Site Waste Management Plan

For

24-26 Steepdown Road

Sompting

Prepared By

Katharine Conry BSc (Hons) ICIOB

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Table of Contents

Statement of Intent 2

Setting Targets 2

Electrical and Water Targets 3

Suggested Skip and Waste Segregation 4

Site Waste Calculation 4

On site waste monitoring 5

Actions to reduce Waste to Landfill 6

Procedure For The Measurement of Waste 6

Appendix 1: Site Waste Management Plan Checklist .....

Appendix 2: Removal of Material from Site .....

Statement of Intent

The Developer, Mr.Charman, is committed to improving the housing stock of Worthing by building sustainable developments. Using a Site Waste Management Plan is a way to reduce environmental impacts as well as to help meet our sustainability targets.

In addition wherever possible the developer is committed to:

- Switching building techniques to more sustainable methods of construction.
- Implementing sustainable procurement methods.
- Using local wood products from sustainable sources.
- Employing timber floor construction to reduce waste
- Using recycled roofing products
- Looking to recycle and reuse building materials recovered from the demolition of sites
- Employing a certified waste contractor who has provided us with written confirmation that they recycle or reuse 95% to 98% of their waste via sorting and an onsite CHP plant to generate electricity
- Segregating main material (hardcore, soil) on site to assist recycling
- Looking to reduce the amount of spoil from ground works

Setting Targets

To set realistic recycling goals it is important to have some viable benchmarks. For this purpose data has been used from "developing a strategic approach to construction waste" developed by Defra and BRE

Suggested KPI's from this report are:

1) m3 waste per 100m2 of build floor area (Residential KPI 19.2)
2) m3 waste per £100,000 of build cost (Residential KPI 17.3)

The current average targets indicated in this report for residential development are shown in brackets above. These figures are only for Ground works, Mainframe, Services, Partitions and Fit Out. The figures do not include data for Demolition or Excavations and as such are significant underestimates for new build projects including the clearance of brown field sites.

No demolition works are to be carried out at the site. This means that the figures from Defra and BRE can be used as a good benchmark in this instance.

The above KPI of 19.2 is broken down in more detail below for reference purposes

PROJECT TYPE	RESIDENTIAL WASTE KPI (M3 WASTE/100M2)		
Waste group	KPI	Conversion	Tonnes
Timber	1.3	0.3	0.39
Concrete	2.5	1.11	2.77
Inert	1.1	1.3	1.43
Ceramic	2.8	0.78	2.18
Insulation	1.0	0.16	0.16
Plastic	0.6	0.22	0.13
Packaging	2.9	0.55	1.59
Metal	1.3	0.8	1.04
Plaster & Cement	3.2	0.4	1.28
Misc	2.5	0.4	1.0
Total	19.2		11.99

On this basis the above report estimates a typical waste volume of 15.56m3 of waste per 80m2 unit.

Plot No	Floor	Beds	Baths	Size M2
24	2	3	2	190
26	2	3	2	190
			Total	380

At Steepdown Road the development area is 380 m2. Therefore it would be expected that a site waste volume of (380/80) x 15.56 = **73.91m3**.

This KPI is based on traditional construction figures and the construction method for this development is intended to reduce waste on site significantly. Using SIP panel construction reduces the need for wet trades, and waste produced is generally from small off-cuts of the panels when fitting. This benchmark will be used and site waste recorded, it is anticipated that the actual waste will be much lower than this figure.

Electrical and Water Targets

Water Use: There is not connection to the water main on site. Water for drinking purposes is provided by the developer in bottles. The build schedule and design has been intended to virtually eliminate all wet trades. There is a small site office and tea room facility where small amounts of water are needed (ie a bucket of water to clean brushes or tools, making tea). Water for these purposes is being brought in from off site in buckets.

Electricity Use: Diesel powered generators are being used on site as there is currently no connection to the main electricity supply.

Due to the limitation on the use of water and electricity it is difficult to set performance benchmarks as the monitoring of consumption is not possible. However, the limitations of use, is, in itself reducing wastage of water and electricity.

Suggested Skip and Waste Segregation

Skip Type on Site	Destination	When
Roll on Roll off Building rubble	Valuable material will be sold on and any material that can be will be sent for recycling. A note of all material sent off site for recycling or resale will be maintained	Demolition Phase
Grab and Tip (soil and hardcore)	Sent for reuse / recycling	Groundworks
Wood Skip	Burnt for electricity and heat generation (Rabbit Skips)	SIP's installation onwards(first and second fix carpentry)
Packaging	Burnt for electricity and heat generation (Rabbit Skips)	SIP's installation onwards
General Waste	Sorted and recycled by waste contractor see Appendix 2	All

Note; Any of the latter stage waste (ie from completion of ground works on) will be sent to Rabbit for reprocessing which will virtually eliminate the need for active segregation on site. Waste segregation on site therefore will only happen where there are anticipated large amounts on single stream waste in a suitable timeframe.

Site Waste Calculation

Pre construction calculation of waste is not an exact science. As a result the figures shown below are estimates based on typical material usage on previous sites adjusted for floor area.

The developer will log all material going off site by using the form in Appendix 3 (or similar methods). These forms are to be retained in a waste log by the Site Foreman for post project analysis

Notes:

1) Any material that is recycled is not included in target figures as these are being reused
2) Calculation of m3 of waste is difficult to measure as this measure depends entirely on the packing ratio of the waste in a skip and so figures are not very helpful

Waste Type	Estimated Volume
General Rubbish	10m3
Plasterboard	10m3
Timber	10m3
Packaging	5m3
General Waste	15m3
Landscape Waste	25m3
Total Waste Generated	**75m3**
Total Recycled	30 m3
Total Sent to Land Fill	45 m3

A waste recycling target of 40% has been set for the waste.

On site waste monitoring

The site foreman is responsible to maintain a display / white board on site. This board should be in a prominent location and should at a minimum identify the amount of waste taken from site. Below is a suggestion for the layout for such a board

Project Start Date:
Forecast End Date:
Project Duration (Months)
Project Waste Statistics as of: Insert Date

Waste Type	Total Disposal to Date
	M3
1 Total Waste removed	M3
2 Total recycled	M3
3 Total Disposed (1-2)	M3 KPI
Recycle Rate 2/1	

Target KPI	m3
Electric Start Reading	kW
Current Read	kW
Electric used to date	kW
Water Start Read	M3
Current Read	M3
Total Water Used	M3

Please Note: This is only a suggestion and other methods of tracking may turn out to me more achievable during construction.

Actions to reduce Waste to Landfill

Designing the build to reduce waste generation is the first step to waste reduction. Setting realistic stretch targets is the second and monitoring is probably the third step. As a result the monitoring and recovery of waste will allow the developer to track and improve waste disposal targets for future projects.

To reduce waste there are a number of design and process features to the development:

General

- A standard certified waste contractor will be used. This particular waste contractor has committed to recycling up to 95% to 98% of all waste streams provided to them. There are not all the skill sets available to allow the site to comply with best in class recycling requirements however using a dedicated waste contractor will allow the site to achieve waste targets set.
- There is no on site water supply at Steepdown Road, as a result water use is virtually eliminated from the build. (Note: Water for drinking purposes is brought onto site in bottles.)

Excavation Phase:

- Top soil will be transported off site for grading, screening and reuse. This eliminates one of the largest of waste streams going to land fill

Build Phase:

- Using SIP timber framing which as it is factory made is far more efficient and generates minimal waste on site.
- Aggregates and sand will be substituted for recycled glass products where possible
- Eliminated Wet Trades to eliminate water use

Procedure for Measurement of Waste

Actions: Removal of all waste from site should be monitored and recorded by the site foreman on the Waste Record sheet below (or by other means) (See Appendix 3). These Waste Record Sheets should be filed in the Site Waste Log for future analysis. Waste dockets should also be retained and filed for waste tracking purposes.

Appendix 1: Site Waste Management Plan Checklist

Project name	24-26 Steepdown Road
Project address/location	Lancing
Main contractor: *Contractor details, including signature of authorised representative*	
Client signature	
Signature of identified sub-contractor *(see Q3 & 4)*	
Signature of identified sub-contractor *(see Q3 & 4)*	

Appendix 2

Removal of material from Site Log

Instructions for Use:

The site foreman is responsible of correctly filling in the form below for all disposals that occur on site. This completed form is to be placed in a ring binder and retained for post project review and inspection.

Under description of waste please insert a short description of each main class of waste being taken off site. This may be a single type such as Soil, Brick Rubble etc or may be several types of waste. Where this is unpractical please insert "mixed waste"

Please identify the approximate volume of waste being taken off site. Please note the KPI's we are using for comparison purposes are volume based so please estimate the volume of waste being removed and not the weight being removed.

Under "Fate of Waste" please identify the anticipated fate of the waste. Things like landfill, recycled, resold etc are acceptable entries

The name and address of the certified waste contractor removing the waste should be inserted along with the location that the waste is being taken to. This is to estimate the amount of transport pollution that is arising from this disposal route. Where possible local waste contractors should be used along with local recycling or disposal sites

STEEPDOWN ROAD SITE WASTE RECORD SHEET

Date: Ref No:

Description of Waste	Approx Volume / Amount	Fate of Waste

Name of removing Contractor:

Address of removing Contractor:

We the undersigned confirm that the above is a true reflection of the waste being taken from the above site and its intended fate.

Signature of removing contractor

Signature of Site Foreman