



Chiltern Railways

**Project 0172205
Chiltern Railways (Bicester to
Oxford Improvements) Order**

Code of Construction Practice - Version 5

TWA/10/APP/01/Cherwell/ALL/C18/CoCP

April 2013

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Oxford Improvements) Order

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Version 5*

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Reference: TWA/10/APP/01/Cherwell/ALL/C18/CoCP

For and on behalf of
Environmental Resources Management

Approved by: Ian Gilder



Signed: 

Position: Technical Director

Date: 15th April 2013

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1 INTRODUCTION

1.1 THE SCHEME

1.1.1 Chiltern Railways, assisted by Network Rail (CR/NR) is proposing to improve the railway between Bicester and Oxford, with a new chord line to link to the London Marylebone to Birmingham Moor Street railway at Bicester.

1.1.2 The railway will be improved from just east of Bicester Town station to Oxford, including reinstatement of double track and the installation of new signalling and safety systems. Bicester Town and Islip stations will be rebuilt and additional platforms provided at Oxford. A new station will be constructed at Oxford Parkway (previously referred to as Water Eaton Parkway) to serve Kidlington and North Oxford.

1.1.3 A Transport and Works Act Order (TWAO) application (to construct the Scheme) was submitted to the Secretary of State for Transport in January 2010. Public Inquiries were held in November 2010 and May 2012. The Chiltern Railways (Bicester to Oxford Improvements) Order (the Order) was approved by the Secretary of State on 17 October 2012. The Scheme will create a double track railway from the new junction with the London Marylebone to Birmingham Moor Street railway, in Bicester, to Oxford. The completed scheme will allow the operation of passenger services between London and Oxford in addition to existing freight services and provides additional capacity for services forming part of the East-West Rail (EWR) scheme, which will link Oxford to Milton Keynes, Bedford and beyond.

1.1.4 This Code of Construction Practice (CoCP) has been prepared by Environmental Resources Management Ltd (ERM) on behalf of CR/NR and has been updated as Version 5, following approval of the Order. This CoCP refers to the Environmental Statement for the Scheme, but where there is any conflict between the two documents, the CoCP prevails.

1.1.5 The CoCP should also be read in conjunction with the Planning Direction and Planning Conditions. The Planning Direction, granting deemed planning permission for the Scheme, was approved by the Secretary of State on 23 October 2012.

1.1.6 Under Planning Condition 18, the CoCP has to be approved by both local planning authorities (LPAs), that is, Cherwell District Council and Oxford City Council, in consultation with the Environment Agency (EA).

Version 2, the revised draft CoCP, was provided to the LPAs and the EA, in October 2010, before the first TWAO Inquiry. The LPAs and the EA endorsed its content. Version 5 incorporates amendments required by the Secretary of State in Planning

Condition 18 and other, generally minor, amendments reflecting changes in the arrangements for Scheme delivery since the previous versions.

1.2 *PURPOSE AND AIMS OF THE CODE OF CONSTRUCTION PRACTICE*

1.2.1 CR/NR will employ a Main Contractor, Secondary Contractors and sub-contractors ('the Contractor') to carry out construction of the Scheme. The purpose of this CoCP is to define minimum standards of construction practice acceptable to CR/NR, and required of the Contractor as a responsible employer. These measures are intended to protect the environment, amenity and safety of local residents, businesses, the general public and the surroundings in the vicinity of proposed railway works.

1.2.2 The CoCP covers specific legislative obligations as well as general requirements and compliance with current standards. It also provides for those mitigation measures identified in the Environmental Statement and not secured by other means. The provisions of the CoCP will be incorporated into the contract(s) for the construction of the Scheme. The Contractor and any sub-contractors implementing any part of the Scheme will be required to comply fully with the terms of the Code.

1.2.3 In this document, 'construction' includes all site preparation, demolition, materials delivery, spoil disposal, materials and waste removal and all engineering, construction and commissioning activities. This CoCP will apply throughout the construction, testing and commissioning period of the Scheme. Provision will be made for auditing compliance and rectifying any breaches of the CoCP during construction.

1.2.4 The CoCP is intended to assure residents and other stakeholders that impacts to the environment are being taken into account according to best practice. Overall, it aims to mitigate nuisance to the public and to safeguard the environment.

1.2.5 This CoCP does not apply to routine maintenance work undertaken on the existing mainline railways in or between Oxford and Bicester by Network Rail or its contractors. This routine maintenance is undertaken in accordance with Network Rail's Environmental Standards and other instructions relating to track access and works. Network Rail operates a Helpline and when any significant Network Rail works are being undertaken, in Oxford or Bicester, appropriate notice of these works is given to residents, under NR procedures.

1.3 *COMPLIANCE WITH LEGISLATION, STANDARDS AND GUIDANCE*

1.3.1 There are many Codes, Standards, Regulations and Acts of Parliament that cover environmental and related matters. These are referred to where relevant in this CoCP. Notwithstanding these references, compliance with this CoCP will not absolve the Contractor or its sub-contractors from compliance with all legislative requirements applicable at the time of construction activities. Wherever this Code

makes reference to legislation, standards or codes it is the Contractor's responsibility to ensure that the current versions are used at all times.

1.4 THE SITE

- 1.4.1 The 'site', for the purpose of this CoCP, is defined as the land within the Limits of Land to be Acquired or Used and the Limits of Deviation shown on the approved Deposited Plans and Sections relating to the Scheme. The 'site' also includes any other land adjoining the Scheme which is used by the Contractor to assist in constructing the Scheme.

1.5 SITE ENVIRONMENTAL MANAGEMENT PLAN

- 1.5.1 The Contractor may also be required to produce one or more Site Environmental Management Plans (SEMP) for approval by CR/NR. The SEMPs will set out any additional environmental measures to be adopted to deliver the general requirements of this CoCP.

1.6 RESPONSIBILITIES

Chiltern Railways and Network Rail

- 1.6.1 A senior staff member or consultant will be nominated by CR/NR and designated to supervise construction activities on site. They will be responsible for ensuring that the CoCP is adhered to and will hold regular meetings with the Contractor and the relevant local authorities.

The Contractor

- 1.6.2 The Contractor is responsible for establishing and maintaining contact with the relevant local authority and local residents and keeping them informed of construction matters likely to affect them in a timely manner. More detail of communication arrangements are provided in *Section 2*. Any requirements in this CoCP that apply to the Main Contractor also apply to any Secondary Contractor or sub-contractor, including suppliers where bound by contract.
- 1.6.3 The Contractor must demonstrate to CR/NR and the relevant statutory authorities that management, monitoring, auditing and training procedures that will be in place to ensure compliance with the CoCP via the SEMPs or otherwise. The SEMPs will set out the specific roles and responsibilities of the Contractor's personnel in managing, monitoring and controlling sub-contractors.

Relevant Local Authority and Highway Authority

- 1.6.4 The references in this CoCP to the 'relevant local authority' or the 'local planning authority' are to the Cherwell District Council, for works or activities in its area, or

the Oxford City Council, for works or activities in its area. The references to the 'highway authority' are, for the entire route, to Oxfordshire County Council.

1.7 **STRUCTURE OF THIS DOCUMENT**

1.7.1 This document is set out in sections relating to the topics of environmental assessment addressed by the Environmental Impact Assessment (EIA) and presented in the Environmental Statement that accompanied the application for the Order.

1.7.2 The remainder of the CoCP is organised as follows:

Section 2: describes the public information and complaints procedures.

Section 3: sets out the normal hours of working to be adopted for construction works.

Section 4: sets out the site arrangements to be followed by the Contractor.

Sections 5 to 11: set out the minimum standards of environmental practice for the individual topics addressed in the Environmental Statement, to be followed by the Contractor, as follows:

Section 5 Traffic and Transport;

Section 6 Noise and Vibration;

Section 7 Dust and Air Pollution;

Section 8 Disposal of Waste and Contaminated Materials;

Section 9 Protection of the Water Environment;

Section 10 Ecology; and

Section 11 Archaeology and Cultural Heritage.

2 *PUBLIC INFORMATION AND COMPLAINTS*

2.1 *LIAISON OFFICER*

2.1.1 A Liaison Officer shall be named by the Contractor to manage all public relations, information and press related matters in cooperation with CR/NR. The Liaison Officer will deal with the local authority, other statutory bodies, members of the public, press and the media on relevant matters relating to the construction works. The contact details for the Liaison Officer will be made publicly available on a website, in newsletters, as set out below, and through site notices.

2.2 *WEBSITE*

2.2.1 A Scheme website shall be provided and maintained for the duration of the construction programme, to provide up to date information on the progress of the works and the locations affected by construction. The website will also have provision for interested parties to submit queries and feedback with regard to construction works.

2.3 *NEWSLETTER*

2.3.1 A newsletter shall be published by the Contractor detailing works to be undertaken in the forthcoming period, outlining with appropriate maps and diagrams any alterations to road traffic circulation required by the works and any other issues considered by the Contractor or CR/NR to be important. This newsletter will be provided free of charge and distributed by email to local and national newspapers and other news media, the local authorities, the highway authority, the emergency services and to any other persons or organisations that have previously requested receipt of the newsletter. The newsletter will be placed on the Scheme website and made available in hard copy, if requested. The telephone number and the website address of a Construction Hotline are to be provided in the newsletter.

2.4 *CONSTRUCTION HOTLINE*

2.4.1 A 'Construction Hotline' is to be provided by the Contractor, and maintained for the duration of the works, to deal with any complaints received in connection with the construction of the railway works. The Hotline is to be answered by the Liaison Officer, a deputy or by another designated competent operator between the hours of 0700 and one hour after construction is terminated for the day, on every day when construction work is being undertaken. Outside these hours an automated call recording service will be provided. The telephone number and the website address of the Hotline will be provided through the press and the newsletter and be clearly displayed on hoardings around and in the vicinity of every worksite.

2.5 *COMPLAINTS LOG*

- 2.5.1 All complaints received, whether via the Construction Hotline or otherwise, must be registered in a suitable Complaints Log and remedial action instigated within 24 hours by the Contractor. The remedial action taken is to be logged and a follow up letter or email sent to the complainant within 48 hours of the initial complaint being received. All other comments, questions, further complaints, responses and actions taken are to be logged in writing in the Complaints Log, together with a daily report on the progress of any actions. This Complaints Log is to be inspected and signed daily by a nominated senior representative of the Contractor and will be counter signed by the Contractor's Project Director, or equivalent, at least once per week.
- 2.5.2 A copy of the Complaints Log is to be forwarded to CR/NR once per week. The master Log is to be available for CR/NR to inspect at any other time during normal working hours. A copy of the up to date Complaints Log is to be made available on the website.

2.6 *STAFF IDENTIFICATION*

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

- 3.1.1 Normal hours of working for construction of the Scheme will be Monday to Friday 0700 to 1900 hours and Saturday 0800 to 1300, unless otherwise agreed by the relevant local authority, and any works outside these hours will be subject to the requirement to obtain a consent under section 61 of the Control of Pollution Act 1974 from the relevant Local Authority, unless authorised under *paragraph 3.1.2*.
- 3.1.2 The normal hours of work set out in *paragraph 3.1.1* do not apply to: emergency works; to equipment that is required to operate continuously; or to works undertaken in normal railway possessions.
- 3.1.3 In certain circumstances during construction, it will be necessary for other works to take place outside normal working hours, as defined in *paragraph 3.1.1*. Noise control for works outside normal working hours will be agreed between the Contractor and the relevant local authority by means of a section 61 consent. Section 61 consents are defined by the Control of Pollution Act 1974 and are enforceable agreements between contractors and local authorities which define working hours and methods to ensure that the 'best practicable means' to control noise and vibration are adopted on construction sites. *Section 6* gives further details.
- 3.1.4 Where 'out of hours' working has been authorised under a section 61 consent and has the potential to disturb occupiers of nearby residential and business premises, those occupiers must be notified at least seven days in advance of those works, in line with relevant best practice and legislation. Notification must be provided with 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. Contact details of the Construction Hotline must also be provided on the notice should occupiers require further information.
- 3.1.5 The relevant local authority is to be informed of any emergency works outside normal working hours, as soon as possible after these have taken place.

4.1 SITE HOUSEKEEPING

4.1.1 A good housekeeping policy shall be applied by the Contractor at all times. This must include, but not necessarily be limited to, the following requirements:

1. All working areas must be kept in a clean and tidy condition.
2. All working areas are to be no-smoking. Specific areas within the worksites shall be designated as smoking areas and shall be equipped with containers for smoking waste. These are to be located at the boundary of working areas adjacent to neighbouring land but not near residential properties.
3. Open fires are prohibited at all times.
4. All necessary measures are to be taken to minimise the risk of fire and the Contractor shall comply with the requirements of the local fire authority.
5. Radios (other than two-way radios used for the purposes of communication related to the works) and other forms of audio equipment are not to be operated on any work site.
6. Waste susceptible to spreading by wind or liable to cause litter must be stored in enclosed containers.
7. Rubbish must be removed at frequent intervals and the site kept clean and tidy.
8. Hoardings and boundary fences must be frequently inspected, repaired and repainted as necessary.
9. Adequate toilet facilities are to be provided for all site staff.
10. Food waste is to be removed frequently.
11. Adequate provision will be made at site access points to prevent construction debris contaminating the public highway.

4.1.2 All working areas must be inspected by the Contractor at least fortnightly and a written report on compliance with *Section 4.1* of this Code shall be provided to CR/NR. A nominated representative of CR/NR 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 must be given to inspectors and the Contractor must give inspectors all reasonable assistance during site inspection.

4.2 *FENCING AND HOARDINGS*

- 4.2.1 All working areas must be securely fenced and signed to prevent members of the public and livestock from gaining access to working areas or any 'live' railway in accordance with Planning Condition 6.
- 4.2.2 Fencing and hoardings around working areas will be selected to suit the location but may be:
- the existing railway boundary fence, where possible; or
 - a post and wire or wire mesh fence, where sufficient to provide safety and security; or
 - a 2.4m minimum height, plywood faced, timber framed boundary hoarding, of a surface density of not less than 7 kg/m² or other hoarding providing equivalent security and noise attenuation, in the vicinity of noise sensitive receptors (as defined in the Environmental Statement and in *Section 6* of this document); or
 - other hoarding designs where a particular appearance or acoustic performance is considered to be required and has been agreed with the relevant local authority.
- 4.2.3 The location and design of site boundary fences, hoarding and temporary structures on the public highway must permit adequate visibility at junctions and proper forward visibility along the highways in accordance with Department for Transport advice and the requirements of the highway authority.
- 4.2.4 Where hoardings are provided, they shall be painted on the side facing away from the Site in a colour and style to be approved by CR/NR and include identification of the Scheme and contact information.
- 4.2.5 All hoardings and fences must be maintained in a neat and tidy condition.
- 4.2.6 No advertisement, notices, etc. including illicit bill or fly posting is permitted on any fence or hoarding. All graffiti, flyposting or defacement to the hoardings must be removed by the Contractor and made good or obscured within 48 hours of notification of their discovery.
- 4.2.7 All temporary fencing and hoarding is to be removed as soon as reasonably practicable after completion of works at that location.

4.3 *LIGHTING AND VISUAL INTRUSION*

- 4.3.1 Construction buildings, equipment and lighting must be sited so as to minimise visual intrusion and light spillage at nearby residential properties, in so far as is consistent with the safe and efficient operation of each working area.
- 4.3.2 Site lighting must be positioned and directed to minimise nuisance to nearby residents and to minimise distraction or confusion to passing drivers on the railway or adjoining public highways.
- 4.3.3 So far as is practicable, all power to temporary traffic signals, lighting etc. is to be taken from mains supplies rather than from portable generators. Where portable generators are used, industry best practice must be followed to minimise noise and pollution from such generators.
- 4.3.4 The method of implementing the works must comply with the Institute of Lighting Engineers Guidance Notes on Reduction of Light Pollution (2005) in so far as is reasonably practicable and applicable to the construction works.

4.4 *ACCESS AND LOADING*

- 4.4.1 Lorries must enter and exit any work site onto the public highway or area used by the public in a forward direction, except where space restrictions do not permit this. If the reversing of vehicles into an area used by the public is necessary, then the movement shall be properly controlled by a banksman observing the rear of the vehicle.
- 4.4.2 All loading and unloading of vehicles is to take place off the public highway as far as is reasonably practicable.

4.5 *SECURITY*

- 4.5.1 Adequate security must be maintained by the Contractor to protect the public and prevent unauthorised entry to the site. Site gates must be closed and locked when there is no site activity and all other proper security measures must be implemented. Where site security cameras are used they must be placed in locations which will not infringe upon the privacy of nearby local residents.

4.6 *LIVING ACCOMMODATION*

- 4.6.1 No living accommodation shall be provided within the site, except with the approval of CR/NR. Mess rooms, locker rooms, toilets and showers will be permitted.

4.7 CLEARANCE AND REINSTATEMENT OF LAND ON COMPLETION

4.7.1 All land occupied by the Contractor, including working areas and accesses, must be cleared and reinstated as work proceeds and when no longer required for the works. The requirements for reinstatement are set out in Planning Condition 17 and Article 29(4) of the Order.

4.7.2 All surplus soil and materials, temporary roads and hardstandings, plant, sheds, offices and temporary fencing must be removed and the surface of the ground restored as near as practicable to its original condition, or to such condition as has previously been agreed with the landowner to whom it is to be returned.

4.8 PEST CONTROL

4.8.1 The risk of infestation by pests or vermin will be minimised by adequate arrangements for the disposal of food waste or other material attractive to pests.

4.9 EMERGENCY CONTACTS AND PROCEDURES

Emergency Contacts Procedure

4.9.1 An Emergency Contacts Procedure shall be maintained for each working area which shall be displayed prominently at each working area.

4.9.2 The Procedure is to include emergency phone numbers and the method of notifying the relevant authorities, for use by the Contractor and CR/NR. Copies of the Procedure must be issued to the relevant local authority, Oxfordshire County Council, the Fire Service, the Police, the Ambulance Service and any other relevant statutory authorities.

Safety

4.9.3 All site work shall be carried out in accordance with current railway standards.

Contaminated Materials

4.9.4 At those locations where contaminated material is encountered, the Contractor shall ensure that a Workers' Safety Information Sheet is prominently displayed in rest/mess rooms and wash rooms covering hygiene, work practices, clothing requirements etc.

4.9.5 Clear provisions concerning disposal of contaminated materials are described in *Section 8*.

Crane Arcs

- 4.9.6 Plant lifting arcs must be confined within the site boundaries avoiding nuisance to nearby residents or road users.

Use of Explosives

- 4.9.7 The use of explosives is not permitted except when the use of Railway Fog Signals (RFS) is required and in other exceptional circumstances. A RFS is a small explosive device which is placed on the running surface of a rail such that any rail-mounted vehicle passing over it would cause it to explode, and in so doing alert the driver of the vehicle to a hazard on the line ahead.

4.10 PROTECTION OF EXISTING BUILDINGS AND INSTALLATIONS

Information

- 4.10.1 Investigations and all appropriate actions shall be taken by the Contractor concerning existing foundations, buildings, structures, walls, roads, sewers, cables and other services, apparatus and installations.

Safeguarding

- 4.10.2 All buildings, structures, works, services, or installations must be safeguarded by the Contractor from harm, disturbance or deterioration during the construction period. All necessary measures required for the support and protection of all buildings, structures, pipes, cables, sewers, roads, railways and other apparatus during the construction period shall be taken.

Structural Damage Risk Assessments before Construction of Works

- 4.10.3 Before commencing development in each defined Section, a schedule of buildings, structures and utilities that might be adversely affected by the construction work is to be prepared by the Contractor. The schedule is, in particular, to identify those properties that may be at risk of damage from ground movement, settlement or vibration arising from the construction, based upon the final design and method of construction for the railway works. The content of that schedule must be agreed with CR/NR and submitted to the local authority for approval, before works commence in that Section, in accordance with Planning Condition 18(b).
- 4.10.4 In joint names with the property owner, an independent firm of Chartered Surveyors or Engineers must be appointed to prepare a pre-construction defects survey of each building, structure or utility which is identified in the schedule, defined in *paragraph 4.10.3*, as being at risk of damage. Such surveys shall normally be carried out to a scope and at times to be agreed with the property owner concerned.

- 4.10.5 No later than two weeks before the commencement of the works in proximity to a property identified in the schedule, a copy of the pre-construction defects survey for that property shall be provided to CR/NR and to the property owner concerned.

Defects Survey after Completion of Works

- 4.10.6 After the construction works have been completed, and at any time up to one year after the opening of the adjacent section of the railway for passenger services, the owner of any property covered by a pre-construction defects survey may, upon providing CR/NR with reasonable evidence of damage, request that a post-construction defects survey be undertaken. This shall take the same form as the pre-construction defects survey and shall be undertaken by the same firm of Chartered Surveyors or Engineers, or agreed replacement. Within two months of a request for a post-construction defects survey, a copy shall be provided to CR/NR and the property owner concerned.

5.1 GENERAL MEASURES TO REDUCE CONSTRUCTION TRAFFIC IMPACTS*Safety Measures*

- 5.1.1 Such traffic signs, road markings, lamps, barriers and traffic control signals and such other measures as are required for the construction must be erected and then maintained in accordance with the recommendations contained in the Traffic Signs Regulations and General Directions (2002) and subject to the approval of the highway authority.
- 5.1.2 No work that affects the public highway may be commenced until all traffic safety measures required for the work are fully operational.
- 5.1.3 All traffic signals including temporary signals used at roadworks must be type approved before they can legally be installed on public roads. Portable traffic signals must also comply with the current requirements of Regulation 35 of the Traffic Signs Regulations, which prescribe the size, colour and type of traffic signals.
- 5.1.4 All traffic signs, road markings, lamps, barriers and traffic control signals must be kept clean and legible at all times and be positioned, repositioned, covered or removed as required by the progress of the works and subject to the approval of the highway authority.

Highway Traffic Management

- 5.1.5 In order to construct the Scheme, it will be necessary to close or divert certain specified highways and private rights of way temporarily during the construction period.
- 5.1.6 In relation to public highways, the Contractor must follow the temporary closure procedures set out in Schedule D of the Chiltern Railways/Oxfordshire County Council Agreement, giving such notice to residents and other users as is required by the County Council.
- 5.1.7 Arrangements must be made with the highway authority for breaking up, closing or otherwise interfering with any street or footpath to which the public has access, so as to cause as little interference with the traffic in that street or footpath during construction of the railway as is reasonably practicable.
- 5.1.8 Unless otherwise provided for in the Order, or as subsequently agreed with the highway authority and those with private rights of way, all public and private roads and footpaths that cross the construction worksites and all bridges through or over which they pass must be kept open to traffic to adequate, if not full, widths and heights at all times during the construction period.

- 5.1.9 Generally, where the Order requires it, permanent diversions are to be provided where highways are to be permanently stopped up. In the case of private rights of way, e.g. farm crossings, some diversion are to be provided. In other cases, appropriate replacement access, e.g. to severed farm holdings, is being provided. The standard of construction and lighting must be suitable in all respects for the class or classes of traffic using the existing ways and the widths of the diversions must not be less than that of the existing way unless otherwise agreed with the highway authority and /or the owner of the private right of way.
- 5.1.10 Where temporary diversions for vehicles or pedestrians are to be provided, these must be provided in advance of any interference with the existing highways or accesses and be maintained to provide adequately for the traffic that will use them.
- 5.1.11 The Contractor must ensure that all statutory notices relating to permanent highway closures or diversions are properly displayed at appropriate locations, as agreed with the highway authority.

Works Affecting Public Highways

- 5.1.12 Any works to take place within the public highway shall be undertaken in accordance with the procedures for notification and prior approval set out in the Chiltern Railways/Oxfordshire County Council Agreement.
- 5.1.13 Where existing public highways are to be closed or restricted temporarily, reasonable access must be provided for people, including those with disabilities, wheelchairs and pushchairs, in accordance with the following requirements:
1. Any temporary footways and carriageways must be constructed to a reasonable standard and have uniform surfaces. There should be no steps and any gradient on footways should be no steeper than 1 in 12. In the event that steps are unavoidable, an alternative route must be identified for people with mobility impairments or disabilities.
 2. Ramps must be provided at all junctions of footways with carriageways. Ramps should not be steeper than 1 in 12 and the base of the ramp must be flush with the carriageway.
 3. All temporary footways and ramps must be surfaced in non-slip materials to the satisfaction of the highway authority.
 4. Existing footway widths must be maintained, wherever reasonably practicable.
 5. Clear signing must be provided at all times for pedestrian routes with the minimum number of changes to temporary layouts in order to reduce confusion. Advance warning should, if possible, indicate alternative wheelchair-accessible routes.

6. The signing and guarding of any works must follow the requirements of Chapter 8 of the Traffic Signs Manual (second edition, 2009).
7. Headroom clearance over footways is to be a minimum of 2.3m, with the exception of the Railway Bridge across the Rewley Abbey Stream, where the existing clearance is to be maintained. A horizontal clearance of 0.6m shall be provided from the operational carriageway, where practicable, for any hoarding, to avoid fouling by vehicles. The minimum headroom clearance to any temporary structure projecting over a highway used by heavy goods vehicles is to be no less than 5.4 m, unless agreed with the highway authority.
8. Any pedestrian routes diverted onto a carriageway used by vehicles must be clearly defined by continuous barriers and constructed to the reasonable requirements of the highway authority.
9. As far as is reasonably practicable, all footways and carriageways must be kept free from mud and other loose materials arising from the works.
10. Lorries being reversed into or out of the site will only be allowed to traverse crossovers where there may be pedestrians under the control of a competent banksman.
11. After completion of the works, all materials arising from the works must be cleared from the highway leaving it in a clean and tidy condition, to the reasonable requirements of the highway authority.

5.1.14 Every reasonable precaution must be taken to prevent construction operations from damaging public highways, including footpaths and cycleways, in the vicinity of the works. Any damage to highways caused by the activities of the Contractor must be made good.

5.1.15 A pre-construction inspection shall be carried out and photographs taken of the public roads, footpaths and cycle ways in the vicinity of the site. The inspection shall be undertaken in the presence of highway officers if required by the highway authority. A report of the results of that inspection must be agreed with the highway authority. The report must establish the general highway conditions, within and in the vicinity of the site, and the standard of reinstatement required.

5.1.16 All such works as are necessary to maintain the roads and footpaths in the vicinity of the site in a serviceable condition must be carried out to the approval of the highway authority.

Maintaining Access across the Site and to Frontage Properties

5.1.17 No highway or private right of way is to be temporarily closed until immediately before the land concerned is required. The construction of the works shall follow in the area of a temporary closure expeditiously and be carried out efficiently and in a

continuous manner to ensure that all temporary closures are re-opened as quickly as is reasonably possible.

- 5.1.18 Any existing right of way across the whole or part of the site and public and private access to adjoining frontage properties must be maintained in a safe condition and, if necessary, reinstated to a standard not less than that at the commencement of the works. Any temporary guard rails, fences, gates, lights, bridges, paving's, steps, handrails, etc., needed shall be of such size, strength and construction as are adequate for their purpose and are to be maintained.
- 5.1.19 In carrying out the works, all reasonable precautions must be taken by the Contractor to prevent or minimise any disturbance or inconvenience to the owners, tenants or occupiers of adjacent properties, and to the public generally. The owners, tenants or occupiers of affected properties are to be informed, in writing, of the works to be undertaken, their planned duration, highway and access closures and alternative access routes. Notice must be given in writing and by locally posted public notices at least one week prior to the closure.
- 5.1.20 All necessary assistance to occupiers of properties affected by the works must be given by the Contractor to enable occupiers to get materials or goods into or out of their premises during their normal working hours.

Avoidance of Nuisance

Mud on Roads

- 5.1.21 Measures must be taken by the Contractor to minimise the deposit of mud on public highways or other roads. These shall include appropriate provisions, such as:
- the provision of easily cleaned hardstandings for vehicles entering, parking and leaving the site. This also serves to minimise dust nuisance;
 - the provision of wheel washing and lorry jet washing facilities including, where practicable, mechanical wheel spinners;
 - the use of an approved mechanical road sweeper to remove any mud or debris deposited by site vehicles on roads and hardstanding within or in the vicinity of the site. The road sweeper is to be readily available whenever the need for cleaning arises and be properly used and maintained;
 - the adequate sheeting of each lorry load of loose materials removed from or brought into the site to prevent material falling off during its journey; and
 - measures to ensure that mud and detritus do not enter highway drains or watercourses.

Dust

5.1.22 Measures must be taken to avoid creating a dust nuisance, including the following practices in addition to those set out in *Section 7.1*:

- the provision of easily cleaned hardstanding areas for vehicles;
- keeping the hard surfaces of heavily used areas clean by regular brushing and water spraying;
- the adequate sheeting of all vehicles carrying spoil and other dusty materials;
- the regular damping down and cleaning of unsurfaced haul routes and verges where these are located close to sensitive locations; and
- establishing and enforcing appropriate speed limits over all unmade surfaces.

5.1.23 Where specific dust suppression mitigation is required for particular tasks, e.g. ballast lifting and replacement, this must be provided and used.

Fly-tipping and Deposit of Materials

5.1.24 Fly-tipping is not permitted. Excavated materials and waste shall only be deposited at licensed tips or on sites designated by CR/NR as suitable. Deposit of material must take place in accordance with the requirements of the Environment Agency under the Landfill (England and Wales) Regulations 2002 (as amended).

5.1.25 To ensure the correct deposit of excavated materials and waste and to prevent the occurrence of fly-tipping, a ticket system is to be operated by the Contractor for all excavated materials and waste removed from site. The Contractor must set up a numbered ticket system for each worksite in order to confirm that each load is deposited at previously approved locations.

Vehicle Emissions

Compliance with Vehicle Emission Standards

5.1.26 Vehicle emissions are regulated through the Road Vehicles (Construction and Use) Regulations 1986 (as amended), and the Motor Vehicles (Type Approval) (Great Britain) Regulations 1984 made under the Road Traffic Act 1988, and the Non-Road Mobile Machinery (Emissions of Gaseous and Particulate Pollutants)(Amendment) Regulations 2004 (SI2004 No. 2034) . Further amendments (in 1990, 1992, 1993, 1997 and 2000) implement the European Directives on vehicle emissions known as the EURO standards. The EURO standards set emission limits for several pollutants from different types of vehicles.

5.1.27 Construction vehicles used on the site must comply with relevant EURO standards. Drivers will also be required to:

1. Switch off their vehicle's engine when stationary and reasonably practicable to prevent exhaust emissions (and noise). An authorised person may request a driver to switch off their engine if they believe a stationary idling offence (under the Road Vehicles (Construction and Use) Regulations 1986 (SI 1986/1806) is being committed. Failure to comply is an offence.
2. Keep engines in tune and catalysts working efficiently.

Site Access and Lorry Movements

Site Access

- 5.1.28 Lorries must enter and exit the site in a forward direction except in special cases where space restriction does not permit this. In such cases, the Contractor must provide a competent banksman. Any other conditions imposed by the highway authority must be implemented.
- 5.1.29 All access from the site onto the highway must be of sufficient width to accommodate two-way traffic, wherever practicable. The highway authority must be consulted about any temporary access arrangements, particularly from a road safety point of view, prior to construction of that access.
- 5.1.30 Unless agreed otherwise by the highway authority, reasonable provision of traffic signs in accordance with the Traffic Signs Regulations and General Directions 2002 must be provided for each vehicle access to the public highway to include advanced warning and 'Give Way' signs.
- 5.1.31 The precise location of each sign is to be decided by the Contractor, to the standards required by the highway authority.

Lorry Movements

- 5.1.32 HGVs delivering or removing equipment or materials from the site shall use only the access routes from the Principal Road Network (PRN) defined in *Table 5.1*. In the event that an additional route is required or an amendment to a route set out in *Table 5.1* is required, the Contractor must notify the local planning authority, in advance, that an additional or amended route is required and the reasons for that addition or amendment. The routes are shown on Figures 5a to 5d attached here as *Annex 1*.

Table 5.1 *Approved Access Routes for Heavy Goods Vehicles from Principal Road Network (PRN) to the Site*

Location	Access from PRN	Site Access	Restrictions
A. Bicester	A4421 Charbridge Lane	Bicester Chord	-
B. Bicester	A4421 Charbridge Lane via Gavray Drive	Gavray Junction	-
C. Bicester	A4421 via Launton Road	Tubbs Lane Crossing	Only to be used for works at Tubbs Lane Crossing
D. Bicester	A41 via London Road	Bicester Town Station (D1) and Talisman Business Park (D2)	-
E. Bicester	A41 London Road roundabout	Langford Park Farm via MoD gate	-
F. Langford Lane	A41 S from Bicester via junction at Bicester Avenue Shopping Centre. A41 W from Langford Lane via Wendlebury Interchange	Langford Lane Crossing	No HGVs through Wendlebury village. Also to be used for replacement Langford Lane and Bridge
G. Langford Lane to replacement Overbridge	A41 S from Wendlebury Interchange	Langford lane Bridge	
H. Holt's Farm	A41 via Ambrosden and Merton and Mansmoor Lane	Holt's Farm	-
I. Oddington Lane	A41 via Ambrosden, Merton and Oddington Lane	Oddington Crossing	-
J. Islip Station	A34 via B4027 Bletchingdon Road and Islip Station Approach	Islip Station	-
K. Mill Lane, Islip	A34 from N via Kidlington Road A34 from S via Peartree Interchange and A4260 Mill Lane	Mill Lane Crossing	Only to be used for works in vicinity of Mill Lane Crossing.
L. Water Eaton, No.5 Crossing	A34 from N via A4260 and Water Eaton Lane, Gosford A34 from S via Peartree Interchange and A4260	Water Eaton No.5 Crossing	-
M. Water Eaton (Oxford Parkway Station)	A34 from N via B4260 and A4165	Oxford Parkway Station	-

	Oxford/ Banbury Road A34 from S via Peartree Interchange, A44, A4260 and A4165 Oxford/ Banbury Road		
N. Peartree	A34/ A44 Peartree Interchange via access road to Peartree Services	Peartree Services	-
O. Wolvercote	A44/ A40 Wolvercote Roundabout.	Wolvercot Tunnel and First Turn Bridge	Only to be used for tunnel and bridge works inaccessible via the railway.
P. Oxford Station	A34 Botley Interchange via A420 Botley Road	Oxford Station	Only to be used for station buildings works.

5.1.33 The Contractor must ensure that all vehicle operators delivering to, or removing plant and materials from, the site are aware of these approved routes and that these are used. These routes must be signed from the PRN. HGVs must only arrive or leave the site during normal working hours, unless the local planning authority has been notified that out of hours movements are necessary.

5.1.34 As far as reasonably practicable, measures must be taken by the Contractor to ensure that delivery or other vehicles do not park on the highway in the vicinity of the site.

Parking

5.1.35 Locations for parking provision for road vehicles within the site are to be defined by the Contractor, where necessary, prior to the commencement of works within 200m of residential property.

5.1.36 No overnight parking of site or construction vehicles within 200m of residential property, outside those defined locations, may take place except where the delivery or removal of materials is taking place at that location or with the prior agreement with the local authority.

Existing Street Furniture and Trees

5.1.37 No street furniture, other highway equipment or Statutory Undertakers' equipment or trees in the vicinity of the site, but outside the land which the Contractor is authorised to use, shall be unnecessarily disturbed or altered by the works. Any damage to street furniture or equipment as a consequence of construction activities shall be reported to CR/NR and the appropriate owner or authority (unless the appropriate owner cannot be identified) immediately on discovery of the damage. Any damage must be replaced or made good as soon as practicably possible and to the reasonable satisfaction of the owner of the street furniture or other equipment.

5.1.38 Any street furniture or other equipment outside the land which the Contractor is authorised to use, but which is required to be moved in order to gain access to the site shall be removed and reinstated/replaced as appropriate, on completion of the works, subject to the prior approval of the owner of such equipment.

6 NOISE AND VIBRATION

6.1 NOISE CONTROL

- 6.1.1 Best practicable means shall be employed to minimise disturbance from noise.
- 6.1.2 A consent under section 61 of the Control of Pollution Act 1974 must be obtained from the relevant local authority where there is potential noise disturbance from works to be undertaken outside normal working hours. These should be arranged for specific sections of the works as and when needed.
- 6.1.3 The Contractor must submit any section 61 consent application prior to commencement of the relevant work and preferably at least four weeks in advance. Much of the construction for the Scheme will take place during the daytime but weekend and night time working will be unavoidable for certain bridge works, works within Wolvercot tunnel and where the Scheme interfaces with the rest of the railway network (i.e. in parts of Oxford and Bicester). The durations of any night-time and week-end working outside of core hours must be agreed as part of any section 61 consent.
- 6.1.4 The requirement to secure section 61 consent does not apply to emergency works or to equipment required to operate continuously or to works undertaken on the railway under ordinary railway possessions.
- 6.1.5 Unless agreed otherwise by the local authority, the following requirements must be met wherever works are taking place:
1. Best practicable means shall be used to ensure, as far as possible, that at any occupied dwelling or other building used for residential purposes, the total LAeq noise level (from all sources including construction noise) does not normally exceed the pre-construction level by 5 dB or more subject to lower cut-off free-field noise levels, generated by construction plant and equipment alone as follows:

Table 6.1 *Noise Limits*

Weekday	Working Hours	Number of Hours	Noise Level
Monday to Friday	0700-1900	12	65dB LAeq
Monday to Friday	1900-2300	4	55dB LAeq
Saturday	0700-1300	6	65dB LAeq
Saturday	1300-2300	10	60dB LAeq
Sunday & Public Holidays	0700-2300	16	55dB LAeq

Noise limits for work at night (2300-0700 hours) will be agreed with the local authority as part of any section 61 consent, depending on local conditions, with a default value of LAeq 55dB (1 hour). Other work outside of normal hours

that requires a section 61 consent will be subject to the default noise levels above. Whilst the averaging periods for Saturday morning start at 0700 hours, work on site will be restricted to core hours (i.e. works that might generate significant noise would not be programmed to take place before 0800 hours).

2. Where, after the application of best practicable means, noise levels are predicted to exceed these limits, a schedule of the time(s) and period(s) when exceedance is anticipated shall be prepared and presented to the local authority as part of the section 61 consent application, together with values of existing ambient noise levels at the potentially affected properties and predicted levels of construction noise for the specific periods.

6.1.6 In order to ensure that the best practicable means are used, to meet the noise levels set out above, and to define existing ambient noise levels at potentially affected properties, a programme of on-site monitoring by a suitably qualified practitioner shall be agreed by the Contractor with the relevant local authority. This monitoring programme is to include the location and frequency of readings and will define to whom the results shall be made available. Monitoring will include, but not necessarily be limited to, locations identified in the Environmental Statement as those where mitigation measures may be necessary to avoid significant noise disturbance.

6.1.7 Without prejudice to the other requirements of this section, the following mitigation measures are to be applied:

1. All potentially high noise generating activities will be restricted, wherever reasonably practicable, to daytime only.
2. Plant must be operated in an appropriate manner to minimise noise emissions including regular maintenance of the plant.
3. Modern, silenced and well-maintained plant fitted with efficient attenuators or acoustic covers, where appropriate, shall be used at all times. All relevant plant and equipment will be expected to meet the noise limit and noise marking requirements prescribed by the Noise Emission in the Environment by Equipment for Use Outdoors Regulations 2001, implementing EU Directive 2000/14/EC.
4. Equipment, including vehicles, must be shut down when not in use or throttled down to a minimum.
5. Noisy plant must be located as far as possible from sensitive receptors.
6. The Contractor shall adhere to the codes of practice for construction working and piling set out in BS 5228 'Noise Control on Construction and Open Sites' insofar as these are reasonably practicable and applicable to the construction works.

6.1.8 Where noisy plant or activities have to take place at locations where noise disturbance is likely, the following measures shall be used, where possible:

1. Location of temporary highway accesses and haul roads as far from occupied residential property as is reasonably practicable.
2. Location of site offices etc. to provide acoustic screening.
3. The use of fixed or mobile acoustic screens.
4. The location of soil or other material stockpiles so that these act as noise barriers.

6.1.9 Other noise control measures to be adopted should include:

1. Whenever reasonably practicable, and especially during particularly sensitive periods e.g. night time activity, the quietest methods of material breaking will be utilised e.g. the use of hydraulic or electrically powered tools, thermal lances etc. with pneumatic and percussive methods used as a last resort where quieter methods are not practicable.
2. Hydraulic 'munchers' will be used, where reasonably practicable, in preference to breakers. There is a general presumption against peckers being used during night time activities.
3. Crane spindles, pulley wheels, telescopic sections and moving parts of working platforms shall be adequately lubricated in order to prevent undue screeching and squealing.
4. Thermal cutting equipment is to be used in preference to cold cutting where possible.
5. Shouting and raised voices shall be kept to a minimum.

6.2 *VIBRATION*

Vibration Control

6.2.1 Unless otherwise required by the relevant local authority, the following minimum requirements shall be met:

1. To protect residents from nuisance the Contractor must, as far as reasonably practicable, not exceed Peak Particle Velocity (PPV) values of 1mm/s (as specified in BS5228-2:2009) unless residential building occupiers are given prior notice, including an explanation of the source and likely duration of the vibration. Similarly, to protect occupants of commercial buildings, vibration

levels must not exceed 3mm/s PPV in those buildings, subject to the same provisos.

2. To protect buildings from physical damage, peak particle velocity levels must not exceed 10 mm/sec except for 'particularly sensitive' buildings where the level should not exceed 5 mm/sec. Those buildings which are to be considered as 'particularly sensitive' must be defined by the Contractor and a schedule of such buildings submitted to the relevant local authority in advance of works. If vibration levels are predicted to exceed the criteria specified, vibration monitoring must be undertaken by a suitably qualified practitioner during the works and the Contractor must adopt alternative methods of working to reduce vibration levels as necessary.

6.2.2

In order to ensure that the vibration levels specified in *paragraph 6.2.1* are not exceeded, a programme of on-site monitoring by a suitably qualified practitioner must be agreed by the Contractor in advance of works with the relevant local authority. This programme must include the location and frequency of readings and to whom the results should be made available

7 *DUST AND AIR POLLUTION*

7.1 *DUST AND OTHER AIR POLLUTION*

7.1.1 All necessary measures shall be taken to avoid creating a dust nuisance during both construction and demolition works. Excavation and construction works shall not commence until the necessary dust suppression measures have been put into place.

7.1.2 The provisions of the Environment Act 1995, the Clean Air Act 1993 and the Health and Safety at Work etc. Act 1974 in relation to emissions to air shall apply.

7.1.3 The Control of Substances Hazardous to Health Regulations (COSHH) 2002 (as amended) and Health and Safety Executive (HSE) Guidance Note EH 40/2005 on Workplace Exposure Limits shall be complied with.

7.1.4 Measures to prevent dust must include the following practices:

1. The provision of easily-cleaned hardstands for vehicles.
2. The enclosure of material stockpiles at all times and damping down of dusty materials using water sprays during dry weather.
3. Fine and powdery materials shall be properly stored in enclosures or buildings at all times.
4. Stockpiles to be kept for the shortest possible time.
5. Temporary covering, sealing (i.e. using polymer or sealing sprays) or seeding of stockpiles and stripped areas, with permanent covering, sealing or seeding of long term stockpiles.
6. Drilling and excavation surfaces to be wetted, where appropriate.
7. Debris piles to be kept watered or sheeted as necessary.
8. The hard surfacing of heavily-used areas which will be kept clean by regular brushing and water spraying;
9. Control of cutting or grinding of materials on site.
10. The complete sheeting of the sides and top of all vehicles carrying spoil and other dusty materials.
11. Watering of unpaved surfaces and roads.

12. Limit on-site vehicle speeds on unpaved/ unhardened roads and surfaces to 20 mph.
 13. Wheel washing of vehicles leaving the site to minimise the re-suspension of dust due to construction traffic
 14. Minimise drop heights for material transfer activities such as unloading of friable materials;
 15. The use of construction machinery designed to minimise dust (and exhaust) generation.
 16. Plan site layout and take into account predominant wind direction so that machinery and dust-causing activities are located away from sensitive receptors.
 17. Re-vegetate earthworks and stripped areas to stabilise surfaces as soon as reasonably practicable.
- 7.1.5 Where dust generating works (e.g. excavation, demolition) are undertaken close to buildings such that there is a potential for soiling of windows and ledges with dust, the Contractor shall clean those windows and ledges as necessary, at least weekly, during periods of dust generating work and on completion of works.
- 7.1.6 All non-road mobile machinery (NRMM) shall use low sulphur diesel on site, where available. Additional after-treatment technology (such as particulate filters) shall be used, where appropriate.
- 7.1.7 Precautions shall be taken to prevent the emission of smoke or fumes from construction vehicles, site plant and stored materials including volatile substances. Vehicles, NRMM and plant must be serviced regularly to ensure they are well maintained and meet any statutory emission limits/ opacity tests.
- 7.1.8 Precautions must be taken to prevent the occurrence of smoke emissions or fumes from plant or stored fuel oils. Plant shall be well maintained and measures taken to ensure that it is not left running for long periods when not in use.
- 7.1.9 In any location where ground investigation has shown that there is the potential for Volatile Organic Compounds (VOC) to be released as a result of works in the ground, a plan should be produced and followed which sets out measures to mitigate the VOC emissions, including monitoring at the boundary of the excavation and site, and measures to reduce emissions in the event that they exceed pre-agreed criteria.
- 7.1.10 Where possible the use of diesel or petrol powered generators is to be avoided by the use of mains electricity or battery-powered equipment.

- 7.1.11 Work compounds must be laid out so that accesses and loading areas are located as far away from occupied residential or commercial premises as practicably possible and so that temporary structures screen dusty areas where practicable.
- 7.1.12 There is to be no burning of waste on site.
- 7.1.13 Bitumen must not be overheated. Pots and tanks containing bitumen must be covered, spillages minimised and, wherever possible, bitumen shall not be heated with open flame burners.
- 7.1.14 Precautions shall be taken to prevent the entry of water-borne or air-borne sediments and dust into any bodies of water and any incidents are to be reported to the Environment Agency. These precautions include the following:
1. Stockpiling of excavated and construction materials (such as sand, ballast and gravels) must be kept to a reasonable minimum and long-term stockpiles should be covered or seeded if required to provide stabilisation. Stockpiles must not be located within or near watercourses (in accordance with defined watercourse buffer zones), or in areas at risk of flooding.
 2. During dry periods, any potential dust sources must be damped down to reduce the potential for mobilisation and deposition of sediments in watercourses.
 3. Trenching or excavation activities are to be restricted during periods of heavy rainfall and temporary bunding or holding tanks must be provided to reduce the risk of sediment, oil or chemicals discharging to drainage systems or watercourses

8.1 WASTE

- 8.1.1 Before works commence, a Site Waste Management Plan (SWMP) shall be developed in accordance with relevant policy and guidance, including the Environmental Permitting (England and Wales) Regulations 2008 and 2010, and Non-Statutory Guidance for Site Waste Management Plans (Defra, 2008), in consultation with the Environment Agency and the relevant local authorities. The SWMP will identify:
- responsibilities for waste management;
 - the waste category and quantities of materials generated;
 - measures to minimise waste generation;
 - opportunities for recycling and/or re-use;
 - proposed treatment and disposal routes; and
 - licensing requirements.
- 8.1.2 The SWMP must include an audit programme to be undertaken to demonstrate compliance with statutory requirements.
- 8.1.3 All spoil arising from the works must be subject to the procedures set out in the Definition of Waste: Development Industry Code of Practice (2011). This procedure allows for the re-use of excavated material on site, provided that certain criteria are met, there is oversight from a Qualified Person and appropriate declaration is made to the Environment Agency. Material which is classed as “acceptable fill” will, wherever practicable, be re-used in construction works.
- 8.1.4 Existing track ballast is to be handled, treated, and either replaced or disposed, in accordance with the Network Rail Standard for ‘Used Ballast Handling’ (NR/SP/ENV/044). Any other contaminated material encountered shall 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 2007.
- 8.1.5 Disposal sites shall be identified in consultation with the relevant local authority, for example Oxfordshire County Council, and the Environment Agency.
- 8.1.6 Approved guidance and procedures for the identification, handling, storage, recovery and disposal of waste shall apply as well as the measures set out in *Section 9* regarding discharges to controlled waters and wastewater.
- 8.1.7 Provision shall be made for a suitable environmental specialist to identify any ‘hazardous waste’ as defined in The Hazardous Waste (England and Wales)

Regulations, 2005 and The List of Waste Regulations, 2005 so that it can be suitably managed and disposed of during works.

8.2 *CONTAMINATED LAND AND MATERIALS*

8.2.1 Contaminated soils and other materials are controlled wastes and must be handled, transported, treated or disposed of in accordance with:

- Environmental Protection (Duty of Care) Regulations 1991; Environmental Protection (Duty of Care) (England) (Amendment) Regulations 2003; and the Duty of Care Code of Practice;
- Hazardous Waste (England and Wales) Regulations 2005; and
- Environmental Permitting (England and Wales) Regulations 2010.

8.2.2 The procedure in the Definition of Waste: Development Industry Code of Practice (2011) is to be followed. Subject to the oversight of a Qualified Person, materials of whatever quality have the potential to be re-used on site subject to their meeting three criteria set out in the SWMP:

1. They should be suitable for use in the location for deposit.
2. The use should be certain, for example as set out in the design of the scheme which has been approved through the planning process.
3. No more material than is necessary should be used.

8.2.3 The Contractor must ensure that all contaminated materials are adequately characterised, both chemically and physically, and that the permitting status of any proposed off site operation is clear. In the event of any uncertainty, with regards to the process or a specific situation, contact with the Environment Agency should be made.

8.2.4 All locations within the site where soils affected by contamination may be encountered are to be identified prior to the start of works in accordance with Planning Condition 11. The level of contamination will be used to define whether the soil is suitable for use in its existing or future proposed location. In each of these locations, the Contractor shall follow the procedures set out in the approved Written Scheme of Investigation, which will include:

1. carrying out appropriate site investigations to the satisfaction of CR/NR and the local authority to determine the extent and type of contaminants present on the site;
2. identifying potential sources, pathways and receptors and the risk of harm to receptors;

3. identifying which materials may be suitable for use in other locations on the scheme, and agreeing the use of these materials under the SWMP;
4. liaison with the relevant local authority and the Environment Agency to address their reasonable requirements and agreeing control or protection measures necessary for dealing with identified risks;
5. obtaining any necessary licences for the storage, treatment and disposal of contaminated material (including dewatering discharge); and
6. ensuring that contaminated materials which cannot be re-used on site in accordance with the SWMP are sent to off-site treatment centres/landfill in compliance with the relevant consignment note system and that delivery is to appropriately licensed facilities.

8.2.5 If contamination that has not been previously identified is encountered on site, no further development shall take place (except to the extent that would not disturb that contamination) until a site investigation is carried out in accordance with Planning Condition 11 and the approved Written Scheme of Investigation.

8.2.6 The HSE guidance in 'Protection of Workers and the General Public during the Development of Contaminated Land,' (1991) and the DEFRA guidance 'Helping to Prevent the Spread of Invasive Non-native Species Horticultural Code of Practice', March 2005 shall apply in so far as these are applicable to the construction works.

8.2.7 Appropriate precautions must be taken if materials containing asbestos are encountered. The Contractor shall comply with the Control of Asbestos Regulations 2006 and the Approved Code of Practice 'Work with Materials Containing Asbestos' L143 (2006) and observe the guidance set out by the HSE in publications including 'Asbestos: The Licensed Contractor's Guide' (HSG 247), 'Surveying, sampling and assessment of asbestos-containing materials' (MDHS 100), and Medical Series Guidance Note MS13 Asbestos (2005).

8.2.8 In order to mitigate the effects during piling and earthworks, the techniques employed in construction must be suitable to prevent new contaminant pathways being created at this stage. All works such as piling will be conducted by experienced contractors in accordance with specialist method statements.

8.2.9 Imported fill materials must be tested or certified to ensure that they are suitable for use in terms of chemical quality prior to placement.

8.2.10 In the unlikely circumstance that soil gas/landfill gas is identified as a risk requiring vapour/gas mitigation measures, soil gas monitoring must be carried out and the necessary gas mitigation measures incorporated into the design of stations and other buildings, and underground structures such as manholes and ducts as required. Consideration must also be given to the potential to cause gas migration off site which could impact other structures outside the scheme works.

8.2.11 If necessary, chemically-resistant materials must be incorporated into the design of the buildings and structures, based on the results of soil and water analysis in identified areas of concern.

9.1 OVERVIEW

- 9.1.1 All works are to be conducted in accordance with UK water and flood risk policy, Network Rail standards and good practice with regards to the management of risks to the water environment.
- 9.1.2 The planning conditions require the submission and approval by the relevant local planning authority, in consultation with the Environment Agency, of Level 3 Flood Risk Assessments and surface water drainage assessments for specified structures.
- 9.1.3 Where standards have recently been revised, including BS 6031:1981 Code of Practice for Earthworks, which was replaced in 2011 by BS 6031:2009 Code of Practice for Earthworks, the Contractor must adhere to the latest approved version.

9.2 POLLUTION PREVENTION AND CONTROL

- 9.2.1 To minimise potential pollution risks, a Pollution Prevention and Emergency Response Plan (PPERP) is to be implemented during construction. The PPERP will include the requirement for suitably trained personnel and the provision of equipment to contain and clean up any accidental releases. The PPERP will be progressed in future updates to this CoCP, according to best practice guidance and advice, such as the EA's Pollution Prevention Guideline (PPG) 21: Pollution Incident Response Planning.
- 9.2.2 The Contractor is required to comply with Regulation 21 of the Groundwater Regulations 1998 as amended by the Groundwater (England and Wales) Regulations 2009 and to follow good practice guidance such as PPG 2: Above Ground Oil Storage Tanks, PPG5: Works and Maintenance In or Near Water and PPG 6: Working at Construction and Demolition Sites published by the Environment Agency.
- 9.2.3 Provisions must be made 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 Regulations, 2002 (COSHH, as amended 2004) and are properly isolated and bunded. No oil or other contaminants may be permitted to reach watercourses or groundwater, including aquifers. Storage locations for such materials should be positioned away from watercourses or in areas at risk of flooding, and agreed with the Environment Agency.
- 9.2.4 At storage sites, fuels, lubricants and chemicals are to be contained within a bunded area. Drip trays will be placed under standing machinery. All bunds and trays must be regularly checked, particularly after heavy or prolonged rainfall. Routine maintenance of vehicles should be carried out off site. All surface water or other contaminated water which accumulates in the bund must be removed by manually controlled positive lift pumps and not by means of a gravity drain. This water must

be removed from site and properly discharged in accordance with Environment Agency consents and guidelines. All solid and liquid waste materials, including any contaminated soils, must be properly disposed of to controlled landfill sites.

- 9.2.5 Areas of exposed ground and stockpiles must be minimised to reduce silty runoff. Geotextiles shall be used as necessary to shield spoil mounds. Water containing silt must not be pumped directly into watercourses. Water must be stored in settlement lagoons or tanks, filtered, or discharged onto a grassy area to soak away, or to foul sewer (with agreement of the local water company and the Environment Agency).
- 9.2.6 Spill response kits containing equipment appropriate to the quantity and types of materials present on site must be available in the event of a fuel spillage and personnel will be trained in their use.
- 9.2.7 Any water that has come into contact with contaminated materials must be disposed of in accordance with current water policy including the Water Resources Act 1991, Environmental Permitting (England and Wales) Regulations, 2010 (see also *Section 9.3*) and the Water Industry Act 1991 (if disposed to the public sewer) to the satisfaction of the Environment Agency and Thames Water.
- 9.2.8 Existing surface water and groundwater abstractions for potable use within 1 km of the Scheme's limits will be identified by CR/NR and appropriate protective and contingency measures must be developed by the Contractor for inclusion within the PPERP. Such information is to be used to ensure that construction works do not adversely affect these high-sensitivity abstractive uses. All other licensed abstractions and discharges within 500m of the Scheme's limits will also be detailed. Protective and contingency measures must include a Communications Plan, to be implemented in the event that an incident occurs that may have the potential to physically or chemically impact upon abstractions by third parties.

9.3 *ABSTRACTIONS AND DISCHARGES*

- 9.3.1 Under the Environment Act 1995 it is an offence to discharge poisonous, noxious or polluting material into any 'controlled waters' either deliberately or accidentally. Polluting materials include silt, cement, concrete, associated washings, oil, petroleum spirit, sewage or other debris and waste materials. 'Controlled Waters' include all watercourses and water contained in underground strata. Road drains and surface water gullies generally discharge into controlled waters and any discharges to them must therefore be treated appropriately.
- 9.3.2 Article 19 of the Order allows for the temporary and permanent drainage of the Scheme, provided that the requirements in that article are met. The requirements of the Environmental Permitting (England and Wales) Regulations (EPR2) must be met in relation to any discharges to controlled surface waters. Discharges to groundwaters are governed by the separate Groundwater (England and Wales) Regulations 2009.

- 9.3.3 There are to be no untreated discharges to surface watercourses or groundwater during construction.
- 9.3.4 CR/NR has made arrangements with the EA for the coordinated administration of approvals under the Order and other licensing. Under these arrangements, it will be the responsibility of the Contractor to obtain any necessary permits and consents for water discharge from the construction works from the EA, under the relevant Regulations, cited in *paragraph 9.3.2*. Water discharges will only be permitted where the effluent quality and discharge location is acceptable to the EA.
- 9.3.5 Pumped discharges must be passed through silt traps, screens, discharged to settlement or retention ponds, or passed over land ⁽¹⁾ to capture sediments before release into receiving waters.
- 9.3.6 Effluent from concrete washings must be contained within a bunded area and silt, debris and liquids must be removed to a licensed tip at regular intervals, thus ensuring concrete leachate does not enter controlled waters.
- 9.3.7 Sanitary facilities must be provided to ensure that all waste is removed from the site. Foul water and sewage effluents produced by the construction workforce must be contained by temporary foul drainage facilities to be installed. All foul water must be disposed of off-site by a licensed contractor.
- 9.3.8 Abstraction and impoundment of water must be conducted in accordance with the requirements of the Water Act 2003. Where a licence is required (as a general guide for impoundments and abstractions >20 m³ / day), applications must be made by the Contractor to the EA, following the procedures agreed under *paragraph 9.3.4*. A review of the Cherwell Catchment Abstraction Management Strategy (EA, 2005) Surface Water and Groundwater Resource Management Unit classifications will be necessary to understand any likely restrictions. For most abstractions, full licences will be required, although temporary licences may be appropriate for short timescale abstractions under 28 days duration. If groundwater abstraction is required, groundwater investigation consent and associated pump test data is likely to be required.
- 9.3.9 A register of all abstractions and impoundments, whether licensed or unlicensed, must be maintained by the Contractor.

9.4 MODIFICATIONS TO NATURAL DRAINAGE CONDITIONS

- 9.4.1 All drainage works and works affecting drainage ditches along the route will be designed and conducted in consultation with the local authority and/or the Environment Agency and will be subject to prior approval to be obtained by CR/NR under the Protective Provisions in Schedule 15 to the Order. Oxfordshire County Council is the Competent Authority for drainage works and works to non-Main Rivers (Ordinary Watercourses). The Environment Agency remains the

(1) This is a suitable method for low drainage volumes only.

Competent Authority overseeing activities such as culverting, together with works to Main Rivers and Critical Ordinary Watercourses.

- 9.4.2 Provisions for construction site drainage along the route of the railway are to be achieved via the development and implementation of appropriate Construction Drainage Plans (CDP). The CDP must take proper account of the requirements of relevant guidance including: PPG01: General Guide to the Prevention of Water Pollution; PPG05: Works and Maintenance in or Near Water; PPG06: Working at Construction and Demolition Sites; PPG20: Dewatering Underground Ducts and Chambers; and PPG21: Pollution Incident Response Planning.
- 9.4.3 The Sustainable Drainage Systems (SUDS) hierarchy is to be applied by the Contractor and SUDS measures such as filter drains, silt traps, silt screens, settlement ponds, retention ponds or sediment mats are to be provided to serve critical construction areas. Open SUDS should not be installed in areas at medium to high risk of flooding or in areas where potential ground quality issues have been identified. In such circumstances closed SUDS systems should be used.
- 9.4.4 During construction, vehicle movements off the defined haul routes and hard standing areas must be minimised. Where the railway crosses soils which are sensitive to erosion, or where steep gradients are encountered, consideration must be given to the deployment of a protective surface layer.
- 9.4.5 During construction, drainage ditches, culverts, crossings and watercourses must be regularly maintained and inspected for blockages. The depth and extent of temporary drainage ditches will be limited to minimise modification to natural drainage pathways.

9.5 WORKS IN THE VICINITY OF WATER

9.5.1 All works undertaken in the vicinity of water (ground and surface) must comply with good practice including that published by the EA:

- *PPG01: General guide to the prevention of water pollution.*
- *PPG05: Works and maintenance in or near water.*

Measures must be implemented to reduce the potential opportunity for the mobilisation and possible consequential entry of polluting substances to all watercourses and waterbodies in the vicinity of the Scheme works. These measures should include the following:

1. Water quality data is to be gathered to highlight any additional sensitivities before works commence.
2. Suitable sulphate-resistant concrete mixes will be used during the construction phase (e.g. bridge foundations and station construction) if required to withstand sulphate attack, and the resultant alkaline leaching into groundwater.

3. The use of liquid concrete for bridge works over watercourses must be carefully managed in accordance with EA guidance. Pre-cast concrete structures will be used wherever reasonably practicable.
4. Equipment, materials and chemicals must not be stored within or near watercourses, waterbodies, or unprotected in areas considered to have an unacceptable risk of flooding. At storage sites, fuels, lubricants and chemicals must be contained within a bunded area, drip trays placed under standing machinery and regular checks made, particularly following heavy rainfall.
5. All solid and liquid waste materials, including any contaminated soils and ballast material, will be properly disposed of appropriately licensed facilities.
6. Trenching or excavation activities in open land will be restricted during periods of intense rainfall, and temporary bunding are to be provided to reduce the risk of sediment, oil or chemical spills to the natural drainage systems.

9.6 *WATERCOURSE CROSSINGS AND RIPARIAN/BANKSIDE WORKS*

- 9.6.1 All permanent watercourse crossings will be designed and conducted in consultation with the Environment Agency (and for Ordinary Watercourse crossings, Oxfordshire County Council) and are subject to prior approval to be secured by CR/NR under the Protective Provisions in Schedule 15 to the Order.
- 9.6.2 In the event that any temporary crossings of watercourses are required, they should be designed by the Contractor and constructed so as not to impede the flow, obstruct the movement of floodwater or exacerbate erosion of the channel and banks. Should materials and equipment need to be transported over watercourses, consideration will first be given to alternative routes to avoid crossing the watercourse. If there is no alternative, the following measures will be applied:
1. Loose materials will be covered so as to prevent spills and leakage.
 2. Equipment and chemicals will be checked for leaks and safely and securely fastened to a designated transportation vehicle before crossing the watercourse.
- 9.6.3 Where bankside habitat is temporarily affected, it must be reinstated to its original form on completion of the works.
- 9.6.4 Areas of bankside habitat adjacent to construction areas should be fenced off during construction to prevent damage.
- 9.6.5 Stripping of surface vegetation at construction sites must be kept to a minimum. Any required vegetation stripping in riparian zones will be restored through the re-planting removed vegetation or reseeded as appropriate.
- 9.6.6 Where works are undertaken in the vicinity of watercourses, suitable precautions must be taken to minimise the impacts on recreational use.

9.6.7 Information regarding the watercourse crossing works and any temporary requirements in terms of navigation, speed or bank access will be communicated clearly to recreational users and residential watercraft. Such information will be developed in consultation with the Canal and River Trust and the EA where appropriate (e.g. for works to the Rewley Abbey Stream Bridge).

9.7 *CULVERT WORKS*

9.7.1 Where alterations (including extensions) to any culverts are required, these are to be designed in consultation with the Environment Agency and subject to prior approval to be secured by CR/NR under the Protective Provisions in Schedule 15 to the Order. Any new culvert must be designed to permit the passage of fish and other aquatic fauna under normal flow conditions.

9.7.2 Alterations and extensions to culverts will be designed to ensure that there is no net reduction in conveyance, and appropriate wildlife ledges should be incorporated.

9.8 *SPECIALIST WORKS*

9.8.1 Pre-construction checks must be made with regard to the presence of invasive species and appropriate action taken to prevent their spread.

9.8.2 Detailed method statements must be developed for specific specialist works such as piling and for additional activities where the potential exists for adverse impacts to occur, such as ballast removal and replacement and invasive species treatment.

9.8.3 Groundwater controls such as dewatering or physical cut-offs will be avoided where possible and technological or process alternatives sought. Where dewatering is required, detailed method statements must be produced in accordance with EA guidance including PPG20: Dewatering Underground Ducts and Chambers.

9.8.4 No significant dewatering will be permitted in the vicinity of ecologically sensitive sites (e.g. Port Meadow with Wolvercote Common and Green SSSI, Wendlebury and Mansmoor Closes SSSI). Specific method statements are to be developed by CR/NR, in consultation with the EA and Natural England, where works are to occur within 500m of these sites, as required by Planning Condition 16. The Contractor must adhere to any method statements approved by the local authority at these locations.

9.9 *MITIGATION OF FLOOD RISK*

9.9.1 The temporary flood risk posed by the construction process must be evaluated by the Contractor and appropriate mitigation measures added to this CoCP.

9.9.2 Appropriate methods must be employed during the construction to mitigate against potential flood risk.

- 9.9.3 The Contractor will be responsible for determining the location of construction compounds, including sites for material storage. Wherever possible, these should be located in Flood Zones 1 or 2.
- 9.9.4 In the event that construction compounds have to be located in Flood Zone 3, site specific flood mitigation measures shall be devised by the Contractor and agreed with CR/NR, who will consult with the Environment Agency, as necessary, before authorising the use of those sites. Such measures are likely to include restrictions on the storage of material and plant together with additional protection measures for all activities proposed on these sites. Additional measures such as flood warnings will be implemented for all areas for which coverage exists, and contingency plans will be developed and implemented for aspects of the Scheme potentially at risk during construction.

10.1 GENERAL

10.1.1 The Contractor must comply with the provisions of the Wildlife and Countryside Act 1981 (as amended), and other relevant nature conservation legislation including the Conservation of Habitats and Species Regulations 2010, and other relevant policy and guidance. One European designated site (Oxford Meadows Special Area of Conservation (SAC)) and three nationally designated Sites of Special Scientific Interest (SSSI) (Port Meadow with Wolvercote Common & Green, Hook Meadows and Trap Grounds and Wendlebury Meads and Mansmoor Closes) are affected by the Scheme. Protected Species, including bats, great crested newts, reptiles and badgers have been found within the site.

10.1.2 The following general requirements are to be applied:

1. An ecologist and/or environmental clerk of works are to be appointed by the Contractor to ensure that construction activities adhere to detailed method statements (in areas of high ecological sensitivity) and good environmental practice.
2. Precautions must be taken to prevent the entry of pollutants into all waterbodies and water courses, as described in *Section 9*.
3. Standards of dust and air pollution control, as set out in *Section 7* must be applied to protect adjacent habitats.
4. Habitat loss must be minimised by keeping the extent of working areas, including haul roads, materials and equipment storage areas to a minimum necessary for the construction works to be undertaken.
5. Adjacent habitats of value are to be fenced off to prevent unnecessary incursion or damage. Construction contractors must be made aware of the need to avoid damage to adjacent habitats, specifically sensitive habitats such as designated sites or sites containing protected species. This will be achieved through a 'toolbox talk' or similar mechanism.
6. Areas of habitat disturbed during construction in areas not required for permanent works are to be reinstated with appropriate soils and plants on completion of the works.

10.1.3 Existing soils and land drainage systems are to be protected, particularly where land is to be returned for agricultural uses or is to be planted as part of scheme landscaping.

10.2 ***DISTURBANCE AND DAMAGE TO HABITATS***

- 10.2.1 Habitat loss is to be limited to the minimum needed for safe implementation of the works. All vegetation removal will be in accordance with relevant wildlife protection legislation such as the Wildlife and Countryside Act 1981 (as amended) i.e. the avoidance of vegetation clearance during the breeding bird season (1st March to 31st August) inclusive.
- 10.2.2 Temporary work areas (including site accesses) should be situated on areas of hard standing or areas of low nature conservation value where possible (e.g. arable fields).
- 10.2.3 Tracking of vehicles on site will be restricted to identified routes, so that adjacent vegetation is left undisturbed as far as possible, and so that soil compaction is restricted to these tracks.
- 10.2.4 Areas of habitat disturbed during construction in areas not occupied by permanent works will need to be fully restored on completion of the works, including the reseeded of pastureland, reinstatement of fences and replanting of hedges. Restoration will be progressive where possible to minimise soil storage times. Hedges and any replacement planting will be carried out during the first appropriate planting season following site restoration and will use a range of native species to enhance plant diversity and wildlife value. Planting must be suitably protected from animal damage.
- 10.2.5 In areas where the land is to be restored, the turf, then topsoil and subsoil must be stripped and stored separately in low mounds (of less than 3m), and reinstated to minimise adverse impacts to the soil structure and the seed bank within it. Topsoil (and the seed bank it contains) should be replaced as close as possible to the location from which it was taken, and to the approximate original depths.
- 10.2.6 The Contractor must ensure that good practice measures are adopted to avoid incursion into areas of valuable habitat adjacent to the work site or any secondary effects from pollution, draining of adjacent wet habitats etc.
- 10.2.7 All staff working on the site are to be given ecological awareness training by the Contractor as part of their induction and be made aware of the presence of protected and sensitive species and the importance of implementing the species mitigation measures described in this CoCP or the licences issued by Natural England.

10.3 *PROTECTION OF SOILS AND LAND DRAINAGE*

10.3.1 The contractor must avoid unnecessary damage to soils, particularly on land which is occupied temporarily by works and is to be returned to its original owners, re-instated for agricultural use. Similar care must be taken on land which is to be soft landscaped or planted with trees or shrubs as part of the permanent scheme.

10.3.2 The Contractor must avoid driving vehicles or plant across land which is waterlogged and adopt appropriate measures including temporary surfaces, low-impact vehicles to minimise damage to soil structures, natural or installed land drainage.

10.3.3 Where required to do so by CR/NR for particular areas of land the contractor must prepare and implement a Soil Resource Survey and Plan. The Contractor must, generally, follow the provisions of the Construction Code of Practice in the Sustainable Use of Soils on Construction Sites (2009) and the MAFF Good Practice Guide for Handling Soils (2000).

10.3.4 Soil stripping, storage and placement must comply with the guidelines set out in the British Standard Code of Practice for Earthworks (BS 6031:2009).

10.4 *PROTECTION OF DESIGNATED SITES*

10.4.1 As required by Planning Condition 16, no works shall commence within 500m of the European designated site, Oxford Meadows SAC, or any of the following SSSI:

- Port Meadow with Wolvercote Common and Green SSSI;
- Wendlebury Meads and Mansmoor Closes SSSI; or
- Hook Meadows and Trap Grounds SSSI,

until a Method Statement detailing the methods and materials to be used in the construction and mitigation works to be employed has been submitted and approved. Method Statements will be prepared by CR/NR, to be approved by the local authority in consultation with Natural England, before works commence at these locations.

10.4.2 Each Method Statement will include good working practices and specific safeguard measures to ensure impacts on ecology are either avoided or minimised and that the qualifying interest features of the site are maintained. The Contractor must adhere to any Method Statement approved by the local authority.

10.4.3 The Contractor should also comply with any relevant parts of Planning Conditions 31, 32 and 33:

- Condition 31 provides measures for the protection of the lowland hay meadow habitat at Oxford Meadows SAC, while Condition 32 provides measures for the protection of the Hook Meadow and Trap Grounds SSSI. Development shall not commence between Oxford North Junction and Rewley Abbey Stream until Schemes of Further Assessment of Air Quality have been submitted for each site

and approved in writing by the local planning authority, in consultation with Natural England. This is to be submitted by CR/NR.

- Condition 33 provides measures for the protection of Wendlebury Meads and Mansmoor Closes SSSI. Development shall not commence in the section that includes Manor Farm Crossing until a scheme has been approved in writing by the local planning authority for the mitigation of harm to the SSSI that would be caused by the proposed hardened access track between Beebont Crossing and Home Farm Crossing. CR/NR is to decide whether this access track is required and determine whether an application is required.

10.5 *PROTECTED SPECIES*

General

- 10.5.1 Extensive ecological and Protected Species surveys were undertaken before the Order was granted. Additional surveys have been undertaken by CR/NR to ensure that information required in relation to any Protected Species is up to date and has been taken account of prior to the commencement of construction.
- 10.5.2 CR/NR intends to undertake certain advanced works in relation to Protected Species and other ecological protection prior to the main works. Where these require Protected Species licences, under the Habitats Regulations or the Protection of Badgers Act 1992, CR has secured those licences.
- 10.5.3 Copies of all relevant ecological surveys and licences will be made available to the Contractor. CR/NR will arrange to brief the Contractor about any licence requirements, including conditions. Where the Contractor is required to undertake further ecology surveys, a suitably qualified ecologist will be instructed by CR/NR.
- 10.5.4 Site personnel must be briefed by the Contractor on the legal and other measures for the protection of species and habitats as part of site induction.
- 10.5.5 It is the responsibility of both CR/NR and the Contractor to ensure that the legal requirements for the protection of species and habitats are met.

Bats

- 10.5.6 The only feature or structure within the Scheme boundary identified as definitely supporting bat roosts, as detailed in the Environmental Statement, was Wolvercot Tunnel. This has been subject to extensive bat surveys. CR applied for a European Protected Species (EPS) licence (reference EPSM-3068A) and received draft approval for a licence to disturb bats which use Wolvercot Tunnel during Phase 1 and Phase 2A of the Scheme. The draft licence, agreed with Natural England in January 2012, includes a programme of surveys between 2012 and 2017. The draft licence covers disturbance during works to the tunnel, the installation and operation of a deterrent lighting system and monitoring. Works to the Tunnel and approaches will be undertaken in accordance with the approved licence, under the supervision of CR/NR's bat ecologist, named in the licence, who has to supervise the works.

- 10.5.7 In addition to Wolvercot Tunnel, trees and other structures along the Scheme were identified in the Environmental Statement (see Table 8.5 of that document) as having medium to high potential to support roosting bats. These structures include the following:
- Blethingdon Road Bridge;
 - Kidlington Road Bridge;
 - Mill Stream Viaduct;
 - Grain Silo at Water Eaton;
 - Tree line, running along the edge of Hook Meadows and Trap Grounds SSSI, adjacent to the Scheme boundary; and
 - Walton Bridge.
- 10.5.8 If not undertaken by CR/NR, the Contractor may be required to undertake bat surveys of the structures/ habitats described above before commencing work at each location and take any necessary action to protect bats, if found. These surveys should be undertaken by a licenced bat worker.
- 10.5.9 Should additional bat roosts be confirmed as being present, wherever possible direct loss of, or disturbance to, these roosts will be avoided. If avoidance is not possible, a decision is to be made by the Contractor, advised by CR/NR's licensed bat ecologist, whether a Protected Species licence from Natural England is required in order to undertake the works. This will depend on the size of the roost and the potential level of disturbance. Should a licence from NE be required, work must not commence until the licence is secured and any requirements of the Licence must be complied with by the Contractor.
- 10.5.10 In addition to roosting, foraging and commuting activity were also recorded, and further detailed in the ES. Important features for foraging and commuting included the following:
- strips of woodland north-east of the Water Eaton Crossing, within the Scheme boundary;
 - tree line, running along the edge of Hook Meadows and Trap Grounds SSSI, adjacent to the Scheme boundary; and
 - wet woodland and reed bed habitat, adjacent to the Scheme boundary, south of Hook Meadows and Trap Grounds SSSI.
- 10.5.11 At Wolvercot Tunnel, work shall be undertaken in accordance with the requirements of the EPS licence. At each of the locations noted in *paragraphs 10.4.7 and 10.4.10*, the Contractor must, before commencing work, devise an appropriate arrangement to minimise construction impacts on bat activity, where possible, by

retaining foraging and commuting areas. Where this is not possible, vegetation should be re-instated as soon as possible following construction using similar plant/ tree species to that which was originally present. In addition, while construction work is being undertaken in close proximity to these foraging and commuting areas, disturbance of these habitats through lighting and noise during night hours should be avoided or minimised.

- 10.5.12 All construction works, including compound lighting should be hooded and the light directed down towards the working area to minimise impacts on bats roosting, foraging and commuting in surrounding habitats. Lighting should be of a type that will not attract significant numbers of insects as this is likely to encourage bat foraging within the working corridor.

Otters

- 10.5.13 No otter holts have been recorded within the Scheme or within 500m of the Scheme boundary. However, otter signs, including spraints and footprints have been recorded on the river banks in the vicinity of the River Cherwell, Mill Stream viaducts, Bicester Village Stream, Lower Langford Brook, Gagle Brook and Gallos Brook.

- 10.5.14 In order to minimise impacts on the passage of otters during construction, open trenches or holes in the ground in construction areas that are in the vicinity of established otter pathways must be covered overnight. Planks should also be placed in trenches at an angle of 45 degrees or less to allow the animals to escape in the event that they fall in. In addition, construction works within or surrounding water courses that otters are known to use, should be avoided before dawn and after dusk, in order to ensure passage of otters are maintained.

- 10.5.15 Where safe to do so, provision should be made to allow otters access through construction areas at night (when work is not taking place) to permit movements along the watercourses.

Great Crested Newts

- 10.5.16 Populations of great crested newts have been identified at six locations within or close to the Scheme boundary. CR has secured EPS licences to provide replacement ponds at two locations (Millstream Viaduct, Islip and Water Eaton Crossing) and for the temporary exclusion and trapping of great crested newts, by the use of fencing and traps, at all six locations. Copies of the licences will be provided to the Contractor.

- 10.5.17 CR/NR is responsible for constructing the replacement ponds and will install the exclusion fencing in Spring 2013. Trapping will be undertaken by staff appointed by CR/NR, under the supervision of CR/NR's ecologist, who holds the licence. CR/NR will arrange for briefing the Contractor, who may be required to take responsibility for implementing any outstanding parts of the licence requirements, including maintenance of the fencing. Any transfer of responsibility will take place at a date and time to be specified by CR/NR.

10.5.18 Following completion of the construction works, the great crested newt fencing must be removed by the Contractor, under supervision of a licensed ecologist and according with the conditions of the licence.

Badgers

10.5.19 Badger surveys to date indicate that around 46 badger setts will be affected by the Scheme and many will need to be permanently or temporarily closed. This currently includes seven main badger setts affected by the railway formation or works. Replacement artificial setts will be provided for each of these seven social groups of badgers and the existing setts affected by works will be permanently closed.

10.5.20 Where permanent or temporary sett closures are necessary, a licence under the Protection of Badgers Act 1992 will be applied for by CR/NR where appropriate.

10.5.21 It is proposed that all badger sett works and the closure of setts will be undertaken by a specialist contractor appointed by CR/NR.

10.5.22 All sett closures will be timed to avoid the badger breeding season, which runs from 30th November to 30th June inclusive.

10.5.23 CR/NR will make the Contractor aware of the completed or on-going badger works at the commencement of the main contract and of any conditions or requirements in relation to badgers that the Contractor will have to observe. For example, provision will have to be made to ensure that badgers do not get trapped in deep excavations and may be needed to allow badgers continued access through some construction areas at night when work is not taking place.

Reptiles

10.5.24 Reptile surveys undertaken within the Scheme boundary in 2010 confirmed a total of four areas with reptiles present. In areas where concentrations of reptiles have been identified mitigation measures will, where necessary, be undertaken by CR/NR's ecologists in advance of works at these locations.

10.5.25 CR/NR will make the Contractor aware of any proposed and completed reptile protection measures at the commencement of the main contract and of any conditions or requirements in relation to reptiles that the Contractor will have to observe.

Breeding Birds

10.5.26 The Wildlife and Countryside Act 1981 (as amended), protects all nesting birds, their eggs and their nests. Where possible, vegetation removal should take place outside the breeding bird season, which is 1 March to 31 August inclusive. If it is essential that such work takes place during the breeding season, it will be the responsibility of the Contractor to ensure that the requirements of the Act are met. For example, a search for active nests should first be carried out by an experienced

ornithologist and any active nests found must be protected from damage until the young have fledged their nest.

10.6 *PROTECTION OF MATURE TREES*

10.6.1 For the purposes of this Code, 'trees' are defined as trees with a diameter of over 10cm at a height of 1.5m above ground level.

10.6.2 Removal of trees shall be avoided as far as reasonably practicable. The guidelines set out in British Standard (BS) 5837:2012, 'Trees in relationship to design, demolition and construction - recommendations' shall apply insofar as these are reasonably practicable and applicable to construction of the railway.

10.6.3 All tree surgery operations shall comply with the BS 3998: 1989, 'Recommendations for Tree Works' and a method statement addressing safety of workers and the public shall be prepared and implemented.

10.6.4 Woody material generated should be retained on site as far as is reasonably possible.

10.6.5 Adverse effects on all trees to be retained within or in the vicinity of the site must be minimised by the adoption of suitable mitigation measures. These may include but are not limited to the following:

1. selective removal of lower branches in an approved manner, to reduce mechanical damage by construction plant;
2. the use of matting around the root zone to minimise soil compaction;
3. notwithstanding the management of construction activities to minimise compaction of the ground beneath the entire canopy of the tree. No heavy materials or plant shall be stored, and construction traffic movements shall be controlled, by fencing or other means, to minimise vehicle movement beneath the canopy; and
4. the use of chestnut paling or similar around the trunk to prevent damage.

10.7 *LANDSCAPING AND TREE PLANTING*

10.7.1 In specified locations, new landscaping and planting is to be carried out by the Contractor in accordance with Planning Conditions 7 and 8.

10.7.2 The supply, storage, handling, planting and maintenance of new planting must be undertaken in accordance with the planning conditions and the appropriate British Standards, including, but not necessarily limited to the following:

- (BS5837: 2005) Trees in relation to construction;

- (BS3998: 1989) Recommendations for Tree Works; and
- (BS4428: 1989) Code of Practice for General Landscape Operations (excluding hard surfaces).

10.8 *CONTROL OF INVASIVE AND ALIEN SPECIES*

- 10.8.1 If any invasive alien species listed on Schedule 9, Part II of the Wildlife and Countryside Act 1981 and amendments, is identified within the site or on the site boundary, including Japanese knotweed (*Fallopia japonica*), or giant hogweed (*Heracleum mantegazzianum*), a strategy shall be devised by the Contractor and implemented during the works to manage their presence. The strategy shall follow the Environment Agency guidelines ⁽¹⁾.
- 10.8.2 The strategy must ensure the control of these species and prevent the spread of them within and outside the Site, as this is an offence under the Wildlife and Countryside Act 1981 (as amended). The soil containing these species or parts thereof must be dealt with as contaminated material and disposed of accordingly

(1) <http://www.environment-agency.gov.uk/homeandleisure/wildlife/31350.aspx>

11 **ARCHAEOLOGY AND CULTURAL HERITAGE**

11.1 **ARCHAEOLOGICAL DEPOSITS**

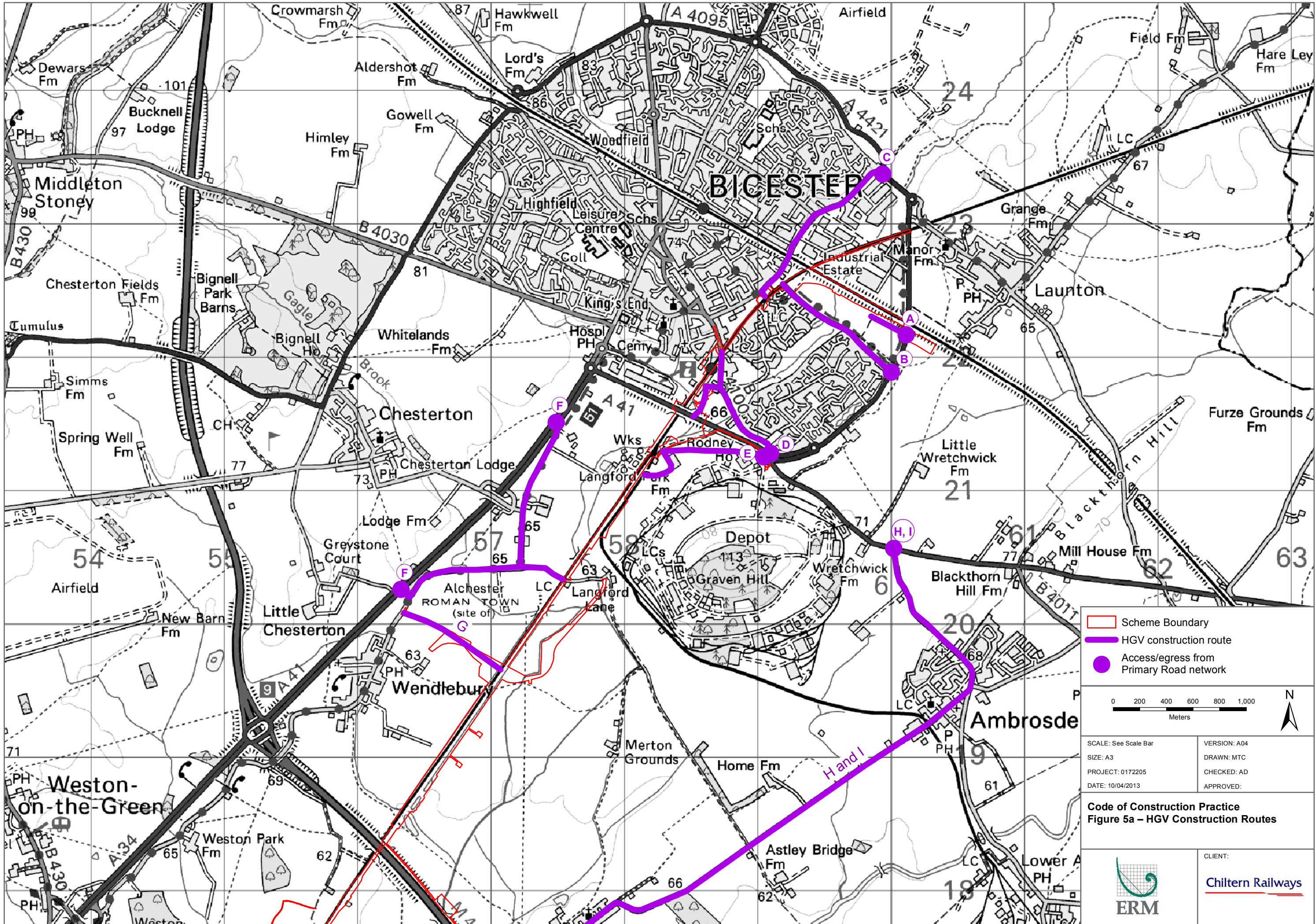
- 11.1.1 A desk top study was undertaken for the Environmental Statement. A further programme of archaeological evaluation was undertaken by CR during 2010 in the vicinity of the Alchester Scheduled Monument. This programme of archaeological evaluation was undertaken by agreement with Oxfordshire County Council and English Heritage to investigate the potential for archaeological remains in the area. This has included desktop study, magnetometer and resistivity geophysical surveys and evaluation trenching to inform the design of mitigation. The results of this evaluation will be made available to the Contractor with instructions as to how any remains are to be protected.
- 11.1.2 CR/NR will complete the preparation and submission of Written Schemes of Investigation, as required by Planning Condition 9.
- 11.1.3 CR/NR will brief and transfer to the Contractor, at the commencement of the main contract, any outstanding archaeological actions set out in the approved Written Schemes of Investigation. These may include further field evaluation, the adoption of watching briefs at certain works, the protection of known archaeological features and the procedure to be adopted in the event of any archaeological finds.

11.2 **HISTORIC BUILDINGS AND STRUCTURES**

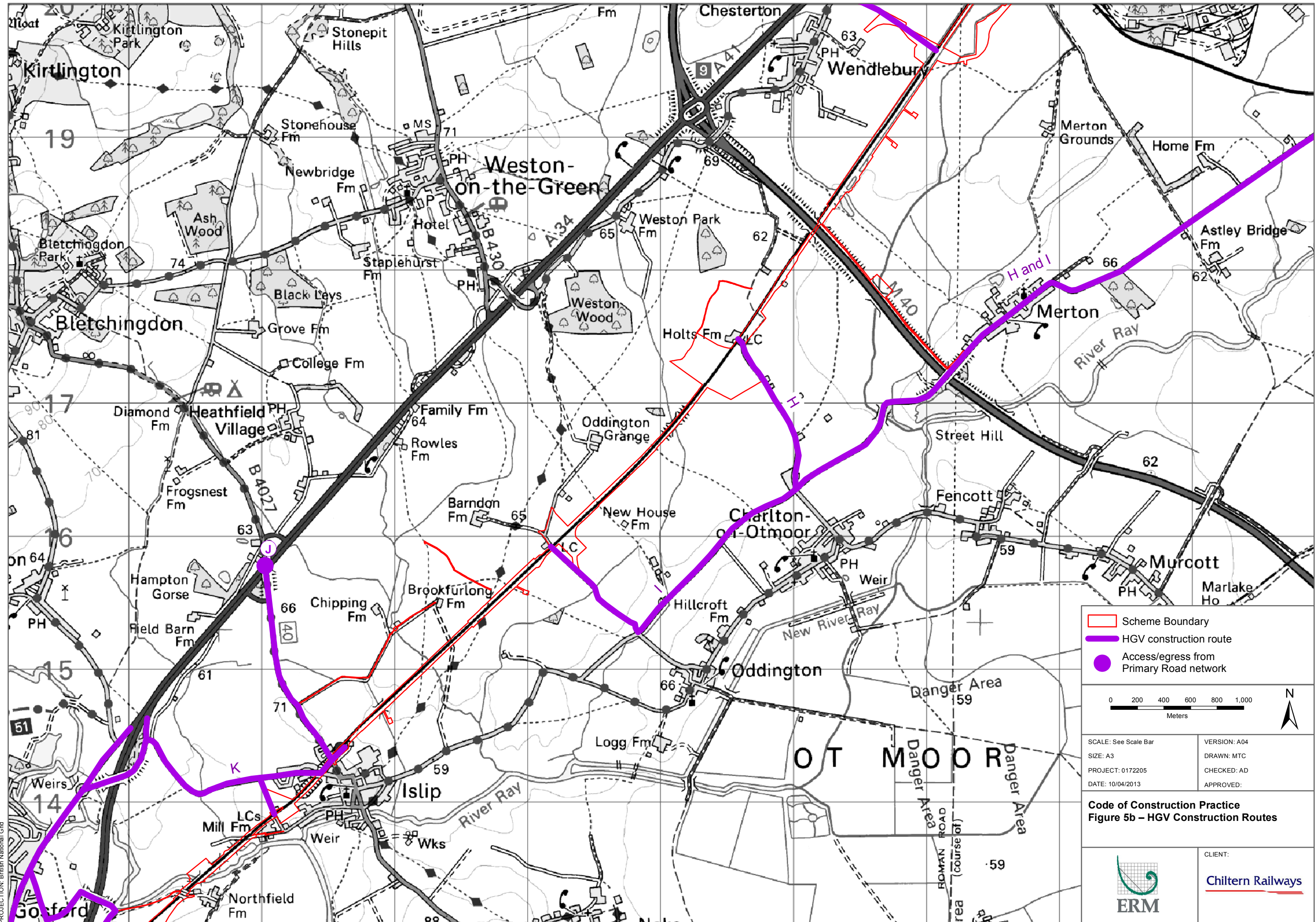
- 11.2.1 A programme of building inspection and recording prior to the removal or reconstruction of historic structures (in particular, the Millstream and Cherwell Viaducts and the Grain Silo at Water Eaton) will be undertaken by an approved buildings archaeology consultant appointed by CR/NR before the relevant works commence.

Annex 1

HGV Routes



PROJECTION: British National Grid




- Scheme Boundary
- HGV construction route
- Access/egress from Primary Road network

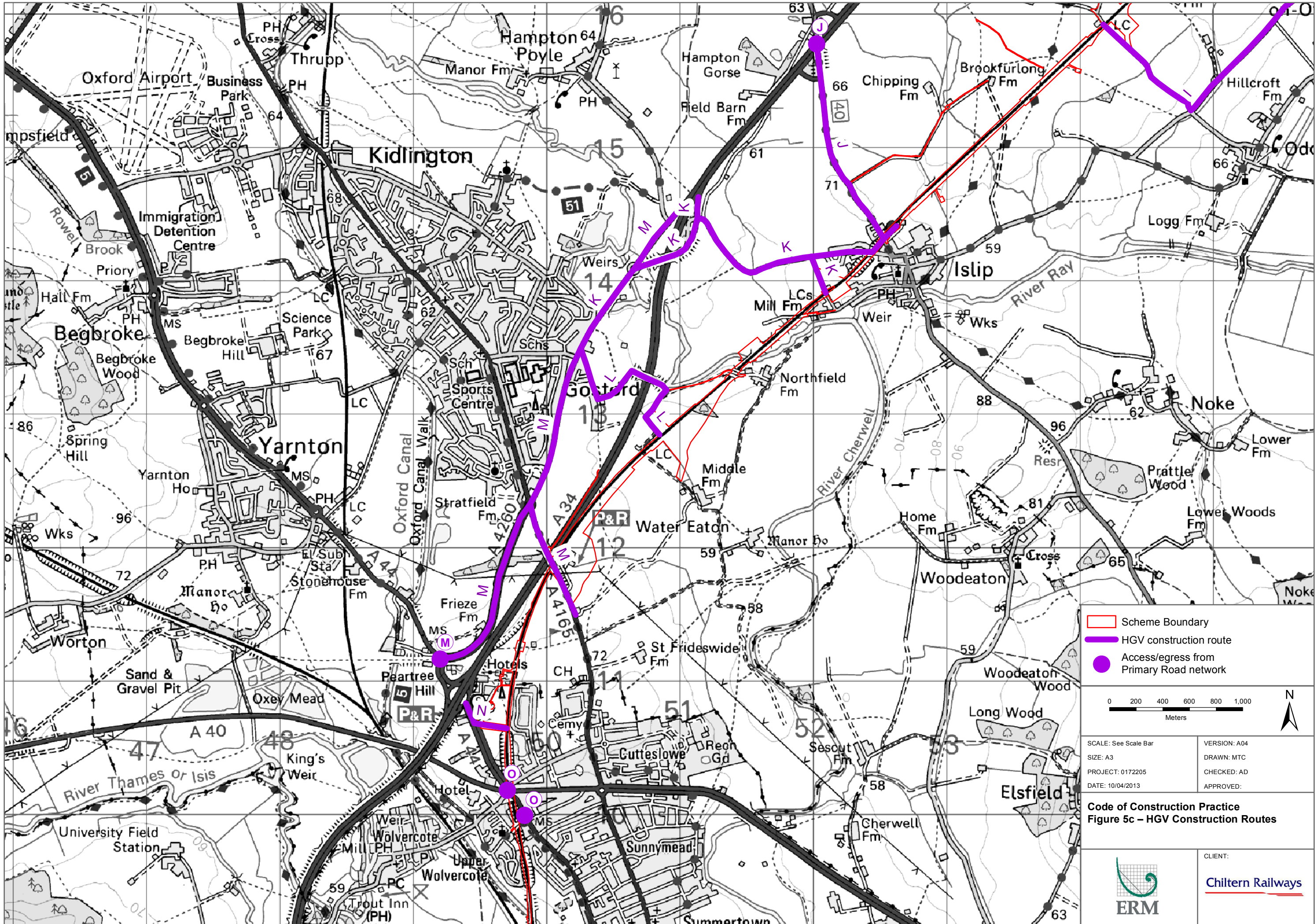


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PROJECT: 0172205	CHECKED: AD
DATE: 10/04/2013	APPROVED:

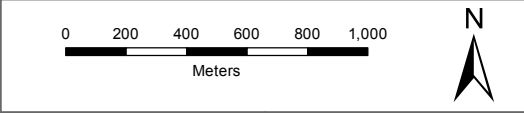
**Code of Construction Practice
Figure 5b – HGV Construction Routes**

 ERM	CLIENT: Chiltern Railways
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PROJECTION: British National Grid



- Scheme Boundary
- HGV construction route
- Access/egress from Primary Road network

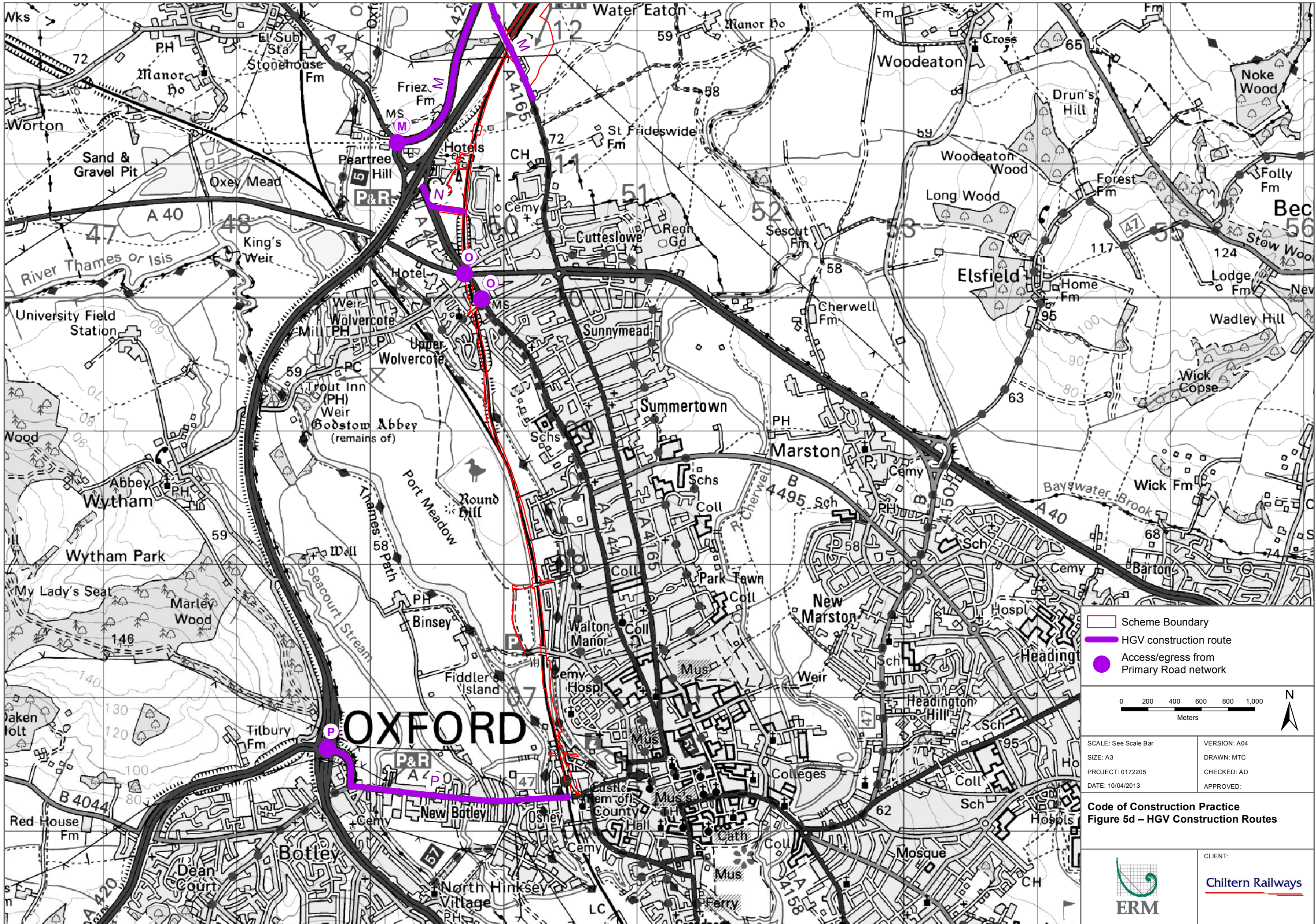


SCALE: See Scale Bar	VERSION: A04
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PROJECT: 0172205	CHECKED: AD
DATE: 10/04/2013	APPROVED:

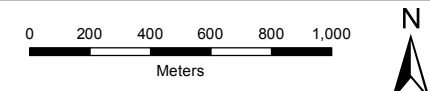
Code of Construction Practice
Figure 5c – HGV Construction Routes

 ERM	CLIENT: Chiltern Railways
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PROJECTION: British National Grid



- Scheme Boundary
- HGV construction route
- Access/egress from Primary Road network



SCALE: See Scale Bar	VERSION: A04
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**Code of Construction Practice
Figure 5d – HGV Construction Routes**



CLIENT:
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