

**OUTLINE CONSTRUCTION
ENVIRONMENTAL MANAGEMENT
PLAN - PHASE 2 INFRASTRUCTURE
WORKS
BEREWOOD, WATERLOOVILLE,
HAMPSHIRE**

OUTLINE CEMP

January 2013

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January 2013

Project Code:	GTWVILLE6.9A
Prepared by:	Stuart Aldridge
Position:	Technical Director
Approved by:	
Issue Date:	FEBRUARY 2013.
Status:	2 nd Draft

Document: Construction Environmental Management Plan – P2 Infrastructure Works:
Berewood, Waterloooville, Hampshire
Grainger plc

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Version: GTWVILLE_P2 2nd Draft

Date: January 2013

Reviewed by: The CEMP will be reviewed by
Grainger plc
Winchester City Council
Havant Borough Council

Variations & Amendments:

Revision	Date	Reviewed by	Approved by	Date	Amendment
2 nd Draft					

Printed	
Last Saved	31/01/13
File Name	130131 OUTLINE CEMP – PHASE 2 INFRASTRUCTURE Rev 2
Author	Stuart Aldridge
Project Manager	Paul Stewart
Organisation	Mayer Brown Ltd
Project	Berewood Phase 2 Infrastructure Works
Document	CEMP– Phase 2 Infrastructure Works Berewood January 2013
Document Version	2 nd Draft
Project Code	GTWVILLE6.9A

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1. INTRODUCTION

- 1.1 This Construction Environmental Management Plan (CEMP) indicates the management framework required for the planning and implementation of the proposed site works, in accordance with environmental commitments identified within the Environmental Statement and any requirements of planning conditions or Section 106 legal agreements. Its purpose is to reduce the risk of adverse impacts resulting from construction on sensitive environmental resources, and to minimise disturbance to local residents and other sensitive receptors. The CEMP describes the checking, monitoring and audit processes that will be required to ensure works are being undertaken in accordance with these requirements, together with measures to ensure that appropriate corrective actions or mitigation measures are taken. The CEMP will form part of the overall Project Management and as such, activities described will be integrated with other Quality, Sustainability and Health and Safety management processes.

2. PROJECT OUTLINE

- 2.1 It is the aspiration of Grainger plc to create a high quality, sustainable community, which responds positively to the geographical, political and economic context of the site at Berewood, Waterlooville.
- 2.2 It is intended to construct a total of 2,550 new homes and to develop up to 20 ha of employment land. The residents of Berewood and the wider community, will have access to local amenities, through the development of local shops, a medical centre, café, primary school and community facilities, served by a network of footpaths and cycle ways offering safe and easy connections to other local schools and Waterlooville town centre.
- 2.3 A strategic transport plan, comprising both a public transport strategy and a sustainable transport plan will integrate the development with the local area.
- 2.4 Areas of existing woodland will be retained and a central area of common parkland will be created, whilst the use of a Sustainable Drainage System (SuDS) will create a new ponds, attenuation basins and wetlands. It is intended that this will provide a range of wildlife habitats and increase biodiversity at the site. In addition, the parkland will act as a focus for community activities linked to the community buildings that will be situated nearby. The site will therefore bring significant improvements to the local recreation facilities, providing play areas and sports pitches and enhance access to public space.

Site Description

- 2.5 Berewood is located immediately west of Waterlooville and north of Portsmouth in Hampshire. . The A3 forms the eastern boundary of the site and the northern boundary extends towards Hambledon Road. The western boundary is formed by woodland belts and hedgerows to the east of Newlands Lane. The main part of the site extends south to Purbrook Gardens, with the part of the site required for proposed southern access road and associated infrastructure, extending further south to near Purbrook Heath Road. The built up area of Waterlooville borders the eastern boundary of the site with the town centre immediately to the east, and the Hambledon Road Local Centre to the north east, and the Purbrook Local Centre to the south east. Brambles Business Park is located north west of Waterlooville Town bordering the site perimeter.

2.6 The Phase 2 site is located to the west of London Road and to the south of Milk Lane, as shown on drawing no. GTWVILLE6/GA/05.

2.7 The Phase 1 Infrastructure and Housing works are currently in progress with the use of a CEMP management tool. It is Winchester City Council's requirement that future phases of the works are undertaken with the application of the same management principles. The works envisaged are set out below:

Phase 2 Infrastructure Works

2.8 The works envisaged include the following activities: The following list provides a description of the main aspects of the scope of works. The list is not exhaustive and the contract shall be inclusive of all work activities scheduled in the Bill of Quantities and shown on the contract drawings.

- Establish a site compound and offices at Plant Farm, including offices for the Client's supervision team.
- Surfacing of the plant farm access track prior to commencement of construction works
- Set up protective Heras fencing and signage to public footpaths to be retained through the works area.
- Establishment and maintenance of existing drainage and pollution control measures on site.
- Establishment of self contained temporary wheelwash for these works prior to any construction work, and hire of road sweeper as required to maintain the existing public highway.
- Afford early access to purchasers of adjacent housing areas as defined in the contract.
- Laying of Foul Sewers, manholes and ancillaries. Including trenchless construction under existing access tracks and a deep connection to the Southern Water sewer.
- Laying of surface water sewers, culverts and highway drainage, including manholes and ancillaries.

- Construction of Sustainable Drainage features, including ponds, basins and swales, below ground tanks including soft landscaping and extended future maintenance thereof.
- Laying of kerbs (note special order item for bus kerbs), temporary kerb blocks footways and carriageways. Carriageways (and ironworks) laid to binder course level in initial works.
- Remobilisation at a later date, following completion of adjacent housing areas to lift ironworks, install permanent kerbs, complete roadside swales, plant roadside trees, lay surface course and apply permanent road markings. Surface course to include partial Dexapave surface treatment.
- Install commission and test street lighting
- Install traffic signage, illuminating and testing where applicable
- Construct retaining walls / headwalls
- Allow for co-ordination with Client GTC (Gas & Electricity supply), SSE (water supply, sewerage & Electricity reinforcement/ diversion ducting)) and BT for the efficient installation of services.
- Construct highway duct crossings for all utilities.
- For electricity, gas and water mains allow for trenching, and laying of bed to the requirements of the utilities companies, who will lay the pipes and cables. Contractor shall then complete the surround, backfill and reinstatement. This will include excavation & reinstatement for street lighting connections
- For BT, ducts and chamber covers (other than recessed covers in block paved areas) shall be delivered to site. Full installation of these shall be undertaken by the Contractor to BT's requirements. BT chamber sections and recessed covers will be supplied and installed by the contractor.
- Construct foundation and superstructure for the electricity substation to GTC's design and specification
- Construction of tree pits and installation of trees, including extended maintenance thereof.
- Erection of fencing.

- Topsoiling, grass seeding and shrub planting.
- Management of topsoil and subsoil strictly in accordance with the soil management plan
- Protection to Gas Governor Station, associated pipework and earthing, as agreed with the utility company;

2.9 These works are illustrated within the contract drawings

3. CEMP OBJECTIVES

3.1 The CEMP will aim to ensure that:

- all environmental safeguards are carried out correctly
- site activities are well-managed
- adverse impacts on the environment are minimised
- the biodiversity of the site is conserved or enhanced
- all relevant legislation is complied with, and
- the project is monitored for environmental impact.

The CEMP fits into the overall planning process of the project by complying with the conditions attached to the outline planning consent by Winchester City Council and Havant Borough Council.

Considerate Constructors Scheme

3.2 In order to aid compliance with the above objectives, the site must be registered with the 'Considerate Constructors Scheme'. Sites that register with the scheme are continually monitored by an experienced industry professional against an eight point 'Code of Considerate Practice'. The categories within this code are set out below.

3.3 **Considerate:** All work is to be carried out with positive consideration to the needs of traders and businesses, site personnel and visitors, and the general public. Special attention is to be given to the needs of those with sight, hearing and mobility difficulties.

3.4 **Environment:** Noise from construction operations and all other sources is to be kept to a minimum at all times. Efforts should be made to select and use local resources wherever possible. Attention should be paid to waste management and the avoidance of pollution. Recycling and the use of recycled materials is encouraged.

3.5 **Cleanliness:** The working site is to be kept clean and in good order at all times. Safety barriers, lights and warning signs are to be maintained in a clean and safe condition. Surplus materials and rubbish should not be allowed to

accumulate on the site or spill over into the surroundings. Dirt and dust from construction operations should be kept to a minimum.

- 3.6 **Good Neighbour:** General information regarding the Scheme should be provided for all neighbours affected by the work. Full and regular communication with neighbours, including adjacent traders and businesses, regarding programming and site activities should be maintained from pre-start to completion.
- 3.7 **Respectful:** Respectable and safe standards of dress should be maintained at all times. Lewd or derogatory behaviour and language should not be tolerated under threat of severe disciplinary action. Pride in the management and appearance of the site and the surrounding environment is to be shown at all times. Operatives should be instructed in dealing with the general public.
- 3.8 **Safe:** Construction operations and site vehicle movements are to be carried out with care and consideration for the safety of site personnel, visitors and the general public. No building activity should be a security risk to others.
- 3.9 **Responsible:** Ensure that everyone associated with the site understands, implements and complies with this code.
- 3.10 **Accountable:** The Considerate Constructors Scheme poster is to be displayed where clearly visible to the general public. A site's contact details should be obvious to anyone affected by its activities.

Site Environmental Standards

- 3.11 Site environmental standards will be based upon the above code and will detail the minimum measures that should be achieved for general operations that fall outside the risk assessment/method statement procedure designed to cover the majority of construction activities. They will cover the following issues:
- storage of materials
 - management of waste
 - water pollution
 - noise and vibration
 - air quality

- 3.12 The standards will be displayed on site notice boards and used as a briefing tool on site.

Legal Requirements

- 3.13 The CEMP will collate all legal requirements for the works and ensure that all are complied with during the construction phase of works. All legal requirements for the works will be agreed through consultation with the relevant Statutory Body.
- 3.14 The following legal requirements will be adhered to and this list will be added to as necessary throughout the development of the works.

NB Legislative list below under continuous review

Regulatory Instrument	Regulatory Authority	Requirement
Clean Neighbourhoods and Environment Act 2005 As amended 2006. The Site Waste Management Plans Regulations 2008	Winchester City Council Havant Borough Council	Developers are required to have a written Site Waste Management Plan in place for all projects over £300,000 build costs.
Environmental Protection Act (1990)	Winchester City Council Havant Borough Council	Introduces Integrated Pollution Control (IPC). Part III Statutory Nuisance Provisions (England & Wales) Section (79) relating to prevention of nuisance from industrial premises (including construction sites) relating to noise and air (smoke, fumes, gases, dust, steam, odour, smells, effluvia, smuts & deposits) Section 80 permits the local authority to serve an abatement notice on persons responsible for statutory nuisances. Section 61 requires that an application must be made to the local authority for consent to work if it is anticipated that a nuisance will be created.
Control of Pollution Act (1974)	Winchester City Council Havant Borough Council	Section (60) Working hours 08:00 to 18:00 Mon to Fri, 08:00 to 13:00 Sat. Nothing on a Sunday, bank and public holiday unless through agreement with the L.A.

		Section (61) The developer may apply in advance for consent as to the methods by which the works are to be carried out.
Control of Substances Hazardous to Health Regulations)1988	Winchester City Council Havant Borough Council Environment Agency	Requires employer to control all substances that are hazardous to health.
Control of Pollution (Amendment) Act (1989)	Winchester City Council Havant Borough Council Environment Agency	Registration of controlled waste carriers Control of illegal dumping of waste.
Control of Pollution (Oil Storage) (England) Regulations 2001	Winchester City Council Havant Borough Council Environment Agency	Applicable to any construction site storing more than 200 litres of oil above ground. Advises on the control and regulation of oil storage to prevent spills and leaks and to have adequate systems in place in the event of an emergency.
Pollution Prevention and Control Regulations 2000.	Winchester City Council Havant Borough Council Environment Agency	Enables regulations to be made to implement EC directive 96/61 on IPPC based of applications of BAT (Best Available Techniques)
Environment Act (1995)	Winchester City Council Havant Borough Council	Disposal of all “controlled waste”; including household, industrial and commercial waste as defined by the

	Environment Agency	<i>Controlled Waste Regulations 1992</i> and the 2006 EU Framework Directive for hazardous or “special” waste.
Clean Air Act (1993)	Winchester City Council Havant Borough Council	Section 2. Prevention of Black Smoke emissions from industrial and trading premises
Ground Water Regulations (1998)	Environment Agency	Prevention of groundwater pollution from industrial / construction activities.
Water Resources Act (1991)	Environment Agency	Sections 85 and 88 make it an offence to ‘cause or knowingly permit’ pollution to enter a controlled watercourse unless this is permitted under other legislation. Section 161 of the <i>Water Resources Act 1991</i> empowers the agency to serve a ‘works notice’ on any person who has ‘caused or knowingly permitted’ a pollutant to enter controlled waters, including from contaminated land, requiring them to deal with the problem.
The Water Industry Act (1991)	Winchester City Council Havant Borough Council	Sections 77 and 78 require local authorities to keep themselves informed about the wholesomeness and sufficiency of both private and public water supplies. In the case of private supplies, they are required to serve notice requiring improvements. Section 80

The Salmon and Freshwater Fisheries Act (1975)	Environment Agency	It is an offence to contaminate waters in a way which may poison or injure fish, spawn, fish food or spawning grounds.
The Groundwater Regulations (1998)	Environment Agency	Powers to prevent and control the entry of listed substances to groundwater and require authorisation for disposal or tipping of substances.
Land Drainage Act (1991)	Environment Agency	Under Section 66, no person without the previous consent of the Land Drainage Board may erect a building or structure nearby to a watercourse.
Hazardous Waste (England & Wales) Regulations (2005)	Environment Agency	Regulation 16 requires that consignees should maintain full site records of all deposits of special waste; including a site plan marked with a grid, or with overlays on which deposits are shown.
Waste Management Licensing (England & Wales) (Amendment & Related Provisions) Regulations (2005)	Environment Agency	Under the EPA, the deposit, keeping, treatment or disposal of controlled waste, in or on land, requires a waste management licence.
Control of Pesticides Regulations (1986) (as amended)	Environment Agency	Section 26.4 requires consent of pesticides for their use under the conditions of the act. All pesticides must be products on the current list of Agricultural Chemicals Approval Scheme and all pesticide users shall comply with the conditions of approval relating to use clearly stated

		on the product label.
Town and Country Planning Act (1990) and Town and Country Planning (Trees) Regulations 1999	Winchester City Council Havant Borough Council	Part 8. Tree Preservation Orders (TPOs) can be made by the local planning authority to prohibit damage to or removal of trees without the local planning authority's consent.
The Hedgerow Regulations 1997	Winchester City Council Havant Borough Council	A hedgerow removal licence is required from the local authority if the hedgerow is older than 30 years old or satisfies at least one criteria listed in part 2 of schedule 1.
The Conservation (Natural Habitats & c.) Regulations 2010	Natural England Environment Agency	Controls the protection of 'European Protected Species' i.e. plants and animals listed in the European Habitats directive. All works to be undertaken in accordance with these regulations.
Natural Environmental and Rural Communities Act 2006	Environment Agency	Controls the protection of native species and environments. All works to be undertaken in accordance with these regulations.
The Protection of Badgers Act (1992)	Environment Agency	It is an offence to disturb, interfere with, damage or destroy a sett, to obstruct access to an entrance, or to wilfully injure, entrap or ill-treat a badger.
Wildlife and Countryside Act (1981) (as amended)	Natural England Environment Agency Winchester City Council	Controls the spread of invasive species and provides regulatory protection to species of birds, wild creatures and plants as listed within the Act. It is an offence (with the

	Havant Borough Council	exception of Schedule 2 birds) to intentionally kill injure or take any wild bird or their eggs or nests.
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Table 1: Legislative Requirements

Permits and Approvals

- 3.15 The permits and approvals required to carry out the works will be identified through consultation between project managers, the main contractor and the relevant sub-contractors. Where required, these will be stored in Appendix D. These will also be reviewed and updated where necessary, as works progress.

Environmentally Sensitive Areas

- 3.16 The potentially environmentally sensitive areas associated with the works are identified as:

- Trees requiring protection;
- Remaining hedges;
- Existing ditches; and
- Allotment site
- Three adjacent Sites of Importance for Nature Conservation (SINC) – Newlands Row and Plant Row (Ancient woodland); Marrelsmoor Row (Ancient woodland); Marrelsmoor Coppice (Ancient woodland);
- Rough/unmanaged grassland (primarily of value to reptiles);
- Areas of scrub (primarily of value to dormice, reptiles and breeding birds)

- 3.17 These will be reviewed and updated at relevant stages of the site works.

4. PLANNING AND CONTROL OF CONSTRUCTION WORKS

CEMP Team

- 4.1 In order to enable efficient working practices on site, an CEMP team will be identified, with specific responsibilities delegated to each member. The team members required and their responsibilities are set out below.

Title	Contact Details	Responsibilities
Client's Project Manager – (PM)	Lawrence Foote Lawrence Foote and Partners 02078392509 lawrence.foote@lfpltd.com	The Project Manager (PM) will act on behalf of the Client, with responsibility for managing the Project within the agreed environmental constraints in conjunction with all other necessary management processes.
Client's Environmental Manager – (EM)	Stuart Aldridge Mayer Brown Ltd 01483 750508 saldridge@mayerbrown.co.uk	The Client's Environmental Manager (CEM) will report to the Project Manager and will be responsible for monitoring the performance of the project against statutory requirements and the agreed environmental standards.
Client's Environmental Specialists – (ES)	Lincoln Garland Biodiversity by Design 01225 318444 lincoln.garland@biodiversitybydesign.co.uk	The Client's Environmental specialists will be available to provide advice as required
Contractor's Site Manager – (CSM)	TBA	The Site Manager will ensure that all environmental policies addressed in the CEMP are adhered to by

		contractors and sub-contractors throughout the construction phase.
Contractor's Environmental Manager – (CEM)	TBA	The Contractor's Environmental Manager will be responsible for coordinating and managing all the environmental activities during the construction phase.
Contractor's Environmental Specialists – (CES)	TBA	The Main Contractor and any subcontractors will be required to employ environmental specialists to support the Project as required to provide the mitigation measures described both in the CEMP or in response to particular construction activities that may otherwise present an environmental risk. Their role will be to undertake the detailed mitigation design within their specialist field, oversee its implementation, maintenance and monitoring throughout the construction period up to the end of the maintenance period.
Contractor's Site Waste Manager – (CSWM)	TBA	The Site Waste Manager will be responsible for overall waste management issues arising from the project.
Contractor's Sustainability Manager – (CSuM)	TBA	The Sustainability Manager will be responsible for implementing all sustainability measures identified in the ES and arising from the project.

Contractor's Health and Safety Manager – CH&S	TBA	The Health and Safety Manager will be responsible for overall Health and Safety issues arising from the project.
Contractor's Overall Project Consultant – (CPC)	TBA	The Overall Project Consultant will be responsible for liaising with the CEMP Team and specialist consultants to ensure that the project is carried out to the required environmental standards.
Contractor's External Relations Officer – (CEO)	TBA	The external relations officer will be responsible for providing a point of contact for third parties and will be kept informed of all issues which may be of interest or concern.
Site Foreman – (CFR)	TBA	The foreman will be required to implement and monitor all environmental and health and safety measures as instructed by the site manager.
Site Engineer – (CSE)	TBA	
Sub contractor(s)	TBA	The contractor will be required to monitor the environmental and health and safety performance of all subcontractors to ensure compliance with the CEMP.

Appropriate Personnel – (AP)	TBA	All personnel will be required to have undertaken the health and safety and environmental induction course.
Environmental Health Officer – (EHO)	Jonathan Driver (TBC) Havant Borough Council 02392 474174 jonathan.driver@havant.gov.uk	A representative from the Local Authority's Environmental Health Department will be invited to attend CEMP Team meetings to ensure that the project is addressing all environmental issues raised during the project planning stage
Monitoring Officer – (MO)	Jacky Wilson Winchester City Council 01962 840 222 jwilson@winchester.gov.uk	A representative from the Local Authority's Planning Services Department will be invited to attend CEMP Team meetings to ensure that the project is addressing all planning issues raised during the project planning stage
Environment Agency Biodiversity Officer (BO)	George Woodard/Adam Cave Environment Agency 01962 764938	A representative from the Environment Agency will be invited to attend CEMP Team meetings to ensure that all issues of concern to the Environment Agency are being addressed.

Table 2: CEMP Team and Responsibilities

Resource Management Plans

- 4.2 Grainger plc has a number of Key Performance Indicators that are to be monitored as part of the works. These are listed in Appendix A and include water and diesel usage.

- 4.3 Water and diesel consumption will be continuously monitored on site and will be recorded within the Resource Management Plans (Appendix E) of the CEMP on at least a fortnightly basis.

Action Plans/Method Statements

- 4.4 Where required, an Action Plan or Method Statement will be prepared by the contractor and environmental specialist to identify and sequence mitigation activities that are needed in order to complete a required site works process. It will identify reference documentation, the approval required to complete that activity and the verification documentation to be produced as evidence of satisfactory completion of the works.
- 4.5 Action Plans and Statements will include a review of the environmental risks and commitments, so that appropriate control measures can be developed and included within the construction process
- 4.6 The Plan or Statement will also identify where “cessation of works” will be required when necessary. These will be put in place when continuation of a subsequent activity is prohibited unless the former activity has been signed-off. The Plan or Statement will be broken down into appropriate categories depending on the phase of works to be carried out.
- 4.7 Where required, Action Plans and Method Statements will be identified for general site management and to deal with activities under specific types of works e.g. hedge removal, earth works.
- 4.8 Where necessary, all method statements will be submitted to the enforcement agencies (Environment Agency, Natural England, and Local Authority Pollution Control Department), as appropriate.
- 4.9 Any Action Plans/ Method Statements created will be saved within Appendix F of the CEMP. It should be noted that where action plans / method statements evolve through e-mail discourse, they will be stored in this form.

CEMP Action Plan Responsibilities		
Statement of responsibilities		
The contract as a minimum requires that the Client document and nominate persons (in a management position) with responsibility for the following		
Activity	Details	Responsible Person
Acquisition of appropriate licences and permits	Where activities require that e.g. CES (Contractor's Ecological Specialists) are required on site or that permits need to be obtained for relevant authorities	CEM - Contractor's Environmental Manager Reporting to: CSM – Contractors Site Manager
Dust and noise producing activities.	Where dust and noise producing activities are taking place the appropriate mitigations will be put in place and monitored on a daily basis.	AP: Appropriate Person Reporting to CEM
Run off producing activities	Where run off from the site has the potential to enter watercourses, mitigations should be in place to ensure this does not occur. Where consents to discharge are required these should be obtained.	AP Reporting to CEM CEM: Reporting to CSM

Table 3: Action Plan Responsibilities

General Site Management	Applicable (Y/N)	Responsible Person
Implement a soil and water management plan for the site	Y	CSM
Install appropriate silt fences and other sediment control structures where required	Y	CSM
Regularly check and clean silt from behind silt fences and barriers	Y	CSM
Ensure sediment control measures are in place before starting clearing and excavation activities	Y	CSM
Stockpile materials only in designated areas behind sediment fences	Y	CSM
Limit vehicle entry points and stabilise vehicle access ways	Y	CSM
Minimise disturbance to areas designated for conservation	Y	CSM
Implement a construction site waste management plan (SWMP)	Y	CSWM
Order only required quantities of materials	Y	CSM
Separate recyclable from non recyclable waste	Y	CSWM
Ensure correct waste materials are used by site personnel	Y	CSWM
Minimise chemicals stored on-site	Y	CSWM/CSM
Ensure personnel are aware of emergency phone numbers in case of environmental	Y	CSM

incident (Fire Brigade, Environment Agency and Pollution Control, Winchester City Council and Havant Borough Council)		
Keep Material Safety Data Sheets (MSDSs) on site at all times	Y	CSM
Ensure that there are clearly marked booms or absorbent materials on-site in case of a spill	Y	CSM
If a spill occurs, stop at source, contain it, clean up in accordance with MSDSs and notify the relevant authorities.	Y	CSM
Damp down dusty areas as required	Y	AP under CEM
All vehicles to remain on clean all weather surface within the site	N	
Minimise water use for cleaning	Y	CSM
Sweep roads free of dirt each day	where applicable	AP
Maintain fence at site boundary	where applicable	AP under CSM
Fence off no go areas to minimise disturbance	where applicable	AP under CSM
Minimise vegetation clearance	Y	CSM
Ensure that there is no burning of waste on-site	Y	CSM
Instruct trucks to use the routes identified for minimal impacts on residents .	Y	CSM/CSM
Avoid parking site vehicles where they will unduly impact local use of the street	Y	CSM
Do not place waste containers, skip bins or	Y	CSM / CSWM

building materials on road or footpath – store all materials within the work site		
Limit hours of operations to suit Local Authorities requirements listed in consent agreements	Y	CSM/CERO
Use noise suppressors on machinery	Y	CSM
Do not use loud radios where neighbours can be disturbed	Y	CSM
Take appropriate care when using construction equipment in the proximity of buildings	Y	CSM
Advise neighbouring premises of commencement date for works at least one week prior to starting, including hours of work	Where applicable	CERO
Protect trees during construction	Y	CEM
Avoid harming protected species, e.g. Dormice, reptiles, breeding birds	Y	CEM

Table 4: Responsibilities for General Site Management

Environmental Risk Assessments

- 4.10 The Contractor will be required to complete Environmental Risk Assessments in accordance with the requirements of the CEMP. The results of risk assessments and their residual risks will only be considered acceptable, if the severity of the outcome is reduced to the lowest practical level; the number of risk exposures are minimised, all reasonably practical mitigating measures have been undertaken and the residual risk rating is reduced to a minimum.
- 4.11 The findings of the risk assessment and in particular the necessary controls will be explained to all operatives before the commencement of the relevant tasks using an agreed instruction format.
- 4.12 The risk assessments themselves will be saved in Appendix G of the CEMP.

Work Programme

- 4.13 The work programme will be completed by the Contractor's Project Manager (CPM) in order to facilitate the regular monitoring of on-site activities in relation the requirements of the CEMP. This will be used to identify the need for environmental risk assessments, work method statements, training and mitigation. The programmes will be saved in Appendix H of the CEMP.

Training, Awareness and Competence

- 4.14 The raising of environmental awareness is viewed as a crucial element in the appreciation and implementation of the CEMP. In order to make sure the environmental control measures are effective, all staff will be provided with the following training before starting work on site and will be provided with an abbreviated copy of this CEMP outlining key elements of best site practice.

- a site induction;
- emergency response training;
- familiarisation with site environmental controls; and
- specific environmental training for relevant employees e.g. installing erosion and sedimentation controls, daily checks to maintain controls, cleaning up spills.

- 4.15 Training for all personnel will be completed before commencement of the associated construction activities and a record of this will be kept within Appendix I of the CEMP along with a copy of the induction material. Line managers and supervisors will ensure that all personnel engaged in activities that may have an impact on the environment are competent to carry out their duties or, where necessary, arrange for suitable training to be undertaken.

5. WORK ACTIVITIES, POTENTIAL IMPACTS AND MITIGATIONS REQUIRED

- 5.1 For the purpose of assessing potential impacts, the works have been set out in section 2.
- 5.2 Prior to construction, the CEMP will set out these activities into the planned phases of works and they will be assessed alongside the potentially affected receptors for potential impacts. i.e. the potential for the creation of a source, receptor pathway impact model will be assessed. Where potential impacts are identified, the mitigation required to prevent these will be identified along with the associated team responsibilities.
- 5.3 Activities, potential impacts and controls for the above phases will be set out within the matrix in Table 5 below.

Source Activity	Impact Pathways and Receptors			Actions & Responsibilities
	Nature Conservation	Air	Water	
Site set up	Death or disturbance of in-situ hibernating or sheltering Dormice, Great Crested Newts, reptiles and/or breeding birds Loss and damage to important tree/shrub habitat	Creation of dust impacting on site and off site personnel and flora and fauna	Pollution impacts to the River Wallington and tributaries via run off into field drains Potential for the migration of liquids from storage areas impacting on site and off site flora and fauna	Environmental Specialists (ES) to obtain any appropriate licences and ensure contractors undertake appropriate action prior to disturbing activities. All activities to be recorded by CEM AP to ensure appropriate dust and noise control mitigations in place and report to CEM on weekly basis. Where appropriate CEM will advise CERO to contact public. CSM/AP to file weekly report with EM
Foul Drainage		Noise impacts upon on site personnel		
Surface Water Drainage		Noise impacts upon on site fauna		
Utilities		Potential for migration of dust from storage areas impacting on site and off site personnel and flora and fauna		
Footway and Carriageway Works				
Construction of dwellings				
Landscaping				

Table 5: Impact Identification and Mitigation Matrix

5.4 Where the above activities are identified as potentially creating a source-receptor-pathway impact model, these activities will be associated with

mitigation measures such as those below in Table 6. When applied, the mitigation will break these links and prevent incidents of pollution, nuisance and non-conformance. The following mitigation should be read in conjunction with Appendix A – Grainger Key Performance Indicators and Appropriate Site Management Practices and Appendix B – Summary of Mitigation Measures from the ES.

Number	Mitigation Measure
1	Appropriate space to be provided for parking and turning of operative, construction and visitor vehicles. Appropriate construction routeing to be set out for construction traffic within a Construction Traffic Management Plan
2	Ground cover to be removed four to seven days prior to site clearance in order to discourage reptiles. Cutting to proceed towards adjacent suitable habitat. NOTE -This technique is only to be used when reptiles are not hibernating, i.e. use technique only between April and October inclusive. Before works commence install a GCN exclusion fence around the eastern margins of Newlands Row woodland to prevent GCNs entering the Site (refer to ecology report and project ecologist).
3	Where possible remove all tree/shrub vegetation in winter before bird breeding season commences. Wildlife and Countryside Act requires that where any vegetation is to be removed March - September this is first surveyed by a qualified ecologist to ensure absence of any nesting birds. Clearance of tree/shrub vegetation must occur between December and March inclusive and only after a European Protected Species Dormouse licence has been obtained. Trees and shrubs must be coppiced to a height of ca, 20-30m above the ground only, to protect hibernating Dormice. Susequent groundworks cannot be undertaken until May, by which time any

	Dormice will be active again and will have moved into adjacent cover (refer to ecology report and project ecologist for detailed advice). In February or early March (depending on when the licence is granted) install conspicuous marker posts/exclusion fencing to delineate the maximum extent of hedgerow/scrub that is to be cleared, (refer to ecology report and project ecologist for detailed advice). All tree/shrub clearance to be supervised by project ecologist under European Protected Species licensing requirement (refer to project ecologist for detailed advice).
4	Ploughing of ground to take place prior to nesting season to discourage ground nesting birds.
5	Existing trees and areas of woodland to be retained with any removal to be advised and written consent given by the Local Planning Authority.
6	Professional tree protection to be provided where required in accordance with BS: 5837 (2005) 'Trees in Relation to Construction'.
7	Vehicles carrying dusty materials to be suitably covered. See Appendix 1 section 3
8	Site roads to be swept and sprayed with water to prevent dust nuisance.
9	Recycling activities that have the potential to generate dust (e.g. concrete crushers) to be sited in such a way to minimise dust nuisance to sensitive receptors.
10	Activities found to be generating dust in conditions where dust being spread may affect the public to be stopped, rescheduled or mitigated.
11	All supervisors to be familiar with the provisions of BRE Report 456: "Control of dust from construction and demolition activities"
12	All plant to be fitted with diesel particulate filters.
13	Site vehicles to be preferentially sought to have vertical exhausts to limit surface dust re-suspension.

14	All vehicle drivers to be acquainted with agreed haulage routes selected to minimise any air quality impact arising from additional lorry movements.
15	All supervisors to be familiar with provisions of BS5228, & advised on noise minimisation.
16	Noise levels to be set at 75dB in the working week which will be between 0800 & 1800 on weekdays and 0900 & 1300 on Saturdays.
17	Silencers or mufflers as appropriate to be fitted to plant and machinery.
18	Letter drops to surrounding residential areas to warn of particularly noisy periods of works.
19	A system of temporary drainage to be installed to ensure that no polluted surface runoff enters the River Wallington. Any surface water collected to be directed via treatment before discharge.
20	Any existing surface water drains to be bunded to ensure that no surface water enters them.
21	Where any pesticide use is required, refer to the strict requirements for notification of relevant bodies, secure storage, transportation, use and competences required, as set out in the Landscape Maintenance and Management Plan.
22	Where possible over-site hard standing to be retained & haul routes to be hard surfaced.
23	All vehicles leaving the site where necessary to be subjected to wheel washing.
24	All materials and spoil to be stored on site to be sheeted or damped down as appropriate in dry weather to reduce dust.
25	Stockpiling to be in accordance with best practice as in PPG6
26	Stockpiles of materials not suitable for on-site re-use to be removed as soon as is practicable in accordance with applicable waste management legislation.
27	Fuels and chemicals to be stored in accordance with PPGs 1,2,7.
28	All tanks and containers to be labelled with

	nature of contents and total volume secured.
29	Storage and delivery facilities to be on impermeable surface in a secondary containment system; use of bowsters to be restricted to relatively immobile plants.
30	There is to be provision of spill kits at all storage areas & provision of emergency response numbers.
31	Biodegradable hydraulic oil to be used for machinery/plant where possible.
32	All deliveries to be supervised and levels of tanks checked before delivery.
33	Stockpiles to be sited so as not be subject to inundation during extreme rainfall events.
34	Contingency plan required for temporary covering of stockpiles during adverse weather conditions.
35	Sorted & screened material to be placed on a prepared clean granular surfacing.
36	Supervisors to be familiar with the provisions of PPGs 5 & 22 re control of contaminated run off.

Table 6: Mitigation Measures

6. COMMUNICATION AND COORDINATION

Supervision of Construction Activities

- 6.1 All construction and installation activities, including those carried out by subcontractors and suppliers will be supervised or regularly checked through the completion of site inspections, by the Contractor's Environmental Manager, to ensure that requirements identified in risk assessments or method statements have been implemented. The frequency and extent of this supervision will vary according to the degree of competence displayed by the workforce and the level of risk to the environment. Records of Sub Contractors will be saved within Appendix J – Record of Sub-contractors.

Inspection of Other Operational Impacts

- 6.2 Appointed environmental representatives or 'Appropriate Personnel' (AP) will carry out daily inspections of their respective construction areas, to verify that housekeeping or supporting controls are being implemented effectively. These inspections will use the site environmental standards (see section 3) as the minimum standards that should be achieved, with necessary actions being recorded and raised at progress meetings. They will also be required to implement and undertake monitoring and review of the Construction Route Traffic Management Plan (see Appendix R). Subsequent inspections will commence with a review of all outstanding actions from previous reports to verify that they have been completed. Records of these daily inspections will be saved in Appendix K – Record of Inspections by AP.

Environmental Inspection and Reporting

- 6.3 The Contractor's Environmental Manager will carry out regular inspections of the project's environmental performance, based upon site visits and reports from the environmental management representatives.
- 6.4 These inspections will be used to confirm that:
- construction works are progressing in accordance with the agreed method statements;
 - agreed protection or mitigation measures are in place, prior to or during the implementation of construction activities; and

- construction works have been completed in accordance with the design and commitments made during the statutory process.

6.5 Inspections will be carried out at a frequency of no greater than monthly intervals, but could be held more regularly depending on the nature of the construction activity. An assessment of the environmental performance will be made and quantified at progress meetings and inspections will be recorded in Appendix L – Record of Inspections by EM.

Environmental Monitoring

6.6 Monitoring of noise, vibration, dust and water quality will be carried out in accordance with the specialist environmental procedures and environmental commitments made where required. The Environmental Manager will maintain a register of all formal environmental monitoring within Appendix M – Record of Environmental Monitoring.

Control of non-conformance

6.7 Non-conforming processes will initiate a Non-Conformance Report, which will identify the nature of the problem, the proposed corrective action, action taken to prevent recurrence of the problem and verification that the agreed actions have been carried out. Records of Non-conformance will be saved within Appendix N.

Non Conformance Report
Date:
Audit conducted by:
Name of audited contractor / sub-contractor:
Potential Impact:
Mitigation / enhancement measures:
Corrective action applied: (details)
Control Document: _____.
Relevant personnel informed: (details)
Copies sent to: (details)
Auditor's Signature
Environmental Manager's Signature
Project Manager's Signature

Table 7: Example Non Conformance Report

Internal Communications

6.8 Internal project communications will be via two processes:

- weekly team meetings; and
- fortnightly progress meetings – to be agreed.

Weekly Team Meetings

- 6.9 Weekly meetings will be held by the construction team to review performance and co-ordinate short-term planning of forthcoming activities. Close review of the CEMP should be made at these meetings to ensure that all planned activities are proceeding in accordance with the permits, conditions, action plans and method statements therein.

Progress Meetings

- 6.10 Environmental issues will be discussed at progress meetings, attended by the Contractor's Environmental Manager, relevant sub contractors environmental representatives and, when necessary, environment specialists and representatives from Statutory Consultees. The Client's Environmental Manager will report on inspections made and any non-conformances noted as well as discussing the implications of any proposed activities. Minutes of these meetings will be saved within Appendix O. Issues to be discussed may include:

- plan actions required to mitigate forthcoming risks;
- disseminate best practice; and
- communications with the Public

- 6.11 Where appropriate, a Project Community Liaison Plan will be established to provide a framework for managing communications with local residents and interested parties.

Audit and Review of Performance

Internal Project Audits

- 6.12 The Contractor will be required to demonstrate that an appropriate method of auditing the CEMP process via an internal or external auditing procedure is taking place. Provision of evidence that the agreed auditing procedure has taken place will be a requirement of regular reporting to the Client's Environmental Manager from the Client's 'Appropriate Person' (AP) and meetings between the Contract Manager and the Client's Project Manager. The

contractor's environmental manager will be required to provide a report at each progress meeting and a record of these will be saved within Appendix P – Contractor's Progress Report. A record of the Appropriate Person's reports will be saved in Appendix K as previously noted.

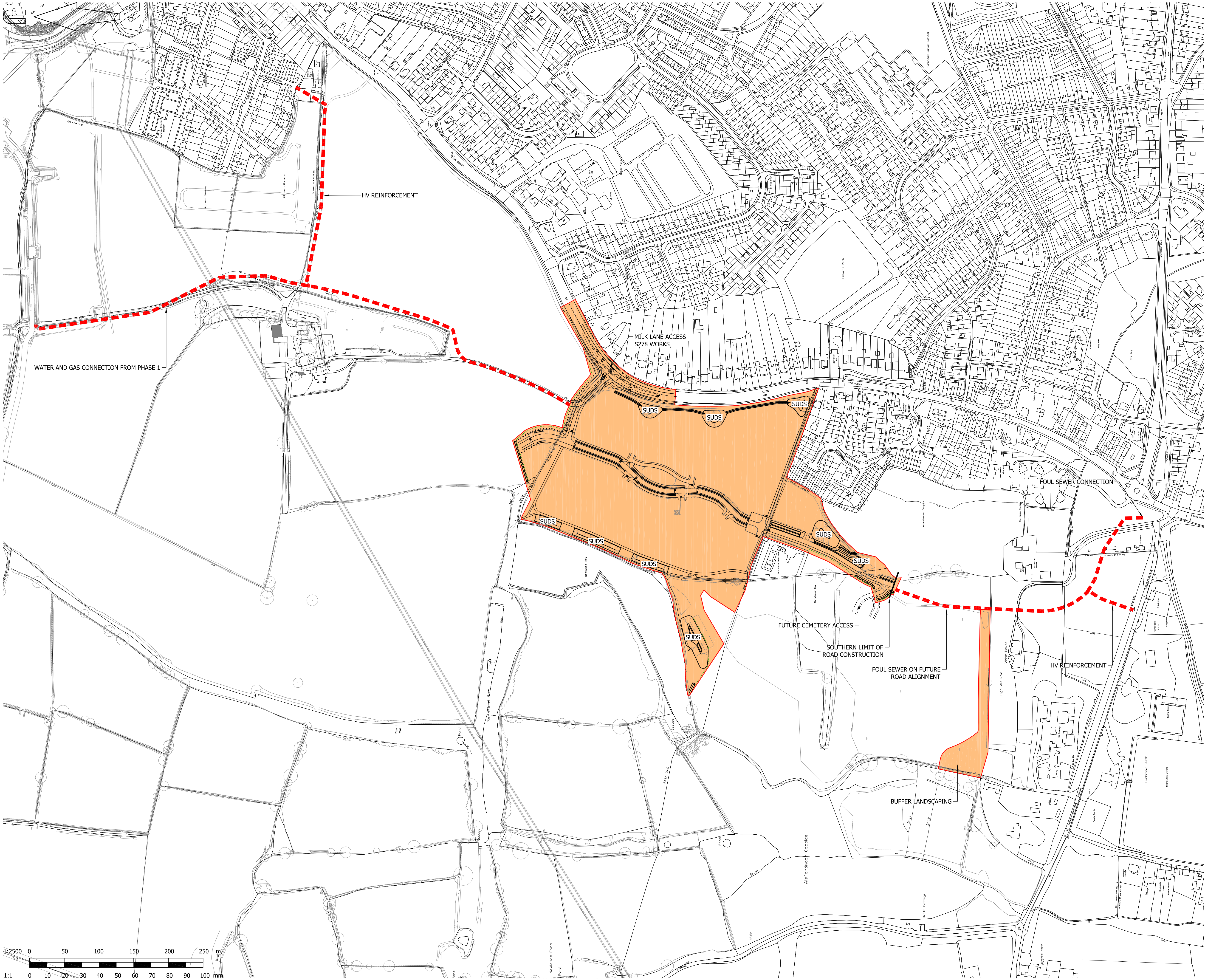
- 6.13 The reports will be required to include information on the following issues, where appropriate:

Audit Report	Yes	No
1. Are all sediment control structures in place, maintained and operating? If no provide details.		
2. Have there been any (verbal or written) complaints from nearby residents, Local Authority or the Environment Agency in relation to site activities such as noise, dust, traffic, dirt trucked on roads, or stormwater pollution? If yes detail complaints and response to them.		
3. Have there been any incidents on site such as spills, chemicals or fuel? If yes describe what happened and what action has been taken.		
4. Are there any areas of the CEMP that have not been complied with? If so detail		
5. Have any further strategies been deployed to reduce waste to landfill?		
6. Has any on-site training taken place?		
7. List any other environmentally related issues.		

Table 8: CEMP Audit Report

- 6.14 A Site Waste Management Plan will also be maintained by the contractor with copies provided to the EM at progress meetings. These will be stored in Appendix Q - Site Waste Management Plan.

DRAWINGS



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client **grainger plc** Investing in homes since 1912

project **BEREWOOD, WATERLOOVILLE
PHASE 2 INFRASTRUCTURE**

scale **1:2500** | drawn by **HJ** | checked by **PAS**

date **DECEMBER 2012** | cad file **GA_05.dwg**

title

PHASE 2 INFRASTRUCTURE WORKS PLAN

drawing number **GTWVILLE6/GA/05**

rev.

APPENDIX A

Grainger Key Performance Indicators and Appropriate Site Management Practices

1. KEY PERFORMANCE INDICATORS

1.1 Grainger has indicated the following Key Performance Indicators which they wish to be examined as part of the enabling works:

- Percentage of construction waste by destination (recycled, landfilled, reused).
- Proportion of recycled materials in new developments.
- Water consumption at construction sites (litres)
- Litres of diesel used on development sites
- Percentage of major sites registered with Considerate Constructors Scheme. (Benchmark: Achieve registration at all major sites).
- Considerate Constructors Scheme score of registered sites. (Benchmark: Aspire to 32)

1.2 The percentage of construction waste by destination and the proportion of recycled materials used will be recorded within the Site Waste Management Plan (See Appendix Q). This will be continuously updated on site and recorded within the CEMP on at least a fortnightly basis.

1.3 Water and diesel consumption will be continuously monitored on site and will be recorded within the Resource Management Plans (See Appendix E) of the CEMP on at least a fortnightly basis.

1.4 The site is currently registered with the Considerate Constructors Scheme and will be assessed by an independent CCS examiner.

2. APPROPRIATE SITE MANAGEMENT PRACTICES

- 2.1 All site works will be carried out using “best practicable means” (BPM) in order to comply with relevant legislation under the Environmental Protection Act 1990 and the Control of Pollution Act 1974 to prevent statutory nuisance.
- 2.2 The contractor will ensure that any construction lighting is appropriate for Health and Safety requirements and not intrusive to residents or sensitive site fauna.
- 2.3 Prior to any works that may have environmental impacts, the relevant Statutory Authorities will be consulted including Winchester City Council and Havant Borough Council.

Monitoring

- 2.4 Where local residents are likely to be affected, good practice working methods that minimise noise, dust, and air pollution impacts will be used at all times.
- 2.5 The effectiveness of all measures will be monitored frequently by the main contractor and Site Manager and reviewed at least weekly. Officers of the relevant Council departments may be consulted to ensure compliance with relevant legislation.

Publicity

- 2.6 There will be regular liaison with local residents who may be affected by construction works. Local residents will be informed of the nature of works, proposed hours of work and their expected duration.
- 2.7 Communication with local residents will include publicity, including the name and telephone number of a main contact. The contact person will be able to give further information to the caller and deal with any complaints or emergencies that may arise periodically. The Council’s Environmental Health Department will be notified of any complaints made about the site.
- 2.8 A site notice board will be provided adjacent to the main site entrance at a point convenient for public access. This will display the following information:
- name, address and telephone number of the Contractor
 - out-of-hours contact number in case of emergency

- description of site project
- timetable of works
- commitment to comply with the Council's Code of Practice for site works
- statement that any work at anti-social hours shall be agreed in advance with the Council and communicated to residents by way of a letter drop
- Council contact number in case of complaints

Operation

2.9 Where noise, dust and air pollution are likely to affect local residents the contractor shall be responsible for ensuring that:

- all plant and equipment, including any on hire, is checked to ensure it is in good working order and conforms to the manufacturers' standards. Equipment will be properly silenced and meet statutory emission standards;
- effective methods of work are adopted to prevent dust from becoming airborne at source. As dust is harder to suppress once it has become airborne, careful consideration at the design stage will be required to deal with the enclosure of fixed plant, addition of moisture, or provision of effective exhaust ventilation and filtering;
- measures are taken to protect listed buildings as necessary; and
- prior to the commencement of site works, the workforce will be fully briefed on environmental standards on site through the provision of training. All staff will be made aware of the CEMP and Considerate Constructors Scheme and carry out work to the relevant standards.

3. NOISE MANAGEMENT AND CONTROL

- 3.1 Where residential occupiers are likely to be affected by noise, the hours of work will normally be restricted to the following:-

Monday to Friday	08:00 hrs to 18:00 hrs
Saturday	08:00 hrs to 13:00 hrs
Saturday from 13:00 hrs	No work where noise is audible at the site boundary
Sunday & Bank Holiday	No work on site except by prior agreement with the local authority (Winchester City Council / Havant Borough Council)

- 3.2 All vehicles and plant arriving at and leaving the site shall comply with the same restrictions on hours. Vehicles shall not be parked off-site in the vicinity outside these hours except in properly designated 'lay up' parking places. The main contractor and Site Manager will ensure that instruction is given to all drivers including those delivering materials or removing waste to and from the site.
- 3.3 Any work outside of the stipulated hours above will only be carried out on prior approval of Havant Borough Council and Winchester City Council Pollution Control Departments. Local residents will also be informed in advance of the proposed activity.

Agreeing Noise Controls in Advance

- 3.4 A Prior Consent agreement with Havant Borough Council and Winchester City Council will be sought for any substantial or particularly noise-sensitive project. Under Section 61 of the Control of Pollution Act 1974 prior agreement can be reached on noise controls, which prevent the need for formal interventions, which may later be introduced without warning, with associated delays and costs. Noise problems as far as is practical will be anticipated in advance and control measures will be agreed with the local authority to prevent problems later.

Plant and Equipment

- 3.5 Noisy plant and equipment will be sited as far away as is practicable from sensitive receptors. The use of barriers, such as soil mounds, site huts, acoustic sheds and partitions to deflect noise away from noise sensitive areas

will be employed wherever practicable. Rapid access to portable acoustic screens such as those specified in British Standard BS5228:1997:Part 1 will be provided.

- 3.6 Where necessary, site hoardings will be provided. These aid with egress of noise and dust. Hoarding may take the form of existing buildings, security hoards, or purpose built noise screens. Specific noise reduction hoarding is available where noise impact is a particular issue, or effective hoarding can be constructed on site from two sheets of 12mm board filled with a sound absorbing material such Rockwool.
- 3.7 Effective screening/hoarding must be appropriately sited between the noise source and the potential receptor, contain no holes and ensure that the screening material overlaps with minimal gaps.
- 3.8 Wherever practicable all plant and machinery will be powered by mains electricity in preference to locally powered sources such as diesel generators. Hand tools will be electrically powered rather than diesel or petrol driven where practicable.
- 3.9 All plant and machinery will comply with relevant statutory and manufactures' requirements. Vehicles and plant used for the purpose of the works will be fitted with effective exhaust silencers, maintained in good and efficient working order and operated to minimise noise emissions.
- 3.10 Machinery in intermittent use will be shut down in the intervening periods between work or throttled down to a minimum. Noise emitting equipment required to run continuously e.g. generators, will be housed in suitable noise reducing enclosures.
- 3.11 Where potentially noisy operations such as piling is required, the least intrusive method in terms of noise and vibration will be selected.
- 3.12 Only "sound reduced" compressors shall be used. Models will be fitted with properly lined and sealed acoustic covers that shall be kept closed whenever the machinery is in use.
- 3.13 Pneumatic percussive tools will be fitted with mufflers or silencers of the type recommended by the manufacturers. Equipment that breaks concrete, brickwork or masonry by bending or by bursting shall be used in preference to percussive tools as far as practicable.

- 3.14 Where practicable rotary drills bursters actuated by hydraulic, chemical or electrical power will be used for excavating hard or extrusive materials.
- 3.15 Plant will be maintained in good working order so that extraneous noise from mechanical vibration, creaking and squeaking is kept to a minimum.
- 3.16 Care will be taken when loading or unloading vehicles, or moving materials etc to reduce noise impact.

4. DUST MANAGEMENT AND CONTROL

- 4.1 In assessing the need for dust control measures regard shall be paid to:
- the nature of works
 - proximity of dust sensitive receptors (e.g. houses, specific crops, utilities)
 - effects on the general public and road user
- 4.2 Where necessary methods of dust prevention will be agreed with the Pollution Control Departments of Winchester City Council and Havant Borough Council in advance of works starting on site.
- 4.3 A mains water supply will be available on site from commencement of works. Watering down of the area will be carried out whenever dry or windy conditions pose a risk of dust blowing off site, affecting neighbouring occupied properties.
- 4.4 The choice of plant and equipment and the method of work will reflect the necessity to employ “best practicable means” (BPM).
- 4.5 Where adequate dust control cannot be achieved by the choice of appropriate plant, equipment and work method the most common means of dust suppression using water and/or containment by screening and enclosure will be adopted.
- 4.6 Water suppression of dust will be employed for operations such as cutting or sandblasting of stone or concrete as well as in more general applications where dampening will prevent wind whipping of dust from stockpiles and operational areas of the site, or from demolition.
- 4.7 Where dust is likely to be a persistent problem water spray systems will be available from the commencement of works. The use of these systems will be applied in operations such as demolition and soil removal during construction.
- 4.8 Finely divided materials such as sand and cement products will be stored where practicable under cover or in sealed containers. In some circumstances screening or enclosure may be required in addition to water suppression.
- 4.9 As far as practical constraints will allow, obvious sources of dust such as spillages of finely divided materials will be removed using a wet cleaning technique.

- 4.10 The importance of cleaning will be applied to internal roads and the highway which may become coated with dust from other operations and can become a secondary source of dust emissions.
- 4.11 A speed limit will be applied to vehicles operating on the Site during dry conditions.
- 4.12 Easily cleaned hard-standing areas will be provided within the site for vehicles entering, parking and leaving.
- 4.13 Wheel washing facilities adjacent to the egress points used by vehicles leaving the site will be provided.
- 4.14 Personnel and mechanical road sweepers will be used to clean the hard-standing area and to clean any mud or debris deposited by works vehicles on internal roads and the public highway in the vicinity of the site.
- 4.15 All vehicles carrying potentially dusty materials (skips and removal vehicles) to or from the site will be required to be fully sheeted on the public highway. Watering of any rubble chutes shall be undertaken whenever necessary to prevent excessive dust emissions. Chutes will be fitted with a 'sock' enclosing the discharge into the skip or truck. Socks will be maintained in position at all times when the chutes are in use.
- 4.16 Any plant used for crushing of materials must have a permit, issued by the appropriate local authority (Winchester City Council / Havant Borough Council) under the Pollution Prevention and Control Regulations 2000 (prescribed processes). All works will be carried out in accordance with the conditions of such a permit. Plant used to recycle materials will require a permit/licence from the Environment Agency. The relevant Regulatory Authority will be notified prior to the equipment being brought on site.
- 4.17 Water bowsers will be provided for use in suppressing surface dust generated from unpaved roads or other sources during periods of dry weather, use of sprinklers and water carts, and re-vegetation of stockpiles will be applied where appropriate.
- 4.18 Materials and storage/stockpiling areas will be located away from sensitive locations, such as residential properties, as far as reasonably practicable. Stockpiles will be screened or bunded where practicable. Stockpiles of all potentially dusty materials shall be damped down or covered to prevent

emissions of dust from the site. Stockpile sites will be planned, sited and profiled to minimise the potential for dust generation. Handling of material should be kept to a minimum and when deposited onto a stockpile it should be dropped from the minimum possible height.

- 4.19 Particularly dusty activities such as soil stripping will be carried out in suitable weather conditions when practical (i.e. when the ground is damp and during periods of low wind speed) to minimise dust impact on receptors.
- 4.20 Care will be taken to control dust arising from the waste or recycled materials being deposited, handled, processed and stored on the Site.
- 4.21 Monitoring of dust by means of a daily site walk-over will be carried out to inspect the perimeter and check for dust deposition on fencing and any trees close to the edge of the area of the site being worked on. A daily inspection of the local area will also be carried out to check for any evidence of excessive levels of dust deposition that may be a result of the construction site activities. This will confirm the effectiveness of adopted dust management procedures and allow any problems to be identified so that remedial action can be employed as necessary.
- 4.22 Operations will be monitored and if necessary stopped in particularly dry and windy weather conditions when the dust control measures are proving to be ineffective'.
- 4.23 Although dust will occur from site activities, this is likely to have a minimal and temporary impact on the surrounding environment if appropriate mitigation is applied. The use of best practice to control dust during construction activities is normally sufficient to avoid any unacceptable problems occurring. Provided the proposed dust management measures are properly implemented, dust will be controlled to an acceptable level.

5. CONTROL OF SMOKE AND EMISSIONS

- 5.1 Smoke can be considered to constitute a Statutory Nuisance under the Environmental Protection Act 1990 if it affects the occupiers of other properties. The emission of dark smoke from industrial or trading premises (including construction sites) constitutes an offence under the Clean Air Act 1993. The lighting of fires on site shall not be permitted and waste will be disposed of under the conditions set out in a Site Waste Management Plan (SWMP).
- 5.2 If timber has been confirmed diseased, burning of the material shall only occur after the local authority has been informed in writing and permission to burn on site has been granted.
- 5.3 All necessary precautions will be taken to prevent emissions of smoke and fumes from site plant / equipment or stored fuel oils. Plant will be well maintained and measures will be taken to ensure that it is shut down in intervening periods between work or throttled down to a minimum.

6. CONSTRUCTION LIGHTING

6.1 Where required, construction lighting will be provided. This can provide a deterrent to vandals and thieves and allow late/early working where authorised, but may also cause a nuisance to local residents. Therefore, when planning and designing a lighting compound the following must be considered:

- Keep lighting to the minimum brightness required;
- Direct lighting downwards where appropriate;
- Use of baffles if up lighting is unavoidable;
- Use of energy efficient lightning;
- Consult the site ecologist before any lighting is installed, to ensure minimum disturbance of local bat roosts

7. WASTE MANAGEMENT

7.1 A Site Waste Management Plan will be maintained throughout the works. All major waste streams that will be generated during the Contract will be identified including;

- green waste
- construction waste, including;
- spoil
- demolition waste
- asphalt or bitumen
- concrete and metal
- chemical and paints
- office waste
- kitchen waste
- sewage effluent;

7.2 For each waste stream how and where the waste is to be reused, recycled, stockpiled or disposed of will be identified

7.3 Waste generated from site activities will be sorted and amounts estimated and recorded.

7.4 Where available, waste suitable for reuse or recycling will be reused or recycled.

7.5 Materials and products with recycled content will be proposed for the works wherever these are cost and performance competitive and they are environmentally preferable to the non-recycled alternative.

7.6 Waste oil will be sent to approved recyclers where appropriate.

7.7 Waste and containers not able to be recycled will be disposed of at a licensed landfill site.

7.8 No construction waste material will be left on site once the site works have been completed.

- 7.9 The site will be left in a clean and tidy state on completion of the site works.
- 7.10 How the waste will be transported between the site and point of reuse, recycling, stockpiling, treating or disposal and who will be responsible will be identified.