



OUTLINE WASTE MANAGEMENT PLAN

DOCUMENT 9

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1 Introduction

1.1 Background

- 1.1.1 This Outline Site Waste Management Plan (SWMP) has been drafted on behalf of the Curborough Consortium (the Applicant) and accompanies an outline planning application for a new settlement at Curborough to be submitted to Lichfield District Council.
- 1.1.2 A Screening Opinion was requested from Lichfield District Council in August 2007 and it was confirmed that an Environment Impact Assessment of the proposals was required.
- 1.1.3 Following the guidelines of Planning Policy Statement 10 (Paragraph 34) and the Regional Spatial Strategy (Policies M3 and WD3) the Council has requested that a Waste Management Plan is prepared to demonstrate that the waste implications of the development have been considered. The SWMP is also required to achieve all levels of rating under the Code for Sustainable Homes.
- 1.1.4 This SWMP has been prepared in accordance with the Site Waste Management Plans Regulations 2008 and DTI's Voluntary Code of Practice 'Site Waste Management Plans. Guidance for Contractors and Clients' (July 2004). The Regulations were laid before Parliament on 15th February and are due to come into force on 6th April 2008.

Site Location

- 1.1.5 The site covers an area of approximately 510 hectares to the north of Lichfield. It includes part of the former Fradley airfield of RAF Lichfield, with some of the buildings now used for warehousing. The southern section of the site is dominated by agricultural land. The site also includes numerous watercourses, ponds and drains. The Coventry Canal and the Trent and Mersey Canal meet at Fradley Junction in the north west. Curborough Brook flows in a northerly direction through the west of the site, with Mare Brook in the south and east, and Circuit Brook and Pyford Brook in the south west.

The Proposed Development

1.1.6 The proposed development will be constructed around the existing and substantial employment area at Fradley Park. It will comprise:

- Up to 5,000 new dwellings
- Affordable and Special Needs Housing
- Secondary School with dual use leisure facilities (incorporating sports hall and swimming pool)
- 2 Primary Schools
- Infrastructure and highway works
- Public Transport Services including Park and Ride provision
- Local Centre
- Local Retail Provision
- Pub / Restaurant facilities
- Nursery provision
- Health Care Facility
- Library Facility
- Community Centre/Hall
- Place of Worship
- Waste Recycling Facilities
- Public Open Space

Design Concepts

1.1.7 Energy conservation methods will be incorporated into the design, layout and building fabric of the development. The U-values of the residential buildings will be significantly reduced, with air permeability addressed to ensure that heat loss is kept to a minimum through quality construction and thermal bridging by reducing heat loss as different materials join. The commercial

sector of the proposal will incorporate improved building fabric, night ventilation, good natural daylight and energy efficient lighting.

1.1.8 It is the aim of the proposal to achieve the recommended Code level (i.e. Code for Sustainable Homes) for all of the new dwellings on the site that is in place at the time of construction. It is envisaged that each phase of the development will have its own energy assessment. The outline application commits to a reduction in CO2 emissions, compared to current building regulation requirements.

1.1.9 The completion of an SWMP is a mandatory requirement of all levels of the Code. At the design stage of a development the SWMP must identify procedures and set targets for the following:

- monitoring of waste on site and targets to promote resource efficiency;
- minimising waste generated on site (including the ordering, handling and storing of materials);
- sorting and recycling site construction and demolition waste. This can be in the form of a specific waste policy or procedure, specification, or letter of appointment for a waste/recycling contractor.

1.1.10 The SWMP must also include the name and position of the person responsible for implementing the plan, and how the plan will be implemented.

1.2 Structure and Scope of the Report

1.2.1 This Outline Plan has been prepared to meet the requirements of Lichfield District Council. It considers the type and volume of wastes that will be generated from the proposed development, including from the demolition of existing buildings and infrastructure. In particular, this Plan sets out:

- The responsibility for resource management;
- The types of waste to be generated;
- How waste will be managed – will it be reduced, reused or recycled?
- What waste management facilities are available? And
- How the quantity of waste generated from the project will be measured?

1.2.2 The SWMP applies to the proposed development as detailed in the Planning Statement and will support the outline planning application. The SWMP is currently an outline document, but will be updated through reserved matters submissions and conditional requirements as the proposed scheme progresses. In the preparation of this document RPS has assumed that the development will be phased over 15 years, and that a method statement to address waste issues will be prepared as part of future reserved matters/submissions.

1.3 Other Documents

1.3.1 This SWMP should be read in conjunction with the following documents:

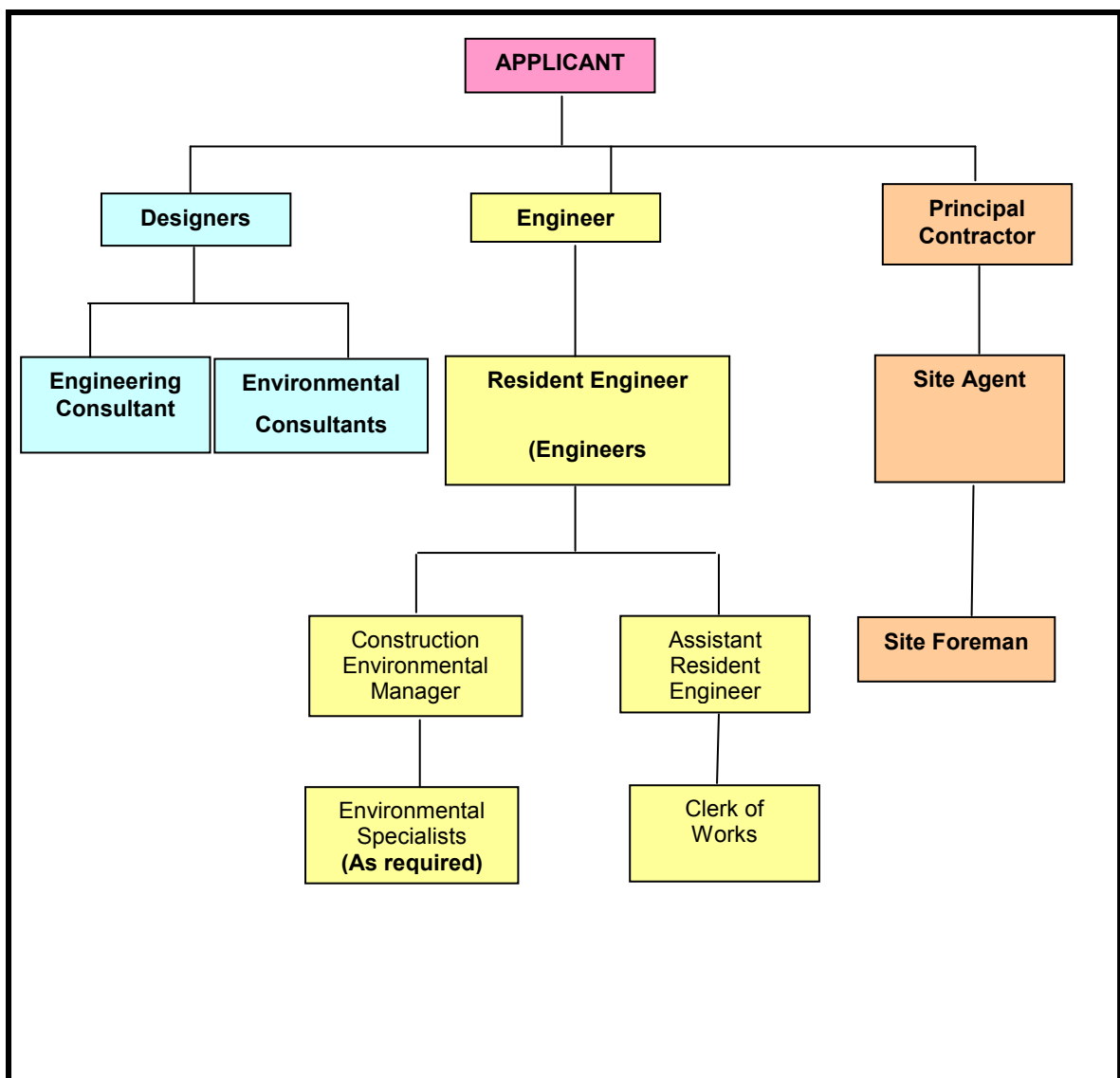
- Construction Phase Health and Safety Plan and Construction Phase Quality Plan (both of which will be prepared in due course by the Principal Contractor);
- Code of Construction Practice or Construction Environmental Management Plan specifically prepared for this Scheme; and
- Any future Archaeological work required by virtue of planning conditions.

2 Roles and Responsibilities

2.1 Construction Team

2.1.1 As the SWMP is currently an outline document, it is not possible to define the exact roles and responsibilities for key personnel as these appointments and contract decisions have yet to be made. However, there are generic positions to most construction projects and these are illustrated in the Figure below.

Figure 2.1 Hierarchical Structure of Construction Projects



2.1.2 Given the scale of the proposed development it is likely to be a notifiable construction project under the Construction (Design and Management) Regulations 2007 (i.e. the work is likely to last longer than 30 days or involve 500 person days of work). As a result, most (if not all) of the positions illustrated in Figure 2.1 will be applicable. Furthermore, the Regulations require the appointment of a CDM co-ordinator at the initial design/preparation stage. This will follow the outline application stage when detailed design work commences.

2.1.3 The contract may also follow the contract format from the ICE Conditions of Contract 7th Edition, the Construction (Design and Management) Regulations 2007 or NEC3 (New Engineering Contract 3rd edition). These Regulations identify the legal duties, responsibilities and obligations of all parties and are designed to share the risk amongst the parties involved. The Regulations and other applicable legislation take precedence over the duties and responsibilities defined in this document.

2.1.4 In terms of this SWMP the key roles and associated responsibilities are discussed below.

2.2 Individual Responsibilities

2.2.1 The prime roles and responsibilities of key members of the project team relating to environmental issues are defined will be defined in the Construction Phase Quality Plan.

Engineer

2.2.2 The Engineer is generally appointed by the client and has the overall responsibility for:

- Maintaining and delivering the SWMP on behalf of the client.
- Ensuring all procedures in the SWMP are followed.
- Ensuring all contractors are suitably qualified and experienced in dealing with the SWMP and environmental issues.

- Ensuring that all legal and contractual requirements relating to the SWMP and environment are met by ensuring adequate plans/procedures, licences and certificates are in place, and that they can be achieved.

2.2.3 In the case of contracts under the ICE 7th edition, there may also be a position of Resident Engineer. This post will report to the Engineer and be responsible for the management of the Principal Contractor.

Construction Environmental Manager (CEM)

2.2.4 The Environmental Manager (or on some sites, the Environmental Clerk of Works), will report directly to the Engineer, and will have responsibility for the following:

- Liaison with statutory and non-statutory consultees and interested parties as required.
- The Construction Environmental Manager will report to the Engineer, to ensure that any actions taken for contractual reasons do not have environmental implications prior to instruction.
- Liaise with the Engineer to ensure that all legal and contractual requirements relating to this Outline SWMP and the environment are met by ensuring adequate plans/procedures, licences and certificates are in place, and that they can be achieved.
- As a requirement of this Outline SWMP the CEM will liaise with the Engineer/Site Representative to ensure that all on-site SWMP requirements are followed by carrying out regular reviews of the main contractor's Quality Management Systems audit findings. The main contractor is required as part of the contractual arrangements to establish procedures for the regular review and recording of the quality of the works.
- Maintaining a good relationship with neighbouring residents, businesses and the local authorities on all issues relating to the SWMP and environment, and liaise with regulatory bodies with or on behalf of the Engineer as required.

- Ensuring that all members of staff and employees have received appropriate training to enable them to meet their environmental management obligations, by reviewing all staff (Main contractor) training records.
- Monitor the quality of the work carried out by all other staff members, including landscape architects, ecologists and archaeologists, to fulfil the environmental requirements of the contract.
- Reporting to the Engineer on compliance with the SWMP.
- Maintain records relevant to this Outline SWMP.

3 Waste Arisings

3.1 Demolition

- 3.1.1 Approximately 10% of the application site can be described as 'previously developed' land. The northern area, north of Woodend Lane, is dominated by part of the former Fradley airfield of RAF Lichfield. A brief walk-over by Atkins in September 2007 identified five large hangars (formerly used for RAF aircraft facilities), which are now used as warehousing depots. Other buildings include gate houses and former munitions stores together with infrastructure such as hard standings, aprons and roadways.
- 3.1.2 The southern part of the site, south of Woodend Lane is predominantly used for agriculture. However, there are also a number of mixed business uses including two warehouses, a vehicle distribution company and a plant/machinery repair company. To the east of the site across the A38 are a farm, a number of dwellings, a railway line and a canal.
- 3.1.3 A survey will be undertaken by an appropriate contractor on behalf of the Applicant prior to demolition to identify those materials with the potential for re-use and/or recycling and those waste materials that require special treatment e.g. asbestos. The survey will follow guidance from the ICE's (Institute of Civil Engineers) Demolition Protocol and the information would be used to update the SWMP.

3.2 Construction Programme

- 3.2.1 In order to identify the volume of waste generated by the proposed development, the Construction Programme must be divided into its key stages as each stage of the development has the potential to generate significant volumes of waste.
- 3.2.2 The key programme stages that could potentially produce wastes include:
- Preliminaries (establishment of site and site compound).
 - Site clearance.

- Fencing.
- Earthworks.
- Piling.
- Substructure.
- Structure.
- Installation of drainage systems.
- Construction of access road.
- Paving.
- Lighting and signage.
- CCTV systems.
- Landscape works (planting).
- Vehicle movements and material transportation (occur as part of all construction phases).
- Import/export of materials and waste products by road transport.
- Storage of raw materials.
- Storage and use of a variety of chemical substances including: cement and concrete; fuels, oils and lubricants; other chemicals such as detergents and cleaning fluids.
- Generation of solid waste and liquid effluent.

3.2.3 Given that the planning application is at outline stage, a detailed indicative construction programme has not been confirmed. However the overall schedule is likely to be:

- Spring 2008 to Spring 2009 – submit and secure outline planning consent and the first phases of reserved matters;
- Summer 2009 to Summer 2010 – on-site construction and delivery of early phase infrastructure; (Wastes will be produced from this stage onwards);
- 2011 – completion of first residential properties; and

- 2026 – 15 year phased built-out averaging at 350 units per annum (comprising market and affordable housing).
- 3.2.4 When more detailed design information is available and contract tenders have been awarded, the indicative construction programme will be updated in advance of the build and referenced to the SWMP. The SWMP will be updated by the Construction Environmental Manager where necessary.
- 3.2.5 The Principal Contractor will be required under the ICE Conditions of Contract 7th Edition to submit a programme to the Engineer for approval before construction commences. This programme will demonstrate how the requirements of the SWMP have been considered planned and programmed.
- 3.2.6 The Engineer will approve the programme, with the Construction Environmental Manager liaising, to ensure that SWMP constraints and issues are addressed within the programme.
- 3.2.7 The Contractor shall provide sufficient information prior to commencement of construction to show that the requirements of the SWMP have been considered and planned and programmed. This will be demonstrated through the programme and method statements. The relevant site correspondence will refer to the SWMP and be filed accordingly.
- 3.2.8 If at any time the SWMP conflicts with the contractual and legal obligations etc. for the scheme in general the Contractor will inform the Engineer at the earliest opportunity highlighting the action or area of conflict.
- 3.2.9 The timings of the project require that all forward planning should consider the measures contained within the SWMP, and that the construction programme and method statements should clearly demonstrate how requirements would be met.

3.3 Waste Types

- 3.3.1 The wastes produced on site will include:
- Inert - as defined by regulation 7(4) of the Landfill Regulations e.g. brick, glass, concrete, clean sub soil such as sand or clay;

- Non-Hazardous – e.g. paper, cardboard, topsoil
- Hazardous – as defined by the Hazardous Waste Regulations.

3.3.2 These materials will range from excavated spoil to demolition materials. The following list contains the general List of Waste Categories for construction wastes.

17 Construction and demolition wastes (including excavated soil from contaminated sites – it should be noted that waste types generated will not be restricted to this list)
17 01 Concrete, bricks, tiles and ceramics
17 01 01 Concrete
17 01 02 Bricks
17 01 03 Tiles and ceramics
17 01 06* Mixtures of, or separate fractions of concrete, bricks, tiles and ceramics containing dangerous substances
17 01 07 Mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
17 02 Wood, glass and plastic
17 02 01 Wood
17 02 02 Glass
17 02 03 Plastic
17 02 04* Glass, plastic and wood containing or contaminated with dangerous substances
17 03 Bituminous mixtures, coal tar and tarred products
17 03 01* Bituminous mixtures containing coal tar
17 03 02 Bituminous mixtures other than those mentioned in 17 03 01
17 03 03* Coal tar and tarred products
17 04 Metals (including their alloys)
17 04 01 Copper, bronze, brass
17 04 02 Aluminium
17 04 03 Lead
17 04 04 Zinc

17 04 05 Iron and steel
17 04 06 Tin
17 04 07 Mixed metals
17 04 09* Metal waste contaminated with dangerous substances
17 04 10* Cables containing oil, coal tar and other dangerous substances
17 04 11 Cables other than those mentioned in 17 04 10
17 05 Soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 03* Soil and stones containing dangerous substances
17 05 04 Soil and stones other than those mentioned in 17 05 03
17 05 05* Dredging spoil containing dangerous substances
17 05 06 Dredging spoil other than those mentioned in 17 05 05
17 05 07* Track ballast containing dangerous substances
17 05 08 Track ballast other than those mentioned in 17 05 07
17 06 Insulation materials and asbestos-containing construction materials
17 06 01* Insulation materials containing asbestos
17 06 03* Other insulation materials consisting of or containing dangerous substances
17 06 04 Insulation materials other than those mentioned in 17 06 01 and 17 06 03
17 06 05* Construction materials containing asbestos
17 08 Gypsum – based construction material
17 08 01* Gypsum-based construction materials contaminated with dangerous substances
17 08 02 Gypsum-based construction materials other than those mentioned in 17 08 01
17 09 Other construction and demolition wastes
17 09 01* Construction and demolition wastes containing mercury
17 09 02* Construction and demolition wastes containing PCB (for example PCB-containing sealants, PCB-containing resin-based floorings, PCB-containing sealed glazing units, PCB-containing capacitors)
17 09 03* Other construction and demolition wastes (including mixed wastes) containing dangerous substances

17 09 04 Mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03

- 3.3.3 It is anticipated that wastes will still be fly tipped on or around the site in spite of the security measures in place. While the levels of tipped wastes will be very small, the waste stream will still require appropriate management and control.
- 3.3.4 Given the current and former uses of the site, there is the potential for contaminated land to be present. Therefore, it is likely that historically contaminated soils and demolition wastes will form part of the waste stream from the site, which will be managed accordingly. We envisage that areas of potentially significant contamination will have been delineated as part of the Environmental Impact Assessment. We would therefore, propose a contamination hotspot watching brief is undertaken. This will be supplemented by information from the initial site survey, the purpose of which is to identify what materials can potentially be reused.
- 3.3.5 Contaminated materials and hazardous wastes will also be considered. Given the age of many of the buildings on site, they are likely to include asbestos containing materials. Pavings and hard standing may be contaminated, particularly in the former maintenance and re-fuelling areas. Aircraft and aircraft parts are also known to have been buried on site in former marl and gravel pits. This is subject to further archaeological investigation.

3.4 Framework SWMP Plan

- 3.4.1 The following SWMP plan will be completed prior to construction activities taking place. The plan is a useful tool to record the types of waste and estimate the volumes that will be generated from all stages of the work programme. It also identifies those materials that could potentially be re-used or recycled and suggested market outlets. Targets can then be set for different material types based on the predictions of the plan (i.e. % of a material re-used on site).

Waste Management Plan

Construction Stage	Material	Quantity	Quality	Stage Start Date	Stage Term	Market Outlets	Notes/ Standards
		Tonnes per annum	Level of contamination with non-targeted material (%)		Years	To be reviewed and agreed subject to heads of terms	

3.4.2 As the construction programme progresses, the plan is developed into a detailed SWMP Construction Phase Data Sheet, an example of which is set out in Appendix A. The data sheets are used to record the actual waste types and quantities generated and how each waste stream is managed. The sheets should be updated regularly. The data sheets are then compared to the targets to allow performance to be assessed.

4 Waste Management Options

4.1 Guidance and Principles

4.1.1 The regulatory framework for this SWMP comprises the following:

- Part II Environmental Protection Act 1990
- Environment Act 1995
- Environmental Protection (Duty of Care) Regulations 1991
- Special Waste Regulations 1996
- Waste Management Licensing Regulations 1994 (as amended). These Regulations will be replaced by the Environmental Permitting Regulations, which will come into force on 6th April 2008)
- Landfill (England and Wales) Regulations 2002
- Site Waste Management Plans Regulations 2008 (to come into force on 6th April 2008)
- Sector guidance (WRAP, BRE, DTI, Envirowise)

4.1.2 During the implementation and monitoring of this Plan, the Applicant will comply with all of the relevant provisions listed above. In particular, waste materials will only be transported by those authorised to do so i.e. registered waste carriers and each consignment of waste will be accompanied by the correct waste transfer documentation. The waste will only be transferred to facilities that have the benefit of an exemption, a waste management licence, or a PPC permit.

4.1.3 Non-hazardous wastes destined to be landfilled will be pre-treated prior to disposal in accordance with the Landfill (England and Wales) Regulations 2002. 'Treatment' can comprise physical, thermal, chemical or biological processes providing that they change the characteristics of the waste in order to reduce its volume or hazardous nature or to facilitate its handling or recovery.

4.2 Eliminate

- 4.2.1 Approximately 13 million tonnes of waste are generated by the construction industry each year as a result of materials being delivered to the site and never being used (DTI 'Review of Sustainable Construction, 2006).
- 4.2.2 To address this issue, the design concept will identify techniques to eliminate waste. These measures may include:
- The use of prefabrication where possible;
 - Simple architect designs (e.g. use optimal building dimensions to correspond with standard building sizes to minimise cut-off wastes); and
 - Suppliers to accept the return of materials in good condition.
- 4.2.3 A Bill of Quantities will be prepared for each construction phase that specifies materials and quantities required. This will be assessed by the Applicant (and their representatives) for accuracy, and will be discussed with the appropriate contractors (including the project quantity surveyor).
- 4.2.4 All fabrication activities will be designed to optimise the use of materials (e.g. steel) to minimise waste and scrap. All those involved in the purchase of materials will take steps to minimise waste by re-checking estimates of the quantities required.
- 4.2.5 Only essential materials for the stage ahead will be stockpiled on site. Steps will be taken to ensure materials are stored on site in an appropriate way to reduce waste from damaged goods e.g. timber will be stored on level blocking under cover to minimise warping and twisting, and bricks/other masonry will be stacked and covered.

4.3 Reduce, Recycle, Recover

- 4.3.1 The construction sector is the largest single source of waste arisings in England. The main component is 90 million tonnes of inert waste that is potentially suitable for reprocessing into aggregates. The UK Waste Strategy proposed a possible target of halving the amount of CD&E waste going to landfill as a result of waste reduction, re-use and recycling.

- 4.3.2 The SWMP will improve the resource efficiency of the proposed development by adopting a proactive approach to recycling waste. All recyclable waste (e.g. steel, timber, oil, paper etc) generated during the demolition and construction stages shall be segregated on-site and evaluated by the supervisor and material controller to determine possible use on the project. Key areas would include the recovery and reuse of demolition materials as a sub base for buildings or site roads during construction. Where materials cannot be reused or recycled on site, collections will be arranged by appropriate recycling facilities in the vicinity.
- 4.3.3 Where possible, recycled materials will be used in the proposed development. Alternatively, tools such as BRE's Environmental Profiles and the software ENVEST can be used to source building elements and materials with the least environmental impact.
- 4.3.4 On completion of the construction works, a local recycling point will be provided. This facility is likely to be located within the commercial area of the settlement. Lichfield District Council currently operates a successful kerbside collection scheme. It is envisaged that this scheme may be extended to include to the new residential properties, however this would be subject to further discussion with the Local Authority.

4.4 Disposal

- 4.4.1 All waste (including any fly tipped wastes) will be collected and disposed of by a registered licensed contractor to a licensed site suitable for the type of waste, and the appropriate records maintained. Burning of surplus material or material arising from the site will not be permitted within the site.

4.5 Storage and Handling of Waste

- 4.5.1 An appropriate storage area will be established with skips to allow for segregation of wastes. Each skip will be clearly marked to indicate the intended contents and will be suitable for storage of the specified contents. All skips will be covered to prevent the escape of any waste. If liquid waste is being stored, an appropriate bund and drip pans shall be in place to prevent

the escape of spilled liquid beyond the storage area and to protect the watercourses on the site.

- 4.5.2 Storage areas will be located away from potential contaminant pathways such as soakaways, drains and other watercourses, trial pits, excavations and trenches.
- 4.5.3 Where possible, materials will be recycled and the corresponding segregation facilities provided
- 4.5.4 Any hazardous waste identified will be stored safely, in a designated area away from non-hazardous and inert wastes, and labelled accordingly
- 4.5.5 Containers will be made available on site at strategic locations for the disposal of waste materials (including domestic and trade waste, rubbish, off-cuts, surplus concrete). The containers will be emptied on a regular basis and the waste disposed of at an appropriate disposal facility.
- 4.5.6 The dumping of rubbish and material waste shall not be tolerated on any part of the site outside of designated waste storage areas. All material wastes shall be removed from the site and disposed off at an approved Waste Disposal depot.

4.6 Contaminated Waste and Soil

- 4.6.1 Contaminated wastes may be generated as part of maintenance practices, spillages and leaks. Prompt action for any spillage or leak will help reduce final volumes of waste produced.
- 4.6.2 Any contaminated wastes will either be:
 - Transported off site for remediation.
 - Transported for disposal at a hazardous waste landfill.
- 4.6.3 If contaminated material is identified within excavations, the Environment Agency will be informed and advice on disposal sought. The excavation will cease in order to reduce the risk of mobilising the contaminants. The contaminated material will be characterised on the special waste transfer note

according to the European Waste Catalogue and will be collected and disposed of by a registered licensed contractor.

4.6.4 The contaminated materials will either be;

- Remediated on site
- Transported off site for remediation
- Transported for disposal at a hazardous waste landfill.

4.6.5 The option chosen will be dependent on the nature and toxicity of the materials discovered, the pollution risks, the availability of appropriate remediation and the cost.

4.7 Invasive Species

4.7.1 Although it is understood not to effect the site, if Japanese Knotweed (or certain other invasive species), is discovered on site its management/disposal will follow the Environment Agency's code of practice (or other guidance). In these instances, a Japanese Knotweed management plan will be prepared and all relevant contractors on the site shall be informed of plan. Where possible, it will be controlled in its original location with herbicide by a competent and qualified person over a period of two to five years.

4.8 Soil Handling and Storage

4.8.1 Soil management is an important consideration within this SWMP because it represents a resource that is easily damaged or contaminated, resulting in waste. In view of this, the following sections contain soil management principles:

4.8.2 Soils mounds will be damped down (subject to appropriate licensing) as and when weather conditions dictate.

4.8.3 Where possible, topsoil storage areas will be fenced off. Tracked machinery will not be permitted over areas of stored topsoil to avoid potential damage and compaction of the topsoil 'crumb' structure.

- 4.8.4 If damage occurs to the topsoil, the contractor will be required to rectify the damage by the addition of suitable ameliorates or in the worst case, replace the damaged topsoil.
- 4.8.5 Handling of topsoil will be avoided when it is very wet, because deformation occurs. Soil will not be stripped or laid when it is wetter than the Plastic Limit (PL) and preferably not when the moisture content is wetter than the PL. The PL can be assessed in the field as the minimum moisture content at which the soils can be rolled and moulded into a thick thread approximately 3mm in diameter without breaking or cracking.
- 4.8.6 Double handling of topsoil will be avoided at all times (apart from when being stored).
- 4.8.7 Where possible, any topsoil to be used again on the site will be located in specific areas in order that the existing dwellings are not affected by dust blow.

5 Waste Management Facilities

5.1 Facilities

5.1.1 The Figure below illustrates the waste management facilities in the proximity of the proposed development.

Operator	1	2	3	4	5	6	7	8	9
Collection Service		*		*	*		*		*
Asbestos Cement					☑		☑	☑	✓
General C&D waste	✓	✓	✓	✓	✓	✓	☑	✓	✓
Metal	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wood	✓	✓	✓	✓	✓	✓	✓	✓	✓
Plate/Flat Glass	✓	✓	✓	✓	✓			✓	✓
Ferrous Metal	✓	✓	✓	✓	✓	✓	✓	✓	✓
Non-Ferrous Metal	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cardboard	✓	✓	✓	✓	✓	✓	✓	✓	✓
Plastic	✓	✓	✓	✓	✓	☑	✓	✓	✓
Plastic Film	✓	✓	✓	✓	✓	☑	✓	✓	✓
Distance	3	9	13	15	17	1	7	18	24

☑ Disposes

✓ Recycles

(Source: The Environment Agency)

Reference	Operator
1	EA Barnes & Sons Ltd
2	Norgrove Graham
3	Green Lane Motor Salvage
4	Holburn Waste Ltd
5	Weir Waste Services Ltd
6	Jones Waste Services
7	WMM Briers & Son (Tamworth) Ltd
8	Robert Hopkins & Son Ltd
9	TBD Morris Environmental Ltd

5.1.2 During the Construction Programme the availability of recycling/reprocessor and disposal sites will change. It will be the responsibility of the Construction Environmental Manager to evaluate the waste management marketplace and identify suitable options. This function will be extended for the purposes of contingency planning, whereby alternative sites to main sites will be identified.

5.1.3 Only appropriately qualified and licensed contractors, with suitable experience shall be used as a requirement of this SWMP.

6 Training

6.1 General

- 6.1.1 A training regime shall be implemented to ensure that all members of the construction team, including sub-contractor's personnel receive focused SWMP training to ensure their competence in carrying out their duties on the project.
- 6.1.2 Any SWP training shall be extra to the mandatory training requirements of the Site Health and Safety Plan and the Site Code of Construction Practice. An example of a training form is reproduced in Appendix C.

6.2 Environmental Induction

- 6.2.1 General site induction shall be developed to introduce all site personnel to the environmental issues connected with the SWMP, the project, important environmental controls associated with the day to day operation of the project and the effective delivery of the SWMP e.g. waste storage arrangements, appropriate waste segregation. A full register of induction attendance shall be maintained on site.

6.3 Toolbox Talks and Method Statement Briefings

- 6.3.1 Tool box talks and method statement briefings will be given as the work proceeds and will cover the types of wastes produced at each key build stage, the SWMP controls related to specific activities undertaken during the works for example recycling of aggregates etc. A full register of toolbox talk and method statement briefing attendance shall be maintained on site.

6.4 Training Records

- 6.4.1 All training records will be maintained and filed on site. The records shall include the content of the courses (induction and toolbox training), record of attendance and schedule of review.

7 Audit, Monitor and Review

7.1 Site Inspection

- 7.1.1 Regular inspections of the works shall be undertaken by the Principal Contractor (or an appropriately trained nominated member of the site staff) to ensure the continued compliance of site operations with the provisions of this SWMP and control measures outlined in relevant method statements.
- 7.1.2 'Stop Shift' audits will be carried out on a regular basis to ensure sub-contractors and site operatives are operating in compliance with this SWMP.

7.2 Internal Inspection

- 7.2.1 Periodic inspections (at least monthly) by the Construction Environmental Manager shall be carried out. Any non-conformities and actions arising from monthly inspections will be raised within routine Construction Team meetings.
- 7.2.2 Performance of the SWMP will be reported back to the Engineer by the Construction Environmental Manager. Performance will be assessed in terms of the delivery of the figures for re-use, recycling and disposal. The monitoring results will be reported in line with the site Quality Management System.
- 7.2.3 The Principal Contractor and Construction Environmental Manager shall devise an audit schedule in accordance with the construction programme and the site QMS to be established by the main contractor. When the Principal Contractor supplies the finalised construction programme the audit schedule should be refined accordingly, in order to assess the overall performance on site in a timely and appropriate manner.
- 7.2.4 The Construction Environmental Manager and the Principal Contractor (or representative) shall inspect the construction site on a regular basis (to be determined as deemed appropriate by the Engineer and CEM).

- 7.2.5 Audit checklists will be developed and updated and refined by the CEM and the main contractor regularly to consider the changing nature of the construction programme and inputs from corrective actions logs originating from non-conformance reports.
- 7.2.6 If a non-conformance is discovered during an audit or otherwise reported an Environmental Non Conformance Report Form (ENCR) (see Appendix B for an example ENCR that can be used, conversely the Principal Contractor can use their own format if available as part of the QMS) shall be completed and corrective actions shall be devised. The recommended corrective actions will be recorded in the Corrective Actions Log (and example Corrective Action Log is found in Appendix D conversely the Principal Contractor can use their own format if available as part of the QMS).
- 7.2.7 Progress of any corrective actions will be recorded in the Corrective Actions Log (as found Appendix D). This information will be monitored and reported to the Engineer in conjunction with the schedule of site inspections. Audit records will be maintained in accordance with the site QMS.
- 7.2.8 Corrective actions will be ranked commensurate to the risk. On occasions where legal compliance is an issue or environmental pollution is imminent then the corrective actions should be implemented as soon as possible. The Engineer shall have precedent on the time between ranking and implementation. The CEM will advise the Engineer on all SWMP issues enabling the Engineer to act accordingly, taking into account all issues associated with the corrective action.
- 7.2.9 Lessons learned from each construction phase will be extended into subsequent phases of the programme. This evaluation process of performance will enable continued compliance with this SWMP, with legislation and the Applicant's commitment towards environmental performance and sustainability.

7.3 Monitoring and Reporting

- 7.3.1 Appropriate Duty of Care paper work will be retained on site, volumes (m³ or tonnes) and wastes types will be recorded for all wastes sent for reprocessing, recycling, or disposal.
- 7.3.2 The Construction Environmental Manager shall complete the SWMP Construction Phase Data Sheet (as reproduced in Appendix A).
- 7.3.3 A SWMP Close Out report shall be compiled by the Construction Environmental Manager at the end of the construction process that summarises performance of the SWMP.

Appendices

Appendix A

SWMP Construction Phase Data Sheet

Site Waste Management Plan Construction Phase Data Sheet								
Project name:								
Date when this sheet was filled was filled out:								
Stage of project (eg planning stage, during project delivery, end of project):								
Report number (project waste arising should be report number one etc):								
Project address / location:								
Main contractor:								
Person responsible for waste management on site (name & job title):								
Person & company completing form, if different:								
Type of waste arising (add more rows if needed):								
Material	Quantity (in m ³)							
	Reused on-site	Reused off-site	Recycled for use on-site	Recycled for use off-site	Sent to recycling facility	Sent to WML exempt site	Disposal to landfill	WTN* completed?
Totals (in kg/T)								
Performance score as %*								
SWMP Target %*								

Appendix B

Environmental Non Conformance Report (ENCR) Template

Appendix C

Environmental Training Form (ETF) Template

Appendix D

Corrective Action Tracking Log

