

Site Waste Minimisation Plan - Project Planning & Design Stage

City Centre Campus, University of Gloucestershire

1. Reasonable steps to eliminate waste

Reasonable steps will be taken to eliminate waste by re-using materials. The structural frame, floors and existing stone facades are being retained and other elements will be considered for reuse where practically possible as the design develops.

The project is targeting a BREEAM 'Excellent' rating and the BREEAM WST credits will be used to guide the design and construction stages. The BREEAM WST 01 credit will include a 'Pre-refurbishment Audit' by the soft strip subcontractor prior to any works commencing and this will identify materials suitable for reuse.

2. Use of standardised materials

The BREEAM MAT 06 Material Efficiency credit will be used to guide the design and construction stages.

As the design develops standard material sizes and prefabricated elements will be considered throughout the design of the internal fitting out and MEP services to minimise waste. Precise material requirements will be specified to help avoid waste. For example;

- Standardised plasterboard systems
- Standardised flooring widths and sizes
- Standardised mechanical, electrical and plumbing lengths of materials to be used
- Glazing systems to be prefabricated and manufactured off site to eliminate waste
- Doorsets manufactured off site and delivered pre hung

3. 10% of materials to be recycled content

The BREEAM MAT 03 Responsible Sourcing of Material credit will be used to guide the design and construction stages. The MAT 03 credit requires that all timber is responsibly sourced and legally harvested. It also encourages the reuse of materials and the use of materials with a high (>90%) recycled content.

The developing design will incorporate 10% by value of materials comprised of recycled content and that is sustainably sourced where possible. At this stage materials have not been finally specified, however this will be added to the materials specification such that a minimum of 10% materials are from recycled content. As an example, this will include the plasterboard systems used.

4. Tonnage of construction material

At this early stage in the design it is not possible for the tonnage of construction and demolition waste to be specified. However, this will be produced via a site waste management plan prior to the main construction works commencing on site.

The BREEAM WST 01 credit will be used to guide the design and construction stages via the creation of a Resource Management Plan covering the waste arisings from the refurbishment with the aim of minimising waste, recording and reporting accurate data on waste arisings.

5. Method for auditing construction and demolition materials

The BREEAM WST 01 Resource Management Plan will include:

- a) A target benchmark for resource efficiency, i.e. m³ of non-hazardous waste per 100m² or tonnes of non-hazardous waste per 100m²
- b) Procedures and commitments for minimising non-hazardous waste in line with the target benchmark
- c) Procedures for minimising hazardous waste
- d) Procedure for the principle contractor and all subcontractors for monitoring waste, managing and diverting demolition waste from landfill.
- e) A waste minimisation target and details of waste minimisation actions to be undertaken
- f) Procedures for estimating, monitoring, measuring and reporting hazardous and non-hazardous site waste covering the principle contractor and all subcontractors. If waste data are obtained from licensed external waste contractors, the data needs to be reliable and verifiable, e.g. by using data from EA/SEPA/EA Wales/NIEA Waste Return Forms. All construction waste data should be reported on a monthly basis throughout the project and checked against what would be expected based upon the stage of the project, invoices etc. to validate completeness of waste reporting data.
- g) Procedures for sorting, reusing and recycling construction waste into defined waste groups, either on-site or through a licensed external contractor
- h) Procedures for reviewing and updating the plan
- i) The name or job title of the individual responsible for implementing the above.

The project will be audited to ensure that an effective waste management plan has been formulated and is being implemented by the site team. The waste management plan will address the following issues:

- Safety / environmental requirements relating to the waste expected on site;
- Waste avoidance - typically the storage of materials or reuse as appropriate;
- Waste minimisation – typically involving good housekeeping of materials;

- Waste segregation – segregation of waste types is mandatory. Note all hazardous wastes must be segregated from non hazardous waste including other types of hazardous waste
- Waste characterisation and treatment if necessary;
- Management of hazardous waste
- Waste recycling opportunities;
- Requirement to log all waste leaving site – type, weight / amount etc.;
- The necessity for checks on waste carriers and waste managers licences;
- Waste transfer notes;
- Roles and responsibilities on site;
- Subcontractors waste and
- Mechanism to capture waste metrics for reporting
- Ensure that all waste data is captured on the Morgan Sindall reporting portal, in a timely manner.

6. Waste segregation and training

The site manager / agent shall formulate and implement a specific SWMP prior to any disposal activities taking place. This shall record any design decisions made to reduce waste.

Prior to any works commencing on site, waste streams likely to be generated by the project must be correctly identified by the site agent. Wastes are likely to be one of the following:

- Inert wastes
- Non-hazardous wastes
- Hazardous wastes.

In addition, the EWC code for each individual waste stream must be identified and recorded in the SWMP. This is so that the physical / chemical properties of each waste type are understood and storage, handling and disposal of each waste type can be conducted appropriately.

A list of common EWC codes can be found at the link below:

<https://www.gov.uk/how-to-classify-different-types-of-waste/construction-and-demolition-waste>

Many of the materials brought onto project sites have accompanying Material Safety Data Sheets (MSDS). The appropriate EWC code for the disposal of that waste is something which should be included in the MSDS.

In addition to EWC codes, for any waste streams that are to be disposed direct to landfill, these must be characterised in accordance with Waste Acceptance Criteria (WAC). Characterisation must be undertaken in accordance with a site-specific sampling plan and involves chemical testing of the waste which may take up to ten days to complete.

Characterisation is not required for wastes that are disposed to a licensed recycling facility or waste transfer station. However, these waste contractors / disposal sites may still require evidence of the nature / composition of a material, before they will accept the wastes.

Main waste streams will be segregated on site including:

- Concrete
- Wood
- Metal
- Plasterboard
- Cardboard

The segregated skips will be clearly marked to ensure that it is clear to operatives where waste should be disposed of. To educate the workforce this information will be provided at the induction. In addition to this a tool box talk will be undertaken with the workforce.

7. Waste re-used on site

At this early design stage it is not possible to confirm what waste materials can be used on site. We can commit to re-using materials off site through an off site facility wherever possible. Waste to landfill will be minimised at all costs in accordance with our Morgan Sindall targets to divert 96% of waste from landfill.

8. Hazardous arisings

All hazardous arisings will be tested, segregated and taken to a licensed facility. All waste transfers will be recorded on site and also with the waste transfer facility off site. Once the hazardous arisings are identified then the corrective safe methodology for handling them can be put in place.

9. Recycling

The waste collection authority advice and guidance will be obtained on recycling and residual bin requirements and used to inform the developing design. Recycling receptacles and user information will be provided all in accordance with the University's policy.

The BREEAM WST 03 Operational Waste credit encourages the provision of dedicated storage facilities for a building's operational-related recyclable waste streams, so that this waste is diverted from landfill or incineration. Advice will be taken to ensure that this credit is achieved in full.

10. Access for waste collection

The BREEM WST 03 Operational Waste credit will identify the minimum area required for recyclable storage, it will also ensure:

Dedicated space(s) is provided for the segregation and storage of operational recyclable waste volumes generated by the assessed building/unit, its occupants and activities. This space must be:

- a. Clearly labelled, to assist with segregation, storage and collection of the recyclable waste streams
- b. Accessible to building occupants or facilities operators for the deposit of materials and collections by waste management contractors
- c. Of a capacity appropriate to the building type, size, and predicted volumes of waste that will arise from daily/weekly operational activities and occupancy rates.