
Construction Environmental Management Plan

ENVIRONMENTAL STATEMENT APPENDIX 2.1

Client Roxhill (Junction 15) Limited

Project Northampton Gateway Strategic Rail Freight Interchange

Date May 2018

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1.0 Purpose of the Construction Environmental Management Plan (CEMP)

- 1.1 This Construction Environmental Management Plan (CEMP) sets out the overarching systems and controls that will be adopted during the construction of the Northampton Gateway Strategic Rail Freight Interchange scheme to minimise any adverse environmental impacts in accordance with the conclusions of the Environmental Statement and Construction Good Practice. The CEMP provides the framework with which all Phase and construction component specific Construction Environmental Management Plans (P-CEMPs) required for each component of development by DCO Schedule 2 Requirement 12, must accord.
- 1.2 The exact number of P-CEMPs will depend on the precise split of components of construction work which has yet to be confirmed. However, P-CEMPs will be provided for:
- Main site (potentially split further into the earthworks, drainage, roads and landscaping)
 - Rail terminal
 - Rail connection and railway works
 - Each component of the highway works as defined by Parts 2 and 3 of schedule 13 of the DCO
 - Each warehouse developed

Obligations, Compliance and Enforcement

- 1.3 The principles set out by the CEMP and the arrangements established through the P-CEMPs, will be incorporated within all construction contracts arising from the development of the scheme and all contractors, their subcontractors and supplier will be required to comply with the overarching principles and details contained in each P-CEMP.
- 1.4 Any non-conformance or infringement with either the CEMP or P-CEMP shall be reported to the Project Manager with 24 hours and proposals for rectifying the non-conformance shall be submitted to the Project Manager within 7 days. The management and reporting of non-conformances will be the responsibility of the Environmental Manager.
- 1.5 The contractor shall submit proposals to the Project Manager, before work commence, for the internal and external auditing of compliance with the CEMP and the P-CEMP. Copies of all audit reports are to be provided to the Project Manager within 7 days of the audit. Furthermore, the Project Manager will undertake audits as and when he sees fit.
- 1.6 Failure to rectify a non-conformance within an agreed timescale may result in relevant works being suspended until the Project Manager is satisfied that the non-conformance has been corrected, or in extreme cases termination of the contract.

1.7 The CEMP will remain valid throughout the construction phase of the scheme.

2.0 Description of the Works

2.1 The development comprises a Strategic Rail Freight Interchange together with landscaping, access and other supporting infrastructure works. It consists of:

- An intermodal freight terminal including container storage and HGV parking, rail sidings to serve individual warehouses, and the provision of an aggregates facility as part of the intermodal freight terminal, with the capability to also provide a 'rapid rail freight' facility;
- Up to 468,000 sq. m (approximately 5 million sq. ft.) (gross internal area) of warehousing and ancillary buildings, with additional floorspace provided in the form of mezzanines;
- A secure, dedicated, HGV parking area of approximately 120 spaces including driver welfare facilities to meet the needs of HGVs visiting the site or intermodal terminal;
- New road infrastructure and works to the existing road network, including the provision of a new access and associated works to the A508, a new bypass to the village of Roade, improvements to Junction 15 and to J15A of the M1 motorway, the A45, other highway improvements at junctions on the local highway network and related traffic management measures;
- Strategic landscaping and tree planting, including diverted public rights of way;
- Earthworks and demolition of existing structures on the SRFI site.

3.0 General Site Management

Roles and Responsibilities

3.1 The site wide coordination and implantation of the principles established in this CEMP through the preparation and agreement of each component specific Construction Environmental Management Plan (P-CEMP), will be the responsibility of the Developer's Project Manager with the support of the developer's Environmental Consultant.

3.2 As each contract comes forward an Environmental Manager will be appointed for that Contract, generally this will be a contractor appointment but in some circumstances the Project Manager may undertake this role or appoint others. The Environmental Manager shall ensure that the principles of the CEMP shall be fully integrated into all site procedures, processes and activities, through the preparation and agreement of P-CEMPs and ensure that

appropriate environmental management systems, under BS 14000 or similar, are put in place through each P-CEMP.

3.3 The Developer's Project Manager who will carry out appropriate audits of the contractors' arrangements to ensure full compliance with the P-CEMP. Any infringement of the P-CEMP or any environmental incident shall be immediately reported to the Project Manager. The contractor will be required to fully investigate the issue and take appropriate corrective action.

3.4 The key contacts are:

- Developer – Mr Ian Rigby, Roxhill Developments Ltd
- Project Manager – TBC (Developer Appointment)
- Ecological Consultant – FPCR
- Landscape Consultant – FPCR
- Engineering Consultant – BWB Consulting
- Principal Contractor – TBC (Developer Appointment)
- Principal Designer – David Matthews - Watermans
- Site Manager – TBC (Contractor Appointment)
- Environmental Manager – TBC (Contractor Appointment)
- Health and Safety Manager – TBC (Contractor Appointment)

3.5 The key firms and individuals may change as the scheme develops, and each P-CEMP should set out and update as appropriate the list of key contacts.

Communications

3.6 The effective implementation of the CEMP through each P-CEMP is intrinsically linked to good communications between all the project stakeholders and the public.

3.7 To promote effective communications during any contract each P-CEMP shall require the following to be implemented at the commencement of each contract:

- The Project Manager will brief the contractor's senior management team on the philosophy and content of the CEMP and details of the relevant P-CEMP, which will generally include the Director responsible for the scheme.
- The Ecological Consultant shall brief the contractor's senior management team on all ecological aspects of the scheme.
- The contractor's Director shall be responsible for developing a site specific induction for all those working or visiting his site. The scope of the induction will be agreed in advance with the Project Manager.

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- 3.8 The contractor's monthly progress report shall include reporting on compliance with the P-CEMP.
 - 3.9 The contractor will provide a programme to achieve continuous improvement of environmental matters during the contract. The Developer wishes to see positive training on environmental matters on an on-going basis.
 - 3.10 The contractor shall develop an appropriate strategy for communicating with the public both before commencement and during the contract.

4.0 Components and Logic

- 4.1 This section of the Construction Environmental Management Plan outlines the different components of works to be carried out and outlines the possible restraints which may have an impact on the way the components are assembled. It sets out how these matters have informed the approach adopted in the preparation of the Indicative Master Programme (see Appendix One).
- 4.2 A P-CEMP must be prepared for each component of development. Where necessary, for example if several contractors are involved in the delivery of a particular component, it may be necessary for multiple P-CEMPs (each specific to individual contractors) to be prepared. Each P-CEMP must accord with the principles set out in this CEMP and must have regard to the details contained in other P-CEMPs for that component of development.

Key Activities

- 4.3 The following table provides a summary of the Key Activities:

Key activity	Works No.
Main Site Earthworks and Drainage	Within all of Works Nos. 1, 2, 3, 4,5 and 6
Main Site Roads	5
Main Site Landscaping	6
Railway works	1 and 3
Rail terminal	2
Main Site Buildings	4
Highway works	7, 8, 9, 11, 12, 13, 14, 15 ,16 & 17
Foul drainage outfall	10

4.4 These activities are described more fully on the Works Plans (Document 2.2) and DCO Schedule 1.

Highway works

4.5 The Highway works are to be undertaken in accordance with the timescales as set out in Schedule 2 Requirement 5 and 6 of the DCO. These timescales are determined as set out in the Transport Assessment and take account of the restraints on phasing of the highway works set out below.

Main Site Earthworks, Drainage, Roads and Landscaping

4.6 The Earthworks, drainage and landscaping is split into two phases as shown on drawing NGW-BWB-GEN-XX-SK-C-SK39 (see Appendix 2) and drawing 5772 – L-39 (see Appendix 3). These phases are split into the years of construction.

4.7 The Main Site Road is split into three phases as shown on drawing NGW-BWB-GEN-XX-SK-C-SK39 (see Appendix 2).

- Main Site from the Access (Component 1) to the end of Zone A1a
- End of Zone A1a to the rail terminal
- End of Zone A1a to end of Zone A1c (end of site road)

4.8 In order for works to commence on the Main Site a temporary Ghost Island construction access will be formed on the A508 together with the creation of temporary construction access tracks and main site compounds as shown on drawing NGW-BWB-GEN-XX-SK-C-SK07 (at Appendix 4).

Railway

4.9 The Railway works (Works Nos. 1, 2 and 3) comprise:

- Connection to Network Rail and Signalling (Part of Works No. 1)
- New Terminal (Works No. 2)
- Reception Sidings (Part of Works No. 1)
- Main Site Railway outside of the development zones (Part of Works No. 1)
- Main Site Railway within the development zones (Works No. 3)

4.10 The Phasing of Railway works is shown on Plan ref 4054-17 (see Appendix 5)

Main Site Buildings

4.11 The Buildings are split into zones as indicated on the Parameters Plan (Document 2.10)

Key Restraints Governing the Logical Phasing of Works

Highway works

4.12 The following highway works can be undertaken at the commencement of the scheme:

- Works No. 7 Site Access
- Works Nos. 8 and 9 (M1 Junction 15 / A45)

4.13 The construction of the Roade Bypass (Works No. 13) will be governed by the methodology and availability of possessions for the bridge over the West Coast Main Line. The other highway works on the A508 are associated with the timing of the construction of the Roade Bypass.

4.14 Works No. 11 (M1 J15A improvements) cannot be constructed at the same time as Works Nos. 7, 8 & 9 (J15 improvements and site access) to avoid working on two adjacent motorway junctions concurrently.

4.15 Other practical restraints may include:

- Design resources
- Construction resource
- Availability of materials
- The mitigation of delays and disruption to the existing highway network
- Statutory Undertaker imposed restraints
- Other third party imposed restraints such as the M1 J13-J16 Smart Motorway to be undertaken by Highways England
- Scale of the Scheme

4.16 The importance of managing the phasing of the works to mitigate delays and disruption on the existing highway network is perhaps the most significant practical restraint. Generally this is best achieved by diverted traffic onto new alignments away from works under construction and controlling the level of interference on the networks at any time.

4.17 The indicative master programme plans the highway works to be carried out sequentially but some overlap should be possible following the detailed design and with agreement from Highways England and Northamptonshire County Council.

Main Site Earthworks, Drainage, Road and Landscaping

- 4.18 The scale of the Main Site earthworks is such that it would be appropriate to adopt a phased approach so that subsequent activities can commence before all the previous tasks have been completed.
- 4.19 Logically, it would be appropriate to commence the earthworks adjacent to the access point and work away from the access. Therefore the Main Site Earthworks, Drainage and Landscaping have been divided into two phases as shown on drawing NGW-BWB-GEN-XX-SK-C-SK39 (Appendix 2).
- 4.20 Phase 1 opens up the development plateaus for the rail terminal and Zones A1a and A4 (refer to the Parameters Plan, Document 2.10) and constructs the key sections of the perimeter screening bund appropriate to screening these areas. This component provides the necessary permanent and temporary drainage and balancing ponds with suitable outfalls.
- 4.21 Phase 2 opens up the development plateau for the rest of the site and constructs the sections of the perimeter screening bund adjacent to this area. This component provides the necessary permanent and temporary drainage and balancing ponds with suitable outfalls.
- 4.22 Landscaping will be installed at the first available planting season following completion of that Component, see drawing 3252-L39 (Appendix 3)
- 4.23 The order of the Main Site Earthworks, Drainage and Landscaping is shown on the Indicative Master Programme (Appendix 1); however, the actual order may change as market needs may dictate.
- 4.24 The Main Site Road (Works No. 5) will generally be constructed concurrently with the development of the adjacent building plateau.

Railway

- 4.25 The key restraints to the Railway components are:
- The Terminal and railway infrastructure cannot be completed until the earthworks have been completed.
 - The Connection to the Northampton Loop line, including the signalling have to be constructed by Network Rail and a 2 year period has been allowed for the lead in period and construction / commissioning of the connection.

Buildings

- 4.26 The building units can only be provided on plots that have a plateau and the screening, bunding and landscaping associated with that building has been provided as indicated on drawing 3252-L39 (Appendix 3). Buildings will not be occupied until the screening and bunding associated with that building are in place.

Indicative Master Programme

- 4.27 The Indicate Master Programme contained in Appendix 1 shows how the works may be assembled.
- 4.28 Final assembly of the works will be undertaken following detailed design, selection of materials and the appointment of key contractors.

5.0 Pollution and Contamination

- 5.1 Pollution and contamination can be pre-existing or caused by construction activities.
- 5.2 Where pre-existing contamination has been found to exist, Contractors will be required to undertake remediation measures identified in the geo-environmental assessment, investigations and reports in a suitable and acceptable manner and at such time as is appropriate. These measures must be agreed with the Environment Agency (EA) before any measures are implemented and verification reports shall be prepared and issued to the EA on completion of the remediation.
- 5.3 A UXO/UXB risk assessment will be undertaken before any intrusive works are undertaken.
- 5.4 In the event that suspected contaminated material is uncovered during the works an appropriate area will be protected, all works will be suspended and a suitably qualified person shall be engaged to investigate and develop a suitable strategy for dealing with any contaminated material.
- 5.5 The contractor shall plan and execute his work to ensure that hazardous or polluting substances do not cause harm to underlying aquifers, surface water systems, landscaping and associated ecology.
- 5.6 At the commencement of any component of earthworks the necessary permanent drainage basins for that component will be constructed and outfalls into the existing water courses will

be provided, in accordance with the drainage strategy contained in the Environmental Statement.

5.7 Additional settlement and control ponds will be provided as necessary during a component to prevent pollution entering the existing water courses.

5.8 The scheme requires significant earthworks which will inevitably increase the risk of pollution to the surface water system. All contractors shall adopt water pollution prevention procedures in line with good practice. In preparing the procedures the contractor shall consider the following as a minimum:

- Published guidance from the Environment Agency
- Control of water pollution from construction site and other documents published by CIRIA
- The site specific requirements of the EA
- Arrangements for monitoring water bodies to ensure and demonstrate water quality
- Fuelling of plant and equipment
- Maintenance of plant and equipment
- Storage of hazardous materials
- Control of concrete truck washout arrangements
- Flood warnings
- The landscape and ecological environment

5.9 All contractors will be required to include water pollution prevention in all inductions and shall arrange update tool box talks at appropriate intervals during the contract.

5.10 All incidents involving water pollution shall be immediately reported to the Project Manager.

6.0 Measures for Controlling Noise and Vibration

Noise

6.1 Contractors will implement measures to minimise the disturbance caused by construction traffic and activities.

6.2 When planning all activities contractors should predict noise levels and review the likely impacts and what can be done to mitigate any adverse impacts.

6.3 If construction activities are likely to cause a potential nuisance at sensitive receptors consideration should be given to noise measurements before and during construction.

6.4 The guidance given in BS 5228: 2009 “Code of Practice for Noise and Vibration Control on Construction and Open Sites” relating to “Methods of Work” will be followed and will be incorporated within the method statement which will form the basis for the implementation of construction works. As required by BS 5228, a survey of background noise will be undertaken prior to the works commencing, and acceptable noise levels established in accordance with Table E.1 of BS 5228: 2009. Any material breach of acceptable noise levels notified to the Environmental Manager will be addressed immediately to ensure no recurrence.

6.5 In planning their work contractors shall consider the following as a minimum:

- Selection of plant and equipment
- Timing of an operation in the programme
- Timing the activity during the day
- Duration of tasks
- Maintenance of plant and equipment
- Use of sound reducing equipment
- Closing down equipment during period of non-use
- Location access routes and haul roads

6.6 Details of the contractor’s proposals for the use of best practical means to manage construction noise control shall be included in each P-CEMP.

Vibration

6.7 Contractors will implement measures to minimise the disturbance caused by construction traffic and activities.

6.8 When planning all activities contractors should consider vibration and review the likely impacts and what can be done to mitigate any adverse impacts.

6.9 If appropriate, a Vibration Impact Assessment should be carried out in accordance with BS5228.

In planning their work contractors should consider the following as a minimum:

- Selection of plant and equipment
- Methods of working
- Duration of activities
- Working hours

Working Hours

- 6.10 Construction work within the development site will be confined to the following:
- 07:00 -19:00 hours Monday to Friday,
- 07:00 -16:00 hours Saturday,
- 6.11 No works will be undertaken on Sundays or public holidays, save in exceptional circumstances only and with prior notification to the LPA.
- 6.12 Any changes to the above working hours will also be agreed with the local Environmental Health Officer.
- 6.13 All delivery vehicles and plant arriving and leaving the site will also comply with the same time restrictions, although site personnel will be permitted to access the site shortly before these hours and exit the site shortly after them. Adherence to the codes of practice for construction working given in British Standard BS 5228 will be required.
- 6.14 Construction work outside the development site will requires night working to comply with the requirements of Highways England or for practical and safety reasons.

7.0 Soil Management and Measures for Controlling Emission of Dust

- 7.1 To prevent and minimise the loss or damage of soil resources requires the adoption of Soil Management measures. Each P-CEMP should incorporate a Soil Management Plan to be undertaken by a suitably qualified practitioner in accordance with the principles outlined in the Construction Code of Practice for Sustainable Use of Soils on Construction Sites. Each P-CEMP will be required to include details such as:
- Depth and method of topsoil stripping and stockpiling, including separation of topsoil resources of different potential.
 - Methods of stripping and stockpiling of higher quality re-useable subsoil (if appropriate).
 - Identification of landscaping topsoil requirements and assessment of suitability and availability of on-site resources (if appropriate).
 - Means of protection of subsoil from compaction damage and remedial measures (ripping/subsoiling) to remove damage.
- 7.2 Many construction activities increase the risk of dust nuisance. Each P-CEMP will be required to set out the details of a dust management plan setting out the methods to be used to control dust and other emissions to air. These should accord with the principles set out below.

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- 7.3 Contractors will plan their activities to reduce the level of risk and mitigate any residual impacts.
- 7.4 Generally the most effective method of dust control is damping using a fine spray. The contractor will fully investigate sources of water and where possible use recycled water. Potable water should not be used.
- 7.5 When sensitive receptors are in close proximity to the site and sources of dust generation the contractor should consider dust monitoring before and during construction. The contractors will be advised to discuss their arrangements with the Environmental Health Officer (EHO).
- 7.6 In planning his activities, contractors should consider the following as a minimum:
- Damping down arrangements
 - Sources of water for damping down
 - Location of haul roads and their surface types and exposed soil following earthworks.
 - Stabilisation of temporary haul roads.
 - Sweeping arrangements of hard surfaces
 - Site speed limits
 - Selection of plant and equipment
 - Maintenance of plant and equipment
 - Covering of payloads while in transit
 - Covering of skips, chutes and conveyors
 - Location and surface treatment of stockpiles
 - Burning will not be permitted on site
 - Consideration of prevailing wind direction
 - Programme and seasonal timing
 - The siting of dust generating activities relative to sensitive receptors.

8.0 Contractor's Facilities including Compound areas, Temporary Buildings and Fencing, Parking areas and Storage of Plant and Materials

- 8.1 It is likely that more than one contractor will be working on the development at any time, each requiring different facilities located at different locations. It is assumed that only one contractor shall be working on any part of the development at any one time.
- 8.2 Indicative locations of the Contractors' Facilities on the Main Site are shown on the Plan at Appendix 2 and 4. It is envisaged that these facilities will also be used as the main compounds for the highway works adjacent to the main site (Works Nos. 7, 8 and 9).

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- 8.3 Indicative locations of the Contractors' Facilities for the Roade Bypass (Works No. 13) are shown on the Highway Plans (Documents 2.4D and 2.4E). It is envisaged that these facilities will also be used as the main compounds for the other works on the A508 (Works Nos. 12 and 14 to 17).
- 8.4 Additional facilities may be provided for each area of works.
- 8.5 Each P-CEMP shall include details of the Contractor's facilities including compound areas, temporary buildings and fencing, parking areas and storage of plant and materials.
- 8.6 When preparing details in accordance with this requirement consideration, as a minimum, shall be given to:
- Size and location
 - Separation from other facilities
 - Separating access routes from working areas
 - Separation of the public from access routes and working areas
 - Storage of Plant and Materials
 - Arrangements for removal following completion of construction.
 - Publishing details of internal circulation routes within the site. The plans shall show how pedestrian routes will be segregated from plant and equipment routes.

9.0 Waste Management

- 9.1 Each P-CEMP shall set out details of construction waste management in accordance with the Framework Site Waste Management Strategy Appendix 14.2 of the Environmental Statement. It is inevitable that some waste will be produced during the construction works. Throughout the construction process, all activities will seek to minimise the generation of waste, utilising the waste hierarchy where practicable, to manage waste. The waste hierarchy seeks to reduce waste through elimination, reduction, re-use, recycling through to disposal as the final option. Handling and disposal of waste must be carried out under the 'Duty of Care' Regulations and current legislation.
- 9.2 Waste management procedures shall be developed and will include the following topics:
- Identification of the types of waste that may be generated;
 - Implementation of re-use and recycling strategies;
 - Implementation of waste minimisation strategies;
 - Set up of waste disposal facilities;
 - Control and management of the disposal of different types of waste;

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- Roles and responsibilities;
 - Monitoring, reporting and auditing of waste produced on site.

Earthworks/Spoil

9.3 The proposed development will seek to minimise the import and export of material, wherever possible. The re-use of materials around the site, as suitable engineering material or infill material, will be carried out whenever possible.

Reduction

9.4 A number of potential options are available to complement construction waste reduction including maximising off-site fabrication, efficient design specification of standardised components/materials, implementing a just-in-time delivery system to minimise the volume of goods/materials stored on site and therefore exposed to inclement weather conditions and other site damage sources.

Re-Use

9.5 Certain materials may have a relatively high level of re-use (e.g. timber, aggregates, brick and block-work) within the construction stage operations. Such wastes may arise from spoiled materials, and natural waste from construction processes. Procedures will include:

- Separate skips/receptacles will be provided to receive different types of specific waste which can be re-used on site.
- Licensed waste carriers will be required to identify possibilities of local community re-use of waste materials.

Recycling

9.6 Certain materials may have a feasible recycling value (e.g. timber, aggregates, plastics, glass, and metals). These may arise from similar construction processes as those identified above for re-use.

Procedures will include:-

- Separate marked skips/receptacles will be provided for the depositing of particular types of waste suitable for efficient recycling; and
- Discussion with licensed waste carriers in respect to the feasibility/efficiency of specific materials recycling.

Disposal

9.7 It is inevitable that certain materials will have to be removed from site for disposal as they have no re-use/recovery value. Procedures to be considered in preparing a Site Waste Management details will include:

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- All wastes which require removal from site for final disposal will be subject to an effective management control regime ensuring statutory compliance. The key components of this regime are illustrated below:
 - Appointing competent and suitably registered waste carrier(s);
 - Establishing an effective site waste stream strategy (recycling, re-use, disposal);
 - Providing an effective waste skip strategy to suit the waste stream strategy and which differentiates between hazardous, non-hazardous and inert wastes;
 - Should asbestos be encountered all potentially asbestos containing materials will be disposed of by a suitably licensed contractor in accordance with relevant guidance and legislation;
 - Providing adequate information/training to site operatives in respect of the waste stream strategy; and
 - Implementing an effective audit procedure, to audit the waste disposal regime from source to licensed disposal facility(s). This will include reviewing all relevant Waste Management Licences and Waste Transfer Licences of all waste contractors on the project. In addition, a record will be kept of all Waste Transfer Notes to ensure that all waste movements from the site are properly documented. Non-Conformance Reports would be issued to ensure any deficiencies are corrected.

10.0 Storage of Fuel, Oil and other Chemicals

- 10.1 Each P-CEMP will set out details for the arrangements for the storage of fuel, oils and chemicals having regard to the location of contractor compounds.
- 10.2 All fuel, oil and chemicals shall be stored in accordance with the Manufacturer's recommendations and any tanks shall be in accordance with PPG7 (above ground oil storage tanks) and PPG22 dealing with spills; or subsequent amendments or replacements thereof.

11.0 Development affecting a Watercourse

- 11.1 Each P-CEMP shall set out details of the watercourse that may be affected by the works. All works affecting a watercourse shall be carried out in accordance with a method statement to be prepared and included in each P-CEMP.
- 11.2 No works within an ordinary watercourse or within the by-law protected strip either side shall commence until a consent has been granted.

11.3 No works within a Main River or within the by-law protected strip either side shall commence until an Environmental Permit has been issued by the Environment Agency.

12.0 Temporary Lighting

12.1 No works within the Main Site are planned to be undertaken in periods of darkness and therefore it is unlikely that task lighting will be required. However, unplanned events can occur for which task lighting may be required for short periods; in this event each P-CEMP shall set out the maximum height of lighting lanterns and the average lux levels.

12.2 The P-CEMP for any component of the highway works shall provide details of requirements for night working and any associated proposals for lighting.

12.3 Temporary lighting will be provided in the contractor's compound for security and safety reasons. Details shall be set out in the P-CEMP including the average lux level.

12.4 Task lighting shall ensure that there is no upward light.

12.5 Lighting will be switched off when not required for safety or security.

13.0 Prevention of Debris on Highways

13.1 Each P-CEMP shall include details of the contractor's proposed measure for cleaning vehicles before leaving site and other measures to ensure mud and other deleterious material is not deposited on the public highway. This shall include arrangements for the use of suction sweepers.

14.0 Routing of Construction Traffic

14.1 Details of the routing of construction traffic shall be set out in the P-CEMP and agreed with the project manager and Highways England and Northamptonshire County Council as appropriate for the relevant component.

14.2 A site wide strategy may be agreed with the appropriate authorities and incorporated into each P-CEMP. All contractors shall then comply with the requirements of that strategy.

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- 14.3 Details of directional signage shall be set out in each P-CEMP to mitigate any adverse impact to the local highway network as a result of vehicles visiting the development during construction. All advisory signage shall be erected before work commences.
- 14.4 The contractor shall provide details of the prohibited and preferred routes to all suppliers and contractors.

15.0 Protecting Biodiversity Interests

Landscape

- 15.1 The Landscape Designer will identify existing landscaping or newly planted landscaping that needs to be protected and details shall be set out in each P-CEMP. Protection shall be provided in accordance with BS 5837: 2012 Trees in relation to design, demolition and construction – Recommendations. Any tree surgery required will be carried out in accordance with BS 3998:2010 Tree Work Recommendations.

Ecology

- 15.2 All P-CEMPs will be prepared in accordance with the Landscape and Ecological Management Plan

Habitats - General

- 15.3 The following principles should be incorporated into each P-CEMP where appropriate.
- 15.4 As a result of the relatively long (in ecological terms) duration of works, itself a result of the restraints associated with the key activities as outlined in section 4.0 above, each P-CEMP will be informed by an update walkover survey that will ensure that an up-to-date baseline informs the specific construction site management measures during each phase to avoid and/or reduce effects on habitats and species.
- 15.5 Key measures are outlined below and would be expected to be required for each P-CEMP.
- 15.6 Prior to the commencement of construction activity, including that required to bring about the change in levels and establish the development platform, a sturdy fence, as detailed in each P-CEMP will be established on the perimeter of development areas at an appropriate distance to take account of tree root protection zones in line with British Standard BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations. This would where necessary be informed by an up-to-date Arboricultural survey of the phase in question.

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- 15.7 No temporary storage of materials, construction of haul routes, or site machinery would be sited within retained habitats as identified in the P-CEMP and access by construction site personnel would be prevented.
- 15.8 An ecological clerk of works will ensure that measures will be implemented to prevent inadvertent damage to retained or created habitats throughout the construction phase particularly where vegetation is to be removed or during works close to retained habitat.
- 15.9 This is to ensure that retained woodland, trees, hedgerows and other vegetation are not adversely affected during the construction process, particularly through compaction of the soil and inadvertent encroachment and damage.
- 15.10 All site personnel will be made aware of the importance of retained vegetation through a briefing prior to commencing work. Movement of earth to facilitate the necessary changes in levels will be undertaken in such a way as not to impact on retained habitats, either through soil compaction or subsidence.
- 15.11 Environment Agency Guidance for Pollution Prevention (GPPs) will be adhered to at all times in order to reduce the chance of chemical spills and other pollution events. Relevant spill kits will be kept on site for the rapid treatment of any spillages, with staff trained in their use present at all times when work is underway. Exclusion fencing will be established along the routes of watercourses and particular care taken in terms of movement of machinery and storage of materials in proximity to these features.
- 15.12 Best practice measures for the industry will be employed according to agreed standards in order to minimise adverse effects on the surrounding area through dust deposition. This will include wheel washes of construction vehicles and dust suppression techniques during periods of dry weather and / or high winds. Measures for the control of dust are considered in greater detail elsewhere in this document.

Habitats - specific

- 15.13 Grassland translocation has been identified as a component of Roade Bypass (Works No. 13). Prior to any construction on the bypass route the P-CEMP will detail the programme of works. Consideration will be given to minimise the duration of storage of the translocated topsoil from the affected section of Roade Field (supporting the seedbed) and preparation of the receptor area.

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- 15.14 The P-CEMP will detail the timing, sequencing and soil-transfer methods for grassland translocation. Initial and aftercare management of the translocation material and establishing grassland is detailed in the Landscape and Ecological Management Plan (LEMP).
- 15.15 High value hedgerows are to be translocated as part of both Phases 1 and 2 of the main site earthworks and during the construction of the Roade Bypass (Works No. 13). Prior to the construction of that component and where hedgerows are to be affected, the P-CEMP for that phase will detail construction site methods used to translocate hedgerow sections. Early consideration will be given to the need to translocate during the dormant season from the end of November to the end of February and as far as possible re-establish hedgerows in a form that matches their original, with the key principals being to transfer as much of the hedgerow material, shrubs and desirable ground flora as possible and minimise disturbance of the soil and damage to roots.
- 15.16 The size and species composition of the hedgerow to be translocated may allow larger sections to be moved through the use of specialist machinery. It is paramount that the time taken between lifting the hedge and establishing it in its new location should be as short as practicably possible as this is when the roots are at their most susceptible to damage. Sections of the translocated hedgerow should be planted in the same order that they were removed. The P-CEMP will detail the sequencing, methods and any watering regime required for translocated hedgerows.

Fauna

Badgers

- 15.17 The Protection of Badgers Act 1992 consolidates the previous legislation on badgers. It aims to protect the species from persecution rather than being a response to an unfavourable conservation status, as the species is common over most of Britain, with particularly high populations in the southwest.
- 15.18 As well as protecting the animal itself, the 1992 Act also makes the intentional or reckless destruction, damage or obstruction of a badger sett an offence. A sett is defined by Natural England as *“any structure or place which displays signs indicating current use by a badger”*.
- 15.19 In addition, the intentional elimination of sufficient foraging area to support a known social group of badgers may, in certain circumstances, be construed as an offence by constituting ‘cruel ill treatment’ of a badger.

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- 15.20 'Interim guidance' issued by Natural England in September 2007 specifically states *"it is not illegal, and therefore a licence is not required, to carry out disturbing activities in the vicinity of a sett if no badger is disturbed and the sett is not damaged or obstructed."*
- 15.21 Prior to the commencement of any construction a pre-commencement badger survey will be conducted to identify the current status of any setts that have been identified or excavated in the interim.
- 15.22 It is anticipated given the current baseline that a licence will be required prior to the commencement of any phase that affects badger setts (e.g. Phases 1 and 2 of the Main Site earthworks). This will be applied for and no construction works undertaken within 30m of any badger sett until this has been granted
- 15.23 The relevant P-CEMP will detail any specific measures required under that licence including details of exclusion zones around existing, retained and proposed artificial setts and any measures proposed to ensure access to retained habitats is maintained.
- 15.24 Consideration will be given by the Project and Environmental Managers, under advice from the ecologist where necessary, to the normal requirement to conduct licensable activities, such as sett closure, to outside of the period from December to June (inclusive).
- 15.25 In the event that any setts are excavated within the application site during the construction period an ecologist will be contacted for advice. Any trenches or holes excavated will be covered or left with a means of escape for Badgers (such as a plant of wood) so that they do not become trapped overnight.
- 15.26 Careful consideration will be given to the storage of mounds of soil, which could be used by Badgers to excavate setts. In particular, the establishment of the landscaped earth bund will require close attention to ensure that Badgers are not harmed during its construction. Areas of the bund to be worked on will be inspected every morning. In the event any evidence of use by badgers is noted work in the area will cease while consideration is given to the best way to proceed.

Bats

- 15.27 15.15 All bats are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and included on Schedule 2 of the Conservation of Habitats and Species Regulations 2017 ("the Habitats Regulations"). These include provisions making it an offence:

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- Deliberately to kill, injure or take (capture) bats;
 - Deliberately to disturb bats in such a way as to :-
 - be likely to impair their ability to survive, to breed or rear or nurture their young; or to hibernate or migrate; or
 - to affect significantly the local distribution or abundance of the species to which they belong;
 - To damage or destroy any breeding or resting place used by bats;
 - Intentionally or recklessly to obstruct access to any place used by bats for shelter or protection (even if bats are not in residence).
- 15.28 The words deliberately and intentionally include actions where a court can infer that the defendant knew that the action taken would almost inevitably result in an offence, even if that was not the primary purpose of the act.
- 15.29 The offence of damaging (making it worse for the bat) or destroying a breeding site or resting place is an absolute offence. Such actions do not have to be deliberate for an offence to be committed.
- 15.30 In accordance with the Habitats Regulations the licensing authority (Natural England) must apply the three derogation tests as part of the process of considering a licence application. These tests are that:
- the activity to be licensed must be for imperative reasons of overriding public interest or for public health and safety;
 - there must be no satisfactory alternative; and
 - the favourable conservation status of the species concerned must be maintained.
- 15.31 Survey work has identified the presence of a small occasionally used bat roost within a field Barn (Barn C) within the Main Site, which was found to support at least five bats during 2013. No bats were identified in the most recent surveys. No evidence of roosting bats was observed in association with any trees on site.
- 15.32 Pre-commencement bat surveys will be completed prior to the production of P-CEMP affecting these areas to ascertain whether potential bat roost habitat is present and, in the event that it is, the up-to-date status of bats within any buildings or trees.
- 15.33 Depending on the results of these surveys a licence may be required to facilitate the demolition of this building or any other building identified as supporting a bat roost. Where relevant the P-CEMP will detail construction site measures required under a condition of

any licence to prevent impacts to roosting bats. This may, depending on the status and nature of any roost identified, have strict season restrictions.

15.34 To avoid disturbance to commuting or foraging bats during the construction period, the potential for impacts to bats from the use of floodlighting within any construction areas would be mitigated by the sensitive design of lighting. Measures to reduce impacts within the P-CEMP may include:

- The use of directional floodlighting around construction areas and site compounds to avoid spill onto retained habitats;
- The use of the lowest intensity possible;
- The use of low pressure sodium (as opposed to high pressure) where possible; and
- The avoidance of lighting that emits high levels of blue/ultra-violet or red/infra-red light.

Reptiles

15.35 The presence of reptiles within the site is confirmed, although populations are highly localised and at a low density. Populations of common lizard are confined to the railway corridor, while grass snake, being a much more mobile species generally is likely to occur at low density more widely.

15.36 Construction works that may have an effect include the of the Roade Bypass (Works No. 13) and bridge over the West Coast Mainline. The P-CEMP for this phase will detail the methodology and availability of possessions for the bridge over the West Coast Main Line and incorporate measures to prevent harm to reptiles, specifically the population of common lizard at this location.

15.37 The broad principles of removal of reptiles from working areas will utilise a range of methods based on the suitability of the habitat to be affected and season:

- Clearance of vegetation over winter, where no suitable over-wintering/hibernacula habitat occurs.
- Passive displacement, where clearance of small isolated areas or homogenous vegetation or suboptimal habitat is proposed.

15.38 Each P-CEMP will set out detailed measures to avoid harm to reptiles which will be based on an up-to-date assessment of suitable habitat location, which can vary year on year depending on land/agricultural use.

Birds

- 15.39 Section 1 of the Wildlife & Countryside Act is concerned with the protection of wild birds. With certain exceptions all wild birds and their eggs are protected from intentional killing, injuring and taking; and their nests, whilst being built or in use, cannot be taken, damaged or destroyed.
- 15.40 Schedule 1 of the Wildlife & Countryside Act 1981 is a list of the nationally rarer and uncommon breeding birds for which all offences carry special (i.e. greater) penalties. These species also enjoy additional protection whilst breeding, as it is also an offence to disturb adults or their dependant young when at the nest.
- 15.41 Wherever possible, clearance of vegetation will be undertaken outside of the bird nesting season (typically taken as March to August inclusive). Where this is not possible a check for nesting birds will be undertaken by an ecologist; in the event that any are identified, an exclusion zone will be established around the nest until the young have fledged. This will be marked clearly with hazard tape and/or Heras fencing. The size of any exclusion area will be determined by the project ecologist, taking into account the species concerned and the activities proposed in proximity to the nest.
- 15.42 Where relevant P-CEMPs will set out measures to prevent disturbance of barn owls if suitable nesting habitat is or has been identified during pre-commencement survey. The installation of barn owl boxes, within the DCO limits, would also be detailed for suitable locations as instructed by the project ecologist; with consideration given to potential future disturbance during subsequent works/phases.

Other Species

- 15.43 Survey work has been undertaken for other protected species including water voles and white-clawed crayfish as part of the ecological impact assessment process. This work has not recorded the presence of these species. In the event that these or other protected species are identified during pre-commencement surveys appropriate measures, including the obtaining of any licenses, would be set out in the P-CEMP for that component.

16.0 Advisory Signage

- 16.1 Each P-CEMP shall set out details of advisory signage to be provided at each public access point advising of possible hazards including the potential for sudden noise. Signage may be required at the following locations:

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- Planned accesses to the works
 - Where public rights of way (PROW) pass adjacent to the site;
 - Along substituted RROW;
 - At any other location where public access is being achieved, authorised or not, and
 - Open bodies of water.

Advisory signage may include:

- Warnings that you are entering a construction site;
- Warning of deep water adjacent to open bodies of water;
- Advisory signs that a PROW has been closed along with a plan of the substituted route;
- Directional signs along substituted PROW;
- Details on how to register a complaint, and
- Emergency telephone numbers.

17 Temporary Surface Water Management System

17.1 The arrangements for the temporary management of surface water shall be set out in each P-CEMP.

17.2 Before any works are undertaken temporary measures to deal with surface water management shall be set out.

17.3 Measures shall be adopted in accordance with PPG5, particular Section 2.2b (balancing lagoons) and 2.2c (filtration) and CIRIA Report C532 “Control of water pollution from construction sites”; or subsequent amendments or replacements thereof.

17.4 Monitoring points shall be established downstream of any temporary balancing lagoons to monitor water quality so that the effectiveness of the measures can be assessed and improved if necessary. Details of monitoring techniques shall be set out in each P-CEMP.

17.5 Testing parameters shall be agreed with the Environment Agency ahead of collection of baseline test data.

18 Public Rights of Way

- 18.1 The existing and proposed Rights of Way are shown on the Access and Rights of Way Plans (Document 2.3).
- 18.2 A combination of appropriate temporary diversions and closures will be implemented before the commencement of any component of works and details shall be set out in P-CEMPs where appropriate.
- 18.3 All permanent routes will be constructed and implemented as soon as practical.
- 18.4 Details of the strategy for the management of Public Rights of Way shall be set out in each P-CEMP, the details shall include temporary routes and the timing of the provision of access to permanent routes.

19 Traffic Management

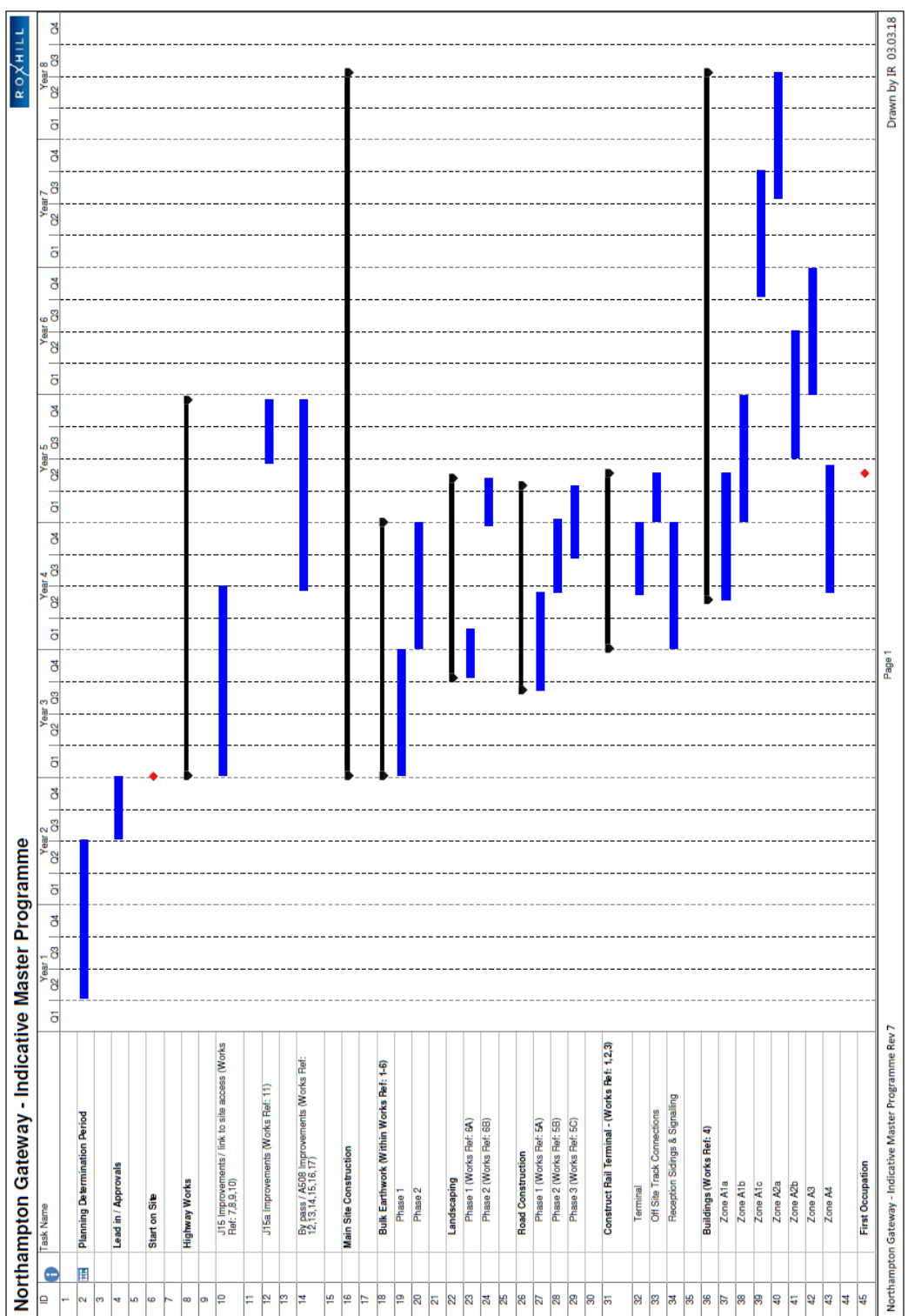
- 19.1 Details of Traffic Management shall be set out in each P-CEMP. This shall have regard to the routing requirements set out in Section 14 and any works required to enable construction access to the site. Details shall also be set out of the Provision for Operatives, Visitors and Delivery vehicles. The contractor's arrangements shall ensure that all vehicles are clearly directed to the contractor's site and suitable arrangements are in place on that site to receive and manage the delivery.
- 19.2 No parking of any kind will be permitted on completed infrastructure either on or off site with the exception of vehicles directly engaged in the maintenance of that infrastructure.
- 19.3 The development shall be carried out in such a manner so as to ensure that emergency vehicles visiting the development, or adjacent properties are unhindered at all times and provided with free flow passage as far as is practicable.
- 19.4 All works on the Public Highway shall be carried out in accordance with the Transport Chapter of the Environmental Statement and the traffic management arrangements agreed with Highways England and / or Northamptonshire County Council as appropriate for the phase.

Site Rules

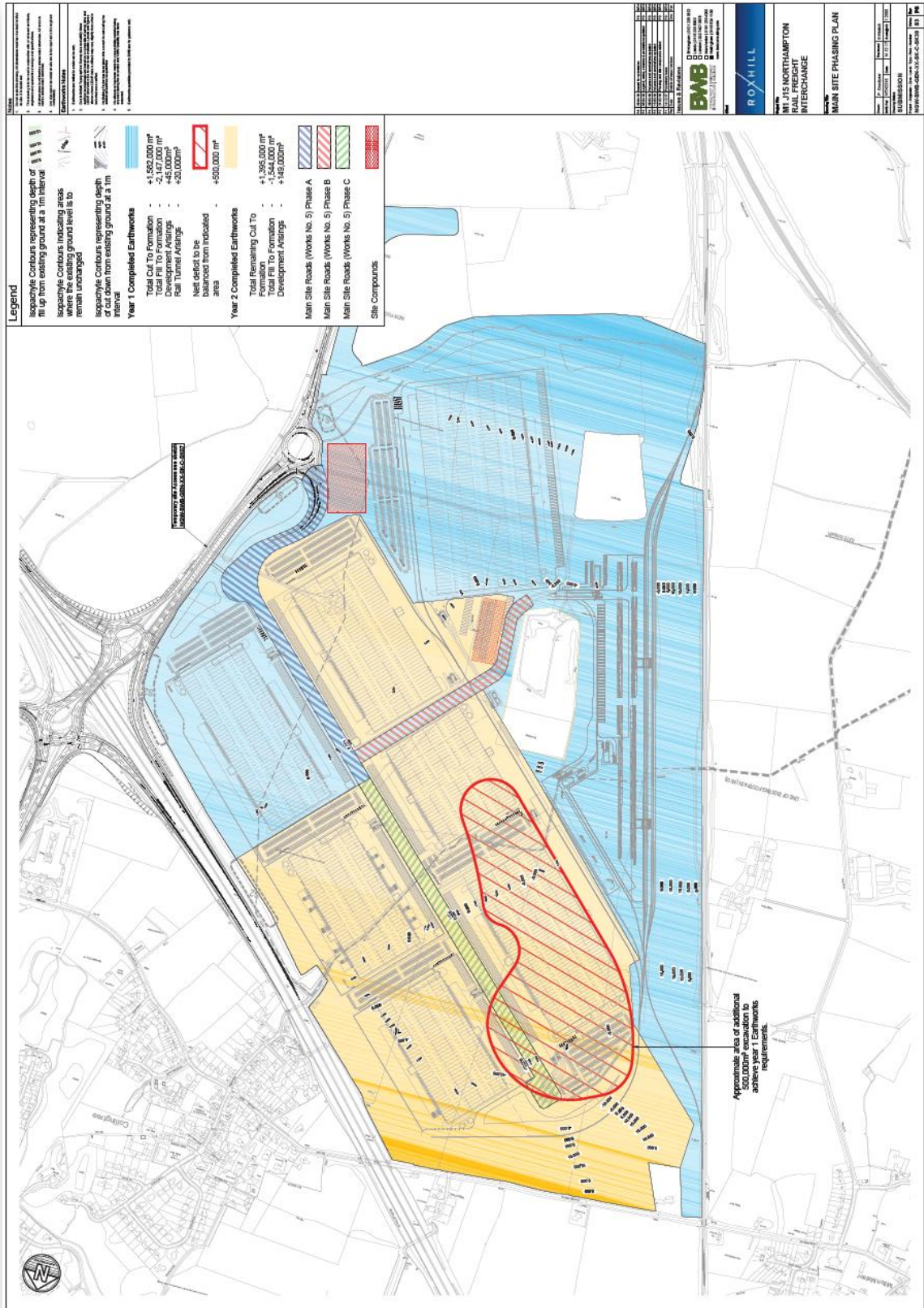
19.5 A set of site rules will be displayed within the site office to set the minimum standard to be adopted by all contractors and Sub-contractors. These will be based on the following:

- All operatives and visitors must wear appropriate PPE (hard hat, high visibility jacket and protective footwear as a minimum), with further equipment to be determined through method statement/risk assessment.
- All operatives and visitors must receive site induction training, including the environmental induction.
- All reversing vehicles must be appropriately supervised by a trained banksman.
- All power tools using temporary electrics are to be transformed down to 110 volts.
- No operative is to misuse or abuse any mechanical or other equipment.
- Only authorised vehicle routes shall be used.
- Segregated pedestrian routes shall be provided.
- Operatives must not report for work if under the influence of alcohol or drugs or consume alcohol or drugs at work or during breaks.
- All operatives and visitors must report any potential safety incidents identified and must not continue with an activity that has been identified as a risk, without an appropriate risk assessment being in place.
- The site will operate a permit to dig system, which will be granted following a review by the Principal Contractor of service drawings and cable locator scan of the area.
- Any accident or incident on site, which requires medical treatment or time off, should be reported immediately to the Site Manager.
- A Site Accident and Incident Log will be maintained by the site manager.
- Parking of vehicles shall only be permitted in designated parking areas. Parking on the Public Highway or the Development Roads will not be permitted.

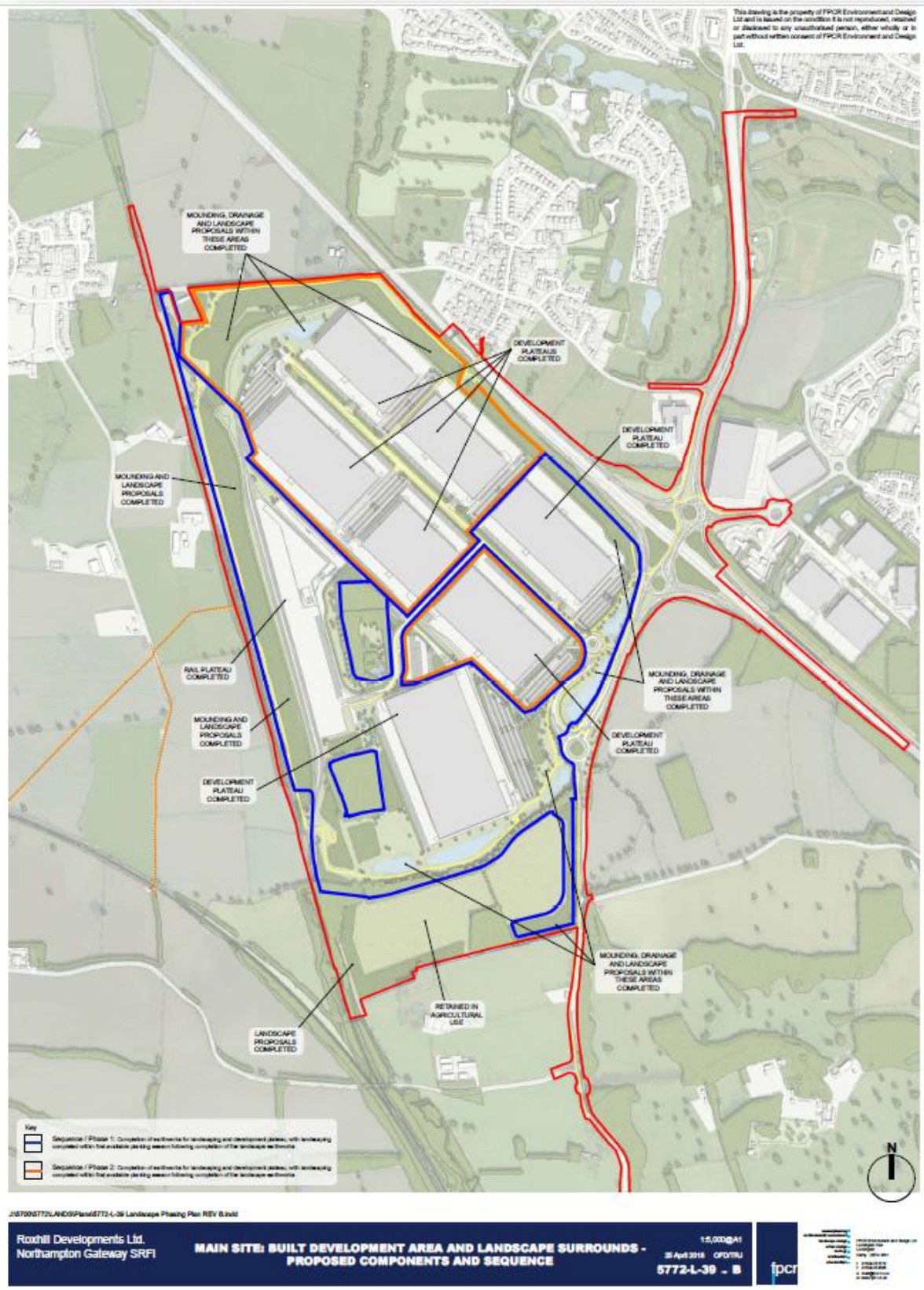
Appendix 01 – Indicative Master Programme



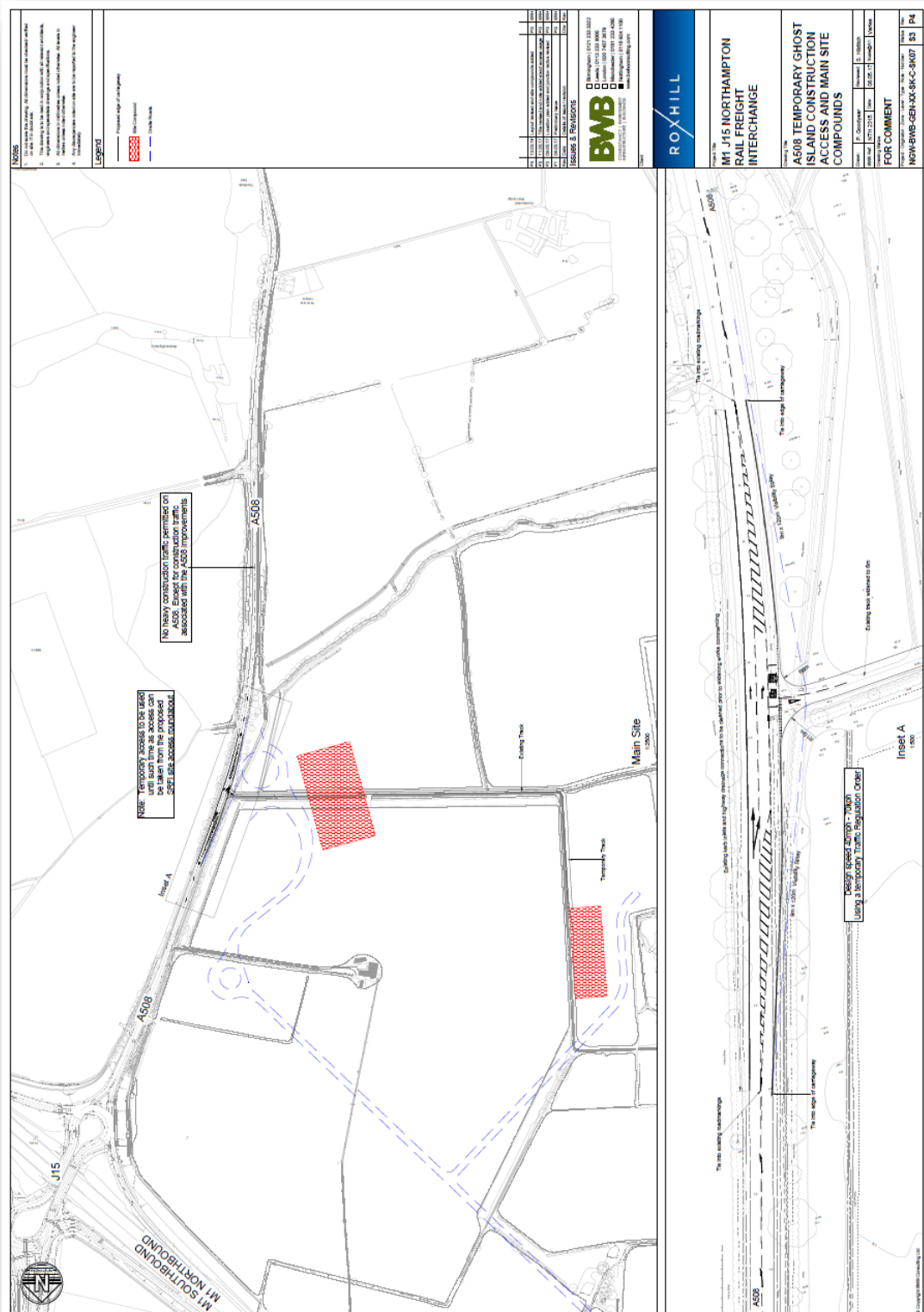
Appendix 02 – Main Site Phasing Plan (ref NGW-BWB-GEN-XX-SK-C-SK39-S3-P6)



Appendix 03 – Built Development Area and Landscape Surrounds – Proposed Components and Sequence (ref 5772-L-39 rev B)



Appendix 04 – A508 Temporary Ghost Island Construction Access and Main Site Compounds (ref SK-C-SK07-rev-P4)



Appendix 05 - Illustrative Rail Terminal (ref 4054-17 – rev- S1)

