

A stylized, light brown map of North West Cambridge is positioned on the left side of the page, partially overlapping the dark brown background and the light blue background. The map shows the irregular shape of the area with some internal lines representing roads or boundaries.

NORTH WEST **cambridge**

Site Waste Management Plan
September 2011

Table of Contents

Introduction	1
Project Information	1
Document Control	4
Responsibilities	4
Site Waste Management Plans Regulations 2008 – Legal Compliance	4
Materials Resource Efficiency	6
Waste Management	7
Waste Generation Estimates	8
Planning the reduction, reuse and recycling of waste	9
Declaration	11

Capabilities on project:
Environment

Site Waste Management Plan

Introduction

This Site Waste Management Plan (SWMP) applies to all activities throughout the project as described in Section 1.2.

Appendix A of this Plan shall be updated as necessary (electronically) and be retained on site ready for inspection at any time. WRAPs standard SWMP template (Version 2) has been utilised to ensure compliance with the Site Waste Management Regulations 2008¹, and help to drive good and best practice with regard to resources efficiency and management of waste.

Project Information

Project title	University of Cambridge – Development at North West Cambridge					
Project reference	60142923					
Project location	Address	Land between Huntingdon Road, Madingley Road, M11 and A428 North West Cambridge				
	Town	Cambridge				
	Postcode	-				
Client	Name	University of Cambridge				
	Address	The Old Schools, Trinity Lane, Cambridge CB2 1TN				
	Contact	TBC	Email	TBC		
	Phone	TBC	Mobile	TBC		
Principal Contractor	Name	TBC				
	Address	TBC				
	Contact	TBC	Email	TBC		
	Phone	TBC	Mobile	TBC		
SWMP Drafter	Name	AECOM				
	Address	5 th Floor, 2 City Walk, Leeds. LS11 9AR				
	Contact	Lawrence Chinery	Email	Lawrence.Chinery@aecom.com		
	Phone	0113 301 2416	Fax	0113 391 6899		
Project Manager	Name	North West Cambridge Project				
	Address	The Old Schools, Trinity Lane, Cambridge CB2 1TN				
	Contact	Roger Taylor		TBC		
	Phone	TBC		TBC		
Construction cost (estimated)	Estimated circa £800 million					
Site footprint	140 Hectares					
Start date	Day	TBC	Month	TBC	Year	2012
Completion date	Day	TBC	Month	TBC	Year	2025
Description of project scope	<p>The development proposals for North West Cambridge will create a community for living and working on the north western fringe of the city. The University site is located between Madingley Road and Huntingdon Road.</p> <p>The development proposals comprise:</p> <p>Zone B:</p> <ul style="list-style-type: none"> Up to 3,000 dwellings; (Class C3 and C4) 					

¹ Site Waste Management Plans Regulations 2008 (SI 2008 no.314)

Capabilities on project:
Environment

- Up to 2,000 student bedspaces; 98,000 sq.m. (Class C2)
- Up to 100,000 sq.m. new employment floorspace, of which:
 - Up to 40,000 sq.m. commercial employment floorspace (Class B1(b) and sui generis research uses)
 - At least 60,000 sq.m. academic employment floorspace (Class D1)
- Up to 5,300 sq.m. gross retail floorspace (Use Class A1/A2/A3/A4/A5) (of which the supermarket is not more than 2,000 sq.m. net floorspace)
- Senior living; up to 6,500sq.m. (Class C2)
- Community centre; up to 500 sq.m. (Class D1)
- Indoor sports provision, up to 450 sq.m. (Class D1)
- Police; up to 200 sq.m. (Class B1)
- Primary Health Care; up to 700 sq.m. (Class D1)
- School; up to 3,750 sq.m. (Class D1)
- Nurseries; up to 2,000 sq.m. (Class D1)
- Community Residential; up to 500 sq.m. (Class C3)
- Hotel (130 rooms); up to 7,000 sq.m. (Class C1)
- Access roads
- Pedestrian, cycle and vehicle routes
- Parking
- Energy Centre; up to 1,000 sq.m.
- Provision and/or upgrade of services and related service media and apparatus including pumping stations, substations and pressure regulators
- Drainage works (including sustainable ground and surface water attenuation and control)
- Open space and landscaping (including parks, play areas, playing fields, allotments, water features, formal/informal open space, maintenance sheds, pavilions and support facilities)
- Earthworks to provide revised ground contours
- Demolition of existing buildings

Zone A: Huntingdon Road - Highway and Utility Works

- Construction of a new three arm and a new four arm signal controlled junctions, including pedestrian and cycle crossings, to provide access to the Proposed Development from Huntingdon Road
- Installation of a toucan crossing across Huntingdon Road

Capabilities on project:
Environment

	<ul style="list-style-type: none"> • Construction of an unsegregated footway/cycleway on the southern side of Huntingdon Road • Diversion and/or replacement and/or protection of existing utilities affected by the proposed highway works • Provision of new telecommunications infrastructure and connection to existing utility infrastructure situated along Huntingdon Road • Related landscaping, accommodation works, street furniture, drainage, telemetry and utilities <p>Zone C: Madingley Road - Highway and Utility Works</p> <ul style="list-style-type: none"> • Junction improvement works at the High Cross/Madingley Road junction to alter it from a three arm priority junction to a four arm signal controlled junction, including pedestrian and cycle crossings, to provide access to the Proposed Development • Installation of a toucan crossing across Madingley Road • Diversion and/or replacement and/or protection of existing utilities affected by the proposed highway works • Installation of a retaining wall along Madingley Road • Provision of a new pumped foul water rising main, including chamber connection, and new telecommunications, electricity and gas infrastructure and the associated connection to existing utility infrastructure situated along Madingley Road • Related landscaping, accommodation works, street furniture, drainage, telemetry and utilities <p>The Area Action Plan (AAP) for the University site was adopted by Cambridge City Council and South Cambridgeshire District Council in October 2009 to guide development at the University site and offers opportunities to reduce the carbon emissions produced during the lifetime of the development. The AAP requires all new homes to be built to level 4 and 5 of the Code for Sustainable Homes (CfSH), decentralised energy (e.g. renewable energy), and non-residential development is required to meet BREEAM “Excellent” standards.</p>
Waste Management Champion	TBC
Person responsible for SWMP	SWMP Drafter (passing over to Principal Contractor before site work commences)
Document Controller / Secretary	TBC
Location of SWMP	TBC

Capabilities on project:
Environment

Document Control

No.	Version	Date	Revisions made by	Company and Position	Project Stage
01	SWMP for Outline Planning	13/10/10	Lawrence Chinery	AECOM ; SWMP Co-ordinator	Planning

Responsibilities

The Planning Stage SWMP is the responsibility of the SWMP Drafter on behalf of the Client with input from the design team. Prior to the commencement of work on site responsibility will pass on to the Waste Management Champion as designated by the Principal Contractor.

Following handover of the SWMP to the Principal Contractor, the SWMP Drafter (/Co-ordinator) may monitor the effectiveness and accuracy of the documentation through ad-hoc site visits. The Principal Contractor shall distribute copies of this plan to the Project Manager, Client, Site Manager, SWMP Drafter and each relevant Subcontractor as necessary. Copies of each updated plan will be retained on site for audit by the Client or SWMP Drafter.

The Principal Contractor shall be responsible for updating the SWMP during the construction phase as often as necessary, but not less than 6 monthly.

All personnel will be made aware of the relevant requirements in this Plan at the initial Site Induction and in subsequent tool box talks.

The Principal Contractor will ensure that:-

- All waste from the site is dealt with in accordance with the waste Duty of Care in S.34 of the Environmental Protection Act 1990 and the Environmental Protection (Duty of Care) Regulations 1991, that materials will be handled efficiently to minimise wastage and that all waste arising from site will be managed appropriately;
- A Waste Champion is appointed to drive the waste minimisation culture on this Project. (Details of the waste champion to be included in Section 1 of Appendix A);
- Each waste stream is identified and appropriate storage and disposal measures provided in line with Duty of Care;
- Wherever practical, waste will be re-used or recycled;
- Only when all other routes are exhausted will waste be sent to landfill. Waste destined for landfill will be pre-treated wherever technically feasible. Proof of pre-treatment will be retained with the waste records;
- The waste is segregated, secured, labelled and disposed of safely and completely;
- Waste Transfer Notes are correctly completed for each consignment of waste leaving the site;
- Hazardous Waste Consignment Notes are correctly completed for each consignment of hazardous waste;
- Waste contractors' carriers licences and permits are verified with the Environment Agency (copies to be retained on site);
- The procedures detailed in this Site Waste Management Plan are brought to the notice of all employees and subcontractors' employees;
- Where a sub-contractor is to be responsible for waste removal, the Principal contractor shall ensure compliance with this SWMP.

Site Waste Management Plans Regulations 2008 – Legal Compliance

Figure 1 below outlines the legal requirements on the Client with regard to the SWMP regulations. This SWMP will need updating prior to the commencement of construction works and handover to the Principal Contractor to meet the requirements of the Clients responsibilities in relation to the SWMP regulations.

Figure 1: Client compliance

Capabilities on project:
Environment

CLIENT	
<p>APPOINTMENT OF PRINCIPAL CONTRACTOR (para. 4) A client who intends to use one or more contractors for any project must appoint a contractor as a principal contractor</p> <p>If a client does not use a contractor, all obligations placed on the principal contractor must be carried out by the client</p> <p>PREPARATION OF A SITE WASTE MANAGEMENT PLAN (para. 5) Any client who intended to carry out a project on once construction site with an estimated cost > £300,000 (excluding VAT), must produce a plan before construction work begins</p> <p>REQUIREMENTS FOR A SITE WASTE MANAGEMENT PLAN (para. 6) Identify on the SWMP: (para. 6)</p> <ul style="list-style-type: none"> ● Client ● Principal Contractor ● Person who drafted it ● Describe the construction works: <ul style="list-style-type: none"> - Location of the site - Estimated cost of the project 	<ul style="list-style-type: none"> ● Any decision taken on waste minimisation in relation to: <ul style="list-style-type: none"> - Project nature - Design - Construction method - Materials employed ● Describe and estimate the quantity of the waste types produced during the course of the project ● Identify the waste management action proposed for each waste type including: <ul style="list-style-type: none"> - Re-use, recycling, recovery and disposal ● Declaration that the client and the principal contractor will take all reasonable steps to ensure: <ul style="list-style-type: none"> - All waste from site is dealt with under the waste duty of care legislation - Materials will be handled efficiently and waste managed appropriately <p>Please note that starting a project without a SWMP is an offence for the client and the principal contractor</p>

Capabilities on project:
Environment

Figure 2 outlines the legal requirements on the Principal Contractor. The Principal Contractor will ensure compliance with Figure 2 and the SWMP Regulations in any case.

Figure 2: Principal Contractor compliance

PRINCIPAL CONTRACTOR		
<p>UPDATING A PLAN:</p> <p>PROJECTS BETWEEN £300,000 TO £500,000: (para. 7) Whenever any waste is removed from the site the principal contractor must record:</p> <ul style="list-style-type: none"> ● The identify of the person removing the waste ● The type of waste removed ● The site the waste is being taken to <p>Within 3 months of work being completed the principal contractor must add:</p> <ul style="list-style-type: none"> ● Confirmation that the plan has been monitored on a regular basis to ensure that work was progressing to the plan and has been updated ● An explanation of any deviation from the plan <p>It is an offence for the principal contractor (or client, if no principal contractor) if the above is not carried out</p> <p>PROJECTS OVER £500,000 (para 8.) When any waste is removed from site the principal contractor must record:</p> <ul style="list-style-type: none"> ● The identify of the person removing the waste ● Waste carrier registration number ● A copy, or reference to the written description of the waste ● The site the waste is being taken to and whether the site holds a permit or is exempt 	<p>As often as necessary to ensure the plan accurately reflects the progress of the project (not less than every six month)s:</p> <ul style="list-style-type: none"> ● Review the plan ● Record the types and quantities of waste produced ● Record the types and quantities of waste that have been: <ol style="list-style-type: none"> 1. Re-used (on or off site) 2. Recycled (on or off site) 3. Recovery (on or off site) 4. Landfill 5. Otherwise disposed of <p>If necessary produce a further plan making changes to reflect the progress</p> <p>Within 3 months of work being completed the principal contractor must add:</p> <ul style="list-style-type: none"> ● Confirmation that the plan has been monitored on a regular basis to ensure that work was progressing to the plan and has been updated ● Comparison of the estimated quantities of each waste type against the actual quantities ● An explanation of any deviation from the plan ● Estimate of cost savings that have been achieved from the SWMP ● A copy must be given to the client <p>It is an offence for the principal contractor (or client, if no principal contractor) if the above is not carried out</p>	<p>AVAILABILITY OF PLAN: ALL PROJECTS (para. 9) The principal contractor must ensure that the plan is kept at</p> <ol style="list-style-type: none"> a) the site office, or b) if there is no site office, at the site. <p>The principal contractor must ensure that every contractor knows where it is kept, and must make it available to any contractor carrying out work described in the plan.</p> <p>It is an offence for the principal contractor (or client, if no principal contractor) if the above is not carried out.</p> <p>KEEPING PLANS: ALL PROJECTS (para 10)* The principal contractor must keep the plan for 2 years after the completion of the project at their principal place of business or at the site of the project.</p> <p>It is an offence for the principal contractor (or client, if no principal contractor) if the above is not carried out.</p>

Materials Resource Efficiency

<p>Waste minimisation statement</p>	<p>During the construction of the North West Cambridge development, waste minimisation will be considered from the design stage through to construction thereby reducing the amount of waste to be removed from the project. The Design Team and relevant contractors will all be encouraged to look at ways to minimise the amount of waste produced wherever practicable.</p>
--	---

Capabilities on project:
Environment

Waste Management

Introduction

Surplus or waste materials may arise from either materials imported to site or from those generated on site.

However, there are other considerations to waste management such as waste reduction, segregation of waste, disposal of waste, financial impacts of waste disposal and recording, monitoring, education and reviewing. This plan outlines the procedures that have been put in to place and demonstrate how they benefit the environment, how we can measure the effects and how these procedures and practices are sustainable.

Relevant waste and resource management procedures will be communicated to all operatives during the site induction.

Segregation

A specific area shall be laid out and labelled to facilitate the separation of materials for potential recycling, salvage, reuse and return. Recycling and waste receptacles are to be kept clean and should be clearly marked in order to avoid contamination of materials. The labelling system shall be clear and simple. If the relevant receptacles are clearly identified this will aid the bulk of the workforce in depositing the correct materials into the appropriate receptacle.

Site Security

Both Client and Principal Contractor must take reasonable steps to ensure site security measures are in place to prevent the illegal disposal of waste at the site.

Training & Communication

The Principal Contractor will provide on-site instruction of appropriate separation, handling, recycling, reuse and return methods to be used by all parties at all appropriate stages of the Project. Toolbox talks will be carried out every month on waste issues and all subcontractors will be expected to attend. The SWMP will also be mentioned in the site induction process. This will ensure that everyone feels they are included and that their participation is meaningful.

Monitoring

A log will be maintained of all materials that come on to site, and details will be obtained from the waste disposal company of the exact amount of waste materials removed from site. Details will also be provided outlining the recovery/disposal actions for the specific waste streams.

Waste receptacles will be monitored by the Principal Contractor to ensure that contamination has not occurred, results will be recorded.

The Principal Contractor will continually review the type of surplus materials being produced and change the site set up to maximise reuse or recycling and the use of landfill will be the last option.

The Principal Contractor will also visit any waste transfer facility to ensure that we are effectively discharging 'Duty of Care'. They will also periodically follow waste transfer vehicles to their final point of disposal to monitor compliance. Details of these visits will be recorded for audit purposes.

Forecasting of Waste Volumes

In line with Paragraph 6 of the SWMP Regulations, projected waste arisings have been estimated by the design team. These Estimates are included herein. Forecast estimates are based upon details provided by the design team using waste benchmark data for specific building types as produced by the Building Research Establishment (BRE) for consultation with industry.

Capabilities on project:
Environment

Waste Generation Estimates

The following table shows waste generation estimated based on the Proposed Development. Note that this is based on typical construction typologies and may be different for the Proposed Development depending on construction methods selected.

Waste Category	Residential (m ³)	Academic/Commercial Research (m ³)	Supermarket (m ³)	Retail (m ³)	School (m ³)	Student Housing (m ³)	Hotel (m ³)	CHP (m ³)	Police Touch Down (m ³)	Community Centre/In door Sports (m ³)	Nursery (m ³)	Primary Health Centre (m ³)	Senior Living (m ³)	Car Park (m ³)	Total (m ³)
Bricks	4,573	990	22	33	37	1,400	105	2	1	5	20	5	93	8	7,294
Tiles and Ceramics	602	65	2	2	2	184	9	0	0	1	1	0	12	1	882
Concrete	4,893	2,363	34	50	89	1,498	130	2	1	4	47	9	99	82	9,302
Inert	8,579	3,398	42	64	127	2,627	15	20	10	32	68	7	174	85	15,250
Insulation	2,499	567	6	8	21	765	36	1	1	5	11	4	51	22	3,999
Metals	1,402	774	33	49	29	429	38	3	2	6	15	6	28	54	2,870
Packaging	7,462	1,809	21	32	68	2,285	103	8	6	18	36	17	152	44	12,062
Gypsum	4,118	736	14	21	28	1,261	73	2	2	6	15	14	84	44	6,417
Binders	448	32	1	2	1	137	10	0	0	1	1	2	9	5	645
Plastics	2,445	578	11	16	22	749	22	1	2	6	12	4	50	19	3,935
Timber	6,806	2,647	41	62	99	2,084	155	5	9	30	53	17	138	77	12,224
Floor coverings (soft)	58	66	1	1	2	18	5	0	0	0	1	1	1	0	154
Electrical & electronic equipment	227	121	1	2	5	70	8	0	0	1	2	1	5	11	442
Furniture	173	53	3	4	2	53	5	0	0	0	1	0	4	1	298
Canteen/ office/ adhoc	2,582	800	11	16	30	791	29	3	2	7	16	3	52	80	4,422
Liquids	80	21	0	0	1	25	21	0	1	3	0	0	2	43	153
Oils	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Soils	5,251	6,688	64	96	251	1,608	407	136	9	29	134	31	107	1,382	16,191
Asphalt and tar	896	305	4	7	11	274	12	4	1	3	6	4	18	9	1,556
Hazardous	45	49	1	1	2	14	4	0	2	5	1	0	1	2	125
Other	512	510	3	5	19	157	112	0	2	6	10	0	10	27	1,373
Mixed	3,795	4,087	78	117	153	1,162	101	4	11	34	82	14	77	50	9,764
Total	57,446	26,659	392	588	1,000	17,593	1,399	191	64	202	533	139	1,167	2,046	109,357

Waste Volumes based on "BRE: Waste Benchmark Data by product for Different Project Types, 15th January 2010", and a multiplication factor applied to achieve necessary BREEAM Credits.

Capabilities on project:
Environment

Planning the reduction, reuse and recycling of waste

Indicative methods of improving resource efficiency in the construction works are outlined in the table below. Wherever possible it is proposed to comply with best practice techniques, only disposing through landfill as a last resort.

Waste type	Waste Materials	Trade Contractor Package	BEST PRACTICE			STANDARD PRACTICE		
			Waste Minimisation Opportunities	Reuse/Recycling/Recovery On Site	Reuse/Recycling/Recovery Off Site	Reuse/Recycling/Recovery Disposal		
Inert	Concrete	Construction	Retention of concrete on site where possible. Only order what is required.	Use as secondary aggregate on site.	Segregate for reprocessing and reuse as recycled secondary aggregate.	Landfill and cover		
	Rubble (hard core)	Construction	Only order what is required.	Opportunities to reuse 'cut' material as 'fill' in proposed noise bund.	Segregate for reprocessing and reuse as recycled secondary aggregate.	Landfill and cover		
Non-hazardous	Soils/ Green waste/ vegetation	Construction		Opportunities to reuse 'cut' material as 'fill' in proposed noise bund.		Landfill and cover		
	Mixed waste	Construction	Use of standard sizes. Arrange take back of unused materials with the supplier.	N/A	Segregate materials to maximise potential for recycling.	Landfill/ incineration		
	Metal	Construction	Made to measure, correct ordering, just in time delivery, store correctly. Arrange take back of unused materials with the supplier.		Segregate waste and send to metal recycler.	Landfill		
	Timber	Construction	Avoid over-ordering. Provision of suitable storage to avoid damage. Arrange take back of unused materials with the supplier.		Re-use / Recycle if feasible.	Landfill/ incineration		
	Plasterboard	Construction	Avoid over-ordering. Provision of suitable storage to avoid damage. Procure to design specifications. Arrange take back of unused materials with the supplier.	Cannot reuse.	Recycle if feasible.	Landfill		
	Packaging	Construction	Ask suppliers to send product with minimal packaging / reusable containers, buy bulk not individually wrapped products. Return pallet to supplier or use plastic pallets.	N/A	Segregate materials to maximise potential for recycling.	Landfill/ incineration		
	Cable & wiring	Construction	Avoid over-ordering. Arrange take back of unused materials with the suppliers.	Reuse on site if appropriate.	Segregate and recycle to reclaim plastics and metals.	Landfill		

Capabilities on project:
Environment

Hazardous	General Office waste	Site management.	Print double sided, send documents electronically, reusable crockery and cutlery.	Reuse paper, cartridges, plastic cups, tins and cardboard.	Segregate and recycle white paper. Send for composting (food waste only).	Landfill
	Glass	Construction	Avoid over-ordering, appropriate storage to avoid accidents. Arrange take back of unused materials with the supplier.	N/A	Segregate and send for recycling.	Landfill and cover
	WEEE	Construction	N/A	Re-use elsewhere on site.	Send to dedicated recycling facility for recovery and recycling.	Landfill
	Asbestos	Construction	N/A	N/A	N/A	Landfill
	Contaminated land	Construction	Avoid excavation where unnecessary.	Consider on-site treatment methods.	Treatment at contaminated land hubs.	Landfill
	Paint tins, line markers, mastic	Construction	Use solvent free paints that are not disposed off as hazardous waste, maximise use of mechanical fitting rather than adhesives. Arrange take back of unused materials with the supplier.	Use a lockable COSHH container for storage.	N/A	Landfill
	WEEE	Construction	N/A	Re-use elsewhere on site.	Send to dedicated recycling facility for recovery and recycling.	Landfill

Capabilities on project:
Environment

Declaration

The Client and Principal Contractor will take all reasonable steps to ensure that:

<p>a) all waste from the site is dealt with in accordance with the waste duty of care in section 34 of the Environmental Protection Act 1990 and the Environmental Protection (Duty of Care) regulations 1991; and</p> <p>b) materials will be handled efficiently and waste managed appropriately.</p>			
Signed on behalf of the Client		Signed on behalf Principal Contractor	
Signature		Signature	
Print Name		Print Name	
Date		Date	