

Cambridge Waste Water Treatment Plant Relocation Project



Stage 4 - Non-technical Summary
January 2021

www.cwwtpr.com

Executive summary

South Cambridgeshire District Council and Cambridge City Council recently consulted on a draft Area Action Plan for a new low-carbon city district in North East Cambridge, which could create 8,000 homes and 20,000 jobs over the next 20 years. Achieving this vision relies on the relocation of Anglian Water’s Cambridge Waste Water Treatment Plant. Last year, after carrying out three phases of site selection, Anglian Water consulted on its shortlisted options for its preferred relocation site. The fourth and final stage of site selection, taking into account those consultation responses, has now been completed.

This final stage has concluded that site area 3, an area north of the A14 between Fen Ditton and Horningsea, is the most appropriate location on which to build a new state-of-the-art facility for Cambridge and the surrounding area. Site area 3 also provides the greatest opportunity to deliver wider benefits to communities and the environment.

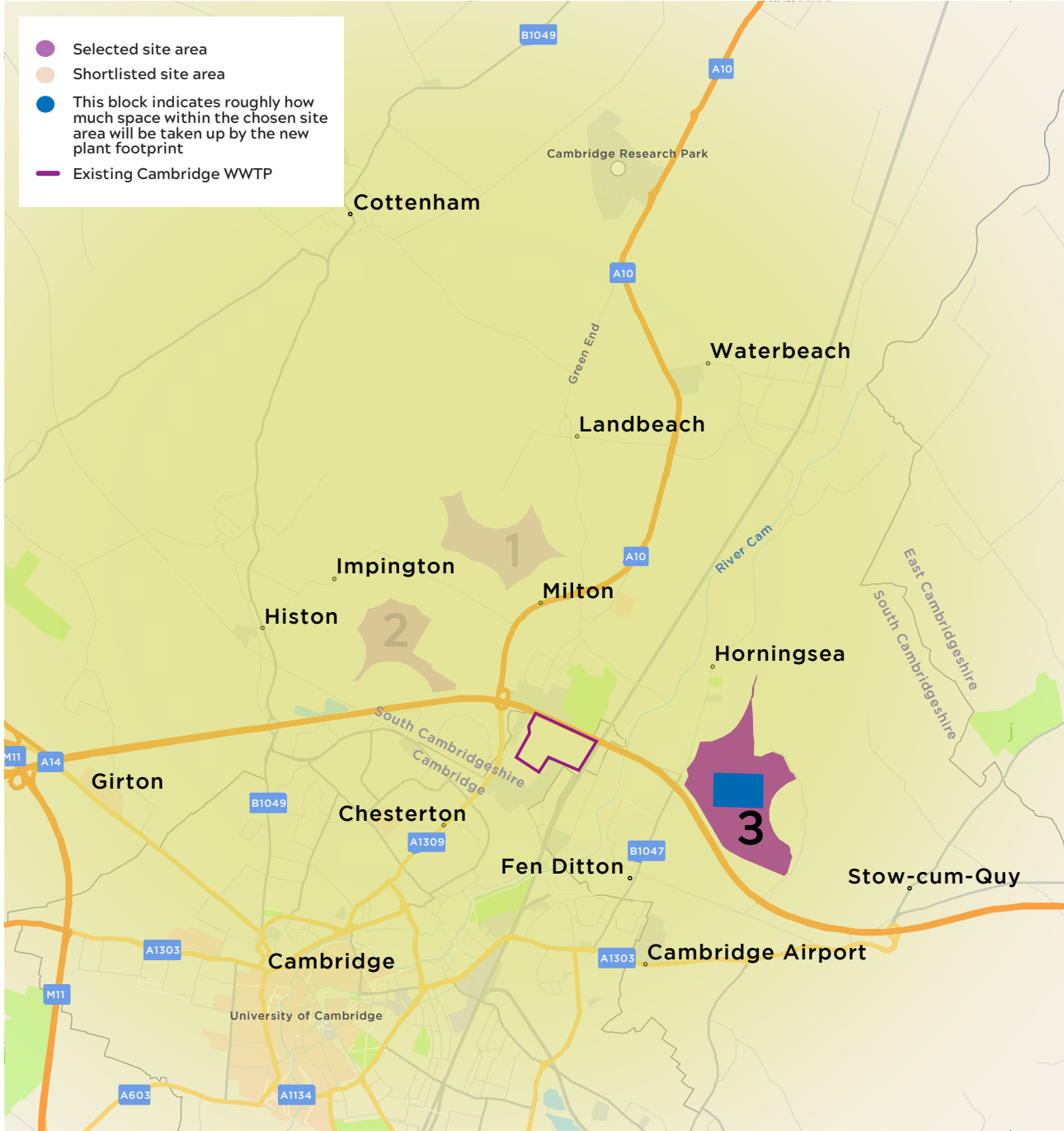
Anglian Water’s Consultation Summary Report published in November 2020, provided an analysis of the resident and stakeholder feedback received on the site options. Additionally, Anglian Water has also commissioned specialist technical analysis, focussing on 20 criteria based around six groupings.

Analysis of these factors, to aid understanding presented in the final site selection report in graphical form, concluded that site area 1 performed poorly across a wide range of these criteria when compared with either site areas 2 or 3. However, site areas 2 and 3 presented contrasting strengths and weaknesses in respect of most of the key criteria.

This analysis further concluded that, on balance, site area 3 represents the best performing site, based both on number of criteria and on their relative importance. Furthermore, while local environmental risks at site area 3 were more significant than at site area 2, the potential impacts could be appropriately mitigated, and enhancement measures could improve the value of the area in terms of biodiversity and wider landscape and recreational connectivity. Whilst green belt harm was also considered to be higher for site area 3 than site area 2, on balance it was concluded that Site area 3 offered a better opportunity to overcome that harm as a result of the mitigation and enhancements identified above.

In contrast, the risks posed by site area 2, in relation to competing land uses and future resilience would be difficult to overcome. Site area 3 represents the best value for public funding of the project relocation within the constraints of the Homes England agreement.

Site 3 location map



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1. Introduction

This document is a non-technical summary of the Cambridge Waste Water Treatment Plant Relocation Stage 4 Final Site Selection Report. The full report is available on Anglian Water’s website – www.cwwtpr.com.

Cambridge City Council and South Cambridgeshire District Council are leading the regeneration of North East Cambridge (NEC). Regeneration of this area is a commitment of the recently adopted Cambridge Local Plan and the South Cambridgeshire Local Plan. The details of the regeneration scheme are to be confirmed through an ‘Area Action Plan (AAP) which is in preparation. The latest consultation on the Councils’ proposals for the AAP took place in summer 2020 with further consultation due to take place in autumn 2021.

The existing Cambridge Wastewater Treatment Plant (WWTP), which is owned by Anglian Water and provides waste water treatment for the residents and businesses of Greater Cambridge as well as sludge treatment for communities over a wider area around Cambridge, lies within NEC and occupies a significant part of the area designated for regeneration. Analysis of the potential for the existing site to provide housing concluded that the AAP proposals could only be delivered by fully relocating the WWTP and that rationalisation of the current site would deliver only a small proportion of the sought-after homes. Because of the costs, relocation could not occur without additional strategic funding and, accordingly, in 2019 Cambridge City Council submitted a bid on behalf of their partnership with Anglian Water which, prioritised by the Cambridgeshire and Peterborough Combined Authority and supported by all the local authorities within the Combined Authority’s area, applied for and secured funding from the Housing Infrastructure Fund (HIF), which is administered by Homes England. The subsequent award of funding will enable the relocation of Cambridge WWTP.

Anglian Water has carried out a comprehensive selection process to investigate and assess potential locations for the new WWTP.

2. The site selection process

The four-stage site selection process has identified and assessed potential site areas against planning, operational, community impact, environmental, economic and programme criteria, progressing from initial options appraisal through to the selection of Anglian Water's preferred site.

This iterative process has been aligned with relevant legislation and national and local planning policy including the National Policy Statement for Waste Water to ensure that the consideration of alternatives will provide a strong evidence base for the future application for a Development Consent Order (DCO). During the development of the appraisal process, the local planning authorities were invited to comment on the site selection methodology and their feedback has been incorporated into the process.

Figure 1 on the next page, summarises the site selection process which Anglian Water has followed to select its preferred site.

Technical analysis of the necessary elements of a relocated plant serving the growing population of the Greater Cambridge Area, including proposed development at Waterbeach, concluded that the land requirements for a new WWTP would be in the region of 22 hectares. This land requirement, set out in Anglian Water's Statement of Requirement, formed the starting point for the site selection process.

An Initial Options Appraisal examined the strategic issues to be considered in investigating relocation options and identified the most appropriate study area to search for new waste water treatment plant sites. Once the study area was identified, subsequent study stages (Stage 1 Initial Site Selection, Stage 2 Coarse Screening and Stage 3 Fine Screening) were used to assess location options in increasing levels of detail, building on the findings of the previous stages and eliminating less suitable options at each stage until only the best performing site areas remained. This process has included consideration of the relevant transfer infrastructure (pipelines or tunnels) to serve each potential site area. Reports for each of these stages are listed at the end of this summary and are available from the project website, www.cwwtpr.com.

The three sites areas shortlisted at Stage 3, known at that stage as sites "I", "J" and "L", were taken forward, as site areas 1, 2 and 3 respectively, into the Stage 4 process. This Stage 4 process is described in detail in the Cambridge Waste Water Treatment Plant Relocation Stage 4 Final Site Selection Report, which this document summarises.

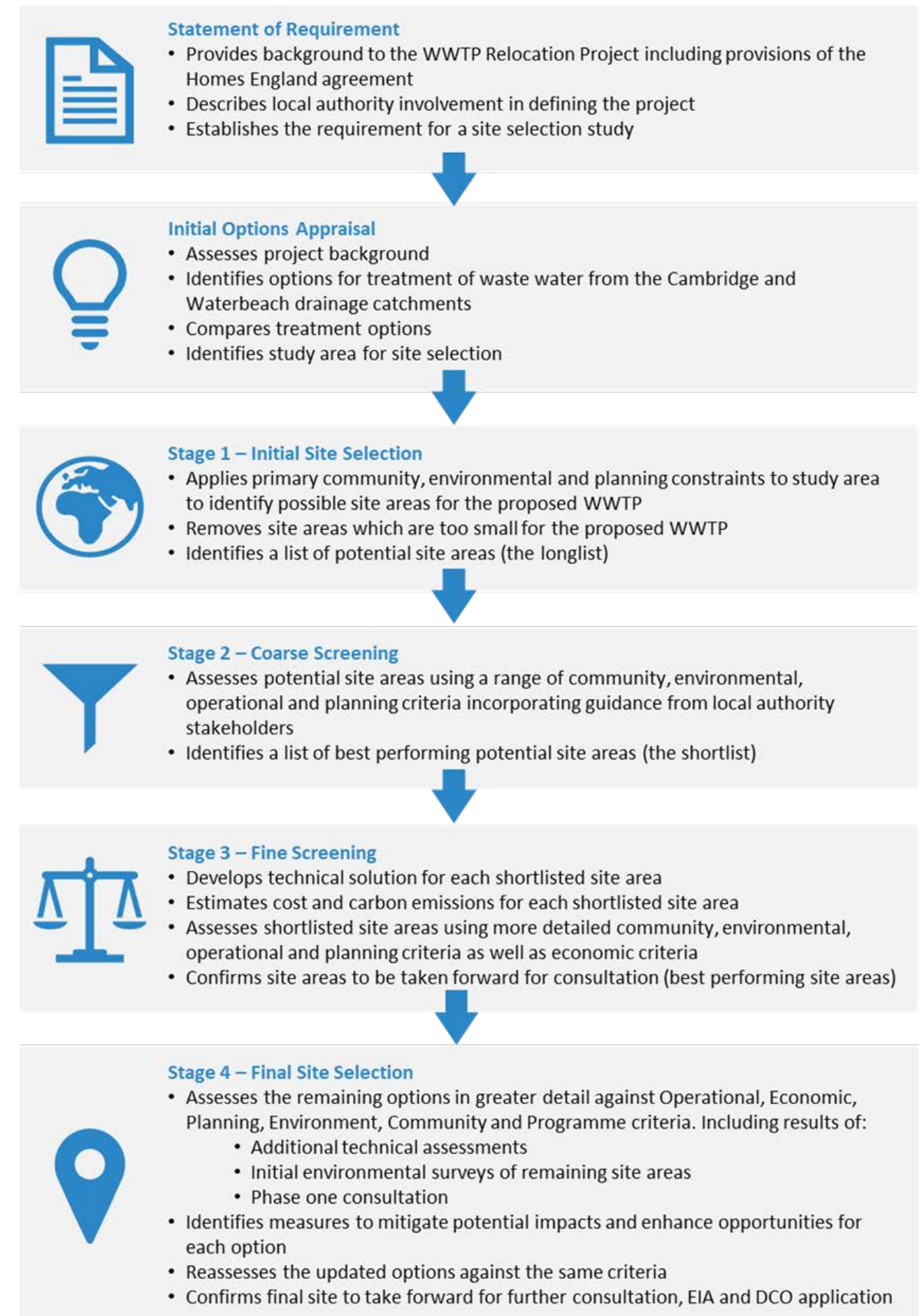


Figure 1: Site Selection Process

3. Stage 4 methodology

The Stage Four process, culminating in the selection of Anglian Water’s preferred site area, consisted of the steps detailed in Figure 2 below.

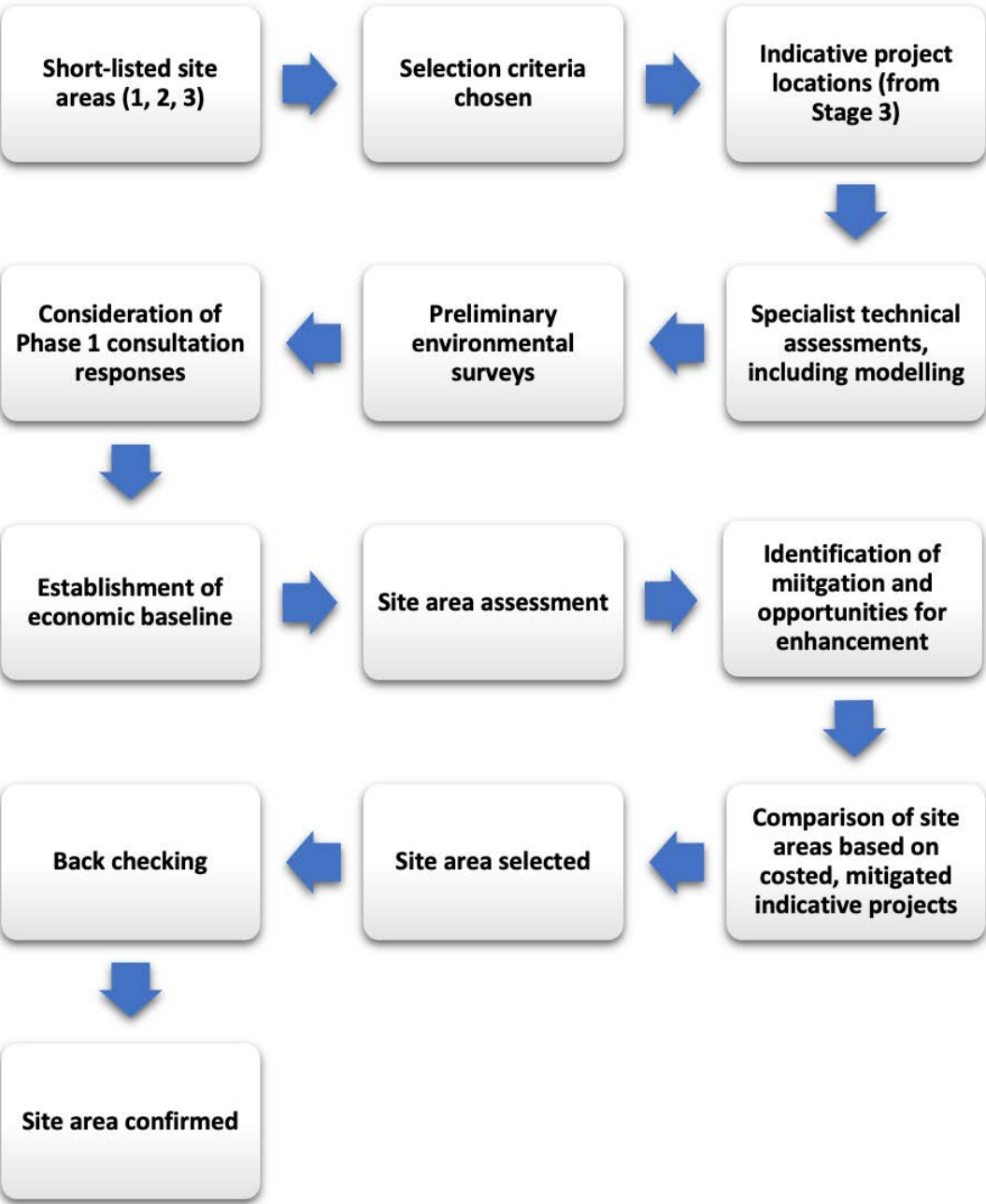


Figure 2: Stage 4 process

3.1 Selection criteria

The development team selected a list of criteria to be used in the assessment of each site area. These were grouped into the following six categories as shown on Figure 3 below.

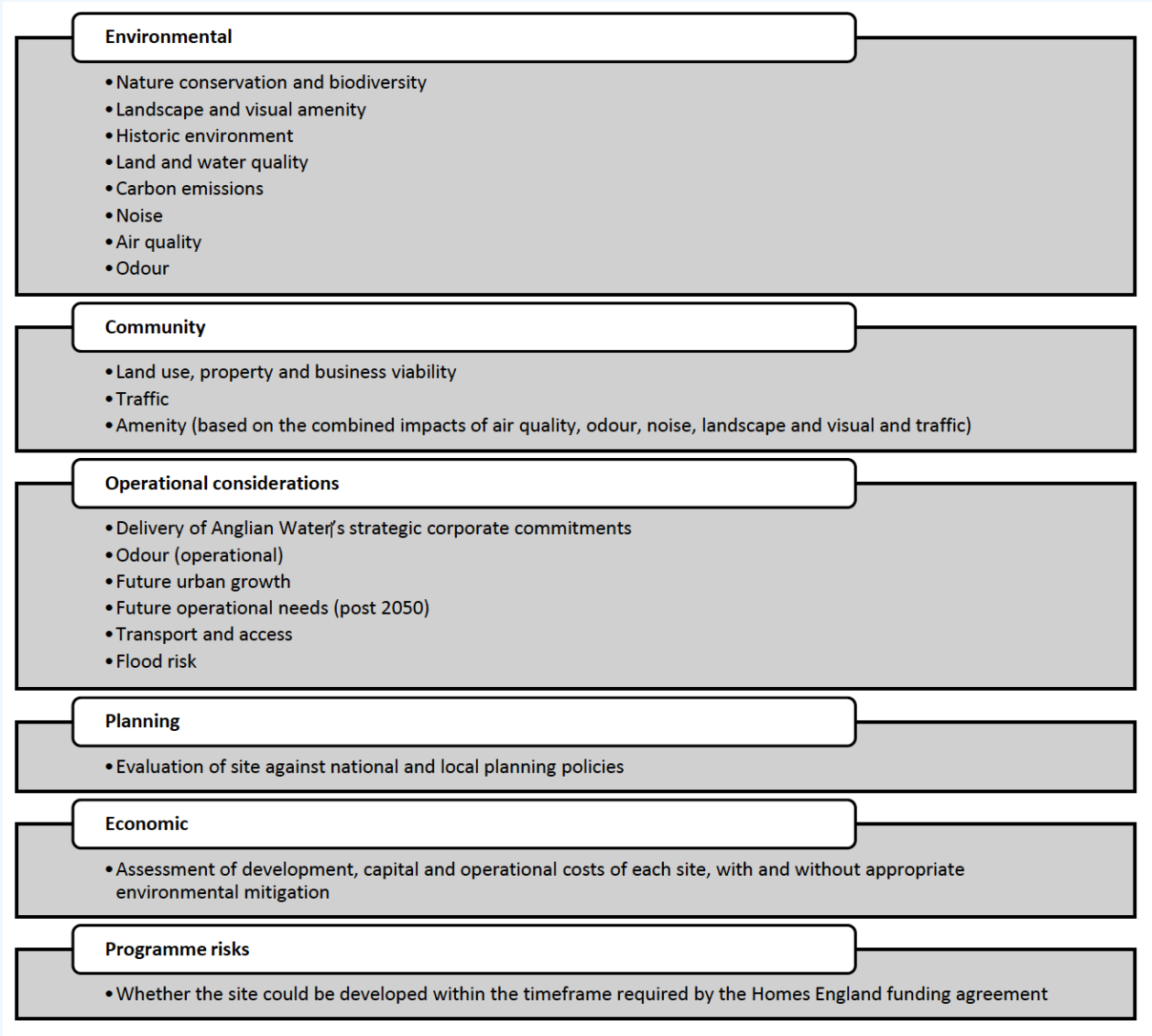


Figure 3: Site Selection Criteria

3.2 Indicative project locations

The size of all three of the shortlisted site areas is larger than the 22 hectares considered by Anglian Water to be the minimum likely footprint of the relocated WWTP. In order to facilitate the assessment of potential impacts during the Stage 3 and Stage 4 process, an indicative project location was selected at Stage 3 – Fine Screening - within each of the site areas. This allowed representative and worst-case modelling to take place for odour. In each case the indicative location was based on a rectangular project configuration with an area of 22 ha. It is important to note that the project promoted on the selected site area as part of the Development Consent Order process may not be in the same location or configuration as the indicative example project used for site selection. Back checking and further analysis by the development team has confirmed that the criteria used in the first three stages of the site selection process remain relevant.

3.3 Technical assessments

In addition to the work carried out on the site areas during Stages 1 – 3, further, site specific, studies were commissioned in respect of issues such as landscape and visual impact, flood risk assessment, traffic and transport and preliminary odour modelling. The Stage 4 site selection report includes technical appendices detailing those assessments, which were carried out by competent experts.

3.4 Site surveys

Preliminary ecological, landscape and historic environment field surveys were carried out on the site areas between April and November 2020. The results of these surveys have been included within the relevant technical assessments contained in the appendices to the Stage 4 site selection report.

3.5 Consideration of consultation responses

Anglian Water consulted on its shortlisted options for its preferred relocation site area between 8th July and 14th September 2020. As summarised below, the consultation responses received by Anglian Water have been considered as part of the Stage 4 site selection process. Anglian Water's Consultation Summary Report published in November 2020, provided an analysis of the resident and stakeholder feedback received on the site options. Where relevant, consultation feedback has been considered by the authors of the technical assessments and taken into account when carrying out the assessments.

3.6 Establishment of economic baseline

The economics of each of the site areas, based on the indicative project locations, was assessed. The most economically advantageous project was selected as the baseline project against which cost options could be compared.

3.7 Site assessment and identification of mitigation and enhancement opportunities

Assessment of each of the site areas took place, using the criteria described at 3.1 above. As part of this assessment, mitigation was identified for any possible environmental effects and the potential for environmental enhancement was considered. The cost options for each site area were refined to include the costs of delivering of such mitigations or enhancements

3.8 Comparison of site areas

The site areas were compared against each other, based on the selected criteria relevant to each costed and mitigated indicative project, as recorded in the site area assessments.

Due to the complexity arising from the multi-factor analysis, a graphical representation of the results, in the form of a “bubble chart”, was developed in order to facilitate the comparison of the three site area options. This method was used to illustrate the performance of each site area option against the others and collectively against all the assessment criteria. This enabled a holistic view of the Stage 4 final site selection assessment in order to aid the selection of the best overall performing site area.

Some refinement of the criteria took place at this stage to facility the comparison process.

- Because the original “amenity” criterion was based on considerations of the cumulative effect of other factors it did not need to be carried into the multi-factor analysis, which automatically assessed cumulative issues.
- Traffic, transport and access issues have been separated into two criteria; “Highways upgrades” to reflect the proposed mitigation, which influenced the traffic and access assessment, and its additional costs to the project. “Traffic and access” is used to reflect the potential impacts of mitigated operational access to the site areas by heavy goods vehicles.
- The “historic environment” criterion was split in to two criteria to reflect the different considerations and risk profiles relating to the potential for future archaeological finds (“Archaeology”) and the legal protections afforded to designated heritage assets (“Heritage Assets”).
- The “Land and water quality” criterion was split to reflect the differing issues of land contamination and groundwater impacts highlighted by the environmental assessments.
- The criterion “Anglian Water’s Strategic Commitments” was considered as part of the assessments around carbon and biodiversity and therefore, to avoid double counting, was not taken through to the multi-factor analysis.
- The assessment of the “planning” criterion largely reflected the findings of the environmental assessment and therefore to avoid double counting it was not taken through to the multi-factor analysis. However, one issue, Green Belt, was considered to represent a particularly important aspect of the planning assessment and, because it is a policy rather than an environmental designation, was not fully reflected in the environmental criteria. Therefore, “Green Belt” was taken forward as an additional criterion into the multi-factor analysis. The “Competing land use” criteria incorporate the remaining significant elements of the planning assessment.

The criteria taken through to this analysis were assigned a relative weighting, reflecting their importance to the Anglian Water development team (drawing on their professional judgment), their prominence in consultation feedback and guidance in planning policy. These weightings were represented by the size of the bubbles in the chart.

Figure 4 below, illustrates the method of comparison applied to the criteria and the sites. Each criterion is represented by a separate bubble, with the position of the bubble denoting the comparative performance of the criterion across the site areas. For example, Bubble A is not a distinguishing factor between any site area i.e., all site areas perform equally. Whereas Bubble B shows a moderately distinguishing factor (radial location is halfway between centre and edge of circle), with performance favouring site areas 1 and 3 i.e., site areas 1 and 3 perform equally but better than site area 2. Bubble C is a strongly distinguishing factor (radial location is close to edge of circle), with performance favouring Site area 1, i.e., site area 1 performs better than both site areas 2 and 3, which perform equally to one another. Note that all of these bubbles would be considered of equal importance as their bubble size is the same.

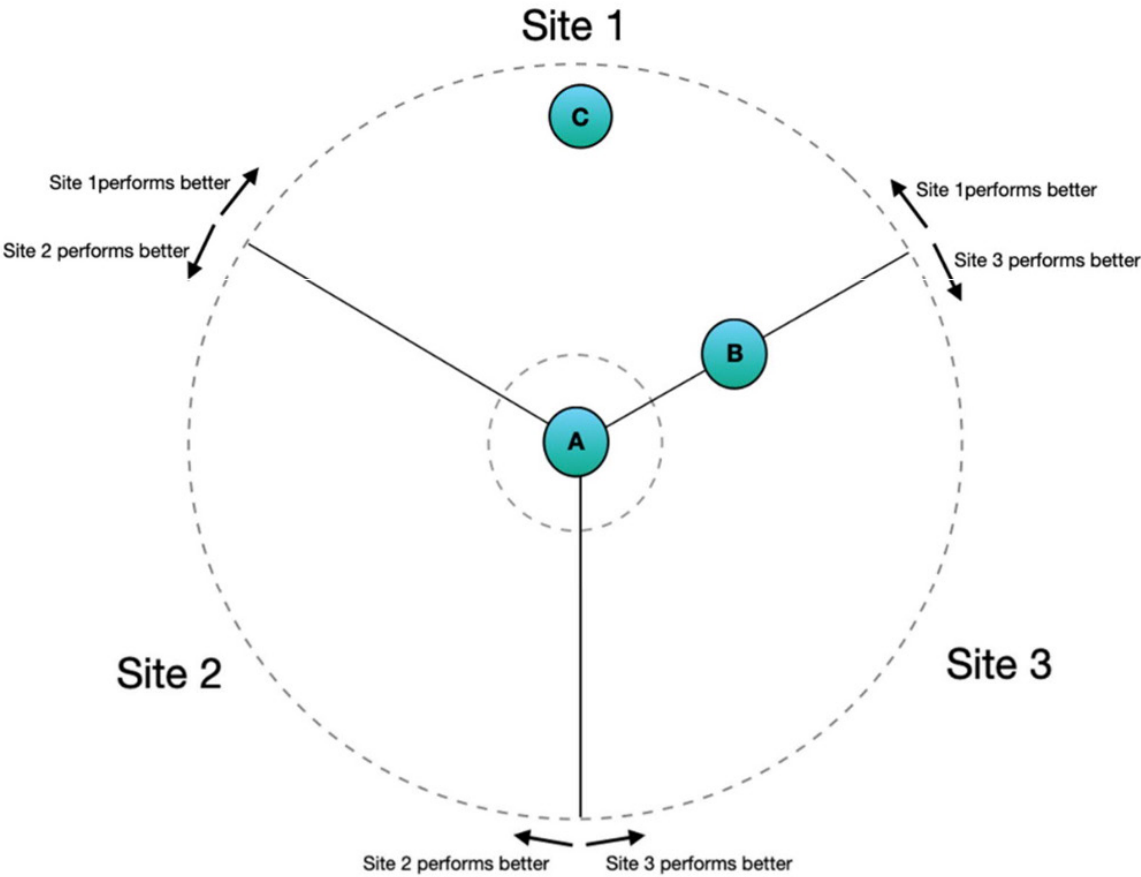


Figure 4: Method of comparison applied to the criteria and sites.

3.9 Site selection and back-checking

Following the application of the multi-factor analysis, resulting in the selection of Site Area 3 for the preferred relocation of the WWTP, back-checking took place to review the decision against consultation comments and new information arising since the shortlist was completed during the Stage 3 - Fine Screening process.

4. Results - site assessments

The Stage 4 Site Selection Report describes each of the shortlisted site areas and then provides an assessment of each area against the criteria listed at 3.1 above. As described above, these assessments also identified potential mitigation and environmental enhancements, which was used to refine the project costs.

4.1 Site Area 1

Site area 1, shown on Figure 5 below, is located approximately 1.5km to the north of the existing WWTP site within the administrative boundary of South Cambridgeshire District. The site area covers a total area of 68ha.

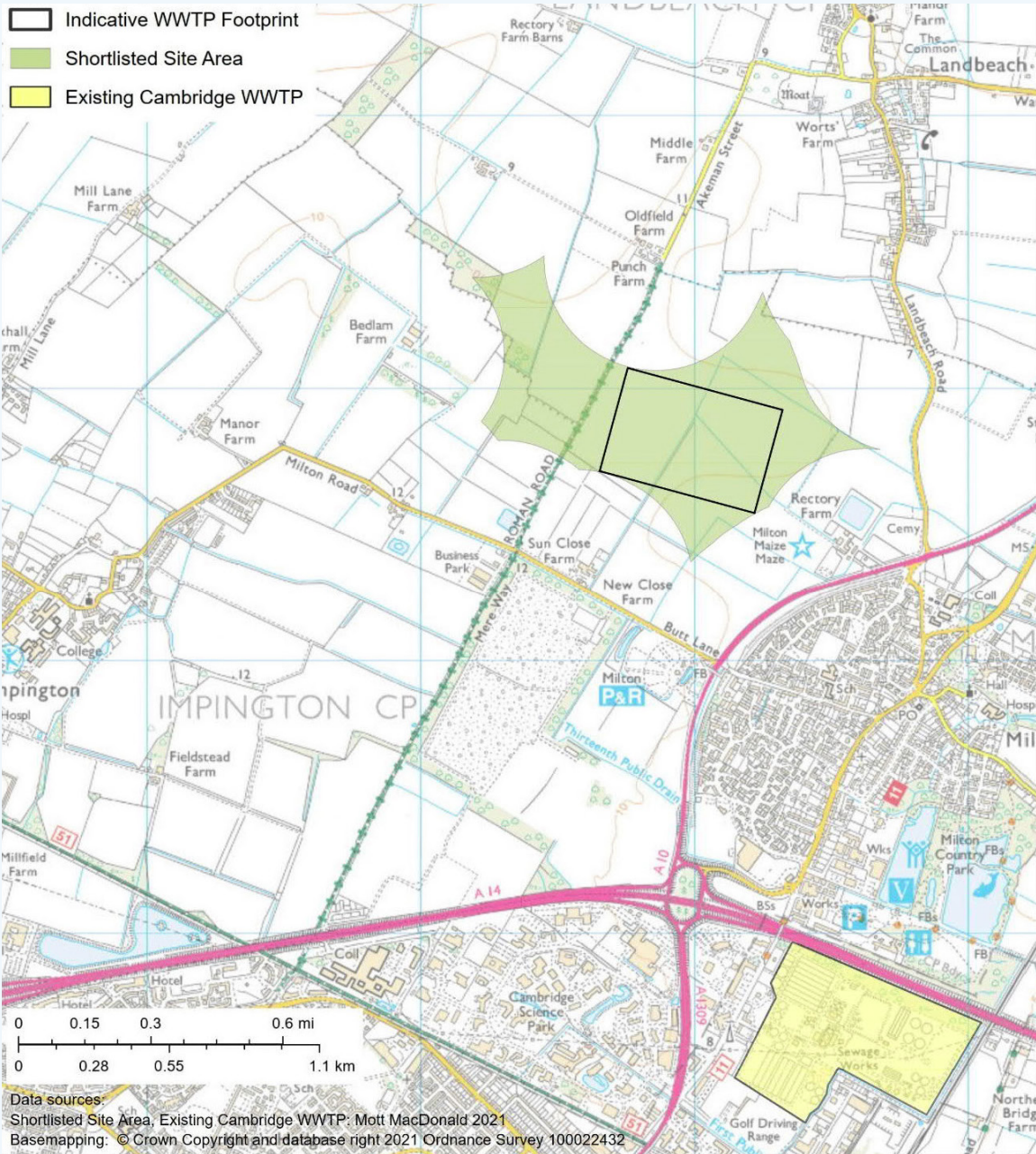


Figure 5: Site Area 1 location map

The site area lies between the villages of Milton to the south east, Landbeach to the north east and Histon and Impington to the south west. The boundary of the site area is surrounded on all sides by agricultural land. North and north west of the site area, open agricultural land extends towards the village of Cottenham. The A10 road is located between the site area and Milton village, which connects to Milton interchange (Junction 33 of the A14) approximately 1km south. Butt Lane is located to the south of the site area and joins the A10 to the south of the site area. To the west of the site area, Butt Lane becomes Milton Road and leads to Impington village. To the east of the site area, Landbeach Road connects Landbeach village to the A10.

To the south on the opposite side of Butt Lane to the site area lies the Milton Landfill, household waste recycling centre and the Milton Park & Ride. To the south east between the site area and the A10 is the Milton Maize Maze attraction and Milton cemetery.

The site area itself is open farmland with mainly arable fields of varying size, defined by ditches and hedges with trees. The western end of the site area includes a small area of woodland. Mere Way, a former Roman road that crosses the site area from north to south and is a public byway, which leads from Akeman Street in the north to the A14 in the south. The landform is mostly level and at 9-10m AOD. Mere Way is lined with trees on both sides within the site area.

The consultation feedback on the site area included:

- Concerns from the public relating to air quality, noise and vibration and traffic impacts on community amenity, businesses and facilities
- Environment Agency reservations about potential interactions with the Lower Greensand aquifer and concerns about contamination associated with landfill and the waste water transfer tunnel
- Cambridgeshire County Council and Highways England concerns over the capacity of access routes (A 14 junction 33)
- Developer and community concerns over conflicting and cumulative impact on proposed developments (police station, Waterbeach New Town transport routes, A10)

Table 1 summarises the assessment results for site area 1.

Table 1: Site Area 1 Assessment results

Criteria group	Assessment results
Environmental	Potential for protected species within the WWTP development area, a larger area would be required for biodiversity net gain and there is potential temporary impact on County Wildlife Site (Cottenham Moat). Potential change to landscape character of area and visual impacts on local residents in Landbeach. High archaeological potential across scheme area. Potential for temporary impacts on water levels within the Lower Greensand aquifer during dewatering for shaft construction at the new WWTP, which could have an adverse impact on private water supplies in the area, but can be mitigated. Whole life carbon emissions for site area 1 options compared with lowest carbon option (Option 3Aii) equate to an additional 3,500 to 15,600 tonnes of CO₂e. Noise and vibration from construction works for site area 1 and the associated infrastructure would not exceed significant adverse effect level thresholds for extended periods at receptor locations. Mitigation is anticipated to reduce the likely air quality impacts to negligible. Risk of potential odour impact on some high sensitivity receptors. Therefore, additional mitigation is required to reduce odour impacts to negligible.
Community	Potential extinguishment of fruit farm, potential impact on operation of Milton Maize Maze . Potential amenity impacts on businesses on Butt Lane due to combination effect of potential traffic and visual impacts. Potential traffic impacts during construction and operation at Butt Lane & A10 junction and junction 33 of A14.
Operational	Opportunities to develop a modern carbon efficient plant. Site area would be developed to deliver a net gain in biodiversity. Odour mitigation presents significant operational challenge, health and safety and mechanical operation. Site sits close to a potential future transport corridor; development here may impede Cambridge's future economic growth. Operational access could be affected by constraints at A10/Butt Lane junction and A14 junction 33 (almost at capacity).

Criteria group	Assessment results
Planning	Overall site area performance of site area 1 against Green Belt purpose is ‘Fair’, harm to Green Belt may be partially tempered by the present somewhat compromised performance of this area in Green Belt purpose terms. Potential conflicts with/ disruption from new transport infrastructure in terms of future growth (Cambridge Autonomous Metro, A10, Waterbeach Greenway) Promoted development may affect long term resilience of CWWTPR. The characteristics and proximity of site area 1 to Milton and Landbeach, given surrounding development and the promotion of additional infrastructure and development in the vicinity, potentially limits the opportunities for this site area to deliver new habitat and improved connectivity.
Programme	Development of additional enhancement and mitigation measures following consultation on the proposals presents risk of delay to the submission of the DCO application. Due to the conflicting land interests with the Fruit Farm within the site area, this may result in significant delays to the project development process. Engineering operations for dewatering and recharging could have a significant impact on the construction programme. Risks of archaeological finds across the scheme area present a moderate risk of delay to the start of construction. Potential constraints along effluent transfer option A (pipeline worst case) could impact on the construction programme. Relatively short length of tunnel allows some flexibility in construction programme, but uncertainty in design and mitigation measures required to address landscape and visual risks.
Economic	Higher capital expenditure (107-111%) and whole life cost (103-105%) than lowest cost option. Longer waste water transfer infrastructure and greater lining requirements due to interaction with Lower Greensand aquifer. Will require compensation to Fruit Farm and the business at Rectory Farm, over and above land value.

4.2 Site Area 2

Site Area 2, shown in Figure 6 below, is located approximately 1km to the north west of the existing WWTP site within the administrative boundary of South Cambridgeshire District Council. The site area covers a total area of 53ha.

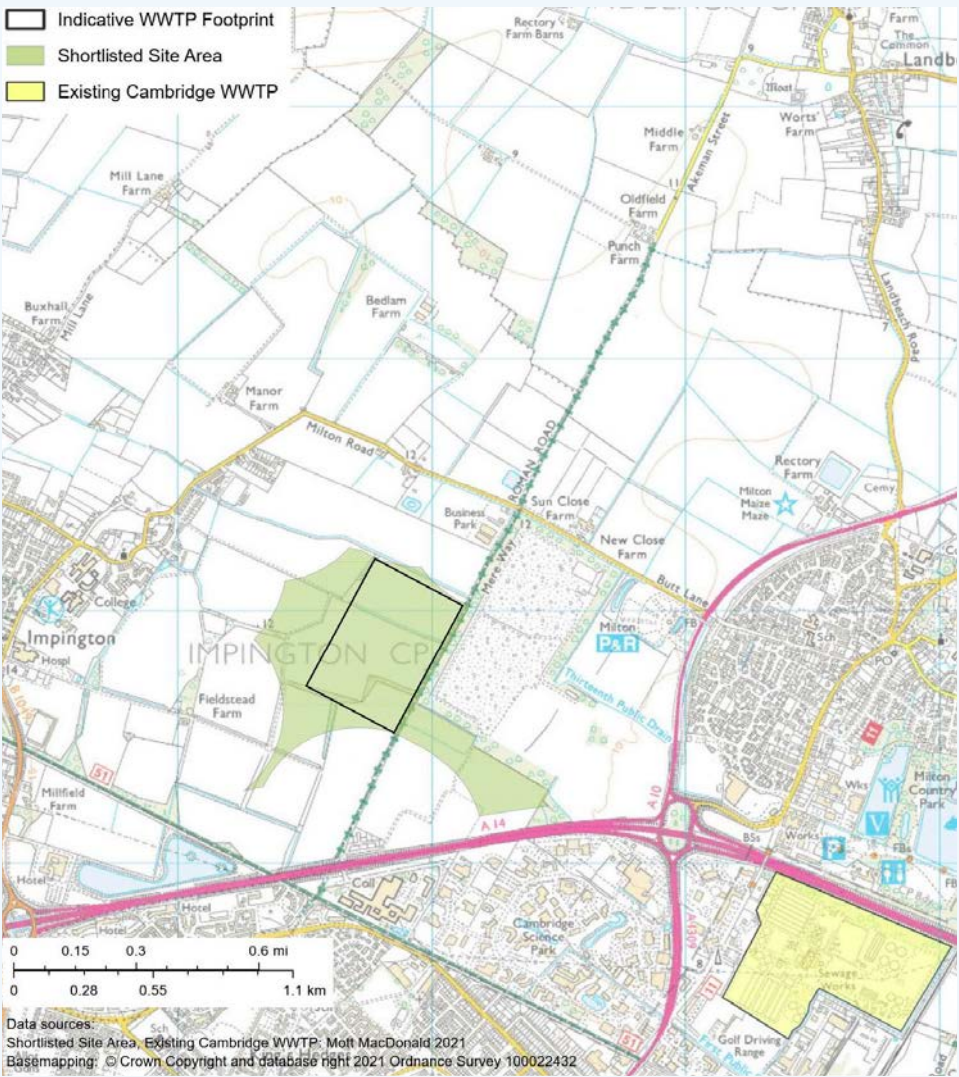


Figure 6: Site Area 2 location plan

The site area lies between the villages of Milton to the east, Histon and Impington to the west and Landbeach further to the north east. Directly east of the site area is Milton Landfill, the edge of which forms the boundary of the site area. Butt Lane lies along the northern side of the site area and a business park is located between the site area and Butt Lane. To the north west of the site area, Butt Lane becomes Milton Road and leads to Impington village. South of the site area is the A14 and a travellers’ site is located just north of the A14, 400m from the site area. The A10 road is located between the site area and Milton village, which connects to Milton interchange (Junction 33 of the A14) approximately 1km south.

The site area is farmland with arable fields of varying sizes defined by ditches, tree belts and hedges with trees, the southern half of the site area includes a number of woodland belts. The landform is mostly level at 11-12m AOD, rising slightly towards the south. Two small farm access roads cross the site area east to west. Mere Way, a former Roman road and public byway runs parallel to the eastern boundary with Milton Landfill and crosses the southern section of the site area. Mere Way is lined with trees on both sides.

The consultation feedback on the site area included:

- Concerns from the public in respect of odour, traffic impacts on community amenity, businesses and facilities and compromising Mere Way
- Environment Agency reservations about interaction with Lower Greensand aquifer and concerns about contamination associated with Landfill and waste water transfer tunnel
- Cambridgeshire County Council and Highways England concerns over capacity of access routes (A14 junction 33)
- Developer and community concerns over conflicting and cumulative impact on proposed developments (science park, police station, Waterbeach New Town transport routes, A10)

Table 2 below summarises the assessment results for site area 2.

Table 2: Site Area 2 assessment results

Criteria group	Assessment results
Environmental	Presence of Badgers and Great Crested Newts has been recorded on site, a larger area would be required for biodiversity net gain within site footprint, potential temporary impact on Cottenham Moat CWS. Landscape character of area already diminished, some visual impacts, site could integrate into landscape. High archaeological potential across the scheme area. Potential risk of encountering/mobilising contamination at new WWTP and along waste water transfer tunnel due to proximity to Landfill, but can be mitigated. Potential for temporary impacts on water levels within the Lower Greensand aquifer during dewatering for shaft construction at the new WWTP, which could have an adverse impact on private water supplies in the area, but can be mitigated. Whole life carbon emissions for site area 2 options compared with lowest carbon option (Option 3Aii) equate to an additional 13,000 to 25,300 tonnes of CO2e. Noise and vibration from construction works for site area 1 and the associated infrastructure would not exceed significant adverse effect level thresholds for extended periods at receptor locations. Mitigation is anticipated to reduce the likely air quality impacts to negligible. New WWTP at site area 2 would result in negligible odour impact for all receptors. Therefore, no additional mitigation would be required for odour control.

Criteria group	Assessment results
Community	Potential partial impact on viability of farming business, not expected to result in the inability to operate any of the businesses. Amenity impacts on businesses on Butt Lane due to combined effects of potential traffic and visual impacts and on Evolution Business Park and Mere Way due to combined effects of potential odour and visual impacts. Traffic impacts during construction and operation at Butt Lane/A10 and junction 33 of A14.
Operational	Opportunities to develop a modern carbon efficient plant. Site area would be developed to deliver a net gain in biodiversity, however, enhancement opportunities may be limited. No additional odour mitigation required. Site area being situated on the urban fringe is more likely to suffer encroachment from other forms of development impacting on operational effectiveness and resilience. Operational access could be affected by constraints at A10/Butt Lane junction and A14 junction 33 (almost at capacity).
Planning	Overall site area performance of site area 2 against Green Belt purpose is 'Fair', harm to Green Belt may be partially tempered by the present somewhat compromised performance of this area in Green Belt purpose terms. Site area 2 is the subject of proposals by a strategic landowner (Trinity College Cambridge) compatible with growth aspirations for Greater Cambridge for technology related development and the Government's growth prospectus for the OxCam Arc "key economic priority" area. Development of CWWTPR at site area 2 could impede the future strategic growth of Cambridge by prejudicing or at worse obstructing alternative economic development proposals which are likely to be brought forward in the near- to medium future. In the event that development of any of the sites in the immediate vicinity of site area 2 is realised, that development may affect the long-term resilience of CWWTPR. The risk of encroachment of other development proposals on the area in the future may potentially give rise to operational conflicts such as odour or traffic. The relatively constrained characteristics and position of site area 2 between Milton and Impington, given surrounding development and the promotion of additional infrastructure and development in the vicinity, potentially limits the opportunities for this site area to deliver new habitat and improved connectivity.

Criteria group	Assessment results
Programme	Due to the conflicted land interests with the promotion of the extension to the Cambridge Science Park, this may result in significant delays to the project development process. Engineering operations for dewatering and recharging could have a significant impact on the construction programme. Risks of archaeological finds across the scheme area present a moderate risk of delay to the start of construction. Technically more complex route for effluent transfer option A (pipeline worst case) could impact on the construction programme. Construction duration for long waste water transfer tunnel limits the flexibility in case of other delays.
Economic	Higher capital expenditure (113-116%) and whole life cost (105-107%) than site area 3 (and higher than site area 1). Longer waste water transfer infrastructure and greater lining requirements. Site promoted for development, greater potential for higher land acquisition and compensation costs.

4.3 Site Area 3

Site area 3, shown in Figure 7 below, is located 1km to the east of the existing WWTP, within the administrative boundary of South Cambridgeshire District Council. The site area covers a total area of 127ha.

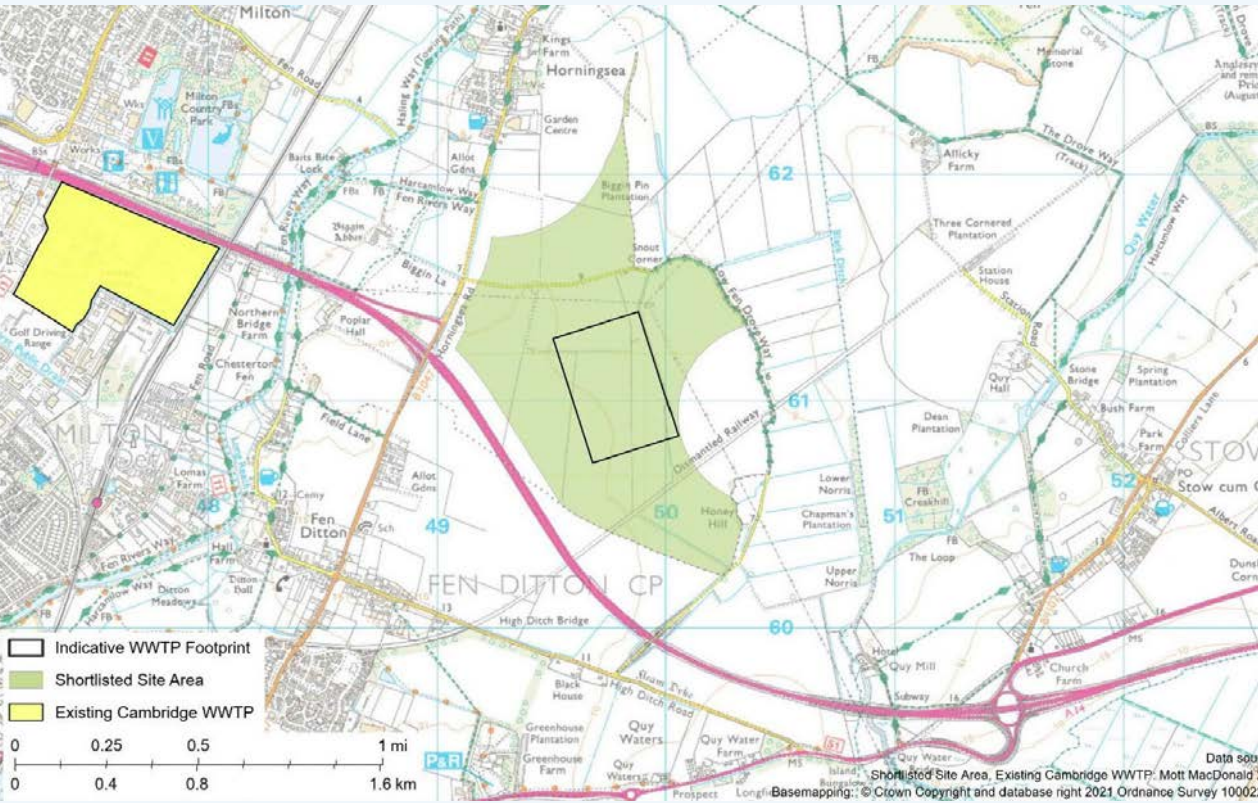


Figure 7: Site Area 3 location plan

Site area 3 lies between the villages of Horningsea to the north, Stow Cum Quy to the east and Fen Ditton to the south east. The A14 extends along the south western boundary of the site and Low Fen Drove Way, an unclassified road and public byway follows parts of the eastern and north eastern boundary of the site area. Beyond Low Fen Drove Way, the open farmland extends to the north east towards and beyond Stow Cum Quy Fen, and to the east, towards Stow Cum Quy village. To the west of site area 3 lies Junction 34 of the A14, a junction intersected by Horningsea Road which extends north, parallel to the western boundary of the site area. Horningsea Road connects Fen Ditton to the south with the village of Horningsea in the north.

The site area itself is open farmland with large arable fields defined by boundary hedges and ditches. The topography is mostly level, at 5-10m AOD, rising towards the west. A dismantled railway, also designated as a County Wildlife Site, crosses the southern end of the site area. Overhead high voltage cables cross the northern section of the site which contains six transmission towers.

The consultation feedback on the site area included:

- Public concerns relating to potential impacts to ecology and biodiversity, Green Belt, the Wicken Fen vision, conservation areas, traffic and access
- National Trust and Cambridge Past, Present and Future (CPPF) concerns over conflict with Wicken Fen vision

- Highways England concerns in relation to site access via A14 junction 34 (Horningsea)
- CPRE, the countryside charity (formerly the Campaign to Protect Rural England) and Local Access forums concerns about protection of Low Fen Drove Way pedestrian access

Table 3 below summarises the assessment results for site area 3.

Table 3: Site Area 3 assessment results

Criteria group	Assessment results
Environmental	Site area relatively low ecological potential, although there is some potential for protected species, site area is in proximity to two SSSIs (Quy Fen and Wilbraham Fen) although risks of adverse impacts are considered to be low, potential direct impact on County Wildlife Site. Potential conflict with Wicken Fen vision area, although biodiversity net gain and other opportunities for enhancement in relation to integration with vision. Significant change to landscape character (higher sensitivity than site areas 1 or 2), visual impacts on residents in Horningsea and Fen Ditton. Impact on setting of Biggin Abbey (Grade II* listed building), potential impact on Fleam Dyke (highways improvements). High archaeological potential across site area and associated infrastructure corridors. Site area 3 is located on an area of outcrop of the Grey Chalk, which is designated as a principal aquifer. However, it is considered that construction of the WWTP and associated infrastructure presents a low risk of impact on the principal aquifer, seepages to overlying superficial deposits or any groundwater abstractions. Lowest whole life carbon emissions of all site areas. Noise and vibration from construction works for site area 1 and the associated infrastructure would not exceed significant adverse effect level thresholds for extended periods at receptor locations. Mitigation is anticipated to reduce the likely air quality impacts to negligible. New WWTP at site area 3 would result in negligible odour impact for all receptors. Therefore, no additional mitigation would be required for odour control.
Community	Potential partial impact on viability of farming business, not expected to result in the inability to operate any of the businesses. Amenity impacts on users of Low Fen Drove Way byway during construction and operation. Impact of operational traffic on users of Low Fen Drove Way byway during construction and operation.

Criteria group	Assessment results
Operational	Best performing for future operational needs & for odour, no additional mitigation required, and distance to highest sensitivity receptors in the prevailing wind direction. Significant potential to contribute to Anglian Water’s strategic ambitions in relation to climate change, biodiversity and sustainability commitments. Better than sites 1 and 2 for carbon commitments. Opportunity for high level of habitat enhancement and links with wider initiatives. With the proposed highway improvement measures put in place it is considered that access from Junction 35 of the A14, the Quy Interchange, via High Ditch Road and Low Fen Drove Way would be capable of accommodating the predicted number of HGV movements.
Planning	Site area 3 provides a good contribution to Green Belt purposes due to the openness of the area and lack of other development. The development of a new WWTP within site area 3 will impact on this contribution. No conflicts with promoted development and therefore greater potential long-term resilience of the new WWTP. The relatively unconstrained characteristics and position of site area 3 between the ‘Eastern Gateway’ urban expansion area of Cambridge and the Wicken Fen vision area present opportunities to deliver significant enhancements to the environment and to the connectivity of this area consistent with a number of the aspirations.
Programme	Development and delivery of environmental enhancements and high-quality design could extend consultation and consenting duration. High archaeological potential and investigation required to determine archaeological risks in relation to highways improvements and potential risk of delays due to presence of Fleam Dyke. It is possible that extensive and long-term monitoring will be required to further investigate the hydrological regime and demonstrate Stow Cum Quy Fen SSSI will not be affected by the new WWTP; this could potentially delay commencement of construction on the site. Need for different access routes for construction and operation and significant highways improvements for operational access present a moderate risk of delay to the start of construction and extension of the construction programme. Shorter length of waste water transfer tunnel allows flexibility in construction programme.
Economic	Lowest capital cost and whole life cost. Lowest land acquisition and compensation costs.

5 Results - comparison of sites

The multi-factor site area comparison is detailed in section 7 of the Stage 4 site selection report. The conclusions of the graphical analysis are shown in Figure 8 below.

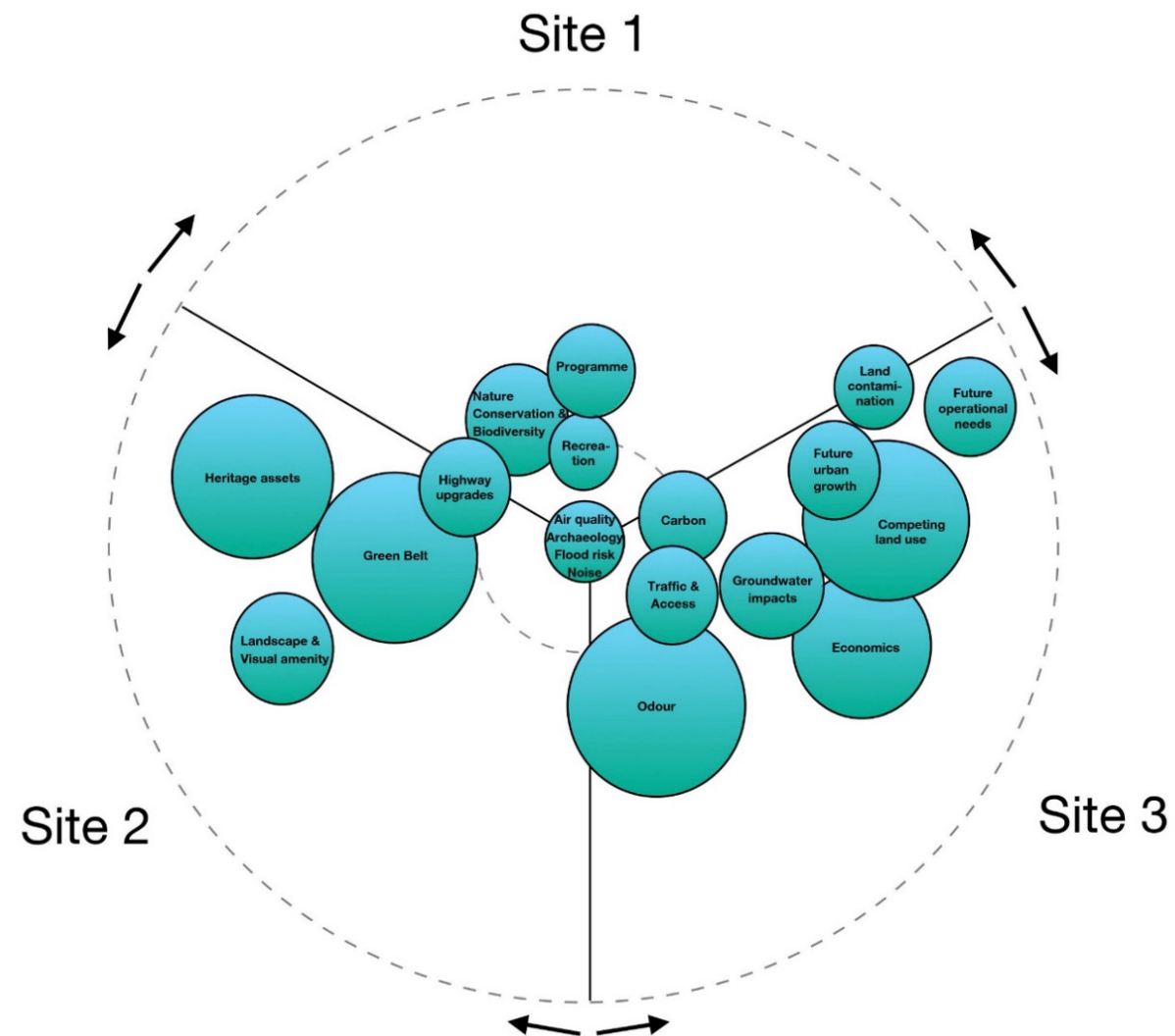


Figure 8: Visual comparison of sites

Overall, the graphical analysis demonstrates that in the majority of assessments, including the most important elements (shown by the largest bubbles), site area 1 performs poorly in comparison with either site area 2 or 3.

Site area 1 is the compromise site in almost all aspects, with the exception of ecology and recreation, although the differences between all sites in these aspects are considered to be relatively minor. Site area 1 has weaker contribution to Green Belt purposes than site 3. However, it is in open landscape in close proximity to Landbeach and Milton and, unlike sites 2 and 3, additional odour control measures would be required to mitigate the risk of odour impact at the nearest high sensitivity receptors. Locating a WWTP at site area 1 would also have a significant impact on the fruit farming business within the site area, potentially resulting in extinguishment of the business and loss of employment which presents a significant socioeconomic impact. Like site 2, there would be traffic impacts during construction and operation at Butt Lane/A10. Therefore, it is considered that site area 1 is not a preferable option.

This leaves the comparison between site areas 2 and 3, which present contrasting strengths and weaknesses for almost all assessments.

Site area 2 makes a lesser contribution to Green Belt purposes than site area 3, in an area more compromised and congested than the other sites and has less risk of impact on heritage assets and the local landscape. However, it is relatively closer to multiple residential areas and carries significant risk of delays to the project programme due to the competing land use with a credible promotion by a strategic landowner (Trinity College Cambridge) which is compatible with growth aspirations for Greater Cambridge for technology related development and the Government's growth prospectus for the OxCam Arc "key economic priority" area.

It also considered that even if the current promotion of the site was not successful, future urban growth and development pressures are likely to affect the long-term resilience of this site for a relocated CWWTP due to the close proximity to the Cambridge urban fringe. Also, opportunities to deliver significant enhancements to the environment and to connectivity (e.g., footpaths) of the area are more restricted compared to site areas 1 and 3. It also represents the highest cost option and risk of increase in land acquisition costs to the extent that they might undermine the viability of the WWTP development.

Site area 3 makes a stronger contribution to Green Belt purposes than site area 2. Potential impacts on heritage assets and the local landscape are also greater. However, it is the best performing for future operational needs and performs equally with site area 2 for odour (no additional mitigation would be required) and distance to highest sensitivity receptors in the prevailing wind direction. It also presents the lowest lifetime carbon emissions and represents the most economic outcome in respect of cost to the taxpayer and the constraints of the Homes England funding. It provides a greater long-term ability to accommodate growth and maintain suitable distance from residential properties, reducing risk of impact on amenity.

However, the potential environmental impacts at site area 3 could be appropriately mitigated and enhancement measures could improve the value of the area in terms of biodiversity and wider landscape and recreational connectivity. Site area 3 also offers a better opportunity to overcome Green Belt harm as a result of these mitigation and enhancement measures. Whereas the potential issues associated with site area 2, in relation to competing land uses and future resilience would be more difficult to overcome.

6. Site selection

It was concluded that, on balance, site 3 represents the best performing site, based both on numbers of criteria and on their relative importance. The site area provides significant opportunities for environmental enhancement, overcoming Green Belt harm. Environmental risks to landscape, biodiversity and heritage assets can be appropriately mitigated, including through the delivery of biodiversity net gain. In contrast, the risks posed by site area 2, in relation to competing land uses and future resilience would be difficult to overcome.

7. Back-checking

A comprehensive back-checking exercise, described at section 8 of the Stage 4 site selection report, considered a wide-variety of stakeholder comments raised in respect of the earlier stages of the site selection process. New information arising since those stages were completed was also reviewed. This process found no reasons to change the site selection results.

8. Conclusion

Balancing all the risks and opportunities the site selection process has concluded that site area 3 represents the best performing site area overall and the greatest opportunity to deliver the WWTP relocation.

Anglian Water has therefore selected site area 3 is to take forward through the environmental impact assessment process to an application for a Development Consent Order. It is considered that site area 3 presents the greatest opportunity to deliver a scheme that includes wider benefits, rather than seeking to solely mitigate negative impacts, contributes to Anglian Water's corporate objectives and most fully addresses the concerns posed by the local community and stakeholders.

8.1 Next steps

Two further phases of consultation will take place, where Anglian Water will be asking for input to help shape and develop the vision for the plant design.

An Environmental Impact Assessment (EIA) will take place and Anglian Water will submit an initial EIA Scoping Report to the Planning Inspectorate (PINS) later this year. Environmental and ecological surveys and ground investigation activities to further understand the chosen site and tunnel/ pipeline corridors will also take place.

Before the Phase Two Consultation on more detailed proposals for the new facility opens later this year, Anglian Water will be forming a series of technical and community working groups to begin to explore these ideas in more detail. This input will help Anglian Water develop the vision for the plant in collaboration with local communities and other stakeholders, before undertaking a wider public consultation on the detail of the proposals.

Anglian Water will undertake a third consultation, after which an application to PINS for a Development Consent Order (DCO) will be submitted. This will include a full Environmental Statement, showing how we will mitigate any potential impacts on the local community and environment.

8.2 Further information

Further documents relating to the site selection process can be found on the project website, www.cwwtpr.com. These include:

- CWWTPR – Carbon Assessment – Waste Water Transfer Infrastructure
- CWWTPR – Initial Options Appraisal Report
- CWWTPR – Stage 1 Initial Site Selection – Appendix A Drawings
- CWWTPR – Stage 1 Initial Site Selection – Report
- CWWTPR – Stage 2 Coarse Screening – Appendix A Drawings
- CWWTPR – Stage 2 Coarse Screening – Report
- CWWTPR – Stage 3 Fine Screening – Appendix A Drawings
- CWWTPR – Stage 3 Fine Screening – Appendix C Landscape and Visual Amenity Appraisal
- CWWTPR – Stage 3 Fine Screening – Appendix D Nature Conservation and Biodiversity Appraisal
- CWWTPR – Stage 3 Fine Screening – Appendix E Historic Environment Appraisal
- CWWTPR – Stage 3 Fine Screening – Appendix F Contaminated Land Appraisal
- CWWTPR – Site area 2 options OS map correction (17.07.2020).
- CWWTPR – Stage 3 Fine Screening – Report
- CWWTPR – Stage 4 – Final Site Selection Report and Appendices



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



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



Writing to us at **Freepost: CWWTPR**



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