



To: Executive Councillor for Environment
Report by: Chloe Hipwood
Relevant scrutiny Environment 26th June 2012
committee: Scrutiny
Committee
Wards affected: Castle (and Girton Parish – South Cambridgeshire)

Waste Strategy Proposals for the Cambridge North West Development Key

1. Executive summary

1.1 In September 2011 the University of Cambridge submitted outline planning applications to Cambridge City and South Cambridgeshire District Councils for a mixed-use extension to the north-west of Cambridge. The waste management strategy for this site proposes the use of underground banks for the collection of waste and recycling from residential premises.

1.2 The proposal for underground bins represents a departure from the conventional waste collection methods used currently by Cambridge City Council and South Cambridgeshire District Council. The current proposals contained within this report have been developed in conjunction with the authorities through a series of joint task group meetings between the University, South Cambridgeshire District Council and Cambridge City Council from 2009 to 2012.

1.3 The scheme has been selected based on the desire to minimise the visual impact of waste collection infrastructure on the proposed development, and meets the requirements of the Area Action Plan to incorporate innovative waste strategies.

1.4 It is anticipated that the scheme will provide both South Cambridgeshire District Council and Cambridge City Council with an innovative yet practical waste management solution maintaining the potential for recycling and allowing scope for future change within the restrictions of an underground scheme.

1.5 This report focuses solely on the waste management strategy and does not form part of the planning approval process.

2. Recommendations

The Executive Councillor is recommended:

- 2.1 To agree the principle of the use of an underground banks collection system for the Cambridge North West development for all residents across both South Cambridgeshire and Cambridge City districts.
- 2.2 To agree to delegate authority to the Head of Refuse and Environment the development of an Inter Authority Agreement between Cambridge City Council and South Cambridgeshire District Council, that the City Council will undertake waste and recycling collections across the entire Cambridge North West development including those areas within the South Cambridgeshire District Council administrative boundary for agreement by the Executive Councillors of both districts.
- 2.3 To delegate authority to the Head of Refuse & Environment to comment upon the final waste strategy in conjunction with South Cambridgeshire District Council and submit them to JDCC for consideration.
- 2.4 To delegate authority to the Head of Refuse & Environment to finalise, in conjunction with South Cambridgeshire District Council, the 'above baseline' costs of service delivery, which will be recovered from the developer through a Section 106 agreement for agreement by the Executive Councillors of both districts.

3. Background

3.1 Strategic Context

3.1.1 In September 2011 the University of Cambridge submitted outline planning applications to Cambridge City and South Cambridgeshire District Councils for a mixed-use extension to the north-west of Cambridge, known as the 'Land Between Huntingdon Road and Madingley Road' or the 'University site'. The site crosses over the administrative boundary between the two authorities, being split on almost 50/50 basis geographically between each Council.

3.1.2 The scheme comprises up to 3,000 dwellings (of which 1,500 are to be key worker units), 2,000 student bed spaces, 100,000sqm of employment floor space (of which at least 60,000sqm will be academic employment space), senior living accommodation, a primary school, open space, recreational facilities, and a local centre which includes retail and

community facilities, a hotel, police and health facilities, and an energy centre. As part of that proposal, the University have proposed a non-standard waste collection scheme for residential facilities utilising a network of underground bins.

3.2 North-West Cambridge Area Action Plan

3.2.1 The University site was proposed as an area to be released from the Green Belt through the review of the 2003 Cambridgeshire and Peterborough Structure Plan, and is allocated for predominately Cambridge University related uses in the Cambridge Local Plan, adopted in 2006. The policy required that the land was only to be released from the Green Belt in order to meet University needs, given the importance of the University locally, nationally and internationally.

3.2.2 The North-West Cambridge Area Action Plan (NWCAAP) was subsequently prepared jointly by South Cambridgeshire District Council and Cambridge City Council, working with Cambridgeshire County Council, to build upon the Local Plan allocation, and was adopted in 2009.

3.2.3 The NWCAAP established a footprint for the development and set the development principles, including aspirations for meeting exemplar sustainability standards, including the promotion of waste reduction and the use of well-designed integrated refuse and recycling systems.

3.2.4 In response to the NWCAAP, and subsequent task groups that were established to inform the design of the proposals, the University has proposed an underground waste collection system.

3.3 Residential Waste Management Proposal

3.3.1 Both Councils are committed to ensuring the same waste types can be recycled on the Cambridge North West development; as are provided within either the South Cambridgeshire district or Cambridge City district.

3.3.2 A feasibility study was undertaken by AECOM a consultancy company employed by the University of Cambridge. Details of this study can be found in the Sustainable Resource and Waste Management Strategy on the planning portal. There are a number of reasons why traditional surface collection methods may not be the most appropriate for this site which has led to the development of an underground bins proposal. Surface bins, especially when multiple bins are required for separate waste streams, can be visually intrusive, and require somewhere to be stored. The storage requirements and the need for manhandling mean that the size of the bins is also limited. For communal bins, this means that multiple bins are necessary to maintain a reasonable collection periodicity. For individual

dwellings, separation of waste means that some 240 litre or 140L bins may be too large, resulting in overcapacity and potentially encouraging rather than discouraging waste generation, but a set for each dwelling is still required.

3.3.3 Underground bins can remove two of these disadvantages by enabling a large volume of waste to be stored in a single container, whilst keeping it out of sight. They originate from the continent where the prevalence of flats instead of houses means that communal bin systems are more common.

3.3.4 The use of underground banks can provide an innovative solution to waste collections and developers are encouraged to consider underground banks in section 5.2 of the RECAP Waste Management Design Guide Supplementary Planning Document. The City Council 'Household Waste and Recycling Strategy' approved in March 2011 also acknowledges the merits of underground systems.

3.3.5 The basic system comprises a concrete bunker set in the ground, a bin-liner or container which holds the waste and is located in the bunker, and a surface entry point or input bin (which often looks like a normal street bin) mounted on a section of paving or platform. All that is visible at street level is the input bin, and the special paving section or platform which covers the main underground receptacle.

3.3.6 The picture below shows two underground units currently being used for flats in Peterborough.



3.3.7 The storage volumes are typically between 3,000 and 5,000 litres which mean that fewer bins are required and / or a larger period between collections is adequate. Collection of the bins requires a waste collection vehicle equipped with a crane which can remove the container from the bunker the Council does not currently operate a vehicle of this type.

3.3.8 An example of the emptying operation is shown below.



3.3.9 The proposal for this development is for approximately 155 sites across the development containing three underground banks which will service approximately 3000 homes from flats to detached houses. 90% of houses and flats will be within 30m of a site and residents will walk to their nearest site to deposit their waste.

3.3.10 The proposed waste streams for the banks is a variation from current collection arrangements in Cambridge City and will include an underground unit for dry recycling, one for paper and one for residual waste including food.

3.3.11 Collection schedules for the underground banks are anticipated to be fortnightly for residual waste and commingled recycling and up to every 6 weeks for paper. It is proposed that the system will include an automated fill detection system to ensure optimum emptying frequencies are maintained.

3.3.12 The sustainability aspirations for the site will emphasise the importance of home composting. Home composting facilities will be provided to all households with a garden enabling the home composting of grass clippings, hedge trimmings, dead plants, cut flowers and some food waste such as egg shells, tea bags, coffee grounds, fruit and vegetable peelings.

3.3.13 Due to potential difficulties with larger items of garden waste in underground banks; an additional community composting scheme is also proposed, which will enable residents to bring any additional garden waste

to a central location. The full details of this element of the scheme are yet to be determined however it is proposed that an in-vessel composting unit will be provided onsite to enable the onsite production of compost. Residents would have access to the facility at certain controlled times the full details of which are still in discussion with the University.

3.3.14 In-vessel composting is already proposed to manage the catering waste from the school and green waste from communal parks and gardens. This is subject to appropriate permitting by the Environment Agency.

3.3.15 We do not currently have vehicles within the fleet capable of undertaking underground bank collections. It will therefore be necessary to procure a bespoke vehicle.

3.3.16 Current growth predications in the City indicate that new vehicle capacity would be required for this development regardless of the collection type once the development is completed. The bespoke vehicle requirement will therefore bring forward procurement requirements. Amendments to the Medium Term Strategy are required to reflect this change in growth requirement. A growth related report will be also be submitted to Asset Management Group and a further committee report brought forward requesting funding for a vehicle, this is a necessary requirement for the growth of the city.

3.4 Bring Site Provision

3.4.1 One Bring Site (Recycling Point) is required for every 800 properties. Due to the scale of the development provision will also be made for 4 Bring Sites these are also likely to be underground systems and will provide capacity for additional materials to those collected at the kerbside underground banks. Examples of waste streams likely to be provided are WEEE (Waste Electrical and Electronic Equipment), textiles and media (books, CD's and DVD's) There are currently no proposed Section 106 contributions for these sites as they will be owned and maintained by the developer. The collection costs are offset by the material value for most waste streams however additional costs may be incurred for the collection of certain waste streams. For example Waste Electrical Electronic Equipment (WEEE) which incurs a small annual cost.

3.5 Student Accommodation/ Research Units

3.5.1 In addition to residential houses and flats there will also be student rooms and commercial/ research units. Proposals are currently being considered for student rooms to all be serviced by underground bank units

however the commercial and research units are more likely have more traditional collection methods due to specific requirements.

3.6 A commitment is required from members to support the continued use of underground bank collections beyond the initial 25 year proposal to ensure stability of the site and that any proposed changes to services at the site will be discussed in conjunction with the University of Cambridge.

4. Implications

4.1 Financial Implications

4.1.1 There are both capital and revenue implications for this project. It is proposed that the ownership of the units once operational will fall to the Council.

4.1.2 The baseline collection service costs are shown in the table below, based on the 2013/14 budget this includes costs incurred by the developer (University) for bins and bin storage compounds and collection and repair and maintenance costs incurred by the Councils in providing our standard three bin collection service.

Baseline	Cost to University	District Cost (2012/13)
Capital (excl. vehicles)	£5,198,000	
Annual Collection		£118,800
Annual container/store maintenance	£17,690	
Annual container R & R		£18,000
Total costs over 25 years	£5,640,250	£3,420,000
Net annual cost	£225,610	£136,800

4.1.3 The baseline costs are those costs we would anticipate due to growth for the size of the development receiving a standard three bin service.

4.1.4 A full procurement exercise will be required to determine the exact costs for an underground collection system both in terms of capital for the University and in Revenue and Capital for the Council.

4.1.5 Section 106 discussions are currently in progress to determine a suitable recompense by the University of Cambridge for ongoing extra

collection and maintenance costs. It is anticipated that the service provided for this development should incur no cost above the baseline for South Cambridgeshire District Council and Cambridge City Council. Work will be done during the due diligence process to confirm this, however it must be agreed to continue with the underground bin scheme beyond the initial life of the system to ensure stability in collection mechanisms for the site and prevent wheeled bins being introduced to a site which has not been designed for wheeled bin collections.

4.1.6 It is anticipated that the initial additional capital cost of the new vehicle will be met by Section 106 contributions, as a one off payment. This one off payment will also seek to cover the additional costs associated with bringing forward the procurement of additional refuse vehicle capacity for development at this site which can not be supported by the existing fleet due to the difference in collection arrangements. The possibility of vehicle hire has been considered but due to the bespoke requirements for the site it is unlikely a suitable vehicle will be available for hire. We will continue to seek the best value option for the councils.

4.1.7 Permission will be sort in a future committee report to undertake the necessary procurement exercise in liaison with the University of Cambridge to ensure delivery in advance of the first occupancy. It is however necessary to acknowledge and commit at this stage to this future procurement and Capital requirement. Any additional revenue requirement to cover the additional maintenance and operational costs of the scheme will also be recompensed, the details of which are yet to be confirmed, however it is anticipated that the cost of additional underground bank maintenance, underground bank R & R and maintenance on fill monitoring equipment will be in excess of Cambridge City Council and South Cambridgeshire District Council baseline costs. Discussions will continue with the University of Cambridge and the Executive Councillor.

4.1.8 The separation of paper into a separate underground bank will bring additional income to the Council to also offset these additional costs. Based on an estimation of 92kg paper recycled separately by each household this will return an estimated £22,000 annually based on 'Lets Recycle' income figures averaging £80/tonne, this will offset some of the additional maintenance costs incurred by this collection method supporting the long term viability of this collection method on site.

4.1.8 The vehicle required for underground bank collection is anticipated to be a higher cost than a standard refuse collection vehicle we therefore propose in addition to the request for Capital funding to cover a standard RCV (typically £145,000) at a later committee; to request additional funding through Section 106 from the developer to cover this additional cost and

offsetting the cost of providing additional vehicle capacity in advance of those outlined in the MTS.

4.1.9 It has been advised to insure the underground banks and above ground receptacles against all risks, which will be an additional cost to the Council. This is due to the significantly higher costs of repairs for damage to any unit. If banks are not insured an additional revenue sum will be required to ensure the banks can be kept in good working order to prevent any disruption to services which may result from damage. These costs will be addressed and considered further in the due diligence process and S106 discussions.

4.2 Staffing Implications

4.2.1 Additional staffing will be required to service this development; this is anticipated to be inline with baseline growth predictions or less.

4.2.2 There is a proposal for the vehicle operation to be one person which deviates from current health and safety practices. This option will be fully assessed and considered in liaison with our in house Health and Safety Team and the Unions.

4.3 Equal Opportunities Implications

4.3.1 As with any communal bin scheme, it is important that the bins are located within an acceptable distance of the dwellings, and the proposals here are based on 90% of homes being within a distance of 30m from bin stores, and all homes being within 35m, This is in line with the Code for Sustainable Homes, but requires a small degree of flexibility with Building Regulations Part H, and the Cambridgeshire and Peterborough RECAP design guide supplementary planning document.

4.3.2 In higher density areas, underground bins are a direct replacement for the alternative bin compounds with similar operation for residents. In the mid density and low density areas, underground bins provide significant visual impact benefits though the removal of intrusive wheelie bin storage and the removal of pavement obstructions on collection day. Therefore the underground scheme is proposed for all residential areas providing a single consistent waste collection method for all residents.

4.3.3 The use of communal collection systems can pose an issue for those who are elderly or infirm and require assisted collections. The analysis in the report produced by the University consultants AECOM demonstrates that the numbers of homes requiring assisted collection is likely to be low at around 44 homes in total out of 3,000. Underground collection is simpler for

the elderly and infirm to operate, removing the need for manoeuvring heavy wheelie bins and instead requiring the carrying of small waste bags.

4.3.4 Therefore the need for assisted collection is likely to be reduced. However for those still requiring assisted collection, a number of options are proposed and are currently being considered.

4.3.5 The proposed scheme enables residents in this new proposed development the same opportunity to dispose of waste types despite the proposed differences in the split of the waste streams. Additional council services such as special collections of bulky waste will still be available and options for battery collections will be considered and confirmed in future discussions with the University of Cambridge.

4.4 Environmental Implications

4.4.1 The University of Cambridge has a whole site vision for sustainability.

4.4.2 This proposal is anticipated to give the following carbon impacts:-

Table 1: Carbon Emissions	Is Impact + , - or Nil?	Is Impact High, Medium or Low?	Comments
1. Reduce the City Council's energy consumption	-	Low	Additional vehicle is a requirement due to growth.
2. Reduce energy consumption by others in Cambridge	Nil		
3. Increase the proportion of the City Council's energy consumption from solar, wind, biomass or other renewable sources	Nil		
4. Increase the proportion of energy consumption by others in Cambridge from solar, wind, biomass or other renewable sources	Nil		
5. Reduce the level of motor vehicle traffic by City Council staff commuting or operations	+	Low	It is anticipated this would be a reduction on the baseline

Table 1: Carbon Emissions	Is Impact + , - or Nil?	Is Impact High, Medium or Low?	Comments
			required vehicle movements for this site and a reduction in stop/start vehicle operations
6. Reduce the level of motor-vehicle traffic by others in Cambridge		Low	Some items of garden waste which may have previously been disposed of in a green bin may be disposed of at a community site accessible by car. This would however reduce the impact of bulky garden waste which may have been taken to an HWRC.
7. Increase the proportion of the City Council's vehicles powered by biofuel, electricity, LPG or other low-carbon fuels	Nil		All fleet vehicles are powered by a 5% biodiesel mix.
8. Increase the proportion of other vehicles in Cambridge powered by biofuel, electricity, LPG or other low-carbon fuels	Nil		
9. Reduce the amount or increase the level of recycling of the City Council's own waste	Nil		
10. Reduce the amount of waste or increase the level of recycling by others in Cambridge	+		Increased home composting leading to a decrease in waste arisings for this site.

4.4.3 There will be additional benefits from an increase in home composting which reduces waste arisings and necessary vehicle movements in association with the transport of kerbside collections of garden waste.

4.4.4 It is likely that fewer vehicle movements will be required on site than from the baseline waste collection service and a reduction in 'stop/start' operations will also mean the air pollution impact will be reduced.

4.4.6 It is also anticipated that the use of underground banks where communal compounds would have been provided at flats will also lead to a reduction in fly tipping and litter.

4.5 Consultation

4.5.1 As part of the planning application processes, extensive consultation and publicity has been undertaken.

4.5.2 In addition to standard planning consultation letters, statutory press notices and the display of site notices, an extensive series of public meetings/workshops and exhibitions have been convened leading up to and following the submission of the applications.

4.5.3 Energy and Waste Task group meetings took place in September and October 2009, March, April, May, June, July and September 2010, and May 2011 to specifically discuss the waste and energy implications and proposals for the scheme.

4.5.4 Individual briefings, addressing the whole North-West Cambridge Development, were undertaken with the following elected members between October 2009 and March 2011:

- Cllr Tom Bygott – South Cambridgeshire District Council
- Cllr Douglas de Lacey – South Cambridgeshire District Council
- Cllr John Reynolds – Cambridgeshire County Council
- Cllr Belinda Brooks-Gordon – Cambridgeshire County Council
- Cllr John Hipkin – Cambridge City Council
- Cllr Simon Kightley – Cambridge City Council
- Cllr Tanya Zmura – Cambridge City Council
- Cllr Philip Tucker – Cambridge City Council

4.5.5 In addition to the above, wider community engagement has included a number of site-specific public exhibitions held between January 2005 and July 2010, alongside various meetings that the University of Cambridge have undertaken with Parish Councils, residents associations, student groups and faith groups between November 2009 and April 2011. Throughout the pre-application process a dedicated website was available

informing the community of consultation events and hosted relevant material and news regarding the scheme. Further to the site specific briefings, the Councils' North West Forum has provided a platform for public engagement as the scheme has been progressed.

4.5.6 Following the submission of the planning applications, two further public consultation events were organised (15th and 20th October) by Cambridge City Council and South Cambridgeshire District Council to present the applications and provide the opportunity for questions. Approximately 300 people attended these events.

4.5.7 The Head of Refuse and Environment has also undertaken briefings with the Executive Councillor to inform of the discussions with the developer and the proposed way forward.

4.6 Community Safety

4.6.1 The underground bins are likely to be operated by a fob which should prevent unauthorised access. The input units are constructed to prevent access to the underground banks other than by 'posting' waste and will be too small for children to gain access.

4.6.2 There is little or no risk of fire spreading should a bank be subject to arson; due to their enclosed nature.

5. Background papers

These background papers were used in the preparation of this report:

All planning documents in relation the Cambridge North West development are available in the Cambridge City Council Planning Portal under planning reference 11/1114/OUT.

<http://idox.cambridge.gov.uk/online-applications/>

RECAP Waste Management Design Guide:-

<http://www.cambridgeshire.gov.uk/environment/planning/mineralswasteframework/recapwastemanagementdesignguidespd.htm>

Household Waste and Recycling Policy 2012:-

<http://www.cambridge.gov.uk/public/docs/household-waste-and-recycling-policy-2012.pdf>

6. Appendices

7. Inspection of papers

To inspect the background papers or if you have a query on the report please contact:

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