

# **Summary report on the feasibility of relocating Milton Wastewater Treatment Works**

Report commissioned by Cambridgeshire Horizons on behalf of the Local  
Authority Partners for the Northern Fringe (East)

**anglianwater**

Cambridgeshire  
**Horizons**  
driving forward sustainable communities

The logo for Cambridgeshire Horizons features a stylized sun or starburst composed of multiple colored lines radiating from a central point, positioned above the text.

## **Introduction**

This report is a summary of the work carried out by Anglian Water in response to a commission by Cambridgeshire Horizons on behalf of the local authority partners to investigate the feasibility of relocating the Wastewater Treatment Works (WwTW) at Milton, Cambridge. This work has been funded by Growth Area Grant through Cambridgeshire Horizons and forms part of the work carried out by the local authority partners and stakeholders seeking to regenerate the Northern Fringe (East) site to contribute to the future housing needs of the Cambridge Sub Region.

The WwTW is located in the area of Cambridge known as the Cambridge Northern Fringe (East) (CNF(E)). The site is identified in the Cambridgeshire and Peterborough Structure Plan (adopted October 2003) as a key site for sustainable development. The Local Planning Authorities (Cambridge City Council and South Cambridgeshire District Council) have identified the CNF(E) area for future housing and other development in their respective emerging local plan / local development framework. The CNF(E) area is made up of several parcels of land owned the City Council, Network Rail, a private property investor and Anglian Water. Anglian Water's wastewater treatment works occupies approximately half of the CNF(E) area and has been operating on the site for over 100 years.

The site represents one of the most important regeneration and development opportunities for sustainable growth in the Sub-region. Previous studies have looked at the redevelopment of the area for different uses. In 2002, a steering group was set up under the auspices of the County Council, Cambridge City and South Cambridgeshire Joint Strategic Forum to oversee planning work for the area. The Steering Group includes representation from Cambridge City Council, South Cambridgeshire District Council, Cambridgeshire County Council, together with major landowner interests, including Anglian Water and Network Rail. Cambridgeshire Horizons were invited to join the group in 2004. The aim of the Steering Group was to develop a framework for the redevelopment of the CNF(E). This process required the potential to relocate the WwTW to be investigated, as its presence is fundamental to the future of the area.

## **Anglian Water's Involvement**

Anglian Water is committed to looking at the future of the CNF(E) area as part of its stated aim to contribute to the health and well-being of communities as part of its social responsibility.

At present the Milton WwTW is compliant with all regulatory requirements and has capacity to treat wastewater in the medium term. In the longer term there is sufficient space to expand on the site. So it is true to say there are no business or regulatory drivers for relocating the WwTW from a narrow water industry perspective. It is the wider social perspective that Anglian Water has sought to address and understand more completely via the completed study.

The relocation of the WwTW would be a significant project for Anglian Water. The existing WwTW serves around 200,000 people and is a vital piece of infrastructure for the Cambridge area. It is unusual to consider the relocation of an asset of this size and Anglian Water has to be sure that all the operational, financial and other risks of such a project have been identified and can be managed. Only then could Anglian Water commit to such a project, in the knowledge that its customers' and shareholders' interests are protected.

Work undertaken on behalf of the Steering Group had given a preliminary view of the financial viability of redeveloping the CNF(E) area. However more detailed information, particularly in relation to the relocation of the WwTW, was required to give a greater degree of certainty to the results. Put very simply, the cost of relocating the WwTW and any increased operational costs would have to be paid from the value of the land released. This, and the fact that

## **Cambridgeshire Horizons and Anglian Water Services**

### **Summary report on the feasibility of relocating Milton Wastewater Treatment Works**

---

Anglian Water could not pass on any financial risk to its customers, are fundamental considerations for Anglian Water.

#### **Work undertaken for this study**

The work has been managed by a Project Team comprising representatives of Anglian Water and Cambridgeshire Horizons (on behalf of the local partners). Progress reports have been made to the Northern Fringe steering group.

Cambridgeshire Horizons has assisted with the need to gather more detailed information, leading to the commissioning of reports covering the following areas.

- The cost of relocating the existing WwTW. This was prepared by Montgomery Watson Harza, a firm of consulting engineers with considerable experience in the water industry.
- The financial and risk issues faced by Anglian Water from such a project. This report was prepared by Deloitte, the management consultancy, using their multi-disciplinary team and their experience of the water industry.

Montgomery Watson Harza was asked to provide an estimated cost of relocating the existing WwTW. This involved:

- an analysis of the existing WwTW and the network serving it;
- a preliminary design for a new wastewater treatment works and infrastructure needed to transfer wastewater to any new location and the discharge of treated effluent back to the river network;
- an estimated cost of the new wastewater treatment works with a tolerance of  $\pm 15\%$ ;
- an estimate of the operating costs of the new wastewater treatment works;
- identification of the risks involved and their likely probability and cost;
- a preliminary timetable for the approvals, construction and commissioning processes; and,
- advice on the possible procurement options for the new wastewater treatment works.

No specific assumptions have been made regarding the location of an alternative site. Costs may vary depending on the location and ground conditions relating to the site, which is reflected in the cost range.

The main findings of the work are as follows.

- The estimated cost of the new wastewater treatment works is between £129 million and £161 million. This range covers different treatment capacities and various risk items. This estimate is subject to a tolerance of  $\pm 15\%$  due to the desktop nature of the work.
- The estimated increase in operational costs of the new wastewater treatment works is £1.2 million per year. This additional expense results from the extra pumping cost incurred in transferring wastewater from the existing site, maintenance costs of the tunnel and power costs involved with modern treatment processes.
- The transfer of wastewater flows from the existing site to any new location would require the construction of a tunnel, which in itself, would be a significant civil engineering project. An estimate of cost of the tunnel is included in the cost range given above.
- The main risks identified were:
  - unforeseen ground conditions and design requirements;
  - onerous planning conditions relating to the project; and,
  - unforeseen environmental constraints.

## **Cambridgeshire Horizons and Anglian Water Services Summary report on the feasibility of relocating Milton Wastewater Treatment Works**

---

- The project would take around 7 years to complete (subject to planning permission being granted for a new site) comprising 3 years design, planning and procurement and 4 years construction, demolition and commissioning.

The results of the work carried out by Montgomery Watson Harza gave more certainty to the information required on the likely costs and issues of relocating the existing Wastewater Treatment Works. This, and other information provided by Anglian Water, was then used by Deloitte in considering the business issues surrounding the project. These can be summarised as follows:

- the regulatory implications to Anglian Water;
- the tax treatment for the project; and,
- lending and other financial issues.

To understand these areas and their interaction, Deloitte prepared a detailed financial model, bringing together all the anticipated costs and receipts over the lifetime of the project to arrive at a net present value of the project to Anglian Water. The preparation of this model included detailed discussions with Anglian Water's own staff with specialists within Deloitte. This work was undertaken in a tight timetable and so provides an overview of the issues rather than a detailed analysis. Deloitte's work was focused on giving Anglian Water's Board information on which to make a decision about the Company's role within the project in the future. This work included information that has been made available to the Project Team, but is commercially confidential and therefore cannot be reported in detail.

### **A summary of Deloitte's findings**

Deloitte concluded that there was a substantial gap between the proceeds likely to be received by Anglian Water from the sale of its land and the costs of relocating the WwTW. The principal reasons for this gap were:

- the significant cost of relocating the WwTW;
- the cost of decommissioning the existing WwTW;
- the relatively low value released from Anglian Water's land using planning assumptions in line with the adopted Local Plan, for example:
  - 2,856 residential units over 44 hectares;
  - 1,0880,000 square feet of commercial development over 6.9 hectares;
  - 25% affordable housing; and,
  - other planning obligations.

To establish a base case scenario, Deloitte modelled a sale and purchase land transaction for Anglian Water's involvement in the project. This would see the construction of a new wastewater treatment works by Anglian Water before the sale of its land at Milton. The result of this modelling gave an estimated net present value of -£112 million. This means that, if Anglian Water were to be part of the redevelopment of the CNF(E) within the current planning assumptions and without external funding, and used this kind of transaction, it would lose £112m.

It would be unrealistic to expect a commercial company to undertake a transaction of this nature. In addition, due to its regulatory status, Anglian Water is unable to take on the financial and operational risks involved with this kind of transaction structure.

In view of Anglian Water's regulatory constraints, Deloitte went on to model a transaction structure where a purchaser of Anglian Water's land at Milton would fund the construction of a replacement facility and its additional operating costs. The result from the modelling of this capital contributions approach gave a net present value of -£98m. Whilst this is also not an acceptable financial position for a commercial company, it does show an improved position that, together with the suggested areas of improvement detailed below, might allow the project to approach financial viability.

## Cambridgeshire Horizons and Anglian Water Services Summary report on the feasibility of relocating Milton Wastewater Treatment Works

---

The modelling incorporates prudent assumptions, but it should be noted that the funding gap could widen further by an increase in the cost of relocating the new wastewater treatment works or by the inclusion of certain infrastructure items which have been specifically excluded from the cash flows, such as highway improvements on the A14 and relocation of overhead power cables.

### Ways to help with the financial viability of the project

Deloitte identified several areas which could help to reduce the financial gap for the project. The following is a summary of the areas identified and how these can be carried forward.

- 1. Change the planning assumptions** – the draft master plan document prepared for the Steering Group by Llewelyn Davies assumes that a certain density of development will be permitted and that a certain ratio of affordable housing will be required. These assumptions are based on the City Local Plan adopted in February 2004.

An increase in the assumed density of the residential development by 10 units per hectare would increase the value of development by £45 million (this figure has not been discounted to a present value). A relatively small change in the mix of the development permitted on the site will have a significant impact on the value of the land. As an example, Deloitte's analysis shows that a 20% increase in the size of the commercial development, together with an increase in the rent achieved of £5 per square foot, could increase the value of development by £146 million (this figure also has not been discounted to a present value).

This is an important area that needs to be discussed with the Local Planning Authority and further work undertaken to explore ways in which a more commercially viable development could be secured.

CNF(E) is an important site within the Cambridge Sub-region and so its release is an important issue. The presence of the WwTW means that it would be very difficult to develop the rest of the site in isolation and would provide around less than one fifth of the total possible residential units

Discussions, led by the public sector stakeholders, should take place with the local planning authorities at the earliest opportunity to explore the planning assumptions for the project. Cambridgeshire Horizons may have a role to play to facilitate this work.

- 2. Reduce the engineering costs of relocating the works** – as part of its best practice engineering and procurement techniques, Anglian Water will review and challenge the cost estimates. This work can only be undertaken once a suitable site, allocated by the Local Waste and Minerals Plan processes (see next section).
- 3. Explore the possibility of securing a grant for this regeneration project** – it is possible that securing grant funding could further enhance the feasibility of the project.

Deloitte have reported that, although a straightforward grant is unlikely to be forthcoming from the various regional grant-making bodies, funding may be obtainable from Government. However, all avenues need to be explored. To secure central funding, Government would need to be convinced of the benefits of seeing the project come to fruition.

For any project to be considered by Government, it must have very strong backing, including, in growth areas, the local delivery vehicle and other public sector bodies. If this support is forthcoming, the partners and stakeholders should then work together to prepare a detailed case highlighting the benefits of the project.

### **Other significant issues**

Another significant issue to be resolved is the identification of a suitable site for the new WwTW. Via the statutory Local Waste and Minerals Plan process, a site with appropriate approvals in place, would have to be identified. This process would determine the speed at which the project could progress if the other constraints had been addressed.

### **Conclusion**

The Deloitte report has provided a greater level of clarity on the challenges and opportunities associated with this project. It has been reported to the Anglian Water Board, which has stated that it wishes to continue to be involved with the project to help make the project financially viable. Anglian Water's commercial, operational and regulatory constraints have to be addressed in demonstrating that the relocation of the WwTW represents a sound business proposition.

The project has the potential to deliver a substantial contribution to the sub regional housing needs and provide sustainable regeneration of the site. However, further work is required to move the project forward.