

# Waste Transfer Station, Daventry

## Waste Audit & Waste Management Strategy

On behalf of **Daventry District Council**



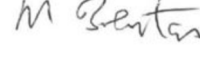


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## Document Control Sheet

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# 1 Introduction

- 1.1.1 This Waste Audit and Waste Management Strategy document has been prepared on behalf of Daventry District Council in support of a detailed planning application for redevelopment of the existing Waste Transfer Station at the Long March Industrial Estate, Daventry.
- 1.1.2 The High March Industrial Estate is to the south east of Daventry approximately 1.5KM from the town centre. The Industrial estate is occupied by a number of large industrial and storage buildings and a range of commercial and light industrial businesses. Access to the estate is from the A45 London Road to the south or A425 to the north.
- 1.1.3 Daventry District Council (DDC) is entering into a new Environmental Services contract which will commence operation in June 2018. The new waste operator will be a joint venture titled 'Daventry Norse'. Norse are the provider of several waste collection/processing contracts in the UK. As part of this new contract, the existing Waste Transfer Station (WTS) and yard at High March, Daventry will be redeveloped to provide a new purpose built facility to modern standards.
- 1.1.4 This document describes the waste management and minimisation measures associated with the proposed development, particularly during the demolition, site clearance and construction phases. It addresses the minimisation and management of waste generated by the development, opportunities to re-use waste materials within the development and steps to avoid dependency on raw materials for new build. It also records design decisions to take account of future deconstruction and to reduce whole life environmental impacts.
- 1.1.5 The proposed development comprises the demolition of the existing waste transfer facility at the site and the construction of a new waste transfer building to enclose waste transfer operations, together with the construction of a workshop to permit servicing and maintenance of refuse vehicles on the site.

## 2 Local Planning Policy Context

2.1.1 The Development and Implementation Principles Supplementary Planning Document (SPD) was adopted by Northamptonshire County Council in September 2011 as part of the Minerals and Waste Development Framework. The SPD requires the submission of a Waste Audit and Waste Management Plan in support of planning applications.

2.1.2 Policy SPD1 sets out the principles for development related waste minimisation:

**Waste hierarchy** – System of preferential sustainable waste management options where prevention and minimisation are the most preferred followed by re-use, processing of recyclates (including composting), and energy recovery; with disposal to landfill being the least preferred option. The hierarchy acts as a guide and in most circumstances a combination of the above management options may be required to deal appropriately with wastes generated.

**Site based waste minimisation** – Prevention, minimisation, and re-use of waste materials on-site.

**Materials resource efficiency** – Using materials (including materials, water, and energy) as efficiently as possible in order to minimise the total use of materials and energy, use of primary materials, waste disposed of to landfill, and maximise the recycled content of materials.

**Designing for deconstruction** – Specific detailing for the deconstruction of buildings aimed at maximising materials resource efficiency (including re-use and recycling of components) and flexibility of building use as well as minimising whole-of-life environmental impacts.

**Sustainable development** – Incorporate sustainable development practices that promote the prudent use of natural resources (including the use of 10% (by value) recycled products in construction projects), waste minimisation, and water & energy efficiency.

2.1.3 Reference to the Development thresholds in the SPD confirms that the proposals are considered to be Major Development, defining the scope of the report as follows:

- a) identification of responsible person (including contact details),
- b) description of the development detailing the existing building including structures & fixtures, proposed buildings (including site area and curtilage), and the re-use potential of buildings, hard standings, service infrastructure, etc,
- c) estimation of the type and quantity of waste anticipated to be produced at all stages of the development,
- d) waste management targets (e.g. re-use, recovery, and recycling),
- e) on-site waste minimisation and management methods to be employed (including practical measures to be implemented to ensure effective sorting, storage, re-use, recovery, and recycling),
- f) off-site waste management methods to be employed (including the type & quantity of waste, and identification of waste management sites and / or contractors),
- g) sustainable development measures including materials & water resource efficiency, use of sustainable materials, percentage (by value) of recycled products used, and reduction in pollution potential of unavoidable wastes,
- h) practical measures to reduce wastage during demolition and support designing for deconstruction,
- i) demonstrate how the SPD principles are to be addressed, and
- j) demonstrate how responsibilities under the Waste Duty of Care have been satisfied.

- 2.1.4 Policy SPD2 sets out the principles of waste design and neighbourhood facilities, noting that proposals for development must incorporate the following principles:

**Waste hierarchy** – System of preferential sustainable waste management options where prevention and minimisation are the most preferred followed by re-use, processing of recyclates (including composting), and energy recovery; with disposal to landfill being the least preferred option. The hierarchy acts as a guide and in most circumstances a combination of the above management options may be required to deal appropriately with wastes generated.

**High quality innovative design** – Waste management facilities should be of high quality, sympathetic to surrounding built environment, incorporate sustainable development practices (including materials resource efficiency), and of innovative design (where appropriate). Design of facilities should accommodate potential for future change in waste management methods, collection processes, and occupation or function of the individual buildings & development.

**Provision of complementary facilities** – The provision of waste management facilities should complement and support existing facilities & services. Adequate provision should be made for ongoing maintenance and management of facilities.

**Environmental protection and enhancement** – Avoid adverse impacts on the surrounding environment and human health, and where necessary ensure appropriate mitigation measures are implemented.

**Adequate space and access** – Provision of adequate space for, and access to, facilities for separation, storage, and collection of waste. Environmental education – Maximise opportunities for environmental education and promote awareness of sustainable waste management.

**Public safety** – The design, layout, and landscaping components associated with waste management facilities should seek to „plan out crime“ by creating safe & secure environments, increasing the risk of detection of criminal or antisocial activity, and make crime more difficult to commit.

- 2.1.5 Reference to the Development thresholds in the SPD confirms that the proposals are considered to be a Neighbourhood development, and confirms the following scope:

- a) identification of responsible person (including contact details),
- b) description of the development (proposed buildings, site area, curtilage, future use, and occupancy),
- c) estimation of the type and quantity of wastes anticipated to be produced during occupation of the development,
- d) identification of appropriate neighbourhood waste management design features (internal and / or external) and facilities,
- e) demonstrate adequate space and access provisions for waste management features and facilities,
- f) assessment of neighbourhood waste management facility capacity,
- g) demonstrate how the provision of facilities and design features:
  - a. is in accordance with the SPD principles, other relevant Plan policies, and the Northamptonshire Joint Municipal Waste Management Strategy,
  - b. compliments and contributes towards the existing waste management infrastructure network and sustainable waste management, and
- h) requirement and provision made for ongoing facility management and maintenance, including the collection and use of recycled & composted materials.

- 2.1.6 This document demonstrates that the key principles of the SPD have been considered during the design of the development proposals. It is anticipated that the document would be development during detailed design & construction phases.

2.1.7 In the context of the SPD requirements the responsible person is:

Richard Caple  
Daventry District Council  
Lodge Road  
Daventry  
Northamptonshire  
NN11 4FP



## 3 Site Description and Proposals

### 3.1 Existing site

- 3.1.1 The existing site is occupied and in use as a Materials Transfer Station by Daventry District Council. Much of the site is covered with hardstanding and is used for open storage of various waste streams and parking for a range of vehicles including light vans, cars and refuse vehicles. A large proportion of the hardstanding is given over to manoeuvring space for large articulated vehicles and small items of mobile plant.
- 3.1.2 Two industrial storage buildings are currently on the site both are open fronted and are in use as a large waste store / transfer facility, and fuel storage area respectively. Both buildings are constructed with a steel frame and are clad with dark green profiled metal sheeting. A weighbridge is located in the centre of the site which is operated from a single storey brick built building located along the High March boundary.
- 3.1.3 Access to the site is gated and via a large junction from High March which has been designed to accommodate large articulated vehicles. A separate pedestrian access is provided from the High March footpath onto the site.
- 3.1.4 Boundaries are formed with green palisade fencing which has been fitted in some areas with tall netting to avoid waste being carried off the site by the wind. To the South West are a large number of tall trees which form a planted boundary between the site and the adjacent A425 road. A small area of planting and trees is provided around the site entrance.

### 3.2 Proposals

- 3.2.1 The proposed development of the site entails the construction of two permanent buildings and a semi-static weighbridge office, and the addition of a second weighbridge to the site, together with improvements to the site drainage.
- 3.2.2 The first building is a Waste Transfer building, a large building, approximately 28 x 35 metres with 10 metres internal clear height, based on a steel frame and simple cladding. The main purpose of the WTS is to provide a weather proof space in which to store both dry and residual waste from refuse collections prior to onward transfer to other facilities for processing or disposal. The building will have three doors, two to allow the tipping of waste from refuse collection vehicles, either recyclable or non-recyclable, and a central door to allow collection by a larger vehicle for onward transportation.
- 3.2.3 The second building is a 2 bay vehicle maintenance workshop to permit servicing of refuse vehicles on site. The building is a steel framed structure with simple cladding and two roller shutter doors, approximately 30 by 16 metres, and with 8 metres clear internal height. The workshop building also provides storage and basic welfare facilities. No eating or washing facilities are provided as the adjacent site on the northern boundary is also managed by Daventry District Council and will be linked so that staff can share facilities.
- 3.2.4 The proposals are illustrated on Saunders Boston plan 1612-503.
- 3.2.5 The catchment area for the waste transferred through the site is shown in the following figure:



Figure 3.1 – Catchment Area for Daventry Waste Transfer Station

## 4 Demolition Phase Waste

- 4.1.1 The preferred option to minimise demolition waste would be to retain the site as is. However, the current open arrangement of much of the site gives rise to a number of issues including, windblown debris, noise, dust and odour. The proposed waste transfer building addresses many of these issues and it is therefore necessary for some demolition to take place. Nonetheless, it is proposed to retain the following elements:
- Foul & Surface Water Sewers – CCTV surveys have proved some drainage on site can be utilised in the proposed design, subject to a satisfactory inspection of the existing fuel interceptor and areas of the drainage network still to be cleared and surveyed.
  - Fuel Storage Structure – A steel framed structure at the north of the site.
  - External yard slab – some evidence of localised failures can be seen, but subject to a more detailed survey and remedial design it is intended to reuse those areas of the slab that are not impacted by building construction.
  - External lighting, where not mounted on buildings, to be demolished and subject to a lighting assessment / design.
- 4.1.2 These areas of the external concrete slab which are to be removed, either to facilitate building construction or to permit localised repair, have the potential to be crushed and reused as a recycled aggregate. The quantity of concrete to be removed will depend upon the necessary repairs, which will influence the practicality of waste minimisation, but the scheme will consider the following hierarchy, with the first item being the most preferable option and the remainder in descending order of preference:
- Crush and process concrete on site, reuse as fill or excavations within building footprint or for drainage services.
  - Crush and process on site, re-using as fill where possible, excess material to be exported as recycled aggregate.
  - Remove from site, crush and process at a suitable facility for reuse on site. Any excess to be used elsewhere as recycled aggregate.
  - Remove from site to tip
- 4.1.3 A demolition survey of the existing buildings identified the presence of asbestos in flooring tiles, and these would be removed prior to full demolition of the building by a licenced contractor and removed to a licenced waste disposal site.
- 4.1.4 The buildings to be demolished are steel framed and clad buildings with internal blockwork walls and some external brick facing. The steel elements will be stripped permitting off-site reprocessing. The brick and block rubble will have limited use on site as an aggregate, even following processing, and will be removed from site. It is anticipated that it would be re-used as a low-quality fill material elsewhere in preference to disposal to landfill.
- 4.1.5 No significant excavation is anticipated in the demolition phase and as a result no earthworks materials would be generated.

## 5 Construction Phase

- 5.1.1 Construction activities will inevitably generate some waste materials. The building superstructure and push walls have been designed to utilise standard section materials and prefabricated elements where possible, as this minimises wastage in comparison to bespoke on site construction.
- 5.1.2 No contractor has been appointed at this time. The contractors selected for tendering will be considered, among other criteria, based on their commitment to management of site activities to minimise waste generation and to careful management of resource usage and their focus on the 'top tier' measures of avoiding or minimising waste generation.
- 5.1.3 Evidence for this commitment to good practice would be addressed by requiring membership of the Considerate Contractors Scheme, demonstrating good industry practice. Tender reviews would also consider evidence of previous examples of good practice measure being implemented, such as an effective Construction Environmental Management Plan, to address the DEFRA hierarchy of waste management measures.

<b>Avoidance</b>	Good site quality control Careful storage of materials to avoid weather damage. Extensive off-site prefabrication thereby avoiding waste through more efficient production. Procurement of materials from local and sustainable sources
<b>Reduction</b>	Careful design to minimise waste production. Reduction of packaging from suppliers Monitoring of site energy and water consumption
<b>Reuse</b>	Take back / return of certain material packaging and protections such as pallets. On-site reuse of topsoil, sub-soil and hardcore Testing and classification of soil arisings from foundation excavations for reuse off-site.
<b>Recycling</b>	Returning off-cuts of materials such as plasterboard. Preference given to the selection of products with a high recycled content
<b>Disposal</b>	Provision of segregated skips to aid off-site recycling

- 5.1.4 During construction of the site, the refuse currently transferred at the site will be managed elsewhere, which will result in a temporary increase in waste delivered to other transfer sites. This will not in itself generate more waste, but it will increase the vehicle mileage travelled.
- 5.1.5 This is considered to be a necessary and acceptable consequence of the environmental benefits to be realised by the proposal.

## 6 Operation Phase

- 6.1.1 As previously noted, the proposals will not change the purpose of the site, but address issues associated with the impact on neighbours.
- 6.1.2 The catchment area for refuse will be unchanged following construction of the site. As a result, the total amount of waste to be transferred is not expected to change. Recent records confirm that the annual quantity of waste transferred through the site is 22,774 tonnes, comprising 1,092 tonnes of food waste, 6,461 tonnes of dry recycling, and 15,221 tonnes of residual waste.
- 6.1.3 It is possible that the total number of waste transfer trips would reduce through greater efficiencies resulting from improved storage and the reduction of part-loads, but we are not able to quantify this benefit at this time.

## 7 Designing for Deconstruction

- 7.1.1 Design for deconstruction is an important part of sustainable design and the consideration of the whole life impact of a structure.
- 7.1.2 Both buildings are designed as steel frames with cladding panels. This type of construction offers future opportunity for re-use of elements through the use of standard beam and column sizes and bolted connections permitting non-destructive deconstruction.
- 7.1.3 Push walls have been designed to utilise precast concrete elements. As well as allowing for replacement of individual damaged elements during maintenance this allows non-destructive removal and re-use of these elements.
- 7.1.4 This also allows for a degree of adaptability in the use of the building, as the internal walls could be reconfigured should operational requirements change, avoiding more significant changes to the site.
- 7.1.5 Where elements cannot be re-used in their existing form, the steel elements can be reprocessed and recycled and the present elements crushed and processed for re-use as aggregate.
- 7.1.6 Building elements such as roller shutters and personnel doors will be selected from standard ranges rather than specified as bespoke to improve opportunity for re-use following deconstruction.
- 7.1.7 No deleterious materials will be specified in the construction of the new buildings or hardstandings.
- 7.1.8 The new weighbridge office is to be a modular unit which can be reoriented on site or demounted in its entirety for reuse should the site requirements change in the future
- 7.1.9 M&E services to the proposed buildings, such as sprinkler systems, ventilation kit and workshop equipment, are to be detailed such that they are fully demountable from the structure in the event of future replacement or demolition works.

## 8 Conclusion

- 8.1.1 This Waste Audit and Waste Management Plan sets out the strategy that will be followed during the redevelopment of the High March Waste Transfer Site to reconfigure the existing operation of the site.
- 8.1.2 It can be concluded that the proposed development will not have a detrimental impact on the operational waste generation of the site and future deconstruction and sustainability has been considered throughout the design.
- 8.1.3 It can also be concluded that the shorter-term waste impact of the demolition and construction of the site has been carefully considered, with reference to the hierarchy of waste management options to minimise the impact and that this impact is against the wider environmental benefits of the scheme.