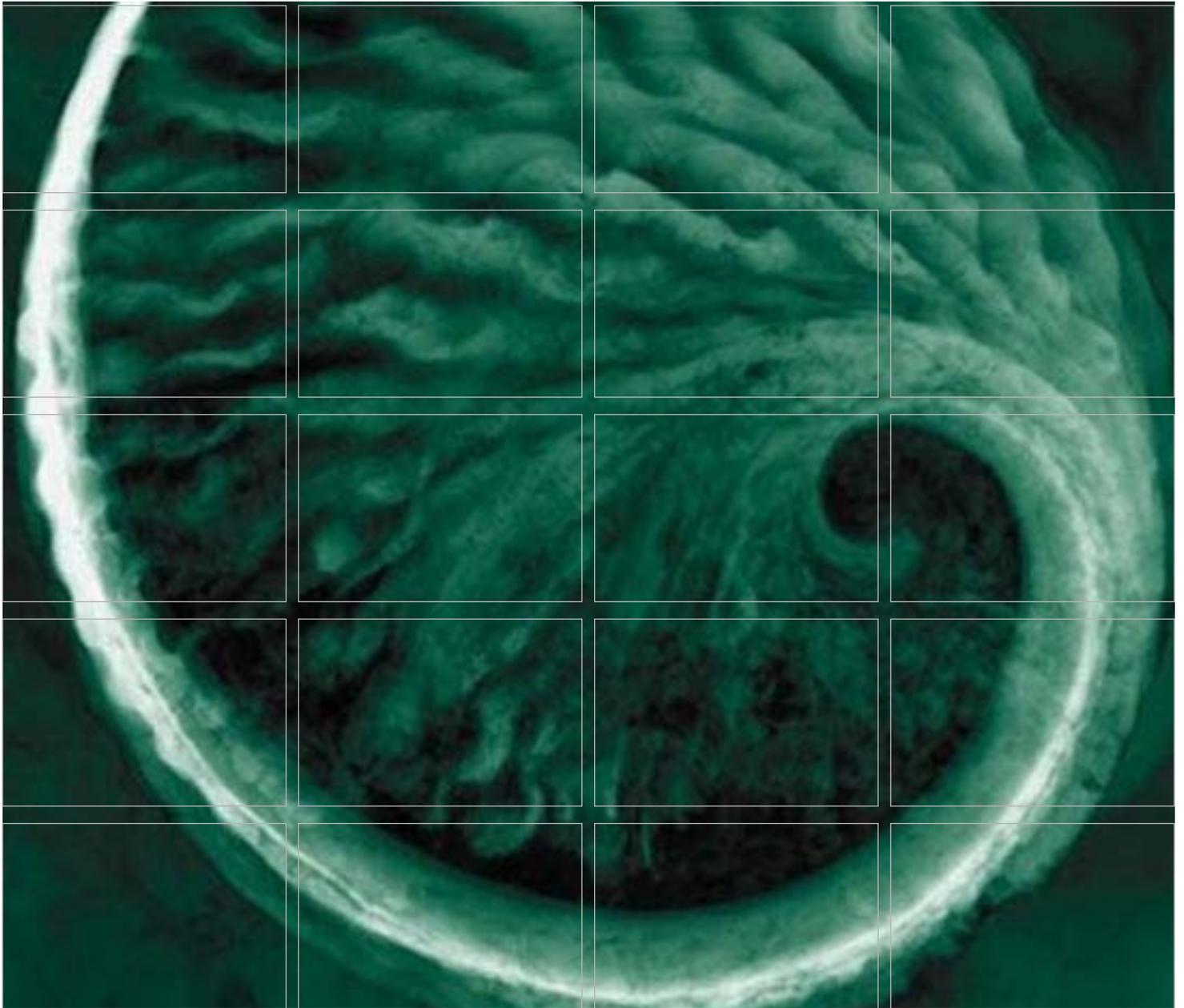


Annex 4.2

Draft Code of Construction  
Practice

*(ERM)*





# **Able Marine Energy Park: Draft Code of Construction Practice**

**Able Humber Ports Ltd.**

December 2011

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Able Humber Ports Ltd.

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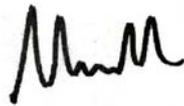
Project no. 0120872

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For and on behalf of  
Environmental Resources Management

Approved by: Steve Purnell

Signed:



Position: Partner

Date: 13<sup>th</sup> December 2011

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# 1 INTRODUCTION

## 1.1 THE DEVELOPMENT

1.1.1 Able Humber Ports Ltd (Able) proposes to develop the Able Marine Energy Park (AMEP). AMEP will incorporate a new quay together with facilities for the manufacture of marine energy components including offshore wind turbines.

1.1.2 The Project incorporates two geographically distinct areas.

### *The AMEP Site*

1.1.3 The proposed AMEP site is located east of North Killingholme, within North Lincolnshire, on the south bank of the River Humber. The site is approximately 1 km downstream of the Humber Sea Terminal (HST) and immediately upstream of the South Killingholme Oil Jetty.

1.1.4 The site, excluding the area of ecological mitigation, covers approximately 268 ha, of which approximately 122.4 ha is covered by existing consent for port related storage, 100.3 ha is existing arable land that will be developed for industrial use and 45 ha is reclaimed land from the estuary to provide a new quay. A further 47.8 ha of existing arable land will be converted to managed grassland to mitigate for the effects of the development on ecological receptors including birds that use the adjacent Humber Estuary SPA.

1.1.5 A large proportion of the site's terrestrial area currently comprises hard-standing for the storage of imported cars, particularly in the northern part of the site. A railway line passes through the site, and a redundant sewage works can be found to the south-west of the site. Former clay pits to the north of the site, which are now flooded, are classified as a Site of Special Scientific Interest (SSSI) and are also part of the Natura 2000 network of sites. A raised embankment along the eastern boundary supports a flood defence wall, which protects the site from tidal flooding.

### *The Compensation Site*

1.1.6 The Compensation Site is located on the north bank of the Humber Estuary, within East Riding of Yorkshire, opposite the AMEP site. The site is divided into an area to be developed into intertidal habitat, and an area to be developed as wet grassland to provide roosting and feeding habitat. The proposed intertidal site, known as Cherry Cobb

Sands, is roughly triangular in shape and currently comprises arable fields defined at their boundaries by drainage ditches, hedges and a flood defence embankment. The proposed roosting and feeding habitat is located at Old Little Humber Farm, and comprises four irregularly shaped fields defined at their boundaries by drainage ditches and hedges.

## 1.2 *BRIEF DESCRIPTION OF THE PROJECT*

### *Overview*

1.2.1 An Indicative Site Plan is reproduced in *Figure 4.2* of the Environmental Statement (ES). This reflects one potential outcome, within the defined boundary, that is consistent with the broad parameters and principles that will guide and direct the detailed layout of the Project, as described in the ES, *Annex 4.1 Project Specification*.

1.2.2 AMEP comprises a harbour development with associated land development, to serve the renewable energy sector. The harbour will comprise a quay of 1 279 m frontage, of which 1 200 m will be solid quay and 79 m will be a Specialist Berth, and will be formed by the reclamation of intertidal and subtidal land within the Humber Estuary.

1.2.3 Associated development will include:

- dredging and land reclamation;
- the provision of onshore facilities for the manufacture, assembly and storage of wind turbines and related items;
- works to Rosper Road, Humber Road, the A160 and the A180; and
- surface water disposal arrangements.

1.2.4 Ancillary matters will include:

- the diversion of two footpaths that run along the shore of the Humber, one on the south bank and one on the north bank;
- the conversion of a railway into a private siding;
- the interference with rights of navigation;
- the creation of a harbour authority;

- a deemed licence under section 66 of the Marine and Coastal Access Act 2009;
- the modification of public and local legislation; and
- the compulsory acquisition of land and rights in land and powers of temporary occupation of land to allow Able to carry out and operate the above development.

1.2.5 The facility will primarily serve the emerging renewable marine energy sector including offshore wind, tidal and wave energy generation, by providing a base for the pre-assembly and construction of marine energy components, and for installation vessels. As the market currently stands, offshore wind generation is a more mature industry than either tidal or wave energy, and the development will accordingly focus principally on offshore wind components at its commencement, but as other technologies develop, the site will also be able to serve them. While production focuses on offshore wind, once construction of the offshore wind farms is complete, the harbour will be able to provide a facility from which to operate, monitor and maintain offshore wind farms. Maintenance will include re-powering of Offshore Wind Turbines (OWTs); this is the cyclical process of replacing OWTs that have reached the end of their service life.

1.2.6 At the Compensation Site the existing flood defences will be realigned at the Cherry Cobb Sands site, and ground levels re-contoured to provide new habitat of functional value to wildfowl and wading birds as well as other flora and fauna. The Cherry Cobb Sands Site will be developed within a 115 ha plot, with the realigned flood defence wall, drainage features and footpath occupying 13 ha. At the Old Little Humber Farm part of the Compensation Site, ground levels will be re-contoured to produce wet grassland. This habitat will be created within a 38.5 ha plot.

### **1.3** *APPLICABILITY OF THE CODE OF CONSTRUCTION PRACTICE COCP*

1.3.1 The scale and duration of the construction works for AMEP means that multiple contractors will be employed on the site and there is potential for adverse impacts on the public or the environment if the work is not appropriately managed and coordinated. By contrast, the works on the Compensation Site are relatively straightforward and would be undertaken by one contractor during a single earthworks season. It is fully expected that those works can be adequately managed through the contractors Construction Phase Plan prepared in accordance with

the Construction (Design and Management) Regulations 2007 and approved by Able prior to commencement of the works.

1.3.2 Accordingly the CoCP will only be applicable to the AMEP site.

#### **1.4 OBJECTIVES AND APPLICATION OF THIS CODE**

1.4.1 In developing the application for a Development Consent Order (DCO) for this Project and undertaking the Environmental Impact Assessment (EIA), a series of measures to minimise the impacts of construction on the environment has been identified and set out in the ES and further detailed in this CoCP.

1.4.2 This CoCP sets out

- the context and underlying principles of the CoCP;
- the principal obligations on Contractors when undertaking construction work;
- the general measures to be used during construction, and how they will be applied by the contract; and
- the details of measures for each relevant environmental topic.

1.4.3 Able will ensure that all Contractors who participate in the construction of the AMEP adhere to the CoCP. The CoCP covers all aspects of construction works that could reasonably be anticipated to impact on the local community and the environment throughout the construction phase.

1.4.4 The purpose of this CoCP is to define minimum standards of construction practice acceptable to Able. These standards will be required of the Contractors as a responsible employer in so far as they affect the environment, amenity and safety of local residents, businesses, the general public and the surroundings in the vicinity of proposed works. Overall, it aims to mitigate nuisance to the public and to safeguard the environment. In doing so, the CoCP seeks to assure local residents and other affected parties that impacts to the environment are being taken into account according to best practice.

1.4.5 The CoCP does not specifically address the Contractors' responsibility, in such areas as safety and noise levels, to those working on or visiting

the site of construction activities. The Contractors must comply with the relevant statutory provisions in respect of such matters and will be required to work in such a way as to ensure that the safety of the public and its workers. All site work must be carried out under the provisions of, inter alia, the Health and Safety at Work Act 1974.

1.4.6 Owing to the timescale of the Project, this Code will be reviewed and updated in response to changes in legislation and/or best practice or may be in response to monitoring of the impacts occurring and the effectiveness of the CoCP.

1.4.7 For the purpose of clarity, “construction” in this document includes all site preparation, demolition, internal delivery, spoil disposal, materials and waste removal as well as all related engineering and construction activities.

1.4.8 At this stage, it is anticipated that the construction period will extend from 2013 through to 2020.

## **1.5 APPROVAL OF THIS CODE OF CONSTRUCTION PRACTICE**

1.5.1 The CoCP will be approved for relevant stages of the development by NLC in accordance with the requirements of the Development Consent Order.

## **1.6 DETAILED CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLANS**

1.6.1 Able will require each Contractor to prepare a detailed Construction Environmental Management Plan (CEMP) for those stages of the Project for which the Contractor is to be responsible. Each CEMP will be approved by Able and will demonstrate how the requirements of this CoCP will be met, using a structure organised by construction phase and process, rather than by environmental topic. The plan will clarify environmental management responsibilities, monitoring and auditing processes, complaints response procedures, and community and stakeholder liaison processes, including those outlined below. In addition, each CEMP will contain the following:

- those environmental receptors which were identified as being at particular risk and in need of protection in the ES, and the sources of risk;
- all commitments to minimisation and mitigation made in the ES or during the approvals process; and

- all environmental requirements attached to the Development Consent Order.

## 1.7 *APPLICABLE CODES, STANDARDS, ACTS OF PARLIAMENT AND STATUTORY INSTRUMENTS*

### *Overview*

- 1.7.1 There are many Codes, Standards, Acts of Parliament and Statutory Instruments (including Regulations and Orders) that cover environmental, safety and related matters and these are referred to as applicable in this CoCP.
- 1.7.2 *Section 7 to Section 24* of this document identifies the main statutory provisions, regulations, codes and standards of relevance. The ES provides more detail. The legislative requirements, standards, etc in this document are not exhaustive. It is the responsibility of the Contractors to monitor the development and implementation of new environmental legislation and regulation and to use the appropriate standards prevailing at the time of awarding contracts. The Contractors must comply with all prevailing legislation at the time of construction, including any requirements under Health and Safety.
- 1.7.3 Environmental and safety legislation places responsibilities on a site operator in three principal ways. The site operator:
- has a duty to obtain a permit (eg licence, consent, authorisation) to undertake a certain activity (eg a discharge consent is required to drain wastewater to a surface water watercourse);
  - is prohibited from causing harm to the environment or human health - this approach runs through all UK pollution control legislation, and places an onus on a site operator to manage activities in such a way as to protect both the environment and human health; and
  - has a duty to comply with specified requirements (eg complete duty of care for waste transfer).

### *Legal Requirements*

- 1.7.4 Adherence to the CoCP does not absolve the Contractors or any sub-contractors from compliance with all legislation relating to the construction activities at the time. In particular, the Contractors must

apply to the relevant local authority for section 61 consents, in accordance with the provisions of the Control of Pollution Act 1974.

- 1.7.5 It should also be noted that in addition to statute law, common law also places requirements on Contractors to apply a duty of care to others. Contractors are liable for any personal injuries or property damage that may arise from a breach of that duty.

### *Planning Requirements*

- 1.7.6 Certain aspects of construction will be controlled by the requirements included in the Development Consent Order (DCO). It will be the responsibility of the Contractors to demonstrate via the CEMP how, and over what timeframe, they will conform to these requirements.

### *Licensing Requirements*

- 1.7.7 In addition to the legal and planning requirements, other aspects of the construction are also subject to licensing.

## **1.8 THE SITE**

- 1.8.1 The site, for the purposes of this CoCP, is defined as the land on the south bank of the Humber Estuary that is within the boundary shown on the DCO application and any temporary work site(s), if relevant.

## **1.9 STRUCTURE OF THE COCP**

- 1.9.1 Following this introductory section, the rest of the document is structured as follows:

- *Section 2* describes the responsibilities that apply to key parties, and the liaison procedures that are to be put in place;
- *Section 3* outlines the general measures that are to be adopted to minimise effects arising from works on the site;
- *Section 4* sets out the way in which the works are to be managed so as to ensure the safety of the public and workers;
- *Section 5* identifies how Able will enhance local employment opportunities during construction;

- *Section 6* illustrates how Able will ensure the protection of existing installations; and
- *Sections 7 to 24* detail the specific measures that will be implemented to minimise construction effects with respect to each of the main environmental topics addressed in the ES for the Project.

## 2 *RESPONSIBILITIES AND LIAISON*

### 2.1 *INTRODUCTION*

2.1.1 It is important that the framework for managing environmental issues on-site is clearly established. The key parties include Able, the Contractors, the local authorities and their agents, other regulatory bodies (eg the Environment Agency (EA)), other organisations and the general public. This section sets out the responsibilities of each key party.

### 2.2 *RESPONSIBILITIES*

#### *Able*

2.2.1 Able is responsible for the Contractors. Able will appoint suitably experienced and competent construction companies to undertake the works. The companies will be selected having regard to, amongst other things, their safety and environmental record and their experience of major construction projects.

2.2.2 The Contractors shall provide Able with a full programme of activity for the works for which they are responsible.

#### *The Contractors*

2.2.3 The Contractors must produce CEMPs compliant with the CoCP. As part of the CEMP, each Contractor is to include a list of key site personnel, their job titles and their key site responsibilities.

2.2.4 The Contractors will be required to provide suitably qualified staff to manage and execute the works. A suitably qualified member of staff will have overall responsibility for ensuring that the CEMPs are complied with.

2.2.5 All site staff have a duty to minimise the risk of impacts to the environment from activities on the site and, therefore, environmental responsibilities are required to be put in place at all levels within the Contractors' teams.

2.2.6 The Contractors are also responsible for managing their sub-contractors and for ensuring that they understand and comply with the environmental obligations of the scheme.

2.2.7 All site construction staff will be responsible for implementing the CoCP and relevant CEMPs.

### *Liaison with Regulatory Bodies*

2.2.8 The Contractors are responsible for obtaining the necessary permits and licences from the regulatory bodies. The Contractor shall provide a works programme for all main site activities before work starts on-site.

2.2.9 The following information and detail, specific to each stage of the development, will be provided, sufficiently in advance of works commencing, to enable consideration of licences:

- details of site traffic movements showing the projected number of vehicles, what is being delivered, when peaks in activities occur, traffic marshalling arrangements, holding areas, etc;
- routes to site for deliveries (approval will only be granted for routes to and from sites on the strategic road network that avoid, so far as is reasonably practicable, residential areas, etc, unless prior agreement is sought);
- a Construction Phase Plan for activities;
- a schedule of works, with an assessment of the potential for nuisance.

### *Liaison with the Public*

2.2.10 Good public relations are vitally important to the Project. Able will be responsible for communication with members of the public and their representatives. The public will be kept informed of developments on the Project on a regular basis, particularly where there are likely to be impacts that could affect their normal activities.

2.2.11 The Contractors will ensure that occupiers of nearby properties are informed in advance of significant works taking place, including the estimated duration.

2.2.12 A telephone "Hot Line" will be set up by Able for queries and reports. The telephone line number will be prominently displayed on-site notice boards. All calls received via the Hot Line will be logged by Able and passed to the relevant Contractor. Responses to all calls will also be logged. The Contractors will have 48 hours to provide an appropriate

response to the member of the public, via Able. Potentially affected occupiers will be notified of the Hot Line number.

2.2.13 The Hot Line will be staffed during the following hours:

- Mondays to Fridays – 0830 to 1700 hours.

2.2.14 Any complaints during construction will be dealt with by the Contractors and where possible the CoCP will be updated and reinforced with processes to avoid similar complaints arising.

2.2.15 The Contractors will develop a Community Relations Strategy which will include the following responsibilities:

- monitoring Contractors and sub-contractors compliance with undertakings and performance against commitments, local agreements and specific community requirements throughout the Project;
- maintaining regular communication to ensure that the community and other stakeholders and affected parties are kept well informed. The Contractors will be required to produce regular Project update newsletters, detailing key contacts on-site and expected disruptions and the measures being taken to minimise adverse impacts of these works;
- responding quickly to emergencies, complaints or other contacts made via the Hot Line or any other recognised means;
- liaising closely with the emergency services, and other agencies who could conceivably be involved in incidents or emergency situations;
- contributing to appropriate local community projects, employment and educational initiatives; and

#### *Liaison with the Media*

2.2.16 Press enquiries and releases will be dealt with by Able. The Contractors will only be involved by the invitation of Able. All media enquiries received must be passed to Able.

#### *Incident Reporting Procedures*

2.2.17 The Contractors' nominated agent must advise NLC within 24 hours of any significant incidents of non-compliance with the CoCP and will

respond to any reports referred by NLC within 24 hours, or as soon as reasonably practicable. In the event of working practices being deemed dangerous by the Health and Safety Executive (HSE), immediate remedial action must be taken. Where appropriate, remedial action will be agreed with NLC. Procedures should be put in place to ensure steps to avoid recurrence are implemented.

- 2.2.18 The Contractors will maintain on-site, and collate in a timely manner, a system for recording to any incidents and any ameliorative action taken for inspection by NLC representatives.

*Site Inspections and Timetables*

- 2.2.19 NLC will be permitted to undertake planned inspections of the site to check compliance with the CoCP.

- 2.2.20 The Contractors' nominated personnel shall accompany NLC's Officers on inspections of the site. A schedule of defects and non-compliances will be prepared and agreed.

### 3 *SITE MANAGEMENT*

#### 3.1 *OBJECTIVES*

3.1.1 The management of the site itself is important in controlling environmental impacts from all work activities. The Contractors will be required to carry out the works in such a way that minimises, so far as reasonably practicable, the general environmental impacts arising from the activities and any nuisance arising.

#### 3.2 *MEASURES DURING CONSTRUCTION*

##### *General Site Management*

3.2.1 The location and orientation of site offices and accommodation for the workforce (eg mess rooms, portaloos, site huts, first aid station) as well as storage sites, fixed plant and machinery, equipment and temporary buildings and recycling plant, shall be so as to minimise impacts on neighbours as far as it is practicable, and shall be subject to the agreement of the local authority.

3.2.2 In respect of general site management, the Contractors will comply with the following requirements:

- The Construction Site will be managed in accordance with any reasonable requirements of NLC and other relevant authorities.
- The Contractors shall, unless agreed otherwise with Able, register with the Considerate Contractors' Scheme (<http://www.ccscheme.org.uk/>).
- All site welfare facilities will be located within the site boundary. However, should there be an exceptional circumstance where such facilities cannot be accommodated on-site, the necessary consents will be obtained from the relevant authorities prior to the erection of such accommodation and facilities.

3.2.3 The Contractors will ensure that the site is kept in good order at all times. The Contractors must follow a "good housekeeping" policy at all times. This shall include, but not necessarily be limited to, the following requirements:

- ensuring that all Contractors' staff behave appropriately on-site;

- open fires are prohibited at all times;
- ensuring that appropriate provisions for dust control and road cleanliness are implemented;
- rubbish is to be removed at frequent intervals and the site kept clean and tidy (in line with any Site Waste Management Plan);
- fencing is to be frequently inspected, repaired and replaced as necessary;
- radios (other than two-way radios used for the purposes of communication related to the works) and other forms of audio equipment will not be operated on any work site where members of the public may be disturbed;
- maintaining toilet facilities and other welfare facilities for staff; and
- food waste is removed frequently.

3.2.4 Entry/exit arrangements for lorries shall be subject to prior discussion with the relevant highway authority. Reversing onto highways will not be permitted unless unavoidable.

3.2.5 All loading and unloading of vehicles will take place off the public highway wherever this is practicable.

### *Pest Control*

3.2.6 The Contractors are to ensure that the risk of infestation by pests or vermin is minimised by adequate arrangements for the disposal of food waste or other material attractive to pests. If infestation occurs they shall take appropriate action to deal with it as required by NLC Environmental Health Officer.

### *Use of Existing Structures*

3.2.7 The Contractors shall not locate stockpiles of materials, store plant or temporary works upon or adjacent to or under existing structures (eg railway bridge) in such a way as to endanger these structures.

### *Fences and Security*

- 3.2.8 The construction will be a high profile activity. The general appearance and security of any working area is therefore important. Contractors must ensure that the site is secure and must prevent unauthorised entry to or from the site.
- 4.4.1 Each plot is to provide a secure environment for the storage of raw materials and finished products. Fencing will be 2.5 m high steel palisade or similar. The perimeter of the main Supply Chain Park (SCP) area will retain its 2.5 m high fence.
- 3.2.9 Suitable access and egress gates are to be installed with security guards in attendance whilst in use.
- 3.2.10 Gates in fencing should, as far as is practicable, be positioned and constructed to minimise the noise transmitted to nearby noise sensitive receptors (including buildings and ecological receptors), directly or from plant entering or leaving the site. Site gates must be closed and locked when there is no site activity.
- 3.2.11 Heavy plant will be fitted with immobilisers to discourage and prevent thefts. Alarms used must adhere to HSE and NLC requirements, and must incorporate an appropriate cut-out period.
- 3.2.12 Site security cameras, where used, must be in locations that will not cause offence to local residents.

### *Hours of Working*

- 3.2.13 Construction will be undertaken at the times detailed in *Table 3.1*.

**Table 3.1** *Schedule of Working Hours*

<b>Location</b>	<b>Day</b>	<b>Working Hours</b>
Marine Works	Monday to Friday	Piling Works: 06:00 – 22:00
	Saturday	
	Sundays and Bank Holidays	All other Works: At all times
AMEP Site, existing terrestrial areas	Monday to Friday	07:00 to 19:00
	Saturday	07:00 to 17:00
	Sundays and Bank Holidays	Occasional working as required

- 3.2.14 These hours of work do not apply to equipment that is required to operate continuously (eg for safety reasons). On weekdays and Saturdays, for construction work on the AMEP site, there will be a half hour start up period, 0630 to 0700, and a half hour shut down period, 1900 to 1930 on weekdays and 1700 to 1730 on Saturdays. No noisy activities (eg engines running, hammering) are permitted during the start up and shut down periods so that there is no disturbing construction-related noise audible beyond the site boundary. These periods should only be used by the Contractors to arrive at the site, to prepare for the construction works and to leave the site. No deliveries will be made during the start up and shut down periods unless agreed in advance with NLC.
- 3.2.15 Works outside the normal hours of working are subject to prior approval by NLC, under section 61 of the Control of Pollution Act 1974, unless these are emergency works. The Contractors shall make application to NLC as soon as reasonably practicable and not less than 28 days before the works are to take place.
- 3.2.16 Where works unavoidably take place outside the normal hours of working, occupiers of nearby residential properties must be informed in writing, at least 7 days in advance, of the works and their likely duration.

### *Lighting*

- 3.2.17 Lighting to the site boundary must be provided with sufficient illumination for safety of the passing public and positioned such that it does not intrude on adjacent residential buildings and sensitive land uses, or cause distraction or confusion to passing drivers on the surrounding road network.

### *Operation of Equipment*

- 3.2.18 The Contractors must take all reasonable precautions to ensure that equipment is operated in a manner so as not to cause nuisance to surrounding residents and occupiers.
- 3.2.19 Permission must be obtained by the Contractors before any plant, compressor, cement mixer, tar pot or other machinery can be stored or operated on the public highway.

### *Use of Energy*

- 3.2.20 The use of electricity on the site should be minimised during the non-operating period. Time switches should be used in temporary site buildings, where practicable. Site office equipment should be time-controlled and low energy equipment used, where practicable.
- 3.2.21 Energy Performance Certificates will be required for each building on-site, on construction, sale or let, except for those buildings which accommodate industrial activities in spaces where the air is not conditioned, including the heavy engineering and storage.

### *Electromagnetic Interference*

- 3.2.22 The Contractors will consider the impacts of electromagnetic interference on wireless telecommunication systems during the design and construction of the Project, and where appropriate will employ best practice technology to ensure that levels of Radio Frequency Interference (RFI) associated with the Project are low and at acceptable levels. In the case of adverse impacts, the Contractors will investigate reports and, if found to be linked to site activities, it must be rectified.

### *Clearance of Site on Completion*

- 3.2.23 Outside the site, all surplus soils and materials, temporary surfaces, plant and temporary fencing shall be removed, post holes filled and the surface of the ground restored as near as practicable to its original condition if not forming part of the development.
- 3.2.24 Drains will be checked to ensure they are all free running.

## 4 SAFETY

### 4.1 OBJECTIVES

4.1.1 The Contractors must comply with the relevant statutory provisions in respect of safety. The overall objective is for the works to be carried out in such a way as to ensure the safety of the public and workers. This part of the CoCP deals specifically with the safety of people outside the construction site. The safety of construction workers will be dealt with in the Contractors' own Construction Phase Plan.

### 4.2 REGULATORY OVERVIEW

4.2.1 All site work will be carried out under the provisions of the Health and Safety at Work Act 1974. The Act places a number of general and specific duties on employers, employees and the self-employed. Section 2 of the Act places a duty on every employer to ensure, so far as reasonably practicable, the health, safety and welfare at work of all employees. Employers are also under a duty (Section 3) to ensure, so far as reasonably practicable, that persons not in their employment are not exposed to risks to their health and safety. Section 7 of the Act places a duty on every employee while at work to take reasonable care of health and safety of themselves and of other persons, and to cooperate with their employer or any other person with regard to any duty or other statutory requirement.

4.2.2 A large number of statutory regulations made under the Act set out detailed requirements for specific aspects of health and safety (eg provision of personal protective equipment, ladders, lighting, signs, electrical equipment, manual handling, etc). These must be complied with during all construction works.

4.2.3 The EC Manual Handling Directive (90/269/EEC) was implemented in the UK by the Manual Handling Operations Regulations 1992 (SI 1992 No. 2793). These regulations were amended by the Health and Safety (Miscellaneous Amendments) Regulations 2002 (SI 2002 No. 2174), and again in 2007 (HSE, *The Manual Handling Operations Regulations 1992 as amended Operational Circular*). These regulations are designed to reduce the occurrence and frequency of musculoskeletal disorders arising from the manual handling of loads during work activities. Duties are placed on employers in order to minimise the potential for work-related

injuries. This includes an obligation to conduct a self-assessment of risks posed by operations.

4.2.4 In 2009, the European Commission adopted a Directive (2009/161/EU) containing a third list of Indicative Occupational Exposure Limit Values (IOELVs) based on the recommendations of its Scientific Committee on Occupational Exposure Limits. The HSE are currently consulting on the implementation of the Directive and the inclusion of the new and revised Workplace Exposure Limits in the HSE publication EH40.

4.2.5 The Construction (Design and Management) (CDM) Regulations 2007 came into force on 6 April 2007. These regulations revise and merge the CDM Regulations 1994 and the Construction (Health Safety and Welfare) Regulations 1996 into a single regulatory unit. The principle objectives of the 2007 regulations are to improve planning, risk management, and health and safety performance in the construction industry.

### 4.3 *SAFETY MEASURES DURING CONSTRUCTION*

#### *Public Protection*

4.3.1 The Contractors will ensure that all reasonable endeavours are made to ensure the protection of the general public. The Contractors will appoint a suitably qualified person to act as the site's Safety Officer.

#### *Emergencies*

4.3.2 The Contractors shall prepare an Emergency Response Plan for each working area that shall be displayed prominently at that working area. The Emergency Response Plan will include emergency pollution control measures that will take into account EA guidelines. The Emergency Response Plan will be produced in consultation with the emergency services and with NLC. The Emergency Response Plan shall be followed in any site emergency.

4.3.3 The Contractors shall also maintain an Emergency Contacts Procedure that will contain emergency phone numbers and the method of notifying local authorities/services for action by the Contractors and the applicant. Emergency telephone numbers for the Contractors' key personnel must be included. The Emergency Contacts Procedure will accompany the Emergency Response Plan at prominent locations at the working areas.

- 4.3.4 Road widths will be arranged so as to ensure safe access to working areas for fire brigade appliances and fire fighting apparatus.
- 4.3.5 All Contractors will be required to conduct fire safety risk assessments and implement and maintain fire management plans.
- 4.3.6 During project planning and design development, the Contractors will look to reduce fire risk and potential fire load during construction and operation. The specification of non-combustible materials, products and packaging will be pursued wherever reasonably practicable. The Project will also have to comply with any third party requirements as may be appropriate.

#### *Contaminated Materials*

- 4.3.7 Should contaminated material be encountered, the Contractors will ensure that a Workers' Safety Information Sheet covering hygiene, work practices, clothing requirements etc is prominently displayed in rest/mess rooms and wash rooms.

#### *Cranes*

- 4.3.8 Crane arcs (that is, the swing of the crane arm) will be confined to within the site boundary on the terrestrial side and will not oversail the public highway without the prior agreement of NLC, Network Rail or the Highways Agency, as appropriate.

#### *Unexploded Bombs*

- 4.3.9 The attention of the Contractors is drawn to the risk that there may be unexploded bomb, shells, incendiary devices etc, buried in the site that have been left undisturbed since World War II. The Contractors shall warn all operatives of this possibility, and should any such item be uncovered during the course of the works, they shall clear the area of personnel and notify the Police immediately and take such action as the Police may direct.
- 4.3.10 An emergency response procedure will be prepared and implemented to respond to unexploded ordnance.

#### *Use of Explosives*

- 4.3.11 The use of explosives shall not be permitted except in exceptional circumstances. Prior approval from Able and NLC shall be obtained.

## 5 *EMPLOYMENT OPPORTUNITIES*

### 5.1 *OBJECTIVES*

5.1.1 A large construction scheme provides the chance to implement methods to enhance employment opportunities and associated educational initiatives for the local workforce.

### 5.2 *IMPLEMENTATION METHODS*

5.2.1 Contractors will be encouraged to undertake on-site training and apprenticeship schemes and to advertise for jobs locally.

5.2.2 Able will work with NLC to encourage the involvement of the local community.

5.2.3 In accordance with the Construction Industry Scheme (CIS) it is the responsibility of the Contractors to ensure that their workers and sub-contractors have the correct tax statuses, and that the status declaration is returned to HMRS, with financial penalties incurred for non-compliance.

**6.1**      *OBJECTIVES*

6.1.1      This section outlines the procedures to be adopted by the Contractors prior to construction, to protect existing infrastructure such as foundations, buildings, structures, walls, roadways, sewers, cables and other services, apparatus and installations.

**6.2**      *IMPLEMENTATION METHODS**Surveys*

6.2.1      Before commencing any piling, foundation excavation, or ground improvement works at the development site, the Contractors shall prepare a schedule of buildings, structures and major utilities within the zone of influence of the engineering work. The schedule shall identify those properties that may be at risk from ground movement (settlement or heave) or vibration arising from the construction of the scheme.

6.2.2      Defect surveys and condition surveys should be carried out before and after the construction works. The Contractors will be required to make their own investigations and to take all appropriate actions concerning existing foundations, buildings, structures, walls, roadways, sewers, cables and other services, apparatus and installations.

6.2.3      Prior to commencement of the relevant works, a copy of the defect survey for any relevant structure shall be provided to an interested party. After the construction works have been completed and at any time up to two years after the opening of the Project, the interested party may, upon providing the Contractor with reasonable evidence of damage, request that a second defects survey is undertaken. This shall take the same form as the first survey and shall be undertaken by the same firm of Chartered Surveyors or Engineers at the Contractors' expense.

6.2.4      Prior to entering land, buildings or structures which will be directly affected by the construction works, the Contractors shall, at their own expense, appoint a reputable firm of Chartered Surveyors or Engineers to prepare a condition survey.

### *Safeguarding*

- 6.2.5 The Contractors shall properly safeguard all buildings, structures, works, services or installations from harm, disturbance or deterioration during the construction period. The Contractors shall take all necessary measures required for the support and protection of all buildings, structures, pipes, cables, sewers, railways and other apparatus during and immediately after the construction period.

### *Cosmetic Damage*

- 6.2.6 Minor cosmetic damage may, on occasion, occur as a consequence of ground movement. Where this is the case, provision will be made by the developer for repairing any material damage as appropriate.

## 7 GEOLOGY, HYDROGEOLOGY AND GROUND CONDITIONS

### 7.1 OBJECTIVES

7.1.1 The Contractors must ensure that impacts to geology, hydrology and ground conditions are minimised and that contamination of land is prevented. This part of the CoCP details those methods to be applied in order to meet this objective.

### 7.2 REGULATORY OVERVIEW

7.2.1 Legislation and regulations pertaining to geology, hydrogeology and ground conditions are detailed in *Chapter 7* of the ES. Those of most concern to Contractors include:

- Groundwater Directive (2006/118/EC) – established to prevent and control groundwater pollution while also seeking to prevent and limit indirect discharges (through soil/subsoil) of contamination into the groundwater.
- Environmental Permitting (England & Wales) Regulations 2010 – these regulations govern Pollution Prevention and Control (IPC), Waste management Licensing (WML), water discharge and groundwater activities as well as other activities.

### 7.3 IMPLEMENTATION METHODS

#### *Soils*

7.3.1 During site clearance works, the planned excavation of soils will be undertaken in accordance with Defra's *Construction Code of Practice for the Sustainable Use of Soils on Construction Sites* (2009) so as to minimise damage to soil structure and thus allowing reuse of the material.

7.3.2 It is to be ensured that arisings are to only be deposited within licensed sites that have similar soil characteristics to the material being deposited.

### *Exclusion Areas*

7.3.3 Although building locations are to be determined by tenants, a 250 m exclusion zone surrounds the Lindsey Oil Refinery to the west of the site.

### *Contamination*

7.3.4 In order to prevent the opening of pathways for contaminants the Contractors will be required to undertake a risk assessment and develop a method statement for piling works based on guidance on piling produced by the EA- Piling and Penetrative Ground Improvement, Methods on Land Affected by contamination: Guidance on Pollution Prevention (2001).

7.3.5 A Remediation Strategy (RS) will be prepared by Contractors to set out procedures to be implemented to ensure that any land contamination is properly dealt with.

7.3.6 If during construction, contamination that has not previously been identified is encountered on-site, no further development shall take place in that area until a site investigation has been carried out. The investigation will survey and assess the extent of contamination. Where site investigation confirms the presence of contaminated land, a management plan will be prepared by the Contractors to comply with all relevant handling and disposal legislation. The management plan will also be developed in accordance with the RS, unless otherwise agreed by NLC.

7.3.7 Any contaminated material encountered will be dealt with in compliance with best practice and statutory guidance; for example the Control of Substances Hazardous to Health (COSHH) Regulations and through the Construction Design and Management (CDM) Regulations.

7.3.8 The Contractors will be notified by Able of those areas within the site where contaminated land may be encountered. The Contractors may be required to:

- carry out appropriate site investigations to the satisfaction of Able to determine the extent and type of contaminants present on the land;
- carry out risk assessment evaluations to consider potential sources, pathways and receptors;

- liaise with NLC and the EA with a view to addressing their reasonable requirements and agreeing control or protection measures necessary for dealing with contaminants identified by the risk assessment evaluation; and
- develop transportation and other management procedures to be followed in the event that contaminated or hazardous materials are discovered on-site;

7.3.9 The Contractors will be required to:

- obtain any necessary licences for the storage, treatment and disposal of waste (including dewatering discharge);
- use registered waste carriers or seek registration as a waste carrier for the handling of all wastes, including contaminated materials; and
- ensure that removal and disposal of contaminated materials complies with a strict consignment note system and that delivery is to appropriately licensed disposal facilities.

7.3.10 Appropriate precautions must be taken if materials containing asbestos are encountered. The Contractors will comply with the Control of Asbestos Regulations 2006.

7.3.11 If materials containing lead are encountered, the Contractors must comply with The Control of Lead at Work Regulations 2002 so that contaminated materials are handled and disposed of safely and properly.

**8.1**      *OBJECTIVES*

- 8.1.1      The Contractors will implement site practices and working methods to ensure that the construction phase does not introduce unforeseen changes to hydrodynamics, sediment transport, waves and geomorphology.

**8.2**      *REGULATORY OVERVIEW*

- 8.2.1      Although there is no specific legislation or regulations governing this topic, the impact of changes to the hydrodynamic and sedimentary regime on ecological receptors is recognised by the Water Framework Directive.

**8.3**      *IMPLEMENTATION METHODS*

- 8.3.1      No methods specific to this topic have been identified. Methods identified under other topics may also apply to this topic.

## 9.1 OBJECTIVES

9.1.1 The Contractors will implement site practices and working methods to ensure that construction activities do not impact on the water or sediment quality of the Humber Estuary, surface waters and groundwaters. The Contractors must implement effective working methods to protect surface and groundwater from pollution and other adverse impacts including changes to water levels, flows and general water quality. The Contractors must also minimise the amounts of wastewater that needs to be discharged.

## 9.2 REGULATORY OVERVIEW

9.2.1 The Water Framework Directive and Water Environment (Water Framework Directive) (England and Wales) Regulations 2003 seek to reduce pollution of water, especially by 'priority' and 'priority hazardous' substances and ensure progressive reduction in groundwater pollution.

9.2.2 Other EU Directives, including the Dangerous Substances Directive and the Environmental Quality Standards Directive address the issue of preventing dangerous substances from entering water bodies.

9.2.3 In England and Wales, the EA is responsible for the protection of 'Controlled Waters' from pollution under the Water Resources Act 1991 and Water Act 2003. Under these Acts, it is an offence to cause pollution of controlled waters, either deliberately or accidentally. In addition, the 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 and are not issued automatically.

9.2.4 The EA has co-authored a series of Pollution Prevention Guidelines (PPGs), many of which are relevant for which protection of water resources during construction. These include the following:

- PPG1 General guide to the prevention of pollution;
- PPG3: Use and design of oil interceptors in surface water drainage systems;

- PPG4: Treatment and disposal of sewage where no foul sewer is available;
- PPG5: Works and maintenance in or near water;
- PPG6: Pollution prevention guidelines for working at construction and demolition sites;
- PPG8: Safe storage and disposal of used oils;
- PPG13: Vehicle washing and cleaning;
- PPG18: Managing fire water and major spillages;
- PPG20: Dewatering underground ducts and chambers;
- PPG21: Pollution incident response planning; and
- PPG22: Dealing with spills.

9.2.5 Other relevant codes of practice include the following:

- Sewers for Adoption 6th Edition;
- British Standard BS EN 752 Drain and Sewer Systems Outside Buildings;
- British Standard Code of Practice for Earthworks BS 6031:1981;
- British Standard Code of Practice for Foundations BS 8001:1986; and
- BS 8500: Concrete - Complementary British Standard to BS EN 206-1.

9.2.6 All construction activity will be carried out in accordance with the above guidance and construction industry best practice. Additional information and the latest versions of these documents may be referred to at: <http://www.netregs.gov.uk/netregs/>.

9.2.7 Storage of flammable petroleum spirits (including diesel oil, petrol, benzene) is regulated by licences issued by harbour, fire and civil defence authorities, as well as County Councils and unitary authorities under provisions in the Petroleum (Consolidation) Act 1928 (as amended by Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR) and Petroleum (Transfer of Licences) Act 1936. A petroleum licence is required for storage of petroleum spirits at quantities above 15 litres. In seeking a licence to store quantities of petroleum spirit the applicant must demonstrate to the relevant authority that acceptable methods of storage will be put in place. Acceptable methods of storage are regulated under a range of legislative and guidance measures.

9.2.8 The control of Pollution (Oil Storage) Regulations 2001 came into force in March 2003 with the objective of minimising the pollution of controlled waters that results from spillage or leaking of oil. The regulations impose a requirement on anyone storing more than 200

litres of oil based liquids outdoors to have in place storage facilities that comply with a comprehensive range of requirements, including but not limited to:

- The oil container must be of sufficient strength to ensure it is unlikely to leak.
- The container must be situated within a secondary containment system (SCS), which will prevent the release of any leaked oil.

9.2.9 For further detail on the requirements of the regulations it is advised that guidance is sought from the EA.

9.2.10 The Land Drainage Act 1991 requires that a watercourse be maintained by its owner in such a condition that the free flow of water is not impeded and that a land drainage consent for any works on the bed and banks of a river or construction of any structure likely to impede the flow is obtained before works. Drainage to waterways will not be permitted without prior agreement with NLC and British Waterways. British Waterways will require identification of the source and quality of the water, and will liaise with the EA.

9.2.11 The Environmental Permitting (England and Wales) Regulations 2010 extend the environmental permitting and compliance system by integrating permitting regimes covering water discharge consenting, groundwater authorisations and radioactive substances regulation authorisations and the outcomes of the Waste Exemptions Order Review into the Environmental Permitting system.

### **9.3** *IMPLEMENTATION METHODS*

9.3.1 Industry best practice and guidance will be followed in order to minimise any impacts to water resources to As Low As Reasonably Practicable (ALARP) levels.

#### *Dredging*

9.3.2 The percentage of solids in the overspill will be reduced to be as low as possible using suitably qualified and experienced Contractors. All dredging activities will be inspected and monitored to evaluate the effectiveness of impact prevention strategies.

9.3.3 Other mitigation measures include optimising the trailing velocity of the dredger to minimise raising suspended sediments, minimising the

need for overflowing by recirculation of jetting water and using "green valves" to prevent surface suspension of fine particulates. Finally, dredge disposal will only be carried out in designated disposal sites.

### ***Pollution and Spill Risk***

- 9.3.4 As with all construction sites, the potential for negative impact on surface water quality exists as a result of accidental spillage of fuels and oils from the construction phase.
- 9.3.5 Specific mitigation measures will include the storage of oils and fuels in sealed containers in a sealed bunded area away from water. The site staff will be briefed, highlighting the need for tight control of potentially polluting chemicals, along with ensuring clean up procedures are in place in case of accidental spillages of oils and fuels.
- 9.3.6 Pollution Prevention Response Plans (PPRPs) will be developed by Contractors.
- 9.3.7 Specific pollution prevention measures and monitoring programmes will be developed for high-risk operational areas such as fuel storage and waste processing facilities.
- 9.3.8 Monitoring results will be regularly reviewed prior to, during and post development, and the Contractors may be required to take appropriate action to avoid or minimise any impacts that may arise.
- 9.3.9 Appropriate spill kits, for absorbing hydrocarbon spillages, will be available in the event of a fuel spillage and personnel will be trained in their use.

### ***Construction Practice and Site Management***

- 9.3.10 The Contractors may be required to prepare method statements for particular works identified as having the potential to adversely affect the water environment, eg piling. The statements will be produced in accordance with policy, guidance and in consultation with the EA.
- 9.3.11 Stockpile stabilisation, dust suppression and erosion minimisation procedures will be developed and implemented.
- 9.3.12 Trenching and excavation activities in open land will be restricted during periods of intense rainfall, and temporary bunding will be provided to reduce the risk of sediment, oil or chemical spills.

- 9.3.13 The Contractors will ensure that areas of exposed ground and stockpiles are minimised to reduce silty runoff. Water containing silt will not be pumped directly into watercourses.
- 9.3.14 Maintenance procedures and timetables will be developed and correctly implemented to ensure the optimum functioning of the drainage and attenuation features and systems, bridges and culverts, plant and vehicles during construction and operation.
- 9.3.15 The Contractors shall make provisions to ensure that plant materials and chemicals are not stored within or near watercourses, or in areas at risk of on-site flooding. Oil drums and containers or other potential contaminants stored on the site are to be controlled in accordance with the Control of Substances Hazardous to Health (COSHH) Regulations 1999 and properly isolated and bunded so that no oil or other contaminants reach watercourses or groundwater, including aquifers. Storage locations for such materials should be positioned away from watercourses and agreed with the EA. Bunds and trays will be regularly checked and maintained, particularly after heavy rainfall. All surface water or other contaminated water, which accumulates in the bund, will be removed.
- 9.3.16 The Contractors shall ensure that all suitable precautions are taken to prevent the accidental entry of pollutants into the Humber Estuary or into groundwater.
- 9.3.17 Details of specific spill prevention measures are given in the EA's Pollution Prevention Guideline series. The Contractors will ensure adherence to the guidance in order to prevent impacts to water resources.

### *Transportation*

- 9.3.18 The Contractors will be required to adopt specific procedures for the transportation of materials or plant. Procedures must include the covering and securing of any loose materials and leak and safety checks prior to transportation.
- 9.3.19 If spoil removal and material delivery is to be made by barge, the Contractors must take appropriate measures to ensure that construction materials and spoil or other waste materials are not deposited either deliberately or by accident into surface water courses.

### *The Use of Specific Substances and Treatments*

- 9.3.20 Piling and any other specialist works will be conducted by experienced Contractors in accordance with method statements.
- 9.3.21 The use of concrete in the vicinity of watercourses or waterbodies will be carefully conducted in accordance with EA guidance (PPG5).
- 9.3.22 Any culvert maintenance works involving grouts, paints etc will be conducted in accordance with PPG 5 and appropriate method statements.

### *Emergency Events*

- 9.3.23 Emergency response plans and procedures will be developed in line with the aims and objectives of PPG 21: Pollution Incident Response Planning. The plans will include the commitment for specific procedures to be developed for a range of potential emergency scenarios. These would include, but not be restricted to:

- flooding due to culvert collapse or blockage or due to an extreme flooding event (or combination of both);
- large pollutant spills (chemicals, fuels, oils or sediments) or the mobilisation of areas of undiscovered and unremediated contamination that have the potential to contaminate surface or groundwaters; and
- fire, where there is the potential for firewaters and other associated chemicals or foams used to adversely affect surface water quality.

## **10**            ***AQUATIC ECOLOGY***

### **10.1**            ***OBJECTIVES***

10.1.1            The Contractors will be required to comply with the relevant statutory provisions in respect of the protection of areas of nature conservation interest and of protected species within the aquatic environment, as outlined in the ES, and will control and limit as far as reasonably practicable any disturbance to such areas and species.

10.1.2            The Contractors will implement site practices and working methods to ensure that impacts to aquatic ecology are mitigated.

### **10.2**            ***REGULATORY OVERVIEW***

10.2.1            Protection of ecology is provided for by the Habitats Directive, implemented through the UK Habitats Regulations 2010; and the Birds Directive, implemented through the Wildlife and Countryside Act 1981. This legislation creates a number of offences relating to the killing and taking of birds, other animals and plants and to the damage of protected habitats. Several schedules of different categories of species are set out, each affording a different degree of protection.

### **10.3**            ***IMPLEMENTATION METHODS***

#### ***Quay Construction***

10.3.1            Mitigation measures to reduce noise for aquatic ecology receptors will be the same as for reducing noise generally. With reference to underwater noise impacts, the additional measures that will be implemented include use of a vibratory hammer (and smaller hammer whenever possible) and slow start procedure to scare away marine mammals and fish in the immediate vicinity of the piling operation. Noise impacts from the use of thrusters or dredging equipment will be reduced by careful manoeuvring and positioning of the vessels, and choice of vessels.

10.3.2            Accidental spillages from construction equipment and activities will be prevented by the appropriate storage of oils and fuels in sealed containers away in a sealed bunded area from water. The site staff will be briefed highlighting the need for tight control of potentially

polluting chemicals is also important, along with ensuring clean up procedures are in place in case of accidental spillages of oils and fuels.

10.3.3 Other implementation methods outlined in *Chapter 11 Terrestrial Ecology and Birds* will also apply to aquatic ecology.

## 11 TERRESTRIAL ECOLOGY AND BIRDS

### 11.1 OBJECTIVES

11.1.1 The Contractors will implement site practices and working methods to ensure that impacts to terrestrial ecology and birds are minimised.

11.1.2 The Contractors will be required to comply with the relevant statutory provisions in respect of the protection of areas of nature conservation interest and of protected species within the terrestrial environment, as outlined in the ES, and will control and limit as far as reasonably practicable any disturbance to such areas and species so that it is not significant.

### 11.2 REGULATORY OVERVIEW

11.2.1 Protection of plant and animal species has previously been addressed in *Section 10.2*.

### 11.3 IMPLEMENTATION METHODS

#### *General Methods*

11.3.1 Mitigation practices will be generic and will involve prevention of contamination of habitats from spills or accidents during transportation of dangerous and/or contaminated wastes and goods. Best Practice Guidance will be used including PPG 1 on storage and or use of hazardous materials.

11.3.2 Where any works are likely to occur in or near watercourses particular care would be taken to avoid contaminants entering the water column, see *Section 9.3*. All chemicals will be stored in appropriate containers and the use of sediment or contaminant traps such as hay bales or booms in the water will be used if necessary. Wherever possible working in or near watercourses will be avoided, and where it cannot, work will be carried out using PPG 5 best practice. In addition to this, ecological awareness training will be provided in the form of a toolbox talk to all site Contractors.

11.3.3 Other mitigation measures will include dust suppression techniques as well as emission reduction using Best Available Techniques (BAT). No water extraction will be allowed from either wetland and any water

flowing from site works will be treated and oil separators employed before it is allowed to drain into them. Sediment traps will be put in place at any location where it is thought that material may enter the watercourses within the site.

- 11.3.4 Important areas for flora and fauna species will be marked out by the site ecologist prior to construction commencing to avoid incursion into these areas. Other measures will be implemented to reduce the risk of impacts on habitats or species including awareness training for Contractors.

#### *Vegetation Removal, Breeding Birds and Bats*

- 11.3.5 All vegetation removal will be undertaken outside of the bird breeding season that, subject to local variation, is taken to run from 1 March to 31 August. If this is not possible, an Ecological Clerk of Works (ECoW) will supervise any vegetation removal and if an active nest is located it will have to be retained along with its associated vegetation until the end of the breeding season or the nest is vacated. (The ECoW will have overall responsibility to ensure that construction activities adhere to prescribed environmental practices and will be suitably qualified). An assessment and survey of trees will be undertaken prior to any felling, with particular regard to any potential for roosting bats. The Contractors should be aware that the disturbance of roosting bats is an offence under the Habitats Regulations and the Wildlife and Countryside Act and any works would need to be carried out under licence from Natural England. Where trees and other vegetated areas are to be retained, these are to be fenced off and identified as being retained.

#### *Discovery of Protected Species*

- 11.3.6 If protected species are discovered when the Contractors are already on-site and works have begun, works in the vicinity should be stopped and expert advice sought on how to proceed. Where species are protected by specific legislation the Contractors must follow approved guidance to comply with those requirements and allow sufficient time for any licences or consents to be obtained.

#### *Invasive Species*

- 11.3.7 A pre-construction survey will be carried out to identify any areas that are affected by buried or surface Japanese Knotweed (*Fallopia japonica*). If Japanese Knotweed, or any other invasive species is found it will be cleared in accordance with EA requirements and guidance.

## **12**            **COMMERCIAL FISHERIES**

### **12.1**            **OBJECTIVES**

12.1.1            The Contractors will implement site practices and working methods to ensure that impacts to commercial fisheries are minimised.

### **12.2**            **REGULATORY OVERVIEW**

12.2.1            Marine fisheries in the UK are regulated by various legislation and regulations, including The Sea Fish (Conservation) Act 1967, The Sea Fisheries (Shellfish) Act 1967, The Sea Fisheries Act 1968 with amendments and the EC Shellfish Waters Directive.

### **12.3**            **IMPLEMENTATION METHODS**

12.3.1            There are no specific implementation methods, in addition to those identified in *Chapter 10 Aquatic Ecology*, that are needed to prevent impacts on commercial fisheries.

## 13 DRAINAGE AND FLOOD RISK

### 13.1 OBJECTIVES

13.1.1 The Contractors will implement site practices and working methods to ensure that construction activities do not increase the drainage and flooding risk.

### 13.2 REGULATORY OVERVIEW

13.2.1 The various legislation and regulations which influence how drainage and flooding risks are to be dealt with during the construction phase include The European Directive on Urban Waste Water Treatment, Water Framework Directive, The Land Drainage Act 1991, The Water Resources Act 1991, The EA and Anglian Region Land Drainage and Sea Defence Byelaws and The Flood and Water Management Act 2010.

### 13.3 IMPLEMENTATION METHODS

#### *General Methods*

13.3.1 The Contractors will prepare a Site Drainage Plan prior to commencement of construction. When preparing the Site Drainage Plan, ecology, ground contamination, topography and patterns of natural drainage to watercourses must be taken into consideration.

13.3.2 During the construction phase, the following Pollution Prevention Guidelines (as published by the EA) will be implemented to mitigate the potential impacts of pollution incidents:

- PPG1 – General Guide to the Prevention of Pollution Mitigation Measures;
- PPG5 – Works or Maintenance in or Near Water;
- PPG6 – Working at Construction and Demolition Sites; and
- PPG21 – Pollution Incident Response Planning.

13.3.3 Some general mitigation measures and recommendations would include minimising pollution risk, eg drip trays on mechanical equipment such as pumps and generators, fail-safe bunded storage of

fuel and cement and other materials to prevent spillage to groundwater, watercourses or the sea. Any over-pumping around works in watercourse channels will be carried out with a suitably-sized pump, in order that excessive flows are not generated and disturbance of the bed material is minimized. Where possible, watercourse bank reinstatement works will be carried out by vehicles operating from the bank rather than the watercourse channel. Additionally for work on, over or adjacent to the watercourses, a maximum of one third of the watercourse will be bunded at any time, and the bunds will have a minimal height above normal water level, and should either wash out or create minimal obstruction during flood conditions.

### *Pollution Prevention*

13.3.4 All construction materials will be prevented from entering watercourses or the sea and blocking either the channels or culverts and bridges. Special care will be taken with all works involving concrete and cement. Suitable provision will be made for the washing-out of concrete mixing plant or ready-mix concrete lorries, and such washings will not be allowed to flow into watercourses or the sea.

13.3.5 Temporary lagoons may be required to allow any sediment carried by surface water runoff to settle out and be trapped on-site, prior to the runoff discharging to inland watercourses or the sea. Specific consents for temporary works will be required from:

- the EA (in relation to works adjacent to existing tidal defences);
- NELDB (in relation to works affecting their watercourses); and
- the Marine Management Organisation (MMO) (in relation to works in the Humber Estuary).

### *Abstractions, Discharges and Impoundments*

13.3.6 All waste water and site discharges shall only be permitted where the effluent quality and discharge location is acceptable to the EA. Effluent will pass through suitable treatment facilities such as sediment traps and/or settlement lagoons, as appropriate, before being discharged. The Contractors will ensure that all treatment facilities are regularly inspected and maintained and that a full record is kept of inspection, maintenance and measures to sustain equipment performance.

13.3.7 All abstractions, discharges and impoundments will be conducted with appropriate consents and in accordance with consent conditions. If

waters are discharged to the existing drainage network an assessment of their condition and application of suitable controls or mitigation will be conducted to ensure existing issues are not exacerbated. Integration of the new drainage network with the existing systems will also conduct similar assessments and apply controls and mitigation as required.

### *Temporary Provision of Foul Sewerage*

13.3.8 Foul water and sewage effluents produced by the construction workforce will be contained by temporary facilities. All foul water will be disposed of off-site by the Contractors.

13.3.9 Whenever possible, the Contractors must seek to minimise the amounts of wastewater that need to be discharged and find alternative means of disposal. Such alternatives might be discharge to foul sewer subject to trade effluent obligations or disposal through a licensed waste management Contractors in accordance with duty of care obligations. On the assumption that some wastewaters will require management, the following commitments must be applied throughout the works:

- Any seepage and wastewater arising from the works must be collected and discharged via a settlement tank. The standards for wastewater treatment prior to discharge must satisfy the EA's requirements.
- Soakaway discharge must only be permitted where the effluent is proved to be of a quality that is acceptable to the EA. Contaminated water or water of an uncertain quality must be discharged into sewers by tankers or other approved means of disposal.
- The Contractors must also comply with BS6031: 1981 Code of Practice for Earthworks, regarding the general control of site drainage.
- The Contractors must ensure that any water that has come into contact with contaminated materials must be disposed of in accordance with the Water Industries Act 1991 (if discharged to sewer) and the Water Resources Act (if discharged to controlled waters) and all other related regulations and to the satisfaction of the EA.
- The Contractors will have to apply for consents and approvals as follows:

- (i) A consignment note system must be applied to all liquid wastes that are removed by a licensed waste carrier in a road tanker in accordance with all relevant waste management legislation and duty of care regulations.
  - (ii) For any discharge of wastewater into a surface watercourse, a discharge consent must be sought, if required, from the relevant authority.
  - (iii) For any discharge of wastewater into a sewer, a Trade Effluent Consent must be sought, if required, from the relevant authority.
- The Contractors must make provisions to ensure that all hazardous substances including oil drums or containers on-site are controlled in accordance with COSHH Regulations and are labelled appropriately.

13.3.10 The Contractors must ensure continuous compliance with all the above conditions under the monitoring of the site project management staff.

### *Flooding*

13.3.11 Land raising will be completed with suitable contouring and profiling to allow any floodwaters to be channelled back into the river or into the surface drainage network.

## **14**                    **COMMERCIAL AND RECREATIONAL NAVIGATION**

### **14.1**                    **OBJECTIVES**

- 14.1.1                  The Contractors will implement site practices and working methods to ensure that construction activities do not impact on commercial and recreational navigation within the Humber Estuary.

### **14.2**                    **REGULATORY OVERVIEW**

- 14.2.1                  Navigation within the Humber Estuary is controlled by legislation, policy and guidance, including the British Transport Docks Act 1972, the Port Marine Safety Code, the Humber Passage Plan and the Humber Navigational Byelaws 1990.

### **14.3**                    **IMPLEMENTATION METHODS**

- 14.3.1                  During the construction phase, the viability of establishing a "Berth Manager" or Marine Control Centre will be explored. The Berth Manager will have responsibility for managing construction vessel movements and liaising with Humber Vessel Traffic Services (VTS).
- 14.3.2                  In order to minimise the disruption to traffic on the Humber Estuary, any temporary moorings required for construction of the quay will not extend any further out from the shore than the footprint of an operational vessel berthed at the completed quay. In addition, any pilings or mooring dolphins associated with construction of AMEP will be fully extracted once the construction phase is complete.

## 15 *TRAFFIC AND TRANSPORT*

### 15.1 *OBJECTIVES*

15.1.1 The Contractors must carry out the works in such a way as to maintain, as far as is reasonably practicable, existing public access routes and rights of way during construction. Where this cannot be achieved, suitable alternative routing must be agreed in advance with NLC and other relevant authorities, as appropriate. The Contractors will further ensure that increases in traffic flows and disruptive effects of construction traffic on designated routes to the site are minimised so far as is reasonably practicable.

### 15.2 *REGULATORY OVERVIEW*

15.2.1 Traffic and transport are shaped by the current PPS 13: Transport. A Travel Plan, including demand management measures to mitigate the impact on the road network, has been prepared. Construction employee travel has been addressed within this Travel Plan.

15.2.2 The Highways Act 1980 (particularly Part IX) sets out many requirements relating to construction work on or near the highway. A 'highway', for the purposes of the 1980 Act, is defined as the whole or part of a highway, other than a ferry or waterway. The actual definition of a highway is set in common law to be a way over which the public have the right to pass and repass. In practice, highways are classified as Special Roads, Trunk Roads, Classified Roads, Unclassified Roads, Public Footpaths and Bridleways.

15.2.3 Key requirements of the 1980 Act include:

- permission by formal agreement from the Highways Agency is required for any works to highways outside the site boundary;
- licences are required for permission to place temporary obstructions on the highway (eg hoardings, fenced storage areas, temporary crossovers, scaffolding, gantries and skips);
- deposition of mud or other such materials on the highway is prohibited - measures to prevent this (eg wheel washing) can be required by order; and

- surface drainage from a construction site must not be allowed to run across the footway part of a public highway.

15.2.4 The Town and Country Planning Act 1990 (Part X) requires that a Public Right of Way may not be obstructed or diverted without an Order permitting it. In addition, the Highways Act 1980 also makes it an offence to obstruct a highway (including a Public Right of Way), for example with builders materials, which results in a public danger/nuisance.

15.2.5 In addition to the above statute law, common law requires that Contractors working on or over a highway owe a duty of care to other users of the highway. The Contractors will be liable for any personal injuries or property damage that may arise from a breach of that duty.

### 15.3 *IMPLEMENTATION METHODS*

#### *General Methods*

15.3.1 In order to facilitate the movement of HGVs across the railway line during construction, level crossings will be constructed as required.

15.3.2 Individual Contractors will be required to prepare a detailed Construction Traffic Management Plan (CTMP) for each of their contracts, in order to reduce the impact of construction traffic. The Plan shall be agreed with NLC and will need to include measures covering the following:

- heavy plant movements;
- car parking arrangements;
- closure of roads;
- diversions and temporary traffic lights;
- main routes used into the development area;
- temporary traffic control measures;
- temporary and permanent access to the works - for personnel / vehicles;
- off-loading and storage areas;
- personnel and vehicle segregation;
- equipment, eg road cones, temporary fencing and signage etc; and
- site inductions.

### *Access Routes for HGVs*

- 15.3.3 Permitted highway routes to and from the site will be included in the overall CTMP. The CTMP must specify the number of lorry movements, the hours of operation, identified holding areas and the entrances/exits to site to be used. The Contractors will ensure that routes through residential areas, or close to other sensitive receptors, are avoided wherever practicable.
- 15.3.4 The Contractors shall maintain an up to date log of all drivers that will include a written undertaking from them to adhere to the CTMP's approved routes for construction traffic. In the case of non-compliance, the Contractors and/or their sub-contractor(s) would be in breach of contract, necessitating disciplinary action against individual drivers.

### *Vehicle Operation*

- 15.3.5 Lorries waiting to enter or leave the site must switch off their engines to avoid unnecessary engine noise and emissions.
- 15.3.6 Restrictions on the size and weight of vehicles accessing each site may be imposed depending on agreed access routes.
- 15.3.7 There will be no parking outside the boundary of the site
- 15.3.8 The sounding of audible reversing alarms will not be permitted outside normal working hours.

### *Construction Worker Transport*

- 15.3.9 Contractors will be required to follow the requirements of the overall CTMP in relation to on-site parking restrictions and the use of buses or public transport for construction workers.

### *Works to Roads and Footpaths*

- 15.3.10 Details of temporary and permanent road and footpath closures and diversions will be included within the CTMP for submission to the TAG.
- 15.3.11 It will be the Contractors' responsibility to finalise consultations and obtain written consent from NLC.
- 15.3.12 A minimum of eight weeks' notice is required in order that a Traffic Regulation Order can be made by NLC (under the Road Traffic Regulation Act 1984). Before commencing construction at any part of

the works which will involve interference with a carriageway or footway, NLC must be consulted on the proposed commencement date of these works, the area of the carriageway or footway to be occupied and duration, and the proposed methods of construction in order to minimise inconvenience to the public (Highways Act 1980). All necessary consents and licences will be obtained in advance.

15.3.13 The Contractors will be responsible for any damage to the highway in the vicinity of the Project.

#### *Mud on Roads*

15.3.14 The Contractors will take strict measures to prevent the deposit of mud and dirt on the public highway. These measures will include, but not necessarily be limited to:

- the provision of easily cleaned hardstandings for vehicles entering, parking and leaving the site;
- the provision of wheel washing facilities including, where practicable, mechanical wheel spinners;
- the use of an approved mechanical road sweeper to clean and any mud or debris deposited by site vehicles on roads or footpaths in the vicinity of the site. The road sweeper is to be readily available whenever the need for cleaning arises and will be properly used and maintained;
- adequate sheeting of each lorry load of spoil removed, to prevent spoil falling off during its journey; and
- measures to ensure that mud and detritus is not swept into gullies.

## 16.1 OBJECTIVES

16.1.1 There are noise sensitive receptors in close proximity to the site, including residential properties and ecological receptors. Furthermore, some of the construction works may have to be undertaken at night. As a result, the management of construction noise will be an important issue to be dealt with during the works.

16.1.2 The Contractors will be required to control and limit noise and vibration levels, so far as is reasonably practicable, so that residents and other sensitive receptors are protected from excessive noise and vibration levels arising from construction activities.

## 16.2 REGULATORY OVERVIEW

16.2.1 Noise and vibration are controlled by a range of legislation, regulations, policies and guidance, including:

- The Environmental Protection Act 1990 (EPA 1990);
- Noise Insulation (Amendment) Regulations (1978) ;
- North Lincolnshire Council Local Plan DS1 and NLC Core Strategy;
- ERYC Local Plan and Core Strategy;
- ERYC Considerate Contractor Advice Note;
- National Policy Statement for Ports;
- Planning Policy Guidance Note PPG24: Planning and Noise (DoE, 1994);
- BS 7445 Description and measurement of environmental noise;
- BS 4142:1997 Method for rating industrial noise affecting mixed residential and industrial areas;
- BS 5228: 2009 Noise and vibration control on construction and open sites;
- Design Manual for Roads and Bridges (DoT 1994);
- BS 6472-2 (2008) Guide to evaluation of human exposure to vibration in buildings; and
- BS 7385 (1993) Evaluation and measurement for vibration in buildings – Part 2: Guide to damage levels from groundborne vibration.

## 16.3 *IMPLEMENTATION METHODS*

### *Construction Noise*

- 16.3.1 The Contractors shall have a general duty to use the “best practicable means” to minimise nuisance from noise. The noise limits to be agreed with NLC must not be regarded as a license to make noise up to the allowable limit.
- 16.3.2 The use of ‘best practicable means’ is an attempt to strike a balance between the operational imperatives of the contract works proceeding unhindered, and the need to employ reasonable care to mitigate the environmental impacts arising from the works, in order to protect the interests of those in the vicinity.
- 16.3.3 The Contractors must liaise and consult with NLC with regard to permissible levels of noise, and shall apply in good time for any Section 61 consent. The application should be submitted well in advance of the works in order to allow NLC to give it due consideration within its statutory 28 day determination period. Where possible, a draft application should be submitted to NLC to initiate detailed discussions on the actual application. The Contractors shall discuss and agree with the appropriate NLC a regime for monitoring noise and vibration from the construction works as part of the process of applying for Section 61 consent.
- 16.3.4 Contractors shall comply with the recommendations set out in BS 5228 “Noise Control on Construction and Open Sites”
- 16.3.5 Marine based construction will be undertaken 24 hours per day, seven days per week, whereas terrestrial based construction activities will generally be restricted to during normal working hours: 07:00 to 19:00 from Monday to Friday; 07:00 to 17:00 on Saturdays if required; with occasional working as required on Sundays and Bank Holidays.
- 16.3.6 Should the Contractors propose any additional or alternative working hours for operational reasons, the prior agreement of the NLC must be obtained. A minimum of 14 days notification is required by NLC, except in case of emergency or safety.
- 16.3.7 The Contractors will give seven days notice to Able if local residents may be adversely affected by noise from the proposed programme of work, providing a description of the work to be carried out, measures that will be taken to control noise or other disturbance, and the proposed hours of working.

- 16.3.8 The Contractors will provide Able with a list of contacts who will be responsible for investigating and resolving noise issues during the construction phase of the project.
- 16.3.9 It is expected that the construction Contractors will follow best practicable means to reduce the noise impact upon the local community.
- 16.3.10 All construction plant and equipment will comply with EU noise emission limits. Best Available Technology Economically Achievable (BATEA) and Best Management Practice (BMP) will be applied across the site by all Contractors. Moreover, proper use of plant with respect to minimising noise emissions and regular maintenance will be undertaken.
- 16.3.11 All vehicles and mechanical plant used for the purpose of the works should be fitted with effective exhaust silencers and maintained in good efficient working order. All major compressors should be 'sound reduced' models fitted with properly lined and sealed acoustic covers which should be kept closed whenever the machines are in use. Additionally, all ancillary pneumatic percussive tools will be fitted with mufflers or silencers of the type recommended by the manufacturers. The Contractors will ensure that all plant complies with the relevant statutory and manufacturers' requirements.
- 16.3.12 All machines in intermittent use will be shut down in the intervening periods or throttled down to a minimum. Noise emitting equipment which is required to run continuously shall be housed in a suitable acoustic enclosure. Items of plant shall be maintained in good workmanlike condition so that extraneous noises from mechanical vibration, creaking and squeaking are reduced to a minimum.
- 16.3.13 Equipment and materials will be delivered and waste will be removed during the daytime, where practicable. Materials required for night-time working are to be transported during the daytime and placed as close as possible to the working area for which they are required. Low noise cranes, excavators and diggers are to be used for works in sensitive locations, where practicable.
- 16.3.14 Wherever practicable, all plant and equipment is to be powered by mains electricity in preference to locally powered sources such as diesel generators. Hand tools will also be electrically powered rather than petrol- or diesel-driven. Rotary drills and bursters actuated by

hydraulic, chemical or electrical power are to be used for excavating hard or extrusive material. As far as practicable, demolition shall be carried out using equipment which breaks concrete in bending in preference to percussive methods.

- 16.3.15 All ancillary plant such as generators, compressors and pumps will be positioned so as to cause minimum noise disturbance. Temporary noise barriers will be used to reduce noise levels where appropriate and practicable. Such measures can be particularly appropriate for stationary or near-stationary plant such as pneumatic breakers, piling rigs and compressors. Barriers should be located as close to the plant as possible and, in order to provide adequate attenuation, should have a mass per unit area of at least 7 kg/m<sup>2</sup>.
- 16.3.16 Pre-fabricated components are to be used, where practicable, to avoid on-site fabrication of components.
- 16.3.17 Contractors will be obliged to adhere to the codes of practice for construction working and piling provided in BS 5228 and the guidance given therein minimising noise emissions from the site. Able and NLC are to be given access to all records of noise monitoring undertaken by the Contractors. Noise criteria will be considered by the Contractors in determining the method of work, type of plant to be used and noise mitigation measures for each construction activity. Prior to commencement of work, the Contractors will be required to demonstrate the suitability of any proposals to reduce noise and vibration. The Contractors must demonstrate that their works will not give rise to nuisance nor generate noise audible at the site boundaries outside of permitted working hours.

### *Vibration*

- 16.3.18 Construction works and vibration generating activities will be guided by best practices outlined in BS5228 and where feasible methods are identified shall be implemented into the CEMP. It is recommended that the local community are advised of the piling programme in advance of piling activities being undertaken.
- 16.3.19 If particularly sensitive equipment (eg computers and laboratory equipment) is identified to be at risk from construction vibration, monitoring may be required to demonstrate compliance with the manufacturer's safe operating limits, and as a defence against claims in the event of malfunction.

- 16.3.20 Able and NLC are to be given access to all records of vibration monitoring undertaken by the Contractors.
- 16.3.21 The Contractors will ensure that measures are taken to:
- protect the residents, users of nearby buildings and passers-by from nuisance or harm; and
  - protect buildings from physical damage.
- 16.3.22 The Contractors will be obliged to comply with the vibration levels established by agreement with NLC, considering:
- Human exposure – the Contractors will comply with BS 6472: 1992 (Evaluation of Human Exposure to Vibration in Buildings (1 Hz to 80 Hz)). The standards for vibration assessment are defined in this British Standard.
  - Protection of structures – demolition and construction activities will be carried out in such a way that vibrations arising will not cause significant damage to adjacent structures.
- 16.3.23 Compliance with these criteria shall not absolve the Contractors from a duty of care and wider responsibilities under the contract.

#### *Vehicular Noise*

- 16.3.24 The potential for traffic noise impacts is dependant on the management of traffic for the construction phase of the Project. Queuing and bunching of HGV movements for deliveries to the site or removal of spoil and waste will be avoided. Appropriate speed limits in areas with greater sensitivity to road traffic noise will be implemented. All Contractors' staff and HGV drivers will be provided with information in the form of site induction or training to create awareness of the potential for noise impacts from road traffic and in particular heavy vehicles. Regular checks/ audits will be performed on driver behaviour through noise sensitive areas. Shift changes will be incorporated to avoid high peak traffic flows.

## 17 AIR QUALITY

### 17.1 OBJECTIVES

17.1.1 There are air quality sensitive receptors in close proximity to the site, including residential properties and ecological receptors. The Contractors will be required to control and limit emissions to air, so far as is reasonably practicable, so that residents and other sensitive receptors are protected from poor air quality and dust arising from construction activities, avoiding the creation of a statutory nuisance.

### 17.2 REGULATORY OVERVIEW

17.2.1 The pollutants identified by the Air Quality Standards Regulations 2010 of concern to the Contractors regarding the protection of human health include:

- particulate matter of aerodynamic diameter  $\leq 10\mu\text{m}$  (PM<sub>10</sub>);
- particulate matter of aerodynamic diameter  $\leq 2.5\mu\text{m}$  (PM<sub>2.5</sub>);
- nitrogen dioxide (NO<sub>2</sub>);
- sulphur dioxide (SO<sub>2</sub>);
- carbon monoxide (CO); and
- benzene.

The same regulation identifies the air quality standards for the protection of ecology as:

- oxides of nitrogen (NO<sub>x</sub>); and
- sulphur dioxide (SO<sub>2</sub>).

There are various other pieces of legislation that relate to air quality, including the Environmental Protection Act 1990, Habitats Directive, Wildlife and Countryside Act 1981, the Environment Act 1995, Ambient Air Quality and Cleaner Air for Europe Directive, Air Quality (England) Regulations 2000 and Air Quality Standards Regulations 2010.

## 17.3 *IMPLEMENTATION METHODS*

### *Dust*

- 17.3.1 A detailed Dust Management Plan will be developed by the Contractors prior to the commencement of construction activities. The Dust Management Plan will set out in detail the mitigation and control measures that will be utilised and how these will be implemented across the site. The Dust Management Plan will be submitted to NLC for approval, and will:
- identify dust sensitive areas to be used as the locations for dust monitoring, including any arrangements proposed for amending the selected locations if new dust sensitive premises are introduced;
  - detail the frequency and other arrangements for dust monitoring; and
  - describe the arrangements for reporting the results of dust monitoring and the implementation of mitigation measures to NLC.
- 17.3.2 In addition to adhering to general best practice, a number of mitigation measures would be implemented as and when appropriate or necessary.
- 17.3.3 Where possible, dust generation activities will be undertaken away from the site boundary, particularly those locations adjacent to sensitive receptors. Stockpiles of debris and overburden will be kept watered or sheeted as required. For long term stockpiles, the use of surface bonding materials or vegetating will be implemented if practicable. Disturbance of these stockpiles will be minimised.
- 17.3.4 Open surfaces and working areas will be watered as required to minimise dust, and surfaces will be converted to permanent hardstanding as soon as possible, or sealed or vegetated if practicable. Wind breaks and barriers will be erected where possible to minimise wind blow across open areas of the site. Drop heights will be minimised where possible.
- 17.3.5 Dust-generating machinery, eg disk cutters, must be fitted with vacuums.
- 17.3.6 The construction access routes will be kept clear of dusty materials with the use of street cleaners or sprayed with water to maintain the entire road surface wet. The speed of vehicles will be limited on unpaved

surfaces and all vehicles will be sheeted to prevent escape of dust during transfer to or from site. Skips and removal vehicles shall be properly covered when leaving the site. Materials should be handled in such a way so that it does not give rise to excessive dust. Cement and other fine powder materials will be delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery. Sand and other aggregates will be stored in bunded areas and will not be allowed to dry out. Watering of rubble chutes shall be undertaken where necessary to prevent dust emission.

17.3.7 Passive dust monitoring will be undertaken around the site boundary and an action plan developed to effectively manage dust emissions in the event of excessive dust levels being identified.

### *Vehicles*

17.3.8 Measures to be considered for limiting emissions and avoiding nuisance will include the following as appropriate and as far as reasonably practicable:

- ensuring that the engines of all vehicles and plant on-site are not left running unnecessarily to prevent exhaust emissions (and noise);
- using low emission vehicles and plant fitted with catalysts, diesel particulate filters or similar devices;
- using ultra low sulphur fuels in plant and vehicles;
- complete sheeting of the sides and tops of all vehicles carrying wastes and other dusty material either on or off site;
- requiring that plant will be well maintained, with routine servicing of plant and vehicles to be completed in accordance with the manufacturers recommendations and records maintained for the work undertaken;
- requiring that all project vehicle, including off-road vehicles, will hold current MOT certificates, where required due to the age of the vehicle, (or to be tested to an equivalent standard) and that they will comply with exhaust emission regulations for their class;
- siting haul routes and operate plant away from potential receptors;

- avoiding the use of diesel or petrol powered generators and using mains electricity or battery powered equipment;
- maximising energy efficiency (this may include using alternative modes of transport, maximising vehicle utilisation by ensuring full loading and efficient routing); and
- all commercial road vehicles used in construction must meet the European Emission Standards pursuant to the EC Directive 98/69/EC (commonly known as Euro standards) of Euro 3 during any works.

**18.1**      *OBJECTIVES*

- 18.1.1      The Contractors will implement site practices and working methods to ensure that construction activities do not impact on existing protected historical features or archaeological artefacts uncovered during the construction phase. The Contractors must adhere to the relevant regulations and guidelines.

**18.2**      *REGULATORY OVERVIEW*

- 18.2.1      Within the terrestrial area of the site, archaeological features and monuments are protected by the Ancient Monuments and Archaeological Areas Act 1979 and buildings of national, regional, or local historical and architectural importance are protected under the Planning (Listed Buildings and Conservation Areas) Act 1990. Within the marine area several regulatory instruments are used, including the Protection of Wrecks Act 1973, the Protection of Military Remains Act 1986, the Merchant Shipping Act 1995 and the Marine and Coastal Access Act 2009.

**18.3**      *IMPLEMENTATION METHODS*

- 18.3.1      A Written Scheme of Investigation (WSI) will be prepared by the Contractors and agreed with NLC's Archaeological Officer and English Heritage. It will detail the scope and methodology of the archaeological field evaluation.
- 18.3.2      A programme of site investigations will be undertaken in accordance with the WSI. This will involve surface artefact recovery by fieldwalking, earthwork survey, geoarchaeology assessment, trial trench excavation, open area excavation and monitoring of construction activities. This will be followed by a programme of assessment, analysis and publication of results. The archaeological mitigation works will include those commitments already made by Able in achieving planning consents for the northern portion of the site that is already developed (Planning refs 04/1520; 05/0562; and 06/0039). The listed lighthouse lies within the site boundaries. The building will be protected from heavy plant passing or working in the vicinity to reduce risks of damage. The Contractors will be responsible for preparing a management plan to protect the lighthouse.

18.3.3 Detailed mitigation measures to accompany dredging of the berthing pocket, approach channel and turning area will be set out in the WSI.

*General Methods*

18.3.4 Should, during the course of approved works, part of a listed building be found to be insecure or unstable or otherwise affected by the works, the Contractors must take such measures as may be necessary to ensure the preservation of the building.

18.3.5 The Contractors will take all reasonable precautions to prevent employees, subcontractors, their employees, or any other persons from removing or damaging any fossils, articles of value or antiquity, structures or other remains or any other thing of archaeological or historical interest during investigations and during all construction works.

## 19 LIGHT

### 19.1 OBJECTIVES

- 19.1.1 The Contractors will implement site practices and working methods to ensure that impacts to nearby residential properties and ecological receptors are minimised.

### 19.2 REGULATORY OVERVIEW

- 19.2.1 Although there are no regulatory instruments addressing lighting specifically it does feature within the Clean Neighbourhoods and Environment Act 2005 as a statutory nuisance while the Land Compensation Act 1973 lists light as a physical factor which may be taken into consideration in determining compensation for the physical effects of roads on the value of property.

### 19.3 IMPLEMENTATION METHODS

#### *General Methods*

- 19.3.1 During construction, mobile task lighting will be used to illuminate areas under construction during the hours of darkness. This lighting will generally be less than 10 m high and will be directed away from sensitive receptors.
- 19.3.2 Vessel lighting will be required including localised task lighting after dark.
- 19.3.3 Construction site lighting outside normal working hours will be restricted to the minimum required for safety and security. Directional luminaires will be used to limit unwanted light spill. These will be directed away from sensitive residential and ecological receptors.
- 19.3.4 The Contractors will comply with the Institute of Lighting Engineers document Guidance Notes on Reduction of Light Pollution 2000 in so far as is reasonably practicable and applicable to the construction works.

## **20**            *LANDSCAPE AND VISUAL IMPACT*

### **20.1**            *OBJECTIVES*

20.1.1            The Contractors will implement site practices and working methods to ensure that impacts to landscape character and visual amenity are minimised.

### **20.2**            *REGULATORY OVERVIEW*

20.2.1            Impacts to landscape and visual amenity are controlled by both the National Parks and Access to the Countryside Act 1949 and the Countryside and Rights of Way Act 2000.

### **20.3**            *IMPLEMENTATION METHODS*

#### *General Methods*

20.3.1            Mitigation measures that may be implemented during the construction phase that will include limiting land clearance and occupation to the minimum area necessary for the works.

## 21 *SOCIO-ECONOMICS*

### 21.1 *OBJECTIVES*

- 21.1.1 The Contractors will implement site practices and working methods to ensure that impacts to social and economic communities are minimised.

### 21.2 *REGULATORY OVERVIEW*

- 21.2.1 In addition to regulations with regard to employment there are various policies and guidance which are used to drive socio-economics in the region, including the Regional Economic Strategy, NPS for Ports and PPS 4: Planning for Sustainable Economic Growth as well as local policy.

### 21.3 *IMPLEMENTATION METHODS*

#### *General Methods*

- 21.3.1 It is expected that any negative impact on housing and social infrastructure due to an increasing demand will have been mitigated by adopted planning policies of NLC and North East Lincolnshire Council (NELC).
- 21.3.2 Able will seek, in partnership with NLC, to develop a procurement strategy for the construction phase to increase the proportion of local businesses in the supply chain.

## 22 AVIATION

### 22.1 OBJECTIVES

22.1.1 The Contractors will implement site practices and working methods to ensure that impacts to aviation are minimised.

### 22.2 REGULATORY OVERVIEW

22.2.1 The Civil Aviation Authority's CAP 738 Safeguarding of Aerodrome and CAP 168 Licensing of Aerodrome are the key guidance documents on the presence of vertical obstructions (including construction cranes). The lighting requirements for tall structures are set out in the Air Navigation Order 2009 and the Civil Aviation Act 1982.

### 22.3 IMPLEMENTATION METHODS

22.3.1 The hazard to aviation presented by tall structures will be mitigated by provision of aviation obstacle warning lighting. For structures or plant on the AMEP site less than 45 m above ground level, aviation obstacle warning lighting is not specifically required.

22.3.2 For structures on the AMEP site between 45-150 m above ground level, deemed to present a hazard to aviation, medium intensity red steady obstacle warning lighting will be provided.

22.3.3 For structures 150 m or more above ground level, medium intensity (2000 candelas) steady red obstacle lights will be provided, positioned as close as possible to the top of the obstacle and at intermediate levels spaced so far as practicable equally between the top lights and ground level with an interval of not more than 52 m

## 23 WASTE

### 23.1 OBJECTIVES

23.1.1 The Contractors will implement site practices and working methods to ensure that wastes are minimised and are dealt with in an appropriate manner. The Contractors will ensure that any waste arising from the site is properly categorised and dealt with in accordance with the appropriate legislation. Opportunities for re-using or recycling construction and demolition waste should be explored and implemented.

### 23.2 REGULATORY OVERVIEW

23.2.1 The management of waste during the construction phase is controlled by various regulatory instruments, including the Environmental Protection (Duty of Care) Regulations 1991 (as amended), the Hazardous Waste (England & Wales) Regulations 2005 (as amended), the Revised EU Waste Framework Directive, Site Waste Management Plans Regulations 2008, the Environmental Permitting (England & Wales) Regulations 2010 and the Waste (England & Wales) Regulations 2011.

23.2.2 In line with the regulatory requirements, the Contractors must develop a Site Waste Management Plan (SWMP) for construction. The SWMP must describe the construction work proposed, including the following:

- the location of the site; and
- the estimated cost of the Project.

23.2.3 It must record any decision taken before the SWMP was drafted on the nature of the Project, its design, construction method or materials employed in order to minimise the quantity of waste produced on-site. It must also include the following:

- description of each waste type expected to be produced in the course of the project;
- estimate the quantity of each different waste type expected to be produced; and

- identify the waste management action proposed for each different waste type, including reusing, recycling, recovery and disposal.

23.2.4 It must contain a declaration that Able and the Contractors will take all reasonable steps to ensure that all waste from the site is dealt with in accordance with the waste duty of care in section 34 of the Environmental Protection Act 1990(3) and the Environmental Protection (Duty of Care) Regulations 1991(4) and that materials will be handled efficiently and waste managed appropriately.

23.2.5 The SWMP Regulations 2008 require the Contractors to record when any waste is removed, who is removing the waste, the waste carrier registration number, a written description of the waste, the site that the waste is being taken to and whether the operator of that site holds a permit under the Environmental Permitting (England and Wales) Regulations 2007 or is registered under those Regulations as a waste operation exempt from the need for such a permit.

23.2.6 As often as necessary to ensure that the plan accurately reflects the progress of the project, and in any event not less than every six months, the principal Contractors must carry out the following:

- review the plan;
- record the types and quantities of waste produced;
- record the types and quantities of waste that have been;
  - re-used (and whether this was on or off site);
  - recycled (and whether this was on or off site);
  - sent for another form of recovery (and whether this was on or off site);
  - sent to landfill; or
  - otherwise disposed of; and
- update the plan to reflect the progress of the project.

23.2.7 Within three months of the work being completed the Contractors must add to the plan the following:

- confirmation that the plan has been monitored on a regular basis to ensure that work is progressing according to the plan and that the plan was updated in accordance with this regulation;
- a comparison of the estimated quantities of each waste type against the actual quantities of each waste type;
- an explanation of any deviation from the plan; and

- an estimate of the cost savings that have been achieved by completing and implementing the plan.

The Contractors must ensure that:

- the SWMP is kept either at the site office, or if there is no site office, at the site;
- every sub-contractor knows where it is kept, and must make it available to any Contractor carrying out work described in the plan; and
- the SWMP is kept for two years after the completion of the Project at the Contractors' principal place of business or at the site of the project.

### 23.3 *IMPLEMENTATION METHODS*

23.3.1 The overall goal during the construction phase, consistent with the waste hierarchy, is to reduce the amount of waste produced to a minimum by the appropriate specification of materials brought to site, the utilisation of site won materials wherever possible and the separation of materials to facilitate recycling. This will be set out in detail, along with targets for reuse, recycling and disposal in the SWMP and in accordance with the Contaminated Land: Applications in Real Estate (CL:AIRE) Code of Practice.

23.3.2 Spoil and hardcore generated on-site will be stockpiled for use in the construction works, thereby reducing the need for imported aggregate. As such, these materials will not be classed as wastes, although an exemption from Environmental Permitting may be required if these materials require processing prior to use. Stockpiles have the potential to impact the environment through wind-blown dust and rain run-off, and therefore will be managed to avoid consequent nuisance and environmental impact.

23.3.3 Construction wastes and materials unsuitable for on-site use will require disposal as controlled waste in line with the Duty of Care. This includes general construction wastes, waste wood metals, waste electrical and electronic equipment wastes (WEEE), paints and aerosols, oils and oily rags.

- 23.3.4 All construction waste will be segregated on-site before being removed. Segregation will include skips for at least general construction wastes, wood, metal, plastic, paper/cardboard and glass to facilitate their recycling. Contracts will also be placed for the separate collection using specialist containers of hazardous wastes such as oils, fluorescent tubes, aerosols and paint cans, which also may be recycled or sent on for specialist treatment.
- 23.3.5 All skips and containers will be labelled with the range of materials suitable for each and placed on designated hard standings, to be identified in the SWMP, designed to minimise potential impacts of wind, rain and run-off.
- 23.3.6 The Contractors must, wherever possible, reclaim goods and materials. The Contractors will set out proposals for this in the SWMP. This will include the following means:
- using recycled-content materials (eg steels from certain sources, recycled crushed aggregate, recycled polymers); where possible, any fill material will be crushed spoil and hardcore waste;
  - wherever possible concrete will incorporate a proportion of Pulverized Fuel Ash (PVA) as a cement replacement;
  - some of the metals used (especially steel, aluminium, copper and zinc) will have a significant recycled content, although this may not be specified as a requirement: these metals are, in turn, fully recyclable;
  - where appropriate, recycled-content Building Products will be used. In particular this is most likely to include various plastic products and, where appropriate, floor coverings;
  - use of reclaimed goods and materials especially by means of a Materials Information Exchange (eg Salvo);
  - use the WRAP Recycled-content toolkit to establish the value of recycled content materials used in construction; and
  - achieve a target of 10% recycled content (by value) in construction, verified using the WRAP toolkit.

## 24 HEALTH

### 24.1 OBJECTIVES

24.1.1 The Contractors will implement site practices and working methods to ensure that impacts to public and construction employee health are minimised.

### 24.2 REGULATORY OVERVIEW

24.2.1 In addition to the Health and Safety Work Act 1974 the Ports NPS indicates that health, wellbeing and quality of life can be affected by the construction of port projects.

### 24.3 IMPLEMENTATION METHODS

#### *General Methods*

24.3.1 As noted in *Section 15.3* a Construction Traffic Management Plan will be prepared by the Contractors and implemented as it is considered critical in minimising Road Traffic Accidents (RTAs) during construction.

24.3.2 The Project and its Contractors will work closely with NLC and the Highways Agency to consider setting suitable speed limits to be observed by Project vehicles, dealing with unusual traffic movements and liaising with local emergency services in case of accidents.

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