A New Generation

John Jackson of Atkins Consultants and **Jan Taylor** of Cambridgeshire County Council outline plans for a new generation of recycling centres in the county

We live in interesting times; Cambridgeshire County Council is finding this to be particularly true. In response to growth in population and housing, together with the expiry of planning permission on six of the county's civic amenity sites, Cambridgeshire has concluded that a new generation of recycling centres is needed for a new generation of recycylers.

The county waste strategy specifies that all new recycling centres should be under cover and easily accessible to residents so, by definition, they need to be much more acceptable to the local community than the existing open sites. Atkins was appointed to work with the Council to meet these challenges.

In 2005 Atkins was asked to examine the County Council's existing recycling centres in order to identify a means of optimising operational efficiency and to highlight potential opportunities for infrastructure improvements, such as site layout and traffic management. Waste data modelling, undertaken as part of this study, highlighted the potential risks associated with the household waste growth that could transpire if all the new housing planned for the region was finally developed. Recognising that the growth could significantly compromise the ability of the existing infrastructure to operate efficiently, the County Council began to develop a strategic approach to future-proofing its network of sites.

The optimisation study had established that, even with an improvement strategy, further sites would still be needed so, consequently, early in 2007 Atkins developed a geospatial model that used customer drive times, catchment areas and projected waste arisings to determine potential locations for new recycling centres. The model allowed a number of broad locations, or "zones" to be identified, which were then closely scrutinised in order to identify potentially suitable sites. These were subsequently ranked and short-listed in terms of their "outline" suitability.

The St Neots Site

A KEY site was St Neots, flagged up for replacement more than 10 years ago. An industrial estate site, with an existing building, was identified and Atkins was again appointed to look into the feasibility of adapting the existing building for use as an undercover recycling centre. A number of concept designs were produced, as well as a planning appraisal and an outline cost plan, which demonstrated that it was technically possible to develop the site as a recycling centre within the defined budget.

Cambridgeshire County Council's recycling centre strategy sets out, among other things, the main design features to be incorporated in the new generation facilities. Under the requirements of the *Location and Design of Major Waste Management Facilities SPD*, one of the required design features is the need for them to be under cover. Atkins has designed more than 70 civic amenity sites and transfer stations, many of which (including the award-wining Middlefield's recycling village in South Tyneside) have been enclosed or featured some type of canopy to protect users and operatives from the weather.

The challenge at St Neots was that a large steel clad industrial building covered the majority of the site. The Atkins concept design discounted demolition; alternatively the solution proposed by Atkins involved the refurbishment of the existing building. Ultimately the client's vision of a new generation split-level, under cover, ergonomic recycling centre was realised by housing the site within the existing building. Atkins thinks that this type of solution for civic amenity sites, especially modern split level ones, is relatively innovative and offers a tangible alternative for local authorities that are struggling to find suitable sites.

Above: the site as it stood before redevelopment
Left: what the entire site might look like when construction is completed later this year

> *...the client's vision of a new generation split-level, under cover, ergonomic recycling centre was realised*

Subsequently, the County Council secured the site and the St Neots Recycling Centre project began in earnest in summer 2007. A programme for the scheme was drawn up with intrusive investigations beginning immediately. It became apparent fairly quickly that the findings and advice contained within the initial feasibility study had been extremely accurate. The early advice given to the County Council meant there were no nasty surprises; in fact, the planning application, also prepared by Atkins, was granted relatively painlessly with no delays to the programme. This success was largely due to early and ongoing engagement with planners and other stakeholders, including a public drop-in day, press releases and numerous meetings with the local business community.

Atkins is project managing the St Neots Recycling Centre scheme from inception through to final build and continues to work in close partnership with Cambridgeshire County Council. Detailed design is complete, the construction phase is well underway and the project is on schedule to be completed in September.

Setting The Standard

THE COUNTY Council sees St Neots as one of the first in its network of new generation sites and it will set the minimum standard for future schemes. The project will feature maximum re-use and recycling of construction materials, renewable energy, a ventilation system that doubles as a smoke extractor in the event of fire, a sympathetic landscaping scheme (including a pond) and a safe, user-friendly one way system.

As much of the excavated material as possible will be used as engineering fill in the raised area within the building. Where possible the existing pavements will remain and be overlaid with a bituminous layer and the existing drainage system is being incorporated, where possible. In fact, the overriding philosophy is to re-use and refurbish as much of the existing building as possible, and to minimise waste to landfill.

The site is brownfield, which obviously brings significant environmental benefits over other locations, and it is also a good example of how existing buildings can be reused. The benefits of this were explained within the planning application and undoubtedly influenced its favourable determination.

The design maximises the use of natural light in the facility, whilst the solar water heating will feed both the staff welfare facilities and the education centre. The site also features a landscaping and biodiversity scheme that is intended to ensure that the project contributes to the aims and objectives of the Cambridgeshire Biodiversity Action Plan.

Atkins is fortunate to be working with a forward thinking local authority that can see the benefit of effectively designed civic amenity sites and the valuable part they can play in diverting waste from landfill and segregating recyclable materials. CIWM

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