is more sympathetic (such as types of lighting).
- Designing a connection to the river that does not cause erosion at the river and that includes features that blend more carefully into the environment.
- Devising our construction programme to account for seasonal restrictions and shorten the disturbance.

We will use a Construction Environmental Management Plan (CEMP) or similar document to set out how Anglian Water will control, monitor and manage construction activities. Ecological mitigation required during construction will be detailed within the CEMP and will govern how and when our works are completed. It will also set out how we will monitor our activities to understand how effective our controls are. These plans and monitoring activities will be developed in consultation with our stakeholders including Natural England, National Trust, local planning authorities, Local Wildlife Trust and the Environment Agency. In monitoring our activities, we will be able to adaptively amend and change our management plans. The CEMP and subsequent management plans will form part of the suite of documents submitted as part of the DCO application.

The delivery of compensation measures, such as the reinstatement of habitats following construction, habitat creation, the planting (such as the replacement of species-rich grassland, hedgerows and woodlands), and inclusion of ecological enhancements would seek to achieve a net gain in biodiversity. Furthermore, these measures would be developed to complement existing initiatives to improve local biodiversity as well as improving access to these features through new and extended paths. Examples of enhancements which could be adopted as part of the new facility include: the inclusion of bat and bird boxes; creation of log piles (the movement of any deadwood and mature tree stumps into new areas of woodland habitat creation) to provide habitat for terrestrial invertebrates and reptiles; the creation of mosaic of habitats (patches of open ground, dense woody vegetation, shallow-sided ponds, with species-rich grasslands) for birds such as turtle dove, insects and reptiles.

The new, modern facility also seeks to provide long term benefits to the River Cam through improved performance and water quality benefits with associated benefits to aquatic ecology. We will report on both the baseline and mitigation as part of our next phase of public consultation, when we publish our Preliminary Environmental Information Report (PEIR). The information will also be discussed with specialist stakeholders including Environment Agency, Natural England and the Wildlife Trust for Bedfordshire, Cambridgeshire and Northamptonshire.



## Flood Risk Factsheet

### Background

Flood risk is defined as a combination of the probability of an event occurring and the impact if it were to occur. For something to be deemed at risk of flooding or for it to increase flood risk elsewhere there must be a source, a pathway and a receptor. For this project, the potential pathways and sources are considered to be as follows:

- Fluvial Flooding when the capacity of the River Cam is exceeded.
- Surface Water Flooding when rainfall intensities exceed the infiltration capacity such that water collects on the ground surface.
- Groundwater Flooding from rising groundwater (due to either local rainfall percolating into permeable stratum or lateral movement of water from elsewhere in an aquifer); and
- Other Flooding Sources such as overwhelmed sewers and drainage systems.

### What is fluvial flood risk?

The initial source of information used to determine the fluvial flood risk to the project is the Environment Agency (EA) Flood Zone Mapping. The Flood Zones are defined as:

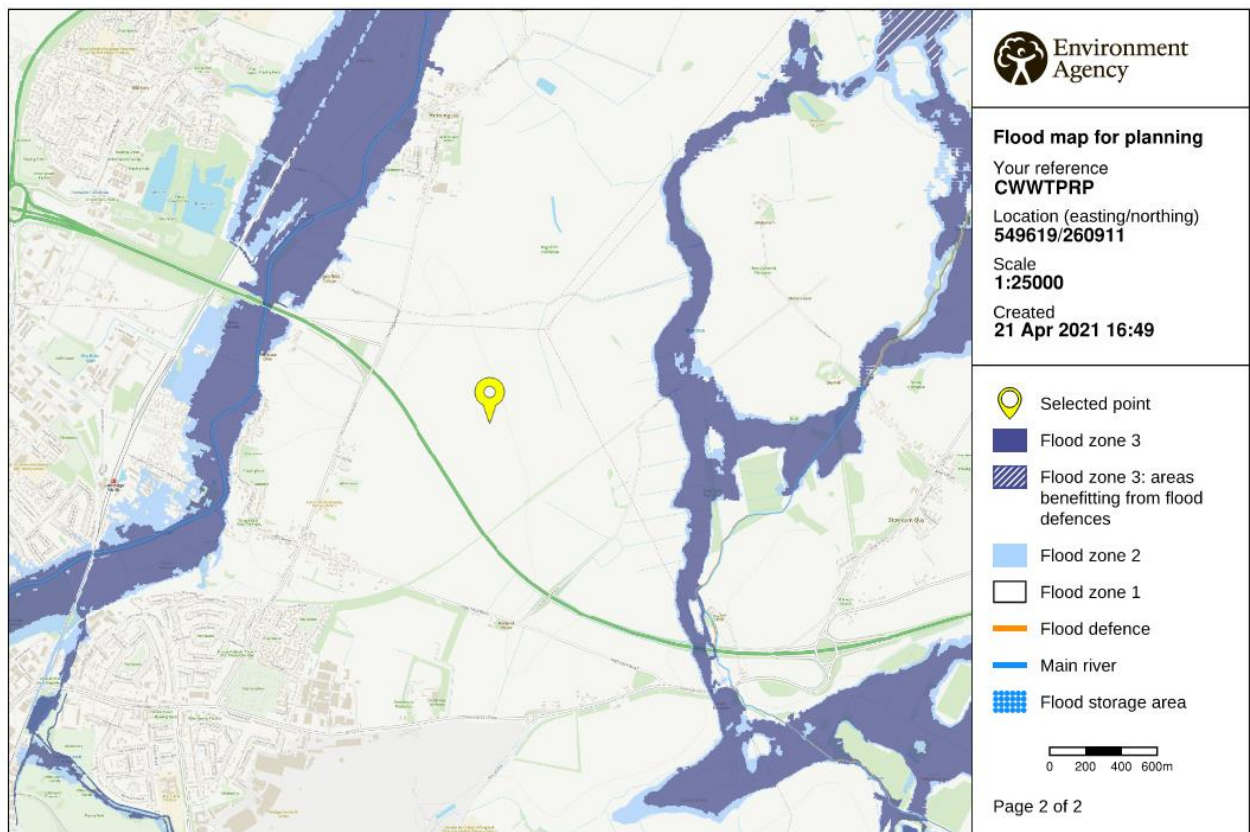
- Flood Zone 1 – Areas with a ‘Low Probability’ of flooding and where the annual probability of flooding is lower than 1 in 1000 (0.1%) for either fluvial or tidal flooding. Fluvial flood risk occurs when the capacity of a watercourse is exceeded such that the water overflows the channel.
- Flood Zone 2 – Areas with a ‘Medium Probability’ of flooding and where the annual probability of flooding is between 1 in 1000 (0.1%) and 1 in 100 (1%) for fluvial flooding or between 1 in 1000 (0.1%) and 1 in 200 (0.5%) for tidal flooding.
- Flood Zone 3 – Areas with a ‘High Probability’ of flooding and where the annual probability of flooding is 1 in 100 (1%) or greater for fluvial flooding or 1 in 200 (0.5%) or greater for tidal flooding.

### What is the Fluvial Flood Risk at the site?

The new facility will be located in Flood Zone 1, with a low probability of either fluvial or tidal flooding, as shown on the EA Flood Zone map of the area overleaf<sup>1</sup>. However, the indicative project boundary includes other infrastructure works located in Flood Zone 2 and 3. As a consequence, a Flood Risk Assessment (FRA) will be carried out. As part of this assessment, discussions will be held with the Environment Agency, navigation authorities (such as The Conservators of the River Cam), highway authorities and other local authorities, to identify the likelihood, possible extent and nature of the flood risk.

---

<sup>1</sup> <https://flood-warning-information.service.gov.uk/long-term-flood-risk/map>



© Environment Agency copyright and / or database rights 2021. All rights reserved. © Crown Copyright and database right 2021. Ordnance Survey licence number 100024198.

### Environment Agency Flood Zone Map

#### What is surface water flood risk?

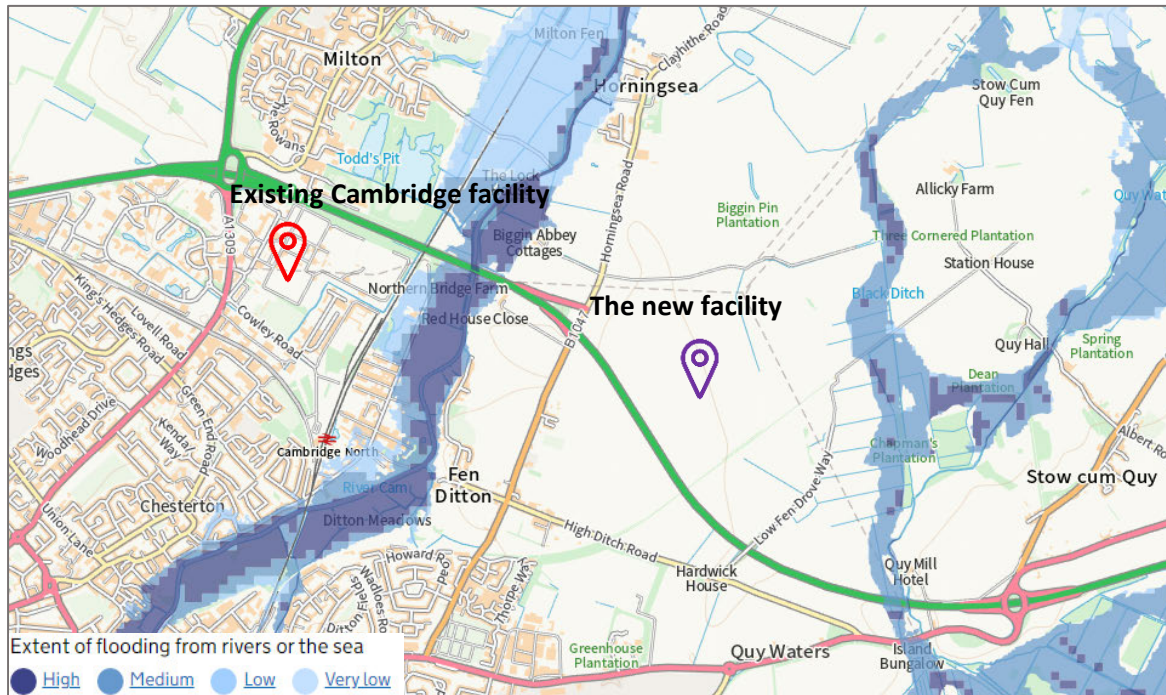
Surface water flooding occurs when rainfall intensities exceed the infiltration capacity and water collects on the ground surface. The EA also publish mapping showing areas at risk from surface water flooding with the following three event categories:

- High Risk – means that each year the area has a chance of flooding of greater than 3.3%;
- Medium Risk – means that each year the area has a chance of flooding of between 1% and 3.3%; and
- Low Risk – means that each year the area has a chance of flooding of between 0.1% and 1%.

#### What is the Surface Water flood risk at the site?

The EA map showing areas at risk from surface water flooding in the area is reproduced overleaf<sup>2</sup>. It can be seen from this map that the proposed waste water treatment facility for Greater Cambridge is located in an area of low risk from surface water flooding.

<sup>2</sup> <https://flood-warning-information.service.gov.uk/long-term-flood-risk/map> (visited June 2021)



Environment Agency map showing risk of surface water flooding

## What is groundwater flood risk?

Groundwater flooding generally occurs as a result of long duration rainfall events, when the associated recharge of permeable geological deposits raises the water table until it is above ground level. Groundwater flooding is generally of longer duration than fluvial or surface water flooding and may take weeks to recede as groundwater flow is much slower.

## Carrying out a Flood Risk Assessment (FRA)

The FRA will assess our proposals for the site in detail against the risk of flooding from a source such as fluvial, groundwater or another source. The FRA will also consider whether the construction and operation of the site has the potential to increase the risk of flooding to receptors in the surrounding area. The FRA will consider joint and cumulative effects and the mitigation options available to reduce any risks identified to an acceptable level. It will also make allowances for the variations in climate as a result of climate change over the planned lifetime of the site.

## Potential ways to mitigate flood risk

To reduce the risk of flooding to the site there are a number of Sustainable Drainage Systems (SuDS) measures for surface water drainage management that can be implemented to avoid or reduce the adverse impacts including the following measures:

- Filter drains and porous pavements to allow rainwater and run-off to infiltrate into permeable material below ground.
- Infiltration devices to allow water to soak into the ground.
- Basins, ponds, flood storage areas and other artificial features to hold excess water after rain and allow controlled discharge that avoids flooding.
- Vegetated features that hold and drain water.
- Flood routes to carry and direct excess water through the development to minimise the impact of severe flooding.

The surface water drainage arrangements for the site will be designed so that the volumes and peak flow rates of surface water leaving the site are no greater than the rates prior to its construction in accordance with the National Policy Statement for Waster Water.

### Provisions for Future Growth

The facility is being designed and will be constructed to make an allowance for future growth that is planned to occur across the whole of Cambridge and Waterbeach up to at least the year 2050.

We will monitor growth through the adopted local plans of South Cambridgeshire District Council and Cambridge City Council, as well as the emerging Greater Cambridge Local Plan. This will involve liaising with the local authorities and developers to ensure we understand need requirements going forward, enabling the delivery of sustainable economic and housing growth. This growth projection assumes the following:

- An occupancy of 2.59 persons per dwelling; and
- A potable water consumption of 150l/head/day

Going forward from 2050 and beyond, the facility will have the flexibility to adapt and evolve within the proposed footprint as new technologies or treatment opportunities present themselves. These technologies or adaptations will either improve process efficiencies or increase capacity or both depending on the needs of the customers the facility serves.

### Provisions for Climate Change

It is important to make allowances for the effects of climate change over the planned lifetime of the site. This is due to factors such as increased precipitation and temperatures that may impact the volume of wastewater being transported through the sewer network and received at the site. For instance, in an extreme storm event significant volumes of surface water run-off have the potential to enter the sewerage network requiring additional storage capacity once it reaches the facility. In order to design, construct and operate a facility that is considered climate change resilient a number of criteria need to be considered from a flood risk perspective:

- When designing the facility and associated pipework capacities the rainfall data will need to be based on the latest UKCEH Flood Estimation Handbook for 2013 and will need to include an additional allowance of 20% for climate change in line with the current guidance within the Anglian Water modelling specification.
- When designing the facility and associated pipework capacities, the design storm return periods of 30, 50 and 100 years will be assessed in order to determine stormwater management solutions within the facility.
- When modelling the sewer network, a conservative amount of infiltration to the sewer network equivalent to 60% of the dry weather flow will be assumed.
- An allowance for a 5m<sup>2</sup> increase in impermeable area per property to account for urban creep will be assumed to help understand the volume of surface water runoff which might enter the sewer network and be received by the facility.

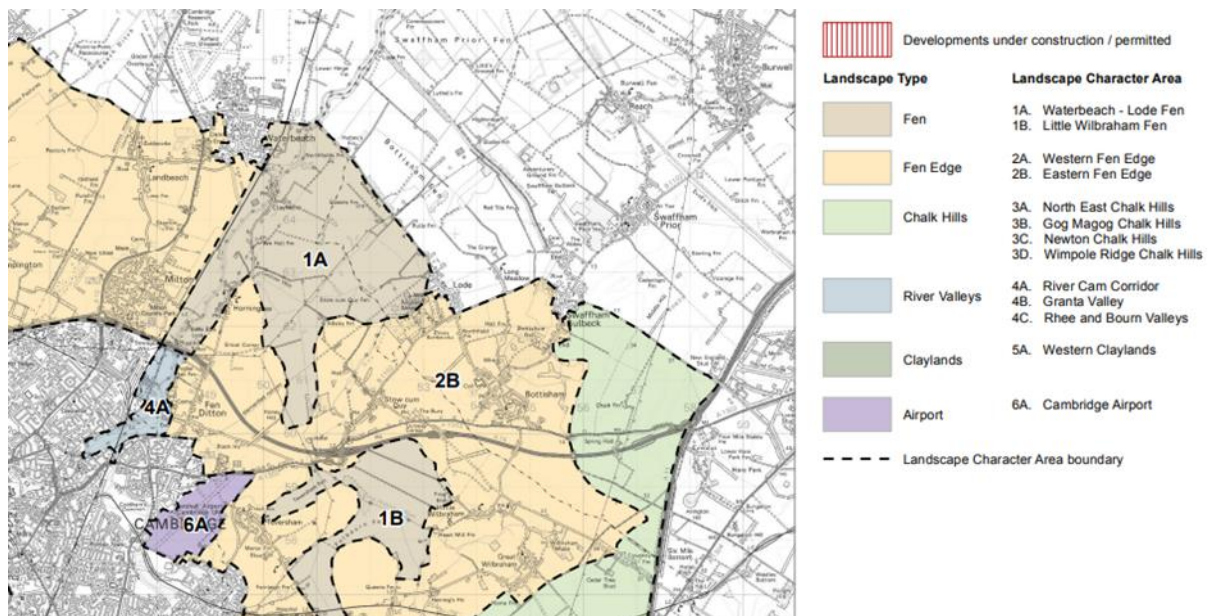
## Landscape

This factsheet provides a background to the activities we have been completing to understand landscape and visual amenity value within the site, how we are assessing the potential landscape and visual amenity effects of the new facility, and how design features may be incorporated to integrate the facility into the landscape and embed features that contribute to the landscape.

### Key Landscape features in the area

#### Landscape character

The landscape character of the area around the proposed facility was assessed as part of the Cambridge Inner Green Belt Boundary Study (LDA Design, 2015). This identified a number of distinct landscape character areas (LCA) (unique areas with a distinct, recognisable and consistent pattern of elements in the landscape) - shown on the below map.



Source: Extract from the Cambridge Inner Green Belt Boundary Study, LDA Design 2015 Available at:  
[https://www.scambs.gov.uk/media/6596/a-cambridge-inner-green-belt-boundary-study\\_-main-report.pdf](https://www.scambs.gov.uk/media/6596/a-cambridge-inner-green-belt-boundary-study_-main-report.pdf)

The site selected for the new facility lies within the Eastern Fen Edge LCA. Other LCA near to the facility are the River Cam Corridor LCA, Waterbeach-Lode Fen LCA and the north-eastern urban area of Cambridge. Although nearby, Little Wilbraham Fen LCA is not likely to be affected by the scheme as it is separated from the scheme by the A14.

## Key visual receptors

Key visual receptors have been identified through initial site survey but these will be further discussed with stakeholders through ongoing consultation. The facility will be most visible from the north, south and west. Potential receptors to changes in visual amenity and changed views include:

- Users of Horningsea Road and Horningsea Greenway
- Residents and users of Low Fen Drove Way
- Residents at Biggin Abbey and users of the PRoW west of Horningsea Road and along the Cam (PRoW IDs 85/6 and 85/8)
- Residents on High Ditch Road

Without mitigation to reduce visual impact, the facility may also be visible from Quy Mill, but more distant views from Stow cum Quy and Quy Fen in the north-east and east are expected to be mainly screened by intervening woodland.

Illustrated visualisations of key viewpoints from both Horningsea and Fen Ditton can be found in the **Phase Two Community Consultation Leaflet**.

## Potential impacts on the landscape and visual amenities in the area

The landscape and potential visual impacts of the new facility will be assessed as part of the Environmental Impact Assessment (EIA) and inform the Preliminary Environmental Information Report (PEIR) and Environmental Statement (ES). This assessment will consider the construction phase and the operational phase in year 1 and also at year 15 of operation (when screen planting is assumed to have matured). The assessment will be based on the Guidelines for Landscape and Visual Impact assessment published in 2013 by the Landscape Institute (LI) and the Institute for Environmental Management and Assessment (IEMA).

It is expected that there may be uninterrupted views of the facility during construction and operational phases from Horningsea Road, Low Fen Drove Way and the A14. There may be filtered views of the facility during construction and operational phases from Horningsea, Fen Ditton, Stow cum Quy, Quy Mill, the River Cam tow path and Bait's Bite Lock and the PRoW (PRoW ID 218/1) near Stow cum Quy, Quay Mill and Quy Fen. Many views from the villages and PRoW networks will be screened by garden vegetation and intervening buildings. The PRoW networks around the site can be viewed on the Cambridgeshire County Councils interactive map [here](#).

## Opportunities for mitigation of impacts and enhancements

### Landscape design

Below is the landscape design narrative which accompanies the landscape proposals visualised in the **Phase Two Community Consultation Leaflet**.

The landscape design takes its inspiration from the local landscape character, and plays several key roles in the development including:

- Creating a strong identity for the site;
- Enhancing biodiversity and creating new wildlife habitats;
- Mitigating the visual impact of the development;
- Improving access to the countryside with new footpaths and accessible open space; and
- Connecting the site into the wider landscape and establishing new wildlife 'corridors'.

The landscape of this part of the 'Fenland Edge' is characterised by a generally flat topography, wide horizons, and a rectilinear pattern of drainage ditches and hedgerows dividing up large fields, with occasional tree belts and small blocks of woodland. Nearby man-made landforms include the rectilinear, defensive dykes such as Fleam Dyke and Devil's Dyke, and circular Iron Age hillforts such as the Wandlebury Ring and Belsar's Hill.

The site sits at the southern end of the National Trust's Wicken Fen Vision area and the proposed landscape and ecological enhancements will be carefully designed to align with the ambitions of this important and large-scale project to create an enhanced range of habitats. For more information on ecological opportunities refer to the Ecology Factsheet. The landscape proposals will also be coordinated with the Cambridgeshire Green Infrastructure Strategy and the emerging Cambridge Nature Network plan developed by the local charity Cambridge Past Present and Future which aim to enhance access to nature and improve ecological connectivity across the region.

The landscape proposals are composed of three main elements: landform, tree and hedge planting and species-rich meadow, which will be combined into a striking, biodiverse and visually rich new landscape.

The facility will be surrounded by a new landform from raised embankments forming a circle around the facility, inspired by local hillforts. It is proposed to form this structure from the re-use of material excavated as part of the construction activities such as through tunnelling for new pipework. This new landform aims to screen all but the very tallest elements of the plant from most directions. The embankments could be sculpted into an elegant piece of land art, with grass footpath ramps carved into the mound and would also include series of openings to allow the circulation of air and access to the facility. A pathway is proposed to follow the top of the mound. This could allow visitors to enjoy the elevated position views across the wider landscape and views into the facility.

Tree stands of native woodland are proposed around the northern, western and southern sides of the site, which would introduce a new habitat and help to screen the works from viewpoints such as Horningsea and Fen Ditton villages. Non-motorised user routes mimicking the circular design would be created, providing an amenity for local residents and visitors. Along Low Fen Drove Way and the disused railway line the existing, patchy hedges would be planted and extended to provide a better continuous hedge line which would seek to enhance the County Wildlife Site (CWS) and create improved ecological connectivity. Along the CWS, the field margins could be managed to preserve the grassland.

Along the embankment, a species-rich 'calcareous loam meadow grassland' would be created, with mown paths and belts of tree planting. The existing hedgerow to the east of the facility will be gapped up, extended and augmented with native hedgerow trees. A new public footpath could follow the line of this enhanced hedgerow, connecting Low Fen Drove Way with the disused railway line. The grassland and hedgerow planting and management would be carefully considered to promote target bird species such as the turtle dove, skylark, barn owls etc.

In the fields beyond the immediate site to the south and east, there is an ambition to promote regenerative farming practices and re-wilding, in order to create further areas of species rich meadow grassland, scrub and, in the lower areas of the site to the south east, areas of wet pasture (subject to further soil investigations). Through agreement with local landowners additional hedges could be introduced here to subdivide the fields and create improved ecological connectivity.

The landscaping for the CWWTPR is being developed to screen the facility in a way that integrates it into the landscape and supports biodiversity gains. The timing of planting, which may include grassland, woodland, tree lines and hedgerows, could be planned in a way that advances the screening effects. Planting activities could extend beyond the facility on nearby land, but this would be subject to agreements with the landowners.

At this stage we propose to include:

- Provision of a new area of woodland of up to 25 hectares
- Provision of new extents of species rich grassland up to 35 hectares
- New lengths of hedgerows that may provide up to 9500 linear metres
- The creation of a new landscape feature formed from excavated material

## Connectivity

Opportunities to improve the PRoW potentially through planning commitments are discussed in the **Phase Two Community Consultation leaflet**.

Should the proposals bring forward PRoW improvements these may also contribute to new positive aspects to the landscape character.



## CWWTPR Odour Fact Sheet

### Our commitment

During the first phase of consultation, Anglian Water said we will:

- Minimise odour by incorporating solutions to address it at source, using best operational practices.
- Ensure negligible impact on all known receptors ('negligible' as defined as per Institute of Air Quality (IAQM) guidelines).

This fact sheet explains how we are designing the new facility to deliver on that commitment.

### Summary

During the first phase of consultation, the comments received associated with odour were mainly limited to the proposed new WWTW. At that stage of the project the proposed layout of the WWTW was generic to allow a "like for like" comparison between site locations.

Although the layout was generic, it included some odour specific improvements beyond the existing Cambridge WWTW design, namely: covering all the tanks in the sludge treatment centre, as well as the terminal pumping station and inlet works, and venting the air from these processes through odour control (treatment) units. Some sludge treatment centre tanks are and will remain connected to the biogas capture and use system, and emissions from that equipment will continue to comply with the associated air quality emissions requirements. These odour management improvements, beyond the existing Cambridge WWTW design, speaks to our commitment towards ensuring a 'negligible' impact to all receptors in our new site location.

The facility's design is now continually being developed further as part of the ongoing design development. This includes continually driving down odour impacts as part of the design process to ensure the new works achieves 'negligible' impacts on all known receptors. Some of the design elements associated with driving down odour (also referred to as mitigation measures) in the time since we launched our phase one consultation include:

- WATS modelling (modelling biological, chemical, and physical processes in sewer systems) carried out of the sewer network to ensure best sewer pipework routings, connection configurations and identify potential odour levels for mitigation at the new facility.
- Choosing the main treatment process for its lower turbulence and emissions, which achieves a lower odour footprint than the impact at site selection stage.
- Layout arrangements to locate the most odorous elements towards the centre of the site.
- Moving the preferred layout geographically, to achieve the least impact to existing receptors.
- Inlet works layout "straightening" to reduce potential turbulent flow areas.
- Hydraulic design for the uncovered areas of the plant to utilise gravity flow to reduce turbulence.
- Pumped flows to uncovered tanks will be discharged below water level to reduce turbulence.
- Choosing the aeration equipment for appropriate portions of the treatment process as a low-pressure system, which reduces turbulence.

- We cannot eliminate processes involving septic effluent or sludge as we cannot completely control what we receive through the sewers or tankering imports. However, we can control and manage how we treat it and the risks associated with it. Therefore we have covered the reception areas, including the Terminal Pumping Station (TPS), Inlet works and sludge tanks and vent their air through odour control (treatment) units. This addresses the risks associated with elements of the new facility with a higher risk of offensive odours.
- An Odour Management Plan (OMP) will be developed as part of the project, for use by the operations and maintenance teams upon handover. The OMP will outline operational odour management, monitoring and reporting measures and will include controls to be implemented in the event of an incident such as spillage. Establishing and maintaining an Odour Management will be a condition of our environmental permit regulated by the Environment Agency, this will need to be submitted as part of an environmental permit application and will also submitted as part of the DCO application.

We will continue to develop the design and reduce the risk of odour impacts even further as we progress beyond our phase two consultation.

As part of the Environmental Statement for the DCO application, a formal Odour Assessment will be carried out. It will follow the guidance from the Institute of Air Quality Management (IAQM), namely “Guidance on the assessment of odour for planning”. The following section details what will be included in this Odour Assessment. All the inputs and outputs associated with producing the Odour Assessment will be made available to the public.

### Planned Odour Assessment

The odour assessment required as part of the Environmental Statement for the DCO application will follow the guidance from the Institute of Air Quality Management (IAQM) (namely “Guidance on the assessment of odour for planning”) and will include the following:

**1. A description of the existing baseline odour condition.**

As this is a new site, this section would reference other sources in the area that may impact on the perceived odour, as well as referencing the existing Cambridge facility that will be decommissioned.

**2. Describe the existing receptors and their relative sensitivities to odour effects, with reference to the grading provided within this IAQM guidance document.**

All existing residential areas and land users surrounding the site (irrespective of distance) are potential receptors. During the first phase of consultation the following impacted receptors were listed in our odour statement. We will continue to evaluate the wind direction and dilution effects (including distance and land use) to consider if other receptors need to be added to this initial list.

Receptor	Surrounding Land Use OR Character of Area	Sensitivity
Snout Corner Fen Track	Recreational (e.g. dog walking)	Low
Disused railway and Low Fen Drove Way	Recreational (e.g. dog walking)	Low
A14	Major Road	Low

**3. Details of the potential odour sources.**

Additional to the narrative to describe the potential odour sources at the new facility and the hedonic nature (character) of the odours at each source, their expected odour emissions will be included. The odour emissions will include the benchmarking exercise to predict the emissions for the proposed WWTW and the reasoning for selecting the odour emission values used.

**4. Specific odour control and mitigation measures incorporated into the scheme will be highlighted.**

This will include considerations for process selection, layout arrangement and odour management on site e.g. odour control units. We have provided some examples in the summary, but this list will continue to grow.

**5. The odour modelling results will be provided.**

We will discuss the odour modelling software used, as well as the inputs for the modelling including meteorological data, dispersion and dilution pathways taking into consideration topography and land use to determine surface roughness factors, layout considerations (refer point 4), and emission values (refer point 3 above).

We cannot yet provide the final version, as the design is still evolving and will respond to consultation feedback. However, attached is the odour modelling that reflects the current design layout, for information only.

**6. The residual effects on receptors will be determined, using this IAQM guidance document.**

Table 1 below, (Table 7 from the IAQM guidance) indicates the requirements for determining a ‘Negligible’ impact on receptors for a “normal operation” facility, as is expected as a worst-case position for the new facility. As described in item (h) in the summary above, we cannot avoid receiving the occasional septic influent, but we can take steps to mitigate and control its impacts. We believe the new facility will operate better than “normal”. However, we have utilised the “normal operating” classification, in line with the IAQM guidance.

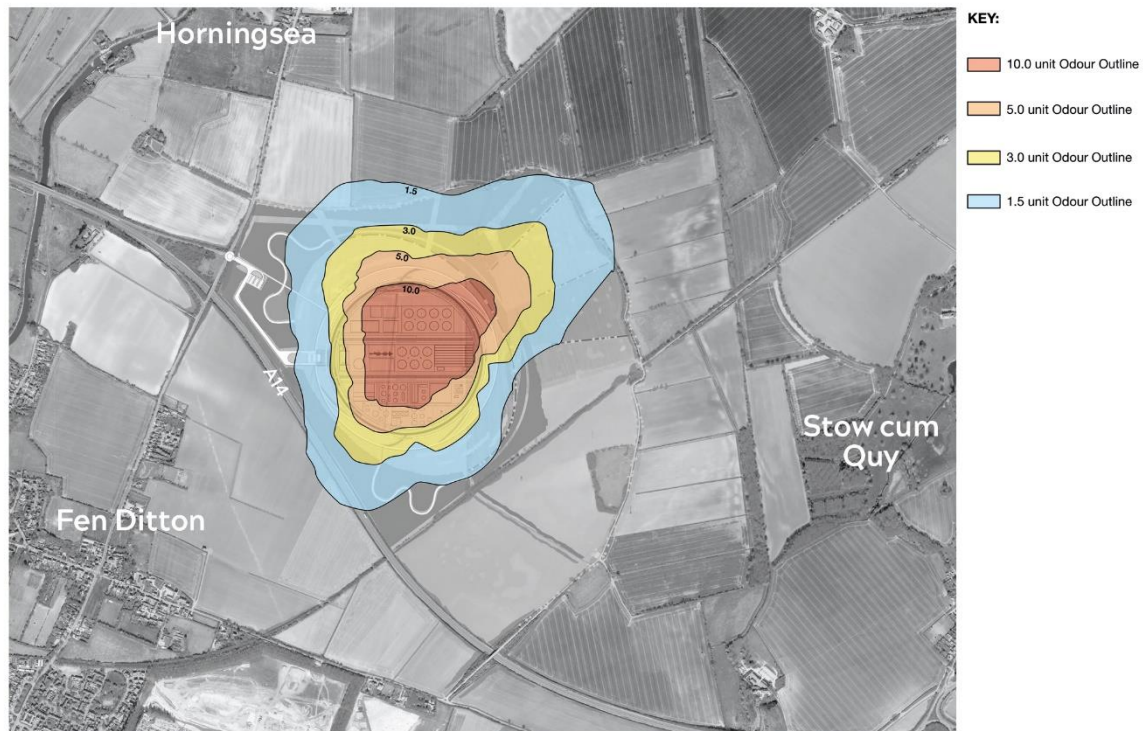
Table 1 – Proposed odour effect descriptors for impacts predicted by modelling for moderately offensive odours

Odour Exposure Level $C_{98} \text{ OU}_E/\text{m}^3$	Receptor Sensitivity		
	Low	Medium	High
$\geq 10$	Moderate	Substantial	Substantial
5 to < 10	Slight	Moderate	Moderate
3 to < 5	Negligible	Slight	Moderate
1.5 to < 3	Negligible	Negligible	Slight
<1.5	Negligible	Negligible	Negligible

**7. No mitigation section will be provided as the measures used to reduce odours would be described in point 4 above. Assessments of this nature would typically require mitigation**

**sections to address undesired impacts. However, as this is a new facility, the mitigation iterations would already form part of the design process to ensure the new works achieves 'negligible' impacts on all known receptors.**

Our most up to date odour model can be found in the 'Minimising odour at source' section of the Phase Two Community Consultation Leaflet and is included below.



Indicative odour model output for the new facility

## Our Project Area

Anglian Water is planning to build a modern, low carbon water recycling centre north of the A14, between Fen Ditton and Horningsea, to replace the existing plant on Cowley Road.

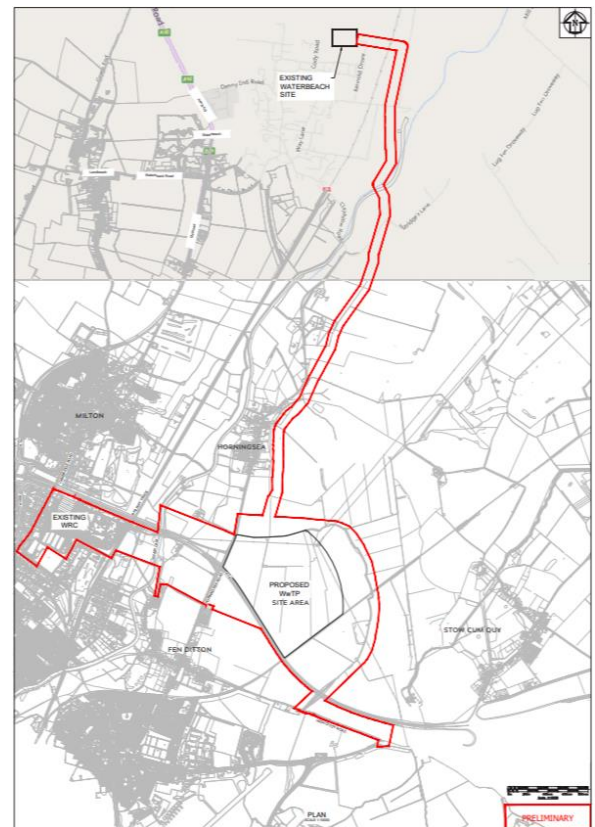
This Factsheet includes information on the area required to deliver the relocation project, including the tunnel and pipelines that will connect the new facility to the sewerage network.

The new facility will continue storing and treating storm flows and treating sludge to produce renewable energy. It will be equipped to deal with a growing population, and offers the opportunity for a joined-up solution for treating waste water from Cambridge and Greater Cambridge.

## Background

### Our proposals include:

- An integrated waste water and sludge treatment plant.
- A shaft to intercept waste water at the current site on Cowley Road and a tunnel/ pipeline to transfer it to the new site and terminal pumping station.
- A tunnel/pipeline transferring treated waste water to a discharge point on the River Cam, including a transfer pumping station.
- A pipeline transferring waste water from Waterbeach to the new site.
- An upgraded Fen Ditton rising main to connect to the new site.
- Ancillary on-site buildings, including work offices, substation building, workshop, Discovery Centre, vehicle parking including electrical vehicle charging points, fencing and lighting.
- Renewable energy generation via anaerobic digestion which is part of the sludge treatment process that produces gas that will feed directly into the local gas network heating homes.
- Renewable energy generation via solar photovoltaic and battery energy storage system.
- Other associated development such as site access, utilities, connection to the site drainage system, landscaping and off-site highway network alteration measures to reduce potential traffic impacts.
- A new vehicle access including for Heavy Goods Vehicles (HGVs) bringing sludge onto the site for treatment.
- Environmental mitigation and enhancements including improved habitats for wildlife, landscaping, bunds, and increased recreational access and connectivity.



**Indicative project boundary**

## Identifying the relocation site

In 2020, we undertook a detailed site selection process to identify the location for the new facility. This process included consultation with the local community, and our team carefully considered all feedback alongside environmental, community, planning, operational, economic and programme assessments. This decision is explained in our Site Announcement Report, which was posted to local residents in January 2021 and remains available to access via our website (██████████) or by request.

## Refining the project area

Since establishing the site location, we have started our survey and initial assessment work to refine our project area, develop our project design, and inform the scope of our Environmental Impact Assessment (EIA). The work required to refine our project area includes:

- Ground investigation work within the indicative project boundary, such as geophysical surveys, borehole drilling and sampling and trial trenching to confirm underlying ground conditions.
- Ecological surveys of the existing site, the future site and proposed pipeline corridors to identify the presence of any wildlife habitats and species.
- Geophysical surveys to identify any features which may be of archaeological interest and value.
- Capturing and analysing key viewpoints to inform landscaping proposals.
- Engaging with stakeholders and the community through working groups and consultation.

## Connecting the new facility

Surface and sub-surface constraints, such as existing above ground structures and geology, are key influences on the alignment of tunnels and the intermediate shafts required to facilitate tunnel construction. Indicative corridors for key pieces of connecting infrastructure are described below.

### **The existing facility on Cowley Road**

Waste water will be transferred from the existing site on Cowley Road to the new facility by tunnel. The tunnel will have an approximate length of 2.5km, an internal diameter of 2.4m, and will be up to 22m deep. The indicative alignment of the transfer tunnel extends eastwards from the existing site to the new facility, crossing below the railway line, the River Cam, Horningsea Road and the A14.

### **The existing Waterbeach waste water treatment plant and future flows from Waterbeach New Town**

The indicative Waterbeach waste water transfer pipeline corridor starts at the existing Waterbeach plant and extends eastwards to cross under the Ely to Cambridge railway line. The corridor then travels southwards, parallel to Long Drove until it crosses the River Cam to the east of Waterbeach railway station. The corridor then continues south, running relatively parallel to Clayhithe Road, before passing to the east of Horningsea village and entering the northern boundary of the new site.

### **The River Cam**

The treated effluent transfer pipeline from the new facility will extend westwards from the new site, crossing Horningsea Road and running parallel to the A14 to a section of the River Cam directly north of the A14 bridge. This new discharge location on the eastern bank of the River Cam is close to the current discharge location. The treated effluent pipeline corridor will have an approximate length of 1.25km.

## Sustainability Factsheet: Climate change, net zero and the circular economy

Water is vital to health and wellbeing, to the economic prosperity of the East of England, and to maintaining a thriving natural environment that we can all enjoy. Yet we face growing challenges from population growth in our region and climate change. To meet these challenges, we all have to play our part in balancing the needs of society, business and the environment to enable a sustainable future.

Anglian Water's commitment to the environmental and social prosperity of our region goes back many years, even before we set out our Love Every Drop strategy in 2010. We first considered climate change in our assessment of water resources back in 1993 and our education programme has reached nearly half a million people since its launch in 2006. In 2015 we were awarded the Queen's Award for Enterprise: Sustainable Development in recognition of our work, while in 2017 we were named Responsible Business of the Year, in large part due to our community regeneration work in Wisbech.

You can read more about our sustainability commitments here  
<https://www.anglianwater.co.uk/about-us/who-we-are/sustainability/>

In delivering on these sustainability commitments, we have designed the new facility to play an important role in combatting climate change, to be resilient to our changing climate and to provide a central role in the circular economy.

### Anglian Water - net zero by 2030

To limit the most damaging impacts of climate change, society needs to reduce greenhouse gas emissions and adapt to the current and future changes in the climate.

Since 2007 we have set ambitious long-term goals to transform our business and reduce greenhouse gases. In 2019 along with other water companies in England we agreed a series of pledges as part of a new 'Public Interest Commitment' to show leadership at a national level. One of the pledges was to achieve net zero carbon emissions for the sector by 2030.

Our Climate Change Adaptation Report 2020 reiterates the pledges of the water industry in Water UK Net Zero 2030 Routemap and outlines the short and long term goals we are currently progressing to achieve our pledge.

'Water companies are not like other businesses. We provide a vital public service hinged on major infrastructure and yet we're also a large landowner and custodian of the natural environment, including the rivers and seas that provide over 28 million homes and businesses with drinking water and take our waste.' - Water UK

To achieve this pledge, we need to be innovative in designing new assets, reduce the energy we consume, and work collaboratively to increase our on-site renewable generation. We also need to measure with certainty the energy we use today and forecast our demand in the future.



## The circular economy – clean water, nutrients, and energy

The “circular economy” is a concept that has long been talked about by governments, businesses, and charities as a way of working to create a more sustainable future. A common definition is that in a circular economy, the value of products and materials is maintained for as long as possible. Waste and resource use are minimised, and when a product reaches the end of its life, it is used again to create further value. This can bring major economic benefits, contribute to innovation, growth and job creation. The definitions of what a circular economy looks like can vary, but at the very heart of the concept is a shift from a linear model of production and consumption to a more circular system.

The man-made water cycle is inherently circular: we abstract water from the environment to provide our customers with a vital resource, in the form of potable water. Once this is used it is discharged into the sewerage network as wastewater which is then taken away and treated and recycled back into rivers and streams. Other by-products of the water treatment process generates additional nutrients and energy which can also be returned back into the environment.

It's our view that every one of our assets has a big part to play in ensuring the cycle adds value to the community and environment we serve.

We know climate change projections suggest our rivers will have lower and slower flows, increasing the concentrations of any pollutants and risking their health. Significant projected housing and employment growth will also place further strain on our natural water resources, meaning that to ensure we continue to serve our customers and protect the environment, we must develop sustainable solutions that ensure supply meets demand. We understand we have a duty to manage water consumption, so that it is protected as a resource for future generations. We also know that soil and its nutrients, critical to the agricultural economy of our area, is being lost in water bodies. We therefore have a role to play in trying to minimise this and harness its value.

We have already committed to and adopted the concept of a circular economy within our wider business and at other water recycling centres and at our reservoirs. Examples include:

- Enhancing the environment, capturing carbon and creating natural filters through the creation and management of wetlands at our Water Recycling Centres. Our wetland habitat constructed in partnership with the Norfolk Rivers Trust at Ingoldisthorpe Water Recycling Centre helps to filter ammonia and phosphate from our final effluent before it is discharged into the River Ingol (a unique natural habitat, being one of only 200 chalk streams in the world);
- Working with partners to co-compost organic material at water recycling centres; and
- Partnering with companies such as Oasthouse Ventures to build the world's first low-carbon greenhouses. The greenhouses are the largest in the UK and will be warmed by the waste heat from our treatment facilities.

## Our plans for the Cambridge Waste Water Treatment Plant Relocation Project

We see the new facility as a Water, Nutrient and Energy Recycling Centre, capable of adding value to the community we serve. We understand how important sustainability is to the Greater Cambridge area, and through the processes we use in our new facility we will play an important part in delivering more sustainable lifestyles.

The new facility will:

- be operationally net zero in its carbon emissions and energy neutral. Our main form of renewable energy generation will be Gas to Grid technology for the sludge treatment facility. This technology will enable us to upgrade the biogas generated by the sludge treatment process into biomethane and convey it into the existing gas network to offset natural gas usage previously from fossil fuels. It is anticipated that this will result in a calculated reduction of 4680 tonnes (t) of carbon dioxide (CO<sub>2</sub>) equivalent (e) (tCO<sub>2</sub>e)/yr against a 2010 baseline project, taking this element of the plant from producing carbon emissions to being a net remover of CO<sub>2</sub> from the atmosphere. The facility will also be powered by solar panels, strategically placed throughout the facility.
- ensure that the health of the River Cam is protected and where possible, improved, through ensuring that the current flow to the river from the Cambridge WRC is maintained throughout the new facility's lifecycle.
- recycle nutrients, in the form of Ammonia and Phosphorus found in sewage, to aid the green economy.
- treat the biosolids captured as part of the wastewater treatment process, creating an enhanced soil conditioner for use by local agriculture.
- generate biogas which, when processed and exported into the local gas network, will be used to heat the homes of the local community as a renewable fuel source.
- minimise waste during construction and incorporate reused or recycled materials as much as possible. Waste materials arising from the decommissioning of the existing site will also be considered for their reuse or recycling possibility.
- Provide educational opportunities, through the creation of a Discovery Centre, for customers and communities to understand the role which water recycling centres play in the Circular Economy.

### Additional opportunities we are looking into at our facility

In addition to the sustainability initiatives described above we are also considering other opportunities including:

#### **Water re-use**

We are exploring opportunities to see where the water we recycle can add the most value to the surrounding water resources and support the wider 'Water Resources East Plan', either through further processing or through the transfer of treated water to Cambridge Water or other suppliers

#### **Heat recovery**

Waste heat can be extracted during the sewage treatment process, a resource which is currently not fully utilised in the United Kingdom. If feasible, this innovative technology could reduce the amount of biogas required to heat the treatment processes and increase the volume available for public consumption.

## **Reduction of capital carbon**

As a new infrastructure asset, the project has the potential to support the company's net zero carbon commitment, in line with Water UK Net Zero 2030 Routemap, by reducing capital carbon. Capital Carbon, also referred to as embedded or embodied carbon, describes the total amount of Green House Gas (GHG) emissions generated from the construction of infrastructure.

We are currently reviewing construction methodologies, material selection and carbon in the supply chain to help deliver Anglian Water's overall aim of reducing capital carbon by 70% compared with a 2010 baseline. Options currently being reviewed to reduce capital carbon include:

- Low carbon concrete
- Pre-cast concrete to reduce waste and construction
- Local sourcing of construction materials
- Alternative materials for tunnels and pipelines
- Design for Manufacture and Assembly (DFMA) – efficient offsite manufacture of process plant and equipment
- Utilisation of spoil and demolition waste in construction
- Advanced process selection to reduce the overall size of the plant

## **Delivering a climate resilient design**

In addition to delivering a net zero and energy neutral facility which contributes to the circular economy we must also ensure that what we build and operate is resilient to our changing climate. Our facility will be constructed to be resilient to climate change to the 2080s and beyond, drawing on predictions from the UK Climate Projections 2018 (UKCP18) climate analysis tool.

By designing a facility which can contain and manage higher network flows due to increased precipitation rates and that seeks ways to reuse waste-water in face of water scarcity we can build resilience into design.

## Traffic and Access

This factsheet focuses on our proposals around traffic modelling and the design evolution of our traffic and access options which have been presented in the Phase Two Community Consultation Leaflet (pages 24-27).

Comments received from our previous consultation exercises about road access had a strong focus on road safety for both motorised and non-motorised users (NMU) and potential conflicts which could arise with the Horningsea greenway. We were also asked about the possible location of the permanent access to the Site and where this could be situated within the local or strategic road network.

This factsheet was originally published in June 2021 as part of our phase two consultation. We have now published this revised version (October 2021) to provide an update on the estimated number of non-HGV traffic movements included in **Table 1**.

### What has happened so far?

Since the site selection announcement in January 2021, we have commenced the initial design stages of the Cambridge Waste Water Treatment Plant Relocation Project (CWWTPRP), which includes starting to develop site access options for how we will access the site both during construction and once the site is operational.

As part of this development process we have taken on board feedback received during the Phase One consultation, responses to the site selection announcement and feedback provided by stakeholders. This feedback, along with initial modelling of operational traffic flows, has enabled us to design a series of site access options for consultation with stakeholders.

These options are described in our consultation leaflet, with more information provided below.

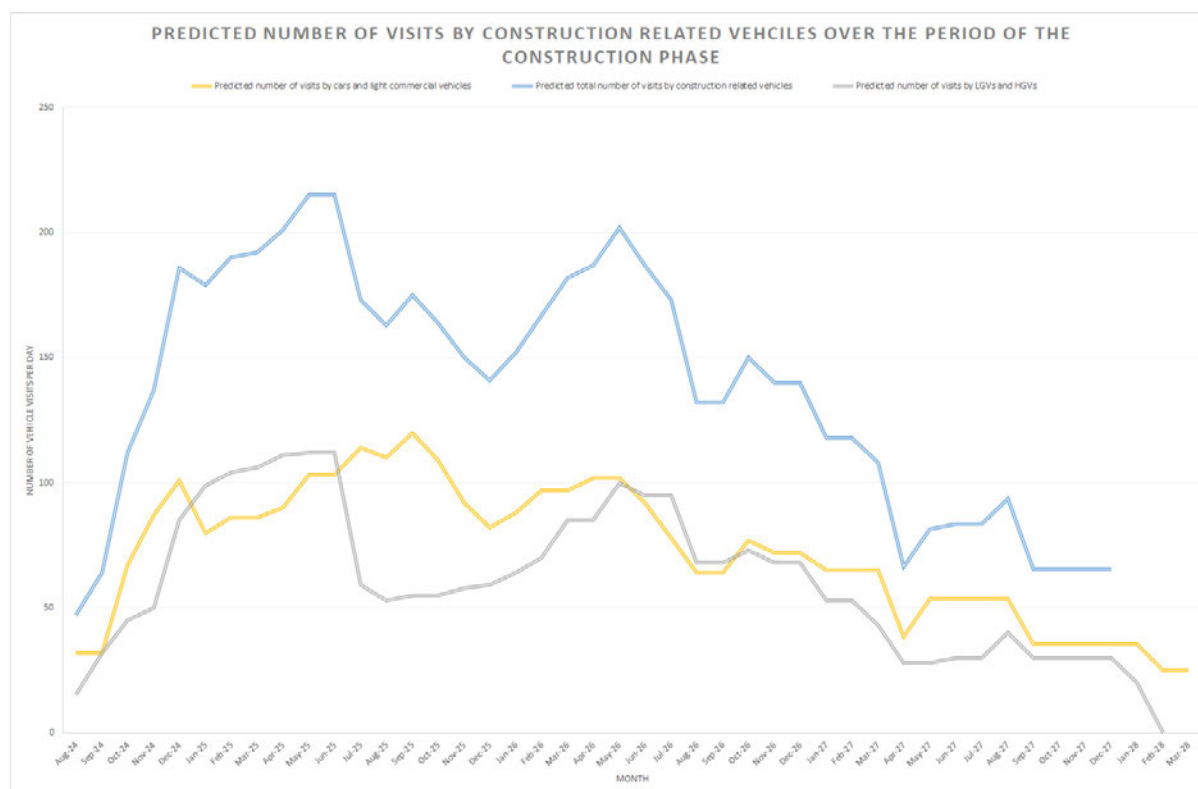
### Likely traffic movements

#### ***Construction phase***

The graph below details the predicted construction traffic flows for the construction phase, based upon our current understanding of the construction works required.

#### **Our aims are:**

- Protect road user safety.
- Protect NMU safety.
- Minimise environmental impacts.
- Provide better recreational connectivity for non-motorised users (NMUs).
- Minimise our impact on the local road network.
- Minimise additional congestion on the local road network .
- Avoid conflicts with aspirations of Greater Cambridge Greenways Project



**Graph 1: Predicted construction traffic visits over the period of the construction phase**

These predictions will feed into the transport assessment and are also being used to develop the location and design of the permanent site access.

**Operational traffic**

**Table 1a** below provides the predicted number of visits (both ways) which at our phase two consultation we said would be associated with facility staff and smaller scale deliveries once the facility is operational, which are unlikely to require HGVs.

**Table 1a: Estimated operational visits associated with facility staff**

Vehicle type	Number of visits	Frequency
Light commercial vehicles comprising of:		
Sludge technicians	2	Daily
Operations team	2	Daily
Maintenance technician	1	Mon-Friday
CHP technician	1	Mon-Friday
Cars	6	Daily
Chemical deliveries	3	Per week
Other service vehicles	2	Per week

**Operational traffic update September 2021**

**Table 1a** assumes that on weekdays there would be six light commercial vehicles and six cars visiting the site (or 24 movements, one each time a vehicle either enters or leaves the site). This was based on the most up to date and detailed information available as part of the iterative proposals for the

new facility we presented for consultation at phase two. As of October 2021, it is now confirmed that the total estimated number of combined small vehicle and van movements at the new facility (both ways) per day will instead total 92 movements. This is due to the recently confirmed inclusion of 30 office workers, which at phase two consultation, the relocation of these office worker roles was too uncertain for the figures to be included. This will represent a like-for-like comparison with the existing traffic levels for office staff already associated with the current plant at Cowley Road, meaning this change does not result in additional small vehicles and vans visiting the new facility compared to their existing levels.

Table 1b below provides the updated (October 2021) predicted number of visits (both ways) associated with facility staff and smaller scale deliveries once the facility is operational.

**Table 1b: Estimated operational visits associated with facility staff**

Vehicle type	Number of visits	Frequency
Light commercial vehicles comprising of:		
Sludge technicians	2	Daily
Operations team	2	Daily
Maintenance technician	1	Mon-Friday
CHP technician	1	Mon-Friday
Cars	6	Daily
Chemical deliveries and other service vehicles	2	Daily
Office workers	30	Mon-Friday
Operational visitors to the WWTP	2	Daily

### **Operational HGV movements**

In order to give a perspective of how the new facility will operate in comparison to the existing Milton Waste Water Treatment Works both existing and future estimates HGV movements have been presented side by side in Table 2 below. The future estimates are based on when the new facility is at full capacity including all the built-in growth of the existing works and the additional capacity added from Waterbeach. When the new works is commissioned, it is likely that the traffic movements at that time will be similar to the existing works.

**Table 2: Estimated Future operational HGV movements vs current operational HGV movements**

Type	Average daily vehicle movements	
	Milton WWTP	Future
Liquid sludge imports	57	62
Biosolids exports	10	10
Non-routine tanker movements	12	14
Septic waste movements	50	60
<b>Total HGV movements</b>	<b>129</b>	<b>146</b>

### **Permanent access options**

For the purposes of consultation, we are presenting three options for permanent highway access to the site. We will select our preferred option based on technical and environmental studies and all stakeholder feedback received during this phase 2 consultation.

The new vehicle access for the site will meet the national standards relating to the design, assessment and operation of the highway network and will form part of the wider network connection and take into consideration the needs of motorised users and non-motorised users (NMUs).

We initially produced a long list of options which were assessed against a variety of economic, environmental, safety and social and strategic factors. We also carried out preliminary consultation on the long list with the Local Highway Authority (Cambridgeshire County Council (CCC)) and Highways England (HE) for their comments.

Using the high-level information and evidence gathered by the above assessments and consultations, the long list of options has been sifted, with options being rejected due to one or more of the following reasons:

- Alignment with existing or emerging local or national strategies and priorities;
- Potential to impact on highway safety;
- Potential for likely significant environmental or community effects;
- Not technically viable;
- Unaffordable in context of the scheme; and
- Unlikely to be considered acceptable solutions by stakeholders and the general public.

As presented in the main consultation leaflet the above exercises have produced three potential vehicle access options, one of which consists of two sub-options. Please see pages 24-27 of our Phase Two Community Consultation Leaflet or visit [\[REDACTED\]](#) for details.

## Temporary site access

Prior to the construction of the permanent access we will need to construct a temporary site access for construction related traffic. The temporary site access for construction traffic will be via the route illustrated in Option 1A off Horningsea Road. The duration of use for the temporary site access will be subject to the option selected for the permanent site access as construction timescales differ between the options based on elements such as the complexity of the route design and need for associated infrastructure. As with the permanent site access, the temporary site access will need to meet the national standards relating to the design, assessment and operation of the highway network and will need to take into consideration the needs of motorised users and NMUs on the local road network.

## Next Steps

Over the coming months, as well as seeking consultation feedback on the options, we will be commencing technical and environmental studies to inform our selection of the site access and provide more information on likely impacts on the local community and environment. Below is a summary of how we carry out junction modelling, what data we use and how this informs both our design and technical studies.

### Junction Modelling

We will be using computerised junction modelling to analyse the impacts of construction and operational traffic on the Local Road Network (LRN) and, where relevant, junctions of the A14. Modelling forecasted traffic flows against baseline data (existing transport conditions on the LRN

and the findings of baseline traffic surveys) enables us to predict the economic, social and environmental impacts of changes in traffic flows as a result of our scheme and helps to develop mitigation, where appropriate. The modelling of forecasted operational traffic flows is not just fundamental to determining traffic impacts, but is also pivotal to developing a safe, robustly designed site access which takes into account existing conditions and travel needs.

The junctions that will be modelled will have a focus area of the LRN immediately affected by the scheme and will include consideration of facilities for non-motorised users (NMUs) and public transport users. By understanding the patterns of travel for different types of user classes it provides opportunities to look for wider benefits and minimise disruption.

The model will produce traffic forecasts for two modelled years: 2028 (opening year) and 2033 (5 years after opening year) and will include committed developments, at the time of the assessment, and the latest highways information.

Additionally, the local Personal Injury Collision data for a 5 -year period will be analysed and will inform any junction design and improvements.

Our junction modelling and subsequent impact assessment will be carried out in accordance with the National Planning Policy Framework, National Policy Statement for Waste Water and the Department for Transport's Transport Analysis Guidance (TAG). Alignment with the aforementioned policies along with other relevant national, regional, local and emerging local policies will be presented in the Transport Assessment submitted as part of our DCO application.

Mitigation and travel routes for the construction phases will be developed as part of the transport assessment and will be outlined in the 'Outline Construction Environmental Management Plan' and 'Travel Plan and Construction Traffic Management Plan'. These would be controlled and managed through onsite management, construction traffic restriction zoning and enforced speed limits and signage. These documents will form part of our DCO application.

### **Traffic data for use in technical studies**

Given the effects of the COVID-19 pandemic on our travel patterns, existing traffic flow data and historical survey data is unlikely to accurately represent normal conditions on the highway network in the post pandemic world and therefore supplementary Manually Classified Counts (MCC's) and queue surveys will be undertaken in the following locations, depending on the selected access option:

- Junction 33 of the A14
- Junction 34 of the A14
- Junction 35 of the A14 (the Quay Interchange)
- Horningsea Road/Low Fen Drove Way Junction
- Newmarket Road (A1303)/ High Ditch Road Junction
- High Ditch Road/Low Fen Drove Way Junction
- A1303/Church Road junction, immediately north of J35

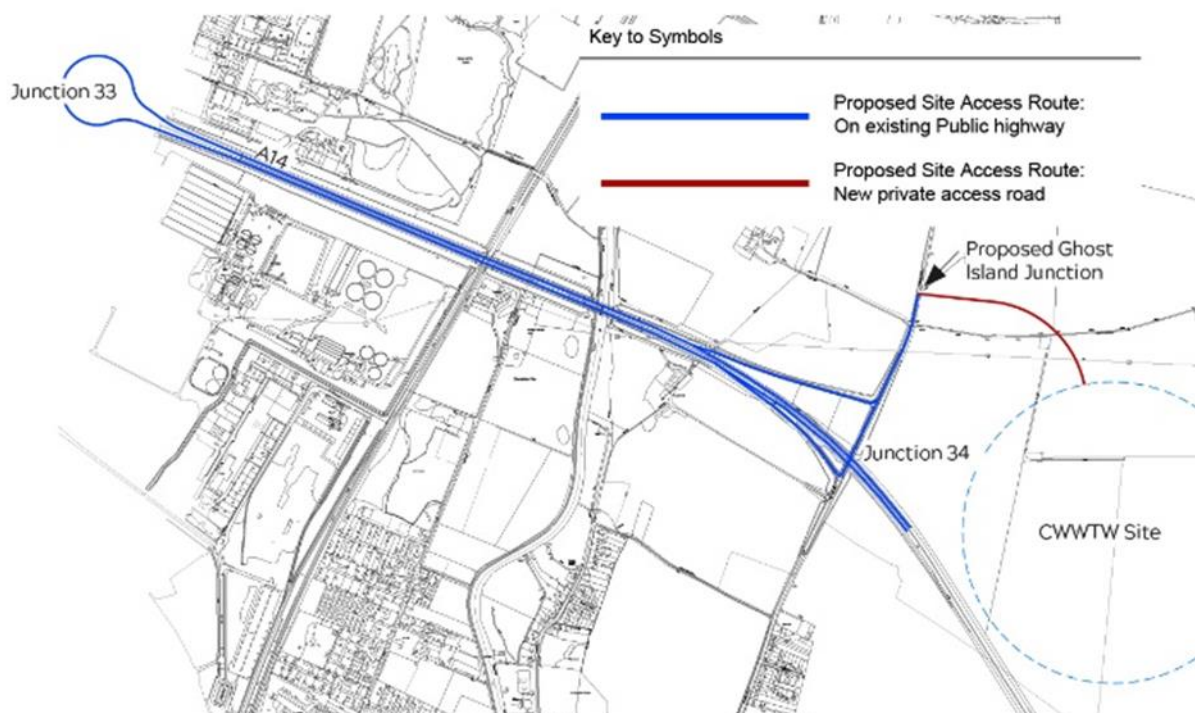


The data collected as part of these surveys and that provided from the local highway authority and data collected on the movement of Non-Motorised Users will form the baseline conditions which our future forecasts are then assessed against.

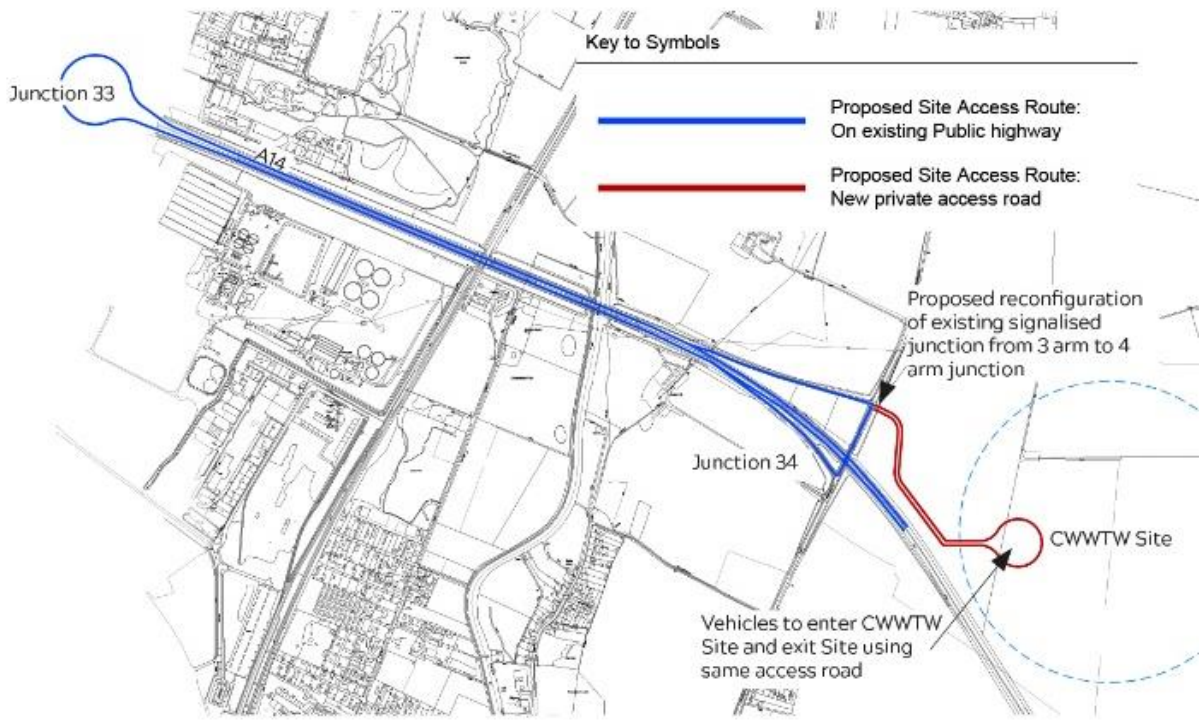
This data is then modelled against our estimated construction and operational traffic flows using industry standard software to determine transport impacts.

## Maps illustrating permanent access options and likely preliminary construction traffic access

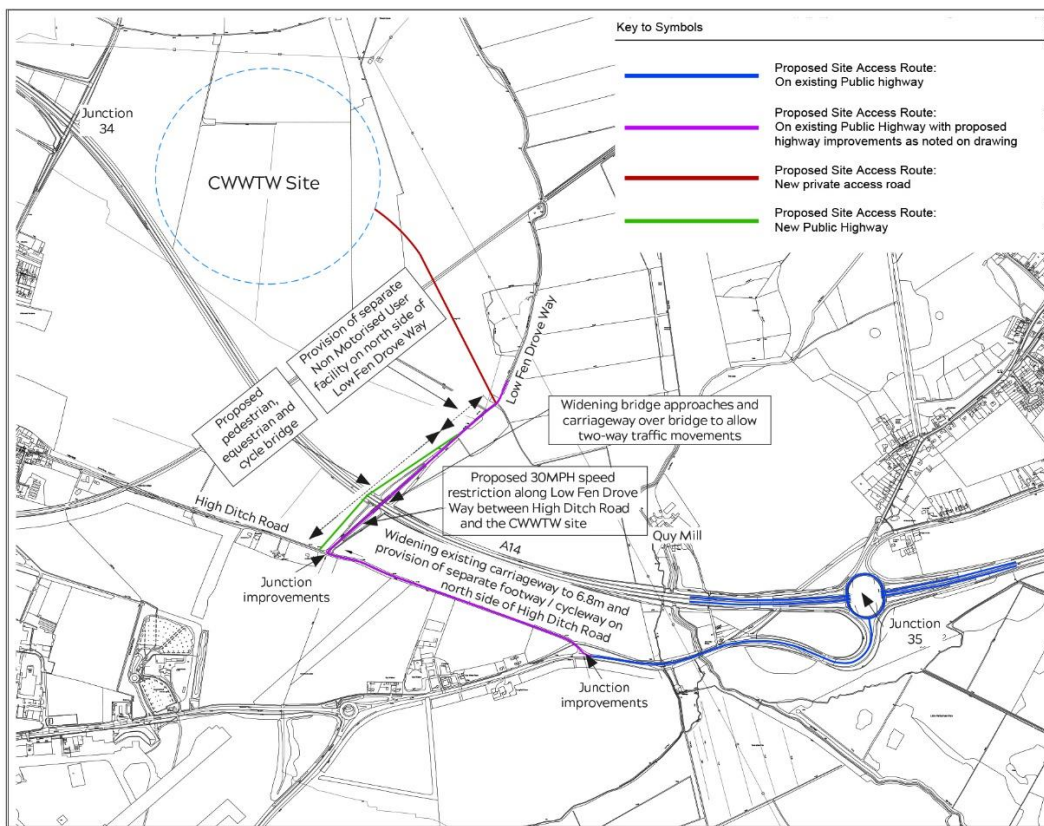
### Option 1A



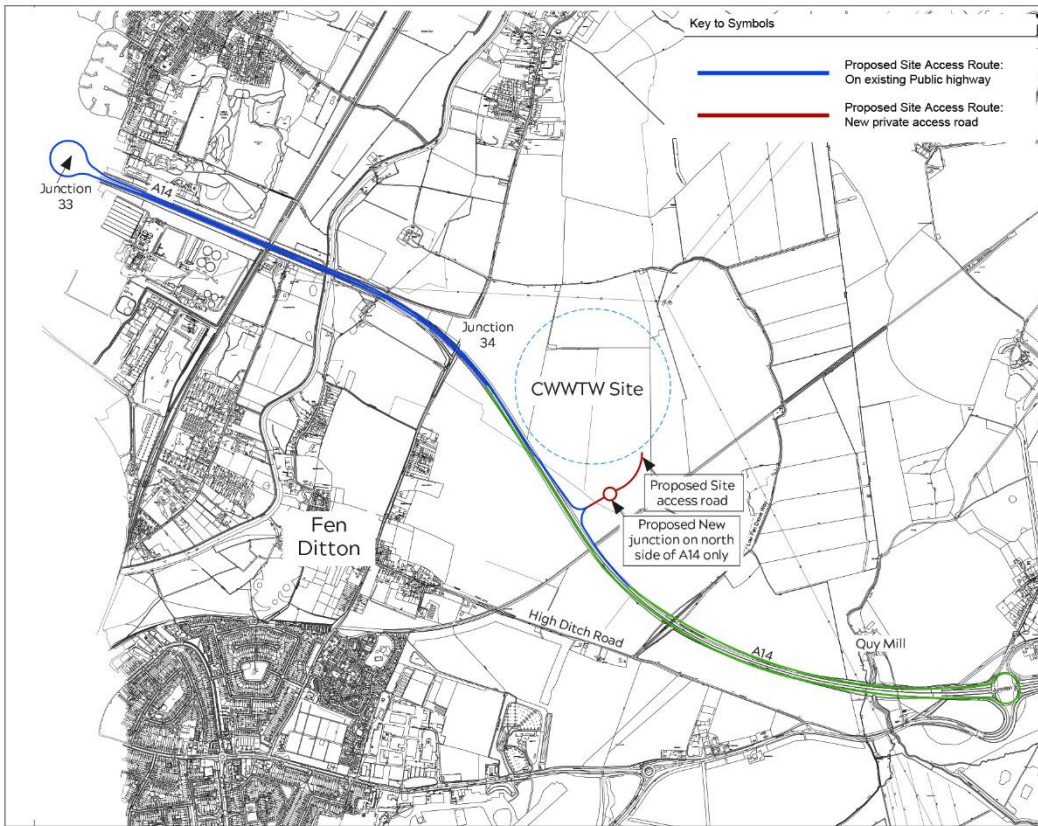
### Option 1B



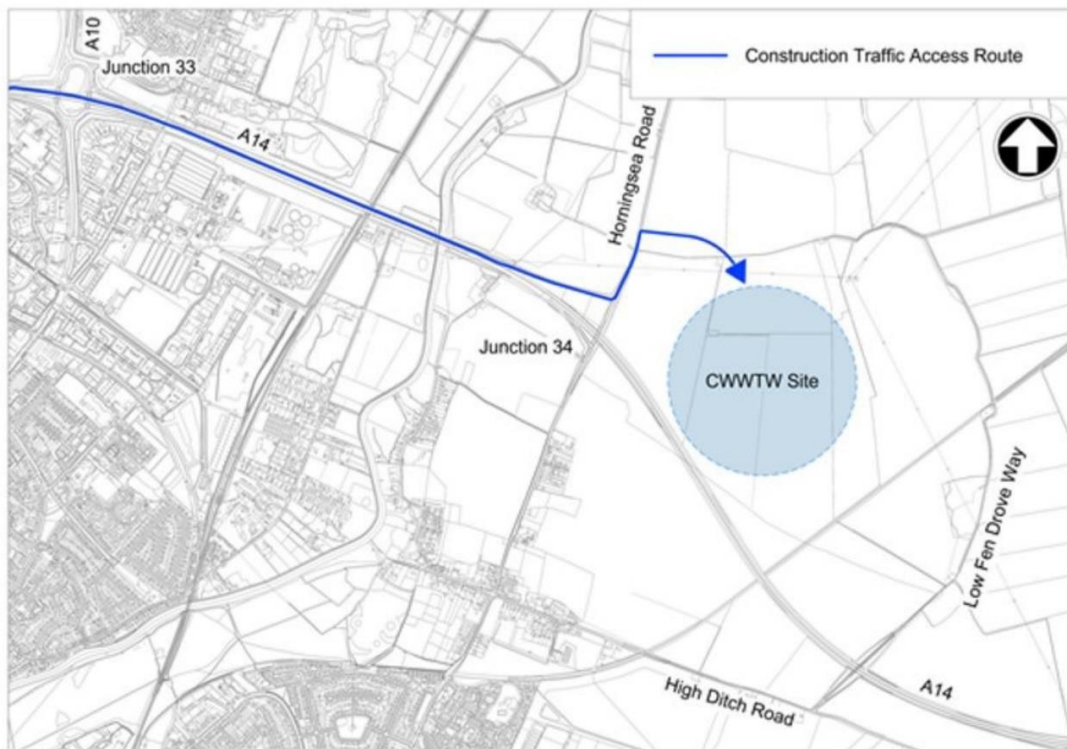
**Option 2**



**Option 3**



**Likely preliminary construction traffic access**



## Get in touch

You can contact us by:



Emailing at [info@cwwtpr.com](mailto:info@cwwtpr.com)



Calling our Freephone information line on **0808 196 1661**



Writing to us at **Freepost: CWWTPR**



Visiting our website at 

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

<https://infrastructure.planninginspectorate.gov.uk/projects/eastern/cambridge-waste-water-treatment-plant-relocation/>