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EDMS1/800D99C7/B/SD4003

**AWE Report**

**AWE**

**Code of**

**Construction**

**Practice**

**Issue 1**

**26 May 2006**

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AWE's Code of Construction Practice

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This is a Category B document.

Amendments must be recorded in the table above.

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### Appendices

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## Summary

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- S.1 The AWE Construction Management Department is responsible for the management and delivery of the construction phase of major projects within Aldermaston and Burghfield, applying best construction practices available in the industry with the objective of reducing potential environmental effects and maximising safety and control. The Construction Management Department is also responsible for ensuring compliance with legislation in relation to the construction activities in Aldermaston and Burghfield.
- S.2 This Code of Construction Practice (CoCP) applies to all construction projects at AWE Aldermaston and AWE Burghfield. The CoCP focuses on the management of construction activities in order to reduce environmental effects.
- S.3 The CoCP makes reference to existing AWE Construction Practices both for general site management and specific environmental topics including Access and Traffic Management, Waste, Aqueous Waste, Atmospheric Emissions, Resource Use, Land and Groundwater, Ecology and Archaeology, Nuisance, Landscape and Visual Impact, and Workforce/Local Employment Opportunities.
- S.4 The CoCP also defines how these commitments will be implemented through the Contractors' Construction Environment, Safety and Health (ESH) Plans, and Project Register of Environmental Aspect (PREA).
- S.5 Key stakeholders will be consulted during the construction process, through a robust liaison/consultation strategy. AWE will form a Construction Liaison Group who will act as the focal point for the dissemination of information, via a Helpline, project website, Information Boards and Exhibitions, and handling of any complaints regarding the construction process.
- S.6 Detailed requirements for Contractors are contained within AWE Construction Site Rules (CSRs) and procedures for construction projects. The Contractor will ensure that his statutory obligations under environment, health and safety legislation are fulfilled.

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## Introduction

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### **AWE - Construction Management Department**

- 1.1. AWE is committed to ensuring the successful delivery of construction projects with health, safety and environmental protection in mind. The conditions of the nuclear site licence require AWE to demonstrate control of all site activities, including demolition, refurbishment and new build projects. The AWE Construction Management Department is responsible for the management and delivery of the construction phase of major projects within Aldermaston and Burghfield, applying best construction practices available in the industry with the objective of reducing environmental impacts and maximising safety and control. The Construction Management Department is also responsible for ensuring compliance of legislation in relation to the construction activities at Aldermaston and Burghfield.

### **Purpose**

- 1.2. The CoCP explains the overall approach of the Atomic Weapons Establishment (AWE) to manage and control effectively overall environmental impact arising from the construction activities involved with the modernisation of AWE Aldermaston and AWE Burghfield. The information contained within the CoCP is based upon existing AWE procedures and practices.
- 1.3. Details for management of individual contracts is contained within AWE's Construction Site Rules (CSRs) and procedures for construction projects, which fully describe AWE's requirements regarding environmental management in connection with construction work.
- 1.4. The CoCP sets out the outline strategy and standards that AWE intends to observe to manage any adverse environmental effects of the construction process, to meet AWE's own commitments to high standards and address the requirements and aspirations of the local authorities.
- 1.5. The CoCP will aim to ensure that the Best Available Techniques (BAT), as introduced in the Environmental Protection Act 1990 to cover both technologies and management techniques, are used, where appropriate, for the control of the environmental impacts and construction. It will also aim to ensure that, where appropriate, the Best Practical Environmental Option (BPEO), ensuring least impact to the environment as a whole, and/or Best Practical Means



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(BPM), in terms of controlling emissions and potential nuisance, are implemented and achieved.

## Scope

- 1.6. The CoCP focuses on the management of construction activities to reduce environmental impacts.

## Structure

- 1.7. The CoCP sets out a series of objectives and management measures to be applied throughout the construction period by the nominated contractors. It comprises four sections:-
- **Part A Construction Environmental Management Strategy** This section defines the overall strategy for managing environmental impacts that arise during the construction phase. It outlines how the CoCP will be implemented, including the liaison/consultation strategy.
  - **Part B: General Site Specific Requirements** This section sets out the requirements for managing the construction impacts of all site operations.
  - **Part C: Environmental Topic Specific Requirements** This section sets out the requirements for the following environmental topics:
    - Access and Traffic Management
    - Solid Waste
    - Liquid Waste
    - Resource Use
    - Land and Groundwater
    - Ecology and Heritage
    - Nuisance
    - Landscape and Visual Impact
    - Workforce/Local Employment Opportunities

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- **Part D: Monitoring.** This section sets out the specific requirements for monitoring the construction activities.

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## Part A - Construction Environmental Management Strategy

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### A1 Implementation

#### Responsibilities

- A1.1 AWE will retain overall responsibility during all stages of any construction activity and ensure that all construction activities are in compliance with the CoCP, AWE Construction Site Rules, statutory and consent obligations.
- A1.2 Contractors shall with due care and diligence (to the extent provided for by the contract) execute and complete the works in accordance with the provisions of the AWE Construction Site Rules and other requirements set out by AWE.
- A1.3 The Construction Site Rules are updated regularly to ensure statutory and non statutory changes are being incorporated. Each Contractor will be responsible for implementing requirements through the development of the following:
- Construction Environment, Safety and Health (ESH) Plan to identify any specific environmental hazards, waste routes and agreements and any other pertinent environmental information.
  - Project Register of Environmental Aspect (PREA) to identify all environmental aspects applicable to the construction phase and identify the managerial and engineered controls to be put in place to reduce environmental impact.
  - An Environmental Monitoring Plan to demonstrate compliance (see Section D)

All site staff (including AWE staff) will have a duty to reduce the risk of impacts to the environment from the activities on the site, and therefore, environmental responsibilities will be required to be put in place at all levels within the Contractor's team.

- A1.4 Each Contractor will be responsible for managing their sub-contractors and for ensuring they understand and comply with the environmental obligations of the CoCP.
- A1.5 AWE will appoint an internal construction liaison officer working within the AWE Construction Management Department (see A2 – Liaison/Consultation).

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### **Safe Systems of Work (SSOW – Risk Assessments and Method Statements)**

- A1.6 Prior to commencement of relevant site activities, Contractors are be required to produce statements of Safe Systems of Work (this includes method statements and environmental risk assessments). These will include measures to implement the Construction ESH plans, PREA and CoCP in respect of particular tasks and locations. Where appropriate, an application will be made to the local authority for a Section 61 consent (as defined under the Control of Pollution Act 1974).

## **A2 Liaison/Consultation**

- A2.1 AWE will form a Construction Liaison Group (CLG) who will act as the focal point for the dissemination of information and handling of any complaints relating to construction activities. The CLG will be responsible for developing and administering a Helpline to respond to inquiries, concerns or complaints raised and maintaining a project website to provide information on construction activities, their progress and forthcoming works. The website will include options to send comments and feedback to the CLG. All calls to the Helpline and feedback from the Website will be logged, together with the response given. Each concern/comment will be responded to and actioned in an appropriate manner. A summary of the calls/comments received and actions taken will be produced as a monitoring report on a periodic basis to the Local Authority (LA).
- A2.2 The Helpline number and website address will be clearly advertised on prominent displays of information around the site (on hoardings) and at exhibitions.
- A2.3 AWE will also keep residents, businesses and other local community informed about the impacts of any construction works. A regular newsletter will be produced and flyers will be distributed to provide targeted information about particular impacts and opportunities for local commerce.

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## Part B – General Site Specific Requirements

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### B1 Introduction

B1.1 The following section describes the general requirements for all major phases of construction with respect to working hours, general site layout and appearance, and security. The controls related to specific environmental topics are set out in Part C.

### B2 Working Hours

B2.1 Normal working hours, i.e. normal construction activity, will be 07:00 to 19:00 on weekdays and 07:00 to 16:00 on Saturdays; however programme demands will necessitate that there will be peak construction periods when working hours will be extended .

B2.2 Activities likely to generate noise that may affect sensitive areas will occur during normal working hours other than in exceptional circumstances. Where such activities have to occur outside normal hours, occupiers of nearby residential or other properties will be given adequate notification in advance of the time of the works and the likely duration where practicable. In addition, for some stages of construction activity where an activity is of a specialist nature, 24 hour working, seven days per week will be required.

B2.3 Where possible, deliveries will be controlled and scheduled for off peak hours, Monday to Friday 09:00 to 16:00 and Saturdays 07:00 to 13:00. Some low level late evening and Sunday deliveries may be necessary.

B2.4 In order to manage delivery times, a combination of approaches are being researched including careful delivery scheduling and the use of pre-delivery lay up and marshalling/holding areas for commercial and HGV vehicles which may be away from the main AWE sites. This will ensure that deliveries are in accordance with planned arrangements and that the Gate and Construction Site are clear and ready to receive delivery before dispatch and arrival. The use of off-site 'Consolidation Centres' is also being researched, where materials can be delivered and collated or split before delivery to the work site at time of requirement.

B2.5 Escorted abnormal load deliveries will have specific delivery times that will be planned and coordinated with the Local Authorities, AWE Security and where required the Civil Police.

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B2.6 In the case of work required in response to an emergency, the local authority and local residents will be advised as soon as is reasonably practicable that the works are taking place and their likely duration.

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### **B3 Layout and Site Appearance**

B3.1 In general all contractor facilities – temporary accommodation including offices, stores and welfare and parking and working/laydown areas for pre assembly /prefabrication, will be located within the boundary of the AWE Aldermaston and Burghfield Sites. However for any longer term developments, the feasibility and potential location for establishment of construction support sites external to the main AWE sites suitable for materials handling, accommodation, worker car parking and vehicle marshalling is currently being investigated..

B3.2 All phases of the construction will be carried out following a general 'good housekeeping' policy, including: -

- All work areas will be kept clean and tidy. Rubbish will be removed at frequent intervals. Burning of materials on site will be prohibited.
- Hoardings and security fences will be inspected frequently, and repaired and re-painted as necessary (see below for further details on security).
- Reinstatement/good upkeep of street surfaces, even where temporary
- Street cleaning (avoidance of mud on the road)
- Wheel washing facilities will be provided at key exit points from the construction sites and cleaning of the underside of the vehicle will also be required. Where practical, vehicles will only stand on hard surfaces rather than soil.
- Site entrances/gates positioned to minimise impact from traffic congestion and noise transmitted from construction site activities and deliveries on both the standard AWE operations and the locality.

B3.3 Storage sites, fixed plant and machinery, equipment and temporary buildings etc, will be located to limit adverse environmental effects. All reasonable precautions will be taken for the operation of plant and equipment, to avoid nuisance and excessive noise impact on surrounding residents. The environmental effects to be considered are not just the proximity of operations to sensitive properties or ecologically sensitive locations, but also to the risks of pollution.

B3.4 Lighting of the site boundary and associated areas will be provided to ensure sufficient illumination for safety of the passing public/personnel, and positioned such that it does not intrude unnecessarily on adjacent buildings and land uses, cause distraction or confusion to

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passing drivers, constitute a road hazard and will be chosen to minimise light pollution effects or encourage crime/anti-social behaviour.

B3.5 The visual intrusion of construction sites on nearby residents and users of local facilities and amenities will be contained and limited.

B3.6 For pest control, the following measures will be adopted: -

- Removal or stopping and sealing of drains and sewers brought into disuse;
- Prompt treatment of any pest infestation and arrangements for effective preventative pest control; and
- Appropriate storage and regular collection of putrescible waste

B3.7 Any instances of pest infestation on the construction sites will be notified to the relevant local authority as soon as practicable.

## **B4 Security**

B4.1 Site security is of the utmost importance throughout any construction programme. The following security measures will be adopted from the beginning of any works, in tandem with the existing security at the AWE facilities, as follows:

- Support to personnel managing the control of access to the site and will include appropriate welfare and accommodation facilities where required.
- On site security monitoring and off site security measures for materials handling points, worker car parking, worker accommodation and security for key movements to and from site.
- Construction sites will be securely managed and coordinated with existing AWE site security operations
- Liaison with the existing security services and police will be in place with regular meetings to review the security measures

B4.2 The security process will be reviewed to expedite the efficient checking and secure transit of workers/materials into the site. Internal zoning will be used to manage the appropriate security levels to ensure a continuous programme of works.



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## **B5 Contractors' Amenities and Welfare**

B5.1 In general, Contractors' amenities will be contained within the boundary of the AWE Aldermaston and Burghfield sites where the appropriate level of welfare and support will be provided. These amenities will typically include:

- Offices
- Stores
- Workshops
- Messing and welfare facilities
- Construction laydown and working areas
- Concrete batching facility as and when required

B5.2 The amenities, where possible, will be located within self contained, construction enclaves with fenced construction site access corridors, construction sites and contractor compounds within the boundaries of the AWE sites. This will provide confined areas with safe access and egress segregated and secure from the AWE Site Operations.

B5.3 Where working restrictions will not enable provision of full facilities, in particular contractor amenities including messing, these will be provided at a location as close to the work site as possible, segregated from the AWE Site Operations.

B5.4 Within the fenced perimeter of each construction area, sufficient room will be allowed for safe working. This will include the operation of large excavation equipment on new builds.

## **B6 Areas of Particular Hazard and Working Within Explosive Areas**

B6.1 There are particular areas within the AWE sites which have particular hazards which will be addressed within the construction plans. These include:

- Ionising or non-ionising RA
- Explosives
- Hydrodynamics
- Toxics
- Deep water (ponds & reservoirs)

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- Contaminated land / buildings & legacy issues
- High structures and buildings

B6.2 Contractors will be made aware of particular hazards and how to work within or near these areas. Where required, training will be provided and restrictions, procedures to be followed and training requirements will be defined in the pre-tender Health and Safety Plan.

B6.3 There are a number of buildings on the AWE sites that contain explosives. These buildings are classified as Potential Explosion Sites (PES) a number of which will remain operational during the construction activities.

B6.4 Where practicable, construction sites will be located at the appropriate safe distance from the PES equivalent to that required under MOD Explosives Regulations, JSP 482. These take into account separation distances and number of personnel working within the area to determine a Safe System of Work (SSOW).

B6.5 Contractors and their staff will not be put at any unacceptable risk from explosives and will be advised of the hazard to their personnel from the effects of an explosive accident where the intended activity is within the explosives area. In addition Contractor's personnel and methods of work will be strictly controlled in order to minimise the risk to which they are exposed. Where practicable, use will be made of protective structures and other forms of physical mitigation at the various work locations.

B6.6 Welfare facilities (e.g. offices, workshops and messing facilities) will be located as a minimum outside the distance from the PES required for an Inhabited Building.

## **B7 Health and Safety**

B7.1 The safety of construction workers will be dealt with in the Contractor's Construction Environment, Safety and Health (ESH) Plan, which will set out how health and safety risks are identified and managed in accordance with current best practice and legal requirements. AWE will also be responsible for ensuring the safety of the general public and any visitors to the site.

B7.2 Each construction site will have access to first aid facilities for their workers and visitors. In addition, the existing AWE medical centres will be available for use by construction workers, which twinned with the liaison with local NHS and ambulance services will reduce minimum impact on local surgeries and the locality.

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## Part C - Environmental Topic Specific Requirements

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### C1 Access and Traffic Management

#### Objectives

- C1.1 To carry out works in such a way that inconvenience to the public arising from increases in traffic flows and disruptive effects of construction traffic on local and main roads is limited.

#### Control Measures

- C1.2 Controls and measures for managing onsite construction access and traffic will include:
- Traffic control measures
  - Management of deliveries
  - Access to the works – for personnel/vehicles
  - Traffic management procedures for waste disposal vehicles

#### *Traffic Control Measures*

- C1.3 The speed limit on construction sites will be restricted to 10mph.
- C1.4 Routes to and from the site will be agreed with the appropriate highway authority(ies). Routes through residential areas, or close to other sensitive receptors, will be avoided where practicable.

#### *Management of Deliveries etc*

- C1.3 AWE is investigating, for the longer term, the establishment of off site facilities that will receive the majority of traffic movements (material deliveries, trade parking) setting up a process of vehicle marshalling, pre-consolidation and worker bussing all designed to reduce the level of traffic into the locality and site.
- C1.4 The methodology that is currently under investigation for materials management is that the majority of all deliveries, which ordinarily arrive at sites at different times of the day in an unplanned process, will go to a facility that will be sited nearer the motorway/main roads. Materials will be then brought to site by site-specific vehicles at times throughout the day that will cause the minimum impact to the area.

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- C1.5 Deliveries will be kept out of the busy periods such as when staff are entering or leaving the area and when there are local movements for school runs, events etc.
- C1.6 In addition, off/near site parking facilities for trades are being investigated so to achieve a reduction in vehicles going to site.
- C1.7 Location of any such facilities will be established in consultation with the Local Authorities with consideration to:
- Affect on reducing congestion in the immediate vicinity of the sites
  - How the site is served by suitable freight routes
  - Accessibility for heavy construction traffic
  - Impact on the local community
  - Security and potential risk from protestors and terrorists
- C1.9 Contractors and suppliers will be issued with route maps and delivery schedule that they must pass to their drivers. Delivery times and access gates will be strictly controlled, with arrival and departure time scheduled to avoid the busiest period in terms of road traffic and pedestrian movements.
- C1.10 Large vehicle movements, wide loads, and movement of sensitive items will be planned in conjunction with all stakeholders thereby ensuring minimum impact at all times.

*Access to the works – for personnel/vehicles*

- C1.11 As far as is practicable, construction traffic will be segregated from the AWE Operational traffic by operation of dedicated Contractor vehicular access perimeter gates with searching, pass issuing and escorting facilities at both Aldermaston and Burghfield.
- C1.12 At Aldermaston, the Burnham and the A340 Contractor gates will become fully operational for construction traffic access only, at a minimum, for 'normal working hours'. Extensions to normal gate operational hours will be on a prearranged basis with an appropriate agreed notice period. This will not totally negate the use of the West Gate during off peak periods, or the use of other currently operational Gates for low level construction access, during 'out of normal working hours' periods, in particular evenings and weekends and possibly with current opening hours extended, when the volume of AWE Operational traffic is greatly reduced

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C1.13 At Burghfield the Pingewood gate will operate in conjunction with the Main Gate, although the precise mode of operation of these Gates for AWE Operational and construction traffic is still to be defined.

C1.14 With the exception of the Burnham Gate and A340 gate, it is not currently anticipated that construction traffic demands will require the implementation of additional gate access over and above the current AWE site access arrangements.

*Traffic management procedures for waste disposal vehicles*

C1.15 Waste removal will be carried out by delivery vehicles and specific waste vehicles for certain materials. There will be on site segregation supported by active house keeping to control waste and that waste vehicle movements are controlled as far as practical.

C1.16 The materials vehicles coming into site will also work on a 'milk round' basis taking away from site, unused materials and waste thereby further reducing the number of vehicle movements overall.

## **C2 Solid Waste**

### **Objectives**

C2.1 The disposal of solid waste, including surplus spoil and demolition materials, will be managed to maximise the environmental and development benefits from the use of surplus material and to minimise any adverse effects of disposal. In general, the principles of the waste management hierarchy, reduce-reuse-recycle, will be applied.

### **Control Measures**

#### *General Requirements*

C2.2 Detailed requirements for the Contractor are contained within the specific AWE CSR and procedures for construction projects. As a minimum the Contractor will ensure that his statutory obligations under environment, health and safety legislation are fulfilled.

C2.3 Prior to the commencement of any works, potential waste arising from demolition, excavation or refurbishment of a building or land area will be classified to establish relevant waste streams, suitability for reuse/recycle and disposal/storage requirements.

C2.4 Contractors will ensure that all waste types, will be subject to controlled collection and storage on-site, to keep the construction site tidy, avoid unsightly accumulations of waste and minimise dust, pest infestation, odour and litter. Wastes will not be stored in areas of the site

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adjacent to sensitive environmental features or receptors. Waste skips will be covered where there is likelihood of wind blown wastes and dusts. If skips contain potentially contaminated materials, they will be covered to prevent rainwater ingress.

- C2.5 Waste will be removed from site by licensed carriers to suitable licensed disposal sites.
- C2.6 Waste transfer notes and consignment notes will be held by the AWE responsible officer and will describe fully the waste in terms of type, quantity and containment in accordance with the relevant regulations. AWE's Technical Authority for Waste (AED) will be informed so that AWE can satisfy its own duty of care requirements (including auditing the transfer and disposal route).

*Full clearance process for Potentially Contaminated Waste*

- C2.7 In the case of potentially contaminated waste, the relevant Project Manager will contact the AWE Accelerated Clearance Manager to determine if the full clearance process must be followed or if the project can be considered a 'routine clearance'.

*Reuse of Demolition and Excavation Materials*

- C2.8 Demolition and excavation works will be carried out in such a way to enable effective segregation of clean materials for re-use on site wherever practicable.
- C2.9 It is anticipated that 'clean' concrete and masonry will be crushed for reuse for backfilling and other purposes, or will be sent off-site for recycling.
- C2.10 In common with storage of all waste, controls will be used to prevent release of airborne dust from spoil heaps and roads such as the use of covers or by damping down.
- C2.11 Contractor(s) will liaise with suppliers to enable packaging material to be sent back for reuse.

*Segregation and Recycling*

- C2.12 Opportunities will be investigated to maximise the recycling potential of demolition and construction materials e.g. structural steelwork will be removed from site for recycling, plasterboard offcuts will be recycled where practicable.
- C2.13 Recyclable materials such as metals, timber, cardboard, cans, glass and office paper, will be segregated and recycled where possible.

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*Radioactive Waste*

- C2.14 All radioactive waste will be dealt with in accordance with the requirements specified by AWE Environmental Programmes (Operations) (EP Ops). This will include requirements for generation, storage and disposal.
- C2.15 The Code of Practice on Clearance and Exemption Principles, Processes and practices for use by the Nuclear Industry will be followed. Any radioactive contaminated waste will be dealt with in accordance with Best Practical Means (BPM).

*Hazardous (Trade and Toxic e.g. asbestos, solvents, oils etc)*

- C2.16 Buildings and materials potentially containing asbestos will be fully assessed in advance of demolition works commencing. In accordance with the relevant legislation, a licensed contractor, will remove any identified asbestos, which will be authorised through the AWE Asbestos Focal Group.
- C2.17 Where practicable contractors will use AWE's waste service group/EP (Ops) for the disposal of hazardous waste. Where not practicable, the contractor's arrangements for disposal will be agreed with the Technical Authority for waste at least two weeks before the first disposal is scheduled to occur.
- C2.18 Contractors will obtain any necessary licences for the storage, treatment and disposal of waste and use registered waste carriers or seek registration as a waste carrier for the handling of contaminated materials. The contractor will ensure that a Hazardous Waste Consignment Note accompanies all hazardous waste.
- C2.19 Any arisings from areas containing remnants of invasive/noxious weeds (e.g. japanese knotweed) will be treated as controlled waste and disposed of off-site at a landfill site that is licensed to receive such material. The disposal recommendations referred to within the relevant Environment Agency best practice guidance will be followed.

### **C3 Liquid Waste**

**Objectives**

- C3.1 Implement working methods to protect surface and groundwater from pollution and other adverse impacts including changes to water levels, flows and quality.

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## **Control Measures**

### *General Requirements*

- C3.2 All works will be carried out taking full account of the requirements of the Environment Agency "General Guide to the Prevention of Pollution of Controlled Waters". Detailed requirements for the Contractor are contained within AWE's specific site rules and procedures for construction projects.
- C3.3 Contractors will not be allowed to make any new foul, trade, surface water to the on-site drainage system, without going through the AWE change control process. Contractors will also be required to consult with the AWE Technical Authority prior to disposal of effluent.

### *Domestic/Foul*

- C3.4 Domestic / foul effluent will only be discharged to on-site foul drainage if agreed at change control and with AWE Utilities Engineering Department. Alternatively, it will be disposed off-site to a licensed waste facility. Nearby surface drains will be protected (e.g. by bunding, silt traps, drain covers), during emptying operations.

### *Trade Effluent*

- C3.5 Trade effluent (e.g. from vehicle washing activities) will be contained and disposed of as controlled waste, unless prior approval for discharge to foul drain, trade drain or ground/groundwater has been given by the Utilities Engineering Department or Aqueous Discharge Technical Authority and the relevant Works Control Centre (WCC) as appropriate. Where possible water for vehicle washing etc. will be contained within a closed system to allow recycling and reuse.

### *Hazardous and Radioactive (RA) Aqueous Waste*

- C3.6 The handling and storage of potentially hazardous liquids on site, e.g. fuels and chemicals, will be controlled. Storage tank/container facilities will be appropriately bunded within designated areas and sited as far as practicable from any watercourse or surface drain.
- C3.7 All oil interceptors and sediment settlement or other treatment facilities will be regularly inspected and maintained.
- C3.8 No excavation will take place unless a Radiological Clearance Certificate had been issued and when necessary a chemical clearance. If waste is to be produced, the contractor will be required to agree a suitable discharge route with Environmental Programmes (Operations) (EP(Ops)).



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*Discharge of Groundwater and Surface Runoff*

- C3.9 Adequate temporary site drainage will be designed where appropriate, in discussion with the Local Authorities and the EA. Levels will be modified where necessary to minimise overland flow. Dewatering measures, settlement tanks and other such methods will be used across the site to manage surface water run-off and prevent any contaminated water entering adjacent surface water systems.
- C3.10 Groundwater or rainwater runoff gathered in an excavation (including piling) will be pumped into a settlement tank or other container (if small volumes) and analysed for contaminants prior to disposal. Approval of the disposal route will be sought from the relevant manager prior to discharge.

*Emergency Response*

- C3.11 An Emergency Response Plan will be developed and implemented by the Contractor as part of the overall site emergency response plan. It will set out systems to ensure that pollution impacts upon people, flora, fauna, land, air and water are contained and controlled and that clean-up procedures and spill kits are in place to respond effectively once an incident is discovered.

## **C4 Atmospheric Emissions**

### **Objectives**

- C4.1 To control the emissions to air of pollutants and ensure that best practicable means are employed.

### **Control Measures**

- C4.2 Where the potential for an impact on air quality exists, "Best Practicable Means" will be used to reduce the impact, including the control measures described below, as appropriate. Detailed requirements for the Contractor are contained within the specific AWE site rules and procedures for construction projects.

*Materials Storage and Handling*

- Materials handling and storage areas will be sited as far away as reasonably practicable from public/residential areas. These areas will be actively managed where practicable. Prolonged storage of debris on site will be avoided.
- Handling areas will be kept as clean as practicable to avoid nuisance from dust.

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- Should a concrete batching plant be operated during the construction period, to allow concrete to be manufactured on site, the cement and other powdered cementitious materials will be delivered by road and stored on site in a designated area.
- Where appropriate Monoflex sheeting will generally be added to the side of scaffolding to prevent dust blowing off completed floorplates.
- Where necessary, other dusty materials will be dampened down using water sprays in dry weather.
- Volatile materials will be kept in sealed containers and kept cool for as long as possible.
- Hot bituminous material will be transported in a covered container and bitumen will be heated to the minimum temperature to minimise volatile organic compound release.

#### *Construction Plant*

- Site plant and equipment will be kept in good repair and maintained in accordance with the manufacturer's specifications.
- Where practicable, low emission fuels will be employed for construction plant. No plant will be left running when not in use.
- Any fixed plant and equipment will be located away from sensitive receptors and residential areas near the site.
- Where necessary fencing/enclosures will be erected around major construction plant items, including any onsite concrete batching plant.
- Plant with dust arrestment equipment (such as particle traps) will be used where practicable.

#### *Vehicle Movements*

- Effective wheel cleaning will be undertaken for traffic leaving the construction sites onto site haul/public highways by the use of wheel washes. Road sweepers and vacuum sweepers will be used to maintain such roads in a clean condition.
- During prolonged dry periods or as directed by the site manager, haul roads will be dampened down where practicable
- All site vehicles will be kept in a good state of repair and maintenance.

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- All vehicles carrying dusty materials into or out of the site will be sheeted to prevent escape of materials.

*Operational Control*

- Site operations will be planned to take into account local topography, prevailing wind patterns and local sensitive receptors.
- Burning of materials on site will be prohibited.
- Loading and unloading will only be permitted on designated areas.
- Appropriate dust controls will be employed for the demolition work, including sheeting, use of enclosed rubble shutes, etc.
- Dust controls for 'special operations' will be specified as part of the risk assessment e.g. cutting or grinding of stone or metalwork, sandblasting or other similar cleaning, and crushing.
- Where mobile concrete crushers are used during demolition, these will be sited as far away as possible from sensitive receptors, and authorisation will be required prior to use from the Local Authority in whose area the operating company's registered office is situated.
- Immediate clean up of spillage will be employed.
- Completed earthworks will be sealed or planted as early as practicable.
- Where parts of the site have been identified as potentially contaminated, any necessary precautions indicated by risk assessments will be specified for dust control, spoil removal and disposal.
- All substances used in refrigeration, air conditioning and heat pump equipment will be recaptured for reuse, recycling or reclamation before the dismantling or disposal of equipment. Captured gas not intended for re-use will be disposed of to a licensed recovery or disposal facility by qualified experienced refrigerant engineers.
- Any radioactive gas releases will be dealt with in accordance with relevant legislation and Best Practicable Means.

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## C5 Resource Use

### Objectives

- C5.1 Carry out the works in such a way as to use resources such as energy, water, oils, chemicals and construction materials efficiently and manage their use and storage to ensure impacts on the environment are reduced.

### Control Measures

- C5.2 During pre-construction AWE will ensure that there are systems in place to assess project Control of Major Accident Hazards (COMAH) and this will continue throughout the duration of the project. If the COMAH tiered status is likely to be affected the COMAH Competent Body will be informed at the earliest opportunity.
- C5.3 The storage and use of resources throughout the project will follow industry good practice and will include the following as below. The use of radioactive materials is not included in this section. Detailed requirements for the Contractor are contained within the specific AWE site rules and procedures for construction projects.

#### *Storage/Use of Chemicals and Oils including paints and solvents*

- All chemicals brought onto site will be supplied with a Material Safety Data Sheet, which should include chemical risk phrases. Appropriate risk assessments will be in place for the transfer, use and storage of chemicals.
- Where practicable, drums and small containers will be stored undercover in a dry secure container or compound, which is locked when not in use.
- Chemical storage areas will be located at least 5m away from surface water drains wherever practicable. Adequate controls shall be put in place to minimise risk of surface water contamination.
- Skips storing chemicals/oils located externally will be covered when not in use.
- All stores of fuels/oils exceeding 200 litres shall comply with The Control of Pollution (Oil Storage) Regulations 2000.
- All mobile bowsers will be double skinned and any tap or valve used for the discharge of oil will be locked when not in use.

- Fixed, temporary and mobile generators will meet the requirements of the Control of Pollution (Oil Storage) Regulations. In particular, they will be provided with adequate secondary containment to minimise risk of spillage/leakage to the environment.
- Where possible, mobile plant will be refuelled in a designated area, on an impermeable surface, away from drains.
- Spill kits of appropriate type and in sufficient quantity will be provided for all chemical/oil storage areas. They will be checked on a regular basis to ensure they are fit for purpose and restocked as necessary.

#### *Aggregates and Other Material Resources*

- An integrated waste strategy for the management and re-use of spoil (e.g. topsoil, subsoil and aggregates) will be devised by AWE to ensure the minimum environmental impact from storage and transport and to optimise re-use where possible.
- Where practicable, the Contractor will re-use existing materials or use recycled materials or materials from a sustainable source. Demolition and excavation methods will be planned to keep reusable materials in good condition and to enable materials segregation and reuse e.g. topsoil, subsoil and aggregates.
- Stockpiles will be fenced off in a designated place on site and covered or damped down (if likely to generate dust).
- Generation and disposal of wastes will be reduced by using material resources efficiently e.g. procurement orders should be 'timely' and 'just enough' to minimise storage time and wastage.
- Where opportunity arises the return of unused materials to the supplier will be encouraged.

#### *Energy Use*

- All room heaters within the construction site compound will have thermostatic control and where possible timer control. All heaters will be turned down or off at the end of each working day (if practicable).
- Where practicable, all plant and equipment will be turned off when not required and at the end of each working day.

- For Contractors, whose sites use more than 400 kWh per day, it will be a requirement that at least 90% of the energy consumption will be metered and reported to the AWE Energy Manager on a quarterly basis.

*Water Use*

- All hoses will be fitted with spring loaded trigger guns to provide automatic cut off to the flow. The total water consumption of the construction site will be metered.

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## C6 Land and Groundwater

### Objectives

- C6.1 Carry out the works in such a way as to prevent, contain or limit, as far as reasonably practicable, any adverse impacts arising from the presence of contaminated material encountered during the construction activities.

### Control Measures

- C6.2 The measures will be consistent with current industry good practice for construction on brownfield sites, and will include the following as below. Detailed requirements for the Contractor are contained within the specific AWE site rules and procedures for construction projects. As a minimum the Contractor will ensure that his statutory obligations under environment, health and safety legislation are fulfilled:

- Identification of the potential for residual ground contamination within any construction site will be completed prior to the start of any piling or excavation work, with the consideration of potential sources, pathways and receptors.
- Confirmation will be obtained regarding the location and condition of any below ground storage tanks or services in the area of construction. Tanks and pipelines will be emptied before they are removed and the contents disposed of appropriately.
- Sampling and testing of excavated spoil and piling arisings, in order to assess the suitability of materials for reuse on site.
- Stockpiling of contaminated materials will be avoided where practicable. Where it is necessary stockpiles will be located on areas of hardstanding or plastic sheeting to prevent contaminants infiltrating into the underlying ground.
- Where remediation is required, on-site treatment, including bioremediation, will be carried out wherever practicable.
- Any necessary licences will be obtained for the storage, treatment and disposal of waste.
- Where significant unforeseen contamination is identified during the course of the work, Work will stop and further investigation will be undertaken to establish level of contamination

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C6.3 Special precautions will be taken if materials containing asbestos were encountered (see waste management above).

## C7 Ecology and Heritage

### Objectives

C7.1 Construction works will be carried out in such a way as to ensure that impact on flora and fauna is minimised as well as potential impacts on historic structures and features or areas of archaeological interest are controlled and limited.

### Control Measures

#### *Ecology*

C7.2 Prior to commencement of construction, an ecological survey will be undertaken to ensure any protected species and/or habitat is identified with sufficient time for appropriate mitigation to be implemented.

C7.3 Where species are protected by specific legislation, approved guidance will be followed in order to comply with the relevant requirements and sufficient time will be allowed for any licences or consents to be obtained e.g. roosting bat, slowworm, adder, badger, and great crested newt.

C7.4 The following control measures will be employed as appropriate:

- Where necessary, working sites will be fenced with a standard design hoarding or other appropriate screening to protect adjacent areas of conservation interest.
- To prevent disturbance to nests of breeding birds, areas for construction will be cleared outside the bird-breeding season (March-August inclusive) wherever practicable. If clearance during the breeding season cannot be avoided, birds will be deterred from breeding from March onwards in the areas to be affected. The TA for ecology will be available to provide advice if construction work is near to nesting birds.

#### *Archaeology*

C7.5 In order to ensure construction work will be carried out in such a way to ensure that any adverse impact on or to areas of historic and archaeological interest are controlled and limited an archaeological consultant will be appointed to provide a watching brief.



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C7.6 A strategy will be agreed with the engineering contractors to minimise the chance of accidental damage to known and predicted archaeological resources, and include for the protection of resources to be documented during construction, excavated prior to construction, or retained in situ for the foreseeable future.

C7.7 This CoCP strategy will also require the engineering contractors to notify the relevant Project Manager of any encounter with heritage assets found in the made-ground and in the underlying alluvium/other superficial natural soils. Work will cease immediately, and advice will be sought from English Heritage prior to work re-commencing.

## C8 Nuisance

### Objectives

C8.1 Control and limit noise, vibration, odour and dust levels, so far as is reasonably practicable, so that residential properties and other sensitive receptors are protected from excessive or unnecessary noise and vibration levels arising from the construction activities.

### Control Measures

C8.2 Contractors shall ensure by use of Best Practice Means, that the method of working minimises any nuisances, derived from noise, smells, fumes, dust, smoke, vibration or air pollution, associated with the construction works. Detailed requirements for the Contractor are contained within the specific AWE site rules and procedures for construction projects.

### Noise

C8.3 Prior to commencing work the contractor will review the AWE baseline noise survey and undertake any additional baseline noise monitoring as deemed appropriate. Prediction, evaluation and assessment of noise and vibration will be a continuous activity throughout the development of the site.

C8.4 Where the potential for significant noise or vibration exists, e.g. during piling/demolition etc, "Best Practicable Means" will be used to reduce noise to achieve compliance consistent with the recommendations in BS 5228, and may include: -

- Undertake a risk assessment to consider selection of plant items, construction methods, and programming where appropriate.
- Where appropriate, design and use of site hoardings and screens/noise barriers, to provide acoustic screening at the earliest opportunity.

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- Informing local residents if any particularly noisy operations are planned, and addressing any complaints that may arise (see Part A, Section B2).
- Choice of routes and programming of transport of construction materials.
- Drivers of construction vehicles to avoid reversing into or out of the site wherever possible.
- Percussive piling will generally be avoided. Where there is no alternative to percussive piling (for example where sleeved piles are needed to avoid unacceptable ground movements in nearby sensitive structures) all practical means will be employed to reduce noise, such as erecting an enclosure around the piling rig.

C8.5 The actions agreed to be taken for each 'noisy activity' will be defined in the relevant Safe System of Work and where appropriate, an application will be made to the local authority for a Section 61 consent (permit for noise). The application will include a description of the proposed works, the likely noise impacts from the activities, the equipment to be used and the measures that will be taken to minimise disturbance.

*Lighting*

C8.6 In the hours of darkness, care will be taken when positioning spotlights so as to minimise nuisance to local residents.

*Dust*

C8.7 Control measures such as use of a dust dampening system will be employed as described in air emissions previously.

*Odour*

C8.8 To minimise the occurrence of unpleasant odours that will potentially impact on adjacent residents the Contractor will undertake the following:

- Use well maintained machinery.
- Chemical and oil containers will not be left opened longer than necessary.
- Waste materials likely to give off odours will be situated away from populated areas where possible.

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## **C9 Landscape and Visual Impact**

### **Objectives**

C9.1 Construction works will be carried out to ensure that, as far as reasonably practicable, disturbance to landscape and visual impact on neighbouring residential areas is contained.

### **Control Measures**

C9.2 The following measures will be adopted as appropriate:

- Where necessary, erect hoardings to minimise as far as reasonably practicable the visual intrusion of the worksites.
- Site-specific measures for the planting of trees and shrubs and the protection of trees and landscaping will be defined within the landscaping proposals.
- Appropriate protection of any trees within or in the vicinity of the Works, particularly those subject to Tree Preservation Orders (TPOs) as required by the local authority.

## **C10 Workforce/Local Employment Opportunities**

### **Objectives**

C10.1 Implement methods to enhance the opportunities for the employment of a local workforce..

### **Control Measures**

C10.2 AWE will facilitate the development of local labour and trade contractor initiatives with the local authority.

C10.3 Contractors will be encouraged to undertake onsite training and apprenticeship schemes and to advertise for jobs locally.

C10.4 AWE will work with the local authority to encourage the involvement of the local community, sponsoring local events and organising educational visits, including both visits to schools and schools visiting the site.

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## Part D – Monitoring

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### D1 General

- D1.1 AWE will take an active role in monitoring and reviewing the delivery of all requirements defined in this CoCP.
- D1.2 In addition, the monitoring of the Helpline/web site will be used as a tool to assist in informing all interested parties on the success of the CoCP and so advise whether methods should be changed.
- D1.3 Specific environmental monitoring requirements that may be required to be undertaken through the construction phase of individual projects are identified below.

### D2 Specific Monitoring Requirements

#### Noise Monitoring

- D2.1 If required, baseline noise monitoring survey will be carried out prior to commencement of work on the site where required.
- D2.2 Monitoring will be carried out from time to time during construction, to ensure that there have been no exceedances of any action levels set and agreed.
- D2.3 The results of any noise monitoring will be made available by AWE for dissemination as appropriate.

#### Air Quality Monitoring

- D2.4 Monitoring will be undertaken regularly to enable proactive management of dust. Wind speed and direction will be included in the monitoring.
- D2.5 Dust complaints will be investigated at the earliest opportunity and appropriate action taken to control the source or remedy the effect as appropriate.
- D2.6 AWE will provide access to all records of dust monitoring for dissemination as appropriate.

### D3 Reporting

D3.1 The results of the monitoring will be collated and reported by AWE to the relevant authorities as required.

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## Appendices

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## Appendix 1

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### Minimum Requirements of Construction Environment, Safety and Health (ESH) Plan

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- An implementation schedule, which is consistent with the overall Contract work programme.
- A Management Structure, which includes an organisation chart encompassing all staff (including sub-contractors) responsible for the work. This will set out the respective roles and responsibilities with regard to the environment. This will show the nominated Environmental Site Manager.
- Procedures for meeting the requirements of the Code of Construction Practice, including the General Site Specific Requirements at Part B and the Environmental Topics Specific Requirements at Part C as well as additional specifics identified in AWE site rules and procedures for construction projects.
- Procedures for environmental training of site staff.
- Procedure(s) setting out how internal communication will be programmed, managed and documented in respect of all environmental matters.
- Procedures for handling external communications, liaison and complaints including the development and maintenance of a clear audit trail.
- A Project Register of Environmental Aspects (PREA) (see Appendix 3 for template) and associated procedures which show how environmental risks will be addressed.
- A register of permissions and consents required with responsibilities allocated and a programme for obtaining them.
- Procedures for dealing with unexpected occurrences or finds during construction.
- Procedures for monitoring, recording and disseminating environmental performance throughout the Contract.
- An internal environmental audit programme (which may be part of an overall project audit programme).
- Procedures for addressing non-compliance and corrective actions.



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## Appendix 2

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### Template of Project Register of Environmental Aspect (PREA).

## PROJECT REGISTER OF ENVIRONMENTAL ASPECTS

| Aspect                     | Description   | Summary of Controls  |
|----------------------------|---|--|
| <i>14 Aspects in total</i> | <i>For each aspect describe the contribution made by the project.</i> | <i>Identify the engineered and managerial controls used for managing the contribution and arrangements for monitoring and measuring environmental performance.</i> |
| <b>To Air</b>              |   |  |
| 1. Chemicals               | <b>Include in this column additional Subheadings as appropriate.</b>  |  |
| 2. RA                      |   |  |
| <b>To Water</b>            |   |  |
| <b>3. Domestic</b>         |   |  |
| 4. RA                      |   |  |
| 5. Trade                   |   |  |
| <b>To Waste</b>            |   |  |
| 6. Controlled              |   |  |
| 7. RA                      |   |  |
| 8. Hazardous               |   |  |
| <b>Resource Use</b>        |   |  |
| 9. Chemical/Oil/Gas        |   |  |
| 10. Energy                 |   |  |
| 11. RA                     |   |  |
| 12. Land Quality           |   |  |
|                            |   |  |
| 13. Ecology                |   |  |
|                            |   |  |

## PROJECT REGISTER OF ENVIRONMENTAL ASPECTS

| Aspect                     | Description   | Summary of Controls  |
|----------------------------|---|--|
| <i>14 Aspects in total</i> | <i>For each aspect describe the contribution made by the project.</i> | <i>Identify the engineered and managerial controls used for managing the contribution and arrangements for monitoring and measuring environmental performance.</i> |
| 14. Nuisance               |   |  |
|                            |   |  |

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## Appendix 3

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### Regulatory Framework

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## General

Town and Country Planning Act 1990 (as amended)

Environmental Protection Act 1990

Environment Act 1995

Radioactive Substances Act 1993

## Waste

The management of waste will be undertaken in accordance with Part II of the Environmental Protection Act 1990 and the Environment Act 1995.

Special Waste Regulations 1996.

Environmental Protection (Duty of Care) Regulations 1991

NII License conditions 32 (Accumulation of Radioactive Waste) and Condition 33 (Disposal of Radioactive Waste)

## Aqueous Waste

Water Resources Act 1991 – It is an offence to cause or knowingly permit pollution of controlled water, either deliberately or accidentally. In addition, formal consent of the Agency is required for many discharges to controlled waters, including both direct and indirect discharges to soakaway. Such consents are granted subject to conditions.

## Atmospheric Emissions

Environment Protection Act 1990. Dust can give rise to a statutory nuisance if it is considered to be 'prejudicial to health or a nuisance'.

Smoke, e.g. from burning waste on site, controlled by Clean Air Act 1993.

Ambient air quality standards and objectives set for PM10 and a number of other substances in the - Air Quality (England) Regulations 2000 and Air Quality (England) (Amendment) Regulations 2002.

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Vehicle Emissions – Road Vehicles (Construction and Use) Regulations as amended, and the Motor Vehicle (Type Approval) (Great Britain) Regulations made under the Road Traffic Act 1988. Emissions controlled through MOT Test.

## **Resource Use**

Environment Protection Act 1990

Water Resources Act 1991

The Chemicals (Hazard Information and Packaging for Supply) Regulations 2002 i.e. CHIP3

The Control of Pollution (Oil Storage) (England) Regulations 2001

EC Regulation 2037/2000 on Substances that Deplete the Ozone Layer

Pollution Prevention and Control (England and Wales) Regulations 2000

The Control of Major Accident Hazards Regulations (COMAH) 1999

Water Supply (Water Fittings) Regulation 1999

The Greenhouse Gas Trading Scheme Regulations 2003

## **Land and Groundwater**

Environmental Protection Act 1990

Environment Act 1995

Contaminated Land Regulations 2000

## **Ecology and Archaeology**

Wildlife and Countryside Act 1981 (and amendments),

The Conservation (Natural Habitats &c) Regulations 1994 (as amended) – implements the EC Habitats Directive.

Countryside and Rights of Way Act 2000

Ancient Monuments and Archaeological Areas Act 1979

Planning (Listed Buildings and Conservation Areas) Act 1990

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## Nuisance

Principal controls contain within Part III, of the Control of Pollution Act (COPA) 1974. In addition, statutory nuisance provisions contained within Environmental Protection Act 1990 (ss.79-82) also apply to noise.

Prior permission to be sought from Local Authority relating to noise from construction activities (s.61 of COPA 1974).

Best Practicable Means (BPM) as defined in Section 72, Part III, of the Control of Pollution Act (COPA) 1974.

British Standards Institution (1997) BS 5228: *Part 1: 1997 Noise and vibration control on construction sites and open sites: Code of practice for basic information and procedures for noise and vibration control.*

British Standards Institution, (1992) BS 5228: *Part 4: 1992, Noise and vibration control on construction and open sites: Code of practice for noise and vibration control applicable to piling operations*

## Landscape and Visual

Environmental Protection Act 1990

BS 5837:1991 Trees in Relation to Construction