

A46 Newark Bypass

Scheme Number: TR010065

6.9 Pre-commencement Plan (Tracked)

8(1)(k)

Planning Act 2008

**Infrastructure Planning (Examination Procedure)
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The A46 Newark Bypass
Development Consent Order 202[#]

Pre-commencement Plan

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Project Information

Client / Employer	National Highways
Project Name	Regional Delivery Partnership – A46 Newark Bypass
Project Number	HE551478
Appointing Party (client)	National Highways
Appointing Party Project Manager	Phil Boffey
Lead Appointed Party (LAP)	Skanska UK Construction Ltd
Project Stage Commencement	PCF Stage 3

1 Overview

1.1 Introduction

- 1.1.1 This document describes the pre-commencement works (as defined by the draft Development Consent Order (DCO) [REP3-003], and included in Section 2.6 of Chapter 2 (The Scheme) of the Environmental Statement [APP-046] for the A46 Newark Bypass (the "Scheme") and details the mitigation measures required to appropriately control those works.
- 1.1.2 The 'pre-commencement works' are listed as follows:
- archaeological investigations and mitigation works;
 - **utilities works comprising utilities protection works or fencing and protection slabs or diversions;**
 - baseline monitoring and investigations for the purpose of assessing and monitoring ground and water conditions and levels;
 - **construction compound establishment including welfare facilities and temporary buildings;**
 - **construction of the temporary bridge over the River Trent;**
 - site clearance;
 - **preparation work for flood compensation areas;**
 - **laying down of haul roads and access works;**
 - environmental surveys, mitigation and monitoring;
 - diversion of public rights of way;
 - **demolition;**
 - erection of temporary fencing;
 - establishment of vehicle recovery areas;
 - installation of temporary CCTV and speed enforcement cameras;
 - vegetation planting;
 - remedial work in respect of any contamination or other adverse ground conditions;
 - receipt and erection of construction plant and equipment; and
 - temporary display of site notices, information and advertisements.
 -
- 1.1.3 Those highlighted in **bold** in the above list are those activities that the Applicant considers will require specific mitigation in addition to the general mitigation as set out in Section 3.
- 1.1.4 The impact of all pre-commencement works is assessed as part of the Environmental Statement [APP-045, APP-046, APP-047, APP-048, AS-021, APP-050, APP-051, APP-052, REP3-009, APP-054, APP-055, REP3-011, APP-057, APP-058, APP-059, REP3-013, APP-061]. In accordance with Requirement 17 of the draft DCO [REP3-003], the Pre-Commencement Plan is a further control document that will

ensure that the pre-commencement works are sufficiently controlled and mitigated.

4.1.61.1.5 This document is organised into two main sections:

- a) “Pre-commencement Activities” – this section of the plan is broken down by pre-commencement work type and describes the types of activities the Applicant envisages undertaking for each of the pre-commencement works highlighted in bold in paragraph 1.1.2. The descriptions provided in this plan are indicative of the type and magnitude of operations required.
This section also contains the more specific mitigation measures required for each activity which will be applied, where necessary, in addition to the General Mitigation Measures contained in Section 3.
- b) “General Mitigation Measures” - this section of the plan sets out the general mitigation measures that would apply to all pre-commencement works.

4.1.71.1.6 This document, together with any required site specific archaeological Written Schemes of Investigation (WSIs) along with the Phase 3 Archaeological Management Plan (Archaeological Mitigation Strategy) as secured by Requirement 9 of the Draft Development Consent Order, would apply to all pre-commencement works.

4.1.81.1.7 It is the intention to restrict the activities detailed in this document to the following working hours: 0700 – 1800hrs weekdays and 0800 – ~~13~~400hrs on Saturdays.

4.1.91.1.8 Where this is not possible, authorisation may be requested from the local authorities to take place outside of these hours and days. Details of the activities, days and times and locations will be included in this request.

4.1.101.1.9 All appropriate and applicable mitigation (detailed in this document) would be employed for all work, both within and out of the hours and days listed above.

1.2 Limitations

- 1.2.1 As the detailed design of the Scheme has not been completed at the time of producing this document, the construction programme and methods have not yet been fully determined. Therefore, the scope and methods described in this document are provided on an indicative basis only, to give an indication of the types and magnitude of the operations. The scope and methods described have therefore been determined as a best estimation using all information available at the time of preparing the pre-commencement plan and are considered to be representative of the worst case. This means that while the specific details of each method may change, the overarching tasks would not.
- 1.2.2 In any event, all pre-commencement works be subject to the general mitigation measures set out in Section 3 of this document and, to the

extent they are relevant, to the specific mitigation measures for each pre-commencement work set out in Section 2 together with the controls contained in the Archaeological Mitigation Strategy (AMS) and associated Written Schemes of Investigation (WSIs)(to be developed based on the principles contained in Chapter 6 of the Archaeological Management Plan (AMP) [REP2-062].

- 1.2.3 The final design of the pre-commencement works would not give rise to materially greater environmental effects than those outlined indicatively in this pre-commencement plan.

2 Pre-commencement activities

2.1 Utilities works comprising utilities protection works or fencing and protection slabs or diversions

Scope

- 2.1.1 Existing overhead and underground utilities have been identified within the Order Limits, including but not limited to: gas mains, electricity cables, oil pipelines, water, and communication cables. For the majority, the utilities would be left uninterrupted and unaffected by the Scheme. If this is not possible, the services would be protected. The specific protection measures would be agreed with the respective statutory undertakers. In some instances, protection will not be feasible, and as a last resort, diverting the services would be implemented.
- 2.1.2 The specification of the protection would be dictated by the asset owner, closely following their requirements. For buried services, this is usually in the form of a reinforced concrete protection slab to spread the load applied by construction traffic passing over it. The concrete protection slab would be constructed in-situ and would be in the region of 10m x 6m typically. The precise dimensions of slabs would be subject to detailed design.
- 2.1.3 For overhead services, protection would be in the form of a demarcated exclusion zone to segregate the main construction works from hazards. The Energy Networks Association (ENA) and Health and Safety Executive (HSE) GS6 guidance would be followed in the establishment of exclusion zones. The precise type of fencing would be determined on a case-by-case basis dependent on the potential risk to the service or the workforce and the duration of main construction works programmed for that area. Longer term protection would likely be in the form of timber post and rail fencing, whereas shorter term protection would likely be formed by temporary anti-climb mesh fencing e.g. Heras fencing.
- 2.1.4 Temporary fences would also be used to segregate the main construction operations from public areas and public rights of way. The type of fence adopted would be determined by the duration of requirement and risk to the public/workforce.
- 2.1.5 Fencing and protection slabs would be adopted site wide wherever the Scheme borders or interacts with a service or the public.

Methodology

- 2.1.6 The methodology would depend on the type of protection selected in each case. Generally, the two main types that are likely to be implemented are described below as an example.
- a) Protection Slabs
 - i. The design and construction methodology of the slab would be agreed and approved by the asset owner in advance of the works.
 - ii. Generally small plant and hand tools are favoured when working around buried assets.
 - iii. The ground would be prepared using mechanical plant (e.g. a small excavator) where permitted.
 - iv. Reinforcing steel would be placed as per the design and timber shutters would be erected to create the form of the slab.
 - v. The form would be filled with concrete, delivered using a concrete wagon, directly placed within the slab.
 - vi. The surface would be finished in accordance with the design and left to cure.
 - vii. The timber shutters would be removed and the ground around the slab would be prepared to match the top level of the slab.
 - viii. Following a temporary works inspection/asset owner's inspection, the slab would be approved for use and subject to an ongoing inspection routine in line with Temporary Works requirements.
 - b) Temporary Fencing
 - i. The type of fencing would be determined by the Applicant in liaison with all relevant stakeholders and landowners.
 - ii. Light duty fencing e.g. Heras fencing, crowd barriers and cone/chain, would be set out by an engineer and would be placed manually by a small gang of operatives using standard assembly procedures.
 - iii. Heavier duty fencing e.g. post and rail, wire mesh, site hoarding, would be set out by an engineer and installed using post drivers or concreted in.
 - iv. The infill panels, e.g. timber rails, wire mesh, wire strands, would be attached using simple hand tools by a small gang of operatives.

Specific Mitigation Measures

- 2.1.7 This section sets out the specific mitigation measures for this pre-commencement work which would be applied in addition to the general mitigation measures found in Section 3 of this document as necessary.
- 2.1.8 This activity would be restricted to the following working hours: 0700 – 1800hrs weekdays and 0800 – 13400hrs on Saturdays.
- 2.1.9 Concrete that would be used in the construction of protection slabs is controlled under *The Control of Substances Hazardous to Health Regulations 2002* (COSHH) and would be managed accordingly.

- 2.1.10 Concrete would be ordered in precise quantities to reduce waste as much as possible. Any waste concrete would be stored on an impermeable surface and allowed to harden. This can then be broken up for use as a recycled aggregate for use in temporary works applications during the main construction phase.
- 2.1.11 Concrete 'washout' produced during the cleaning of delivery wagons would be in a designated area into an impermeable container. This would be removed from site as a waste as described in paragraphs 3.1.24.
- 2.1.12 Access to private property, businesses, community land and facilities and walker, cyclist and horse-rider (WCH) routes as well as access to green and designated open spaces would be maintained and disruption would be minimised as far as possible to minimise impacts upon WCH and the local community.

2.2 Construction compound establishment including welfare facilities and temporary buildings

Scope

- 2.2.1 The scope, methodology and mitigation measures detailed below would apply to all temporary construction compounds.
- 2.2.2 The scope for the main construction compound is at the site of the now disused Nottinghamshire County Council Highway Maintenance Depot site. The site has been selected as a suitable location due to its existing infrastructure and previous use as a maintenance depot.
- 2.2.3 There would be pre-commencement work to establish this compound that would include:
 - a) Upgrading the existing substation.
 - b) Potential widening of the existing access from the Great North Road and creating a new access from the Cattle Market roundabout.
 - c) Vegetation clearance not being retained on site.
 - d) Installation of a new drainage and sewerage system, where required, and connecting to the existing infrastructure.
 - e) Installation of new ducts and cables to provide power, telecoms and data network services to the office units.
 - f) Installation of new road surfacing for internal roads and car parking in areas where the existing is not in a suitable condition.
 - g) Installation of lighting to the site.
 - h) Erection of office cabins and welfare facilities.
 - i) Installation of a vehicle recovery base.
 - j) Installation of electric vehicle charging facilities.
 - k) Installation of boundary fencing and/or timber hoarding around all compounds.

- l) Installation of tree protection barriers for retained trees.
- 2.2.4 There would also be a number of smaller 'satellite' compounds on the Scheme. These sites would also incorporate modular buildings and all other provisions mentioned previously but on a smaller scale and sited on the temporary hard standing described in Section 2 within Temporary haul roads and hardstanding. The mitigation measures listed in Section 3 of this document would be applied for the installation of all satellite compounds.

Methodology

- 2.2.5 Utilities: installed using standard installation techniques, laying ducting, pipework, cables and connections.
- 2.2.6 Culverts: These would be in accordance with all appropriate consents, permits and temporary works designs.
- 2.2.7 Earthworks: all of the compound areas would first have the topsoil layer stripped and stockpiled in a designated bund. The bund would be sealed and seeded. The formation would be trimmed to the required level and the subsoil stockpiled separately from the topsoil. All earthworks would be undertaken in accordance with the measures detailed in Section 3.
- 2.2.8 Hard standing: would be installed as described in Section 2.7.
- 2.2.9 Drainage: would be installed using standard pipe laying and connection techniques.
- 2.2.10 Foundations: if required, the footings would be installed in the form of a small concrete pad or proprietary product in accordance with a temporary works design.
- 2.2.11 Cabins: cabins would be delivered on flatbed/low loader transport, potentially with access directly from the A46 Cattle Market roundabout and lifted into position using a mobile crane or similar. Alternatively, this would be delivered using the access located on the Great North Road. Once in their correct location they would be connected, assembled and commissioned.
- 2.2.12 Paved areas: where practicable, the car park and footways would be paved using standard paving techniques.
- 2.2.13 Landscaping: the area immediately surrounding the offices that is not paved would be prepared using an excavator and seeded where practicable.

Specific Mitigation Measures

- 2.2.14 This section sets out the specific mitigation measures for this pre-commencement work which would be applied in addition to the general mitigation measures found in Section 3 as necessary.

- 2.2.15 The delivery vehicles and any other HGVs would be prohibited from using local roads and would be restricted to the strategic road network in order to access the construction compound. This would predominantly involve the A1 and A46. Where this is physically not possible i.e. if a site entrance is located on a local road, then the distance travelled on the local road network would be minimised to the shortest practical route from the strategic road network and only for authorised vehicles.
- 2.2.16 The maximum number of HGVs used for this task would be revised at the detailed design stage.
- 2.2.17 Wheel washing facilities would be available at the exit of the site to mitigate the risk of mud being transported onto the public highway.
- 2.2.18 While no contaminated land is anticipated in this activity, in the unlikely event that contamination is encountered during excavation works, the procedures detailed in Appendix 9.2 (Contaminated Land Risk Assessment) of the ES Appendices [APP-164] would be adhered to.
- 2.2.19 All crane lifts would be planned by a Lifting Appointed Person in accordance with BS7121:1-2016 who would assess all aspects of the lifting operations and mitigate any environment, health and safety risks.
- 2.2.20 This activity would be restricted to the following working hours: 0700 – 1800hrs weekdays and 0800 – 13400hrs on Saturdays.
- 2.2.21 Temporary acoustic barriers would be constructed for mitigation of noise that block line-of-sight between the affected receptors and clearance activities at the main construction compound and the compounds at Windmill Viaduct and the Nether Lock area.
- 2.2.22 Controlling the quantity and/or on-time of strimmers and chainsaws (the main contributors of noise during this activity) operating within 300 metres of noise sensitive receptors on Sandhills Park or limiting active construction within 300 metres of noise sensitive receptors on Sandhills Park to fewer than 10 days in any 15 consecutive days and a total number of days fewer than 40 in any 6 consecutive months.
- 2.2.23 Where possible, cabins and other site facilities would be elevated using stilts to raise them above the modelled 1 in 30 annual probability event level.
- 2.2.24 Site drainage, including for site compounds and material storage areas, would be designed to connect to existing roads/mains drainage network. Construction drainage network would incorporate measures (i.e. interceptors and silt traps) to prevent the discharge of hydrocarbons, silt and other pollutants to surface or groundwater systems.
- 2.2.25 Access to private property, businesses, community land and facilities and WCH routes as well as access to green and designated open

spaces would be maintained and disruption would be minimised as far as possible to minimise impacts upon WCH and the local community.

2.3 Construction of the temporary bridge over the River Trent

Scope

- 2.3.1 Access to the land parcels to the southern side of the River Trent at Nether Lock is currently limited and restricted. Currently access to the land between the Nottingham to Lincoln railway line and the A46 carriageway is via a narrow stone track between the Kings Marina and the hydroelectric power station at Nether Lock Weir.
- 2.3.2 This track is unsuitable for large construction plant as there are several constraints including low bridges and access through an operating marina. Therefore, a temporary bridge over the River Trent to provide a suitable construction traffic route would be constructed. Access to the temporary bridge crossing would be via Trent Lane, Maltkins Lane and through the temporary compound area to the southern side of the River Trent.
- 2.3.3 The existing access track between the Kings Marina and the hydroelectric power station would need to be utilised in the advanced and pre-commencement works phases to facilitate the construction of the west abutment of the temporary bridge.
- 2.3.4 The temporary bridge design is yet to be determined but would take the form of a Bailey style bridge that would be launched from the embankments of the River Trent.

Methodology

- 2.3.5 A temporary access road and material laydown area would be constructed on either side of the River Trent and would be installed as per the description in Section 2 within Temporary haul roads and hardstanding.
- 2.3.6 Reinforced earth bank seats would be constructed either side of the River Trent. Depending on ground conditions, this may require excavation of each seat location.
- 2.3.7 A concrete plinth and bridge bearings would be installed on the reinforced bank seats.
- 2.3.8 A reinforced earth embankment approach ramp would be installed against the earth bank seats.
- 2.3.9 The temporary bridge would need to be fabricated in sections on the temporary laydown area on the east side of the River Trent.

- 2.3.10 The River Trent would be temporarily closed for access and the bridge would be launched in sections across the river.
- 2.3.11 The bridge launching nose would then be dismantled.
- 2.3.12 Final granular fill and completion of the stone accesses would then be undertaken.

Specific Mitigation Measures

- 2.3.13 This section sets out the specific mitigation measures for this pre-commencement work which would be applied in addition to the general mitigation measures found in Section 3 as necessary.
- 2.3.14 This activity would be restricted to the following working hours: 0700 – 1800hrs weekdays and 0800 – 13400hrs on Saturdays.
- 2.3.15 Access would be maintained and disruption would be minimised as far as possible to minimise impacts upon WCH and the local community.
- 2.3.16 Access to private property, businesses, community land and facilities and WCH routes as well as access to green and designated open spaces would be maintained and disruption would be minimised as far as possible to minimise impacts upon WCH and the local community.
- Eastern embankment of the River Trent – Access would be via the A46 at Brownhills Roundabout and continue south along Lincoln Road before turning onto Trent Lane and Maltkin Lane.
 - Western embankment of the River Trent - Access would be via the A46 Cattle Market Roundabout and continue south along Great North Road before turning onto Ossington Way followed by Mather Road.
- 2.3.17 Vehicles would be prohibited from using any other local roads and would be restricted to the aforementioned routes and the strategic road network. Where it is not possible to access the temporary bridge installation areas via these routes i.e. emergency road closures, then the distance travelled on the local road network would be minimised to the shortest practical route from the strategic road network, and only for authorised vehicles.
- 2.3.18 The maximum number of HGVs used for this task would be revised at the detailed design stage.
- 2.3.19 Wheel washing facilities would be available at the exit of the site to mitigate the risk of mud being transported onto the public highway.
- 2.3.20 While no contaminated land is anticipated in this activity, in the unlikely event that contamination is encountered during excavation works, the procedures detailed in Appendix 9.2 (Contaminated Land Risk Assessment) of the ES Appendices [APP-164] would be adhered to. Any required temporary hard standing and laydown areas would be installed as described in Section 2 within Temporary haul roads and hardstanding.

- 2.3.21 The bridge installation activities would be installed in accordance with all appropriate consents, permits and temporary works designs.
- 2.3.22 Reinforced earth bank seats and any other associated embankments can only be constructed when equivalent floodplain compensation has been provided, see applicable general mitigation on flood risk in Section 3 of this document.

2.4 Preparation works for Floodplain Compensation Areas

Scope

- 2.4.1 Works would be undertaken at the Kelham and Averham FCA and the scope detailed in the respective sections below.

Kelham and Averham FCA

- 2.4.2 Work would be undertaken along the A617 to divert the existing gas main so that it avoids a new piped flood conveyance culvert.
- 2.4.3 Works accesses would be constructed on the east and west side of the A617 to access the works area for the new culvert and the floodplain compensation areas.
- 2.4.4 The new culvert would be constructed in two phases utilising temporary traffic lights and lane closures on the A617. Access to the east side of the culvert would be via a works access off the southbound carriageway of the A617. The land on the east side of the A617 is an active airfield. A secure fence will be erected around the works area.
- 2.4.5 The existing ditch between the culvert and the River Trent would be inspected and cleared where required.
- 2.4.6 Other works at this location would include site clearance, tree protection barrier installation, archaeological investigation and construction of haul road routes, including modifications to the existing access to the existing access from the A617, which would be completed in accordance with the mitigation detailed in Section 3 of this document.

Methodology

- 2.4.7 Works access would be constructed on the east and west side of the A617 to access the works area for the new culvert.
- 2.4.8 The medium pressure gas main would be diverted to raise the main above the soffit of the new culvert.
- 2.4.9 The new culvert would be constructed in two phases, utilising temporary traffic lights and lane closures on the A617. Access to the

east side of the culvert would be via a works access of the southbound carriageway. Traffic management would then be switched to allow access to construct the west side of the culvert crossing. The land on the east side of the A617 is in an active airfield and a secure fence would be erected around the works to delineate the airfield from the works area.

- 2.4.10 The carriageway would be planed out and a trench excavated to the width of the new culvert.
- 2.4.11 The excavation would be benched or have trench sheets installed to support the sides of the excavation.
- 2.4.12 Pipe bedding would be placed at the base of the excavation and the concrete pipes placed to the correct level. Concrete surround would then be placed around the pipes.
- 2.4.13 The carriageway would be reinstated and a new headwall would be constructed.
- 2.4.14 The existing ditch between the culvert and the River Trent would be inspected and cleared where required using hand tools or with a small 3 tonne excavator.

Specific Mitigation Measures

- 2.4.15 This section sets out the specific mitigation measures for this pre-commencement work which would be applied in addition to the general mitigation measures found in Section 3 of this document as necessary.
- 2.4.16 This activity would be restricted to the following working hours: 0700 – 1800hrs weekdays and 0800 – 13400hrs on Saturdays.
- 2.4.17 Access to private property, businesses, community land and facilities and WCH routes as well as access to green and designated open spaces would be maintained and disruption would be minimised as far as possible to minimise impacts upon WCH and the local community.
- 2.4.18 Temporary acoustic barriers would be constructed for mitigation of noise around Kelham and Averham FCA during its construction that block line-of-sight ~~To~~ avoid significant effects, temporary acoustic barriers would be constructed for mitigation of noise around Kelham and Averham FCA during its construction that block line-of-sight between the affected receptors and construction activities.
- 2.4.19 Additional control measures would be provided including:
 - Controlling the quantity and/or on-time of the excavators and dozers (the main contributors of noise during this activity);
 - Fitting the excavators and dozers with efficient exhaust reduction equipment and keeping manufacturers' enclosure panels closed;

- Or limiting active construction to fewer than 10 days in any 15 consecutive days and a total number of days fewer than 40 in any 6 consecutive months.
- 2.4.20 Concrete that would be used in the construction of the culvert surround is controlled under *The Control of Substances Hazardous to Health Regulations 2002* (COSHH) and will be managed accordingly.
- 2.4.21 Concrete would be ordered in precise quantities to reduce waste as much as possible. Any waste concrete would be stored on an impermeable surface and allowed to harden. This can then be broken up for use as a recycled aggregate for use in temporary works applications during the main construction phase.
- 2.4.22 Concrete 'washout' produced during the cleaning of delivery wagons would be in a designated area into an impermeable container. This would be removed from site as a waste as described in paragraphs 3.1.24.
- 2.4.23 Any required temporary hard standing and accesses would be installed as described in Section 2 within Temporary haul roads and hardstanding.
- 2.4.24 The culvert would be installed in accordance with all appropriate consents, permits and temporary works designs.
- 2.4.25 Clearance of the ditch between the culvert at Kelham and the River Trent would be completed in accordance with all appropriate consents, permits and temporary works designs.
- 2.4.26 Arisings removed from the ditch between the culvert at Kelham and the River Trent would be spread along the top of the embankments of the ditch and allowed to naturally revegetate.
- 2.4.27 In order to access the FCA's, delivery vehicles and HGVs would use the following routes:
- Kelham and Averham FCA – Access would be via the A46 at Cattle Market Roundabout, heading west along the A617.
 - Farndon East and West FCA's - Access would be via the A46 utilising temporary haul road from the A46 carriageway.
- 2.4.28 Vehicles would be prohibited from using local roads and would be restricted to the aforementioned routes and the strategic road network. Where it is not possible to access the FCA's via these routes i.e. emergency road closures, then the distance travelled on the local road network would be minimised to the shortest practical route from the strategic road network and only for authorised vehicles. The maximum number of HGVs used for this task would be revised at the detailed design stage.
- 2.4.29 Wheel washing facilities would be available at the exit of the site to mitigate the risk of mud being transported onto the public highway.
- 2.4.30 While no contaminated land is anticipated in this activity, in the unlikely event that contamination is encountered during excavation

works, the procedures detailed in Appendix 9.2 (Contaminated Land Risk Assessment) of the ES Appendices [APP-164] would be adhered to. Dust would be controlled on site using water suppression systems.

- 2.4.31 The culvert would be capped following installation to prevent flooding of the land at Kelham and Averham prior to the FCA being completed.

2.5 Laying down of haul roads and access works

- 2.5.1 The detailed design of the temporary haul roads and access works have not been developed at this stage, though they would be essential in enabling other pre-commencement tasks and in preparation for the main construction phase.
- 2.5.2 Haul road and access works areas are required at various locations site wide for the purpose of temporary access point, temporary welfare/compound areas, temporary working platforms (e.g. for cranes to operate safely), temporary laydown areas, temporary bridge fabrication area and temporary haul roads for use in the main construction phase.
- 2.5.3 Their dimensions would vary greatly depending on their purpose and each would be subject to a design to ensure they fulfil their performance requirements.
- 2.5.4 All the haul roads and access areas would be constructed from a granular stone material that would be permeable to avoid any issues involving surface water runoff.
- 2.5.5 Haul routes would be required to form a suitable travelling surface for vehicles to access areas remote from the public highways and will be approximately 6m wide.
- 2.5.6 Sites with known or potential below ground archaeological remains would be mitigated prior to installing the haul route, hard standing or any other temporary works. This would be done in accordance with the approved archaeological Site Specific Written Scheme of Investigation and Phase 3 Archaeological Management Plan (Archaeological Mitigation Strategy).
- 2.5.7 Areas where haul roads and hardstanding are to be installed would be stripped of vegetation before topsoil is stripped and stored.
- 2.5.8 Hardstanding areas may be required for parking / compound / storage to facilitate the archaeological mitigation works – where these are required they would be located adjacent to or away from the relevant archaeology such that archaeological mitigation is not required prior to their installation.
- 2.5.9 Where haul roads and access areas can be excluded from tree root protection areas (RPA), barriers in accordance with *BS 5837:2012* should be erected to create a construction exclusion zone. Where, due to site constraints, construction activity cannot be fully or

permanently excluded in this manner from all or part of a tree's RPA, ground protection in accordance with *BS 5837:2012* and capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil must be installed.

Methodology

2.5.10 Significant Plant/Materials expected include:

- 360° tracked excavators
- Tracked dozers
- Rollers
- Stone delivery vehicles (HGV's)
- Granular stone material

2.5.11 Proposed sequence:

- a) Access would be gained via designated site access points, direct from public highways.
- b) The required construction plant would be delivered on flatbed vehicles/low loaders and offloaded within the site bounds. Alternatively, if a site haul route previously established is available, access would be prioritised within and through site and away from the public highway.
- c) Stone delivery vehicles would arrive via road through the site access point, travel to the work area and tip the imported stone.
- d) The stone would be placed and spread using a combination of excavators and dozers. Generally, the dozers would spread the bulk of the material and the excavators would complete the trimming of the surface and edges.
- e) The surface, once filled to the designed level, would be compacted using a roller.
- f) Haul routes would progress in a linear fashion heading away from the designated access point enabling the construction plant to be positioned on the newly laid platform, placing new material ahead of itself.

Specific Mitigation Measures

2.5.12 This section sets out the specific mitigation measures for this pre-commencement work which would be applied in addition to the general mitigation measures found in Section 3 of this document as necessary.

2.5.13 This activity would be restricted to the following working hours: 0700 – 1800hrs weekdays and 0800 – 13400hrs on Saturdays.

2.5.14 Vegetation removal and topsoil stripping would be undertaken in accordance with the mitigation measures detailed in Section 3.

- 2.5.15 The routes of the stone delivery vehicles, plant delivery vehicles and any HGVs would be planned to prioritise the use of the strategic road network in order to access the site. This would predominantly involve the A1 and A46. Where this is physically not possible i.e. if a site entrance is located on a local road, then the distance travelled on the local road network would be minimised to the shortest practical route from the strategic road network and only for authorised vehicles.
- 2.5.16 The maximum number of HGVs accessing the Scheme for this operation would be dictated by the design of the temporary hard standing.
- 2.5.17 Access to private property, businesses, community land and facilities and WCH routes as well as access to green and designated open spaces would be maintained and disruption would be minimised as far as possible to minimise impacts upon WCH and the local community.
- 2.5.18 Wheel washing facilities would be available at the exit of the site to mitigate the risk of mud being transported onto the public highway.
- 2.5.19 A localised area of the Scheme identified a hotspot of soil hydrocarbon and PAH contamination (GI locations WS46 and S3BH05, and borehole BH11 at Nether Lock in the centre of the Scheme). At the hotspot location, and at Nether Lock, a haul road and general temporary work area would be provided. Appendix 9.2 (Contaminated Land Risk Assessment) of the ES Appendices [APP-164] details specific mitigation measures for these locations:
- The location of the contamination hotspot (WS46 and S3BH05) would be recorded and documented by the detailed design. Before construction commences, the Principal Contractor would install fencing and signage, clearly identifying and restricting access to the area.
 - Toolbox talks are to be provided for site staff prior to working at Nether Lock.
 - The Principal Contractor would ensure standard health and safety procedures are in place and best practices are followed during construction works.
- 2.5.20 If unexpected contamination is identified, the procedures detailed in Appendix 9.2 (Contaminated Land Risk Assessment) of the ES Appendices [APP-164] would be followed.
- 2.5.21 Dust would be controlled on site using water suppression systems.
- 2.5.22 Haul roads above existing ground level and any other associated embankment can only be constructed when equivalent floodplain compensation has been provided. This does not apply to haul roads outside of flood zones 2 and 3, or for haul roads at or below existing ground level. See applicable general mitigation on flood risk in Section 3 of this document.

2.6 Demolition

- 2.6.1 The pre-commencement demolition works are limited to:
- a) The A46 Mint Leaf Restaurant at the Friendly Farmer roundabout to enable the construction of the new dual carriageway for the new A1/A46 crossing.
 - b) Old Nottinghamshire County Council Highway Maintenance Depot site which would be the main construction compound.

Methodology

- 2.6.2 The precise methodology and sequence of demolition / dismantling would be developed with a specialist demolition contractor to minimise the impact on the surrounding area and to remove the buildings using the safest possible methods.
- 2.6.3 Generally, the demolition of the Mint Leaf restaurant and the Maintenance Hangar would involve the use of specially equipped excavators and other similar plant to carefully deconstruct the buildings in small sections. The demolition methodology for these properties would be agreed with the demolition contractor in advance of the works and would be based on distance to other residential properties and the type of building being deconstructed. The demolition waste would be removed from site on HGV's and recovered/recycled/disposed as appropriate.
- 2.6.4 Access to the two locations would be direct from/to the strategic road network.

Specific Mitigation Measures

- 2.6.5 This section sets out the specific mitigation measures for this pre-commencement work which would be applied in addition to the general mitigation measures found in Section 3 of this document as necessary.
- 2.6.6 This activity would be restricted to the following working hours: 0700 – 1800hrs weekdays and 0800 – 13400hrs on Saturdays.
- 2.6.7 Temporary acoustic barriers that block line-of-sight between the affected receptors and demolition would be constructed at site works visible from Sandhills Park and Alexander Avenue.
- 2.6.8 Demolition works associated with both structures would include the following additional control measures:
- Controlling the on-time of the excavator with breaker attachment (the main contributor of noise during this activity);

- Fitting an appropriate muffler or sound reduction equipment, ensuring all leaks in the air line are sealed, and using a dampening bit to eliminate ringing;
 - Limiting active construction within 300 metres of affected receptors to fewer than 10 days in any 15 consecutive days and a total number of days fewer than 40 in any 6 consecutive months.
- 2.6.9 A bat licence would be required from Natural England for the demolition of the Mint Leaf Restaurant which would be applied for by the Ecological Clerk of Works (ECoW). Prior to any demolition works to the Mint Leaf Restaurant, a bat box would be installed on a nearby tree, over 100 metres from any heavy construction works (e.g., pile driving). An inspection of the building would also be required by the licensed ecologist or accredited agent prior to demolition. Where no roosts are identified, any suitable roosting features would be made unsuitable by soft stripping of materials or backfilling crevices. Where a roost is identified, the bat(s) would be translocated to the nearby bat box by the licensed ecologist or accredited agent, under the terms of the licence. Soft stripping will be undertaken in March to April and/or October to November inclusive, where possible, outside of the active bat season (subject to weather conditions at the time) to reduce the risk of injuring or killing a bat.
- 2.6.10 Where necessary effective water suppression for dust would be used during demolition operations with handheld sprays being preferred as they are more effective than hoses attached to equipment as the water can be directed to where it is needed. In addition, high volume water suppression systems, manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground.
- 2.6.11 No ambient air quality monitoring would be required for dust or particulates; however, visual inspections would be undertaken daily for dust deposition on and off site.
- 2.6.12 Explosive blasting would be avoided where possible, using appropriate manual or mechanical alternatives.
- 2.6.13 The Applicant would comply with measures set out in any required Asbestos Management Plan which would be prepared for the Scheme by a competent and experienced specialist contractor, in advance of the demolition activities, and any hazardous materials encountered would be managed in line with legislation and safe practice.
- 2.6.14 Noise and vibration monitoring would be undertaken where necessary and after risk-assessing the activities and/or receptors. Noise and vibration mitigation would be implemented as required, as described in Section 3.
- 2.6.15 The removal vehicles, plant delivery vehicles and any HGVs would be prohibited from using local roads and would be restricted to the strategic road network in order to access the demolition sites. This would predominantly involve the A1 and the A46.

- 2.6.16 The maximum number of HGVs used for this task is unknown at this stage.
- 2.6.17 Wheel washing facilities would be available at the exit of the site to mitigate the risk of mud being transported onto the public highway.
- 2.6.18 While no contaminated land is anticipated in this activity, in the unlikely event that contamination is encountered during excavation works, the procedures detailed in Appendix 9.2 (Contaminated Land Risk Assessment) of the ES Appendices [APP-164] would be adhered to.

3 General Mitigation Measures

- 3.1.1 This section details the general mitigation measures that would be implemented to control the pre-commencement works. It covers all relevant sections of the First Iteration EMP [REP3-022].
- 3.1.2 For each pre-commencement activity, the construction methods would be reviewed in-line with this document and all applicable general mitigation measures would be implemented. For example, any operations involving construction plant would be controlled by the Fuels and Oils section (paragraphs 3.1.83 - 3.1.85). If that operation also involved an interaction with a watercourse, it would additionally be controlled by the section on water quality (paragraphs 3.1.66 - 3.1.82).
- 3.1.3 Mitigation measures can be considered as:
- a) Source control (i.e. to prevent fine sediment-laden runoff forming and to treat contaminated runoff close to where it forms).
 - b) Barriers and conveyance measures (i.e. to prevent site runoff draining uncontrolled into water bodies and to direct and treat it en-route to storage areas).
 - c) Storage and final treatment areas (i.e. where water is stored on site and treated to the required quality prior to it being discharged from the site).
- 3.1.4 The mitigation measures set out in this document are considered sufficiently detailed to control the pre-commencement works and as such, would not be subject to further consultation or approval as part of the discharge of requirements.

3.2 Air quality

- 3.2.1 Dust would be controlled on site using water suppression systems.
- 3.2.2 Stockpiles of materials would be appropriately managed to protect from any dust or particles migrating in the wind. Soil stockpiles would be designed to be lower, sealed (smoothing and compacting the surface) and/or seeded to encourage vegetation growth and minimise dust generation.
- 3.2.3 Site speed limits would be strictly enforced so that less dust is generated from the slower travelling vehicle speed.
- 3.2.4 Materials would be handled appropriately to reduce the creation of dust. This can include pretreating dry materials with water and using lifting and transport methods that generate less dust.
- 3.2.5 Air quality monitoring will be undertaken where necessary and after risk assessing the activities and/or receptors.

3.3 Noise and vibration

- 3.3.1 Best practicable methods would be implemented to reduce noise as far as possible. This may include acoustic barriers, agreement of suitable permitted working hours with the local authority, and the use of new and well-maintained plant and equipment.
- 3.3.2 All plant and equipment to be used on site would be modern and well maintained and inspected regularly.
- 3.3.3 Equipment, including vehicles, would be shut down when not in use and parked as far away as reasonably practicably from the closest residential property.
- 3.3.4 Vehicles shall not wait or idle on public roads or at access points with their engines running.
- 3.3.5 The team would, as far as reasonably practicable, ensure that the noise from reversing alarms is controlled and limited through either use of a banksman or through use of white noise reversing alarms.
- 3.3.6 Shouting and raised voices would be kept to a minimum and no foul/offensive language would be used.
- 3.3.7 Noise and/or vibration monitoring would be carried out, if required. The location and duration of this monitoring would be designed to record noise and/or vibration from construction activities experienced by a representative sample of the local population.
- 3.3.8 Where required for the works, Section 61 agreements would be sought from the Local Planning Authority.

3.4 Waste

- 3.4.1 Any waste generated during the pre-commencement works would be managed to ensure that all duty of care requirements are complied with.
- 3.4.2 Green waste arisings from vegetation clearance would be chipped on-site and reused in the landscaping, or sent off-site for processing, likely to be composted.
- 3.4.3 Waste arisings from demolition works would be sorted and managed as high up in the waste hierarchy as possible; reuse on site would be the first option (i.e by crushing, blending and subsequent reuse as an aggregate), or sent to a recycling/recovery facility.
- 3.4.4 On-site facilities would be provided to separate waste to enable the recovery of material through recycling.
- 3.4.5 Where waste must be taken to a recycling or disposal site, the Principal Contractor would ensure that the site has the appropriate permits and that it is located as close to the works as possible.

- 3.4.6 Potential hazardous waste would be identified and separated from other waste streams to avoid contamination. Any asbestos identified would require specialist disposal.
- 3.4.7 Other schemes in close proximity to the Scheme would be offered surplus soils for reuse on land.
- 3.4.8 All reasonable steps would be taken to:
- a) Prevent unauthorised or harmful deposit, treatment or disposal of waste.
 - b) Prevent a breach (failure) by any other person to meet the requirement to have an environmental permit, or a breach of a permit condition.
 - c) Prevent the escape of waste.
 - d) Ensure that waste is transferred by and to an authorised person.
 - e) Provide an accurate description of the waste when it is transferred to another person, by using a compulsory system of Waste Transfer Notes (WTN) that control the transfer of waste between parties.

3.5 Biodiversity and landscaping

- 3.5.1 To enable the main construction works, clearance of vegetation (trees, hedgerows and ground vegetation) site wide within the Order Limits would be required.
- 3.5.2 A Permit to Clear is a procedure adopted by the Principal Contractor that ensures all aspects including archaeological remains are checked pre-clearance. Vegetation clearance only commences once the vegetation has been inspected by the Ecological Clerk of Works (ECoW). Once the ECoW is satisfied that there would be no detriment to ecology, they would issue a permit to the responsible person for that task, permitting the clearance works to proceed. The Permit to Clear would also record the type and quantity of vegetation being cleared.
- 3.5.3 The vegetation clearance would be completed using powered tools and equipment including strimmers, flails, and chainsaws. Vegetation clearance is required site-wide wherever vegetation would obstruct the construction of the new dual carriageway.
- 3.5.4 The vegetation would be removed in accordance with the Permit to Clear using specialist equipment, e.g. strimmers, flails and chainsaws.
- 3.5.5 Areas of vegetation clearance and top-soil strip would be limited as much as practicable. Where possible, vegetation clearance across the Scheme would be phased to minimise the areas of exposed ground and reduce the potential risk for runoff.

- 3.5.6 Access for site clearance works would be gained via authorised site accesses and temporary haul routes through site.
- 3.5.7 Any vegetation requiring protecting or retaining as listed in Appendix 7.4 (Arboricultural Impact Assessment) of the ES Appendices [APP-140, AS-086, AS-087, AS-088, AS-089] which includes all trees to be retained, veteran trees and associated root protection areas, and any trees under Tree Protection Order.
- 3.5.8 All cleared vegetation would be loaded onto a transport vehicle and removed from site for processing, reuse or disposal.
- 3.5.9 Where possible, vegetation would be removed outside of bird nesting season (March-August inclusive) and night time hours, under the supervision of the ECoW. If vegetation removal is not possible outside of bird nesting season a nesting bird check / pre-construction check of the vegetation to be removed and immediately adjacent, by a suitably experienced ecologist, no more than 48 hours in advance of proposed clearance works to check for bird nesting activity. The ECoW will provide actions for implementation based on the findings of the survey, which may include species specific buffer zones of no construction or vegetation removal activity, and compensation should any losses of Schedule 1 species nest be required.
- 3.5.10 Vegetation clearance would be phased outside the hibernation period for all amphibians and reptiles so as to render the habitat unfavourable for them to shelter, which would encourage dispersal into adjacent areas of suitable habitat.
- 3.5.11 All trees to be felled for the Scheme with potential for a bat roost would be re-inspected for roosting bats prior to felling. Where a feature cannot be fully inspected, trees would be soft-felled where a licensed ecologist can undertake tree inspection at ground level.
- 3.5.12 Pre-construction monitoring surveys and inspections for the following species would be undertaken in advance of any works; badger, barn owl, bat, breeding bird and water vole.
- 3.5.13 Pre-commencement phase activities would be informed by the preliminary works surveys, should the presence of protected species be confirmed (e.g. bats, badger, barn owl, water vole) as described in method statements for any Natural England species mitigation licences for activities that would otherwise be illegal. Survey results so far indicate the need for a bat licence which has been produced by the project bat specialist and would be applied for by the Applicant. There would be no commencement of works to any structures used by bats prior to the approval of any necessary licences from Natural England.
- 3.5.14 Temporary fencing would be erected, prior to construction, to protect ecological species and habitats from construction working areas where there is considered to be a risk from the construction activities.

- 3.5.15 One bat box would be installed prior to daytime soft-stripping of bat building F004 (prior to demolition), beyond the Zone of Influence (beyond 100m from areas of heavy construction e.g. piling), in proximity to bat building F004 in retained adjacent semi-mature woodland or trees, together with bat mitigation measures detailed within the First Iteration EMP [REP3-022].
- 3.5.16 To mitigate disturbance to bat roosts in bat building F054, the farmyard off Kelham Road will not be used to store materials, receive deliveries, or have vehicles associated with the Scheme left idling.
- 3.5.17 Further provision of bat boxes would be installed in suitably mature retained woodland or trees (as selected by a suitability experienced bat ecologist) to provide alternative roosting opportunities to compensate for the loss of suitable bat roosting features. A compensation ratio (suitable roosting feature lost: bat box provision) of 1:1 would be provided for 'moderate' and 'high' potential trees lost and 2:1 for 'low' potential trees.
- 3.5.18 A minimum of two kestrel nest boxes (i.e. one breeding territory) would be installed on retained trees or posts (as selected by a suitability experienced ornithologist) within the Order Limits where possible, one year prior to the loss of one confirmed kestrel nest site. If pre-commencement surveys confirm presence of a barn owl nest site within 175 metres of the works, provision of two barn owl nest boxes (i.e. one breeding territory) would compensate for the closure of each barn owl nest site. These would need to be installed at least one year prior to the closure of a confirmed barn owl nest site.
- 3.5.19 Natural England have been consulted in regard to the proposed ratio of bat boxes, barn owl and kestrel boxes. Indicative locations for provision of bat, barn owl and kestrel boxes are detailed on Figure 2.3 (Environmental Masterplan) of the ES Figures [AS-026].
- 3.5.20 All excavations would be kept covered overnight or have mammal ladders installed to prevent animals becoming trapped.
- 3.5.21 Any night-time working required would be minimised to reduce the need for artificial lighting to be used on site. If required, task and directional lighting with cowls would be used to avoid illumination, direct or light spill, of sensitive ecological receptor e.g. the River Trent.
- 3.5.22 The ECoW would be responsible for ensuring construction environmental mitigation measures are correctly implemented, monitored and maintained.
- 3.5.23 Stockpiles would be sealed and covered or seeded to prevent dust or particles migrating in the wind, with focus on areas in the vicinity of Local Wildlife Sites. Stockpiles would also be checked by the ECoW to ensure fences are intact and there has been no badger incursion.
- 3.5.24 Where required, advanced vegetation planting would be in accordance with the Scheme design and all plants supplied would

- comply with BS 3936: Parts 1 to 10 as relevant, BS 8545, the National Plant Specification published by the Horticultural Trades Association and with prevailing UK policies and regulations relating to plant health and biosecurity. Monitoring and maintenance of planting would be undertaken.
- 3.5.25 Trees to be retained would be protected from construction works in accordance with the best practice measures contained in the following British Standards:
- a) *BS 5837:2012 – Trees in relation to design, demolition and construction.*
 - b) *BS 3998:2010 – Tree Work: Recommendations.*
- 3.5.26 Further advice would be sought, and considered, from the Local Authority regarding the protection of trees.
- 3.5.27 The temporary protection barriers, erected in accordance with *BS 5837:2012*, would be installed prior to commencement of any construction and positioned to enclose the defined RPA and 'above ground' structure of the trees.
- 3.5.28 The temporary ground protection, in accordance with *BS 5837:2012*, would be installed prior to commencement of any construction and positioned to protect the defined RPA.
- 3.5.29 The temporary protection measures would be inspected signed off after installation, maintained for the duration of the construction phase and inspected on a regular basis.
- 3.5.30 Arboricultural supervision will be required where works infringe in the RPA of veteran trees T038, T136 and T139, as described in Appendix 7.4 (Arboricultural Impact Assessment) of the ES Appendices [AS-086, AS-087, AS-088, AS-089]. The implementation of a no-dig construction by installation of a cellular confinement system in the RPAs of these veteran trees must also be reviewed and signed off by a qualified arboriculturist. Prior to the start of any work in this area, it is the responsibility of the PC to appoint a suitably qualified arboriculturist to conduct arboricultural supervision and inspection works and to ensure the recommendations in Appendix 7.4 (Arboricultural Impact Assessment) of the ES Appendices [AS-086, AS-087, AS-088, AS-089] are carried out. The results of all arboricultural inspections and supervision works should be made available to the Local Authority.
- 3.5.31 In the event that an RPA cannot be maintained as specified in Appendix 7.4 (Arboricultural Impact Assessment) of the ES Appendices [AS-086, AS-087, AS-088, AS-089], advice from the Scheme arboriculturist would be sought and the appropriate mitigation specified.
- 3.5.32 Fencing and hoarding would, as far as reasonably practicable, be located such that it does not damage sensitive habitats, trees or

hedgerows. Where required, ecological fencing would be installed to prevent access to sensitive habitats, protected species and their resting places.

- 3.5.33 Himalayan balsam has been identified at several locations across the Scheme. An Invasive Non-Native Species Management Plan would be implemented in advance of the pre-commencement works to prevent any spread. All mitigation measures would be in accordance with best practice guidance and biosecurity measures.
- 3.5.34 Toolbox talks on protected species and control of invasive non-native species would be delivered prior to any pre-commencement activities.

3.6 Soils

- 3.6.1 The methods advised throughout this section are in line with the Construction Code of Practice for the Sustainable Use of Soils on Construction Sites¹. An appointed Soil Scientist would advise on soil handling operations where required on site.
- 3.6.2 To complement the guidance offered throughout this section, Toolbox Talks will be provided to all workers involved with any stage of soil handling and will encompass soil stripping, stockpiling, reinstatement and aftercare, with the overarching principle of handling soil resources sustainably. Toolbox Talks to be delivered to site personnel required to handle on-site soils can be found in Appendix A of the Outline Soil Management Plan included in the First Iteration Environmental Management Plan [REP2-010].
- 3.6.3 Soils should be in a sufficiently dry state to minimise the risk of compaction and smearing. Prior to the start or recommencement of soil handling, soils must be tested using the field test to confirm they are in a suitably dry condition.
- 3.6.4 Handling of soils should not be undertaken when there is heavy rain or other forms of heavy precipitation (such as hail or snow). This also includes instances in which soils are waterlogged, frozen, covered by snow or if pools of water are present.

Field test for suitably dry soils

- 3.6.5 Ahead of operations, a field test would be performed to determine the suitability of soil for handling as described in Supplementary Note 4 of the Good Practice Guide for Handling Soils². Soil tests are to be undertaken in the field. Samples would be taken from at least five locations in the soil handling area and at each soil horizon to the full depth of the profile to be recovered/replaced. The tests would include (

¹ Department for Environment, Food and Rural Affairs (DEFRA) (2009). Construction Code of Practice for the Sustainable Use of Soils on Construction Sites.

² Institute of Quarrying (2021). Good Practice Guide for Handling Soils in Mineral Workings.

i) visual examination of the soil and, (ii) physical assessment of the soil consistency.

(i) Examination:

- a. If the soil is wet, films of water are visible on the surface of soil particles or aggregates (e.g. clods or peds) and/or when a clod or ped is squeezed in the hand it readily deforms into a cohesive 'ball' means no soil handling to take place.
- b. If the sample is moist (i.e. there is a slight dampness when squeezed in the hand) but it does not significantly change colour (darken) on further wetting, and clods break up/crumble readily when squeezed in the hand rather than forming into a ball means soil handling can take place.

(ii) Consistency (first test)

- a. Attempt to mould the soil sample into a ball by hand:
 - Impossible because soil is too dry and hard or too loose and dry means soil handling can take place.
 - Impossible because the soil is too loose and wet means no soil handling to take place.
 - Possible – go to second test.

(iii) Consistency (second test)

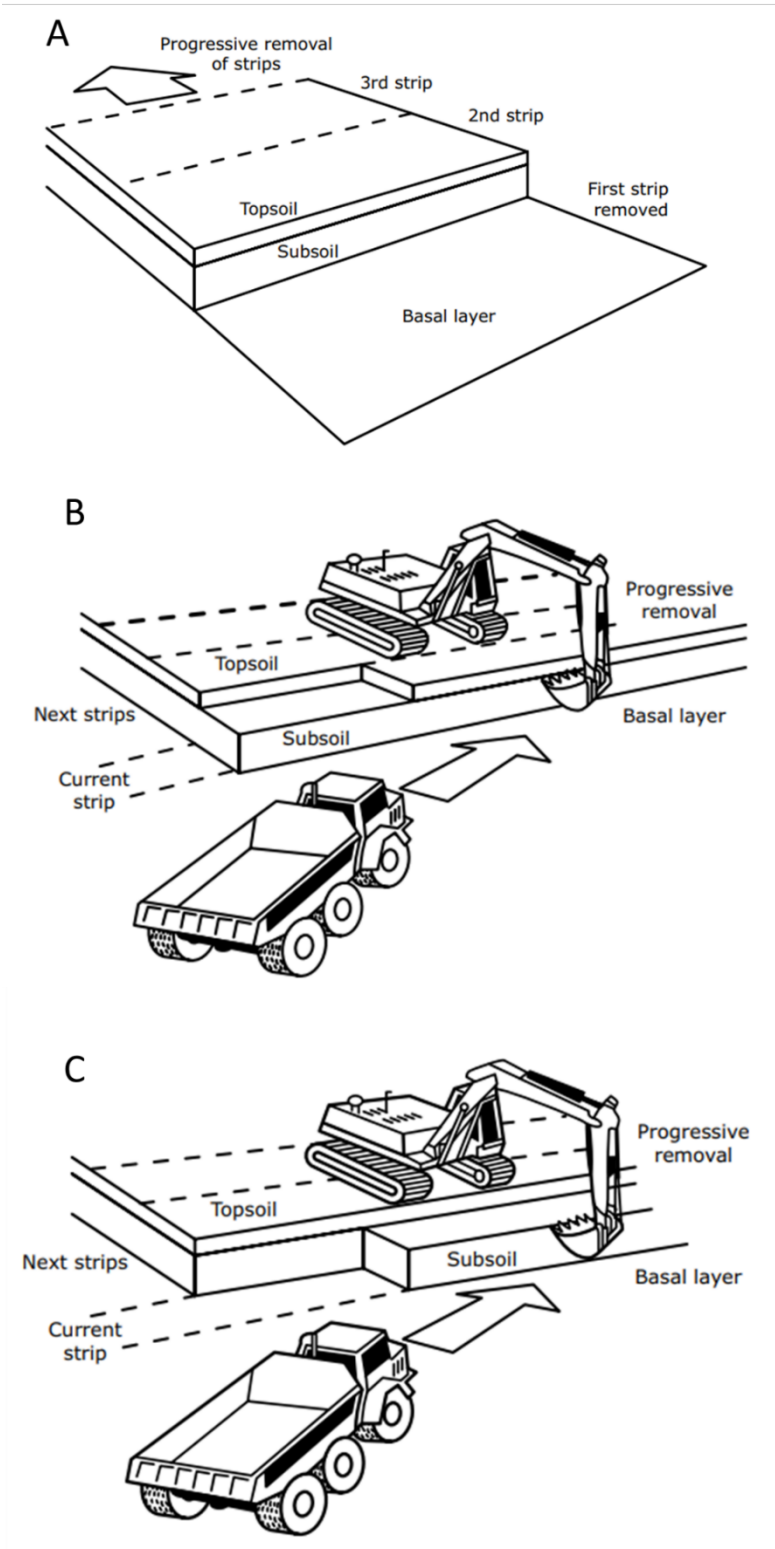
- a. Attempt to mould the ball into a 3mm diameter thread by hand:
 - Impossible because the soil crumbles or collapses means soil handling can take place.
 - Possible means no soil handling can take place.

3.6.6 It is not possible to roll most coarse loamy and sandy soils into a thread even when they are wet. -For these soils, the Examination Test alone is to be used.

Soil Stripping

3.6.7 Excavators and dump trucks are to be used to strip soil using the sequential 'bed'/strip by strip practice as displayed in Figure 3-1. Normally the excavator operates only from the soil surface with the dump trucks travelling on the exposed lower non-soil.

Figure 3-1: Soil stripping of resilient soil with excavators and dump trucks A) the bed system B) removal of topsoil from a strip C) removal of subsoil from a strip.



Source: Institute of Quarrying (2021). Good Practice Guide for Handling Soils in Mineral Workings.

Topsoil Stripping

- 3.6.8 Topsoil would be stripped from all areas to be disturbed by earthworks, construction and storage. Areas designated as haul routes and access tracks should be designed to accommodate two passing vehicles, to avoid traversing surrounding soils, and should be stripped of topsoil to avoid compaction.
- 3.6.9 Topsoil would be stripped to its maximum depth and no deeper.
- 3.6.10 In summary, the following should be adhered to at all times during the construction process:
- Vegetation cleared prior to stripping to ensure it is not incorporated within stockpiled soils. If herbicide is to be used, this would be undertaken at least two weeks prior to the commencement of stripping operations.
 - Stripping undertaken during the driest possible condition.
 - Soils stripped with comparatively wetter profiles or horizons to be stockpiled separately where applicable to allow for subsequent reconditioning prior to reinstatement.
 - Soil stripping stopped during or directly after heavy rain, or when water is pooled on the surface.
 - Where required, stripping to be conducted in the presence of an archaeological watching brief. Refer to the Archaeological Management Plan [REP2-062] for further details on archaeological requirements for the Scheme.
 - Where possible, tracked equipment to be used to reduce compaction
 - Vehicles required for stripping and haulage to stay on the designated routes to avoid additional compaction
 - Wheeled vehicles to be kept off topsoil where possible.
 - Dust generation to be kept to a minimum to avoid air pollution as required by Reference AQ1 of the Register of Environmental Actions and commitments in the First Iteration EMP [REP3-022].
 - Topsoil should not be stripped below the specified depths, as this would reduce topsoil fertility and overall quality.

Subsoil Stripping

- 3.6.11 Where it is required for subsoils to be stripped, it would be ensured that the maximum depth of topsoil has been stripped. During subsoil stripping, the following list would be adhered to at all times:
- Stripping would be undertaken during the driest possible conditions.
 - Upper and lower subsoil would be stripped separately.
 - Soils stripped with comparatively wetter horizons to be stockpiled separately where applicable to allow for subsequent reconditioning prior to reinstatement.
 - Where possible, tracked equipment would be used to reduce compaction.
 - Dust generation would be kept to a minimum to avoid air pollution when subsoils are dry.

- Soil stripping would be stopped during or directly after heavy rain, or when water is pooled on the surface.
- Subsoils would not be stripped below the specified depths.
- Subsoils and topsoil would be stripped separately.
- Vehicles required for stripping and haulage would stay on the designated haul routes to avoid additional compaction.

Soil Stockpiling

- 3.6.12 Stockpile construction would take place on dry, flat ground, avoiding hollows and situated away from tree crowns, ditches, watercourses, boreholes or other areas where they might disturb local surface drainage.
- 3.6.13 Vegetation and waste must be cleared from the intended locations prior to stripping operations.
- 3.6.14 Vegetation surrounding nearby ditches and watercourses would be retained where possible or grass buffer strips should be established following stockpiling, to minimise drainage disturbances.
- 3.6.15 Topsoils and subsoils would be stockpiled separately throughout the Scheme to limit mixing and soil quality deterioration.
- 3.6.16 Different soil types identified would also be stored separately and locally including soils that have been identified as *low nutrient* and are of value for specific landscaping purposes.
- 3.6.17 Where topsoil is to be stored at a significant distance from where it will be reinstated, soil would not be transported in a wet, non-plastic state so as to prevent soil degradation.
- 3.6.18 Where storage of different types together is unavoidable, a suitable separating material such as a geotextile membrane or straw would be used. This approach should be minimised where possible.

Soil stockpile formation on dry non-plastic soils

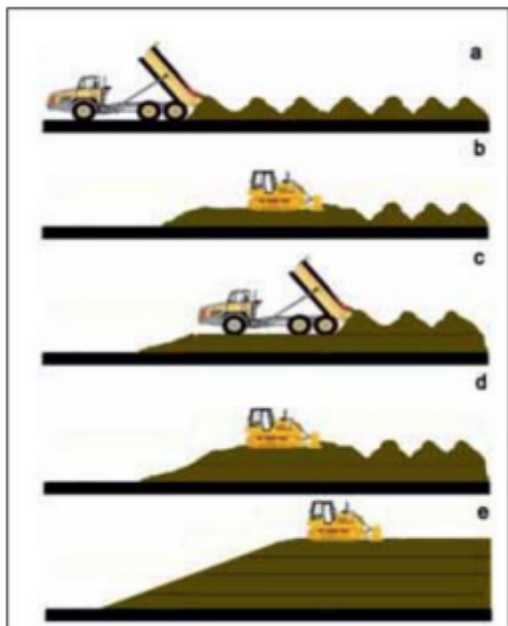
- 3.6.19 Soils contained within dump-trucks should be tipped in heaps as demonstrated in Figure 3-2(a). After designated stockpile areas are filled with soil heaps, tracked excavators or dozers may start to level and firm soil heaps, as demonstrated in Figure 3-2(b) and Figure 3-2(c). Following this, the sequence may be repeated as depicted in Figure 3-2(d) and Figure 3-2(e). When stockpiles reach their planned dimensions, a tracked vehicle should firm soils and shape and smooth sides to the planned slope angle.

Soil stockpile formation on wet plastic soils

- 3.6.20 Excavated soils from dump trucks should be tipped in heaps to form 'windrows', as depicted in Figure 3-3(a). This should again be undertaken in order, beginning with the furthest end of stockpile to the access entrance. Space between 'windrows' should be sufficient for tracked vehicles to work between them to form larger 'windrows', (Figure 3-3(b) and Figure 3-3(c)). Once soils are dry, 'windrows' may

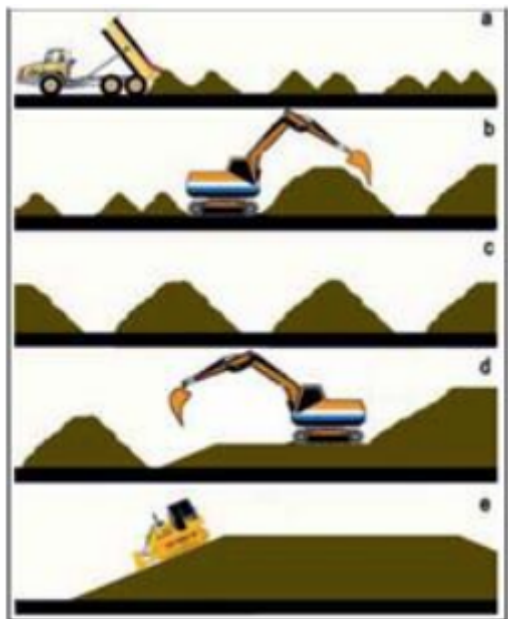
be formed into a larger stockpile (Figure 4-3(d) and Figure 3-3(e)), for which the surface of the stockpile should be firmed and shaped to the planned gradient.

Figure 3-2: Stockpile formation from dry soils



Source: Defra (2009) Code of Construction Practice on Sustainable Soils on Construction Sites

Figure 3-3: Stockpile formation from wet soils



Source: Defra (2009) Code of Construction Practice on Sustainable Soils on Construction Sites

3.6.21 Other considerations and requirements for stockpile formation include:

- Stockpile heights should be a maximum of 2 metres in height.
- Soils will have a natural angle of repose of up to 40°, though this depends on texture and soil moisture content. However, for stable stockpiles to be formed, slope angles should be 30° to reduce the risk of erosion and guard the integrity of the soil structure. For stockpiles to be maintained over six months and grass seeded, a maximum side slope angle of 25° should be adopted.
- Gaps between stockpiles should be left for passing vehicles, which should not run over stockpiles unnecessarily

Stockpile Maintenance

3.6.22 Once soil stockpiles have been formed, the area should be cordoned off with secure fencing or tape to prevent any disturbances or contamination by other construction activities. This should distinctively mark out the areas set out for soil stockpile storage. As discussed in paragraph 3.6.15 and 3.6.16, different soil types and topsoils and subsoils should be stored separately, compounding the importance of clear stockpile signage.

3.6.23 If stockpiles are to be stored for a period of over six months, they should be seeded with a grass/clover mixture to minimise soil erosion and reduce ingress by weeds which may spread seed onto adjacent land. If weeds appear during the summer months, they should be removed by herbicide spraying or by mowing/strimming to prevent seed spreading.

3.6.24 A stockpile and windrow database should be produced to accurately record all appropriate details regarding stored soils. To ensure that the correct soils are reinstated, this should include:

- Farm name
- Field name/code
- Projected end-use
- Date soil was stripped, date soil was moved to stockpile or windrow, or date soil was changed from stockpile to windrow storage
- Soil depth stripped
- Whether soil is stored in a stockpile or windrow
- Soil type
- Topsoil or subsoil segregation (ideally additionally segregating between upper and lower subsoil)
- Sign off upon eventual reinstatement

3.6.25 For an example stockpile record card, please refer to Appendix A.

Soil reconditioning

3.6.26 Prior to reinstatement, some soils will require reconditioning to restore quality and structure following stockpiling. Any observations of plastic soils or anaerobic conditions will need to be remediated by the following method:

- Tip soils in heaps to form 'windrows' (2 metres height maximum). This should start at the furthest point along the stockpile area and run toward the access point. Windrows should be spaced to allow for vehicles between them.
 - Windrows should be produced with a rough surface to maximise drying.
 - No machinery should traverse the windrows as this may damage the suitability of the soil for reuse.
 - Windrows should be turned through until all soil has been exposed to the air to facilitate drying.
 - Once drying is complete and soils are non-plastic, the windrows can be re-combined to produce larger stockpiles if required (without mixing topsoil and subsoil).
 - Reformed stockpiles can be regraded and compacted using a tracked machine to inhibit the infiltration of rainwater.
- 3.6.27 All receiving substrates that are to be reinstated must be de-compacted prior to receiving topsoil or subsoil. De-compaction promotes deeper root growth and reduces flood risk by reducing the impedance of water drainage.
- 3.6.28 The method of de-compaction equipment suitability is dependent on both the scale and extent of compaction that has occurred. The various methods – in conjunction with the rationale behind using each – are listed below and illustrated in Figure 3-4.
- A small (1-5 tonne) to medium sized (13 tonne) tracked excavator, fitted with a single rigid tine is effective in restricted areas, such as road verges.
 - In more open areas, a tractor-drawn subsoiler is capable of loosening soil that is not too heavily or deeply compacted. Compressed air injection can also be used to de-compact the soil profile in such locations.
 - Deep compaction can only be effectively relieved using heavy duty ripping equipment, such as a single rigid tine device.

Soil placement

- 3.6.29 Stockpiled or imported soil needs to be carefully assessed prior to placement to first determine its suitability for handling and subsequently its quality. As part of this assessment, soils should undergo visual and tactile examination to determine soil wetness, structure, consistency, foreign objects, and construction debris etc.
- 3.6.30 Once it has been established that stockpiled or reconditioned soils are suitable for reinstatement, or construction of specific soil profiles for Scheme landscaping designs, they should be tipped and spread according to the 'Loose-tipping' method as detailed in paragraph 3.6.31.

Figure 3-4: Top: (left to right) Tractor-drawn tines; Large winged ripping tine; Topsoil rake on 3-tonne excavator. Bottom: Single ripper tooth relieving compaction to a depth of 600mm



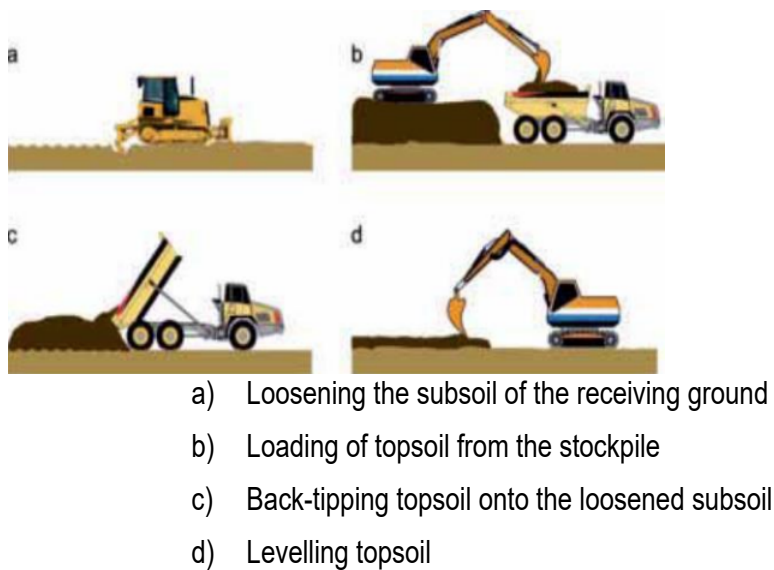
Source: Defra (2009) Code of Practice on Sustainable Soils on Construction Sites.

3.6.31 The 'Loose-tipping' method is detailed below and illustrated in Figure 3-5 and Figure 3-6.

- Soils should only be handled when dry or slightly moist and work must be suspended if sustained heavy rainfall occurs during or immediately before spreading. Work should not be restarted until the ground has had at least one full day to dry.
- All alien objects (i.e. construction debris, wire, rope, wood, metal, plastic) should be removed from both receiving land and stockpiled soils before reinstatement. Any large foreign objects brought to the surface during wing-tine ripper soil loosening must also be identified and removed.
- The specified method entails working to a strip system whereby stripping vehicles may easily pass each other.
- Prior to soil placement, the receiving ground (whether a basal layer or compacted subsoil) must first be loosened with a wing-tine ripper to an appropriate depth.
- A hydraulic excavator (fitted with a toothed-bucket to avoid excessive smearing) should be used to load soil from stockpiles into dump-trucks. Dump-trucks may then discharge soils onto receiving surfaces.
- In order to spread the freshly dumped soil to the required thickness, an excavator must be situated adjacent to where the soil was discharged.
- Soils should be spread to the appropriate depth for the area of reinstatement, which is dependent on the original profile or the requirements of any landscaping design.

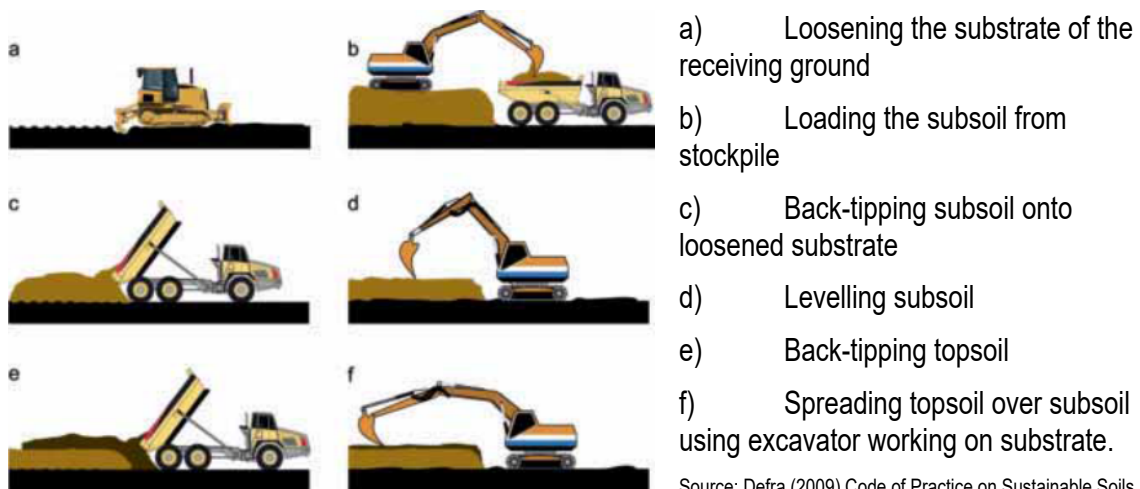
- The correct soil type and associated order of soil horizons must be reinstated.
- If topsoil and subsoils are being reinstated in an area, the whole strip length must be restored with subsoil first before the process is repeated with topsoil.
- Where topsoil and subsoil are being placed, topsoil must be lifted onto subsoil without the excavator travelling on the newly placed subsoil. Only when one strip has been completed should the next be started.
- Different topsoil and subsoil resources must not be mixed during placement.
- For soils which are cloddy in structure, the excavator bucket must be used to break up the clods.
- Once tipped or spread the soil must not be trafficked by construction vehicles.

Figure 3-5: Loose-tipping method for topsoil replacement only



Source: Defra (2009) Code of Practice on Sustainable Soils on Construction Sites.

Figure 3-6: Loose-tipping method for subsoil and topsoil placement



Source: Defra (2009) Code of Practice on Sustainable Soils

on Construction Sites.

- 3.6.32 Areas where soil resources have been reinstated should be clearly marked by barrier tape and exclusion signs. Soils in these areas must

not be disturbed by trafficking or used for material storage, soil stockpile areas or as temporary construction compounds.

- 3.6.33 Where importation of topsoil is required for spreading on areas of newly constructed earthworks, a soil certificate will be required in accordance with BS 3882:2015 to ensure that the topsoil provides suitable substrates for native plant species and to maximise biodiversity, in accordance with industry best practice.

Aftercare and monitoring

- 3.6.34 Aftercare and monitoring will be managed through the Soils Management Plan as part of the Second Iteration Environmental Management Plan pursuant to Requirement 3(c) of the draft Development Consent Order.

3.7 Flood Risk

- 3.7.1 Pre-commencement works would be undertaken in accordance with industry standards and best practice guidance. A pre-commencement works Emergency Response Plan for Flood Events would be prepared and implemented prior to pre-commencement works beginning.
- 3.7.2 Above ground structures in Flood Zones 2 and 3 can only be constructed where equivalent volume for volume floodplain compensation has been provided within the three Floodplain Compensation Area sites, on a level for level basis where possible.

3.8 Water

- 3.8.1 This section sets out the measures that will be used to mitigate potential adverse impacts during construction on the water environment, monitor pre-commencement activities and details appropriate mitigation measures.
- 3.8.2 Any mitigation measures will be in keeping with the objectives, requirements and mitigation measures set out in this plan, including how clean and dirty water will be kept separate, how fine sediment will be trapped and removed from construction runoff, and how chemical spillages will be managed.

- 3.8.3 Pre-commencement activities would be managed in accordance with CIRIA and Environment Agency Guidelines including:
- CIRIA's *Environmental good practice on site*³
 - CIRIA's *Control of water pollution from linear construction projects; Technical Guidance*⁴
 - Environment Agency's *Protect groundwater and prevent groundwater pollution*⁵
- 3.8.4 Where appropriate the construction will take into account the EA's Pollution Prevention Guidelines (PPG), which aim to prevent water resource pollution. Although withdrawn in 2015, the PPGs still provide useful information and for some topics where there are no corresponding guidance documents.

Monitoring

- 3.8.5 Pre-construction water quality, level and flow monitoring would be conducted before, during and after construction in accordance with the criteria outlined in Appendix 13.5 (Surface Water Quality Monitoring Report) of the ES Appendices [APP-180], to ensure no adverse impact on surface water.
- 3.8.6 Waterbodies would be monitored and the scope of monitoring would be based on a risk assessment but would include all waterbodies that could be adversely impacted during the pre-commencement works.
- 3.8.7 Groundwater monitoring would be conducted before, during and after construction as outlined in Chapter 13 (Road Drainage and the Water Environment) of the ES Document [APP-057] to ensure no adverse impact on groundwater.
- 3.8.8 The monitoring programmes for both surface water and groundwater, would be sufficiently comprehensive to ensure there is a robust baseline against which the monitoring during construction works can be compared. This includes monthly monitoring during construction and then quarterly monitoring for a period of one-year post-construction.
- 3.8.9 Monitoring data would be submitted directly to the Environment Agency following receipt.
- 3.8.10 For works close to, in, under or over watercourses or ponds, the workers on site should keep constant observations of water quality so that if pollution is suspected this is identified as quickly as possible.
- 3.8.11 The Environmental Manager/ECOW will conduct regular inspections to ensure all appropriate measures are being implemented.

³ Audus, Charles and Evans (2010) *Environmental Good Practice on Site* (Third Edition) (C692).

⁴ Murnane, Heap and Swain (2006) *Control of water pollution from linear construction projects; Technical Guidance*

⁵ Environment Agency (2017) *Protect groundwater and prevent groundwater pollution* [online] available at: [Protect groundwater and prevent groundwater pollution - GOV.UK](https://www.gov.uk/guidance/protect-groundwater-and-prevent-groundwater-pollution) (www.gov.uk) (last accessed November 2024).

Permissions

- 3.8.12 Authorisation will be sought from the relevant regulatory body where permanent or temporary works are:
- a) Within 8m of a main watercourse managed by the Environment Agency
 - b) Within 8m of an ordinary watercourse managed by the Lead Local Flood Authority
 - c) Within 9m of ordinary watercourses managed by the Trent Valley Internal Drainage Board (Land Drainage Bylaw consents)
 - d) Within floodplain managed by the Environment Agency.
- 3.8.13 If necessary, a “no derogation” agreement would be made with the owner/operator of any private groundwater supply potentially impacted by dewatering. This legal agreement would ensure that measures would be taken to maintain a supply throughout the period in which the groundwater source was affected.
- 3.8.14 Specifics of any consent will be briefed to project staff.
- 3.8.15 A summary of the consents obtained will be recorded within the Consents Register for the Scheme.

Training

- 3.8.16 All construction site staff will attend a Toolbox Talk on the risks to the water environment from construction site runoff and chemical spillages and the proposed measures set out in this Pre-commencement Plan.
- 3.8.17 Toolbox Talks will be given by a suitably qualified person (i.e. an environmental professional, the Environmental Manager or the ECoW). Construction workers shall not be authorised to work on site until they have received this Toolbox Talk. Technical notes shall be provided to all staff and put up on notice boards in relevant locations.
- 3.8.18 The Environmental Manager/ECoW will be responsible for undertaking any investigations required as a consequence of the programme of water quality monitoring. This will include liaison with the EA and the local authorities about the production of Incident and Lessons Learned Reports. These reports will detail actual impacts, describe the outcomes of actions taken, proposals for additional monitoring of affected site and receptors, and potentially changes to method statements, works processes and staff training.

Timing of works and programming

- 3.8.19 The timing of certain works or the programming of specific tasks can be important to reduce the risk of water pollution occurring during the construction period.

- 3.8.20 Opportunities to reduce water pollution risk have been considered during the programming of the construction activities. These include:
- a) Earth moving works and excavations should, where possible, be undertaken during the drier months of the year (typically early spring to early autumn).
 - b) Areas of vegetation clearance and top-soil strip should be limited as much as practicable. Where possible, vegetation clearance across the Scheme will be phased to minimise the areas of exposed ground and reduce the potential risk for runoff.
- 3.8.21 Details of construction timings and phasing of any works within flood zone 3 will be included in any appropriate permit application to ensure construction activities do not result in floodplain loss. All appropriate mitigation measures will be implemented to ensure that the risk of pollution is minimised for the construction activities within flood zone 3.
- 3.8.22 Construction activities associated with watercourses and floodplain will be avoided during periods of flooding/high rainfall.

Silt Management and Erosion Control

- 3.8.23 Contamination by silt from site run off into adjoining water courses is a key risk if not properly controlled throughout the construction of the Scheme.
- 3.8.24 The following control measures will be implemented, where practicable, prior to works to minimise silty runoff entering the surface water systems.
- In accordance with BS6031:1981 Code of Practice for Earthworks, land disturbance will be kept to a minimum and disturbed areas will be stabilized as soon as possible. Soil handling will be undertaken with reference to best practice guidelines.
 - All roads will be kept free from dust and mud deposits as far as reasonably possible.
 - The amount of exposed ground will be kept to a minimum. Where practical stripped areas will be reseeded as soon as reasonably possible.
 - Cut-off drains will be installed around the working areas to intercept uncontaminated surface run off and divert it around and away from the works.
 - Earthworks will be programmed to take place during the spring/summer periods, where practicable; particularly in the vicinity of watercourses.
 - Run off from excavations will not be pumped directly into watercourses. The Scheme Permit to Pump system will be adhered to and silt mitigation measures, if required, will be implemented.
 - Dewatering will be undertaken in a manner to reduce the disturbance of watercourse beds and embankments.

- Every effort will be made to prevent water from entering excavations from haul road run off and disturbed construction land.
- Stockpiling of materials will be minimised and located on higher ground (outside of Flood Zone 3) where practicable.
- Cut off trenches will be installed uphill of soil management areas to divert flows away from potential sources of silt pollution.
- Silt fences (geotextile material) will be used alongside all exposed ground where there is a pollution risk.
- Flocculants may be used in conjunction with other mitigation measures. The EA will be consulted prior to their use.
- Temporary crossings and haul roads will be constructed in a manner to reduce risk of bank erosion.
- Works within watercourses will be agreed with the regulatory bodies and any consent condition will be complied with.
- Works within watercourse will be planned for periods of low flow and following fish spawning periods, where practicable.
- Stockpiles will be sealed or revegetated to reduce run off.
- Where there is a risk of silt pollution from overland flows, particularly after vegetation has stripped, soil bunding or other appropriate mitigation measures will be placed parallel to watercourses.
- Regular visual checks will be made to ensure run off is not entering the watercourse.

Use of wet cement and concrete

- 3.8.25 The PC will instruct concrete suppliers that, where practicable, concrete washout activities should be undertaken off site.
- 3.8.26 If required, in emergency circumstances, designated areas will be provided for washing out concrete delivery lorries, concrete pumps and grout lines. These will consist of a small skip lined with an impermeable membrane. Concrete will be allowed to harden in the skip before being removed for recycling. These will be stored at least 20m from sensitive habitats, water courses or drainage.
- 3.8.27 The washout liquid will be treated to allow safe reuse or discharge.
- 3.8.28 Loose cement and/or concrete will be cleared as quickly as possible.

Foul water from welfare facilities

- 3.8.29 Where direct connection to sewer is not possible or practical, short-term, sewage effluent will be removed from site using a vacuum tanker and disposed of accordance with waste requirements.

Site and Land Drainage

- 3.8.30 Site drainage, including for site compounds and material storage areas will be designed to connect to the existing road drainage network for run off and mains sewerage network for sewage waste water, and would not directly discharge into the environment.

- 3.8.31 The construction drainage network will incorporate measures (e.g. interceptors) to prevent the discharge of hydrocarbons to surface or groundwater systems.
- 3.8.32 In areas where there is a risk of hydrocarbon/chemical spillage and around hazardous substance stores, additional precautions are required including bunding, impermeable bases, suitable drainage systems, and siting away from any open drainage channels.
- 3.8.33 Any stockpiled materials would be stored away from watercourses, and within enclosed areas to enable the runoff to be stored and treated where required.
- 3.8.34 Stockpiles located within Flood Zone 2/3 will not exceed 40m in length and there will be a minimum gap of 25m between adjacent stockpiles, except where both adjacent stockpiles are shorter, in which case the gap must be at least as long as the longest adjacent stockpile. Some stockpile lengths and associated gaps may only be 10m.
- 3.8.35 Gaps in the stockpiles will be located to preserve existing low points and flow paths.
- 3.8.36 Stockpiles should not exceed 10m above the existing ground level, and be less than 20m wide at the toe.
- 3.8.37 Construction compounds will be located on higher ground (outside of Flood Zone 3) where practicable.
- 3.8.38 Any runoff from construction compounds located within Flood Zone 2/3 will be to vegetated ground in line with SuDS principles.
- 3.8.39 SuDS measures may include attenuation storage; infiltration trenches/soakways. Where settlement or filtering is not practicable or effective, alternative disposal options would be considered for example, discharge onto grassed/vegetated area (with consent from the landowner and following Environment Agency consultation).
- 3.8.40 At sites with bunds or other forms of visual/acoustic barriers, ensure appropriate gaps in the screening (or culverts through earth bunds where these are used).
- 3.8.41 Offices and other site facilities would be raised above the modelled 1 in 30 (3.3%) annual probability event level where modelled data is available. Where not available this would be estimated from the best available information.
- 3.8.42 Particular care will be taken to ensure that the existing land drainage system is not compromised as a result of construction. Land drainage systems will be maintained during construction and reinstated on completion.

Flood Risk Management

- 3.8.43 As there is a known risk of flooding, the Scheme will register with the Environment Agency (EA) Floodline Warnings Direct service to receive automated telephone and text alerts.
- 3.8.44 The EA has three levels of flood risk severity:
Flood Alert: Flooding is possible. Be prepared
Flood Warning: Flooding is expected. Immediate action is required
Sever Flood Warning: Severe flooding. Danger to life.
- 3.8.45 Key individuals will sign up to receive notifications in the event of a flood event.
- 3.8.46 If an EA flood alert/warning is received the following will be implemented.
- a) If the alert is received between 07:00 to 19:00 Monday to Friday, the Primary Flood Event Coordinator (PFEC) will alert the team working within the flood plain
 - b) If the alert is received outside this period the PFEC will alert the On-Call Duty Manager, who in turn will notify the site team
 - c) If a **flood alert** is received the construction team will monitor levels in the nearby water courses, remove non-essential plant and materials from the FZ3
 - d) If a **flood warning** is received works will cease and all materials and plant, where practicable, will be removed from the FZ3 and if safe to do so any affected utilities (electric, gas, water) turned off.
 - e) If a **severe flood warning** is received all works to cease immediately and staff, operatives & contractors to leave FZ3 to place of safety and avoid driving / walking through flood water. Follow advice from emergency services.
 - f) Works will only proceed on the advice of the PFEC
 - g) In the absence of the PFEC the Secondary Flood Event Coordinator (SFEC) will take responsibility for their actions

Management of pumping activities

- 3.8.47 Pumping works will be controlled to prevent pollution of drainage systems and surface water courses. In general, small volumes of localised pumping to dewater excavations will be discharged to an area of vegetated ground close to the excavation under the permit to pump system.
- 3.8.48 The Scheme will operate a permit to pump system for temporary discharge of water collected to ensure compliance with Environment Agency Pollution Prevention Guidelines and their regulatory position

statement <https://www.gov.uk/government/publications/temporary-dewatering-from-excavations-to-surface-water>.

- 3.8.49 Only authorised persons may issue permits to pump. A list of authorisers will be stored on ProjectWise Permit to Pump Coordinators.

Management of dewatering activities

- 3.8.50 The temporary dewatering will require the following consents in order to discharge to surface watercourses:
- an environmental permit (water discharge activity and groundwater (point source) activity) from the Environment Agency (EA); and
 - a land drainage consent from the Trent Valley Internal Drainage Board (IDB).
- 3.8.51 Abstraction licences would also normally be required from the EA for any excavations where temporary inflow rates exceed 20m³/day for more than 28 consecutive days.
- 3.8.52 In order to minimise the impact of the dewatering on groundwater and surface water resources, a scheme of groundwater control would be implemented to ensure water levels in adjacent water bodies are maintained and any discharge is of a suitable quality. This would involve a programme of water monitoring and controlled discharges.
- 3.8.53 Dewatering effluent will be discharged to surface watercourses following appropriate pollution control measures and in accordance with Environment Agency permits.
- 3.8.54 Where water is to be discharged to watercourses, the constraints on the discharge (e.g. no discharge when flows in the receiving watercourse exceed a certain level at a certain location etc.) and what pre-treatment may be required, will be agreed with the Environment Agency.
- 3.8.55 Once dewatering starts, the water should be discharged following settlement to remove suspended solids, to the closest watercourse to maintain flows should baseflow be affected by the dewatering works. However, the rate, volume and duration of any discharge, will be agreed with the regulating authority.

Maintenance of plant

- 3.8.56 Maintenance of plant, vehicles and equipment will be carried out at least 20m from a watercourse or a drain. Spill kits will be available during all plant maintenance operations and a drip tray will be used to contain any leakage of oil. Where emergency repair is necessary within 10m of a drain, a drain seal will be used to ensure no contamination enters the drainage system.
- 3.8.57 Any plant, equipment or other vehicle considered a pollution risk will be either repaired or removed from site.

3.8.58 The washdown of tools and plant is not permitted within 20m of a watercourse or drainage cover.

3.8.59 Pre-commencement works would be undertaken in accordance with industry standards and best practice guidance.

Pollution Prevention

3.8.60 A pre-commencement works Pollution Prevention Plan would be developed by the Principal Contractor. The specific silt management techniques to be incorporated within this plan would be determined by the Principal Contractor following a risk assessment-based approach to the circumstances and applying suitable control measures in order to avoid detriment to water quality and being exposed to potential prosecution. The techniques would be adapted throughout the works depending on the need and circumstances at any given time, and ensuring the same outcomes are achieved. However, measures that may be used include (but are not limited to):

- a) Fabric silt fences, sandbags and straw bales.
- b) Earth bunds and settlement lagoons.
- c) Settlement tanks.
- d) Drainage cut-off ditches with check dams and/or sediment traps.
- e) Baffle pads or other measures to dissipate flow energy on any temporary outfalls to water bodies.

3.8.61 The Pre-commencement Pollution Prevention Plan would be developed by the Principal Contractor and would include an Incident Control Plan, as well as detailing the methodology for correct storage and disposal of wastewater and pollutants. Spill kits and clean up equipment would be maintained on site, and manually operated penstocks would be provided immediately prior to all outfalls leading to a watercourse, and upstream of attenuation pond flow control devices.

Invasive non-native species

3.8.62 A Pre-Commencement INNS Management Plan would be prepared to reduce the risk of spreading INNS within watercourses or through surface water run-off.

3.9 Fuels and oils

3.9.1 The storage, dispensing, containment and use of all fuels, oils and COSHH materials and waste would be undertaken in accordance with regulatory and good practice guidance.

- 3.9.2 For COSHH materials and waste, relevant control and management measures would include:
- a) Storage would be in a secure, bunded and sheltered area.
 - b) Waste would be segregated.
 - c) COSHH liquids would not be stored in flood zones.
 - d) Areas would be supervised, and records of materials and waste stored and removed from the area recorded.
 - e) The handling, storage and disposal must be undertaken as described in the COSHH Assessment and any Material Safety Data Sheet (MSDS).
- 3.9.3 Fuel and oil (including mould oil) would be stored in accordance with *The Control of Pollution (Oil Storage) (England) Regulations 2001*, with fuels and oil handled in such a way that risk of pollution is minimised. Specifically:
- a) Fuel and oil storage tanks must comply with *The Control of Pollution (Oil Storage) (England) Regulations 2001* and must be locked outside working hours.
 - b) Storage areas would not be located within 20m of watercourses, ponds, site drainage or within any areas of flood zones or on a gradient.
 - c) Refuelling would not be permitted within 20m of a watercourse/pond, within 20m of a highway drainage gully/site drainage, or within areas of flood zones.
 - d) Mobile bowsers would be integrally bunded and must comply with *The Control of Pollution (Oil Storage) (England) Regulations* and must be secured outside working hours.
 - e) Trained operatives would carry out refuelling of plant and equipment.
 - f) Plant nappies would be used during refuelling.
 - g) Drums would be stored in bunded areas with a minimum capacity of 25% of the total volume contained within the bund, or 110% of the largest container, whichever is the greater. Where possible, these bunds must be fitted with roofs to prevent the collection of rainwater. Individual drums in use would be stored on a drip tray sufficient to contain 25% of the full capacity of the drum.
 - h) Storage tanks and drums would be maintained in a good condition, fitted with lids and labelled to indicate the contents.
 - i) Static combustion engine plant (e.g. compressors, lighting sets) would be integrally bunded or placed on plant nappies.
 - j) Bunds, tanks pipework and plant would be regularly checked for signs of damage or leaks and must be regularly maintained.
 - k) Spill kits would be provided within close proximity to fuel and oil storage areas, with plant that is operating in isolated areas, and in welfare facilities. Drivers, operators and stores personnel would be trained in fuel security and the use and safe disposal of spill kits.

3.10 Carbon and Energy

- 3.10.1 Opportunities to implement measures and techniques to provide more efficient and cost-effective use of energy and resources, and thereby reduce carbon and water footprints, would be investigated during the pre-commencement works.
- 3.10.2 Examples of this include the potential use of low energy eco-cabins, hybrid and solar power generators and the use of low carbon fuel options such as substituting diesel for Hydrotreated Vegetable Oil (HVO).
- 3.10.3 Low carbon materials and those with recycled content would be considered to be used as a priority.

3.11 Materials

- 3.11.1 All pre-commencement activities would be undertaken in accordance with industry standards and best practice guidance.
- 3.11.2 Locally sourced suppliers would be used where possible and materials would be delivered on a just-in-time basis, and critical materials stored on site where appropriate.
- 3.11.3 The intention is not to reuse and instead dispose of the materials that would be encountered during the pre-commencement works.
- 3.11.4 Should this change, all appropriate guidance would be followed. This includes:
 - a) Contaminated Land: Applications in Real Environments (CL:AIRE), *The Definition of Waste: Development Industry Code of Practice (Version 2)*, March 2011 (DoWCoP).
 - b) *The Environmental Permitting (England and Wales) Regulations 2016* (as amended).
- 3.11.5 While pre-commencement activities do not intend to reuse materials, a declaration needs to be submitted to a Qualified Person to CL:AIRE before works commence. The Qualified Person declaration is part of the Materials Management Plan process and needs to be in place prior to the movement of excavated materials on site.

3.12 Contaminated land

- 3.12.1 With exception to the locations at Paragraph 2.54.1903, no contaminated land is anticipated at any other locations for the pre-commencement works.
- 3.12.2 Where contamination is encountered during excavation works, the procedures detailed in Appendix 9.2 (Contaminated Land Risk Assessment) of the ES Appendices [APP-164] would be adhered to.

3.13 Archaeological works

- 3.13.1 Mitigation measures for the archaeological pre-commencement works would be detailed in the Site-Specific Written Schemes of Investigation (SSWSIs) and the Phase 3 Archaeological Management Plan (Archaeological Mitigation Strategy).
- 3.13.2 All pre-commencement archaeology would be carried out in close coordination with the County and District Archaeologist.

3.14 Traffic management and public interface

- 3.14.1 None of the pre-commencement works require long-term traffic management i.e. short-term continuous traffic management would be required for installation of the culvert and diversion of the gas main at the Kelham and Averham FCA. All other traffic management required to complete pre-commencement works would be erected at the start of a shift and removed at the end of the same shift.
- 3.14.2 The use of traffic management systems would be avoided where possible and only used where absolutely necessary. If there are more suitable, safe systems of work that do not require traffic management then they would be prioritised.
- 3.14.3 Where traffic management is required, it would be designed and implemented by a specialist traffic management contractor, only in accordance with any consents necessary.
- 3.14.4 In advance of any temporary traffic management being implemented, the specialist traffic management contractor would submit applications to the applicable Local Authorities for the relevant highway licences and permits. These include but are not limited to Temporary Traffic Regulation Orders, road space bookings and temporary traffic lights.
- 3.14.5 Where traffic management is complex in nature, advice and coordination would be sought from the Local Highway Authority, to avoid any conflict with other works on the network.
- 3.14.6 Traffic management on the strategic road network would also be avoided where possible during pre-commencement works and would also be subject to all applicable roadspace bookings, permits and licences.
- 3.14.7 No traffic management would commence without all applicable permits and consents in place. If the application for the licence or permit is denied, the traffic management and therefore the affected element of the pre-commencement work would not proceed until an alternative suitable licence or permit is approved.

- 3.14.8 Liaison would be in place between the Applicant and the Local Highway Authority to identify future schemes or maintenance within the area so that interfaces can be successfully managed.
- 3.14.9 A traffic management forum will be formed prior to the start of construction with relevant members of the Local Highway Authority, emergency services and representatives from adjacent schemes. The traffic management forums will include discussions on the identification and management of the interface between local and regional schemes.
- 3.14.10 Weekly traffic management schedule will be provided by the Applicant to the Local Highway Authority, providing a rolling 4 week look ahead programme of the planned traffic management to be undertaking during the pre-commencement works.
- 3.14.11 Engagement with local people and businesses (including bus companies) about how construction may impact them will take place in advance of pre-commencement works starting.
- 3.14.12 All diversion routes will be assessed for suitability for the traffic being diverted. All diversion routes would be in agreement with the overseeing Local Highway Authority and key stakeholders.
- 3.14.13 All diversion routes will be discussed with the Local Highway Authority that will be affected.
- 3.14.14 Diversion routes will be signed using Scheme specific signing.
- 3.14.15 All diversion routes will be surveyed by the Applicant to ensure suitability to users when in use.
- 3.14.16 The Applicant will deliver good communications in relation to diversions, engage with communities along planned diversion routes, gain feedback from communities to establish community access requirements, and where possible act on feedback in advance.
- 3.14.17 The Applicant will assess, and where practicable use Variable Message Signage (VMS), to display travel time on diversion routes both in advance and within the route(s).
- 3.14.18 The Applicant will monitor the routes when in use to ensure incident management/response mitigates congestion and delays to the road users.
- 3.14.19 Any partial or full lane closures required for the works associated with the Scheme, during the pre-commencement works are to be scheduled to avoid conflict with bank holidays and other embargo periods (Table 3-7).
- 3.14.20 Significant events are held at the Newark Showground which can attract significant traffic to the area. Traffic management on the A46 between Brough junction and Friendly Farmer Roundabout, and on the A1133 and Drove Lane would have an interface with these events, therefore during the pre-commencement works, no road or

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lane closures will be installed during the Newark International Antiques and Collectors Fair or the Nottinghamshire County Show.

Table 3-7 Bank Holiday and other embargos

Bank Holidays	Dates	Traffic Management Embargo from	Traffic Management Embargo to
Easter	Good Friday Easter Monday	06:00 Thursday before Good Friday	00:01 Tuesday after Easter Monday
Early May Bank Holiday	Monday	Low key – no specific request for TM to be removed	
Spring Bank Holiday	Monday	06:00 Friday	00:01 Tuesday
Summer Bank Holiday	Monday	06:00 Friday	00:01 Tuesday
Black Friday & Cyber Monday Weekend**	Friday after the fourth Thursday in November to the following Friday	National Highways will confirm embargo arrangements for this period in advance	
Christmas / New Year	25 th December 26 th December 1 st January	06:00 24 th December*	00:01 2 nd January*
* The Christmas embargo dates will be published annually by National Highways			
** This is not a bank holiday, but specific embargo arrangements are applied			

Predicted HGV movements

- 3.14.21 Table 3-8 summarises the estimated number of HGVs arriving on the Scheme for each of the pre-commencement works. The detailed design for the Scheme is not complete and thus the scope and construction programme has not been finalised.
- 3.14.22 It is not planned that any of the pre-commencement works will be ongoing for the full duration of the pre-commencement period or that all of these works will be progressed at the same time. Some of these works will however be progressed in parallel. The numbers provided in Table 3-8 are indicative based on the information available at the time of writing this plan as the Applicant can reasonably foresee at this stage.

Table 3-8 Predicted HGV movements

Pre-commencement Task	Estimated number of HGV's per week
a. Archaeological investigations and mitigation works.	10
b. Utilities works.	10
c. Baseline monitoring.	0
d. Construction compound establishment.	20
e. Temporary bridge over the River Trent.	15
f. Site clearance works.	25

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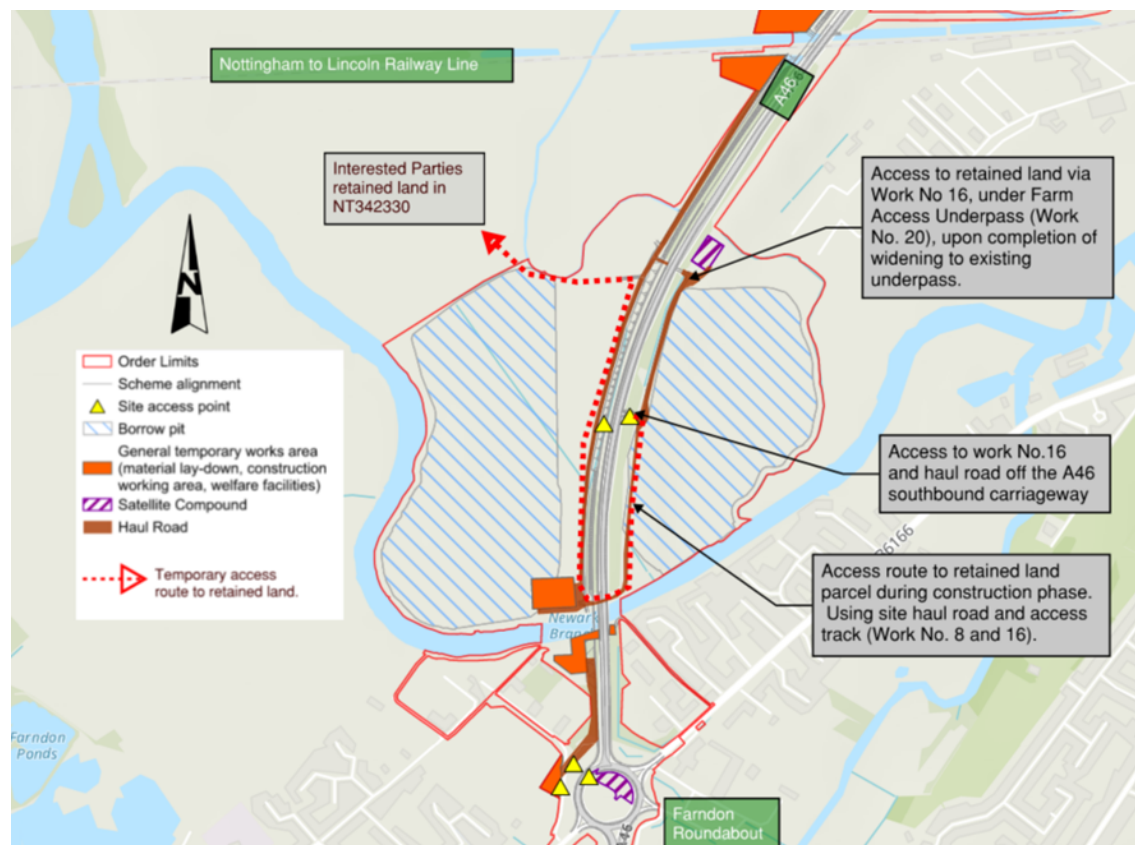
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Pre-commencement Task	Estimated number of HGV's per week
g. Floodplain compensation areas.	10
h. Haul roads and access works.	50
i. Ecological works.	0
j. PRow works.	0
k. Demolition.	10
l. Temporary fencing.	5
m. Vehicle recovery areas.	10
n. Temporary CCTV and speed enforcement.	5
o. Advanced vegetation planting	0
p. Activities which do not fall within paragraphs (a) to (o) and would not give rise to likely significant effects.	0

Access to Farndon East and West

3.14.23 Access to the retained land in NT342330 located to the north of plot 1/19a as shown on sheet 2 of the Land Plans [AS-004], is provided by the maintenance access track from the southbound A46. This is identified as Work No. 16 on sheet 2 of the Works Plans [AS-005]. The maintenance access track ties into the existing field access track at location P-2B as shown on sheet 2 of the Streets, Rights of Way and Access Plans [AS-006]. The access to the maintenance access track from the A46 southbound carriageway (point P-2A on sheet 2 of the Streets, Rights of way and Access Plans) will be secured with a suitable gate accessible by the Applicant and the Landowner during the operation of the Scheme. The bellmouth for Work No. 16 will be designed to the required highways standards and requirements and will consider the new dual carriageway, speed limit, vegetation and visibility splay for the turning into and out of the works access track. Access during the construction phase, including pre-commencement works, will be via Works No.16 from the A46 southbound carriageway. An access procedure with the landowner will be agreed such that they can be escorted through the construction area via, the internal construction roads and maintenance access tracks, onto their land (refer to Figure 3-9).

Figure 3-9 Works Access from A46



Restricted routes for construction vehicles

- 3.14.24 The proposed access restrictions for construction traffic and delivery vehicles for the duration of the pre-commencement works and the subsequent construction period are identified in Table 3-10. These have been developed following consultation with residents and the Local Highway Authority.
- 3.14.25 “No Construction Traffic” signs will be installed at appropriate locations to ensure construction traffic does not use local side roads which are not suitable for large vehicles. All deliveries will be informed of the approved delivery route to the site, which would be mandatory. Details of the restrictions will be provided at site inductions and included with the supplier order agreements.
- 3.14.26 Construction traffic, other than cars and vans, will not be permitted to access the Trent Lane works access via Bar Gate and New Gate.

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Table 3-10 Access restrictions

Side Road	Status	Details
Crees Lane	Access permitted with restrictions	Construction vehicles not permitted along the private road section.
Fosse Road	Access permitted with restrictions	Construction traffic would use Fosse Road to access Crees Lane and the satellite construction compound.
Farndon Road	No construction access	Construction vehicles not permitted along Farndon Road.
Tolney Lane	Access not permitted	Construction vehicles not permitted to travel along Tolney Lane to access the work areas.
Kelham Road (South of the A46)	Access permitted with restrictions	On street parking along this section of the road make it unsuitable for HGVs. Restricted to LGVs, vans and cars for accessing the main compound.
Mather Road	Access permitted with restrictions	Used as access to Nether Lock Viaduct during advanced and pre-commencement works.
Lincoln Road, Lincoln Road Bridge and Northgate. Trent Lane and Maltkiln Lane	Access permitted with restrictions	Construction vehicles to access Trent Lane via the Lincoln Road from the Brownhills Junction only. Large delivery vehicles (such as low loaders) to be restricted to off peak delivery times.
Winthorpe Road and Quibell's Lane	Access permitted with restrictions	Access along Winthorpe Road to the Quibell's Lane junction only.
Winthorpe Road between A46 and A1	Access permitted with restrictions	Used during advanced and enabling work. Separate construction access and egress routes to be provided from the A46.
Drove Lane	Access permitted with restrictions	Used to access the works access at the western end of Drove Lane only. No construction vehicles permitted past the Order Limits on Drove Lane.
A1133	Access permitted with restrictions	Used to access the works access only.
Gainsborough Road	Access permitted with restrictions	No HGVs or LGVs. Limited to cars/vans to undertaken inspection of the technology and electrical equipment on the east side of the A1.

Footways, cycleways, equestrian routes and Public Rights of Way

- 3.14.27 During the pre-commencement works and construction phase several diversions or temporary closures of Public Rights of Way including footways, cycleways and bridleways will be required to move the public away from the construction activities.
- 3.14.28 Signage will be erected in advance of the diversions to notify users of the intended closure and diversion routes. Temporary diversion routes will be signed.
- 3.14.29 Details of the proposed closures and diversion routes are provided in table 3-11. Reference to work numbers are from the Works Plans [AS-005].

Table 3-11 Diversions and control measures on walking, cycling and horse-riding routes during construction

Route reference	Impact	Diversion	Duration
Newark BW2	Temporary closure and diversion during construction of Windmill Viaduct (Work No. 7)	Walkers and cyclists divert west along Farndon FP4 then south along Farndon FP2 onto Marsh Lane and Farndon FP5, south through field adjacent to Crees Lane, across temporary crossing at Crees Lane, under A46 underpass, along footway/cycleway and north on Newark FP3 to rejoin BW2. Equestrians divert west along access track from Marsh Lane, head north along Newark FP5, head south through field adjacent to Crees Lane, across temporary crossing at Crees Lane, under A46 underpass, along footway/cycleway and north on Newark FP3 to rejoin BW2. The segregation between BW2 and the working area for the Windmill Viaduct (Work No 7) will be designed and installed such as to permit access to the driveway to Windmill cottage. Dismounting blocks will be provided at either end of the existing underpass to the north of Farndon Roundabout.	24 months
Newark FP14	Permanent closure	Limited use of current crossing over the A46 due to safety hazards. Foot traffic will be diverted along Kelham Road and Great North Road and will utilise the route of the existing Trent Valley Way.	Closed in pre-commencement works
Footpath/Cycle way along Great North Road	Temporary closure and diversions during construction. Permanent re-alignment	The construction of the new Cattle Market grade separated junction (Work Nos 33, 39A to 39F 40, 41 and 48) requires multiple construction phases to manage the traffic movements around the existing junction. Temporary signalised crossings would be installed during construction to segregate active travel users from the construction operations.	30 months
Footpath at the end of Newark BW5	Closure during construction phase.	No diversion proposed. The path at the end of Newark BW5 leads to a dead end at the Nottingham to Lincoln Railway Line and is not an official public right of way.	30 months
Newark BW6	Temporary closures with marshal control	The bridleway would need to be temporarily closed during the construction and demobilisation of the temporary bridge crossing at Nether Lock. A diversion of BW6, would be installed around the works area during this period. Access along the Bridleway would be controlled by marshals during the installation of the new bridge deck elements to the Nether Lock Viaduct (Work No 64). The temporary bridge abutment working area on the south side of the	1 week of closure. 4 weeks of marshal control in pre-commencement works and 6 weeks of marshal control in main works.

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Route reference	Impact	Diversion	Duration
		riverbank (Work No 62) would be segregated from the WCH route during the works	
Unofficial route north of Newark BW5	Closed during construction phase.	The unofficial walking route between Fiddlers Elbow Bridge and the Nottingham to Lincoln railway bridge over the River Trent is closed during the construction phase. The area will be an operating construction site for the construction of the new Neither Lock Viaduct, Work No. 64.	30 months.
Newark FP48#1	Temporary closure and diversion	The footpath would be impacted during the construction of the Sewage Treatment Works underpass (Work No 70) and the earthworks operations associated with the embankment widening. The footpath would be diverted south on Quibell's Lane to Newark BW10, cross the Lincoln Road railway bridge and join the Trent Valley Way to join Newark BW5.	24 months
National Cycle Network 64 and Trent Valley Way along Winthorpe Road	Temporary closure and diversion during construction and diversion onto new permanent alignment.	National Cycle Network 64 and the Trent Valley Way along the Winthorpe Road would be impacted by the construction of the new A46 dual carriageway (Work No 76) and slip road (Work No 79) at the Brownhills junction. The existing footway on the southbound side of the road would be cleared and segregated to provide a segregated route along Winthorpe Road. The construction of the new junction would be phased, such that the new footway/cycleway would be constructed and put into operation before the earthwork operations commence over the Winthorpe Road.	Phased diversions over 24 months
Winthorpe FP2	Permanent re-alignment.	There is currently no link between Winthorpe FP2 and FP3 across the A46. During construction FP2 would be permanently stopped up for approximately 100 metres before the A46. A new combined footway/cycleway alignment would be constructed along the maintenance access track, creating a circular walking and cycling route between Winthorpe roundabout and the Friendly Farmer roundabout.	Section stopped up in pre-commencement works
Footway along the A46 between Drove Lane and Friendly Farmer Roundabout and Winthorpe FP3	Temporary closure and diversion during construction and diversion onto new permanent alignment.	The footpath along the southbound carriageway of the A46 would be temporarily diverted to the south of its existing alignment prior to the start of the construction of the new Friendly Farmer Link. The route passes through the Newark Showground and appropriate fencing will be installed to prevent unauthorised access from the footway diversion on to the Newark Showground land.	18 months

3.15 Weather

- 3.15.1 Contingency plans would be put in place for extreme weather during pre-commencement activities. This plan would cover impacts from extreme weather including, storms, high winds and flooding. In addition, provision of health safety and welfare plans for employees to reduce impacts from weather.

Appendix A

Table 4-1 Stockpile record card

Stockpile identification		Record	Additional notes
Stockpile ID:			
Stockpile establishment date (dd/mm/yyyy):			
Stockpile location (e.g. coordinates):			
Source (e.g. farm name, field):			
Intended soil end use:			
Soil horizon	Soil type	Depths (cm)	Volume (m³)
Topsoil			
Subsoil 1			
Subsoil 2			
Subsoil 3			
Stockpile maintenance		Record	Additional notes (e.g. type of seed, type of maintenance)
Grass/clover seeded?		<input type="checkbox"/> No <input type="checkbox"/> Yes – establishment date (dd/mm/yyyy):	
Grass/clover cover maintenance date(s) (dd/mm/yyyy):		Year 1: Year 2: Year 3: Year 4: Year 5:	
Graphical record?		<input type="checkbox"/> Stockpile sketch map (inc. horizons) <input type="checkbox"/> Photograph	