HM Revenue & Customs

Construction Management Plan

Birmingham Inland Border Facility

December 2020

Confidential

Mott MacDonald
Mott MacDonald House
8-10 Sydenham Road
Croydon CR0 2EE
United Kingdom

T +44 (0)20 8774 2000
mottmac.com

Her Majesty's Revenue and Customs
100 Parliament Street
London
SW1A 2BQ

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Mott MacDonald Group Limited. Registered in England and Wales no. 1110949. Registered office: Mott MacDonald House, 8-10 Sydenham Road, Croydon CR0 2EE, United Kingdom

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1 The Project

1.1 Introduction

Mott MacDonald has been appointed by Her Majesty's Revenue and Customs (HMRC) to produce a Construction Management Plan (CMP) for the proposed construction of Car Park 6 Birmingham Airport (hereafter referred to as 'the site') to a temporary Inland Border Facility (IBF) (hereafter referred to as 'the scheme').

This CMP sets out the minimum Environmental Management Requirements, which will enable the Client to comply with current legislation and their respective environmental policies. This CMP is to be used by the construction Contractor for the duration of their contract.

The Contractor will comply and continually review all relevant legislation, codes of practice, and associated information documentation to ensure compliance.

The CMP will ensure:

- Compliance with all relevant Environmental legislation.
- Identification and management of Environmental issues and risks appropriate to their environmental significance and impact.
- Design and implementation of appropriate mitigation measures and controls.
- Ongoing monitoring of the effectiveness of mitigation measures and controls through the implementation of an Environmental Management System (EMS).
- Auditing environmental performance.

The Contractor will take responsibility for this document and its further development as necessary throughout the project life cycle. This document will be read in conjunction with the Construction Phase Plan.

HMRC will ensure that all requirements set out in this CMP are complied with by the Principal Contractor.

1.2 Regulatory Framework and Planning Conditions

The United Kingdom (UK) has left the European Union (EU) and a transition period is now in place until 31st December 2020. The transition period is a timeframe in which the UK and EU negotiate additional Brexit arrangements until the end of 2020. The current rules on trade, travel, and businesses for the EU and UK continue to apply during the transition period until new rules are brought into effect as of 1st January 2021.

Given the national importance of the timely delivery of border infrastructure, a Special Development Order (SDO) has been made under the provisions of S.59 of the Town and Country Planning Act 1990. The SDO specifically is the Town and Country Planning (Border Facilities and Infrastructure) (EU Exit) (England) Special Development Order 2020.

The SDO grants temporary planning permission for development consisting of the use of land in specified parts of England for border processing.

Article 4 of the SDO requires 'Relevant Approval' from the Secretary of State (hereafter 'the SoS') for the use of land and development set out in Article 3 of the SDO. Relevant Approval for

the development at Car Park 6 Birmingham Airport and its use as an Inland Border Facility was granted by the SoS on 19 November 2020.

This CMP is associated with the Relevant Approval at Car Park 6 Birmingham Airport and is submitted to the SoS for determination as required by Schedule 2, Part 2 of the SDO.

1.2.1 Schedule 2, Part 2 – Compliance Summary

Schedule 2, Part 2 of the SDO states the following:

1. *''No works of construction may commence until a construction management plan for the development has been submitted to and approved by the Secretary of State. The plan must comprise details of policies and procedures to be complied with in connection with the construction of the development in relation to:*

a) engagement with relevant owners and occupiers, including complaints handling.
b) application of best practicable means to minimise noise, vibration and emissions to air.
c) application of best practicable means to minimise the adverse effects of lighting on the amenity of relevant owners and occupiers, ecological receptors and road users.
d) sourcing, placing, managing and storing of construction materials, including, where appropriate, the stripping, storage and re-spreading of soil.
e) management of waste in accordance with the waste hierarchy.
f) pollution prevention and control
g) preventing damage to trees to be retained on the site, or trees immediately adjacent to any works on the site.
h) management of construction traffic, including measures to prevent the deposit of mud and construction materials on the highway.
i) the management of invasive species. and
j) where appropriate, the appointment and retention of a suitably qualified archaeologist, arboriculturist, ecologist or ordnance specialist to oversee works '

and references to "the CMP" in the following paragraphs of this part are to that plan approved by the Secretary of State from time to time.

2. *A copy of the CMP must be kept on the site at all times.*
3. *The site operator must publish a non-technical summary of the CMP.*
4. *Construction works must be undertaken in compliance with the CMP.*
5. *The CMP and the published non-technical summary of the CMP must be kept under review and updated as necessary throughout all construction works. Material changes to the CMP are not effective unless approved by the Secretary of State.*
6. *Prior notification of the intended commencement of development must be given to the Secretary of State and the relevant local planning authority, and such notification must include—*
    a. *the address and location of the development (including a site plan in the form prescribed by article 4(2)(b));*
    b. *the name and address of the owner of the site;*
    c. *a description of the development; and*

d. the date on which it is intended that any material operation (as defined in section 56 of the Town and Country Planning Act 1990(24)) will first be carried out.

Table 1.1 explains where the required information is provided in this CMP.

Table 1.1 Schedule 2 Part 2 Construction Compliance Summary

	Policies and Procedures to be complied with	Location within report (paragraph)
1(a)	Engagement with relevant owners and occupiers, including complaints handling	Section 0 All paragraphs)
1(b)	Application of best practicable means to minimise noise, vibration and emissions to air	Section 4.3 (air) and section 4.11 (noise and vibration)
1(c)	Application of best practicable means to minimise the adverse effects of lighting on the amenity of relevant owners and occupiers, ecological receptors and road users.	Section 4.10 (lighting), Section 4.7 (ecology)
1(d)	Sourcing, placing, managing and storing of construction materials, including, where appropriate, the stripping, storage and re-spreading of soil	Section 4.6
1(e)	Management of waste in accordance with the waste hierarchy.	Section 4.14
1(f)	Pollution prevention and control.	Section 4.12
1(g)	Preventing damage to trees to be retained on the site, or trees immediately adjacent to any works on the site.	Section 4.9
1(h)	Management of construction traffic, including measures to prevent the deposit of mud and construction materials on the highway.	Section 4.13
1(i)	The management of invasive species.	Section 4.7
1(j)	Where appropriate, the appointment of retention of a suitably qualified archaeologist, arboriculturist, ecologist or ordnance specialist to oversee works.	Section 4.7, Section 4.9 and section 5.2
2	A copy of the CMP must be kept on the site at all times.	Section 1.6
3	The site operator must publish a non-technical summary of the CMP	Section 1.6 and Appendix A
4	Construction works must be undertaken in compliance with the CMP.	Section 1.6
5	The CMP and the published non-technical summary of the CMP must be kept under review and updated as necessary throughout all construction works. Material changes to the CMP are not effective unless approved by the Secretary of State.	Section 1.6
6	Prior notification of the intended commencement of development must be given to the Secretary of State and the relevant local planning authority, and such notification must include— a. the address and location of the development (including a site plan in the form prescribed by article 4(2)(b)); b. the name and address of the owner of the site; c. a description of the development; and	Section 1.2.2

	Policies and Procedures to be complied with	Location within report (paragraph)
	the date on which it is intended that any material operation (as defined in section 56 of the Town and Country Planning Act 1990(24)) will first be carried out.	

In addition, Schedule 2 Parts 1(b) and 1(c) of the SDO set out conditions that are to be complied with during construction, operation and reinstatement of the development. Sections of the CMP which demonstrate compliance with these conditions is set out in Table 1.2.

Table 1.2 Part 1(b) and 1(c) Compliance Summary

	Policies and Procedures to be complied with	Location within report (paragraph)
Part 1(b)		
1.	Any artificial lighting must be arranged so the main beam angle of each installation is directed downward and away from the closest boundary so as to minimise light spill.	Section 4.10
2.	Any fire hydrants and emergency water supplies must be kept in good repair and any defects must be repaired as soon as practicable.	Section 4.8
3.	Any surface water and foul water system must be kept in good repair.	Section 4.12 and section 4.15
4.	Temporary structures collecting sewage that are not attached to mains sewers must be emptied regularly.	Section 4.12 and section 4.15
5.	Development must not adversely affect any ancient of veteran trees.	Section 4.9
6.	There must be no net increase in the rate or volume of surface water discharge from site.	Section 4.12 and section 4.15
7.	Surface water discharged from the site must not adversely affect the quality of receiving water bodies.	Section 4.12 and section 4.15
8.	Subject to condition B.9, the height of any building (other than an existing building) must not exceed 15 metres.	Section 4.9
9.	The height of any gate, fence, wall or other means of enclosure erected or constructed, other than noise attenuation measures, must not exceed 4.5 metres.	Section 4.9
10.	No building other than plant, machinery, gates, fences, walls or other means of enclosure, or noise attenuation measures, may be erected or extended within 25 metres of the boundary of the curtilage of any residential dwelling.	Section 4.9
11.	Where there is a risk of groundwater contamination, hard surfacing must not be made of porous materials.	Section 4.15
12.	Where a condition in Parts 2 to 4 requires the site operator to publish any document, the site operator must take reasonable steps to make that document available to persons likely to have an interest in the matters to which the document relates.	Please refer to site Operational Management Plan (OMP)
Part 1(c)		
1.	The stationing of vehicles is only permitted on hard surfacing.	Section 4.12
2.	When stationed, a goods vehicle must not have its engine idling without the express authority of the site operator.	Section 4.3

Table 1.3 sets out the site-specific planning conditions which are provided within the Relevant Approval Decision Notice as imposed by the SoS

Table 1.3 Site Specific Conditions

Condition		Proposed Scope of Condition
1(a)	Compliance with Schedule 2 (Conditions)	Subject to the conditions specified in Schedule 2 to the Town and Country Planning (Border Facilities and Infrastructure) (EU Exit) (England) Special Development Order 2020, save that for the purposes of this approval only
1(b)	Time limit	The use of the site for the purposes in articles 3(1)(a) and (b) of The Town and Country Planning (Border Facilities and Infrastructure) (EU Exit) (England) Special Development Order 2020 (the Order) authorised by this approval shall cease on 31 December 2022.
2	Reinstatement Plan	On or before 30 June 2022, a Reinstatement Plan, including a timetable for the completion of reinstatement works, shall be submitted to the Secretary of State in accordance with the requirements of Part 4 of Schedule 2 to the Order and all reinstatement works shall be completed by 31 December 2023 unless agreed otherwise.
3	Reinstatement Works	A border department may carry out reinstatement works specified in a Reinstatement Plan approved by the Secretary of State until 31 December 2023.
4	Vehicle Movement Restriction	No more than 1,000 heavy goods vehicles shall enter the site hereby approved for border processing in any 24-hour period.
5	Lighting provision	In addition to the requirements of SDO Schedule 2, Part 1(B)(1), any lighting associated with the development hereby approved shall be provided and maintained in accordance with submitted Technical Note 'Lighting Technical Approach, 418703-MMD-XX-BX-FN-LE-00001, dated 4 November 2011.
6	Water	Any foul water (treated effluent from package treatment plants) shall be removed from the site until such time as an environmental permit for its discharge to a watercourse has been granted. Additionally, surveys of the existing drainage must be carried out and any repairs identified as necessary completed prior to operation of the site to ensure that it functions appropriately for the lifetime of the proposal.
7	Tree Protective Barriers	Prior to commencement of works on site, protective barriers must be installed around all of the trees in close proximity to the works and a suitably qualified arboriculturist must attend the site to confirm the final positioning of the protective fencing prior to the commencement of any works, in line with the approach set out in the Preliminary Arboricultural Assessment Ref 418703-MMD-XX-BX-RP-YE-0002.
8	Construction Management Plan REAC Requirements	The measures detailed in row AQ1, L1, L2, GS1, GS2, B2, B3, B4, M1, NV1, NV2, NV3, PH1, RDWE1, RDWE2 and C1 of the Register of Environmental Actions and Commitments (Table B.1 of Annex B, Analysis of Likely Environmental Effects of the Development) (the REAC) must be included as part of the Construction Management Plan to be submitted for approval.
9	Operational Management Plan REAC Requirements	The measures detailed in row L1, GS1, B3, B4, M2, M3, NV4, NV5, PH1, RDWE2 and C2 of the REAC must be included as part of the Operational Management Plan to be submitted for approval.

Condition		Proposed Scope of Condition
10	Reinstatement Plan REAC Requirements	The measures detailed in row AQ1, L1, L2, L3, GS1, GS2, B1, B2, B4, M1, NV1, NV2, NV3, PH1, RDWE1, C1 and C3 of the REAC must be included as part of the Reinstatement Plan to be submitted for approval. In addition, any vegetation that is required to be removed to facilitate the Scheme shall be replanted during the decommissioning and reinstatement phase of the development. Replanting shall be on a like-for-like basis supported by an appropriate planting specification.

In response to Condition 6, Table 1.4 Condition 6 CMP Compliance with the Record of Environmental Actions and Commitments overleaf sets out the actions required from the Record of Environmental Actions and Commitments (REAC) that are applicable to this CMP and were contained within in the Analysis of Likely Environmental Effects of the Development Report (Document Reference: 418703-MMD-XX-BX-RP-YE-0001) approved as part of the Article 4 Relevant Approval.

Table 1.4 Condition 6 CMP Compliance with the Record of Environmental Actions and Commitments (REAC)

Reference	Action (including specific location and any monitoring required)	Location within CMP
AQ1	Works would be carried out in accordance with Best Practicable Means, as described in Section 79 (9) of the Environmental Protection Act 1990, to reduce the creation of dust on-site during the construction phase. This would include: • Minimise height of stockpiles and profile to minimise wind-blown dust emissions and risk of pile collapse. • Locate stockpiles out of the wind (or cover, seed or fence) to minimise the potential for dust generation. • Ensure that all vehicles with open loads of potential dusty materials are securely sheeted or enclosed. • Enforce a maximum speed limit of 15mph on surfaced roads and a 10mph speed limit on unsurfaced haul roads and work areas, to prevent the generation of dust by fast moving vehicles. • Damp down surfaces in dry conditions. • All vehicle engines and plant motors shall be switched off when not in use.	Section 4.3
L1	The following measures to be undertaken to reduce visual intrusion and impacts upon the landscape throughout construction: • Keep a well-managed and tidy site. • Welfare units and temporary site offices in a colour that would aid integration with the surrounding landscape where possible.	Section 4.9
L2	Prior to vegetation removal an arboricultural method statement is to be produced by an appropriately qualified arboriculturist, which would identify how retained trees would be protected during the works.	Section 4.9
GS1	• Should any hazardous materials be encountered during construction, all materials would be dealt with. • Any fuels, oils or hazardous materials used during the works would be appropriately stored and kept in bunded areas to prevent pollution of surface and ground waters. Spill kits shall be provided on-site for the duration of the works and construction staff trained in their correct application.	Section 4.14
GS2	• Production of risk assessments specific to the works in order to identify risks and appropriate mitigation measures in line with all the relevant health and safety legislation and guidance to ensure the safety of workers.	Section 4.12
B2	• All vegetation removal will be supervised by a suitably qualified ecologist and be undertaken outside of the main breeding bird season (and therefore, should be undertaken between September to February). • In the event that any excavations are required, ensure that these are covered over night or that ramps are installed so that mammals do not become trapped. • All work should aim to retain as much vegetation as possible. • Vegetation removal should be undertaken outside of the main breeding season (undertake clearance between September and February) where possible. • If vegetation removal/disturbance is required between March and August inclusive, a suitably qualified ecologist will be required undertake a nesting bird check prior to works commencing. • Works are expected to remove the trees / vegetation on site.	Section 4.7
B3	The following measures would be required during construction and operation:	Section 4.7, 4.10

Reference	Action (including specific location and any monitoring required)	Location within CMP
	• To use low or high-pressure sodium lamps, instead of mercury or metal halide lamps, with the use of glass glazing preferred where possible. The use of Light Emitting Diodes (LEDs) should also be used in preference to mercury or metal halide lamps; • It is recommended that a Preliminary Roost Assessment (PRA) is undertaken on trees to be removed. • To fit lighting at as low a height as is practicable; • In the case where lighting is required for security reasons, the use of lights with motion detectors or the use of Intelligent Video Analytics (IVA), which uses infra-red to detect movement, should also be considered. This would work to ensure areas are only lit when necessary; and, • To minimise the upward spill of lights with the use of directional luminaries, shields, louvres and baffles. This would direct light to where it is required and prevent unnecessary light spill into the surrounding environment. • A dark corridor is maintained along the vegetated bund which runs along the eastern boundary of the site. This will help maintain the existing bat foraging and commuting habitat.	
B4	To meet the obligations of the NERC Act 2006 and the NPPF 2019: • An effort should be made to retain as much habitat as possible in the area surrounding the works; • Any retained habitat should be protected during construction; tree root protection areas (RPAs) for any trees retained should be maintained. • Dust suppression measures should be applied to avoid dispersal and minimise any effect on the surrounding habitat.	Section 4.7,4.3
M1	Where material must be taken to a recycling or disposal site, these sites must have the appropriate permits and should be located as close to the works as possible.	Section 4.14
NV1	All noisy operations would be completed between 0700 and 1900 on weekdays, and 0800 to 1700 hours on Saturdays, occasionally on Sundays, switching off noise-emitting equipment when not in use and the use of temporary noise barriers where appropriate. Where out of hours working is required, prior agreement would be sought with Solihull Borough Council.	Section 4.11
NV2	Implement the following noise mitigation measures during construction: • Ensure equipment is maintained, in good working order, and is used in accordance with the manufacturer's instructions. • Fit equipment with silencers or mufflers. • Manage deliveries to prevent queuing of site traffic. • Do not leave plant running unnecessarily. • Careful orientation of plant with directional features. • Materials to be lowered instead of dropped from height. • Use of adjustable or directional audible vehicle-reversing alarms or use of alternative warning systems (for example, white noise alarms). • Train and advise members of the construction team during toolbox talk briefings on quiet working methods. • Erect temporary barriers to fully obscure the construction works from nearby receptors.	Section 4.11
NV3	Ensure the local community are informed of the proposals.	Section 3

Reference	Action (including specific location and any monitoring required)	Location within CMP
PH1	The following measures would reduce effects on the local community during operation: • Ensure that HGV movements are controlled on-site by marshalling. • Ensure local community informed of the proposals	N/A during construction. Please refer to Operational Management Plan.
RDWE1	Construction activities will be managed in accordance with CIRIA Guidelines. Guidance on best practice in relation to pollution prevention and water management is set out in the following documents: • CIRIA's Environmental good practice on-site. • Environment Agency's Protect groundwater and prevent groundwater pollution. Measures to be implemented to limit the impact of construction activities on the water environment include: • All construction workers to be briefed on the use of spill kits as part of the site induction. • Any stockpiled materials to be stored within enclosed areas to enable the runoff to be stored and treated where required. • All plant and machinery to be maintained in a good condition and any maintenance required would be undertaken within safe areas. • Pollution prevention and spill response procedures to be developed by the contractor and a spill kit and clean up equipment maintained on-site. • Dust suppression measures as described in AQ1 of this REAC.	Section 4.15
RDWE2	PSTP will be installed on site. Treated effluent will be tankered off site and disposed of in accordance with authority requirements while a Consent to Discharge Permit is applied for with the EA. When a permit is granted, the treated effluent will then discharge into the surface water drainage system on site and via the outfall into receiving watercourse under EA permit conditions.	N/A during construction. Please refer to Operational Management Plan.
C1	The carbon reduction principles as detailed within Section 3 of the Carbon Assessment and Reduction Report, would be considered including the following: • Transportation of materials to site would prioritise low-carbon modes where possible • Where possible, low-carbon construction materials and products will be preferred • Where possible low-carbon construction plant and equipment would be used • Provision would be made to enable waste to be effectively segregated during construction, enabling materials to be effectively managed using the waste hierarchy, prioritising re-used and recycling over disposal. Circular economy principles, such as Modern Methods of Construction, would be implemented, where possible.	Section 4.5

*Record of Environmental Actions and Commitments included in the Analysis of Likely Environmental Effects of the Development Report (Document Reference: 418703-MMD-XX-BX-RP-YE-0001

1.2.2 Prior Notification of Commencement of Work

Part 2 of the SDO also states '*Prior notification of the intended commencement of development must be given to the Secretary of State and the relevant local planning authority, and as such notification must include-*

(a) The address and location of the development (including a site plan in the form prescribed by article 4(2)(b)).
(b) The name and address of the owner of the site.
(c) A description of the development. and
(d) The date on which it is intended that any material operation (as defined in section 56 of the Town and Country Planning Act 1990 (a)) will first be carried out

Notification of the intended commencement of the development will be given by HMRC to the SoS prior to any works commencing on site.

1.3 Project Description

The scope of the CMP relates to all the construction works to be carried out on the project. This includes:

- Project management and construction
- Environmental management
- Design, construction and commissioning
- Quality management

1.3.1 Site Location

The site, currently known as 'Birmingham Car Park 6', is 4.7 hectares, flat and fully surfaced operational car park for Birmingham International Airport. The site is located north of the A45 Coventry Road, south of Airport Way, west of Bickenhill Lane and north of A45 Coventry Road and roundabout (Grid Reference: SP186831). The current car park can be accessed via the A45 or B4438. The car park comprises an existing hardstanding surface for users of the airport and car hire companies. It is also currently as a backup site for Birmingham International Airport in case of a major incident.

The surrounding area is mainly of commercial use with Birmingham Airport located to the west of the site. To the north of the site there are further airport car parking spaces and the Birmingham International Railway Station. To the east of the site there is a business park, while the A45 / Coventry Road borders the site to the south.

The main environmental constraints in the vicinity of the site include the proximity of the site to the Greenbelt, a local cycling route and two Public Right of Ways (PRoWs) as shown on the Environmental Constraints Plan (Appendix B).

1.3.2 Proposed Development

The Inland Border Facility operation would take place within the boundary shown in the Scheme Red Line Boundary (Figure 1.1) and SDO Plan (418703-MMD-05-BX-DR-C-0102), with the extent of land to be covered by the SDO outlined in red. The Site would require a 24-hour seven day a week operation. The operation of the site would be primarily for traffic heading to or from

the Dover ports. The maximum operational period of the Scheme is two years from 1 January 2021.

The scheme involves the temporary change of land use and associated works, to enable operation of the Site as an HGV transit area for customs checks. A maximum capacity of 198 HGV spaces is proposed (161 articulated lorry parking spaces and 37 rigid lorry parking spaces). The Scheme would involve using existing areas of hardstanding for lorry parking and circulation. More information on construction and operation is provided below.

1.3.3 Programme

The scheme is planned to be constructed over a period of approximately five weeks and works would mainly occur during daytime hours from Monday to Saturday (07:00 to 19:00 Monday to Friday, 08:00 to 17:00 on Saturdays), with occasional works on Sundays (09:00 to 14:00) if needed. Any activities required outside the standard working hours will require a Section 61 agreement with the local Council. Should night working be required, works would only be for quieter activities (e.g. electrical connections to lighting, CCTV cabling and connections, building fit out, etc).

While the existing site is currently hardstanding, excavation would take place to install the new drainage and the ducting. It would also be required to remove the existing islands and infilling these with concrete and surfacing.

Temporary lighting would be in place near the office and welfare set up and car park. Tower lighting would be used for localised tasks within the Site.

The access to the site would be from the A45 (which gives access to the M42 and motorway network) and along the existing airport access road. The construction workforce numbers would be up to 50 staff members.

Figure 1.1 Birmingham Inland Border Facility Red Line Boundary

1.4 General Site Management

It is generally intended that the majority of construction works would occur during daytime hours, which will be to be between 07:30 and 19:00 Monday to Friday, 08:00 to 17:00 on Saturdays and occasional works undertaken on Sundays between 09:00 to 14:00 if required. It is expected there will be a need for night-time working which would involve quieter construction related activities (e.g. electrical connections to lighting, CCTV cabling and connections, building fit out).

As 24-hour working will be utilised on this site any works will be subject to a Section 61 agreement with the Local Authority.

All noisy activities (such as excavation) will be completed between 08:00-18:00 weekdays and 09:00-14:00 on Saturdays.

While the existing site is currently hardstanding, excavation would take place to install the new drainage and the ducting. It would also be required to remove the existing islands and infilling these with concrete and surfacing.

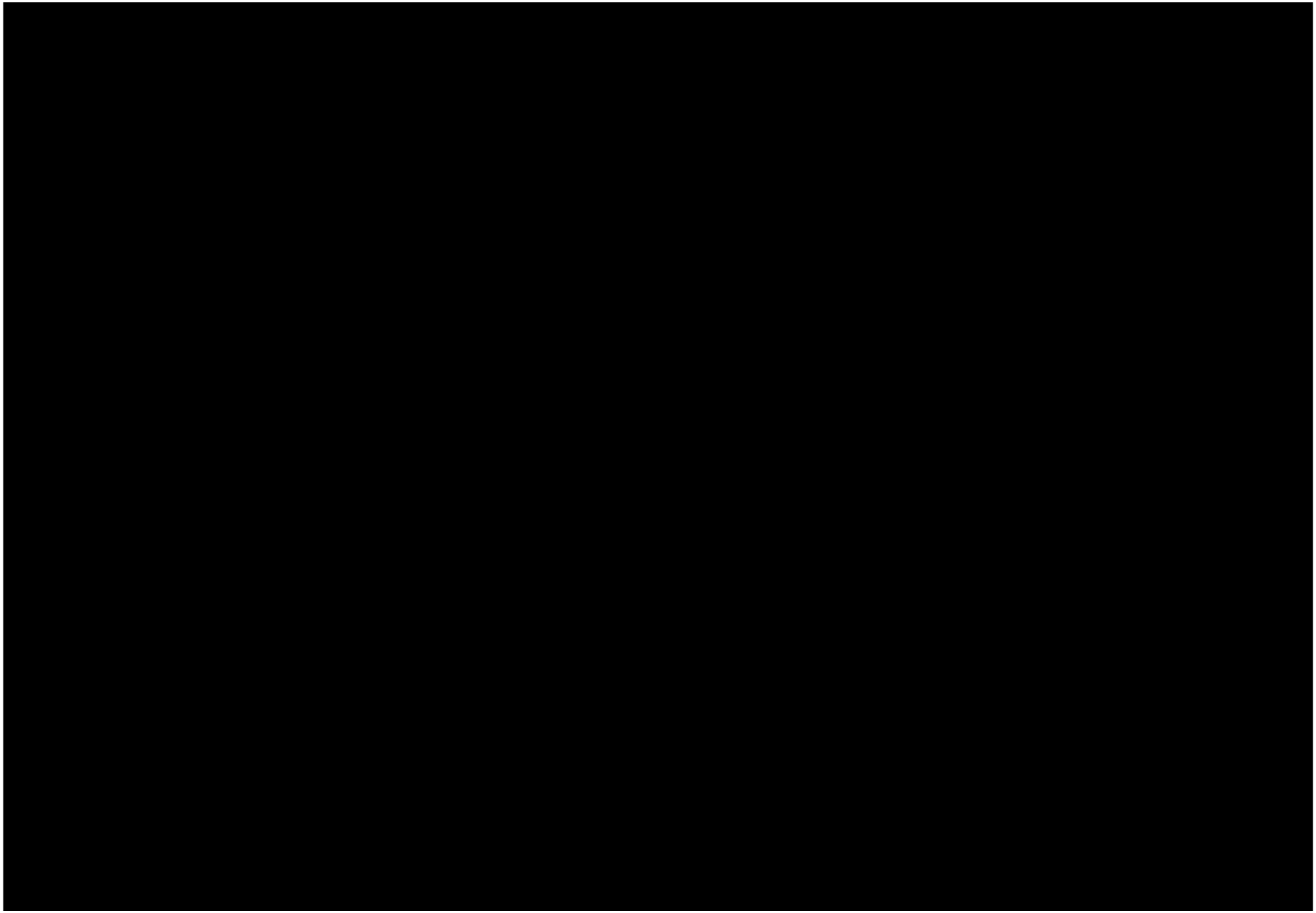
Temporary lighting would be in place near the office and welfare set up and car park. Tower lighting would be used for localised tasks within the Site.

The access to the site would be from the A45 (which gives access to the M42 and motorway network) and along the existing airport access road. The construction workforce numbers would be up to 50 staff members.

All works will be undertaken in compliance with the current Government COVID19 guidelines.

1.5 Site Facilities

Figure 1.2 shows the site layout during construction, including access routes, site welfare facilities, site parking and compound areas.



1.6 Plan Review

Should any material changes to the design or baseline conditions on-site, the CMP will be reviewed and updated accordingly and re-submitted to the SoS for determination.

As part of the implementation of the CMP, there will be regular reviews of construction performance in accordance with the CMP requirements and following any emergency / incidents. All significant incidents will require a debrief for all staff involved to understand the lessons learnt. If needed, the Principal Contractor will amend this plan to reflect the outcomes of incident response accordingly.

Once approved by the SoS, a copy of the CMP will be kept on site at all times.

Following approval of the CMP by the SoS, the site operator will publish the non-technical summary of the CMP as outlined Appendix A.

All construction works will be undertaken in compliance with the CMP. HMRC are responsible for ensuring that the Principal Contractor complies with all actions within this CMP.

2 Environmental Management System

2.1 Introduction

This section describes the procedures and processes that form the Environmental Management System (EMS) which will monitor the environmental performance of the construction phase of the scheme.

2.2 Environmental Culture and Policies

All project personnel will adopt and comply with the Vinci Environmental Policy (Appendix C), Sustainability Policy and client policies. All subcontractors will be required to work within the requirements of this CMP and the relevant policies. Copies of the policies are displayed on office notice boards and will be briefed to all staff as part of their induction.

2.3 Legislation, Regulation and Other Requirements

All works shall be carried out in accordance with the relevant environmental legislation, other regulatory requirements and best practice. A register of current legislative, regulatory and other policy requirements for Vinci projects is provided in the Vinci Integrated Business Management System. The Legislation Register is updated on an annual basis or as necessary when new legislation is enacted.

The Contractor will develop Plans and Procedures, an Aspects and Impacts Registers, Risk Assessments, Environmental Risk Control Schedule, and Method Statements (RAMS) to manage environmental hazards, risk and commitments. These documents will be updated as necessary and submitted for review throughout the lifetime of the Project.

2.4 Roles and Responsibilities

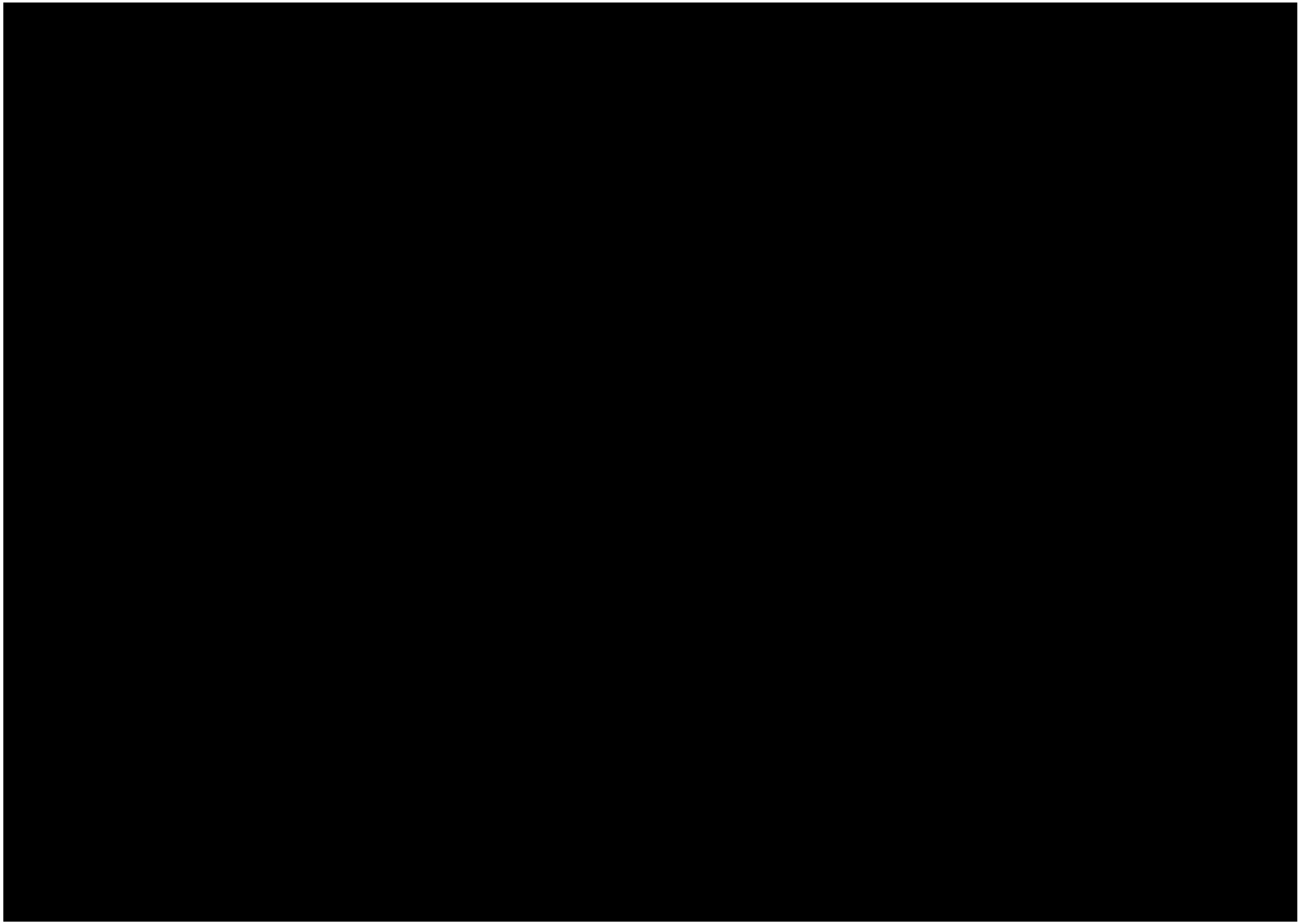
The success of the CMP is dependent upon the extent to which it can be upheld and enforced. The Contractor will define and document the responsibility, authority and inter-relationships of key personnel who manage, perform, and verify work affecting the environment.

All project personnel have full environmental responsibility. Project personnel will be actively encouraged to demonstrate environmental responsibility in respect to the activities undertaken.

The management team that will be on-site for the duration of the works are, one construction manager, one site manager, one general foreman. Further roles will also be on-site regularly throughout the construction programme. Please see Figure 2.1 for site management organogram.

The Principal Contractor will nominate an Environmental Manager as the individual having responsibility for environmental matters. The Environmental Manager is responsible to ensure all environmental and sustainability management requirements set out in this document. Sub-contractors engaged on the project will also be required to adhere to all the environmental and sustainability management requirements of the project.

The Environmental Manager will co-ordinate and implement the EMS and will liaise closely with the whole team in respect of all environmental aspects associated with the works.



To ensure that the site is managed correctly, weekly meetings and inspections will be carried out. These are detailed in the Construction Phase Plan.

2.5 Consents and Licences

The Contractor will gather all relevant information to make all applications to obtain Consents, Licences and Permits in the necessary timescales in line with Project Programme and key dates. Copies of all applications and consents will be issued to the client and maintained on a register.

2.6 Emergency and Incident Response

All environment incidents, accidents and near misses in accordance with statutory requirements. Refer to Appendix D for Emergency Environmental Incident Response Plan. All incidents, accidents and near misses will be investigated and communicated to the client. The Principal Contractor will maintain an Environmental Incident Register, to record all environmental incidents, irrespective of size and nature. The contents of this register will be discussed under the standing agenda item 'Environmental Issues' at monthly project meetings.

2.7 Training and Awareness

The Principal Contractor will ensure all employees on-site are appropriately qualified and suitably experienced to undertake the scope of works.

The Contractor will be responsible for identifying training needs of their employees.

All site personnel will undergo a site induction (including visitors). As part of the induction, environmental responsibilities will be covered. A record will be kept and maintained of all attendees.

In addition to a site induction, training will include daily site briefings and toolbox talks to ensure that all employees on-site are aware of the risks on a daily basis on health, safety, security, community relations and environmental topics.

Certain roles will require additional specific training for activities such as refuelling. The Principal Contractor will assign roles such as 'Designated refuellers' and 'waste representatives. Only these personnel are to engage with bulk refuelling operations and the completion of waste management documentation.

2.8 Construction Method Statements

Method statements will be produced stating how construction activities will be carried out to meet the requirements of the CMP. Method statements will be reviewed by the Environmental Manager prior to works commencing and included in the appendix of this CMP where relevant.

3 Public and Stakeholder Communication

3.1 Introduction

This section addresses neighbour and community liaison during the works. The Contractor is responsible for ensuring compliance with the procedure. In addition, all staff are responsible for adhering to its requirements.

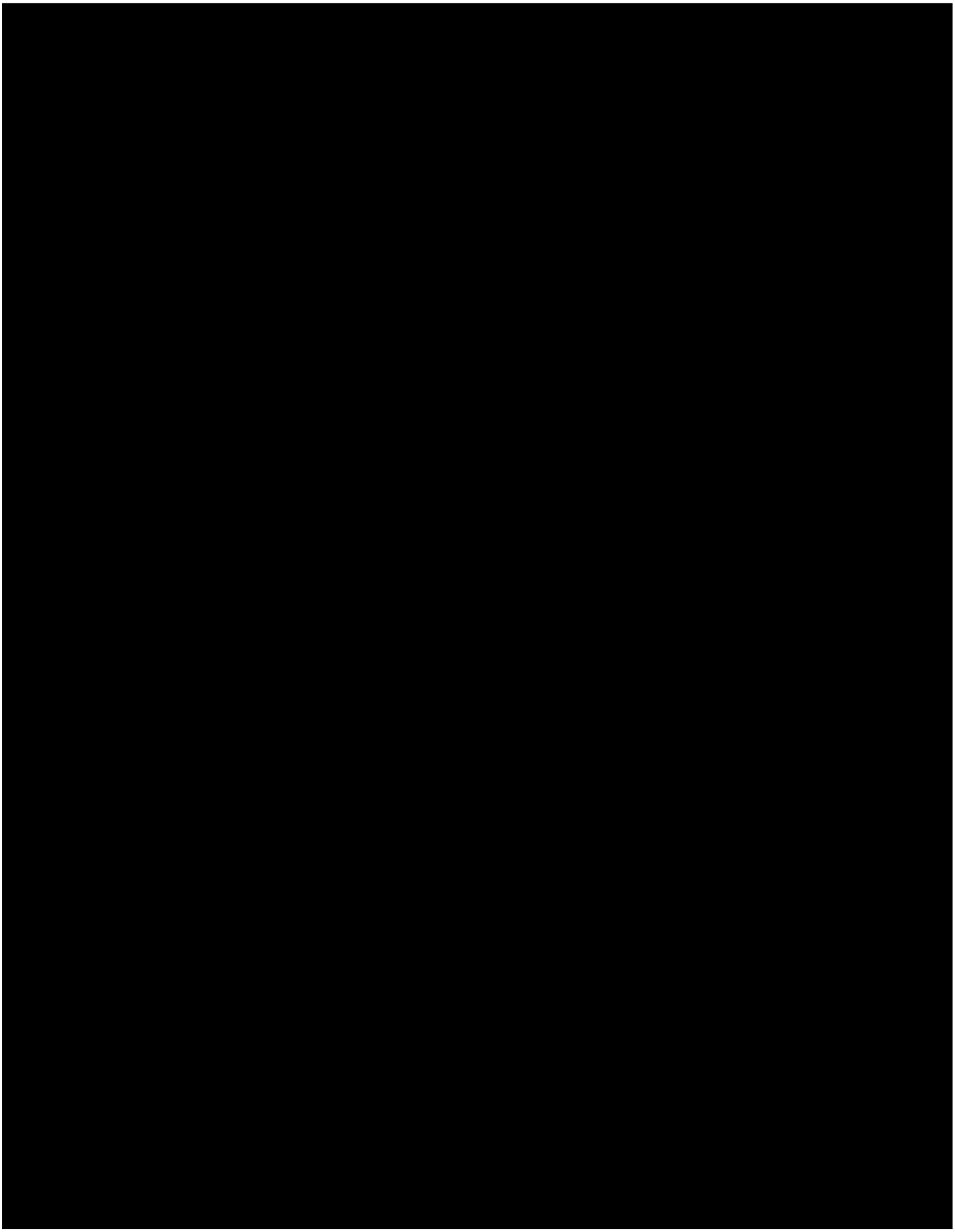
3.2 Liaison and Communication Protocols

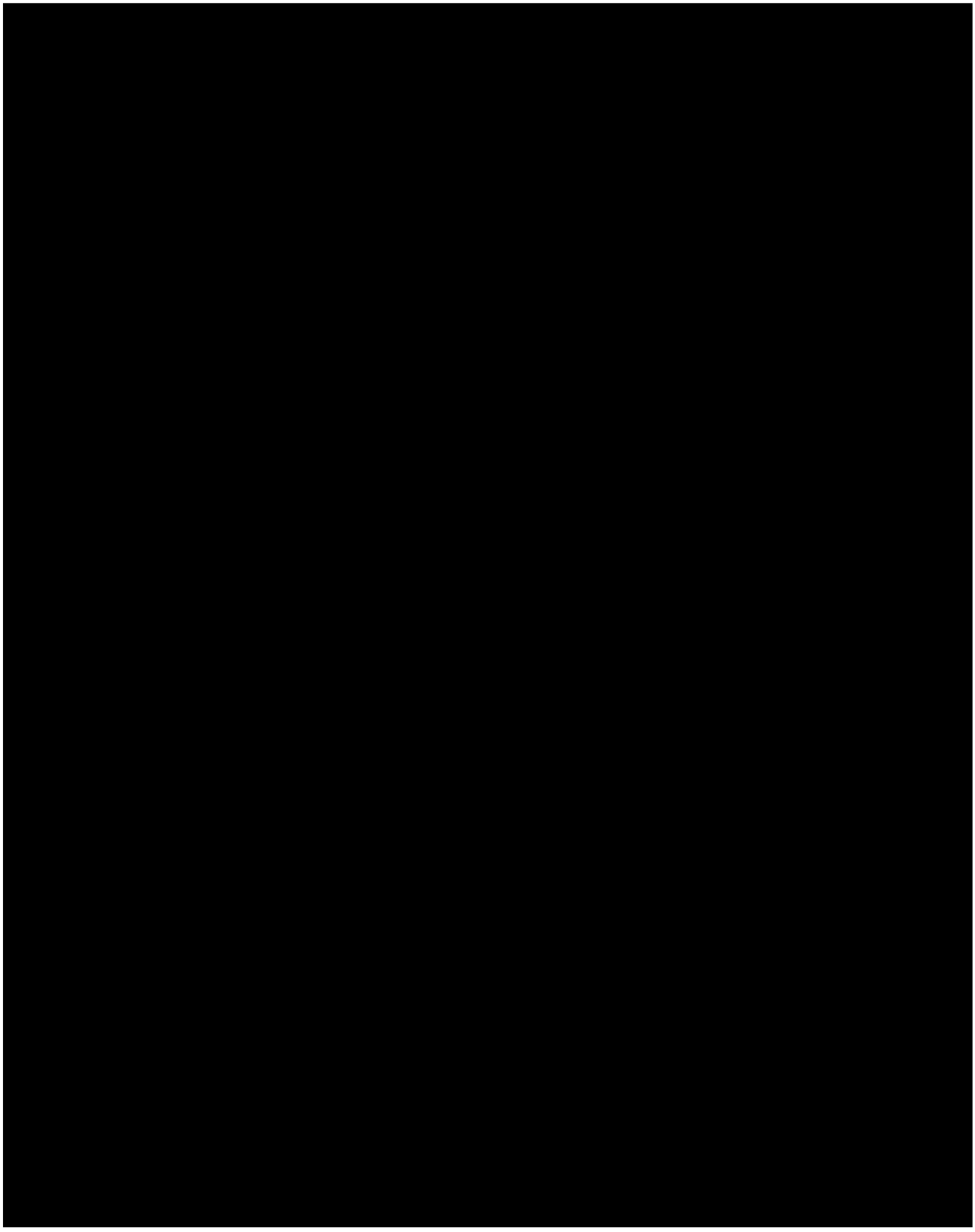
All identified neighbours and community stakeholders surrounding the site were engaged with during the planning process regarding the inland border facility. Information was shared with landowners / occupiers located within the consultation radius via letter, with further details and contact information available via the https://inlandborderfacilities.uk/?page_id=82 website.

Figure 3.1 Blue Line Engagement Boundary

Table 3.1 lists the stakeholders that have been engaged at the different stages of the Article 4 submission and production of this CMP.

During the consultation process for the CMP, comments were received from Solihull Metropolitan Borough Council. These are set out, along we responses in Table 3.2.





The importance of community engagement throughout the construction process is recognised and will continue throughout construction by HMRC. All properties within the blue line engagement boundary (Figure 3.1) will receive a letter informing of the approval of Article 4 and the commencement of construction. The website will be updated as required to inform stakeholders and the public of updates regarding the site. Solihull Metropolitan Borough Council, as the local authority, will be provided with timely updates on construction where necessary throughout the construction period.

3.3 Complaint Handling Procedure

The Principal Contractor will provide contact details for the site manager at the entrance of the site. All complaints made during construction will go through and be dealt with by the site

manager. Should any member of the public require to speak to someone in person, the site manager will be the first point of contact. All members of site will direct complaints to the site manager.

Should any complaints be received that cannot be closed out immediately by the site manager, these will be transferred to the nominated member of HMRC's Stakeholder Engagement Team (SET). The SET will be responsible for managing complaints with a target of resolving issues within 48-hours of a complaint being received. Complaints received by identified stakeholders will also be managed by a member of the SET.

HMRC will also maintain a dialogue with the local authority and ensure the Principal Contractor understands what is expected of them in relation to noise. During the construction phase, HMRC will provide updates to the local authority where required.

3.4 Documentation

All relevant documentation regarding the CMP will be maintained by the Principal Contractor and can be shared if requested.

4 Environmental Management Requirements

4.1 Introduction

The following section details the environmental management requirements that will be implemented throughout the construction phase of the scheme.

4.2 Environmental Constraints

Please refer to Appendix B for Birmingham Inland Border Environmental Constraints map showing the environmental constraints associated with the site.

4.3 Air Quality and Emissions

The closest AQMA is the Birmingham Air Quality Management Area, which is located approximately 2.3km north-west of the site. The nearest receptor (office building) to the site is approximately 110m from the site. The nearest residential receptor is located approximately 160m from the site. The nearest ecological conservation receptor is Pendigo Lake and The Rough, ecosites located approximately 0.53km north-east of the site. The nearest statutory designated site is Bickenhill Meadows Sites of Special Scientific Interest (SSSI) located approximately 0.88km south of the site.

As the scheme falls within Impact Risk Zones (IRZ) 4 and 6 for Bickenhill Meadows SSSI and the River Blythe SSSI respectively (2.60km east from the scheme), this suggests the scheme has the potential to fall within the 'Air Pollution[1]' and 'Infrastructure[2]' categories for both SSSIs. Due to the presence of the main roads surrounding the site and proximity to the airport, the area is already subject to a moderate level of traffic and as such the limited, short-term, additional traffic during construction is not anticipated to impact upon these SSSIs. Please refer to the Air Quality Impact Assessment (418703-MMD-XX-BX-RP-AQ-0001) for the scheme for further detail.

The principal sources of emissions during construction are:

- Construction traffic, however, movements are anticipated to be less than 200 HGVs per day and last no more than five weeks
- Dust creation from construction activities and construction plant and machinery

Procedure

The following measure will be implemented by the Principal Contractor and all sub-contractors for the duration of the construction of the scheme:

- COSHH assessments will be produced for potential impacts to human health (workforce and neighbours) specific to the environment being worked in.

[1] Any industrial/agricultural development that could cause air pollution (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons > 200m² & manure stores > 250t).

[2] Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.

Use of Machinery

- The use of mains electrical power, hybrid generator systems and battery powered equipment where reasonably practical
- All plant on-site will be in good operating condition. Exhaust emission from all plant will be reduced as much as possible through effective and regular maintenance
- All construction vehicles will conform to the current EU emissions standards (NRMM Stage V compliance for all plant with an engine capacity of between 37-560kW and all generators above 560kW)
- All plant to be switched off when not in use
- No idling of vehicles
- Low sulphur diesel fuel will be used in all plant (non-road mobile machinery)
- The Principal Contractor will maintain a register of all plant on-site to record inspection and set up a system of regular inspection of all plant
- Vehicle and construction plant exhausts will be directed away from the ground and position them at a height to facilitate appropriate dispersal of exhaust emissions

Dust Mitigation

Works would be carried out in accordance with Best Practicable Means, as described in Section 79 (9) of the Environmental Protection Act 1990, to reduce the creation of dust on-site during the construction phase. This would include:

- Minimise height of stockpiles and profile to minimise wind-blown dust emissions and risk of pile collapse
- Enforce a maximum speed limit of 15mph on surfaced roads and a 10mph speed limit on unsurfaced haul roads and work areas, to prevent the generation of dust by fast moving vehicles
- The placement of stone/soils/ concrete/other materials by plant or equipment will be controlled and as infrequently as reasonably practicable to prevent undue creation of dust (i.e. reduce potential for double-handling)
- Dust suppression systems to be in place where there is a foreseeable risk to air quality such as dampening down surfaces in dry conditions
- Aggregate and waste delivery vehicles will be covered
- Stockpiles and mounds will be maintained to avoid material slippage and dust generation
- Locate stockpiles out of the wind (or cover, seed or fence) to minimise the potential for dust generation
- Vehicles transporting materials within or outside the construction site will not be overloaded
- Site accesses and local roads will be checked daily for mud and arrangements for it to be cleaned will be made immediately should it be required
- No open fires to be permitted on-site. Measures to minimise fire risk must be implemented
- Vehicle and construction plant exhausts will be directed away from the ground and position them at a height to facilitate appropriate dispersal of exhaust emissions
- Movement of construction traffic around site will be kept to the minimum reasonable for the effective and efficient operation of the site and construction of the project
- All cutting and grinding operations will use equipment and techniques which reduce emissions and incorporate appropriate dust suppression measures
- Maintain a clean and tidy site to avoid accumulation of dust

4.4 Archaeology and Built Heritage

There are no designated historical assets with the red line boundary of the scheme.

Limited excavation is expected to take place for the new drainage, the installation of the ducting and the removal of the existing landscape islands on-site. Due to the site's developed nature, its proximity to the A45 and Birmingham International Airport, there is low potential for archaeology relating to its history to be present. However, the risk of encountering archaeological assets cannot be completely ruled out.

Procedure

The following measures to reduce visual intrusion and impacts upon the archaeology and heritage of the area will be implemented by the Principal Contractor and all sub-contractors for the duration of the construction of the scheme:

- The heritage risk will be explained to all employees and sub- contractors within the site induction and through Toolbox Talks
- Should heritage assets of potential importance be unexpectedly revealed during construction, the procedure for the unexpected discovery of archaeological remains of national importance will be implemented. These include:
  - All works within the area to be suspended
  - Notify the county Archaeologist to determine further action via the Project Manager on-site. The Environmental Manager will also be notified. Solihull Metropolitan Borough Council hold a contract for such matters with Warwickshire County Council. The nominated officers at WCC can be contacted via the following details: 01926 412276.
  - Make suitable provisions to allow a survey to be undertaken in accordance with Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy (GWSI: HERDS)

4.5 Carbon

The UK construction industry is the largest consumer of natural resources with an average of over 400 million tonnes of material consumed every year. This accounts for approximately 10% of the UK's annual carbon emissions[3]. Therefore, there is significant scope to impact upon carbon emissions by employing carbon reduction principles. The emissions associated with the products and materials used in construction and the transport of materials to site are estimated to be 318tCO2e.

Procedure

The following carbon reduction principles as detailed within Section 3 of the Carbon Assessment and Reduction Report will be considered by the Principal Contractor and all sub-contractors for the duration of construction of the scheme:

- Transportation of materials to site would prioritise low-carbon modes where possible
- Where possible, low-carbon construction materials and products will be preferred
- Where possible low-carbon construction plant and equipment would be used

[3] Institute of Civil Engineers (ICE) (2014): Energy Briefing Sheet: Embodied Energy and Carbon [online] available at: https://www.ice.org.uk/ICEDevelopmentWebPortal/media/Documents/Disciplines%20and%20Resources/Briefing%20Sheet/Embodied_Energy_and_Carbon.pdf

- Provision will be made to enable waste to be effectively segregated during construction, enabling materials to be effectively managed using the waste hierarchy, prioritising re-used and recycled over disposal
- Circular economy principles, such as Modern Methods of Construction, will be implemented, where possible

4.6 Construction Materials, Sourcing, Management and Storage

Sourcing

In line with the Vinci Sustainability Policy and client requirements, the use of materials from non-sustainable sources will be minimised. Materials from sustainable sources or materials with a recycled content will be specified by designers.

Materials which can be recovered at the end of the products lifecycle have been specified. These are shown below:

Table 4.1 Material recovery at the end of product lifecycle

Material	Sustainable Sourced	End of life
Timber for shuttering	FSC (or equivalent) sources in line with policy	Energy from waste
Concrete with recycled content	From a wrap approved source (WRAP recycled content in construction product database)	Remove for recycling
Recycled Aggregate	WRAP approved sources only or BES 6001 approved sources	Remove for Recycling

In addition, global ecological issues will be taken into account where timbers from high conservation value forests will be avoided through sourcing timber with FSC certification.

Vinci will aim to procure almost 100% BES 6001 certified ready mixed concrete and aggregates will be procured form BES 6001 sources where possible.

Management

- Mixing of large quantities of concrete or bentonite slurries will be undertaken in enclosed or shielded areas
- The number of handling operations for materials will be kept to the minimum reasonably practicable
- Materials handling areas will be maintained to constrain dust emissions through the use of measures such as watering facilities to reduce or prevent escape of dust from the site boundaries
- Mixing of grout or cement-based materials will be undertaken using appropriate techniques/mitigation suitable for the prevention of dust emissions
- Where materials can be reused, they will be reused

Storage

- Storage of any oil-based materials, including petrol, diesel, waste and vegetable and plant oil, and above ground fuel and oil storage tanks: the Principal Contractor will comply with the Control of Pollution (Oil Storage)(England) Regulations 2001, as amended, and the Environment Agency's PPG: Above ground oil storage tanks
- Chemical storage, handling and use will comply with PPG 26: Drums and intermediate bulk containers

- Stationary plant will be used with secondary containment measures such as plant nappies to retain any leakage of oil or fuel, which will be emptied at regular intervals to prevent overflow
- Fuel will be stored in dedicated bunded, impervious storage areas away from drains and watercourses
- Fuel tanks will be stored within a bund capable of holding 110% of their capacity
- Stockpiles and mounds will be kept away from sensitive receptors (including natural and historic features), watercourses and surface drains where reasonably practicable, and sites to take into account the predominant wind direction relative to sensitive receptors
- Stockpiles and mounds will be maintained to avoid materials slippage
- Materials stockpiles likely to generate dust will be enclosed or securely sheeted, kept watered or stabilised as appropriate
- Fine dry material will be stored inside buildings or enclosures with measures in place to ensure no escape of material and of overfilling during delivery
- Maintain a clean and tidy site, ensuring all material is stored in the correct areas

4.7 Ecology

There is one statutory designated site and six non-statutory designated sites within one kilometre of the site. However, it is considered unlikely that works will have any significant effects on these sites with the implementation of appropriate avoidance and mitigation measures. Although the overall potential is low, suitable habitats to support breeding birds, bats, small mammals, and amphibians and reptiles, and potentially habitat suitable for badger are present at the site. No invasive species were identified during the ecology walk over.

Procedure

The following measure will be implemented by the Principal Contractor and all sub-contractors for the duration of the construction of the scheme:

- The risk to ecology will be explained to all employees and sub- contractors within the site induction and through Toolbox Talks
- Any vegetation to be removed that has the potential to support nesting birds will be removed outside of the bird nesting season (March to September inclusive)
- For any vegetation unable to be removed outside of the bird nesting season (March to September inclusive), a nesting bird check will be undertaken by a suitably qualified ecologist no more than 48 hours prior to works commencing. Should an active nest be identified during the survey, a demarcation zone will be implemented where no works can occur until the nest has fledged (up to six weeks depending on the species)
- Any habitat with the potential for small mammals, amphibians, or reptiles (the broadleaved woodland) will be phase removed under an ecological watching brief. Retained areas of woodland will be fenced to prevent small fauna from wandering into the working area
- Temporary lighting for construction will be low or high-pressure sodium lamps or LEDs. This lighting will be fitted at as low a height as is practicable, and directional lighting will be used to avoid unnecessary light spill onto the broadleaved woodland surrounding the site to reduce potential impacts on any bat commuting corridors and foraging areas
- Any potential excavations will be covered overnight. If this is not possible, mammal ladders/ramps will be installed to allow any trapped mammals to escape safely
- Should any protected species be found during the works, works will stop immediately, and an ecologist contacted immediately via the Project Manager on-site. The Environmental Manager will also be notified

- Should invasive species such as Japanese Knotweed be encountered on-site, works will stop immediately, and the area fenced off. An ecologist will be notified via the Project Manager on-site for further action. The Environmental Manager will also be notified

4.8 Housekeeping

Procedure

To reduce the likelihood of an environmental incident or nuisance occurring, the following measures will be implemented by the Principal Contractor and all sub-contractors for the duration of the construction of the scheme:

- Regular inspection and treatment of perimeters, maintain cleanliness on-site, including the provision of staff facilities, waste management
- Effective preventative pest and vermin control and prompt treatment of any pest and vermin infestation, including arrangements for disposing of food waste or other attractive material, if an infestation occurs, the Contractor will take action to eliminate the infestation and prevent further occurrence
- No fires allowed on-site and measure will be taken to minimise the likelihood of fires
- Remove or stoppage and sealing of drains and sewers taken out of use
- No discharge of site run-off to ditches, watercourses, drains, sewers or soakaways without the agreement of the appropriate authority
- Maintenance of wheel-washing facilities or other containment measures
- Storage of machinery, equipment and temporary building outside flood risk areas where possible
- Management of staff congregating outside the site prior to commencing or leaving site to avoid risk of traffic collisions
- Maps showing sensitive areas and buffer zones where no pollutants are to be stored or used will be displayed in all welfare facilities
- Adequate welfare facilities will be provided
- A construction worker travel plan will be implemented to encourage use of public transport by site staff and control off-site parking
- Any fire hydrants and emergency water supplies must be kept in good repair and any defects must be repaired as soon as practicable

4.9 Landscape and Visual

The site is not located within a National Park, Area of Outstanding Natural Beauty or a Conservation Area. Furthermore, there are no public rights of way (PRoW) within the vicinity of the site. The Green Belt shares the southern border of the site (Coventry Road).

Procedure

As a minimum, the following measures will be implemented by the Principal Contractor and all sub-contractors for the duration of the construction of the scheme:

- Site fencing will be maintained in a satisfactory condition and to a standard acceptable to the local authority and client
- Site hoardings and fencing may be used as dust/ acoustic/ visual screens for worksites. These will be maintained frequently in order to ensure efficiency and visual impact

- Land take, construction activities, materials and waste storage shall all only take place within the boundaries of the work sites
- None of these activities shall take place outside the work sites except where there is prior consent from the relevant authorities (for example work to highways)
- Recognition will be taken of adjacent sites and businesses that may impact on-site from outside its boundary
- Use of directional, hooded and low-level lighting, as well as restrictions on night-time lighting during construction
- The height of any building (other than an existing building) must not exceed 15 metres.
- The height of any gate, fence, wall or other means of enclosure erected or constructed, other than noise attenuation measures, must not exceed 4.5 metres.
- No building other than plant, machinery, gates, fences, walls or other means of enclosure, or noise attenuation measures, may be erected or extended within 25 metres of the boundary of the curtilage of any residential dwelling.
- Maintain a clean and tidy site.

Vegetation clearance is required for the scheme. All works will be carried out in accordance with the Preliminary Arboricultural Scoping Assessment (refer to Appendix E). As standard, the following measure will be implemented by the Principal Contractor and all sub-contractors for the duration of the construction of the scheme:

- No vegetation is to be removed that has not been identified in the scheme proposals for SDO without prior consultation with the Scheme Arboriculturist
- If at any point, the design is changed following formal SDO submission, the Scheme Arboriculturist must be consulted to enable any subsequent arboricultural impacts to be reviewed and mitigated as appropriate
- All tree works to be carried out in accordance with BS3998:2010 *Tree Work – Recommendations*
- Protective barriers will be installed in accordance with BS5837:2012 around all of the trees in close proximity to the works, at the distances dictated by the root protection area (RPA) measurements.
- An Arboriculturist will visit site to confirm the final positioning of the protective fencing
- Vehicular movements will remain within the hard standing of the car park at all times
- Compound areas and set down areas were not confirmed at the time of the site visit. It is recommended that they will be positioned on an area of hardstanding within the car park. If hardstanding is not available, they will be located outside of the RPAs of any trees on-site
- All excavated topsoil will be stripped, stockpiled and reused in accordance with *BS3882:2015 Specification for Topsoil*
- No topsoil or other materials will be stored within the RPA of retained trees
- Any works relating to installation of services must be undertaken in accordance with the 'National Joint Utilities Group Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees'. In addition, follow recommendations within *BS 5837 2012 Trees in relation to design, demolition and construction- recommendations*
- Any roots <25mm diameter which are exposed by the excavations will be pruned properly in accordance with good practice using secateurs or a sharp saw. No roots >25mm are to be pruned or severed without prior agreement from the Scheme Arboriculturist
- Exposed roots >25mm will be retained and covered with moist hessian until they are reburied

- If roots >25mm are uncovered, the Scheme Arboriculturist will advise on whether the trees stability and integrity have been compromised and decide on appropriate action required. Any works relating to installation of services must be undertaken in accordance with the NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees
  - In accordance with good arboricultural practice the following must be adhered to:
  - No actions to be undertaken that are likely to cause localised waterlogging
  - No permanent alteration of ground levels within the RPA of retained trees
  - No construction of hard surfaces within RPA of retained trees
  - No boards, hoarding, cables, notices or fencing to be attached to trees
  - No fires are to be lit within 10m of tree canopies
- No handling, discharge or spillage of any chemical substance, including cement washings and vehicle washings are to occur within 10m

4.10 Lighting

During construction, site lighting will be required to enable the safety and security of the construction site. 24-hour lighting during construction will not be required.

Procedure

The following measure will be implemented by the Principal Contractor and all sub-contractors for the duration of the construction of the scheme:

- Lighting will be at the minimum luminosity necessary and use low-energy-consumption fittings
- Where necessary, lighting to site boundaries will be provided and illumination will be sufficient to provide a safe route for the passing public
- Where appropriate, lighting will be activated by motion sensors to prevent unnecessary usage
- Lighting will comply with the Institute of Lighting Professionals' *Guidance notes for the reduction of obtrusive light* and the provisions of BS 5480, *Code of practice for the design of road lighting,* where applicable
- Lighting will be designed, positioned and directed so as not to unnecessarily intrude on any adjacent buildings, ecological receptors, structures used by protected species and other land uses to prevent unnecessary disturbance
- The positioning and design of temporary lighting to be installed during the construction work will be considered in relation to:
  - Minimum requirements for transport users
  - Safe operation of the railway and roads
  - Requirements for least disturbance to local ecology
  - Energy efficiency, ease of maintenance and disposal of light units (LED to be considered)
  - Construction site lighting will be directed away from the Ford's hospital building to the west (bats)
- Lighting columns powered off the mains will be used as a first priority but if not then either hybrid powered lighting columns or string (generator powered) lights will be used. Security lighting will be as low as reasonable during night-time periods.
- All lighting shall be switched off when not in use

4.11 Noise and Vibration Management

There is the potential for temporary, adverse effects on nearby residential receptors as a result of noise arising from the construction works, such as during site clearance and preparation.

Procedure- noise

The following measure will be implemented by the Principal Contractor and all sub-contractors for the duration of the construction of the scheme:

- 24-hour working will be utilised on-site. Most works will be completed between 07:30 and 19:00 on weekdays, and 08:00 to 17:00 Saturdays. Occasional Sunday working will be permitted between 09:00 and 14:00
- All noisy operations (such a heavy machinery movement) will be completed between 08:00 to 18:00 hours on weekdays and 08:00 to 13:00 on Saturdays
- Activities conducted during night-time working (between 23:00-07:00) will not exceed 45 dB, 50 dB and 55 dB $L_{Aeq,T}$ at dwellings in categories A, B and C, respectively, as per clause E3.2 from BS5228-1[4]
- Any activities identified that could be undertaken outside of the working hours and limits set out above will require prior agreement (Section 61) with Solihull Metropolitan Borough Council
- Construction works will comply with the recommendations for practical measures to minimise noise and the maximum permissible noise limits set out in BS5228-1. Should construction activities be identified that could exceed these limits, prior agreement will be sought with Solihull Metropolitan Borough Council. In order to inform the establishment of suitable noise limits, it is expected that a baseline noise monitoring survey will need to be undertaken at representative receptor locations based on a recognised standard such as BS 7445-1:2003 Description and Measurement of Environmental Noise. Guide to Quantities and Procedures. Where this is not possible, a desktop study will be used to determine the appropriate ABC category
- All equipment and vehicles will be switched off and if applicable ignition key removed when not in use. Use of temporary noise barriers, where appropriate
- Noise and vibration will be controlled at source by using the following:
  - Fit equipment with silencers or mufflers
  - Manage deliveries to prevent queuing of site traffic.
  - Do not leave plant running unnecessarily
  - Materials to be lowered instead of dropped from height
  - Use of adjustable or directional audible vehicle-reversing alarms or use of alternative waring systems (for example, white noise alarms)
  - Train and advise members of the constructions team during toolbox talk briefings on quiet working methods
  - sensitive placement of plant and equipment with the potential to generate emissions.
  - enclosure, shielding or provision of filters for plant likely to generate excessive quantities of dust or noise beyond the site boundaries
  - adoption of quiet working methods including auger and vibration piling rather than impact piling

[4] BS 5228-1:2009+A1:2014 Code of Practice for noise and vibration control on construction and open sites

- early delivery of noise mitigation identified in the environmental analysis where reasonably practicable and relevant (e.g. acoustic bunds or fencing)
- use of less intrusive noise alarms that meet the particular safety requirements of the site, such as broadband reversing warnings, or proximity sensors to reduce the requirement for traditional reversing alarms
- avoidance of the use of loudspeaker or loudhailer devices
- considerate working practices, such as avoiding noisier activities during anti-social hours and pre-notification of particularly noisy or drawn out activities to relevant receptors (including materials delivery)
- Ensure equipment is maintained, in good working order and is used in accordance with the manufacturer's instructions
- Fit equipment with silencers or mufflers
- Manage deliveries to prevent queuing of site traffic
- Train and advise members of the construction team during toolbox talk briefings on quiet working methods
- Erect temporary barriers to fully obscure the construction works from nearby receptors.

- Where it has been identified that there will be noise levels above the lower exposure action value of 80 dB(A) $L_{EP,d}$ (daily personal exposure level), operatives will be issued with suitable hearing protection which under company policy they will be required to wear. The works will be noise monitored, and if it is found that the noise levels exceed the upper exposure action value of 85 dB(A) $L_{EP,d}$ an exclusion zone will be established that can only be entered by persons wearing adequate hearing protection.

Procedure- Vibration

The potential for vibration will be assessed on a task by task basis. When a task has been identified that requires the use of a vibrating tool with risk of a vibration exposure of 2.5 m/s^2 A(8) or higher, then form GP.1124.F01 Hand Arm Vibration Calculator Permit will be completed. This form identifies:

- Action limit time - this is where the task can be carried out with no further actions required
- Daily limits - this is the maximum exposure time on that piece of equipment/tool exposure - measured in m/s^2 A(8).

When there is a risk that 2.5m/s^2 A(8) may be exceeded, the GP.1124.F01 chart will change from green to amber. At this stage, consideration must be given to control measures such as reducing the tool/ equipment vibration amplitude, reducing the exposure time, task rotation, etc.

Persons operating vibrating/power tools/equipment etc. must not be exposed to any amplitude/ time combination, which indicates red on the chart.

Refer to the relevant measures set out in Section 4.3 under Machine Use.

4.12 Pollution Prevention and Control

Sensitive receptors identified for the project are as follows:

- The entire site is located above groundwater source protection zones 1, 2 and 3 (mostly 3) with a high vulnerability
- Existing channel drainage surrounds the site perimeter of the site.
- River Blythe SSSI respectively (2.60km east from the scheme).

Procedure

To reduce the likelihood of an environmental incident or nuisance occurring, the following measures will be implemented by the Principal Contractor and all sub-contractors for the duration of the construction of the scheme:

- Activities must be managed in accordance with Construction Industry Research and Information Association (CIRIA) Guidelines and Environment Agency's Protect groundwater and prevent groundwater pollution
- Stationary plant will be used with secondary containment measures such as plant nappies to retain any leakage of oil or fuel, which will be emptied at regular intervals to prevent overflow
- Fuel will be stored in dedicated bunded, impervious storage areas away from drains and watercourses
- Fuel tanks will be stored within a bund capable of holding 110% of their capacity
- Spillage kits will be stored at key locations on-site as set out in a pollution incident control plan and in particular refuelling areas. Spillage kits will also be kept with mobile bowsers
- Plant nappies will be in use during the refuelling process to catch any drips or spills between bowser and machinery
- Refuelling operations will only be undertaken by designated refuellers in line with refuelling procedures
- All staff will be trained to use spill kits efficiently
- The Principal Contractor will keep a record of all spillage incidents and inform the nominated undertaker of any spills which cause land contamination or pollution off site
- The Principal Contractor will manage and dispose of foul water and sewage effluents from site facilities, complying with PPG4: Treatment and disposal of sewage where no foul sewer is available, The Environment Agency's guidance document Groundwater protection: Principles and practice (GP3)
- Containment by temporary foul drainage facilities and disposal off site by a licensed Contractor
- By preference, connection to the local foul sewer system as agreed with the relevant authorities
- Where foul sewage is not present, appropriate treatment and discharge to a watercourse or soakaway with approval from the Environmental Agency, where required
- Any foul drainage discharge to the public sewer will require approval from the statutory water undertaker. If not permitted, provisions need to be adopted to remove the liquid from site for disposal, such as via a tanker
- Provision of maps showing the locations, together with address and contact details of local emergency services facilities (e.g. police stations, fire authorities, medical facilities and other relevant authorities) will be located in all welfare facilities and on notice boards
- Provision of contact details for the relevant authorities, such as the Environment Agency, and the persons responsible on the construction site and within the Contractors' organisation for pollution incident response will be displayed in all welfare facilities and on notice boards
- Provision of contacts with a competent spill response company which can be contacted at short notice for an immediate response (where appropriate)
- Ensure staff competence and awareness in implementing plans and using pollution response kit
- Ensure that site drainage plans and flood risk management plans are available on-site and are kept up to date
- Ensure that pollution shut-off valves are used in compounds with formal drainage

- Any stockpiled materials to be stored within enclosed areas to enable the run-off to be stored and treated where required
- All plant and machinery to be maintained in a good condition and any maintenance required would be undertaken within safe areas
- Risk assessments will be produced specific to the works in order to identify risks and appropriate mitigation measures in line with all the relevant health and safety legislation and guidance to ensure the safety of workers.
- Measures with Section 4.3 for Air Quality and Emissions, and measures within 4.8 Housekeeping will be undertaken to prevent pollution.
- Regular inspections of interceptors

Reporting incidents:

In the event of a pollution event, the following measures will be undertaken:

- A statement of appropriate information (i.e. Incident Report) will be provided in the event of any incident such as a spillage or release of a potentially hazardous material
- Appropriate emergency services, authorities and personnel on the construction site will be notified
- Relevant statutory bodies, environmental regulatory bodies, local authorities and local water and sewer providers will be notified of pollution incidents, as required

4.13 Traffic Management

During construction, local traffic levels are likely to temporarily increase. No road closures or Public Right of Way (PRoW) closures are required during construction. Works will be carried out in accordance with the Traffic Management Plan in Appendix F. Construction activities are anticipated to be minimal and short in duration (period of approximately five weeks) and therefore no significant adverse effects are anticipated in relation to construction traffic movements.

During construction, the Principal Contractor will ensure that impacts from construction traffic on the local community will be minimised. The impacts of road-based construction will be reduced by implementing and monitoring clear controls on vehicle types, hours of operation, parking and routes for large goods vehicles.

Due to the existing highways infrastructure and signage to Car Park 6, further signage to the site for construction vehicles is not considered necessary. Please refer to Appendix F for arrival procedures.

Procedure

The following measures will be implemented by the Principal Contractor and all sub-Contractors for the duration of the construction of the scheme:

- All public access will be maintained, where applicable.
- Measures will be in place to ensure that the local community, economy and transport networks can continue to operate effectively
- Identify permitted access routes and accessed for construction traffic, site boundaries, main access/egress points for worksites and compounds
- No off-site parking permitted
- All practical measures will be put in place to avoid/limit and mitigate the deposition of mud and other debris on the highway, including:

- hardstanding at the access and egress points will be cleaned at appropriate intervals
- vehicle wash-down points to clean vehicle wheels at each exit point on to the highway
- the correct loading of vehicles and sheeting of loads where necessary to avoid spillage during their journeys
- appropriate wheel-cleaning measures will be employed to prevent the transfer and accumulation of mud and other granular deposits on the public highway
- the use of mechanical road sweepers combined with water sprays for the suppression of dust to clean hardstanding's, roads and footpaths in the vicinity of the site
- measures to avoid water run-off on to the adjacent highway (footways or carriageways), including avoiding ponding adjacent to hoardings on the carriageway
- ensure that no material is deposited on to the public highway which will affect drainage interceptors, etc
- the flushing of gullies in the vicinity of the site

4.14 Waste Management

Due to the scale of the scheme, it is expected that construction will generate minimal waste. Materials would be required for the construction of the modular buildings, fencing and new access. Waste materials would likely be generated from the removal of vegetation, hardstanding and kerbing through the site.

Procedure

The following measures will be implemented by the Principal Contractor and all sub-contractors for the duration of the construction of the scheme:

Minimisation of Waste:

- The Principal Contractor will implement measure to minimise the waste generated during construction such as:
  - 'Just in time' deliveries
  - Careful storage of materials on-site
  - Minimisation of packaging
  - Use of re-usable packaging

Management of Excavated Materials and Waste:

- All waste will be managed in accordance with the waste hierarchy (Prevention, preparing for re-use, recycling, other recovery and disposal)
- Excavated material that is uncontaminated will be managed in accordance with the controls specified by the CL:AIRE Definition of Waste: Development Industry Code of Practice or in accordance with an appropriate environmental permit or exemption from permitting
- Material management plans (MMP) will be developed describing the methods for re-using soils at specific sites
- Movement and placement of materials we be as described in the MMP tracking system and recorded in a verification report for the site

Should contaminated material or soils be encountered on-site, to reduce the likelihood of an environmental incident, the following measures will be implemented by the Principal Contractor and all sub-contractors for the duration of the construction of the scheme:

- Any excavations will be inspected for signs of contaminated material. Any suspected contaminated material (based on visual/olfactory observations) must be excavated and removed. Replace with clean fill instead if required
- All waste material must be appropriately handled, stored and transported to limit the potential for pollution and with the appropriate licences in place. For more information, refer to Government guidance on https://www.gov.uk/guidance/pollution-prevention-for-businesses and the Environment Agency's PPG 6, Working at Construction sites, section 10(withdrawn in December 2016, however, still provides good guidance)
- In the event of encountering suspected contaminated materials, samples of excavated material will be taken for off-site testing for the presence of contamination, to characterise the soil and determine suitability for re-use and/or disposal, as appropriate

Identification and Classification of Waste:

- A Site Waste Management Plan (SWMP) will be prepared and maintained by the Principal Contractor
- Waste will be classified in accordance with the statutory controls governing the management of inert, non-hazardous and hazardous waste
- If asbestos is identified on-site, it will be removed by suitably licensed asbestos removal Contractor and managed in accordance with the relevant statutory controls governing its disposal

Segregation and Storage of Waste:

- Skips and other storage receptacles used for the containment of construction, demolitions and excavation waste will be colour-coded in line with generic scheme developed by the Institution of Civil Engineers
- Hazardous waste and non-hazardous waste must be stored separately. The mixing of hazardous and non-hazardous waste, either whilst stored on-site or upon collection will not be permitted
- All skips and other storage receptacles will have appropriate signage to facilitate separation of waste for re-use, recycling, or disposal. Plastic sheeting will be used to prevent leaching from waste soils and aggregates where these are not contained within skips or other storage receptacles
- All skips and storage receptacles will be sheeted, or otherwise remain lidded or closed, when wates is not being deposited into them. They will also be covered to prevent the escape of waste whilst in transit and loaded for maximum payload efficiency
- All skips and storage receptacles will be inspected on arrival to ensure they are fit for purpose. Any not fit for purpose will be taken out of use immediately with appropriate signage to signify it should not be used
- Liquid waste will be stored on hard-surfaced areas with secondary containment systems to prevent spillages
- Waste will not be stored within 10m of any controlled watercourse, borehole, well, spring, surface water drainage system or foul water drainage system
- The storage and segregation of waste will comply with any air quality management measures in section 4.3
- Storage receptacles will be used for the collection and storage of waste within site operation facilities to facilitate the segregation of waste for re-use, re-cycling and recovering

Duty of Care Requirements and Authorisations:

- The Principal Contractor and all sub-contractors will maintain a duty of care at all times to ensure that waste generated during the construction period is handled in accordance with the relevant legislation governing its storage, transfer, treatment and disposal
- All relevant authorisations required will be in place prior to the removal of any waste from the site, with an up-to-date register maintained. This will be in relation to the transfer of waste (waster carriers), any off-site waste management facilities (permitted or exempt sites) to which waste is taken, and any requirements for hazardous waste premises notification
- All environmental permit or registered exemption will be in place prior to any on-site transfer, treatment or disposal of waste being undertaken
- Any waste leaving the site will be accompanied by appropriate duty of care documentation in line with the relevant statutory requirements for waste transfer and hazardous wastes (as appropriate)
- Duty of care documentation will be retained by the Contractors in line with statutory requirements
- The Principal Contractor will maintain a register of all waste loads leaving the site and/ or a tracking system (defined in the MMP) for excavated material destined for re-use to provide a suitable audit trail and to facilitate monitoring and reporting of waste and material types, quantities and management methods

4.15 Water Management

There is the potential for adverse effects to the underlying Secondary B bedrock aquifer (mudstone) and Secondary A superficial aquifer (alluvium), due to potential pollution pathways between the construction activities on-site and the water environment. Careful monitoring and management is required in order to prevent contaminated materials or pollutants from entering waterways or aquifers beneath the site.

Procedure

The following measure will be implemented by the Principal Contractor and all sub-contractors for the duration of the construction of the scheme:

Construction activities must be managed in accordance with CIRIA Guidelines. Guidance on best practice in relation to pollution prevention and water management is set out in the following documents:

- CIRIA’s Environmental good practice on-site
- Environment Agency’s Protect groundwater and prevent groundwater pollution

Measures to be implemented to limit the impact of construction activities on the water environment include:

- All construction workers to be briefed on the use of spill kits as part of the site induction
- Any stockpiled materials to be stored within enclosed areas to enable the runoff to be stored and treated where required
- All plant and machinery to be maintained in a good condition and any maintenance required would be undertaken within safe areas
- Pollution prevention and spill response procedures to be developed by the Contractor and a spill kit and clean up equipment maintained on-site

Groundwater

- Approval from the relevant regulatory body will be sought for plans of work likely to affect any surface or groundwater resource
- The necessary approvals will be obtained to enable discharge of dewatering, surface water run-off and wastewater from the construction site to soakaway or filtration systems, watercourses, foul sewers or disposal off-site
- Bunds of non-erodible or silt or sediment fences will be installed where appropriate to avoid surface run off to watercourses
- As far as is reasonably practicable, the good working practices detailed in the Environment Agency's pollution prevention guidelines will be adopted
- Use of temporary construction methods from the following CIRIA publications (including C532: Control of water pollution from construction sites. C648: Control of water pollution from linear construction projects: technical guidance. and C649: Control of water pollution from linear construction projects: site guide)

Flood Risk

- All construction activities will be undertaken having regard to the requirements to avoid any significant increase of flood risk
- All watercourses will be kept clear of obstruction and debris to reduce blockage risk
- Suitable access and safe refuges are to be identified for use in the event of a flood
- The Principal Contractor will consult with the relevant regulatory authority and other relevant risk management authorities on areas at risk of flooding and make appropriate use of the Environment Agency's Floodline Warning Direct service for works within areas at risk of flooding. The Lead Local Flood Authority can be contacted on 0121 704 8004
- Flood risk will be managed safely throughout the construction and implementation period and consider flooding when planning sites and storing materials
- A risk-based precautionary approach using the 'source-pathway-receptor' concept will be applied to temporary and permanent works

The measures set out in section 4.3 regarding air quality measures to limit adverse dust and air pollution and section 4.12 regarding pollution prevention associated with construction works will also apply in relation to limiting the likelihood of polluted surface water run-off being generated.

4.16 Unexploded Ordinance (UXO)

It is not anticipated that there will be any unexploded ordinance encountered during the works.

Procedure

Should any UXO be encountered on-site the following measure will be implemented by the Principal Contractor and all sub-contractors for the duration of the construction of the scheme:

- Works will stop immediately, and the area evacuated and secured
- The police will be notified via the site Project Manager

5 Monitoring, Auditing and Reporting

5.1 Introduction

Monitoring and reporting of the project's performance against its environmental and social mitigation requirements will be carried out throughout construction.

5.2 Environmental Site Supervision

The Principal Contractor will assign an Environmental Manager to the site. The Environmental Manager will be responsible for supervising the overall environmental performance of the site. It is not anticipated that qualified specialists will be required to oversee any construction works. Should at any point during construction a suitably qualified specialists such as an ecologist, archaeologists etc, be required to oversee construction works unexpectedly, the Principal Contractor will ensure these roles are provided.

The Contractor will review all environmental issues at progress meetings. Environmental issues will be communicated to all project personnel by inductions, tool box talks and daily briefings. Acknowledgment of requirements will be recorded for all site personnel.

5.3 Environmental Inspections, Audits and Registers

The Principal Contractor will be responsible for all environmental inspections, audits and maintenance of risk, incident and consent registers. Environmental performance/ compliance will be monitored against the measures set out in this CMP.

Environmental inspections will be undertaken weekly and a record maintained. These inspections will focus on all areas of the site.

Due to the short construction period, as a minimum a pre-construction audit, 2 audits during construction, and a post-construction audit will be undertaken by the Principal Contractor. Audits will cover the entire construction site.

5.4 Compliance and Non-Conformance / Corrective Action Reports

If a non-compliance with the CMP is identified, all personnel involved will be informed and corrective action notices served. Corrective actions will be addressed in both the short and long term, and these actions will be shown to be effective and compliant with measures set out in the CMP. Short term actions will address the immediate effects of non-compliance, while long term actions will address the cause and look to prevent any further incidences of the same nature.

The Principal Contractor will have in place effective arrangements to investigate and provide reports on any potential or actual significant pollution incidents including:

- A description of the incident, location, type and quantity of containment and likely receptor
- Contributory cause
- Effects
- Measures implemented to mitigate effects
- Measures implemented to reduce the risk of similar incidents occurring

Prior to the issue of corrective action notices, the Environmental Manager will discuss the impacts of the non-compliance with the Project Manager. The Environmental Manager will issue corrective action notices with timescales for rectifications.

5.5 Review and Reporting

At the end of the project, the Principal Contractor will compile and produce an End of Project Environmental file as part of hand-over documentation. This file will contain all records of inspections, audits, registers, briefings and incidences.

A. Schedule of Environmental Requirements and Mitigation

Table 5.1 Schedule of Environmental Requirements and Mitigation

	Topic	Mitigation Measure	By Who?
Pre-Construction	Noise and Vibration	Section 61 will be agreed between Contractor and Solihull Metropolitan Borough Council.	Contractor Project Manager/ Environmental Manager.
During Construction	General	All works will be undertaken in compliance with the current Government COVID19 guidelines.	Principal Contractor and any sub-contractors
	1. Air Quality and Emissions	• COSHH assessments will be produced for potential impacts to human health (workforce and neighbours) specific to the environment being worked in. Use of Machinery: • The use of mains electrical power, hybrid generator systems and battery powered equipment. • All plant on-site will be in good operating condition. Exhaust emission from all plant will be reduced as much as possible through effective and regular maintenance. • All construction vehicles will conform to the current EU emissions standards (NRMM Stage V compliance for all plant with an engine capacity of between 37-560kW and all generators above 560kW). • All plant to be switched of when not in use. • No idling of vehicles. • Low sulphur diesel fuel will be used in all plant. • The Contractor will maintain a register of all plant on-site to record inspection and set up a system of regular inspection of all plant. • Vehicle and construction plant exhausts will be directed away from the ground and position them at a height to facilitate appropriate dispersal of exhaust emissions. Dust Mitigation: • Minimise height of stockpiles and profile to minimise wind-blown dust emissions and risk of pile collapse. • Enforce a maximum speed limit of 15mph on surfaced roads and a 10mph speed limit on unsurfaced haul roads and work areas, to prevent the generation of dust by fast moving vehicles.	Principal Contractor and any sub-contractors

Topic	Mitigation Measure	By Who?
	• The placement of stone/soils/ concrete/other materials by plant or equipment will be controlled and as infrequently as reasonably practicable to prevent undue creation of dust (i.e. reduce potential for double-handling). • Dust suppression systems to be in place where there is a foreseeable risk to air quality such as dampening down surfaces in dry conditions. • Aggregate and waste delivery vehicles will be covered. • Stockpiles and mounds will be maintained to avoid material slippage and dust generation. • Locate stockpiles out of the wind (or cover, seed or fence) to minimise the potential for dust generation. • Vehicles transporting materials within or outside the construction site will not be overloaded. • Site accesses and local roads will be checked daily for mud and arrangements for it to be cleaned will be made immediately should it be required. • No open fires to be permitted on-site. Measures to minimise fire risk must be implemented. • Vehicle and construction plant exhausts will be directed away from the ground and position them at a height to facilitate appropriate dispersal of exhaust emissions. • Movement of construction traffic around site will be kept to the minimum reasonable for the effective and efficient operation of the site and construction of the project. • All cutting and grinding operations will use equipment and techniques which reduce emissions and incorporate appropriate dust suppression measures. • Maintain a clean and tidy site to avoid accumulation of dust	
2. Archaeology and Built Heritage	• The heritage risk will be explained to all employees and sub- contractors within the site induction and through Toolbox Talks. • Should heritage assets of potential importance be unexpectedly revealed during construction, the procedure for the unexpected discovery of archaeological remains of national importance will be implemented: – All works within the area to be suspended. – Notify the county Archaeologist to determine further action via the Project Manager on-site. The Environmental Manager will also be notified. Solihull Metropolitan Borough Council hold a contract for such matters with Warwickshire County Council. The nominated officers at WCC can be contacted via the following details: 01926 412276.	Principal Contractor and any sub-contractors

Topic	Mitigation Measure	By Who?
	– Make suitable provisions to allow a survey to be undertaken in accordance with Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy (GWSI: HERDS).	
3. Carbon	• Transportation of materials to site would prioritise low-carbon modes where possible • Where possible, low-carbon construction materials and products will be preferred • Where possible low-carbon construction plant and equipment would be used • Provision will be made to enable waste to be effectively segregated during construction, enabling materials to be effectively managed using the waste hierarchy, prioritising re-used and recycled over disposal. • Circular economy principles, such as Modern Methods of Construction, would be implemented, where possible.	Principal Contractor and any sub-contractors
4. Construction Materials, Sourcing, Management and Storage	Management: • Mixing of large quantities of concrete or bentonite slurries will be undertaken in enclosed or shielded areas. • The number of handling operations for materials will be kept to the minimum reasonably practicable. • Materials handling areas will be maintained to constrain dust emissions through the use of measures such as watering facilities to reduce or prevent escape of dust from the site boundaries. and • Mixing of grout or cement-based materials will be undertaken using appropriate techniques/mitigation suitable for the prevention of dust emissions. • Where materials can be re-used they will be re-used. Storage • Storage of any oil-based materials, including petrol, diesel, waste and vegetable and plant oil, and above ground fuel and oil storage tanks, the Principal Contractor will comply with the Control of Pollution (Oil Storage)(England) Regulations 2001, as amended, and the Environment Agency's PPG: Above ground oil storage tanks. • Chemical storage, handling and use will comply with PPG 26: Drums and intermediate bulk containers	Principal Contractor and any sub-contractors

Topic	Mitigation Measure	By Who?
	• Stationary plant will be used with secondary containment measures such as plant nappies to retain any leakage of oil or fuel, which will be emptied at regular intervals to prevent overflow. • Fuel will be stored in dedicated bunded, impervious storage areas away from drains and watercourses. • Fuel tanks will be stored within a bund capable of holding 110% of their capacity. • Stockpiles and mounds will be kept away from sensitive receptors (including natural and historic features), watercourses and surface drains where reasonably practicable, and sites to take into account the predominant wind direction relative to sensitive receptors. • Stockpiles and mounds will be maintained to avoid materials slippage. • Materials stockpiles likely to generate dust will be enclosed or securely sheeted, kept watered or stabilised as appropriate. • Fine dry material will be stored inside buildings or enclosures with measures in place to ensure no escape of material and of overfilling during delivery. • Maintain a clean and tidy site, ensuring all material is stored in the correct areas.	
5. Ecology	• The risk to ecology will be explained to all employees and sub- contractors within the site induction and through Tool Box Talks. • Should additional areas of trees require removal, these areas will be surveyed for ecological interest by a suitably qualified ecologist, including undertaking a PRA of the trees to be removed. • Any vegetation to be removed that has the potential to support nesting birds will be removed outside of the bird nesting season (March to September inclusive). • For any vegetation unable to be removed outside of the bird nesting season (March to August inclusive) would require a nesting bird check which would be undertaken by a suitably qualified ecologist no more than 48 hours prior to works commencing. Should an active nest be identified during the survey, a demarcation zone will be implemented where no works can occur until the nest has fledged (up to six weeks depending on the species). • Any habitat with the potential for small mammals, amphibians, or reptiles (the broadleaved woodland) will be phase removed under an ecological watching brief. Retained areas of woodland will be fenced to prevent small fauna from wandering into the working area. • Temporary lighting for construction will be low or high-pressure sodium lamps or LEDs. This lighting will be fitted at as low a height as is practicable, and directional lighting will be used	Principal Contractor and any sub-contractors

Topic	Mitigation Measure	By Who?
	to avoid unnecessary light spill onto the broadleaved woodland surrounding the site to reduce potential impacts on any bat commuting corridors and foraging areas. • Any potential excavations will be covered overnight. If this is not possible, mammal ladders/ramps will be installed to allow any trapped mammals to escape safely. • Should any protected species be found during the works, works will stop immediately, and an ecologist contacted immediately via the Project Manager on-site. The Environmental Manager will also be notified. • Should invasive species such as Japanese Knotweed be encountered on-site, works will stop immediately, and the area fenced off. An ecologist will be notified via the Project Manager on-site for further action. The Environmental Manager will also be notified. [redacted]	
6. Housekeeping	• Regular inspection and treatment of perimeters, maintain cleanliness on-site, including the provision of staff facilities, waste management. • Effective preventative pest and vermin control and prompt treatment of any pest and vermin infestation, including arrangements for disposing of food waste or other attractive material, if an infestation occurs, the contractor will take action to eliminate the infestation and prevent further occurrence. • No fires allowed on-site and measure will be taken to minimise the likelihood of fires. • Remove or stoppage and sealing of drains and sewers taken out of use. • No discharge of site run-off to ditches, watercourses, drains, sewers or soakaways without the agreement of the appropriate authority. • Maintenance of wheel-washing facilities or other containment measures. • Storage of machinery, equipment and temporary building outside flood risk areas where possible. • Management of staff congregating outside the site prior to commencing or leaving site to avoid risk of traffic collisions. • Maps showing sensitive areas and buffer zones where no pollutants are to be stored or used will be displayed in all welfare facilities. • Adequate welfare facilities will be provided. • A construction worker travel plan will be implemented to encourage use of public transport by site staff and control off-site parking.	Principal Contractor and any sub-contractors

Topic	Mitigation Measure	By Who?
	• Any fire hydrants and emergency water supplies must be kept in good repair and any defects must be repaired as soon as practicable.	
7. Landscape and Visual	• Site fencing will be maintained in a satisfactory condition and to a standard acceptable to the local authority and client. • Site hoardings and fencing may be used as dust/ acoustic/ visual screens for worksites. These will be maintained frequently in order to ensure efficiency and visual impact. • Land take, construction activities, materials and waste storage shall all only take place within the boundaries of the work sites. • None of these activities shall take place outside the work sites except where there is prior consent from the relevant authorities (for example work to highways). • Recognition will be taken of adjacent sites and businesses that may impact on-site from outside its boundary. • Use of directional, hooded and low-level lighting, as well as restrictions on night-time lighting during construction. • The height of any building (other than an existing building) must not exceed 15 metres. • No building other than plant, machinery, gates, fences, walls or other means of enclosure, or noise attenuation measures, may be erected or extended within 25 metres of the boundary of the curtilage of any residential dwelling. Arboriculture: • No vegetation is to be removed that has not been identified in the scheme proposals for SDO without prior consultation with the Scheme Arboriculturalist. • All tree works to be carried out in accordance with BS3998:2010 *Tree Work – Recommendations.* • Protective barriers will be installed in accordance with BS5837:2012 around all of the trees in close proximity to the works, at the distances dictated by the root protection area (RPA) measurements. • An Arboriculturalist will attend site to confirm the final positioning of the protective fencing. • Vehicular movements will remain within the hard standing of the car park at all times. • Compound areas and set down areas were not confirmed at the time of the site visit. It is recommended that they will be positioned on an area of hardstanding within the car park. If hardstanding is not available, they will be located outside of the RPAs of any trees on-site.	Principal Contractor and any sub-contractors

Topic	Mitigation Measure	By Who?
	• All excavated topsoil will be stripped, stockpiled and reused in accordance with *BS3882:2015 Specification for Topsoil.* • No topsoil or other materials to be stored within the RPA of retained trees. • Any works relating to installation of services must be undertaken in accordance with the 'National Joint Utilities Group Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees'. In addition, follow recommendations within *BS 5837 2012 Trees in relation to design, demolition and construction- recommendations.* • Any roots <25mm diameter which are exposed by the excavations are to be pruned properly in accordance with good practice using secateurs or a sharp saw. No roots >25mm are to be pruned or severed without prior agreement from the Scheme Arboriculturalist. • Exposed roots >25mm will be retained and covered with moist hessian until they are reburied. • If roots >25mm are uncovered, the Scheme Arboriculturalist will advise on whether the trees stability and integrity have been compromised and decide on appropriate action required. Any works relating to installation of services must be undertaken in accordance with the NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees. – In accordance with good arboricultural practice the following must be adhered to: – No actions to be undertaken that are likely to cause localised waterlogging. – No permanent alteration of ground levels within the RPA of retained trees. – No construction of hard surfaces within RPA of retained trees. – No boards, hoarding, cables, notices or fencing to be attached to trees. – No fires are to be lit within 10m of tree canopies. and, • No handling, discharge or spillage of any chemical substance, including cement washings and vehicle washings are to occur within 10m. • Maintain a clean and tidy site	
8. Lighting	• Lighting will be at the minimum luminosity necessary and use low-energy-consumption fittings. • Where necessary, lighting to site boundaries will be provided and illumination will be sufficient to provide a safe route for the passing public. • Where appropriate, lighting will be activated by motion sensors to prevent unnecessary usage.	Principal Contractor and any sub-contractors

Topic	Mitigation Measure	By Who?
	• Lighting will comply with the Institute of Lighting Professionals' *Guidance notes for the reduction of obtrusive light* and the provisions of BS 5480, *Code of practice for the design of road lighting,* where applicable. • Lighting will be designed, positioned and directed so as not to unnecessarily intrude on any adjacent buildings, ecological receptors, structures used by protected species and other land uses to prevent unnecessary disturbance. • The positioning and design of temporary lighting to be installed during the construction work will be considered in relation to: – Minimum requirements for transport users – Safe operation of the railway and roads – Requirements for least disturbance to local ecology – Energy efficiency, ease of maintenance and disposal of light units (LED to be considered) – Construction site lighting will be directed away from the Ford's hospital building to the west (bats) • Lighting columns powered off the mains will be used as a first priority but if not then either hybrid powered lighting columns or string (generator powered) lights will be used. Security lighting will be as low as reasonable during night-time periods. • All lighting shall be switched off when not in use.	
9. Noise and Vibration	• 24-hour working will be utilised on-site. Most works will be completed between 07:30 and 19:00 on weekdays, and 08:00 to 17:00 Saturdays. Occasional Sunday working will be permitted between 09:00 and 14:00 • All noisy operations (such as piling) will be completed between 08:00 to 18:00 hours on weekdays and 08:00 to 13:00 on Saturdays. • Activities conducted during night-time working (between 23:00-07:00) will not exceed 45 dB, 50 dB and 55 dB $L_{Aeq,T}$ at dwellings in categories A, B and C, respectively, as per clause E3.2 from BS5228-1[5]. • Any activities identified that could be undertaken outside of the working hours and limits set out above will require prior agreement with Solihull Metropolitan Borough Council.	Principal Contractor and any sub-contractors

[5] BS 5228-1:2009+A1:2014 Code of Practice for noise and vibration control on construction and open sites

Topic	Mitigation Measure	By Who?
	• Construction works will comply with the recommendations for practical measures to minimise noise and the maximum permissible noise limits set out in BS5228-1[6]. Should construction works exceed these limits, prior agreement will be sought with Solihull Metropolitan Borough Council. In order to inform the establishment of suitable noise limits, it is expected that a baseline noise monitoring survey will be undertaken at representative receptor locations based on a recognised standard such as BS 7445-1:2003 Description and Measurement of Environmental Noise. Guide to Quantities and Procedures. Where this is not possible a desktop study will be used to determine the appropriate ABC category. • All equipment and vehicles will be switched off and if applicable ignition key removed when not in use. Use of temporary noise barriers where appropriate. • Noise and vibration will be controlled at source by using the following: – Fit equipment with silencers or mufflers – Manage deliveries to prevent queuing of site traffic. – Do not leave plant running unnecessarily – Materials to be lowered instead of dropped from height – Use of adjustable or directional audible vehicle-reversing alarms or use of alternative waring systems (for example, white noise alarms) – Train and advise members of the constructions team during toolbox talk briefings on quiet working methods. – sensitive placement of plant and equipment with the potential to generate emissions. – enclosure, shielding or provision of filters for plant likely to generate excessive quantities of dust or noise beyond the site boundaries. – adoption of quiet working methods including auger and vibration piling rather than impact piling. – early delivery of noise mitigation identified in the environmental analysis where reasonably practicable and relevant (e.g. acoustic bunds or fencing). – use of less intrusive noise alarms that meet the particular safety requirements of the site, such as broadband reversing warnings, or proximity sensors to reduce the requirement for traditional reversing alarms. – avoidance of the use of loudspeaker or loudhailer devices.	

[6] BS 5228-1:2009+A1:2014 Code of Practice for noise and vibration control on construction and open sites.

Topic	Mitigation Measure	By Who?
	– considerate working practices, such as avoiding noisier activities during anti-social hours and pre-notification of particularly noisy or drawn out activities to relevant receptors (including materials delivery). • Where it has been identified that there will be noise levels above the lower exposure action value of 80 dB(A) $L_{EP,d}$ (daily personal exposure level), operatives will be issued with suitable hearing protection which under company policy they will be required to wear. The works will be noise monitored, and if it is found that the noise levels exceed the upper exposure action value of 85 dB(A) $L_{EP,d}$ an exclusion zone will be established that can only be entered by persons wearing adequate hearing protection. Vibration: • The potential for vibration will be assessed on a task by task basis. When a task has been identified that requires the use of a vibrating tool with risk of a vibration exposure of 2.5 m/s^2 A(8) or higher, then form GP.1124.F01 Hand Arm Vibration Calculator Permit will be completed. This form identifies: – Action limit time - this is where the task can be carried out with no further actions required – Daily limits - this is the maximum exposure time on that piece of equipment/tool exposure - measured in m/s^2 A(8). • When there is a risk that 2.5m/s^2 A(8) may be exceeded, the GP.1124.F01 chart will change from green to amber. At this stage, consideration must be given to control measures such as reducing the tool/ equipment vibration amplitude, reducing the exposure time, task rotation etc. • Persons operating vibrating/power tools/equipment etc. must not be exposed to any ampllitude/ time combination which indicates red on the chart.	
10. Pollution Prevention and Control	• Activities must be managed in accordance with Construction Industry Research and Information Association (CIRIA) Guidelines and Environment Agency's Protect groundwater and prevent groundwater pollution • Stationary plant will be used with secondary containment measures such as plant nappies to retain any leakage of oil or fuel, which will be emptied at regular intervals to prevent overflow. • Fuel will be stored in dedicated bunded, impervious storage areas away from drains and watercourses.	Principal Contractor and any sub-contractors

Topic	Mitigation Measure	By Who?
	• Fuel tanks will be stored within a bund capable of holding 110% of their capacity. • Spillage kits will be stored at key locations on-site as set out in a pollution incident control plan and in particular refuelling areas. Spillage kits will also be kept with mobile bowsers. • Plant nappies will be in use during the refuelling process to catch any drips or spills between bowser and machinery. • Refuelling operations will only be undertaken by designated refuellers in line with refuelling procedures. • All staff will be trained to use spill kits efficiently. • The contractors will consult with the relevant regulatory bodies regarding specific requirements in relation to establishing and operating concrete batching plants on-site. Wash water from any batching plants will not be discharged to the water environment without the approval of the relevant authority. • The contractors will keep a record of all spillage incidents and inform the nominated undertaker of any spills which cause land contamination or pollution off site. • The principal contractors will manage and dispose of foul water and sewage effluents from site facilities, complying with PPG4: Treatment and disposal of sewage where no foul sewer is available, The Environment Agency's guidance document Groundwater protection: Principles and practice (GP3). • Containment by temporary foul drainage facilities and disposal off site by a licensed contractor. • By preference, connection to the local foul sewer system as agreed with the relevant authorities. • Where foul sewage is not present, appropriate treatment and discharge to a watercourse or soakaway with approval from the Environmental Agency, where required. • Any foul drainage discharge to the public sewer will require approval from the statutory water undertaker. If not permitted, provisions need to be adopted to remove the liquid from site for disposal, such as via a tanker. • Provision of maps showing the locations, together with address and contact details of local emergency services facilities (e.g. police stations, fire authorities, medical facilities and other relevant authorities) will be located in all welfare facilities and on notice boards. • Provision of contact details for the relevant authorities, such as the Environment Agency, and the persons responsible on the construction site and within the contractors' organisation for pollution incident response will be displayed in all welfare facilities and on notice boards.	

Topic	Mitigation Measure	By Who?
	• Provision of contacts with a competent spill response company which can be contacted at short notice for an immediate response (where appropriate). • Ensure staff competence and awareness in implementing plans and using pollution response kit. • Ensure that site drainage plans and flood risk management plans are available on-site and are kept up to date. • Ensure that pollution shut-off valves are used in compounds with formal drainage. • Any stockpiled materials to be stored within enclosed areas to enable the run-off to be stored and treated where required. • All plant and machinery to be maintained in a good condition and any maintenance required would be undertaken within safe areas. • Risk assessments will be produced specific to the works in order to identify risks and appropriate mitigation measures in line with all the relevant health and safety legislation and guidance to ensure the safety of workers. • Measures with Section 4.3 for Air Quality and Emissions, and measures within 4.8 Housekeeping will be undertaken to prevent pollution. Reporting incidents: In the event of a pollution event, the following measures will be undertaken: • A statement of appropriate information (i.e. Incident Report) will be provided in the event of any incident such as a spillage or release of a potentially hazardous material. • Appropriate emergency services, authorities and personnel on the construction site will be notified. • Relevant statutory bodies, environmental regulatory bodies, local authorities and local water and sewer providers will be notified of pollution incidents, as required.	
11. Traffic Management	• All public access will be maintained, where applicable. • Measures will be in place to ensure that the local community, economy and transport networks can continue to operate effectively. • Identify permitted access routes and accessed for construction traffic, site boundaries, main access/egress points for worksites and compounds. • No off-site parking permitted. • All practical measures will be put in place to avoid/limit and mitigate the deposition of mud and other debris on the highway, including:	Principal Contractor and any sub-contractors

Topic	Mitigation Measure	By Who?
	– hardstanding at the access and egress points will be cleaned at appropriate intervals. – vehicle wash-down points to clean vehicle wheels at each exit point on to the highway. – the correct loading of vehicles and sheeting of loads where necessary to avoid spillage during their journeys. – appropriate wheel-cleaning measures will be employed to prevent the transfer and accumulation of mud and other granular deposits on the public highway. – the use of mechanical road sweepers combined with water sprays for the suppression of dust to clean hardstanding's, roads and footpaths in the vicinity of the site. – measures to avoid water run-off on to the adjacent highway (footways or carriageways), including avoiding ponding adjacent to hoardings on the carriageway. – ensure that no material is deposited on to the public highway which will affect drainage interceptors, etc.. and – the flushing of gullies in the vicinity of the site.	
12. Waste Management	Minimisation of waste: • The Principal Contractor will implement measure to minimise the waste generated during construction such as: – 'Just in time' deliveries. – Careful storage of materials on-site. – Minimisation of packaging. – Use of re-usable packaging. Management of excavated materials and waste: • All waste will be managed in accordance with the waste hierarchy (Prevention, preparing for re-use, recycling, other recovery and disposal). • Excavated material that is uncontaminated will be managed in accordance with the controls specified by the CL:AIRE Definition of Waste: Development Industry Code of Practice or in accordance with an appropriate environmental permit or exemption from permitting. • Material management plans (MMP) will be developed describing the methods for re-using soils at specific sites. • Movement and placement of materials we be as described in the MMP tracking system and recorded in a verification report for the site.	Principal Contractor and any sub-contractors

Topic	Mitigation Measure	By Who?
	Should contaminated material or soils be encountered on-site, to reduce the likelihood of an environmental incident, the following measures will be implemented by the Principal Contractor and all sub-contractors for the duration of the construction of the scheme: • Any excavations will be inspected for signs of contaminated material. Any suspected contaminated material (based on visual/olfactory observations) must be excavated and removed. Replace with clean fill instead if required. • All waste material must be appropriately handled, stored and transported to limit the potential for pollution and with the appropriate licences in place. For more information, refer to Government guidance on https://www.gov.uk/guidance/pollution-prevention-for-businesses and the Environment Agency's PPG 6, Working at Construction sites, section 10(withdrawn in December 2016, however still provides good guidance). • In the event of encountering suspected contaminated materials, samples of excavated material will be taken for off-site testing for the presence of contamination, to characterise the soil and determine suitability for re-use and/or disposal, as appropriate. Identification and classification of waste: • A Site Waste Management Plan (SWMP) will be prepared and maintained by the Principal Contractor. • Waste will be classified in accordance with the statutory controls governing the management of inert, non-hazardous and hazardous waste. • If asbestos is identified on-site, it will be removed by suitably licensed asbestos removal contractor and managed in accordance with the relevant statutory controls governing its disposal. Segregation and storage of waste: • Skips and other storage receptacles used for the containment of construction, demolitions and excavation waste will be colour-coded in line with generic scheme developed by the Institution of Civil Engineers. • Hazardous waste and non-hazardous waste must be stored separately. The mixing of hazardous and non-hazardous waste, either whilst stored on-site or upon collection will not be permitted. • All skips and other storage receptacles will have appropriate signage to facilitate separation of waste for re-use, recycling, or disposal. Plastic sheeting will be used to prevent leaching from waste soils and aggregates where these are not contained within skips or other storage receptacles.	

Topic	Mitigation Measure	By Who?
	• All skips and storage receptacles will be sheeted, or otherwise remain lidded or closed, when wates is not being deposited into them. They will also be covered to prevent the escape of waste whilst in transit and loaded for maximum payload efficiency. • All skips and storage receptacles will be inspected on arrival to ensure they are fit for purpose. Any not fit for purpose will be taken out of use immediately with appropriate signage to signify it should not be used. • Liquid waste will be stored on hard-surfaced areas with secondary containment systems to prevent spillages. • Waste will not be stored within 10m of any controlled watercourse, borehole, well, spring, surface water drainage system or foul water drainage system. • The storage and segregation of waste will comply with any air quality management measures in section 4.3. • Storage receptacles will be used for the collection and storage of waste within site operation facilities to facilitate the segregation of waste for re-use, re-cycling and recovering. Duty of care requirements and authorisations: • The Principal Contractor and all sub-contractors will maintain a duty of care at all times to ensure that waste generated during the construction period is handled in accordance with the relevant legislation governing its storage, transfer, treatment and disposal. • All relevant authorisations required will be in place prior to the removal of any waste from the site, with an up-to-date register maintained. This will be in relation to the transfer of waste (waster carriers), any off-site waste management facilities (permitted or exempt sites) to which waste is taken, and any requirements for hazardous waste premises notification. • All environmental permit or registered exemption will be in place prior to any on-site transfer, treatment or disposal of waste being undertaken. • Any waste leaving the site will be accompanied by appropriate duty of care documentation in line with the relevant statutory requirements for waste transfer and hazardous wastes (as appropriate). • Duty of care documentation will be retained by the contractors in line with statutory requirements. • The contractor will maintain a register of all waste loads leaving the site and/ or a tracking system (defined in the MMP) for excavated material destined for re-use to provide a suitable	

Topic	Mitigation Measure	By Who?
	audit trail and to facilitate monitoring and reporting of waste and material types, quantities and management methods.	
13. Water Management	• Construction activities must be managed in accordance with CIRIA Guidelines. Guidance on best practice in relation to pollution prevention and water management is set out in the following documents: – CIRIA's Environmental good practice on-site. – Environment Agency's Protect groundwater and prevent groundwater pollution. • All construction workers to be briefed on the use of spill kits as part of the site induction. • Any stockpiled materials to be stored within enclosed areas to enable the runoff to be stored and treated where required. • All plant and machinery to be maintained in a good condition and any maintenance required would be undertaken within safe areas. • Pollution prevention and spill response procedures to be developed by the contractor and a spill kit and clean up equipment maintained on-site. Groundwater • Approval from the relevant regulatory body will be sought for plans of work likely to affect any surface or groundwater resource. • The necessary approvals will be obtained to enable discharge of dewatering, surface water run-off and wastewater from the construction site to soakaway or filtration systems, watercourses, foul sewers or disposal off-site. • Bunds of non-erodible or silt or sediment fences will be installed where appropriate to avoid surface run off to watercourses. • As far as is reasonably practicable, the good working practices detailed in the Environment Agency's pollution prevention guidelines will be adopted. • Use of temporary construction methods from the following CIRIA publications (including C532: Control of water pollution from construction sites. C648: Control of water pollution from linear construction projects: technical guidance. and C649: Control of water pollution from linear construction projects: site guide). and Flood Risk • All construction activities will be undertaken having regard to the requirements to avoid any significant increase of flood risk. • All watercourses will be kept clear of obstruction and debris to reduce blockage risk.	Principal Contractor and any sub-contractors

	Topic	Mitigation Measure	By Who?
		• Suitable access and safe refuges are to be identified for use in the event of a flood. • The contractor will consult with the relevant regulatory authority and other relevant risk management authorities on areas at risk of flooding and make appropriate use of the Environment Agency's Floodline Warning Direct service for works within areas at risk of flooding. The Lead Local Flood Authority can be contacted on 0121 704 8004. • Flood risk will be managed safely throughout the construction and implementation period and consider flooding when planning sites and storing materials. • A risk-based precautionary approach using the 'source-pathway-receptor' concept will be applied to temporary and permanent works.	
	14. Unexploded Ordinance	• Works will stop immediately, and the area evacuated and secured. • The police will be notified via the site Project Manager.	Principal Contractor and any sub-contractors
Post Construction	1. General	• At the end of the project, the Principal Contractor will compile and produce an End of Project Environmental file as part of hand-over documentation. This file will contain all records of inspections, audits, registers, briefings and incidences.	Contractor Project Manager/ Environmental Manager.