The Leeds Railway Station (Southern Entrance) Order

Site Specific Construction Mitigation Measures
Report 296480/RPT06

May 2012
Metro & Network Rail
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<td>Code of Construction Practice</td>
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<td>DDA</td>
<td>Disability Discrimination Act</td>
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<td>DETR</td>
<td>Department for Environment, Transport and the Regions</td>
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<td>Local Planning Authority</td>
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<td>Lower Super Output Areas</td>
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1. Preface

1.1 Introduction

West Yorkshire Passenger Transport Executive (Metro) and Network Rail (“the Co-Promoters”) are applying to the Secretary of State for an Order under the Transport and Works Act 1992 (“the Order”) that will authorise the development and operation of the new Leeds Station Southern Entrance (LSSE) (“the LSSE scheme”). The LSSE scheme once complete will provide a new station entrance linking the station directly with the emerging development area located to the south of the rail station.

This Site Specific Construction Mitigation Measures document sets out minimum standards of construction practice expected by the Co-Promoters during the construction of the LSSE scheme.

In developing the outline design of the LSSE scheme and undertaking its Environmental Impact Assessment (EIA), a series of measures to minimise the impacts of construction on the environment have been identified and set out in this Site Specific Construction Mitigation Measures document. The Co-Promoters will ensure formal compliance of the scheme by adhering to the measures set out in the Consents & Commitments Register and the Network Rail Contract Requirements – Environment.

1.2 Definition of terms

The following terms apply in this document:

- **Contractor**: Party appointed to construct the LSSE scheme. Wherever the term “the Contractor” is used in this document ‘the Contractor’ is to be taken to include the principal contractor(s), sub-contractors, agents, representatives and employees;
- “**Best Practicable Means**” (BPM) is as defined in Section 72 of the Control of Pollution Act.
- **Construction Compounds**: Discrete locations used by the Contractor to store plant and materials, locate cabins, huts etc and used for other activities in connection with the Works
- **Local Authority**: Leeds City Council (“LCC”). This includes all relevant departments within the Local Authority;
- **Network Rail Contract Requirements – Environment**: Network Rail Standard in order to demonstrate compliance with Network Rail’s Sustainability Policy and to assist Network Rail in meeting its environmental commitments. As part of the requirements of this an environmental management plan will require to be produced.
- **Site**: The land within the various Order Limits shown on the Works and Land Plans and Sections relating to the Order application, and any other land outwith these Limits used by the Contractor for the purpose of the LSSE scheme construction;
- **Works**: All works which are the responsibility of the Contractor and carried out for the construction of “the LSSE scheme”;
- **Worksite**: Temporary site set up to facilitate the construction of the works;

1.3 Purpose and application of this document

The purpose of this Site Specific Construction Mitigation Measures document is to inform interested parties of the standards of construction practice acceptable to the Co-Promoters, and acts as a general guidance document for the Contractor to ensure that the LSSE works do not adversely impact on the environment, amenity and safety of local residents, businesses and the general public, and the surroundings in the vicinity of the Works.
To help ensure the works associated with the Construction of the LSSE Scheme do not adversely impact on the environment the Contractor will produce an Environmental Management Plan (EMP) that commits the Contractor to comply with the measures set out in the Commitments and Consents Register and the Network Rail Contract Requirements – Environment. This EMP will, following discussions with the planning authorities and statutory consultees, set out specific standards and the measures which will be used at identified locations or for activities within a relevant local authority area.

1.4 Compliance with Applicable Codes, Standards and Acts of Parliament

There are many Codes, Standards and Acts of Parliament that cover environmental and related matters and these are referred to as applicable in this Site Specific Construction Mitigation Measures document. Notwithstanding those references, compliance with them will not absolve the Contractor or its sub-consultants and sub-contractors from compliance with all legislation and byelaws relating to their construction activities. In particular, the Contractor will apply for Section 61 consents to LCC, in accordance with the provisions of the Control of Pollution Act 1974.

The Site Specific Construction Mitigation Measures document addresses the Contractor’s general obligation in so far as its construction activities affect the general public and property alongside the proposed Works. It does not specifically address the Contractor’s responsibility, in such areas as safety and noise levels, to those working on or visiting the site of construction activities. The Contractor must comply with the relevant statutory provisions in respect of such safety matters and will be required to work in such a way as to ensure the safety of the public and its workers. The Works must be carried out in compliance with the provisions of the Health & Safety at Work Act 1974 to the satisfaction of the local Health & Safety Executive (HSE) officer.

The Co-Promoters will monitor the compliance of the works in line with the Consents and Commitments Register and Network Rail Contract Requirements – Environment.
2. General Principles

2.1 Environmental Management Principles

The Co-Promoters are committed to ensuring that the LSSE scheme is built, where reasonably practicable, in accordance with current best practice for minimising the environmental effects of construction.

The Co-Promoters will review environmental performance in the selection process for tenderers and will require tenderers for the main construction contracts to have an Environmental Management System (EMS) which is consistent with the principles of BS EN ISO14001 before being included on tender lists.

The Contractor will comply with all current legislation regarding environmental protection and subsequent regulations.

2.2 Health & Safety Principles

The Contractor will apply appropriate industry standards for health and safety and will seek continuous improvement in safety performance, in accordance with the principles of HSG65 "Successful health and safety management", published by the Health & Safety Executive.

The Contractor will develop a Health & Safety Management System in accordance with the principles of OHSAS 18001 "Occupational health & safety management systems". This system will include documentation defining the arrangements for managing health and safety on the LSSE scheme.

The Contractor's arrangements for health and safety will include a system for management of risks. The contractor will be responsible for identifying hazards on an ongoing basis throughout the life of the LSSE scheme, for undertaking suitable and sufficient assessments are made of the associated risk, followed by adoption and execution of appropriate measures to eliminate the risk or to control the risk, so far as is reasonably practicable.

Where risks to the public are involved, these will be reduced to as low as reasonably practicable (ALARP), and will be managed in accordance with the guidance in HSG151 "Protecting the Public" published by the Health & Safety Executive.

The Contractor will comply with all current legislation regarding site safety and in particular the Health & Safety at Work Act 1974 and subsequent regulations.

2.3 Network Rail Contract Requirements - Environment

The Contractor will be required to comply and adhere to the Consents and Commitments Register and Network Rail Contract Requirements - Environment Issue 6 (December 2011) and any subsequent revisions.

2.4 Environmental Management Plan

The Contractor will prepare and implement an EMP for the duration of the works in line with the requirements of Network Rail Contract Requirements – Environment. This will include but not be limited to the following documents:

- Environmental Management Plans (EMPs);
A Traffic Management Plan (TMP);
A Ecological Management Plan:
A Site Waste Management Plans (SWMP);
A Noise & Vibration Management Plan; and
A Pollution Incident Control Plan.

The plans will define the approach to address all relevant environmental issues and will set out the specific control measures necessary to ensure compliance with relevant legislation, the Consents and Commitments Register and Network Rail Contract Requirements - Environment.

2.5 Site Management

The Contractor will provide suitably qualified staff to manage and execute works in which they are involved. Requirements for site management and operations are detailed further in Section 3.

2.6 Community Consultation and Liaison / Helpline / Community Relations

2.6.1 Liaison Manager

A Liaison Manager will be employed by the Contractor to consult with any relevant third parties. The Liaison Manager will compile a Community Engagement Plan which will detail the measures that will be undertaken to minimise the disruption for the local area and its residents. The Liaison Manager will attend local residents meetings and forums to keep people updated on progress and future works.

2.6.2 Information and complaints hotline

The Network Rail 24-hour helpline number will be provided to interested parties affected by the works and will be prominently displayed at all worksites.

2.7 References

- OHSAS 18001: Occupational health and safety management systems
- HSG151: Protecting the Public - published by the Health & Safety Executive
- HSG65: Successful health and safety management, published by the Health & Safety Executive
- BS EN ISO14001 - Environmental Management System
3. General Site Operations

3.1 Normal Working Hours

The Contractor will not, unless possessions of Leeds City Station are required, undertake construction operations before 07:30 hours on weekdays and 09:00 hours on Saturdays or after 19:00 hours on weekdays and 18:00 hours on Saturdays. There will not be any operations on Sundays or Bank Holidays.

3.2 Railway Possessions & Works Required Outside Normal Working Hours

Where the Contractor proposes additional or alternative working hours for environmental, construction or safety reasons, this will be subject to the written approval of LCC. The LSSE Scheme will require a number of Network Rail Possessions over weekends and the Network Rail Contract Requirements – Environment will be adhered to reduce the impact of such works.

The Contractor will inform LCC of any emergency works carried out outside normal or agreed working hours.

Where scheduled work is agreed outside normal working hours which has the potential to disturb nearby land users and occupiers, they will be notified seven days in advance. This notification will provide 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. In addition the Contractor will seek consent from LCC for the works under Section 61 of the Control of Pollution Act 1974 which will specify the method of working, the hours of work and noise controls to be applied.

3.3 General Site Housekeeping, facilities and layout

A ‘good housekeeping’ policy will be applied at all times. This will include, but not necessarily be limited to, the following requirements:

- all working areas will be kept in a clean and tidy condition;
- the site(s) will be screened and fully secured;
- hoardings will be frequently inspected, repaired and re-painted as necessary;
- storage sites, fixed plant, machinery, equipment and temporary offices will be located to limit environmental effects, as far as reasonably practicable, and having due regard to neighbouring accommodation, as far as allowed by the constraints of the site(s);
- site lighting will be located and directed so as not to intrude into adjoining land or constitute a road hazard;
- fixed site plant and facilities will be powered from mains electrical sources;
- all working areas will be a no-smoking area. Specific areas within the site will be designated as smoking areas and will be equipped with containers for smoking waste. These will not be located at the boundary of the site adjacent to neighbouring land;
- open fires will be prohibited at all times;
- all necessary measures will be taken to minimise the risk of fire and the Contractor will comply with the requirements of the local fire authority;
- 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 Worksites;
- any waste susceptible to spreading by wind or liable to cause litter will be stored in enclosed containers;
- rubbish will be removed at frequent intervals and the site kept clean and tidy;
adequate toilet facilities will be provided for all site staff;
food waste will be removed frequently; and
wheel washing areas will be brushed clean frequently.

The Contractor will inspect all working areas weekly and will provide a monthly written report on compliance with the Network Rail Contract Requirements – Environment and the Consents and Commitments Register. A nominated representative of the Co-Promoters (the Client Representative) may carry out inspections of the site at any time without prior notice of time and place of the inspections. Access to all areas of the works will be given to visiting inspectors and the Contractor will give inspectors all reasonable assistance during their site inspection.

3.4 Fencing and Hoardings

The Contractor will ensure that all working areas are sufficiently and adequately fenced off from members of the public from straying on to working areas. Hoardings will be provided to suit the location as shown in LSSE Constructability Report Drawing MAFA/102506/CS/010.

Hoardings that create poorly-lit pedestrian routes will have bulkhead lights fitted and these will be illuminated in hours of darkness.

The location and design of site boundaries, hoarding and temporary structures on the public road will permit adequate visibility at junctions and forward visibility along the roads in accordance with the requirements of LCC.

The Contractor will ensure that where hoardings are provided, they are painted on the side facing away from the working area in a colour and style to be approved by the Co-Promoters and include identification of the LSSE scheme and contact information.

All hoardings will be maintained by the contractor in a neat and tidy condition.

The Contractor is expressly prohibited from displaying or allowing to be displayed any advertisement, notice, etc including illicit bill or fly posting on the hoardings. The Contractor will ensure that all graffiti, fly posting or defacement to the hoardings is removed and made good or obscured as soon as practicable.

An information board will be provided at each working area detailing information on the work programme and estimated duration of the works, together with the location of the Information Centre, the web address and a 24 hour telephone number for use by members of the public who wish to lodge complaints or comments.

All fencing and hoarding will be removed as soon as reasonably practicable after the completion of work.

Where scaffolding is required the Contractor will provided scaffolding screening and netting.
3.5 Protection of Existing Structures

3.5.1 Overview

The Contractor will be required to make its own investigations and to take all appropriate actions in order to protect existing foundations, buildings, structures, walls, roadways, sewers, cables and other services, apparatus and installations.

3.5.2 Safeguarding

The Contractor will properly safeguard all buildings, structures, works, services or installations which might be affected by the works from harm, disturbance or deterioration throughout the duration of the Works. The Contractor will take all necessary measures required for the support and protection of all buildings, structures, pipes, cables, sewers, railways and other apparatus which might be affected by the construction work throughout the duration of the works.

3.5.3 Use of Existing Structures

The Contractor will not locate stockpiles of materials, stores, plant or temporary works upon or adjacent to or under existing structures such as bridges, viaducts, towpaths, walls and embankments in such a way as to endanger these structures.

3.5.4 Structural Damage Assessments before Construction of Works

Before commencing any piling, foundation excavation, or ground improvement works, the Contractor will prepare a schedule of buildings, structures and major utilities within the zone of influence of the engineering work. The schedule will identify those properties which may be at risk from ground movement (settlement or heave), vibration arising from the construction or damaged by cranes, based upon the final design and method of construction for the works.

The Contractor will, at his own expense, appoint a reputable firm of Chartered Surveyors or Engineers to prepare a defects survey of each building, structure or major utility which is identified in the schedule of properties within the zone of influence as having a reasonable risk of damage. Such surveys will be carried out generally by agreement with the property owner, and by agreement with the Environment Agency for all such structures within 8m of flood defences. Prior to entering land or buildings the Contractor will obtain permission to undertake a condition survey; where such permission is not given the provisions of this clause will not apply. This survey will be used as evidence for the Promoters compliance with Articles 27 and 28 of the draft Order.

At least one month prior to commencement of the relevant excavation works, a copy of each defect survey will be provided to the Promoter and the interested party.

During the construction works, the Contractor will monitor buildings and structures identified in the schedule as having a significant risk of damage for signs of movement and structural damage and will rectify any damage caused to the reasonable satisfaction of the buildings owners.
3.5.5 Structural Damage Assessments after Construction of Works

After the construction works have been completed and at any time up to two years after the opening of the LSSE scheme to public traffic, the interested party may, upon providing the Co-Promoters or the Contractor with reasonable evidence of damage, request that a second defects survey is undertaken. This will take the same form as the first survey and will be undertaken by the same firm of Chartered Surveyors or Engineers at the Contractor’s expense.

3.6 Access and Loading

Construction vehicles will enter and exit the site in a forward direction at designated locations, except where space restrictions do not permit this. If the reversing of vehicles into public spaces is required, then the movement will be properly controlled by a responsible person(s) observing the rear of the vehicle. The sounding of audible reversing alarms will not be permitted outside normal working hours, except where this has been approved by LCC in connection with works. Entry/exit conditions will be subject to prior approval by LCC before implementation.

All loading and unloading of vehicles will take place off the public road as far as is reasonably practicable.

3.7 Site Security

Adequate security will be exercised by the Contractor to prevent unauthorised entry to or exit from the Worksite and/or construction compound. Site gates will be closed and locked when there is no construction activity.

The Contractor will ensure that all site construction staff are easily identifiable to the public by use of identity cards or another equally effective system.

Site security cameras, where used, will be placed in locations which will not cause offence to or unduly infringe on the privacy of local residents.

3.8 Site Lighting

Lighting will be removed by the Contractor as soon as is consistent with the safe and efficient operation of each worksite.

Light pollution will be managed during construction through the adoption of the guidance set out in the Institution of Lighting Engineers, ‘Guidance Notes for the Reduction of Obtrusive Light’, 2005 in so far as is reasonably practicable and applicable to the construction works.

Lighting to site boundaries will be provided with illuminations sufficient for the safety of the passing public, including the visually impaired, e.g. ensure that stairs, ramps and changes of level are lit so that they can easily be identified when approaching in either direction.

Highway lighting will be maintained at all times, unless otherwise agreed with the Highway Authority.

In particular, precautions will be taken to avoid shadows cast by the site hoarding on surrounding footpaths and roads.
Site lighting will also be positioned and directed as so to minimise nuisance to residents and to minimise distractions or confusion to passing drivers on adjoining public highways. This provision will apply particularly to sites where night working will be carried out and the Contractor will provide appropriate lighting for these sites.

So far as is practicable, all power to temporary traffic signals, lighting etc will be taken from mains supplies rather than from portable generators. Where portable generators are used industry best practice will be followed to minimise noise and pollution from such generators.

The Contractor will adopt the following mitigation measures during the duration of construction works:
- unidirectional lights will be used at LSSE construction sites;
- lights will not shine on the river where otters are known to travel;
- lights will be movement activated and of low intensity;
- security camera systems will use infra-red lighting or a passive detector system; and
- night time working will be avoided or minimised where possible.

Arrangements for site lighting will be subject to the approval of the LCC. The Contractor will be responsible for obtaining approval for site lighting in advance of the works.

3.9 Emergency Planning and Response

The Contractor will prepare and maintain an Emergency Contacts Set of Procedures for each Worksite which will be displayed prominently at each site. These procedures will be followed in any site emergency. An incident response plan will be produced by the Contractor in line with Section 11 of the Network Rail Contract Requirements – Environment.

The procedures will be standardised as far as possible across the disparate worksites, however they will be appropriate to the anticipated hazards and the specific layout.

The procedures will contain emergency telephone numbers and the method of notifying local authorities/emergency services for action by the Contractor site staff. Copies of the procedures will be issued to LCC, the Fire Brigade, the Police, the Ambulance Service and the relevant statutory authorities.

The emergency procedure will contain emergency phone numbers, including those of the Contractor's key staff, and the method of notifying local authorities and statutory authorities.

The emergency plan will include emergency pollution control measures that will take into account Environment Agency (EA) guidelines.

The requirements of the Civil Defence (General Local Authority functions) Regulations 1993, SI 1993 No 1812 will be followed in the provision of site access and this will be monitored by the Contractor and the local fire authority.

3.10 Fire Prevention and Control

All working areas will be a no-smoking area. Specific areas within the site will be designated as smoking areas and will be equipped with containers for smoking waste. These will not be located at the boundary of the site adjacent to neighbouring land.
Open fires will be prohibited at all times.

All construction sites & associated accommodation and welfare facilities will have in place appropriate plans and management controls to prevent fires. The site fire plans will be prepared, regularly reviewed, and updated as necessary, and will have due regard to the following documents:

- Fire Prevention on Construction Sites (Joint Code of Practice on the Protection from Fire of Construction Sites & Buildings Undergoing Renovation); and
- Fire Safety in Construction Work (HSG 168) 3.7.2.

The Contractor will use non-combustible materials, products and packaging wherever reasonably practicable.

### 3.11 Cranes

Two options for crane type and location have been considered for the LSSE scheme which in summary comprise:

- a self erecting crane located on the west bank of the River Aire, between the Waterman’s Place apartment building and the railway viaduct; and
- a tower crane located on the east bank of the River Aire, between the Blue Apartments building and the railway viaduct.

Crane arcs will be confined within the boundaries of the worksite unless agreed otherwise with LCC.

Appropriate permissions will be obtained by the Contractor from LCC for cranes located next to roads.

Cranes will be operated in accordance with the requirements of BS 7121, Code of Practice for Safe Use of Cranes.

### 3.12 Underground Services & Public Utilities

The Contractor will be responsible to undertake their own surveys to establish full extent of underground services and public utilities prior to commencing works at the site.

### 3.13 Unexploded Ordnance

The Contractor shall include procedures where required to deal with unexploded ordnance encountered on site and ensure that all operatives are aware of them.

### 3.14 Construction Compounds

No living accommodation will be permitted on the site except with the approval of LCC. Mess rooms, locker room, toilets and showers and other welfare facilities will be permitted where necessary and appropriate.

### 3.15 Reinstatement

The Contractor will clear up all areas connected with the construction work both within and outside the site as work proceeds and when no longer required for the carrying out of the Works.
All surplus spoil and materials, temporary roads and hard standings, plant, sheds, offices and temporary fencing will be removed, post holes filled and the surface of the ground restored as near as practicable to its original condition.

3.16 **Pest Control**

The Contractor will 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 the Contractor will take such action to deal with it as required by the LCC's Environmental Health Officer.

3.17 **Contaminated Materials (Special Precautions)**

For those sites at which contaminated material is encountered, the Safety Officer will ensure that a Workers’ Safety Information Sheet is prominently displayed in rest/mess rooms and wash rooms covering hygiene, work practices, PPE requirements etc.

General provisions concerning disposal of contaminated materials are described in Section 8.

3.18 **Health and Safety at Work Act 1974**

All site work will be carried out under the provisions of the Act, and to the satisfaction of the local HSE officer.

3.19 **References**

- Civil Defence (General Local Authority functions) Regulations 1993, SI 1993 No 1812
- Fire Prevention on Construction Sites (Joint Code of Practice on the Protection from Fire of Construction Sites & Buildings Undergoing Renovation)
- Fire Safety in Construction Work (HSG 168) 3.7.2
- BS 7121, Code of Practice for Safe Use of Cranes
- BS 5489-1: 2003 – Code of practice for the design of road lighting – Part 1: Lighting of roads and public amenity areas
- Guidance Notes for the Reduction of Light Pollution, 2000, published by the Institute of Lighting Engineers
- LFEPA Fire Safety Guidance Note Number 29 – Access for Fire Appliances
4. Public Access and Highway

4.1 General Requirements

The Contractor will comply with the Network Rail Contract Requirements - Environment Section 9.12 Public Highways and the relevant sections of the Consents and Commitments Register. The following mitigation measures set out in this section outline those identified during the EIA process and will be included in the environmental management plan produced by the contractor in accordance with the Network Rail Contract Requirements - Environment.

4.2 Traffic Management Plan

A traffic management plan (TMP) will be produced, co-ordinated and implemented by the Contractor. The plan will be prepared in consultation with highway and traffic authorities and the emergency services. The TMP(s) will include:

- temporary or permanent road closures and diversions;
- any interference with a carriageway or footway, including control of tracking of mud;
- temporary traffic control measures;
- temporary and permanent access to the works;
- temporary road layouts;
- routes to be used by construction traffic and any restrictions which may be applied, e.g. area within which materials must be sourced and routes for waste disposal;
- means on monitoring lorry use; and
- site specific controls.

In order to monitor the CTMP and further limit the impact of construction traffic, the contractor may appoint a Traffic Officer during the construction works who would oversee all matters pertaining to construction traffic and safety. They would be responsible for traffic issues arising from the construction, including timing of deliveries, stacking of vehicles, the effect on junctions and control of vehicles onto and off site. They would also monitor the condition and cleanliness of the highway and liaise with the highway authority over any traffic or signing concerns and address other issues should they arise.

Abnormal loads will be delivered where possible outside of highway peak hours to minimise the impact on congestion during these periods.

Temporary signing will be provided to direct construction traffic onto the agreed routes with no access to other local roads.

Temporary TRO's would be implemented on Water Lane during construction to facilitate the movement of large vehicles along water lane to the barge loading/launch site.

4.3 Granary Wharf/Water Lane Hoarding

Solid hoarding will be required (as per LSSE Constructability Report Drawing MAFA/102506/CS/010) to enclose the work site adjacent to Granary Wharf to prevent unauthorised access. The exact alignment and layout of the hoarding will (where possible) be agreed with local stakeholders to provide the least disruptive but safe solution. Clear signage will be affixed to the hoarding to direct the public around the work area and to describe the scheme and to highlight the hazards and risks that are associated with the project.
Where footpaths and walkways are required to be temporarily closed or have access restricted along them clear signage and information boards will be erected providing clear direction for the diversion. Temporary pedestrian barriers may also be erected to create an obvious walkway, and if uneven ground conditions are encountered temporary membranes can be rolled out to provide a better walking surface.

Similar measures to the ones described above will be employed at Water Lane where secure fencing or hoarding will be erected around the perimeter of the site, and a footpath diversion will be established with temporary pedestrian barrier if necessary.

Temporary works would be required on Meadow Lane to safely facilitate the egress of construction vehicles via Old Red Lion Inn and Asda car parks after unloading their cargo on Water Lane.

### 4.4 Passenger Movements within Leeds Rail Station

The Contractor will consult with the station management to ensure the appropriate planning of construction works to minimise any disruption to the travelling public.

### 4.5 Cycle Parking Stand in Granary Wharf

Cycle parking stands (no.8) in Granary Wharf will be relocated to accommodate LSSE’s wing landing on the west bank of the River Aire in agreement with ISIS.

### 4.6 Traffic and Safety Controls

Measures to be taken by the Contractor with respect to traffic and road safety will include, but not necessarily be limited to:

- use of Temporary Traffic Regulation Orders (TTROs), following the provisions of the Order;
- use of temporary signing and lining where required by LCC to identify places where construction is taking place;
- use of temporary signing to restrict vehicle type/sizes and define routes for construction traffic.
- use of appropriate temporary signing and lighting wherever works are in progress to ensure the safety of all road users; and
- preparation and implementation of a programme for road closures and temporary traffic signal arrangements.

### 4.7 Maintenance, Repair & Reinstatement of the Highway

The Contractor will, prior to commencing works, undertake pre-condition surveys of the highways adjacent to access/egress points, crossing points and proposed haul routes.

The Contractor will take every possible precaution to prevent its operations, whether by carting or otherwise, from damaging the roads and footpaths in the vicinity of the LSSE scheme works.

The Contractor will carry out all such maintenance works as are necessary to maintain the roads and footpaths in the vicinity of the works in a serviceable condition to the approval of Leeds City Council.

Following the completion of works at each site the Contractor will restore the highway to its existing condition to the approval of Leeds City Council.
4.8 **Road Cleanliness**

The Contractor will take measures to minimise the spillage of mud and other debris onto the roads and footpaths located within the vicinity of the Works. These will include, but not necessarily be limited to:

- The provision of easily-cleaned hard standing for vehicles entering, parking and leaving the site;
- the provision of wheel washing facilities including, where practicable, mechanical wheel spinners;
- the use of mechanical road sweepers and surface flushing apparatus to clean the hard standing and to remove any mud or debris deposited by site vehicles on roads, footpaths, gullies or drains in the vicinity of the site. The road sweepers or other equipment are to be properly maintained and readily available whenever the need for cleaning arises and will be properly used and maintained.
- the complete sheeting of the sides and tops of all vehicles carrying mud or debris on the public highway; and
- loading of vehicles in such a manner as to prevent waste falling off during their journey.

4.9 **References**

- Transport Act 1968
- Highways Act 1980
- Road Traffic Regulation Act 1984
- Road Traffic Act 1988
- New Roads and Street Works Act 1991
- Traffic Management Act 2004
- BS 7121: Code of Practice for the Safe Use of Crane
- Construction Design & Management Regulations 2007 (CDM)- associated
- Approved Code of Practice New Road & Street Works Act - Traffic Management Act (TMA) Design Manual for Roads & Bridges (DMRB)
- Traffic Signs Regulations & General Direction 2004 & associated Traffic Signs Chapters
- Model Contract Design of Highway Works (MCDHW)
5. Noise and Vibration Management

5.1 General Requirements - Noise

The Contractor will comply with the Network Rail Contract Requirements - Environment Section 9.11 Noise & Vibration Public Highways and the relevant sections of the Consents and Commitments Register. The following mitigation measures set out in this section out line those identified during the EIA process and will be included in the environmental management plan produced by the contractor in accordance with the Network Rail Contract Requirements - Environment.

5.2 Noise Control

In accordance with Network Rail Contract Requirements - Environment the Contractor will prepare a Noise & Vibration Management Plan and seek consent from LCC for construction works under Section 61 of the Control of Pollution Act 1974. These consents will specify the method of working, the hours of work and noise controls to be applied in accordance with ‘Best Practicable Means’ (BPM) (as defined in Section 72 of CoPA).

The Contractor will comply with the terms of consents issued by the LCC, and the Co-Promoters may require the Contractor to cease work immediately in the event of failure to comply.

The Contractor will adhere to Network Rail Environmental Guidance Note NR/GN/ENV/00023 ‘Best Practicable Means: Control of Noise and Vibration from Construction Operations’ which provides advice on best practice that contractors can use in developing a Section 61 Consent application.

The Contractor will, during construction, comply with the following measures set out in the guidance note:

- as a matter of course, low noise plant and equipment will be used which conform to standards prescribed by the Noise Emission in the Environment by Equipment for Use Outdoors Regulations 2001, implementing EU Directive 2000/14/EC. All plant used by main contractors and sub-contractors will be sourced from the company’s nominated supplier, which in turn, will be approved by NR;
- plant and equipment will be examined on a daily basis, for defects, prior to the start of works and under no circumstances will defective plant be used;
- in connection with demolition and other works of a similar nature, the presumption will be to ensure the minimum amount of breaking up of material on-site and the material will be removed from site to a less sensitive location where the material can be broken down further as necessary;
- there will be a general presumption towards the screening/enclosure of mobile and fixed plant as a simple and effective means of containing noise at source;
- vehicles will not wait or queue up with engines running on the site or on the public highway; and
- wherever it is logistically practicable to do so, noisy works will be programmed to take place during normal daytime hours.

The Contractor will adhere to Network Rail Environmental Guidance Note NR/GN/ENV/00022 ‘Construction noise mitigation through the Section 61 consent process’ when applying for Section 61 Consent.

The Network Rail Environmental Guidance Note NR/GN/ENV/00023 includes specific controls for various types of works and refers to further advice within BS 5228 and CIRIA publications. The Contractor will comply with the relevant requirements of BS 5228 and CIRIA publications relevant to the selected construction methodology.
The Contractor will adhere to the following specific mitigation measure to reduce construction noise:

- the local authority will be consulted at least 6 weeks in advance of the works;
- local residents will be informed in advance by leafleting;
- activities will be undertaken in line with the working hours outlined in Section 3 of this report;
- low noise equipment will be used where possible;
- plant and equipment will be positioned as far as possible from sensitive areas;
- plant and equipment will be placed on dampers to reduce noise and vibration;
- plant and equipment will be maintained in good and efficient working order;
- location of static plant to take advantage of any screening to break the line of sight from receptors and/or introduce an acoustic barrier;
- plant and equipment will be switched off when not in use;
- staff will be briefed on keeping noise to a minimum including voice levels and on working restrictions/controls for mitigating noise whilst working on site.
- where practicable the use of rubber linings in chutes, dumpers, transfer points, etc will be used to reduce noise from the handling of waste materials;
- where practicable the Contractor will enclose tool compressors and generators;
- Where practicable and within limits of efficient production, the Contractor will limit use of particularly noisy plant and limit the number of items in use at any one time (e.g. operate plant one-by-one and switch off when not in use);
- where practicable the Contractor will use temporary acoustic screenings (e.g. acoustic blanket attached to fencing) to reduce the impact of construction noise.

The Contractor will agree as part of the Section 61 Consent the noise limits for works on site during normal working hours and outside normal working hours. The Section 61 Consent process requires the Contractor to predict noise levels associated with the construction process and agree, with LCC, appropriate mitigation measures and noise limits for the duration of the works. Once Section 61 Consent has been granted the Contractor will not exceed the limits agreed.

The Contractor will monitor noise levels using in accordance with BS5228. The Contractor will submit the proposed method, the frequency and the location of monitoring site to LCC for agreement prior to commencing works. Baseline levels of noise monitoring will be agreed prior to commencement of construction. The Contractor will also agree action levels of noise pollution with LCC and in line with the Section 61 Consent. In the event that these levels are exceeded, the Contractor will take action to ensure that noise levels are reduced.

The Contractor will be required to appoint and nominate an employee to liaise with the Pollution Control Section of LCC. The employee will be contactable through a telephone number made known to the Co-Promoters. The Contractor’s nominated employee will also notify LCC’s Environmental Health Officers of planned activities on a monthly basis. Such an employee, or an appointed deputy, will be available whenever noisy construction activities are taking place in noise sensitive areas to investigate any noise or vibration complaint and to attend any liaison committee meetings which may take place to report noise survey results, the outcome of the routine inspections and actions taken on receipt of complaints. The employee will have the authority to stop operations e.g. if noise from the works is likely to cause disturbance, in the reasonable opinion of the Local Environment Health Officer (EHO), and where BPM is not being implemented to minimise disturbance, or the requirements of LCC are not being complied with.
5.3 Construction Traffic

The Contractor will incorporate the following measures into the LSSE scheme to avoid noise related impacts from construction traffic:
- Vehicles will not wait or queue up with engines running on the site or the public highway;
- Vehicles will be properly maintained to comply with noise emissions standards;
- Deliveries will be restricted to be within working hours of the site;
- Avoid unnecessary revving of engines, reducing speed of vehicle movement to avoid body slap from empty lorries, designing and maintaining access routes to minimise vehicle noise.

5.4 Reversing Alarms

Noise disturbance can arise from reversing alarms on commercial delivery vehicles. To limit the disturbance the following actions will be employed:
- careful design of site layout, works access points and haul routes to minimise reversing manoeuvres;
- ensure vehicles are checked and any faulty or sensitive vehicle alarms have appropriate settings; and
- use of adjustable or directional audible vehicle-reversing alarms or use alternative warning systems, e.g. white noise alarms (including arrangements to minimise the need to perform reversing manoeuvres).

5.5 Notifications

Occupiers of nearby properties will be informed by the Contractor in advance of the works taking place, including the duration and likely noise and vibration effects. The contractor will appoint a liaison manager to consult third parties such as residents and businesses and will be a point of contact for concerns, provide information on progress and compile a Community Engagement Plan.

In the case of work required in response to an emergency, the Co-Promoters and local residents will be advised as soon as reasonably practicable that emergency work is taking place. Potentially affected residents will also be notified of the Helpline number.

The contact details of the main contractor for the works will be provided to LCC within the application for Section 61 consent.

5.6 Vibration control

Subject to the specific requirements of the LCC, the following minimum requirements must be met:
- To protect residents and users of buildings from nuisance and harm the Contractor will, as far as practicable, not exceed Vibration Dose Values as specified in BS6472:1992 which will result in a “low probability of adverse comment”;
- Adequate notice will be given to the occupier of receptors with regard to the timing and duration of works;
- The break up of the bedrock at multiple positions will be carried out with a reasonable break so impacts do not occur continuously over a prolonged period of time (more than one hour); and
- The works are not undertaken at sensitive times of the day.

The Contractor will monitor vibration levels in accordance with BS6472:1992. The Contractor will submit the proposed method, the frequency and the location of monitoring site to LCC for agreement prior to
The Contractor will also agree action levels of vibration with LCC. In the event that these levels are exceeded, the Contractor will take action to ensure that vibration levels are reduced.

5.7 References

- Control of Pollution Act – Part III Noise. HMSO.1974
- BS6472: 1992 Evaluation of human exposure of vibration in buildings
6. Air Quality Management

6.1 General Requirements

The Contractor will comply with the Network Rail Contract Requirements - Environment Section 9.2 Air Quality and the relevant sections of the Consents and Commitments Register. The following mitigation measures set out in this section outline those identified during the EIA process and will be included in the environmental management plan produced by the contractor in accordance with the Network Rail Contract Requirements - Environment.

6.2 Dust Control & Emissions

The Co-Promoters will ensure that the Contractor will abide by Network Rail’s Contract Requirements - Environment (CRE) which includes requirements for the control of dust and other emissions to the atmosphere. These requirements will form part of the construction contractor’s Environmental Management Plan (EMP) which will be adopted and implemented by the construction contractor. In addition to adopting Network Rail’s CRE, the site specific mitigation measures listed below will be adopted and will also form part of the construction contractor’s EMP.

The ‘Greater London Authority and London Councils Best Practice Guidance - The Control of Dust and Emissions from Construction and Demolition’ 2006 (hereafter referred to as the ‘London Guidance’) provides a comprehensive overview of Best Practicable Means (BPM) mitigation measures to control dust and combustion related emissions from construction sites. Although the proposed LSSE scheme is located outside of London, the BPM mitigation measures will be adopted for the LSSE scheme.

The BPM mitigation measures, from the London Guidance, that are considered appropriate and will be imposed on site by the construction contractor during the construction phase are listed below.

Site Planning
- Erect effective barriers around dusty activities or the site boundary;
- No bonfires;
- Plan site layout – machinery and dust causing activities should be located away from receptors (where possible);
- Ensure site construction routes are hard standing;
- Use nearby waterways for transportation to/from site, where feasible;
- Establish real-time dust monitors across site and ensure key site personnel are fully trained for recording and maintenance purposes; and
- A trained and responsible manager on site during working times to carry out regular site inspections to monitor compliance with dust control procedures set out above and record the results of the inspections, including nil returns, in a site log book.

Construction Traffic
- All vehicles to switch off engines – no idling vehicles;
- Effective vehicle cleaning and specific wheel-washing on leaving site and damping down of haul routes if required;
- Routinely clean the public highway using wet sweeping methods;
- All loads entering and leaving site to be covered;
- No site runoff of water or mud;
- On-road vehicles to comply to set emission standards;
The Leeds Railway Station (Southern Entrance) Order
Site Specific Construction Mitigation Measures

- All non road mobile machinery (NRMM) to use ultra low sulphur tax-exempt diesel (ULSD) where available and be fitted with appropriate exhaust after-treatment from the approved list;
- On-road vehicles to comply with the requirements of a possible future Low Emission Zone (LEZ) as a minimum;
- Minimise movement of construction traffic around site;
- Hard surfacing and effective cleaning of haul routes and appropriate speed limit around site; and
- Ensure all vehicles carrying loose or potentially dusty material to or from the site are fully sheeted.

Site Activities
- Strip and wrap any areas of the site to be demolished to reduce the amount of dust which may be liberated;
- Cutting equipment to use water as suppressant or suitable local extract ventilation;
- Use enclosed chutes and covered skips;
- Wrap structures to be demolished;
- Minimise dust generating activities;
- Use water as dust suppressant where applicable;
- Keep stockpiles on site for the shortest possible time; and
- Avoid double handling of material wherever reasonably practicable.

6.3 Odour

It is not anticipated that the LSSE scheme works will give rise to any odour nuisance, but if necessary the Contractor will adopt appropriate measures so as to avoid the creation of nuisance and/or loss of amenity from odours.

6.4 References

- BRE. Controlling particles, vapour and noise pollution from construction sites, Parts 1 to 5, 2003
- Buildings Research Establishment. Controlling particles, vapour and noise pollution from construction sites, Parts 1 to 5, 2003
- Clean Air Act 1993
- Environment Act 1995
- Control of Substances Hazardous to Health Regulations (COSHH) 1999
- HSE Guidance Notes EH 40/90 and EH 40/97 on Occupational Exposure Limits
- Control of Lead at Work Regulations 2002
- Health and Safety Executive (HSE) Guidance Booklets 248:2005
7. Water Resources Management

7.1 General Requirements

The Contractor will comply with the Network Rail Contract Requirements - Environment Section 9.14 Water, Section 11 Incident Response Plan and the relevant sections of the Consents and Commitments Register. The following mitigation measures set out in this section outline those identified during the EIA process and will be included in the environmental management plan produced by the contractor in accordance with the Network Rail Contract Requirements - Environment.

The Contractor will follow the Pollution Prevention Guidelines (PPG), published by the EA, will be applied:

- PPG 1: General Guide to the Prevention of Pollution;
- PPG 2: Above Ground Oil Storage Tanks;
- PPG 5: Works and Maintenance in or near Water;
- PPG 6: Working at Construction and Demolition Sites;
- PPG 8: Safe Storage and Disposal of Used Oils;
- PPG 18: Managing Fire Water and Major Spillages;
- PPG 21: Pollution Incident Response Planning; and
- PPG 22: Dealing with Spills.

The Contractor will ensure that the design of the site layout and facilities and management of construction operations will take account of the guidance contained within the relevant Pollution Prevention Guides issued by the EA, Construction Industry Research and Information Association (CIRIA) documents and the BW Code of Practice for Works affecting British Waterways and will be based on accepted industry practice. The Contractor 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.

7.2 Site Drainage

Provisions for construction site drainage associated with the LSSE Scheme will be achieved via the development and implementation of an appropriate Site Drainage Plan. The plan will include measures to ensure that surface water runoff is contained and managed appropriately, as described below. Such provisions will also prevent washout from temporary construction laydown and storage areas into local watercourses and highway drainage infrastructure. In preparing the site drainage plan, the Contractor will take full account of the requirements of the Environment Agency's Pollution Prevention Guidelines. This will include notifying the Environment Agency in advance of all works to allow pollution prevention and emergency procedures to be agreed.

The Contractor will ensure that the site drainage meets the effluent standards required by the sewerage undertaker or EA as appropriate, and will provide holding or settling tanks, separators, and other measures as may be required. The Contractor will ensure that access is provided to the undertaker so that samples of discharge can be obtained and analysed and the flows verified as required.

The Contractor will be responsible for obtaining the appropriate consents and approval for disposal of liquids to the public sewer, or (only if appropriate) to a watercourse in accordance with EA guidelines.
Highway drainage will be kept clean at all times and cleaned out regularly if required, throughout the duration of the Works.

The Contractor will also comply with BS 6031:1981 Code of Practice for Earthworks, regarding the general control of site drainage.

For any discharge planned for disposal into a soakaway, the water quality will be available for testing by the Environment Agency. Water of contaminated quality will only be permitted to be discharged into foul sewer or by any other approved means of disposal (by tankers etc). Water of suitable quality (compatible with existing groundwater) will be permitted to be discharged into a soakaway subject to Environment Agency/Yorkshire Water approval.

### 7.3 Storage of Polluting Materials

The Contractor will make provisions to ensure that oil drums and containers or other potential contaminants stored on the site are controlled in accordance with the Control of Substances Hazardous to Health (COSHH) Regulations 1999 and PPG 8: Safe Storage and Disposal of Used Oils and are properly isolated and bunded and that no oil or other contaminants are allowed to reach watercourses or groundwater, including aquifers. Storage locations for such materials will be positioned away from watercourses. All surface water or other contaminated water, which accumulates in the bund, will be removed by manually controlled positive lift pumps and not by means of a gravity drain. This water will be removed from site and discharged in public sewer in consultation with the relevant water companies.

The Contractor will include contingency plans to deal with major pollution incidents at the Worksites within the overall emergency planning. Current Environment Agency guidance on pollution incident response planning will be reflected in the emergency plans.

The Contractor will ensure that any water that has come into contact with contaminated materials is disposed of in accordance with the Water Resources Act 1991 and the Water Industry Act 1991 (if disposed to public sewer) to the satisfaction of the Environment Agency, Yorkshire Water or LCC (as appropriate).

Spill response kits containing equipment appropriate to the quantity and types of materials present on site will be available in the event of a fuel spillage and personnel will be trained in their use.

### 7.4 Protection of Aquifers

The Contractor will have due regard for underlying aquifers and adhere to the Environment Agency's Groundwater Protection Policy. In all instances, appropriate protection of aquifers will be undertaken, following liaison with the Environment Agency regarding the piling and construction techniques to be employed.

Details of appropriate measures to prevent groundwater contamination (including monitoring) will be agreed with the Environment Agency, in writing, prior to commencement of the relevant Works.
7.5  **Control of Pollution to the River Aire and Leeds & Liverpool Canal**

All wastewater and site discharges will only be permitted where the effluent quality and discharge location is acceptable to the Environment Agency, Yorkshire Water, or LCC (as appropriate). Effluent will pass through treatment facilities such as sediment traps and/or settlement lagoons, as appropriate, before being discharged.

The Contractor will ensure that protection measures to control the risk of pollution to the River Aire and Leeds & Liverpool Canal will be adopted and will include, where appropriate and reasonably practicable:

- all refuelling, oiling and greasing will take place above drip trays or on an impermeable surface which provides protection to underground strata and watercourses and away from drains as far as reasonably practicable. Vehicles will not be left unattended during refuelling;
- ensure that any potential contaminants are stored on site in an appropriate location (away from potential receptors, and where possible not within 10m of a watercourse) and in an appropriate manner;
- only construction equipment and vehicles free of all oil/fuel leaks will be permitted on site. Drip trays will be placed below static mechanical plant;
- all wash down of vehicles and equipment will take place in designated areas and will comply with EA’s Pollution Prevention Guidance note PPG13;
- emergency response plans for dealing with flood risk (and the increased risk of pollution during flooding);
- consents and approval for temporary and permanent works in or near the River Aire will be obtained from the EA and BW (as appropriate);
- preventing objects and pollutants from falling directly into the water, whilst working in or above watercourses;
- ensuring that surface water is not degraded during construction activities, by preventing or containing any spillage or seepage combined with the rapid removal of spilled substances through implementation of the emergency response plan (to be prepared in accordance with the EA PPG 18 and PPG 21);
- damping down and sweeping the site to preventing build up of debris or particulates which may result in contaminated or silt laden runoff, whilst also minimising the generation of construction dust and potential for pollution by wind blow;
- removing site arisings from piling to prevent discharge into the River Aire;
- emergency response plans for dealing with flood risk (and the increased risk of pollution during flooding); and
- consents and approval for temporary and permanent works in or near the River Aire will be obtained from the EA and BW (as appropriate).

7.6  **Control of Pollution of Groundwater**

The Contractor will ensure that protection measures to control the risk of pollution to groundwater will be implemented and will be consistent with the Groundwater Regulations 1998.

Where reasonably practicable the Contractor will avoid using materials in the permanent or temporary works that could pollute groundwater. This will include special consideration for the use of substances contained within List I and II of the Groundwater Regulations SI 1998/2746 (Groundwater Directive: 80/68/EEC).

Prior to any excavation below the water table, including any site de-watering, the Contractor will inform the Environment Agency of the works to be conducted. Cut-off ditches may be used to prevent water from entering excavations. The de-watering and disposal measures will be agreed with the Environment Agency.
The Contractor will ensure that the following mitigation measures are adhered to during construction:

- damping down and sweeping the site to preventing build up of debris or particulates which may result in contaminated or silt laden runoff, whilst also minimising the generation of construction dust and potential for pollution by wind blow;
- ensuring that groundwater is not degraded during construction activities, by preventing or containing any spillage or seepage combined with the rapid removal of spilled substances through implementation of the emergency response plan (to be prepared in accordance with the EA PPG 18 and PPG 21);
- ensuring the correct disposal of site drainage and any polluted water, including obtaining the necessary consents and approval for disposal of liquids to the public sewer, or (only if appropriate) to a watercourse in accordance with EA guidelines;
- ensuring piling methods are adopted which minimise the disturbance of the bed and pollution during works in the River Aire channel, and minimise the risk of pollution to groundwater

7.7 References

- Water Resources Act 1991
- Water Industry Act 1991
- Land Drainage Act 1991
- Water Act 2003
- BS 6031: Code of Practice for Earthworks (2009)
- EA Pollution Prevention Guidance Notes
- Control of Substances Hazardous to Health (COSHH) Regulations 1999
- Water Resources Act 1991
- Water Industry Act 1991
- Groundwater Regulations 1998
- CIRIA, Control of water pollution from construction sites:
  - Guidance for consultants and contractors (C532)
- CIRIA/Environment Agency Joint Guidelines:
  - Concrete Bunds for Oil Storage Tanks
  - Masonry Bunds for Oil Storage Tanks
8. Contaminated Land

8.1 General Requirements

The Contractor will comply with the Network Rail Contract Requirements - Environment Section 9.4 Contaminated Land, Section 11 Incident Response Plan and the relevant sections of the Consents and Commitments Register. The following mitigation measures set out in this section outline those identified during the EIA process and will be included in the environmental management plan produced by the contractor in accordance with the Network Rail Contract Requirements - Environment.

The Contractor will apply the guidance in relation to contaminated land contained in the Environmental Protection Act 1990 (Part IIA). This guidance, referred to as the Part IIA regime, came into force in England in April 2000 by enactment of Section 57 of the Environment Act 1995. The Contaminated Land (England) Regulations 2006 (SI 2006/1380) consolidate the guidance published to date and state the conditions under which land is defined as contaminated.

The Contractor will develop remediation measures in accordance with the legislation. The main objective of Part IIA is to provide a system for the identification and remediation of land where contamination is causing unacceptable risks to human health or the wider environment, assessed in the context of the current use and circumstances of the land. If contaminated land is identified, the guidance contained within Part IIA is intended to ensure that where it is reasonable to do so, remediation is carried out so that the land no longer presents a significant harm being caused.

All construction site works will be undertaken by the Contractor in accordance with both Network Rail’s Contract Requirements Environment documentation (specifically the need to prepare a Pollution Incident Control Plan and Waste Management Plan) and the Environment Agency’s Pollution Prevention Guidelines, in particular Pollution Prevention Guidance Note 6 “Working at Construction and Demolition Sites”.

The Contractor will adhere specifically to the following requirements:

- no polluting material, or polluting construction or demolition material or refuse, will be permanently deposited anywhere other than appropriate licensed waste disposal sites. Such material must be temporarily deposited in steel containers, or removed directly to wagons;
- no rainwater contaminated with silt or soil from disturbed ground during construction work is permitted to drain directly to controlled waters without sufficient settlement;
- no foul drainage or contaminated surface water run-off will be discharged into any borehole, soakaway, foul sewer, or water space;
- the prior approval of the manner of construction of any storage facilities for oils, fuels or chemicals will be obtained from the local planning authority before the development works commence. Furthermore, the EMP will detail safe handling and storage procedures for fuel and other potentially polluting material. Fuel storage will be stored within bunded double lined tanks with a bund capacity of 110%; and
- no drainage or surface water run off or any other run off or drainage will be discharged by any means into controlled waters, and the developer and his consultants and contractors will at all times comply with any requirements of the Environment Agency and local authority.

The Contractor will provide site workers with suitable Personal Protective Equipment (PPE) as appropriate to the activities that they are involved in. This will help in preventing exposure of site workers to any contaminants encountered during the works.
8.2 Pollution Incident Control Plan

The Contractor produce a pollution incident control plan in line with the guidance provided in the Network Rail Contract Requirements - Environment document.

The pollution incident control plan will include:
- Operational control procedures to reduce the risk of potential environmental incidents identified in the Environmental Risk Assessment.
- Procedures to be followed in the event of an incident including control and mitigation measures, reporting lines, investigation and closeout.
- The responsibilities in the event of an incident.
- The contact persons in the event of an incident including:
  - The Supplier's/Contractor’s nominated responsible person.
  - Network Rail Asset Management Control Centre (AMCC)/Route Control Centre
  - Regulatory bodies including the Environment Agency, Natural England and LCC.
  - Employer’s Representative.

The Contractor will also address within the Pollution Incident Control Plan safety, health and environmental incidents which could reasonably be foreseen to occur during the project, including, but not limited to:
- spillage of materials (liquid and solids) on the public highway;
- the breaching of a pipe containing contaminated liquid;
- accidental discharge of contaminated materials to drains and watercourses;
- the occurrence of elevated dust and/or noise levels and odours outside of the site boundary; and
- damage to services (including the effects of a loss of power); and flooding.

The Contractor will ensure that the Incident Control Plan is briefed, communicated, readily available to site personnel and available to relevant bodies and organisations upon request. Control measures will be communicated to all relevant personnel including through inductions, the work package plan process/method statements, Task Briefing Sheets, Toolbox Talks etc.

8.3 Piling Risk Assessment


The Contractor will agree a Method Statement for works with the Environment Agency prior to commencing works on site.

8.4 Soil Excavation, Disposal and Reuse

The Contractor will use only certified suitable fill materials in the development to avoid the potential for the importation of contaminated materials to the site.

The Contractor will import materials from local sources, when or where available, to minimise haulage distances and be from recycled sources; this will be detailed within the Traffic Management Plan.
The Contractor will reuse materials on site, where possible, and where suitable materials exist and there is a need for them.

The Contractor will agree in advance with LCC and the Environment Agency site specific threshold values for suitability of soils should soil re-use be considered.

The Contractor produce an Earthworks Specification for the site, which will follow guidelines set out in The Definition of Waste: Development Industry Code of Practice.

### 8.5 Site Assessment and Remedial Practice

The Contractor will undertake, prior to commencing works on site, a site investigation to determine ground conditions and characterise the status of the site in terms of:

- soil quality;
- river sediment quality;
- groundwater quality; and
- ground gas regime.

The scope of the ground investigation will be agreed with LCC and the Environment Agency in advance of undertaking the ground assessment.

Where the site investigation reveals the presence of contaminated land, the Contractor will prepare a land assessment report and contaminated land management plan to comply with all relevant handling and disposal legislation. The land assessment report and contaminated land management plan will be prepared by a reputable consultant, and will identify any necessary remediation measures to render the land fit for the intended purpose and any long term measures that are necessary with respect to contaminants remaining on the Site.

The land assessment report and contaminated land management plan will be prepared in accordance with the Network Rail Contract Requirements - Environment, or such other principles as may subsequently be agreed with the LCC and in consultation with the Environment Agency.

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 2002 and through the Construction Design and Management (CDM) Regulations 2007.

The Contractor will identify those areas within the site where contaminated land may be encountered. The Contractor will:

- carry out appropriate site investigations to the satisfaction of the Co-Promoters to determine the extent and type of contaminants present on the Site;
- carry out risk assessment evaluations to determine potential sources, pathways and receptors;
- liaise with the LCC and Environment Agency 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. This may involve the sealing, excavation and disposal of soil or on-site remedial works;
- develop transportation and other management procedures to be followed in the event that contaminated or hazardous materials are discovered on site;
- 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.

The Consolidated European Waste Catalogue (EWC) lists those wastes that are ‘absolute entries’ (hazardous waste regardless of their concentration) and ‘mirror entries’ (hazardous waste only if ‘dangerous substances’ are present above threshold concentrations). Contaminated soils are ‘mirror entries’ in the EWC. This means that contaminated soils may be classified as either hazardous or non-hazardous depending on the concentrations of ‘dangerous substances’ in the soil. An assessment of the composition of the waste soil using appropriate techniques, which could include sampling and laboratory analysis, will be undertaken to determine if the waste is classifiable as hazardous.

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

The Contractor will also give consideration to alternatives to landfill disposal as the solution to treating contaminated soil. This may include the use of remedial technologies (in-situ and ex-situ) to reduce the quantity of soil requiring disposal, and/or treatment of soils to a standard such that they can be re-used at a site or be disposed of as non-hazardous waste. On-site remedial works will be carried out under the Waste Management Licensing Regulations 1994.

Contamination issues will be recorded in the project Health and Safety File in accordance with the Construction (Design and Management) Regulations 2007, to protect affected parties.

Monitoring of excavation works will be undertaken to check for unexpected or unusual materials with a contaminative potential. This material could consist of buried drums, tanks or containers, soil, groundwater or liquids with an unusual colour or odour, or other evidence of contamination. If this type of material is encountered then work at that particular site, and directly affected by the contaminating agent, will be stopped until the material has been properly identified and suitable precautions taken. This approach will be included in the Health and Safety Plan.

### 8.6 References

**Contaminated Land**
- The Contaminated Land (England) Regulations 2006 (SI 2006/1380)
- Control of Substances Hazardous to Health (COSHH) Regulations
- Construction Design and Management (CDM) Regulations 2007
- Consolidated European Waste Catalogue (EWC)
- Environment Act 1995
- The Hazardous Wastes (England and Wales) Regulations 2005
- Waste Management Licensing Regulations 1994
9. Excavated Materials and Waste Management

9.1 General Requirements

The Contractor will comply with the Network Rail Contract Requirements - Environment Section 9.13 Waste and the relevant sections of the Consents and Commitments Register. The following mitigation measures set out in this section out line those identified during the EIA process and will be included in the environmental management plan produced by the contractor in accordance with the Network Rail Contract Requirements - Environment.

The Contractor will manage dismantled / construction / excavation wastes generated at worksites, so far as reasonably practicable, in accordance with the waste hierarchy and within the relevant regulatory controls and cost restraints under the general protocols described below. Further details will be set out in the EMP and will include the requirements of the site waste management plan regulations which will be delivered through the Site Waste Management Plan (SWMP).

The waste hierarchy is as follows and sets out the options in order of preference; the highest option(s) that is/are reasonably practicable will be adopted but usually a combination of one or more will be appropriate:

- Minimise generation of excavated materials and wastes through efficient materials resource management;
- re-use and recycle excavated materials and waste within the construction of the LSSE scheme;
- re-use and recycle excavated materials and waste through environmentally beneficial use at sites out-with the LSSE scheme; and
- dispose of surplus excavated materials and waste at licensed landfill sites.

The Contractor will ensure that the requirements of the waste hierarchy are enforced and the duty of care placed on all parties to take responsibility for protecting the interests and safety of others from the potential effects of handling, storing, transporting and depositing of excavated materials and wastes. The Contractor will ensure that waste is managed in accordance with the Site Waste Management Plan Regulations 2008.

9.2 Excavated materials and waste management

A SWMP will be produced in accordance with the ‘Site Waste Management Plans – Guidance for Construction Contractors and Clients – which became mandatory under The Clean Neighbourhoods & Environment Act 2005 – section 54 in April 2008. This details a specific process which will be followed.

The Contractor will produce a SWMP for the LSSE works. This will include the following information:

- Responsibilities for waste management;
- the waste category and quantities of materials likely to be generated by the Works;
- proposal for recycling and/or re-use of such materials;
- the proposed method of storage, handling and transportation of waste;
- the authorised waste carrier details and their waste carrier registration number;
- the means and routes of disposal and the relevant consents;
- details of the site that the wastes is to be taken to;
- details of the environmental permit of exemption held by the disposal site where material is taken; and
- requirements for Waste Management Licenses and/or waste management licence exemptions.

The plan will also make provision for the following requirements.
The Leeds Railway Station (Southern Entrance) Order
Site Specific Construction Mitigation Measures

- Spoil arising from the works which is classed as ‘acceptable fill’ will, wherever practicable, be used in construction works. Materials such as kerbs etc will be recycled where practicable to minimise waste;
- the disposal of waste, including any surplus spoil, will be managed so far as is reasonably practicable to maximise the environmental and development benefits from the use of surplus material and reduce any adverse environmental effects of disposal;
- disposal sites will be identified by the Contractor in consultation with the Promoter and the Environment Agency;
- the Contractor must make provision for a suitable environmental specialist to identify any “special waste,” as defined in the Special Waste Regulations 1996 No. 972, so that they can be suitably managed and disposed of during the Works; and
- the Contractor will have due regard to the Landfill Directive which came into effect in July 2002.

The plan will include an audit programme to be undertaken by the Contractor to demonstrate compliance with statutory requirements.

Disposal sites will be identified in consultation with the relevant Local Planning Authorities, Defra, and the EA. The Contractor will maintain a regular dialogue with the landfill site operators to explore options for beneficial re-use of the excavated materials and uphold validity of the robust case for disposal of the excavated material.

9.3 Duty of Care

The Contractor will comply with the ‘duty of care’ regulations to protect the interests and safety of others from the potential effects of handling, storing, transporting and depositing of excavated materials and demolition/ construction wastes arising under the project. Such compliance will include the implementation and monitoring of accepted industry practices for the control of dust, mud and other debris on site. The guidance set out in Waste Management – The Duty of Care, Code of Practice (HMSO March 1996) will be followed in addition to the obligations under the duty of care regulations.

In accordance with Section 34 of the Environmental Protection Act the Contractor will ensure that waste generated on site will be stored in a safe and secure manner in order to prevent its escape or its handling by unauthorised persons.

The arrangements for handling hazardous wastes will be followed in the context of duty of care and the specific consignment note procedures applicable under the Hazardous Waste (England & Wales) Regulations 2005 (SI 2005 No.894) or any succeeding relevant legislation.

9.4 Asbestos

Appropriate precautions must be taken if materials containing asbestos are encountered. The Contractor will comply with the Control of Asbestos at Work Regulations 1987 (as amended 1999 and proposed amendment 2002, as appropriate) and will observe the exposure limits and measurement methods for asbestos which are set out in HSE Guidance Note EH 10 1988.

The Contractor will comply with HSE Guideline Note MS13 Asbestos 2005, the Health and Safety Commission Approved Code of Practice and Guidance Note Work with Asbestos Insulation and Asbestos Coating 1983 which describe in detail the precautions necessary when working with asbestos insulation etc. The approved Code includes detailed advice on waste disposal.
9.5 References

- CIRIA Guidance
- Asbestos (Licensing) Regulations 1983 and their amendments.
- HSE guidance MDHS100: Surveying, sampling and assessment of asbestos containing materials
10. Ecological Management

10.1 General Requirements

The Contractor will comply with the Network Rail Contract Requirements - Environment Section 9.5 Ecology and the relevant sections of the Consents and Commitments Register. The following mitigation measures set out in this section outline those identified during the EIA process and will be included in the environmental management plan produced by the contractor in accordance with the Network Rail Contract Requirements - Environment.

The Contractor will comply with the provisions of the Wildlife and Countryside Act 1981, as amended, and other relevant nature conservation legislation, policy and guidance. The following general principles will be applied where appropriate:

- habitat loss will be minimised by restricting the working width and extent of Worksite areas to a reasonably practicable minimum. Removal of habitats and enhancement works will be undertaken as appropriate, in consultation with Natural England;
- habitat disturbed during construction in areas not required for permanent works will be restored on completion of the Works, the details of which will be developed in consultation with the Nature Conservation advisers for Leeds City Council, the Co-Promoters and Natural England, as appropriate;
- professional ecological advice will be taken by the Contractor to ensure that mitigation measures are correctly carried out and to supervise the removal of habitat;
- impacts on adjacent wetland habitats and watercourses will be minimised through appropriate design of site drainage, and by use of special techniques to maintain existing drainage patterns at the site;
- care will be taken to avoid direct effects on any of the areas of nature conservation interest identified other than those affected by the Works, including Sites of Special Scientific Interest (SSSIs), Leeds Natural Areas, Local Nature Reserves (LNRs) and wildlife corridors. Such areas will be fenced to prevent habitat damage. Fencing to prevent habitat damage will be maintained and exclusion enforced by the Contractor’s Environmental Officer; and
- suitable precautions will be taken to prevent the entry of pollutants into any bodies of water and any such incidents will be reported to the Environment Agency and Natural England (Adjacent habitat will be fenced off and staff given awareness training, where appropriate.

The Contractor will consult with Network Rail and the Granary Wharf to ensure that construction works avoids damage to newly created habitats associated with Granary Wharf.

10.2 Management of Protected Species

In advance of any works, the Contractor will employ suitably qualified professionals to check all working areas and any land within 30 metres of the boundary of the working area (or 100m from any piling operations) for the presence of protected species (as defined by statute.) The mitigation measures are detailed in the ES as agreed in advance with the relevant authorities. These measures will be implemented by the Contractor and the Contractor will be responsible for obtaining any required licences from the relevant authority.

All bridges, other built structures, and mature and dead trees will be checked for roosting bats in accordance with Bat Conservation Trust (BCT) guidance and nesting Birds. Bats have already been identified and the appropriate licenses will be acquired by the contractor. Appropriate mitigation measures will be agreed with Natural England and/or Defra, as appropriate, and implemented. Wherever appropriate,
bat bricks will be incorporated into the design of any bridge reconstruction, replacement, or extension works to provide bat roosting habitat.

A suitably qualified person will carry out a pre-works check to ensure that no otters are within the LSSE scheme footprint. Standard advice in the Environment Agency’s Pollution Prevention Guidance Note 5: Works on, near or liable to affect watercourses, must be followed; and all potential foraging and commuting path must be left unobstructed throughout the period of works and operation.

The Contractor will adopt best practice working methodologies to reduce the construction noise, vibration and dust in order to reduce disturbance to foraging bats and nesting birds.

The Contractor will ensure that overland travelling routes for otters are maintained for the duration of the works. This includes the protection of the proposed enhancements for otters associated with the Granary Wharf development including:

- an artificial holt under the walkway, 60m from the viaduct and 20m from the existing footbridge;
- plants selected to provide year-round cover for otters;
- two haul-out ledges on the existing footbridge wall over the River Aire and over the Leeds and Liverpool Canal east of Canal Wharf Bridge; and
- an underground tunnel under the Granary Wharf development.

The Contractor will ensure that construction phase lighting is operated to minimise disturbance to fish, foraging bats and to otters. This will include, but not be limited to, the following measures, where feasible and safe:

- unidirectional lights;
- lights will not shine on the river where otters are known to travel;
- lights will be movement activated and of low intensity;
- security camera systems will use infra-red lighting or a passive detector system; and
- night time working will be avoided or minimised.

The Contractor will check all suitable habitat for badgers prior to construction to check that these itinerant animal have not moved in to the area since earlier surveys. If badgers are present, mitigation measures will be implemented in consultation with and under licence to Natural England.

If any protected species are identified during construction, appropriate mitigation measures will be agreed with Natural England, and implemented. Specific mitigation is detailed in the Ecology Section of the ES.

The Wildlife and Countryside Act 1981 protects nesting wild birds, their eggs and their nests. The Contractor will ensure that, where practicable, vegetation that needs to be removed will be cleared between September and February to avoid managing active birds’ nests. If this is not feasible, then vegetated areas will be checked for birds by a suitably qualified ecologist not more than 24 hours prior to clearance. If actively breeding birds are found at any time, the area will be cordoned off and left undisturbed until chicks have fledged.

10.3 Management of invasive species

Japanese Knotweed Fallopia japonica and Giant hogweed Heracleum mantegazzianum are known to be present along the LSSE. To comply with the Wildlife and Countryside Act 1981 the Contractor will implement a strategy during the construction phase of the development to ensure the control of, and
prevent the spread of, Japanese Knotweed Fallopia japonica and Giant hogweed Heracleum mantegazzianum within the site and in the wider surrounding area.

10.4 References

- Wildlife and Countryside Act 1981, as amended
- BS 5837 2005 Trees in Relation to Construction - Recommendations
11. Archaeology and Cultural Heritage

11.1 General Requirements

The Contractor will comply with the Network Rail Contract Requirements - Environment Section 9.3 Archaeology & Cultural Heritage and the relevant sections of the Consents and Commitments Register. The following mitigation measures set out in this section outline those identified during the EIA process and will be included in the environmental management plan produced by the contractor in accordance with the Network Rail Contract Requirements - Environment.

The Contractor will protect the existing archaeology and cultural heritage. This will include, but not be limited to:
- Identification of sites of potential archaeological or cultural heritage interest affected by the work, including consent requirements
- Minimising the disturbance of sites of archaeology or cultural heritage interest.
- Protecting sites of archaeology or cultural heritage interest from damage.

In the event of an unexpected discovery of archaeological remains on site, the Contractor will inform the Employer’s Representative immediately and protect the remains until agreement is reached with the Employer’s Representative and appropriate Statutory Bodies on the methods for continuance of the works.

11.2 Listed Buildings and Conservation Areas

The Contractor will comply with the requirements of the Planning (Listed Buildings and Conservation Areas) Act 1990 and will adhere to all necessary consents gained at the TWA stage for works to listed buildings or within a conservation area.

The Contractor will liaise with LCC’s Conservation Officer at an early stage on any works affecting, or likely to affect, listed buildings, conservation areas or unlisted buildings/structures within a conservation area in line with the Conservation Area Consent. Regard will be given to the need to ensure that the special character of the architectural or historical interest of listed buildings and conservation areas is protected or enhanced.

In advance of the demolition or alteration of listed and unlisted buildings and structures, a programme of building survey, photography and recording will be undertaken. The recording will be undertaken by a suitable qualified professional and in accordance with accepted professional standards: English Heritage Understanding Historic Buildings – a guide to good recording practice (2006) and a specification agreed in writing with the LCC Conservation Team and West Yorkshire Archaeology Advisory Service (WYAAS).

11.3 Water Lane Delivery and Barge Loading Site

The Contractor will dismantle the archway and low level wall at Water Lane and reinstate the structure in the final stages of construction. This will be undertaken in line with the Conservation Area Consent.

The Contractor will agree a method statement detailing the dismantling and reinstatement works with the Conservation Officer at LCC prior to commencing works on site.
11.4 Little Neville Street

The Contractor will remove and retain the basalt setts from Little Neville Street for reinstatement in the public realm improvements on Little Neville Street.

11.5 References

- Department for Communities and Local Government. 2001. Circular 01/01: Arrangements for handling heritage applications – notification and directions by the Secretary of State