Material change for
a better environment

Procurement guidance for construction

Setting a requirement for Waste Minimisation and Management

Setting a requirement for Waste Minimisation and Management

This guidance sets out the business case for construction clients and developers to adopt good practice waste minimisation and management on their construction projects. It explains why good practice waste minimisation and management is important, how it is delivered and the crucial role that clients can play in its delivery.

Why take action?

- Reduce the cost of materials supplied and associated waste disposal.
- Increase competitive advantage through differentiation.
- Improve performance against CSR objectives.
- Lower CO_2 emissions.
- Meet planning requirements.
- Complement other aspects of sustainable design.
- Respond to and pre-empt changes in public policy, such as increases in Landfill Tax.

Who is taking action?

Construction clients, developers, policy-makers and planning authorities are increasingly asking design teams and contractors to implement good practice in waste minimisation and management.

Major organisations at the forefront of the initiative include:

- property developers such as British Land, Hammerson and Stanhope;
- members of the Major Contractors Group such as Bovis Lend Lease, Skanska and Wates; and
- national Governments proposing to make Site Waste Management Plans mandatory.

What is good practice?

Waste minimisation and management follows the principles of the waste hierarchy: reduce the quantity of waste generated, then maximise the amount that can be reused or recycled. Good practice involves going beyond the current baseline performance of the construction industry, which has historically focused on meeting its legal obligations only.

Waste minimisation includes a range of methods to 'design-out' waste from a project and limit waste arisings during the construction phase. Examples include:

- efficient design solutions;
- improved materials logistics and storage;
- off site construction; and
- minimising over-ordering.

Using a single skip for all waste types is a missed opportunity to implement good practice

The emphasis should be on the contractor to develop the targets for waste reduction and recovery

Case study

Langley Park, Beckenham

A large development by Laing Homes is an example of how cost savings can be achieved through segregating waste streams and reusing materials.

Measures on this development included:

- waste streams separated for easier reuse and recovery;
- reuse of materials from demolition; and
- efficient storage of reusable products, e.g. timber pallets returned for reuse.

The resulting savings included:

- recovery of 500,000 roofing tiles from demolished buildings for reuse;
- reuse of 40,000 tonnes of demolition spoil as sub-base; and
- **total cost savings of £525,000 – 3.5% of project costs.**

The benefits of implementing a SWMP have been found to be:

15% less waste onsite;

43% less waste to landfill;

50% savings in waste handling charges; and

40% saving on waste management costs compared to landfill disposal.

(source: Report C536 from CIRIA)

Waste management involves identifying potential waste streams, setting target recovery rates and managing the process to ensure that these targets are met. To assist the process of setting targets, WRAP has identified good practice recovery rates for a range of waste streams. On any project, there are certain key waste streams that can offer significant savings, otherwise known as 'Quick Wins'. By implementing good practice for three to four of these 'Quick Wins', there is potential to increase overall recycling rates of construction waste from standard industry performance by more than 20%.

Waste streams that commonly offer Quick Wins across a range of projects include:

- timber;
- plasterboard;
- packaging;
- concrete;
- inert material; and
- plastics.

Projects vary of course, and individual projects will need to evaluate their own waste streams to identify potential Quick Wins.

Will it increase cost?

No – for the majority of projects, achieving good practice will either be cost neutral or will generate cost savings. Only a minor change in working practices will be required.

How is good practice delivered?

The key tool for minimising and managing waste on a project is the Site Waste Management Plan (SWMP). The SWMP is not just an on site management tool. It should be initiated at an early stage of the project and used to:

- steer the design to minimise waste; and
- optimise plans for onsite practice.

The SWMP is used to identify potential waste streams and set waste reduction and recovery targets. Subsequently the contractor will measure actual waste produced and monitor performance. This will allow them to demonstrate their achievements to clients and save more on future projects.

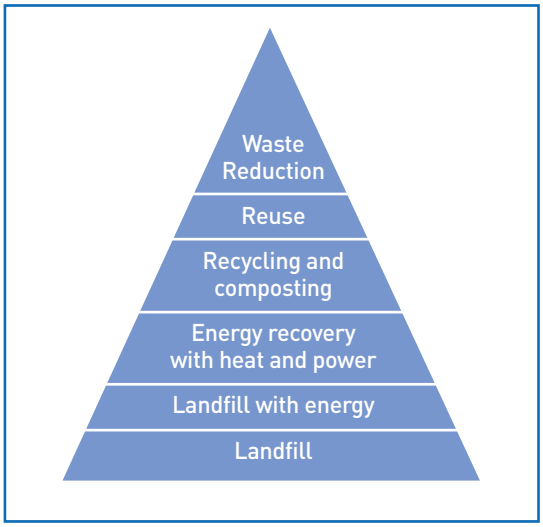
Onsite waste minimisation techniques, for example, 'leaner' ordering of materials and better site storage to prevent material damage, should be incorporated into the SWMP as well as strategies for segregating and reusing waste materials. This can result in less waste produced on site, and so less waste sent to landfill, therefore savings in waste handling, disposal and landfill costs.

The use of a SWMP is currently a voluntary undertaking on construction projects. However, it is expected that the use of SWMPs will become a mandatory requirement in the near future for many projects throughout the UK. By making it an immediate requirement for all projects to implement a SWMP to good practice levels in accordance with WRAP guidance, clients can minimise the potential impact of the regulatory change and take advantage of the benefits at an earlier date.

Which projects are suitable?

Good practice can be applied to all types of construction project, irrespective of location or complexity, including new build, refurbishment and infrastructure works. The benefits are expected to outweigh the costs of implementing an SWMP for projects over £250,000 in value.

Waste hierarchy

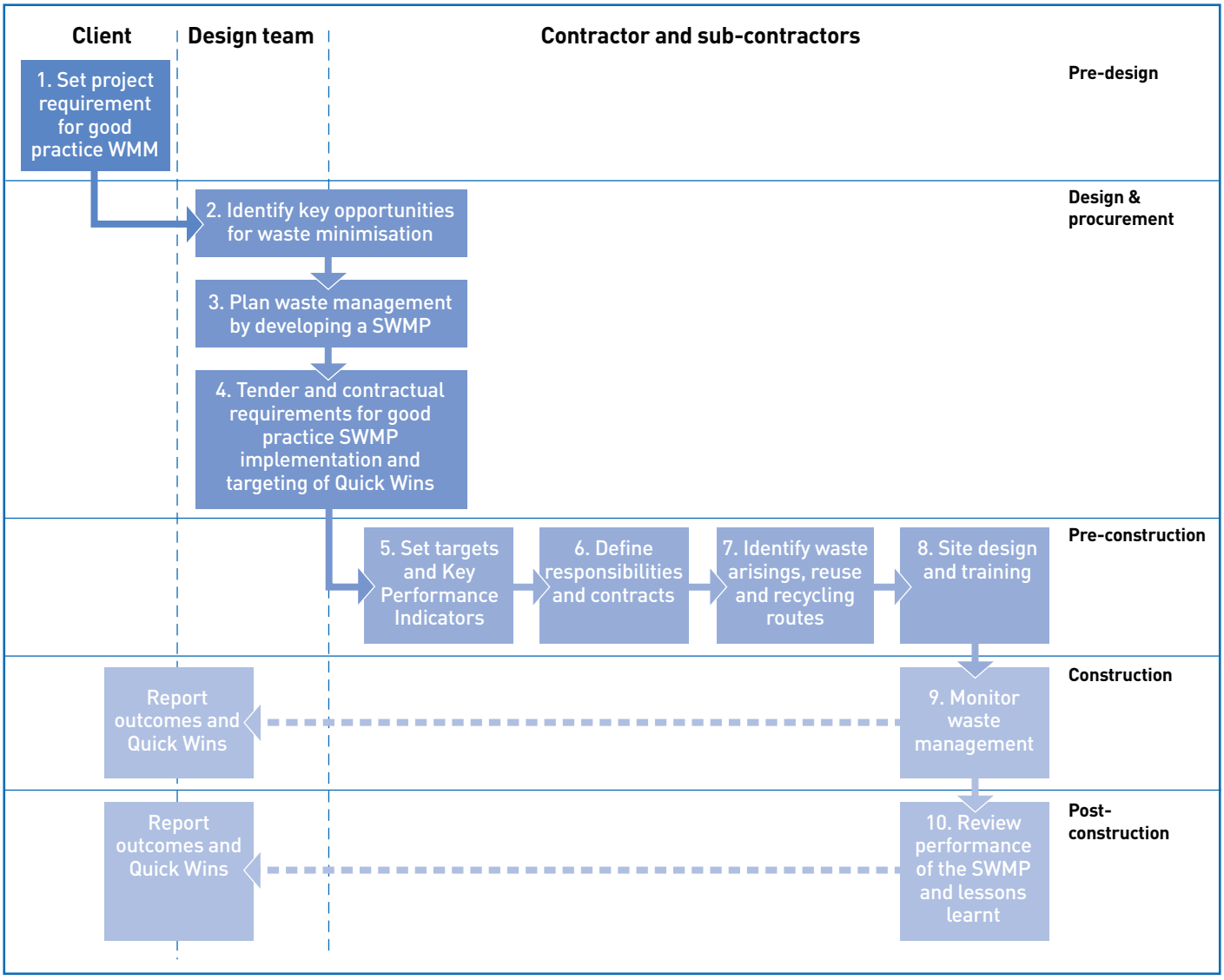


The key tool for minimising and managing waste on a project is the Site Waste Management Plan

One practical application of good practice waste management can be to use wheeled bins at the work area

What do clients and developers need to do?

To obtain the most benefit, adopt good practice at the earliest possible stage, preferably with a clear mandate from the client through procurement requirements. The targeted elements of good practice (Quick Wins) should then be communicated and implemented by the design team, contractor, sub-contractors and waste management contractors through all project phases – from outline design to project completion. The process is illustrated below:



What are the next steps?

See the other documents in this suite, *Achieving good practice waste minimisation and management* and *Delivering good practice waste management.*

Setting a requirement

In order to mandate the process of adopting good practice on a project, clients and developers can include the following core requirement in the project procurement documentation:

'....we require a Site Waste Management Plan (SWMP) to be developed from the pre-design stage to inform the adoption of good practice waste minimisation in design, and for the SWMP to be implemented in all construction site activities in line with good practice published by WRAP. The SWMP is required to set targets for waste reduction and recovery based on an assessment of the likely composition and quantity of waste arisings and identification of the most significant cost-effective options for improvement (Quick Wins). This should be supplemented by information on how the targets will be achieved during construction activities and how the actual levels of waste reduction and recovery will be monitored for comparison with the targets set.'

The emphasis should be on the contractor to develop the targets for waste reduction and recovery, in conjunction with the design team, after identifying which waste streams to focus on and the appropriate methods to adopt. This is because the contractor is best placed to identify opportunities for improved performance and cost saving, given their position at the interface between the design and construction phases of the project, taking into account the supply chain to be employed.

Guidance for design teams and contractors

To enable design teams to develop a detailed response to the client's requirement, and to help contractors deliver good practice, WRAP have produced more detailed documents providing procedural guidance for setting requirements, including model contract clauses, and technical guidance for practical implementation. These reference documents are freely available at **www.wrap.org.uk/construction**.

These resources contain template wording and model contract clauses for use in corporate policy statements, project briefs and prequalification processes, and subsequently in tender, appointment and contractual processes for traditional and design and build procurement processes.

Further information

WRAP provides guidance and tools covering all aspects of materials efficiency in construction, including waste reduction, recycling and recycled content. These are freely available at **www.wrap.org.uk/construction**.

Published by:
Waste & Resources Action Programme

The Old Academy
21 Horse Fair
Banbury, Oxon
OX16 0AH

Tel: 01295 819 900
Fax: 01295 819 911
E-mail: info@wrap.org.uk

Helpline freephone
0808 100 2040

www.wrap.org.uk/construction

Printed on 75% recycled content paper

recycle