



CONSTRUCTION & ENVIRONMENTAL MANAGEMENT PLAN

Client: Abacus Cost Management
Project: Premier House
Rev 2: 04.01.2022



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1.0 Introduction

The Project Environmental Management Plan (EMP) has been developed to detail the manner in which the environmental impacts of the demolition and reconfiguration works are to be minimised by the implementation of appropriate mitigation measures. The EMP is designed to ensure that the requirements of legislation, the contract and the project's environmental policy are complied with.

P.P. O'Connor may potentially be appointed as Principal Contractor. All persons and organisations working for or on behalf of P.P. O'Connor on this potential project shall fully adopt the requirements of this Environmental Management Plan (EMP).

P.P. O'Connor shall plan, manage and monitor the construction phase in a way which ensures that, so far as is reasonably practicable, its impacts on the environment are controlled and minimised.

1.1 Project Description

- Access to the remainder of the carpark under the hotel will remain screen protected and operational.
- The UU sewer and culverts running under the structures will be surveyed and protected.
- Neighbouring properties will not be affected including access to Dom's restaurant.
- Fire strategy plans will be developed and regularly updated.
- Escape routes will be developed and regularly updated.
- Access routes will be developed and regularly updated.
- River Irwell headwalls and adjacent bridge walls will be considered at all times during design and protection proposals.
- The existing and live 6.6KV ENWL substation (under the hotel) will be considered during the whole demolition process.
- Designs will be conducted/ created by Andun Engineering. Andun are highly experienced in temporary works designs for demolition including, prop design, scaffold design and demolition sequence. They offer advice and produce high quality design that is at a minimum Cat 2 checked.
- All redundant plant will be isolated/ disconnected by the client and removed so as not to impact on the hotels or other parties facilities.
- All scaffolding will be design and as a minimum Cat 2 checked.
- Road and footpath closures applied as necessary. As a Manchester based company we are familiar with the local council's highways process.
- Section 80 application will be applied for. As a Manchester based company we are familiar with the local councils building control process.
- Daily/ weekly interface with other contractors conducting refurbishment of the hotel and replacing windows will remain active throughout our time on site. Communications channels will active and open at all times.
- All materials will be moved from the demolition area in a timely manner and removed to licensed facilities.

1.2 Site Information

The site address for the PPOC welfare Compound is Premier House, Salford, Manchester M3 5JR

Hours of Work

Site Hours will be 0730 to 1730 hours. Hours of work during demolition will be 0800 to 1730 hours Monday to Friday and 09:00 -13:00 on a Saturday. Noisy works will be limited between 0800 to 1600 hours and will not be completed on Saturday or Sunday. Demolition works will not take place on a Saturday, Sunday or Bank Holiday unless it is required in an emergency and written approval has been provided by Manchester City Council.

Site Parking

Parking is available on site and must be within the designated parking bays allocated. No parking is permitted outside the site boundary. All cars and vans must reverse park when on sit.

Site Deliveries

All PPO Site Deliveries must take place within the site boundary's and within the allocated working timescales as mentioned above. Large deliveries should be planned in advance to prevent blocking / obstructing Deansgate Road.

Site Security

Heras type fencing will be installed around the demolition work areas with access being gained into the works area via vehicle and pedestrian access points. Debris netting will be installed along the length of the fencing for the duration of the project. The heras fencing will be maintained for the duration of the project by the PPOC site manager.

1.3 Information for Members of the Public

We will keep our neighbours well informed before and during the demolition phases through various means: PPOC has a Project Community Liaison Officer who is responsible as a single-point of contact to ensure good neighbour relations. If required regular residents' meetings can be established at a frequency agreed with the residents to bring them up to speed with project progress and key elements of the work. It also provides an open discussion for residents to voice concern or highlight issues.

Monthly Newsletters will be widely distributed to identify completed works and focus on forthcoming activities to give neighbours early notice of such works. The monthly newsletters will be posted to the surrounding property's and will be displayed on the site notice boards located on the site hoarding.

A 24-hour emergency contact number will be established to allow concerns to be raised, these will be actively dealt with by the PPOC Project Community Liaison Manager until the issue is resolved. The PPOC community liaison officer can be contacted at Communityliaison@ppoconnor.co.uk

1.4 The Environmental Management Plan Context

The EMP makes the link between the identified environmental issues and management actions undertaken to address them, and provides a mechanism by which management actions are recorded and communicated.

1.5 Environmental Management Plan Objectives

The main objectives of this EMP are to:

- Minimise the potential likelihood and impact of environmental risks related to the construction and commissioning phase of the project.
- Define responsibilities ensuring the requirements of this EMP are maintained.
- Identify Control measures required to ensure there is no unplanned or uncontrolled release that would adversely affect the environment.

2.0 Environmental Management

2.1 Structure and Responsibility

P.P. O'Connor has full responsibility for the management of environmental and ecological protection on this site during the occupancy period. P.P. O'Connor shall coordinate and also commit its supply chain members to ensure all activities are compliant with planning, environmental and legislative requirements, this is to be a contract requirement. This will be undertaken at a number of stages, enquiry stage, contract negotiation and also during the site induction.

The Environmental Responsibilities are outlined below:

Senior Project Manager

- Overall responsibility to ensure that work activities are properly planned managed and monitored such that environmental aspects and impacts are minimised and controlled.
- Ensure that the project implements and complies with all legislative and contract requirements.
- Ensure Environmental Objectives and Targets are fully maintained and communicated.
- Ensure adequate resources are available to fulfil the Principal Contractor duties.
- Ensure adequate resources are available for training.
- Ensure effective communication of Environmental matters.

Environmental Officer

- Responsible for environmental management of the project and shall ensure that the requirements of this EMP are effectively implemented.
- Consider environmental issues during all stages of the works, managing environmental consultants and liaising with engineering teams and client's environmental representative.
- Develop and review the EMP, site specific environmental plans and procedures and provide environmental input into RAMS.
- Develop and review Projects Environmental Aspects and Impacts Register.
- Provide environmental training as required.

- Advise the Senior Project Manager of statutory / other environmental requirements and alert them in a timely manner regarding problems that may delay project completion or harm the environment.
- Complete and submit all necessary applications for statutory consents. Be responsible for liaison with local and/or national statutory and non-statutory authorities and the public.
- Co-operate closely with the client's environmental representative and respond effectively to reports from audits and inspections.
- Advise the Senior Project Manager on the actions to be taken arising from audits of the project.
- Provide advice, reporting and investigation of environmental incidents.
- Ensure site emergency response preparedness is adequate.
- Monitor progress against the project objectives and targets.
- Ensure adequate arrangements for the storage, disposal and recycling / re-use of waste.
- Ensure adequate arrangements for the storage of fuel, oils and chemicals on site.
- Delegate any of the above duties to other appropriately qualified members of the site team.

Operative Employees & Subcontractor Employees

- All P.P. O'Connor and subcontractor personnel working on the project shall perform their duties in accordance with the requirements of the EMP, Procedures and RAMS. This will be communicated via the site induction process.
- During the works, subcontractors will be treated the same as P.P. O'Connor staff and will be subject to regular audits and General Planned Inspections.
- All site operatives will be expected to demonstrate 'environmental best practice' and a high level of 'individual environmental responsibility'. This will be checked regularly through audits, inspections, briefings and on site discussions.

2.2 Communication and Coordination

Communication on site between the contractors and environmental manager and other stakeholders is a vital aspect of environmental management and will be dealt with as follows:

2.2.1 Internal Communication

- The EMP and any associated revisions will be communicated throughout the Project Team via a briefing by the Senior Project Manager.
- On-site team meetings to review performance and coordinate forthcoming activities, to include any environmental requirements, as appropriate.
- Dissemination of environmental audits, inspections, monitoring reports and environmental updates as appropriate.

2.2.2 Internal Communication (Contractors)

External communication is considered to be that between the Principal Contractor and its stakeholders, including the local authority, statutory regulatory authorities (including the Environment Agency) and with local community groups. The Environmental Officer will be responsible for receiving, documenting and responding to any environmental communication from other stakeholders. Records are kept of all written communication, including notes of verbal communications giving key information, instructions or decisions.

2.3 Reporting

The reporting requirements for the project include:

- Ground contamination
- Noise and vibration
- Neighbour comments and observations
- Dust

2.3.1 Ground Contamination

If ground contamination is encountered including asbestos, either existing or from current operational activity, it should immediately be reported to the Senior Project Manager, who will capture the data.

2.3.2 Noise and Vibration

Noise and vibration monitoring reports shall be prepared by the P.P. O'Connor Environmental Officer, in line with the prepared Method Statement.

2.3.3 Neighbour Comments, Observations and Complaints

Any comments, observations or complaints received from neighbours or any member of the general public can be sent to CommunityLiason@ppoconnor.co.uk with the subject enquiry headed Premier House. For issues that require more immediate attention the PPOC Site Manager can be contacted on 07523513610 or head office on 0161 776 0333. On receipt of the complaint the Community Liaison Officer will inform both the Environmental Officer and the Project Manager as soon as practically possible. A reply to the complaint or observation will be issued within 12 hours of when the complaint was received. All complaints will be logged on receipt and actioned / closed out as soon as possible or no later than 24hrs of the complaint being received. Once a complaint or observation has been actioned a written response to the complainant will be issued identifying the steps taken to resolve the issue and steps to prevent future events from occurring.

2.4 Environmental Training

Training requirements are identified by the Environmental Officer:

Environmental training for the project includes:

- Site induction training.
- Familiarisation with this EMP and other environmental plans and procedures.
- Familiarisation with site environmental controls.
- Environmental emergency response training.
- Toolbox talks on the environmental sensitivities of the area and the avoidance of potential environmental impacts and other relevant subjects.

Training records shall be maintained by the Environmental Officer or appropriate nominee.

2.5 Environmental Incidents

All environmental incidents shall be reported directly to the Environmental Officer, including the following as a minimum:

- Environmental Incidents / Pollution.
- The discovery of archaeological remains.
- The discovery of protected / invasive species.
- The discovery of asbestos in soil or other material.
- Reportable Accidents affecting environmental receptors – e.g. protected species.

In the unlikely event of any environmental incidents and near misses occurring they will be reported to the Senior Project Manager and Environmental Officer and recorded on the company incident reporting system. All incidents will be fully investigated and reported to ensure appropriate mitigation is applied to avoid recurrence.

2.6 Emergency Contacts and Response

Environmental Officer – Portia Reece – 07757 667386 - portia.reece@ppoconnor.co.uk

Senior Project Manager – Daniel Mackinley – 07379 445013 – Daniel.mackinlay@ppoconnor.co.uk

P.P. O'Connor Head Office – 0161 776 0333 - 24 Hour Emergency Line

Environment Agency – 0800 807060

Fire Service – Emergency – 999 / 112

Ambulance Service – Emergency – 999 / 112

Police – Emergency – 999 / 112

Hospital – Manchester Royal Infirmary - 0161 748 4022

A list of hazardous material storage shall be held in the Site Office for use by emergency responders.

3.0 Preventing Pollution of the Land

3.1 Storage and handling of fuels, oils and lubricants

A site specific Risk Assessment shall be prepared for fuel/oil storage and refuelling taking into account the need for communication, responsibilities, Health and Safety, security, deliveries, maintenance and sensitive locations.

A designated fuel storage area will be set up within the site compound to ensure containment of any ongoing and potential accidental spillage.

All fuel tanks and bowsers shall be constructed with an integral bund built to 110% capacity and be regularly maintained and inspected. They shall also be assessed to ensure suitability i.e. integrity, vulnerability to impact. Small quantity of fuel in approved fuel cans can be temporarily stored over a plant nappy when in use in a work area.

Fuel storage tanks / bowsers must not be located in high risk areas including near water (> 10 metres), or where it could leak into surface drains.

Dispensing nozzles and hose valves must be locked within the bunded tank/bowser when not in use. Flexible delivery pipes must be fitted with an automatic shut-off device but it mustn't be possible to fix the tap or valve in the open position.

New spill kit equipment must be located next to every fuel tank and on all fuel bowzers. Fuel bowzers and storage tanks must also be labelled clearly with their contents and maximum capacity. Regular checks shall be undertaken to ensure adequate supplies of kit are available which are fit for purpose.

Operatives transporting fuel or refuelling shall be competent and trained in refuelling and spill response procedures e.g. TBT training. Only competent staff/contractors trained in refuelling and spill response are to carry out refuelling of plant and machinery. Correct equipment shall be used e.g. nozzles and funnels of an appropriate size.

All static / semi-static items of plant e.g. compressors and generators shall only be used if they have an integral bund or where not possible with a drip tray placed underneath and of a sufficient size to contain all possible spills from the plant. Plant nappy can be used for small / medium plant if it is sufficient for the plant size and the amount of oil it contains. Drip trays have to be kept clean and free from rainwater. Plant nappies shall be visually inspected for oil contamination and if appear attained / soaked must be cleaned / replaced according to manufacturer's instructions. Drip trays can be emptied by skimming any visible oil with e.g. absorbent pads until there is no visible oil sheen on the water and then water can be disposed of over ground.

Refuelling shall be carried out in designated areas. If necessary mobile bowzers can be used to refuel static plant. A drip tray or plant nappy must be used during all refuelling on site to catch any spills and / or drips.

3.2 Hazardous Substances

Only chemicals required for current use in construction activities shall be permitted on site.

Details of the quantities and types of hazardous materials held at the site must be recorded on the COSHH register. All chemicals being delivered to site shall be accompanied with the relevant COSHH assessments and paperwork. Any chemicals unaccompanied with insufficient/incomplete paperwork will be refused on to site.

All chemicals must be stored and segregated on spill trays in lockable containers. The container must have a raised lip at the entrance designed to contain any spills that may occur within. Suitable COSHH storage boxes may be used for small quantities of materials if necessary.

A designated person must hold the key to control access and keep a record of quantities held and used.

Spill kit material appropriate for the volume and type of substances stored shall be kept within the container for use in an emergency along with the current and specific incident procedure.

3.3 Mud and other deleterious material

Mud on the public highways is a statutory nuisance and a health and safety hazard. It is minimised and prevented on this project keeping the access roads free from mud by; Road cleaning which will be carried out using a mechanical brush or road sweepers as deemed necessary.

3.4 Plant Maintenance

All plant/machinery prior to entry onto site shall be thoroughly inspected for internal bunding or other spill control, leaks of fuel, hydraulic fluid and engine oil. Any item of plant deemed to

be a possible pollution threat shall not be brought to the site.

All mobile plant, including but not limited to excavators, cranes, generators etc. shall be maintained and operated such that all potential leaks and spills of fuel/lubricants are prevented or if not possible absolutely minimised.

All routine plant maintenance shall be carried out off site. However, in the event of unplanned maintenance/breakdown this will be undertaken in a designated area on site with hardstanding. Plant maintenance is to be carried out only with a drip tray under the work area and with spill kit equipment to hand.

Certified plant on site shall be recorded on the Plant Register. Plant and equipment shall be maintained as per regulations and manufacturer's specifications.

3.5 Construction waste

The following measures have been taken to minimize the quantity of waste produced during the project:

1. All arising's must be segregated on site.
2. Reusable materials must be identified on site for processing in licenced facilities.
3. Recyclable materials will be removed from site for processing in licenced facilities.
4. Recoverable materials will be removed from site for processing in licenced facilities.

3.6 Asbestos

An R&D Survey has been carried out by a competent surveyor which has identified asbestos containing materials within the buildings to be demolished. The location of the asbestos will be made known to all demolition operatives on site prior to carrying any works. The asbestos will be removed by hand by a licensed asbestos removal contractor by trained asbestos operatives prior to carrying out any demolition and soft stripping activities. All asbestos materials will be disposed of at licensed waste facilities.

4.0 Preventing Pollution of the Air

4.1 Exhaust fumes from plant and machinery

Contractors shall check that machinery is in good working condition before commencing work and that exhaust emission levels are acceptable. This can be achieved by completing a visual check on the smoke that is emitted from the exhaust:

- No visible haze emitted from the exhaust indicates CO₂ levels much lower than 1000ppm 8-hour TWA (time weighted average). This demonstrates that the plant or machinery poses a very low pollution risk and is in good working order.
- Occasional white, blue or black smoke emitted from the exhaust indicates CO₂ levels about 1000ppm 8-hour TWA. This demonstrates that the plant or machinery poses a medium pollution risk and should not be used until it has been serviced.
- Permanent white, blue or black smoke emitted from the exhaust indicate CO₂ levels greater than 1000ppm 8-hour TWA. This demonstrates that the plant or machinery poses a high pollution risk, this plant or machinery must not be used until it has been serviced.

Any item of plant deemed to be a pollution threat will not be granted access onto site or allowed to operate. Certified plant on site shall be recorded on the Plant Register held on site by the Site Managers.

Plant and machinery shall be switched off when not in use and the keys removed from the ignition.

Ensure that regular maintenance is carried out and recorded.

Ensure daily checks are carried out.

4.2 Fumes from Chemicals and Solvents

Ensure that containers of solvents are not left unattended with lids removed.

Replace lids on containers when not in use to prevent evaporation to the atmosphere.

4.3 Dust from Site Operations

During demolition operations and periods of dry weather and prevailing winds all reasonable measures shall be taken to prevent annoyance and inconvenience to local residents, occupiers and pedestrians due to blown dust caused by site operations.

Best available techniques shall be used to prevent dust, or where this is not practicable, reduce dust emissions from the demolition and construction processes. Monitoring of particulate distribution shall be undertaken by visual observations prior to commencement of operations and periodically thereafter (to be agreed with the client on award of the contract) and recorded on the site monitoring sheet. Should visible particulate matter be emitted beyond the site boundary operations will cease and mitigation measures shall be implemented.

Mitigation measures that shall be implemented for all operations as relevant to the scope/area of works are as follows:

- Damping down the site and stockpiled aggregate using water cannons, sprays etc.
- Water spray dampening of areas to be undertaken to prevent dust blow.
- Cleaning access roads by means of a road sweeper or mechanical brush.
- Sheeting of haulage wagons entering or leaving the site.
- Adhering to the temporary site speed limit of 5 mph on site.
- Absolutely no fires on site at any time.

For more details, please see dust management below and dust management plan.

4.4 Dust Management Plan

Source Description	Primary Dust Control Measures	Thresholds / Triggers for Management	Contingency Dust Control Measures
Tipper wagons and Vehicle Traffic	- Add water to unpaved road surfaces if necessary. - Implement a speed limit of 5mph to slow vehicles and therefore reduce fugitive dust emissions. - Where access roads adjoin public highways, there is the potential for material to be tracked onto the paved public highway. If material is tracked onto public highways, and is creating dust, the road will be cleaned (ie. tracked material will be removed from the road surface using a road sweeper). - Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below.	- If tipper wagons or vehicle traffic emissions are occurring that may impact air quality beyond the property boundary: - If visible dust is being generated from tipper wagons or vehicle traffic; and/or - If the weather forecast indicates dry conditions and strong winds are likely. - Visual cues would be the primary trigger for mitigative action to be taken with respect to fugitive dust emissions. - If the weather forecast indicates dry weather and strong winds are likely, this is also a trigger for preventative dust management action to be taken. - Visual monitoring during site activities will be conducted by the site manager/ environmental officer to determine if contingency control measures should be implemented. - Spot checks will be conducted using a portable particulate monitor. If measured concentrations are approaching an Environment Air Quality Standard (see dust management plan), contingency control measures will be implemented. Initially, the threshold level will be 90% of the standard; however this may be refined with additional monitoring. - Complaints by nearby residents	- Apply water to roadways that are being used and producing dust. - Apply gravel to roadways approaching access points. - Cover tipper wagons on windy days if dust control measures are not sufficiently preventing dust movement. - Cease activities during high wind events or when dust emissions
Vehicle Fleet Operation	- Avoid engine idling. - Ensure construction fleet vehicles are maintained according to manufacturers' guidelines. - Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport. - Implement a wheel jet washing system. - Adhere to site speed limits and designated roads.	- Periodic maintenance of construction vehicles. In addition, excessive or consistently black exhaust is a signal that an engine is not operating optimally - Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits. - Inspect on-site traffic routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable. - Record all inspections of traffic routes and any subsequent action in a site log book.	- Replace worn or malfunctioning equipment. - Consider different scheduling and routing options

Source Description	Primary Dust Control Measures	Thresholds / Triggers for Management	Contingency Dust Control Measures
Source Description	Primary Dust Control Measures	Thresholds / Triggers for Management	Contingency Dust Control Measures
Loading and Unloading	- Keep drop height onto stockpiles and tipper wagons to a minimum. - Empty loader bucket and tipper wagons (end dump) at rate to limit dust emissions. - Tipper wagons will not be loaded above the sides of the tipper wagons.	- If the weather forecast indicates dry conditions and strong winds are likely. - Visual cues will be the primary trigger for mitigative action to be taken with respect to fugitive dust emissions. - If the weather forecast indicates dry weather and strong winds are likely, this is also a trigger for preventative dust management action to be taken.	- Increase frequency of water spray usage. - Installation of engineered controls such as dust covers or collection mechanisms. - Cease activities during high wind events during
Stockpiled Materials (including aggregate piles or contaminated soil)	- Stockpiles should be located away from sensitive receptors e.g. residential, commercial and educational buildings, places of public access or other features, such as watercourses. - Where possible, ensure stockpiles are kept protected from wind erosion or enclosed or under sheeting. - Dusty materials can be damped with water sprays. - Orient piles to be parallel with the predominant wind direction. - Wind barriers (protective fences) of similar size and height to the stockpile may be used. - Keep stockpile height to a minimum. - Minimise drop height of conveyor to the stockpile.	- If visible dust is being generated from the stockpiles - If the weather forecast indicates dry conditions and strong winds are likely - Visual cues will be the primary trigger for mitigative action to be taken with respect to fugitive dust emissions. - If the weather forecast indicates dry weather and strong winds are likely, this is also a trigger for preventative dust management action to be taken. - Spot checks will be conducted using a portable particulate monitor. If measured concentrations are approaching an Environment Air Quality Standard (see dust management plan), contingency control measures will be implemented.	- Wet the stockpiles. - Cease activities at the stockpiles during high wind events or when dust emissions cannot be adequately controlled. - Cover the temporary stockpiles. - Construct a wind barrier.

Source Description	Primary Dust Control Measures	Thresholds / Triggers for Management	Contingency Dust Control Measures
Source Description	Primary Dust Control Measures	Thresholds / Triggers for Management	Contingency Dust Control Measures
Demolition Activities	▪ Soft strip inside buildings before demolition (retaining walls and windows in the rest of the building where possible, to provide a screen against dust). ▪ Bag and remove any biological debris or damp down such material before demolition. ▪ Avoid burning of waste materials. ▪ Materials should be removed from the site as soon as is practical. Prolonged storage of debris on site or exposure to wind should be avoided. ▪ Ensure good housekeeping at all times.	▪ Hold regular liaison meetings with other high risk construction sites within 500m of the site boundary, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised. It is important to understand the interactions of the off-site transport/deliveries which might be using the same strategic road network routes. ▪ Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken. Make the log available to LPA if required. ▪ Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible. ▪ Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period. ▪ All contractors and sub-contractors to be made aware of and sign-up to the dust management scheme.	▪ Ensure effective water suppression is used during demolition operations. Hand held sprays are more effective than hoses attached to equipment as the water can be directed to where it is needed. In addition high volume water suppression systems, manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground.
Trackout Specific	▪ Inspect on-site traffic routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable. ▪ Implement a wheel jet washing system	▪ Record all inspections of traffic routes and any subsequent action in a site log book.	▪ Ensure Roads are dampened down on a regular basis to prevent dust from arising.

Source Description	Primary Dust Control Measures	Thresholds / Triggers for Management	Contingency Dust Control Measures
Source Description	Primary Dust Control Measures	Thresholds / Triggers for Management	Contingency Dust Control Measures
Earthworks	- Conduct topsoil stripping only during suitable wind and weather conditions, so as to minimise the generation dust. Topsoil stripping will be conducted in areas proposed for mining no more than two months before mining commences, wherever practical. - After re-establishment of the soil profile (post mining), vegetative cover will be established within 8 months, as part of the progressive rehabilitation program. - Move as little material as possible. While excavating, this translates to keeping drop heights as low as possible - Use a front-end loader where possible to place material instead of a bulldozer. - Progressive site stripping will be used to reduce moisture content loss and to retain soil integrity. - Stabilise surfaces and/or re-vegetate as soon as possible.	- Monitor wind and weather forecasts (Bureau of Meteorology) and cease non-essential operations (i.e. topsoil stripping) during excessively windy conditions. - Material handling activities are occurring that may impact air quality beyond the property boundary: - If visible dust is being generated by material handling activities; and/or - If the weather forecast indicates dry conditions and strong winds are likely. - Visual cues will be the primary trigger for mitigative action to be taken with respect to fugitive dust emissions. - If the weather forecast indicates dry weather and strong winds are likely, this is also a trigger for preventative dust management action to be taken. - Visual monitoring during site activities will be conducted by the environmental consultant to determine if contingency control measures should be implemented. - Spot checks will be conducted using a portable particulate monitor. If measure concentrations are approaching an Environment Air Quality Standard (See Dust Management Plan) contingency control measures will be implemented.	- Wet the material when it is being handled. - Cease material handling operations during high wind events or when dust emissions cannot be adequately controlled

4.5 Noise and Vibration

BS 5228-1: 2009+A1:2014 'CODE OF PRACTICE FOR NOISE AND VIBRATION CONTROL ON CONSTRUCTION AND OPEN SITES – PART 2: VIBRATION'

This standard provides recommendations for basic methods of vibration control relating to construction and open sites. The legislative background to vibration control is described and guidance is provided concerning methods of measuring vibration and assessing its effects on the environment. Guidance criteria are suggested for the assessment of the significance of vibration effects, such criteria are provided in terms of Peak Particle Velocities (PPV) and are concerned with both human and structural responses to vibration. Those applicable to human perception and disturbance are presented within Table 1.

TABLE 1: PPV CRITERIA – HUMAN EXPOSURE VIBRATION LEVEL	EFFECT
0.14 mm/s	Vibration might just be perceptible in the most sensitive situations for most vibration frequencies associated with construction. At lower frequencies, people are less sensitive to vibration.
0.3 mm/s	Vibration might be just perceptible in residential environments
1.0 mm/s	It is likely that vibration of this level in residential environments will cause complaint but can be tolerated if prior warning and explanation has been given to residents.
10 mm/s	Vibration is likely to be intolerable for any more than a very brief exposure to this level.

The Standard goes on to present guidance criteria applicable to the vibration response limits of buildings in terms of the component PPV, these are presented within Table 2 below

TABLE 2: PPV CRITERIA – BUILDINGS TYPE OF BUILDING	PEAK COMPONENT PARTICLE VELOCITY IN FREQUENCY RANGE OF PREDOMINANT PULSE	
	4 Hz to 15 Hz	15Hz and above
Reinforced or framed structures Industrial and heavy commercial buildings	50mm/s at 4Hz and above	50mm/s at 4Hz and above
Unreinforced or light framed structures Residential or light commercial buildings	15mm/s at 4Hz increasing to 20mm/s at 15Hz	20mm/s at 15Hz increasing to 50mm/s at 40Hz and above

Vibration Monitoring and Control Measures

Andun Engineering have developed a Vibration and Monitoring Report – AEC-30397-11 which identifies the vibration monitoring requirements for the scheme. The Andun report should be made available with this document.

In summary the safe vibration limits for the works are shown in the table below:

Green	<10mm/s	No issues, continue demolition work in accordance with RAMS
Amber	10-20mm/s	Proceed with caution
Red	>20mm/s	Stop works and contact engineer.

The vulnerable assets on the project which require attention in relation to vibration monitoring is the UU below ground culvert located in the -3 car park and the Grade ii listed Victoria Bridge located on the North Elevation of the works. As well as vibration monitoring, Victoria Bridge is subject to regular movement monitoring during the below ground demolition works.

The main cause of vibration will be from using hydraulic breakers on areas of concrete during the demolition works. If and when vibration limits are reached or breached, works should stop and Andun Engineering will be contacted for advice on how to proceed.

Portable Vibration Monitoring (Monitex) systems will be used to locally monitor the sensitive areas as set out in the report. The Monitex equipment consists of telemetry field instruments and sensors which will continuously record accurate vibration measurements and gives real time vibration reports via an online database. The vibration equipment limits are pre-programmed and any breaches are automatically alerted via text messages or via email to senior management on the scheme.

Vibration monitoring will commence when the demolition works progress below ground level and when demolition activities are likely to cause vibration issues to the assets mentioned. Vibration monitoring will then continue until all demolition works are complete.

P. P. O'Connor will use best practicable means to minimise vibration from the works in accordance with the principles of Best Practicable Means as described in BS 5228: 2009 (parts 1 and 2), including from piling activity and plant such as generators;

- Site personnel will be instructed on environmental matters and best practicable means to reduce vibration during the site induction.
- Sensitive location of drop zones and loading areas away from sensitive receptors during demolition operatives.
- All deliveries to be scheduled to occur during off peak daytime hours only to prevent disturbance.
- Engines to be switched off when waiting during delivery times.
- Monitoring will be carried out in accordance with the projects requirements to be agreed with the client's representative.
- Rubber tracks will be fitted to tracked excavators to ensure that any vibration generated will be dampened as deemed necessary.
- Only appropriately sized plant and equipment will be utilised on the project.

Noise Monitoring and Control Measures

Noise monitoring will be undertaken throughout the project to ensure compliance, with all noise recording data being made available to the client or any interested parties.

A sampling technique will be used in accordance with BS 5228 Part 1, Annex G. The ambient noise level will be determined as a reference level before noise monitoring takes place to study new intrusive sound occurrence. Further checks will be made to ensure that the best practicable measures are being adopted, that any deployed hoardings are effective and that working hours are adhered to.

Monitex Noise recording equipment will be used throughout the project with the locations of the monitoring being determined by the current site activities. The noise recording equipment will be pre-programmed to 75db (A) and noise levels that exceed these limits are automatically alerted via text messages or via email to senior management on the scheme. When alerts are received, the project management team can then assess the works and introduce measures to mitigate noisy activities where possible.

As a minimum, noise monitoring will be carried out on the site boundary close to sensitive receptors such as residential property and local businesses throughout the duration of the works. As demolition works progress additional noise monitoring equipment will be introduced to capture noise levels across all areas of the site.

Due to the nature of the works, noisy activities are anticipated and will be controlled best as practically possible when executed.

Some of the noisy activities anticipated and indicative noise levels are listed below:

Activity	Equipment	Quantity	Sound Power (dBA)	ONTIME (percent)	ONTIME CORR (dB)	Corrected Sound Power (dBA)	Combined Sound Power for Activity (dBA)
Demolition	Tracked crane (70T crawler)	1	98	10	-10	88	117.2
	Dumper (2T)	1	105	50	-3	102	
	Excavator (JCB)	1	97	75	-1.2	95.8	
	Tracked loader (CAT)	1	112	75	-1.2	110.8	
	Excavated material lorries (8 wheeled)	1	109	40	-4	105	
	Excavated material lorries (8 wheeled)	1	109	40	-4	105	
	Hand held air tools (Pneumatic breakers)	1	111	50	-3	108	
	Compressor	1	102	50	-3	99	
	Excavator mounted breaker	1	120	25	-6	114	

Noisy activities will be planned in advance and will take place at suitable hours to minimise the impact it has on local residents and local businesses. If practically possible noise mitigation measures will be introduced to reduce the noise levels from leaving the site boundary, such as the use of acoustic barriers on scaffolding / hoarding or positioned locally around the noise source.

P. P. O'Connor will use best practicable means to minimise noise from the works in accordance with the principles of Best Practicable Means as described in BS 5228: 2009 (parts 1 and 2), including from piling activity and plant such as generators;;

- Stationary plant such as generators will be located as far as practicable away from the nearest sensitive receptor.
- Plant will be used in accordance with the manufacturers' recommendations.
- If deemed necessary, appropriate screens or enclosures will be provided where practicable, around the perimeter of the site / site equipment.
- Radios will not be permitted to be used anywhere on site.
- All engines will be turned off when not in use.
- All operatives will be issued with hearing protection to be worn if exposed to noise above 85 decibels.
- Hearing protection zones will be put in place using signage in areas suspected to have noise over 85 decibels. This will be confirmed by a noise assessment completed by the Environment Officer.
- P. P. O'Connor will only use plant and vehicles that are in good repair and conform to the manufacturer or legislative/British Standard emission standards BS 5228-2:2009.
- Plant maintenance and defect reports shall be held on site in designated file.
- Wherever possible, plant shall not be left running when not directly in use.

5.0 Preventing Pollution to Water

Water pollution has damaging effects on the environment, humans, habitat of plants and animals. Pollution can occur if discharges of substances into surface watercourses or groundwater without prior treatment or by accident, e.g. after an accidental spill.

Key causes of pollution include:

- Spills or leaks from oil and chemical containers.
- Trade effluent going into surface water drains instead of foul water drains, or straight into watercourses.
- Removing too much water from surface waters and groundwater.
- Run-off containing de-icing materials, such as salt during winter months.
- Silt and soil from construction sites.
- Wash waters and waste products.
- Fuel spills.

It is recognised that if the water environment becomes polluted, an environmental offence may well be committed.

Surface watercourses and groundwater are protected by a number of licensing regimes that prevent and control pollution.

You can prevent water pollution by:

- Using sustainable drainage systems to control diffuse pollution from lightly contaminated run-off.
- Fencing off areas to prevent stock access and establishing plant cover to prevent soil erosion.
- Using silt traps, buffer strips and sand bags to prevent run-off containing sediment from polluting surface waters and groundwater.
- Storing and handling hazardous materials carefully to prevent diffuse pollution from leaks and spills and providing spill kits to clean up spills if created.
- Cover and protect all drains on site.

6.0 Ecological Protection Plan

This Ecological Protection Plan (EPP) describes the conceptual protection measures that will limit the environmental disturbances associated with the projects design. In addition to being suitable for design and construction, these conceptual environmental protection measures can be used for project activities during site clearance, demolition and construction works.

The EPP has been prepared to identify preliminary project environmental mitigation measures to support the project design and planning.

According to the ecological survey carried out by Penny Anderson Associated Ltd:

The nearest priority habitat is 1.3km from the site boundary. This is considered to be sufficiently distant not to be impacted by any development within the site boundary.

The extended Phase 1 habitat survey highlighted no features of significant nature conservation interest within the site. The plant species list was limited to species that are common and typical of early successional communities of urban sites. No INNS plants were noted.

6.1 Wildlife

- General protection measures that apply during construction include:
- Employees and Contractor employees and agents shall not interfere with wildlife unless stated by the client i.e. removal of specific trees
- Where important wildlife species are encountered impacts shall be minimised by avoiding noisy, disruptive activities during sensitive wildlife periods
- All refuse shall be disposed of at a licenced recycling/ landfill centre. Refuse stored on site prior to removal shall be stored in closed/covered skip or a covered stockpile as necessary.

6.2 Bats

Habitats within the site were of low to moderate value for foraging and commuting bats. The desk study found nine EPS bat licences within a 1km radius of the site boundary. One of these was for brown-long eared bat, one for common and soprano pipistrelle and a further seven for common pipistrelle only. The closest two lie 120m and 150m north of the site boundary respectively, both for common pipistrelle.

A further 19 bat roost records were found, with the closest 153m from the site boundary, for common pipistrelle. A number of other bat records are located within 1km of the site boundary, for at least four species. This includes a common pipistrelle record within the site boundary and a Daubenton's bat (*Myotis daubentonii*) record 120m north east.

These records indicate that bats historically use the immediate urban landscape and support the recommendation for activity survey.

Overall, the building inspection survey identified low potential to support roosting bats.

In line with current good practice guidelines, the features identified on the building should be subject to a single evening bat activity survey to confirm absence of roosting bats. It is recommended to position surveyors at a number of vantage points around the structure where PRF are present or where close inspection was not possible. The survey should be completed in the May to August period, under suitable weather conditions.

If bat roosts are identified on the structure during the above recommended presence/absence survey then further roost categorisation surveys would be required to support the preparation of suitable mitigation, along with advice on potential licensing requirements

General Protection Measures in case bats nests are discovered include:

- If discovered, no one shall disturb, move or destroy a nest. If a roost is encountered, the Contractor shall cease work in the immediate area of the roost and contact the Project Manager.
- If a roost is discovered, physical protection measures such as heras fencing shall be put in place.
If a roost is discovered, provision of training and information about the importance of 'wildlife protection zones' will be carried out to all construction personnel on site.

Outline Mitigation / Recommendations according to Bowland Environmental Include:

- Adherence to Reasonable Avoidance Measures to avoid impacts to roosting bats.
- Incorporate compensatory roost provision within the modified building. Any additional lighting on site will be designed in accordance with the appropriate guidance.

Legislation

All species of bat are fully protected under the Conservation of Habitats and Species Regulations 2010. It is illegal to injure, kill, capture or disturb a bat. It is also illegal to damage, destroy or obstruct trees, buildings or other places used for roosting, even if bats are not present.

All bat species are also protected under the Wildlife and Countryside Act 1981 (as amended). This means they are additionally protected from intentional or reckless disturbance, intentional or reckless obstruction of access to any place of shelter or protection; and/or, selling, offering or exposing for sale, possession or transporting for purpose of sale.

6.3 Badgers

General Protection Measures in case badger sets are discovered include:

- If discovered, no one shall disturb, move or destroy a badger sett. If a sett or young badgers are encountered, the Contractor shall cease work in the immediate area of the nest and contact the Senior Project Manager
- If a sett is discovered, physical protection measures such as heras fencing shall be put in place, complete with appropriate signage
- If a sett is discovered, provision of training and information about the importance of 'wildlife protection zones' will be carried out to all construction personnel on site.

Legislation

Badger Act 1992, It is an offence to 'interfere with a badger sett by disturbing a badger that is occupying the sett' (Natural England 2007).

6.4 Hedgehog

To avoid impacts to hedgehog and other small mammals the following will be undertaken throughout the duration of the construction period:

- Excavations that need to be left overnight will be covered or fitted with mammal ramps to ensure that any animals that enter can safely escape;
- Excavations will be backfilled as soon as possible to minimise the potential for animals to become trapped. Any debris from works should not be left on site; and

- Any small mammals found within the works area during construction will be carefully relocated to a sheltered location with plenty of vegetation cover, in an area off site which will remain undisturbed.

General Protection Measures in case hedgehog nests are discovered include:

- If you disturb a nest with an adult hedgehog in it, replace the nesting material. The hedgehog can then either repair the nest or build another elsewhere
- If discovered, no one shall disturb, move or destroy a hedgehog nest. If a nest or young are encountered, the Contractor shall cease work in the immediate area of the nest and contact the Senior Project Manager
- If a nest is discovered, physical protection measures such as heras fencing shall be put in place, with appropriate signage
- If a nest is discovered, provision of training and information about the importance of 'wildlife protection zones' will be carried out to all construction personnel on site.

Legislation

Hedgehogs are protected under the following legislation. Wildlife and Countryside Act 1981 (as amended) Schedule 6.

6.5 Birds

There is evidence that feral pigeon, and potentially other urban bird species, nest on the built structure during the active nesting season (March to August inclusive). There is also some limited potential for birds to nest in the semi-mature trees in the western area of the site. 210137 13 Property Alliance Group March 2021 Renaissance Development, Manchester Extended Phase 1 Habitat Survey and Inspection of Building for Bats

The nests and eggs of breeding birds are protected. Therefore, works should occur outside of the key nesting period of March to August inclusive. If site clearance occurs during March to August then a suitably experienced and qualified Ecologist should undertake an inspection of the building no more than 48 hours prior to demolition starting, to confirm the absence of active nests.

General Protection Measures in case bird nests are discovered include:

- No tree felling, pruning works or vegetation clearance should take place during the optimum period for bird nesting (March to July inclusive) unless it has been confirmed by a suitably qualified and competent person that nesting birds are absent
- If discovered, no one shall disturb, move or destroy migratory bird nests. If a nest or young birds are encountered, the Contractor shall cease work in the immediate area of the nest and contact the Senior Project Manager
- If a nest is discovered, physical protection measures such as heras fencing shall be put in place, complete with appropriate signage
- If a nest is discovered, regular inspection and maintenance of the physical protection shall take place as necessary
- If a nest is discovered, provision of training and information about the importance of 'wildlife protection zones' will be carried out to all construction personnel on site.

Legislation

Nesting birds are protected by the Wildlife and Countryside Act 1981 (as amended). Disturbance to nesting birds is illegal.

6.6 Trees

To avoid impacts to trees, the following will be undertaken throughout the duration of the construction period:

General Protection Measures that apply shall include:

- No retained tree shall be cut down, uprooted or destroyed, nor shall any retained tree be topped or lopped other than in accordance with the approved plans and particulars, without the written approval of the local planning authority
- If any retained tree is removed, uprooted or destroyed or dies, another tree shall be planted at the same place and that tree shall be of such size and species, and shall be planted at such time, as may be specified in writing by the local planning authority
- All tree work will be carried out by a competent contractor in accordance with British Standard BS 3998:2010 "Recommendations for Tree Work". In order avoid damage to trees/shrubs adjacent to and within the site which are of important amenity value to the area

6.7 Resource Use

P.P. O'Connor shall ensure where practicable, that the use of recycled or sustainable materials shall be utilised. A dedicated agreed area shall be maintained for storage of all materials and due care and appropriate handling shall be undertaken at all times to reduce any risk of damages and wastage.

6.8 Energy Resource and Consumption

"Switch it Off" schemes and other energy saving campaigns shall be implemented on site to encourage all personnel to consider their Carbon Footprint.

6.9 Water Usage

Within site accommodation, taps shall be switched off when not in use and all staff shall be made aware of water saving techniques. Every effort to ensure reduction in water use shall be implemented where available.

6.10 Vermin

Maintenance of a clean and tidy site including vermin control is essential. The site compound area is to be maintained as vermin free. The following mitigation measures will be implemented:

- Prevention of accumulation of refuse and putrescent materials
- Ensuring any on site catering facilities pay careful attention to the mess facilities and disposal of food waste.

7. Emergency Response Instructions

This section prescribes what pollution equipment shall be available, the immediate actions to take in the event of a pollution incident and the method of reporting.

Response Strategies

The first stages of response in the event of a pollution incident are:

Stop – Stop the leak immediately and all work in the immediate area

Contain – by using granules and spill kits, or inert material such as sand or soil, or by digging trenches etc.

Notify – Notify your supervisor immediately who in turn **shall without delay** inform the Environmental Officer

Recover – by using absorbent pads. Bag all contaminated materials

Dispose - by placing contaminated material back in the appropriate bin / container and which will be collected by a licenced Environmental Waste Company

Any spillages into a watercourse must be reported to EA as soon as possible – this will be the responsibility of the Environmental Officer

8.0 Monitor and Review

8.1. Audit, Inspection and Monitoring

The environmental performance of the construction works will be monitored and reviewed as follows.

8.2. Internal Audits

Internal audits are carried out according to P.P. O'Connor's procedures.

8.3. Inspections

Environmental Inspections shall be carried out as and when required by the Environmental Officer.

Inspections cover Health and Safety as well as some environmental aspects are carried out by all Managers and Supervisors on a weekly basis.

8.4. Corrective Action

Where practicable to do so, environmental deviations are dealt with immediately, ensuring the potential for environmental impact is minimised and the contained. Findings will be tracked to closure by the Environmental Officer or appropriate nominee.

8.5. Records

All original records associated with the environmental management of the site will be retained throughout the demolition. The Environmental Officer and the Employer shall determine which records shall be maintained beyond the project completion.

Records include but may not be limited to:

- Environmental reports
- Waste transfer notes
- Hazardous waste consignment notes
- Permits, licences and consents
- All complaints
- Site inspection / audit records

9. ENVIRONMENTAL ASPECTS AND IMPACTS CHECKLIST

Activity	Environmental Aspect	Environmental Impact	Likelihood	Severity	Significance Rating	Control Measures	Legislation	Revised Rating
Site Set up	Destruction of habitat, damage to vegetation, injury to fauna.	Loss of biodiversity Pollution of surface water, storm water drains and water courses.	Unlikely	High	Medium	- Minimise vegetation clearance. - Avoid all contact with flora and threatened fauna - Do not undertake tree felling or hedgerow clearance during the bird nesting season. - Comply with tree preservation orders if applicable	Environmental Protection Act 1990 Pollution Prevention and Control Act 1999	Low
Land Clearance / Ground Strip	Discovery of protected species (bats, badgers, great crested newts etc).	Harmful to wildlife	Likely	High	High	- Immediately stop work if you discover a protected species on site. - Close off the area to all activities with an exclusion zone of at least 20m with barriers or rope. - Do not use heavy machinery within 30m of a habitat. - Do not use light machinery within 20m of the habitat - Do not clear land or scrub with hand tools within 10m of the habitat. - Contact the Environmental Department for further advice.	Protection of badgers Act 1992 Wildlife and Countryside Act 1981 Environmental Protection Act 1990 Natural Environment and Countryside Act (NERC,2006) Conservation of Habitats and Species Regulations (2010)	Low

Activity	Environmental Aspect	Environmental Impact	Likelihood	Severity	Significance Rating	Control Measures	Legislation	Revised Rating
Excavation / Intrusive Works	Destruction of habitat, damage to vegetation, injury to fauna.	Loss of Biodiversity	Likely	Moderate	Medium	- Minimize vegetation clearance. Avoid all contact with fauna and threatened flora. - Avoid parking or storing construction materials under trees where practical. - Avoid creating stockpiles under trees, in order to avoid compaction within the root zone. - Dispose of all food scraps from work sites. - Cover or fence off all trenches and excavations overnight to prevent animal trapping, where practical.	Wildlife and Countryside Act (1981) (as amended) Countryside and Rights of Way Act, 2000 Natural Environment and Rural Communities Act (NERC, 2006) Conservation of Habitats and Species Regulations (2010).	Medium
	Air Emissions	Air Pollution	Likely	Moderate	Medium	- Minimize vehicle movement and speed on unsealed tracks and paths. - Consider conducting dust-emitting works with water sprays, where not prevented by water restrictions or if risk of water pollution is likely. - During high wind periods, consider covering stockpiles when not in use. - During high wind periods, consider using water sprays on stockpiles, where this is not prevented by water restrictions. - Cover vehicles transporting bulk materials such as soils and wastes to	Pollution Prevention and Control Act 1999 Environmental Protection Act 1990 The Waste (England and Wales) Regulations 2011	Low

Activity	Environmental Aspect	Environmental Impact	Likelihood	Severity	Significance Rating	Control Measures	Legislation	Revised Rating
						prevent loss of load or dust generation.		
	Discovery of Archaeological structures and finds	Damage to heritage items.	Negligible	Low	Low	- Do not assume that any artefacts or findings are not important. - Do not remove any items from site such as bones, coins etc. as this is illegal. - Stop work if you find any archaeological features. - Cordon off the area and ensure no person enters the area until authorised to do so by the local authority. Inform the local authority immediately. - Follow the instructions of any appointed representative or archaeologist is assigned to the find. - Do not allow any operations close by such as dewatering or vibration operations to continue that are in your control as this may damage further unknown items.	National Heritage Act 1983	Low
	Free running silts within rain/surface waters on site	Pollution to ground. Pollution to controlled waters. Unauthorised discharge to sewer or land	Unlikely	High	Medium	- Do not dewater any excavation without checking where the silt is going to be discharged to. - Only discharge silted water into settlement systems such as holding ponds, baffle tanks or authorised grassed area.	The Waste (England and Wales) Regulations 2011 Environmental Protection Act 1990 Control of Pollution	Low

Activity	Environmental Aspect	Environmental Impact	Likelihood	Severity	Significance Rating	Control Measures	Legislation	Revised Rating
		drains. Harmful to wildlife.				• Do not allow silty waters to be pumped directly into any rivers, streams, ditches or surface water drains. • Minimize disturbance to vegetation cover for any activities. • Do not store soils, stones or other aggregates close to water courses. Rainwater will cause wash off into these water courses. • Do not cut ditches / cuts to relieve standing waters from heavy rain. • Ensure hard standing and roads swept regularly to reduce mud / silt build up which can be washed away in rain. • Protect surface water drains. Combined drains and water courses by using sand bags, bail filters or Terran / Geotextile bunds. • Do not dewater any excavation without checking where the silt is going to be discharged to. • Only discharge silted water into settlement systems such as holding ponds, baffle tanks or authorised grassed area. • Do not allow silty waters to be pumped directly into any rivers, streams, ditches or surface water drains. • Minimize disturbance to vegetation cover for any activities.	(Amendment) Act 1989 Pollution Prevention and Control Act 1999	

Activity	Environmental Aspect	Environmental Impact	Likelihood	Severity	Significance Rating	Control Measures	Legislation	Revised Rating
						Do not store soils, stones or other aggregates close to water courses. Rainwater will cause wash off into these water courses.		
	Discovery of building material that may contain asbestos.	Irreversible respiratory health hazard caused by airborne particles. Pollution to ground. Pollution to controlled waters.	Unlikely	High	Medium	- Use of qualified and disposal contractors. - Asbestos awareness training. - Always request and check asbestos surveys / management plan.	Control of Asbestos Regulations 2012.	Low
Excavation near water course, activities requiring surface or groundwater removal from excavations or drilling activities	Inappropriate disposal of liquid waste	Pollution of watercourses	Unlikely	High	Medium	- Construct temporary drainage devices to control soil and water movement from the site. These may include, diversion drains, silt fences, bunds and booms; - Potentially contaminated water must be stored in an appropriate container in a bounded area on-site, for subsequent appropriate disposal. - Obtain consent from the appropriate authority if potentially contaminated water is to be discharged to the sewer system. - Locate stockpiles of construction materials a suitable distance from	Control of Pollution (Amendment) Act 1989 Environmental Protection Act 1990 Pollution Prevention and Control Act 1999 The Waste (England and Wales) Regulations 2011	Low

Activity	Environmental Aspect	Environmental Impact	Likelihood	Severity	Significance Rating	Control Measures	Legislation	Revised Rating
						watercourses and drains to prevent impact. • Ensure any concrete washout is suitably collected and disposed of.		
Use of Plant and Machinery	Noise nuisance.	Disturbance of local community / neighbours	Likely	Moderate	Medium	• Keep noise to a minimum and adhere to the noise levels as set out by the authority. • Adhere to site working hours. • Noise mitigation measures to be incorporated. • Adhere to site working hours.	Environmental Protection Act - Noise Regulations	Low
Storage of hazardous materials e.g. diesel, petrol, oil.	Poor Handling Practices	Pollution of storm water or surface water drains, water courses, or ground water. Contamination of ground. Harmful to wildlife.	Likely	High	High	• Store hazardous materials securely, away from drains and watercourses. • Store bulk petrol, diesel and oil in bunded tanks and store smaller containers on drip trays that have 110% capacity of the larger container. • Keep a spill kit near to fuel and oil storage areas. • Always put lids on any containers after use • Ensure that all containers are undamaged. • Ensure that all refuelling is constantly attended and only undertaken at least 10m away from watercourses and drains. • Lock the mobile bowser or storage tank after use.	The Waste (England and Wales) Regulations 2011 Environmental Protection Act 1990 Control of Pollution (Amendment) Act 1989 The Waste (England and Wales) Regulations 2011 The Controlled Waste (England and Wales) Regulations 2012	Low

Activity	Environmental Aspect	Environmental Impact	Likelihood	Severity	Significance Rating	Control Measures	Legislation	Revised Rating
						• Use drip trays under all static plant and during refuelling from mobile plant. • Clean up any minor spillages. • Do not use high pressure delivery systems when filling small containers. • Use funnels when refuelling small plant and equipment to avoid spillages. • Use the automatic shut off "pistol grip" delivery systems when refuelling from tanks or mobile bowser. Do not tamper with the shut off system at anytime. • Do not leave refuelling hoses outside bunds after use. • Do not leave bunds and drip trays to overflow. • Do not pour petrol, diesel or waste oil down drains and gullies.	Hazardous Waste Regulations 2005	
Cement / Gypsum based products	Cement, mortar, concrete and plaster washout	Harmful to wildlife. Pollution to controlled waters. Unauthorised discharge to sewer or land drains.	Unlikely	Moderate	Low	• Identify all water watercourses, gullies and drains prior to commencing work. • Undertake mixing / batching works well away from watercourses and drains. • Use only designated areas for concrete washout.	Control of Pollution (Amendment) Act 1989 Environmental Protection Act 1990 Pollution Prevention and Control Act 1999 The Controlled	Low

Activity	Environmental Aspect	Environmental Impact	Likelihood	Severity	Significance Rating	Control Measures	Legislation	Revised Rating
						- Where necessary protect nearby drains against washout water running into them. - Do not wash off any tools or plant in watercourses. - Store bulk and bagged cement and concrete additives at least 10m away from watercourses, gullies and drains. - Provide washout pits.	Waste (England and Wales) Regulations 2012	
Office Activities	Paperwork	Reduction in natural resources. Greenhouse effect from generation.	Likely	Low	Medium	- Paper supplies to be sourced from sustainable supply chains via office stationary supplier. Certificate of compliance or information substantiating the source are to be held. - Printers within the building are set to double side print to reduce paper usage where possible. - Emails to contain environmental awareness message asking whether item needs to be printed off. - Paper re-cycling undertaken.	The Waste (England and Wales) Regulations 2011	Medium
	Ink Cartridges	Reduction in natural resources	Likely	Low	Medium	- Reduce usage of ink cartridges by saving records electronically. - Printers within the building are set to double side print to reduce paper usage where possible.	The Waste (England and Wales) Regulations 2011 The Controlled Waste (England	Medium

Activity	Environmental Aspect	Environmental Impact	Likelihood	Severity	Significance Rating	Control Measures	Legislation	Revised Rating
						- Emails to contain environmental awareness message asking whether item needs to be printed off. - Re-cycle.	and Wales) Regulations 2012	
	Disposal of redundant office equipment	Pollution to Ground. Pollution to Controlled waters.	Unlikely	Low	Low	Dispose via a registered handling carrier.	Control of Pollution (Amendment) Act 1989 The Waste (England and Wales) Regulations 2011 Regulations 1991 Pollution Prevention and Control Act 1999 The Controlled Waste (England and Wales) Regulations 2012	Low
	Alarm sounder testing	Noise nuisance to neighbours	Unlikely	Low	Low	- Keep to a minimum. - Warn other personnel in vicinity.	Environmental Protection Act - Noise Regulations	Low
Electricity used for lighting, equipment, heating and cooling.	Electricity	Reduction in natural resources. Greenhouse effect from generation.	Likely	Low	Medium	- Source renewable energy supply. - Monitor electricity consumption records. - Raise staff awareness via information bulletins / Emails.	N/A	Medium

Activity	Environmental Aspect	Environmental Impact	Likelihood	Severity	Significance Rating	Control Measures	Legislation	Revised Rating
						• Spot checks to ensure electrical equipment turned off when not in use. • Investment in technology i.e Light sensors, timers. • Regular maintenance. • Close all windows when using air conditioning and heating systems.		
	Disposal of electrical light bulbs, fluorescent tubes, batteries and discarded electrical equipment such as TV's computer monitors, fridges and freezers.	Pollution to Ground. Pollution to controlled waters	Likely	Low	Medium	• Proper and safe disposal of waste must be ensured even after it has been passed on to another party. The duty of care has no time limit. It extends until the waste has either been disposed of or fully recovered. • Duty of care requires that all waste is stored and disposed of responsibly, it is only handled or dealt with by authorised individuals or companies and a record is to be kept of all waste received or transferred (i.e. Waste Transfer Notes (WTN)). A WTN must be created for each load of waste that leaves the site. The waste should be adequately described on the TWN. • Ensure those that treat, store or dispose of the waste have Waste Management Licence or Exemption Certificate.	The Waste (England and Wales) Regulations 2011 Environmental Protection Act 1990 Control of Pollution (Amendment) Act 1989 The Waste (England and Wales) Regulations 2011 The Controlled Waste (England and Wales) Regulations 2012 Hazardous Waste Regulations 2005	Medium

Activity	Environmental Aspect	Environmental Impact	Likelihood	Severity	Significance Rating	Control Measures	Legislation	Revised Rating
						• Ensure that the carrier is a registered waste carrier for this purpose. • Check to establish if any containers or other materials taken back by the supplier are being reprocessed or disposed of. • Ensure that all wastes that arise irregularly (e.g. redundant materials, wastes arising from cleaning up spills) are declared on TWNs. Some may be regarded as hazardous waste. • Ensure that all contractors use the identified skips and bins and that these are kept in good order. No waste is to be left on the floors around the skip / bin. Use skip sheeting to reduce dusts or wind scatter.		
Water Use	Drinking water Toilets Cleaning	Reduction in natural resources. Greenhouse effect from generation.	Likely	Low	Medium	• Usage monitored and minimised where practicable.	N/A	Low
Waste	Disposing of non-hazardous waste	Reduction of natural resources.	Likely	Low	Medium	• Proper and safe disposal of waste must be ensured even after it has been passed on to another party. The duty of care has no time limit. It	The Waste (England and Wales) Regulations 2011	Low

Activity	Environmental Aspect	Environmental Impact	Likelihood	Severity	Significance Rating	Control Measures	Legislation	Revised Rating
		Pollution to ground.				extends until the waste has either been disposed of or fully recovered. • Duty of care requires that all waste is stored and disposed of responsibly, it is only handled or dealt with by authorised individuals or companies and a record is to be kept of all waste received or transferred (i.e. Waste Transfer Notes (WTN)). A WTN must be created for each load of waste that leaves the site. The waste should be adequately described on the TWN. • Ensure those that treat, store or dispose of the waste have Waste Management Licence or Exemption Certificate. • Ensure that the carrier is a registered waste carrier for this purpose. • Check to establish if any containers or other materials taken back by the supplier are being reprocessed or disposed of. • Ensure that all wastes that arise irregularly (e.g redundant materials, wastes arising from cleaning up spills) are declared on TWNs. Some may be regarded as hazardous waste. • Ensure that all contractors use the identified skips and bins and that	Environmental Protection Act 1990 Control of Pollution (Amendment) Act 1989 The Waste (England and Wales) Regulations 2011 The Controlled Waste (England and Wales) Regulations 2012	

Activity	Environmental Aspect	Environmental Impact	Likelihood	Severity	Significance Rating	Control Measures	Legislation	Revised Rating
						these are kept in good order. No waste is to be left on the floors around the skip / bin. Use skip sheeting to reduce dusts or wind scatter.		
	Disposing of hazardous waste	Reduction of natural resources. Pollution to ground Harmful to wildlife.	Likely	Low	Medium	• Mixing of hazardous with non-hazardous waste is prohibited. • The mixing of different categories of hazardous waste together in the same container is prohibited. • Whenever hazardous waste is removed, a consignment note must be completed and accompany the hazardous waste. • Ensure that the carrier is a registered waste carrier for this purpose. • Check that the waste carrier will supply the Hazardous Waste Consignment Note prior to arranging the removal of the waste. • Get a copy of the completed consignment note from the Carrier as proof the materials have been disposed of appropriately. By law consignment notes need to be kept for at least 3 years. • A producer, holder or consignor of hazardous waste, must keep a record in the Hazardous Waste Register of the quantity, nature,	The Waste (England and Wales) Regulations 2011 Environmental Protection Act 1990 Control of Pollution (Amendment) Act 1989 Regulations 1991 Hazardous Waste Regulations 2005	Low

Activity	Environmental Aspect	Environmental Impact	Likelihood	Severity	Significance Rating	Control Measures	Legislation	Revised Rating
						origin, destination, frequency of collection, mode of transport and treatment of the waste. This must be kept for three years.		
Transport	Driving to and from site	Reduction of natural resources. Pollution to ground. Harmful to wildlife. Greenhouse effect from generation.	Likely	Low	Medium	• Car sharing is encouraged. • Renew company car fleet every 3-4 years.	N/A	Low