Construction Environmental Management Plan (CEMP)

for

Our Cultural Heart

Prepared by Matthew Garnett Date 11.03.2024

Approved by Matthew Garnett Date 11.03.2024

Construction Manager

Revision Record			
Rev	**Date**	**Revision Details**	**Revised by**
0	11.03.24	First Issue	MJG
1	01.08.24	Full document update for main works	MJG
2	01.07.25	Updated	MJG

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6. Appendix 1 – Example of relevant Toolbox Talks to be used on the project

Dust

Silt

Waste

Fuel and Oil

Oils, Fuels and Chemical use

Demolition

Birds

1. Project Information

This document has been written to discharge the following planning conditions:

Condition 13 - Construction Environmental Management Plan
Condition 14 - Noisy works
Condition 15 - Construction Environmental Management Plan
Condition 27 - Temporary surface water

Project Title	Our Cultural Heart – Phase 1
Site Address:	BAM Construction Site Offices Queensgate Markets Queensgate Huddersfield HD1 2UJ
Project Description:	The project is the refurbishment of the former Queensgate Market Hall and part of the Piazza Shopping Centre (off Princess Alexandra Walk). The scheme will include a new food hall and library.

Kirklees Cultural Heart

The content of this CEMP is submitted to discharge the following pre-commencement planning conditions.

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Prior to development commencing, a Construction Environmental Management Plan (CEMP) relevant to any component part of the development (or combination of component parts) **shall be submitted to and agreed in writing** with the Local Planning Authority. The plan shall describe in detail the actions that will be taken to minimise adverse impacts on occupiers of nearby properties by effectively controlling:
• Noise and vibration arising from all construction related activities. This should also include suitable restrictions on the hours of working on the site including times of deliveries; and
• Dust arising from all construction related activities, which should include measures to monitor and record the emissions of dust during construction. This should be provided in the form a Dust Management Plan (with reference to the Air Quality Assessment by Ove Arup & Partners Limited (ARUP) Chapter 9 of Environmental Statement: Volume 1 Main Report and Figures (dated: 30.09.22).
A communications plan detailing the responsible person, their contact details and how this will be communicated to local residents and sensitive receptors. The agreed plan shall be adhered to throughout the construction of the development of that component part, or parts.
Reason: To safeguard the amenities of the occupiers of nearby properties in accordance with part 15 of the National Planning Policy Framework and Policy LP52 of

the Kirklees Local Plan.
This pre-commencement condition is necessary to ensure that details of works and the protection of amenity are agreed at an appropriate stage of the development process.

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Noisy construction related activities shall not take place outside the hours of:
• 07.30 to 18.30 hours Mondays to Fridays.
• 08.00 to 13.00 hours, Saturdays; and
• No noisy construction related activities at any time on Sundays and Public Holidays.
Reason: To safeguard the amenities of the occupiers of nearby properties in accordance with part 15 of the National Planning Policy Framework and Policy LP52 of the Kirklees Local Plan.

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"No development shall take place (including demolition, ground works, vegetation clearance) until a construction environmental management plan (CEMP: Biodiversity) for any component part of the development (or combination thereof) has been submitted to and approved in writing by the local planning authority. The CEMP (Biodiversity) shall include the following.
• Risk assessment of potentially damaging construction activities that refers to the most up-to-date site specific survey information and specifically to nesting birds;
• Identification of “biodiversity protection zones”, where appropriate;
• Practical measures (both physical measures and sensitive working practices) to avoid or reduce impacts during construction (may be provided as a set of method statements);
• The location and timing of sensitive works to avoid harm to biodiversity features;
• The times during construction when specialist ecologists need to be present on site to oversee works, where appropriate;
• Responsible persons and lines of communication; and
• Use of protective fences, exclusion barriers and warning signs, where appropriate.
The approved CEMP shall be adhered to and implemented throughout the construction period of that component part, or parts in accordance with the approved details.
Reason: To protect biodiversity during construction by avoiding direst impacts to protected species, and to accord with Policy LP30 of the Kirklees Local Plan.
This pre-commencement condition is necessary to ensure that details of measures to protect biodiversity are agreed at an appropriate stage of the development process."

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Development shall not commence within any component part or combination of parts (as referred to in condition 3) until a scheme, detailing temporary surface water drainage for the construction phase (after soil and vegetation/site strip) for an agreed component part of the development has been submitted to and approved in writing by the Local Planning Authority. The scheme shall detail:
• phasing of the development and phasing of temporary drainage provision; • include methods of preventing silt, debris and contaminants entering existing drainage systems and watercourses and how flooding of adjacent land is prevented; and • the strategy shall include a plan showing the location of the attenuation storage and supporting calculations for any component part, or combination of parts. Any temporary works shall be implemented in accordance with the approved scheme and phasing. No phase of the development shall be commenced until the temporary works approved for that component part or parts have been completed. The approved temporary drainage scheme shall be retained until the approved permanent surface water drainage system is in place and functioning in accordance with written notification to the Local Planning Authority. Reason: To ensure the effective disposal of water from the development so as to avoid an increase in flood risk and so as to accord with Policies LP27 and LP28 of the Kirklees Local Plan and chapter 14 of the National Planning Policy Framework. This pre-commencement condition is necessary to ensure that details of temporary drainage are agreed at an appropriate stage of the development process.

1.1 BAM Construction Environmental Management System

BAM Construction's Environmental Management System (EMS) is certified to ISO14001:2015. This covers all of BAM's activities of its construction sites and offices.

Our Electronic Management Systems requires the establishment of detailed project specific Construction and Environmental Management Plan (CEMP) which is produced as part of the Project Management Plan document, at the outset of the project and is regularly reviewed and developed throughout the construction phase.

This CEMP will identify all relevant Environmental Hazards for the construction of Our Cultural Heart and contains the environmental control measures for the construction phase of the development. Implementation of the CEMP will be the responsible of the Project Manager supported by our in-house regional Sustainability Advisor.

BAM Construction are providing this CEMP (extracted from the Project Management Plan) to evidence to the Planners a clear, concise and project specific environmental control measures specific to addressing the planning conditions identified below.

1.2 Environmental Emergency Contacts

Emergency Contacts	Name	Location	Contact Number(s)
Project Environmental Manager	Matthew Garnett	Site	07823 531627
Company Environmental Manager	Joel Coakeley	Breakspear Park	01442 238 323
Regional Sustainability Advisor	Karen Higgins	Leeds	0113 290 8800
Environment Agency (Local Office)	Leeds	8 City Walk, Leeds LS11 9AT	370 850 6506

2. Environmental Management

2.1 Environmental Records

Details of the documents that need to be held on site are listed below:
All Key Performance Indicator Information will be recorded on BAM SMaRT

Environmental Records	Action by
Project Management Plan	MJG
Resource Management Plan (RMP)	MJG
Environmental Permit / Waste Management Licence / Exemptions, Carrier Registrations [off-site]	MJG
Environmental Permit / Exemption Certificate [on-site]	MJG
Waste Transfer Notes	MJG
Energy supply arrangements (type of supply, supplier, MPAN, MPRN, account number(s))	MJG
Key Performance Indicator information (pollution incidents, energy use, mains water use, waste production, timber sustainability, environmental toolbox talks)	MJG
Method Statements and Risk Assessments	MJG
COSHH Assessments	MJG
Site Incident Response Plans	MJG
Environmental Advisor Visit Reports	MJG

2.2 Project Specific Environmental Aspects

The Environmental Hazards associated with the construction of the Project are:

- Materials Management
- Oil, fuel and liquid chemical storage
- Nuisance Prevention (Noise, dust during demolition & construction activities)
- Community Relations
- Waste management – refer to separate document Resource Management Plan
- Energy and water conservation - refer to separate document Resource Management Plan

2.3 Project Specific Environmental Controls

2.3.1 Construction Targets

The site is going to measure its performance against the Environmental Targets for Construction.

The KPIs to be measured, with example targets are included below:

1. Site to register with the Considerate Constructors Scheme.
2. Target zero pollution incidents by following this plan.
3. Measure Energy use as follows:
   - BAM Fuel use (in litres) and bottled Gas/LPG (in Kg) to be recorded on BAM SMaRT from delivery tickets.
   - Subcontractors to copy their delivery tickets for fuel oil, bottled gas, etc. to BAM for inclusion on BAM SMaRT.
   - Energy supply details to be logged on BAM SMaRT indicating ownership of supply (BAM/Client), Supplier, MPAN, MPRN and account details where relevant.
   - Automatic Meter Reading (AMR) Electricity (and where relevant Gas) meter(s) to be installed at main supply point/entry point to site, with usage (obtained from AMR report) recorded monthly (in kWh) on BAM SMaRT.
   - Target maximum CO_2 emissions of 13,300 Kg /£1 million.
4. Water use readings (in m^3) from the meter installed at the entry point to the site are also to be recorded on BAM SMaRT.
   - Target maximum water use of 97 m^3 /£1 million.
5. Waste production, and percentage of waste diverted from landfill, is to be monitored on BAM SMaRT.
   - Log all BAM Waste Transfer Notes (WTN) and waste destinations.
   - Subcontractors to copy all WTN to BAM. BAM to record on BAM SMaRT.
   - Target maximum Construction (skip) waste production 112m^3 /£1 million.
6. The Resource Management Plan includes details of the waste to be segregated for recycling on site.
   - Target to divert at least 95 % of all waste removed from site away from landfill.
7. All Timber is to be from FSC or PEFC Chain of Custody sources. Details of all deliveries will be recorded on BAM SMaRT.
8. Environmental Toolbox Talks are to be carried out at least once a month and be recorded on the Toolbox Talk Record. All environmental risks are to be included in site induction. Examples of these are included in ***Appendix 1***
9. The Project Environmental Management Plan and Resource Management Plan are to be reviewed on a quarterly basis.

2.3.2 Ecology, Trees and Archaeology

The following measures will be employed:

- Site management is to be notified if any suspected Protected Species or Archaeological remains are encountered.
- There are no trees within the red line boundary of the site.
  Note: Kirklees Council have removed prior to commencement the trees on Queensgate that would have been with the boundary.
- Any trees overhanging the hoarding lines will be protected to the extent of the Crown with appropriate fencing and signage
- ***Also refer to section 5 Biodiversity***

2.3.3 Materials Management

The following materials management measures will be employed:

- All hazardous materials will be kept within a locked storage area and access to these materials will be restricted to those who have viewed the COSHH assessment for the particular material.
- Other materials are to be stored in designated storage areas as agreed with the Site Management.
- All timber products are to be from a Chain of Custody source, certified by the Forest Stewardship Council (FSC) or Programme for the Endorsement of Forest Certification Schemes (PEFC), to ensure legality and sustainability. Where this is not possible the client will be informed, and alternative timbers proposed.
- A recycling centre will be set up on site to store excess materials for re-use on site
- The encouragement of “just in time” deliveries to the point of use to minimise waste through damage whilst stored on site.
- Deliveries will strictly follow BAM Traffic Management Plan and the Projects Green Travel Plan

This project is committed to BAM’s responsible sourcing policy, and is committed to:

- Considering the impact on natural resources when choosing goods and materials.
- Promoting the application of ‘Life Cycle Thinking’ when considering specifications during the design, specification and construction process to reduce the impact of buildings over their whole life.
- Minimising the use of materials with a hazardous content and promoting the use of materials which can improve the health of building users.
- Procuring all new timber and wood based products (for temporary and permanent use) from certified legal and sustainable sources. This includes Grown in Britain (GiB), Forest Stewardship Council (FSC), and Programme for the Endorsement of Forest Certification (PEFC). Chain of Custody evidence is required to confirm compliance.
- Insisting that our subcontractors have an Environmental Policy and work to BAM’s environmental procedures to ensure compliance with relevant environmental protection laws and regulations.
- Encouraging our supply chain to implement or to be working towards a UKAS accredited third-party certified Environmental Management System.
- Encouraging our supply chain to become active members of the Supply Chain Sustainability School.
- Supporting and giving preference to procuring products which are able to demonstrate compliance with a recognised responsible sourcing scheme, certified by a third party, such as BES 6001 or Cradle to Cradle.
- Supporting and giving preference to waste management contractors that hold PAS402 certification.
- Eliminating excessive packaging, with a particular focus on single-use plastics, without having a negative impact on the delivered goods.

2.3.4 Oil, Fuel and Liquid Chemical Storage

The storage of all BAM and Subcontractor oil containers with a capacity of 200ltrs or more will comply with the requirements of the Control of Pollution (Oil Storage) regulations as follows:

- Oil drums are to be stored on proprietary secondary containment systems that will contain 110% of the contents of the largest container, or 25% of the total, whichever is greater. These are to be protected so as to minimise the ingress of rainwater and secured against unauthorised discharge.
- All bulk storage tanks are to be integrally bunded proprietary tanks. The tanks are to be located within the compound area of the site, away from general traffic movements and surface water drains, and secured against unauthorised discharge.
- The filling of BAM bulk storage tanks will be supervised by authorised personnel who will be issued with a key to the bulk storage tanks for refuelling plant. When refuelling, the operator is to remain in attendance at all times.
- All personnel are to make themselves aware of the Site Incidence Response Plan (SIRP) (*bam/ep/construction/5.8)* which will be attached to all storage containers. The Site Manager is to be notified of all spillages, however minor.
- A spill kit will be available on site, at the location detailed on the SIRP.
- Oils and other chemicals, in containers with a capacity of less than 200ltrs, will be stored within a locked store on drip trays. Again, only authorised personnel will be issued with a key to this store.
- All personnel are to make themselves aware of the Site Incidence Response Plan (SIRP) (405-406) which will be displayed in a prominent position. The Project Sustainability Manager is to be notified of all spillages, however minor.
- At least one BAM specification spill kit will be available on site, at the location detailed on the SIRP.
- Although equipment (like a funnel) will be used to prevent drips, a plant nappy (or drip tray) will be available when refuelling plant and equipment on site to prevent contamination as a result of minor spills and drips.
- Subcontractor method statements will include the provision of spill kits for activities that could result in a spill, leak or hose burst.
- Oils and other chemicals, in containers with a capacity of less than 200ltrs, will be stored within a locked store on a secondary containment system. Only authorised personnel will be issued with a key to this store.
- Place containers of fuel smaller than 200 litres on plant nappies when in use on site. Return the containers to their secondary containment system when they are no longer needed, at least at the end of every day.
- Oil storage will be set up so that rainwater does not accumulate in impermeable drip trays / bunds
- If oil is stored outdoors and rainwater collects in drip trays or bunds, any oil from the water will be removed with an oil only absorbent pad. Used pads will be disposed of as hazardous waste. (There are also proprietary cleaning systems available for example the PIG® Outdoor Oily Water Filter Bucket).
- The location of Subcontractors' oil storage areas and procedures must be agreed with BAM Site Management prior to any deliveries. No storage will be permitted within an area designated as a Source Protection Zone, within 10m of a watercourse or within 50m of a well or borehole.
- All hazardous materials will be kept within a locked storage area.

2.3.5 Nuisance Prevention (Noise and dust) and Community Relations

The following measures will be implemented to reduce the noise and disturbance with the project and reduce nuisance to neighbours, and to ensure they have an appropriate amount of involvement with the project:

Best Practice Community Relations

BAM recognise the importance of maintaining adequate relationships with the local community through communication and engagement. We will maintain regular communication with the client so they can communicate with adjacent properties affected to ensure that they are kept well informed of construction works which may affect their amenity.

Kirklees Council will handle public communications and liaison, to which BAM will assist as and when required.

We will provide an external site noticeboard to portray information to a wider audience. This will include details of emergency contacts. This 'contact board' outside the site will identify key personnel (with contact addresses and telephone numbers), so that persons passing the sites know who to contact in the event of a concern or query.

The project will have a Social Media presence on X, formerly Twitter, managed by Kirklees Council Communications team. This will allow people affected by the site to have access to constant updates on progress and any matters that could affect them.

Neighbours with heightened sensitivity to Noise

All communications with the public and neighbours with sensitivity to noise are managed by Kirklees Council

BS5228-1;2009 (8.4) states that “Monitoring of noise at sites where noise is an issue should be regarded as essential”.

In order to comply with this BAM have commissioned SRL as acoustic consultants for the project. They will carry noise and vibration assessment as appropriate. This CEMP is written on the basis that we will comply with the contents of the “SRL noise and vibration assessment”. The assessment will as a minimum provide details on construction activities, there anticipated noise levels and the monitoring employed in order to measure compliance with the forecast levels.

Considerate Constructors Scheme

The Considerate Constructors Scheme (CCS) is a national initiative, set up by the construction industry, to improve its image. The site will be independently monitored to assess our performance against the five point Code of Considerate Practice which includes the categories Appearance, Community, Environment, Safety and Workforce.

Site Working Hours

Our planned working hours are:

- 07.30 to 18.30 hours Mondays to Fridays.
- 08.00 to 13.00 hours, Saturdays; and
- No noisy construction related activities at any time on Sundays and Public Holidays.

Deliveries to the construction site will be within these times.

The Local Authority will be informed of all upcoming activities that may impact on the local community.

Complaints Procedure

A Complaints, Compliments and Comments register will be held on site for the duration of the project using BAM form BAM/EP/Construction/5.20 (extract below). On receipt of a complaint the Project Manager will take the immediate appropriate action and respond to the person who raised the compliant by the end of next working day. All complaints are recorded in the register and details of the actions taken; the register will always be available for viewing.

bam

Appendix 2

Compliments, Comments and Complaints Register

Site: _____ Contract No.: _____

No.	Date	Time	Manager accepting complaint	Name of complainant	Address and telephone number of complainant	Details of complaint (Written/Telephone/Verbal, in person)	Details of action taken	Closed Out? Yes/No

Nuisance Prevention

We will manage any noise, dust, vibration activities **associated with the construction phase** in a proactive way with the following control measures:

- All plant and machinery will be switched off when not in use.
- All construction traffic including deliveries to site and the removal of plant from site will only take place during these site working hours listed above
- Minimise cutting and grinding and use wet cutting when it is unavoidable.
- Mobile plant such as compressors shall have sound reducing features and efficient silencers. All covers and side panels shall be closed when the plant is in operation.
- All noise generating equipment shall be sited as far as is practical away from site boundaries, where practical.
- Any pneumatic tools shall be fitted with integral silencers or purpose made mufflers and shall all be in good repair.
- All plant and machinery will be switched off when not in use. Motor housing doors shall be kept shut when plant is being operated. No mechanical plant will be operated overnight.
- We have requested that all delivery vehicles and plant have white noise reversing alarms rather than the “beeping” type

Preventing mud on the roads

A jet washing station will be positioned at each site gate to ensure that prior to leaving site, all mud is removed from wheels. A road sweeper will compliment this to keep all roadways on and adjacent to the site clear of mud and debris as required. We will endeavour to retain material on site as much as possible preventing the need for removal. The site already has a concrete finish which provides a clean run-off area for vehicles prior to exiting the site.

Site haul roads will be well constructed of clean stone to prevent the carrying of deleterious material onto adjacent roads and will be regularly swept to keep dust to a minimum. Vehicles will not be permitted to leave site until they have been suitably cleaned.

Site Access/Egress

All vehicles entering and leaving the site will be controlled by a dedicated BAM construction Gateperson.

Appropriate safety/warning signage will be placed to warn and direct persons accessing or passing the site of the dedicated site entrance – signage will also be placed in advance of the entrance to ensure delivery vehicles are directed to this primary construction entrance.

All deliveries to follow BAM Traffic management Plan.

Construction Compound and Site lighting

We will ensure artificial lighting is appropriately positioned by ensuring any floodlights are angled downwards and the lighting design for the construction site ensures that lights do not shine directly into adjacent properties. All lighting, except emergency egress lighting will be controlled with timers to ensure that the flood lighting is turned off when not required after site hours, except for localised areas to provide safe access by security personnel.

2.3.6 BAM Dust and Emissions Control Methods

Dust and Emissions from construction activities can be substantially reduced through various mitigation methods and careful site management. The most effective technique is to control dust is at source, as once particles are airborne it becomes more difficult to prevent them from spreading. However, once airborne, water sprays are the most effective method for suppression.

Measures will be introduced to measure and monitor emissions of dust during construction.

The communications plan is as stated above in section 2.3.5 Nuisance Prevention (Noise and dust) and Community Relations

Below is a list of preventative measures that **will be** put in place on this project:

Haul routes

1. Select suitable haul routes away from sensitive sites if possible (this is in the area of the Public Events Square). The compound area already has a good concrete base that we will utilise.
2. Pave heavily used areas or use geotextiles (this is in the area of the Public Events Square).
3. Provide a length of paved road before exit from site
4. 4. Keep haul road widths to a minimum, while still allowing 2-way traffic, to minimise surface area
5. Sweep paved access roads and public roads regularly
6. Limit vehicle speeds – the slower the vehicle the less dust generation
7. Damp down where appropriate

Plant

1. Clean wheels of vehicles leaving the site to prevent mud spreading to surrounding roads
2. Ensure that exhausts do not discharge directly to the ground
3. Complete earthworks as soon as possible
4. Keep earthworks damp – try to programme to avoid exceptionally dry weather
5. Use well maintained plant and equipment

Material handling and storage

1. Locate stockpiles out of the wind or provide wind breaks to minimise dust generation
2. Keep stockpiles to minimum practicable height and use gentle slopes
3. Compact and bind stockpile surfaces
4. Minimise the storage time of materials on site
5. Store materials away from the site boundary and downwind of sensitive areas
6. Ensure that all dust generating material is transported to and from site in covered wagons
7. Minimise the height of fall of all materials
8. Avoid spillage, and clean any spill up as soon as possible
9. Damp down materials where necessary

Cutting/grinding/grouting/packing

1. Minimise cutting and grinding on site. Whilst this also applies to the demolition works, due to the nature of demolition it is not always possible, therefore see below.
2. On cutters and saws, use equipment and techniques such as dust extractors to minimise dust
3. Spray water during cutting of concrete and masonry products to minimise dust

Measures specific to demolition

1. During the demolition works that are to the external of the building two water cannons will be used to prevent air borne dust.
2. Water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site.
3. Dry sweeping will not be undertaken
4. Vehicles entering and leaving sites are covered to prevent escape of materials during transport.
5. Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.

Within the BAM procedures there is a list for guidance to all site managers and operatives of further measures that will be implemented should the above measures not be adequately effective in reducing the dust and emissions so that the required levels of dust and emissions are met.

Refer to Tool Box Talk on the subject of DUST CONTROL within the Appendix Section 6

2.3.7 Water Pollution prevention Measures

The following measures are to be put in place to ensure there are no pollution incidents:

- Oil and liquid chemicals are to be stored and handled as described in 3.4.5.
- A Site Incident Response Plan will be produced where quantities exceed 200ltrs.
- All static plant must have drip trays. Drip trays are to be placed under mobile plant when parked up at the end of the shift. All leaks are to be reported for immediate action.
- No waste water is to be pumped to any Controlled Waters or Surface Water Drains without formal consent obtained. Clean surface water run-off will be directed within the confines of the site and not permitted to discharge to adjacent watercourse.
- A trade effluent consent will be obtained from local sewerage provider to utilise the existing foul system to discharge of treated concrete washout waters from the construction activities.
- An impervious concrete wash out area, consisting of a polythene lined wash out skip, is to be constructed at the exit to the site. This is the area where concrete wagons are permitted to wash out. The resulting waste water will be allowed to evaporate wherever possible.

2.3.8 Other Environmental Controls

In addition to the above controls the following will be implemented on this site:

- No burning on site during demolition, construction or site preparation works.
- Asbestos surveys have been carried out and all Asbestos will be removed prior to any follow on works.
- If any suspected contaminated ground is encountered during the works, this is to be reported to the site management.

2.3.9 Training

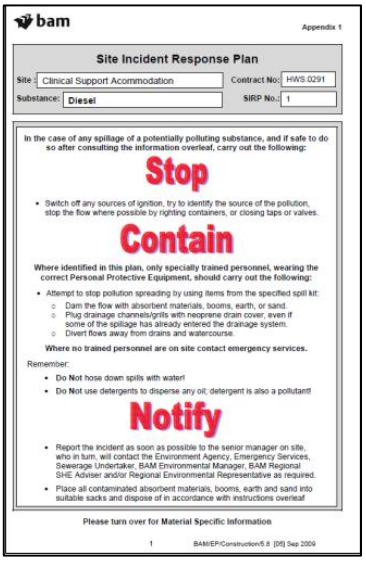
The following measures will be employed to ensure the Environmental Aspects and Controls are communicated to the relevant site personnel.

- Control measures noted above, along with details of the Resource Management Plan will be communicated to all Site Operatives at their initial Site Induction.
- An Environmental Notice Board in the site canteen will contain the following information:
    - □ BAM Environmental Policy Statement.
    - □ Project Management Plan (Environmental Management)
    - □ The latest revision of the Resource Management Plan (RMP)
    - □ Your Environment Posters.
    - □ The latest relevant BAM Environmental Bulletin.
    - □ Site Incident Response Plan (SIRP) for oil.
    - □ Toolbox talks and/or other information relevant to the project.
    - □ Environmental Case Study
    - □ Quarterly Considerate Constructors Scheme report

- Environmental Toolbox Talks relevant to site activities will be conducted and recorded once per month, and specific to the project environment and trades on site, example tool box talks below:

2.3.10 Emergency Procedures

A Site Incident Response Plan (*bam/ep/construction/5.8)* is to be displayed at all storage locations where 200 litres or more of a possibly polluting substance is to be stored. An example of this form is extracted below:



3. Resource Management Plan (RMP) – separate document

The Resource Management Plan (RMP) has been produced to ensure that resource efficiency measures have been taken and that all waste from this site is to be managed appropriately and dealt with in accordance with Section 34 of the Environmental Protection Act 1990 (Waste Duty of Care) and the Environmental Protection (Duty of Care) Regulations

The Resource Management Plan (RMP) complies with the requirements of the Site Waste Management Plan Regulations.

4. Temporary Surface Water Drainage

Temporary Surface Water Drainage will be in accordance with BAM Water Pollution Prevention Procedures.

4.1 Why does this process matter?

Environment agencies can track pollutants back to their source and take enforcement action against the polluter. In addition to the costs associated with fines and clean-up, the impact of a pollution incident would have a significant impact on our reputation and ability to win future work.

Pollutants such as oil are extremely toxic to aquatic life, and silty water is also harmful to creatures and plants.

A site does not need to be next to a river or stream to cause a pollution incident - any pollutant that seeps into ground or gets into a surface water drain can end up in controlled waters miles away. Controlled waters include all groundwater below the water table, and all surface waters such as rivers, lakes, lochs, reservoirs, ponds, streams, canals, ditches, coastal waters and estuaries.

4.2 Drainage on site

We are aware of the locations of all existing drains and sewers in and around site and where they lead. When connecting a discharge to a drain or sewer we always check we are connecting to the correct system. Consideration will be given to colour coding the drainage grills and manhole covers on site to help identify where any discharge or spillage will end up. Surface water drains should be coloured blue, foul drains should be coloured red. If settlement tanks are required the size will need to be designed and the positioning considered.

4.3 Discharges to land

This would only be allowed if approval from the environment agency and the landowner was given, we can slowly pump uncontaminated silty water onto adjoining grassland (small areas within the site compound). As an alternative, we may be allowed to dig soakaways and pump silty water into these.

These methods are by far the best option for silty wastewater pumped from excavations, as it will not reduce the overall water table of the surrounding area. The vegetation and soil structure act as a filter system, trapping the silty particles contained within the water as it percolates through the soil. Prevent any silty water from entering controlled waters or surface water drains, or onto any land designated as a Site of Special Scientific Interest (SSSI).

Carefully consider the discharge location for silty water because the water may affect the condition of the surrounding ground.

Specifically on the Our Cultural Heart scheme we intend to remove the majority of rainwater outlets and down pipes during the demolition phase but will be leaving the existing drainage system in place, removing then in conjunction with the new drainage scheme. Therefore the existing drainage scheme can be used to discharge any unsilted and uncontaminated surface water drainage.

5. Biodiversity

What are we doing at BAM?

Recognising the importance of nature, biodiversity is a core segment of our sustainability strategy. Our roadmap includes:

- Measuring our impacts on biodiversity
- Developing a Library of Solutions
- Offering biodiversity-enhancing solutions in tenders
- Achieving a positive biodiversity impact

We'll soon be launching BAM Biodiversity+, our new approach to baselining our biodiversity performance. It presents about 100 measures of biodiversity improvement initiatives to help us reach our target of being biodiversity-positive as an organisation by 2030.

A biodiversity-positive tomorrow with BAM Biodiversity+

Biodiversity is the variety of life on Earth, and it supports us by providing the food we eat and the air we breathe. But continued abuse and control of nature has caused significant damage to the natural world, and biodiversity loss has become a major threat to our civilisation.

We recognise the importance of biodiversity in BAM, including it as a core component in our sustainability strategy. But we want to do more. And that’s where BAM Biodiversity+ comes in.

5.1 Protected species, nesting birds etc

Ecology Surveys have identified no protected species or nesting birds and indeed that this would be unlikely within the existing enclosed building.

Therefore it is not envisaged that any species or nesting birds will be disturbed.

Should any nesting of birds occur during the works then a Risk assessment will be produced in conjunction with the projects Ecologist to demonstrate how they will be suitably protected.

Immediately prior to the commencement of the Main Demolition to the external structure of the building our appointed Ecologist will visit site and check all potential nesting habitat, any measures following this that are required would be implemented to prevent damage or destruction of nests whilst in use.

The possible introduction of Swift Boxes has been considered, albeit this mainly refers to the further Phases of the Scheme that are not covered by this CEMP.

If required, additional swift boxes will be located on other buildings within the site and the locations

will be confirmed following future Ecologist visits. Boxes will be installed on or close to roofs, at least 5m from the ground on a sheltered side of the building. Free access below the entrance hole for birds entering or leaving the box will be ensured. As swifts' nest in colonies, several boxes will be sited together to encourage occupancy

The Ecology Report states the following in relation to Bats:

The buildings on site provide negligible suitability for bats. The buildings are constructed of mixed materials including plastic or metal facias, concrete and glass, which are sub-optimal for bat roosts. Numerous buildings have flat roofs, further limiting opportunities for roosting bats. No potential roost features were recorded.
The trees on site are juvenile to semi-mature, and lack the features associated with mature or veteran trees that could support roosting bats e.g. rot holes or peeling bark. The trees on site were therefore assessed to provide negligible suitability for bats.

5.2 Biodiversity protection zones

No "biodiversity protection zones" are envisaged following the Ecology survey carried out.

Should any be deemed necessary as the work proceeded then a risk assessment will be carried out by our appointed Ecologist. This will then cover the following areas:

- Practical measures (both physical measures and sensitive working practices) to avoid or reduce impacts during construction (may be provided as a set of method statements)
- The location and timing of sensitive works to avoid harm to biodiversity features
- Responsible persons and lines of communication
- Use of protective fences, exclusion barriers and warning signs, where appropriate.

At times during construction when specialist ecologists need to be present on site to oversee works, where appropriate, this will arranged in advance and any findings recorded. Action being taken as then deemed necessary to ensure the works have no detrimental effect on Biodiversity of the scheme or any identified protection zones.

6. Appendix – Example of relevant Toolbox Talks to be used on the project

Dust
Silt
Waste
Fuel and Oil
Oils, Fuels and Chemical use
Demolition
Birds

TOOLBOX TALK PRESENTER'S SCRIPT: DUST CONTROL

TBT-OCH-002 Rev 01 | CONSTRUCTION | JULY 2020 | NATIONAL

Dust Control

1 – Set the scene / environment

You are about to present this toolbox talk to a group of operatives on your BAM project. Here are some things to remember to ensure you set the scene and create an environment conducive for learning:

- Choose a quiet location, away from noise and distractions.... how about the site canteen during a quiet period?
- Invite a maximum of 10-12 operatives. If you have more operatives working for your team, you may need to give this toolbox talk to two different groups
- How about bringing some props to the toolbox talk? This toolbox talk is about dust. Can you bring some common materials which create dust, such as bricks or timber?

2 – Welcome

Welcome everyone and thank them for making time to attend the toolbox talk today.

Ask that everyone turn's their phones onto silent or vibrate. If they need to take a call, ask if they can step outside.

Encourage everyone to participate and explain that this is a discussion and an opportunity for everyone to learn. Ask that everyone listens to each other and is respectful of each other's opinions.

3 – Overview of dust

Firstly ask: **Can you explain exactly what dust is?**

Pause here. Give people the chance to answer

Some suggestions may have been made, some may be correct, and some maybe not. Whichever the case, now it's time to explain:

- Dust is a broad term for the fine particles produced when solid materials are broken down, for example during sanding or cutting.
- These particles of dust vary greatly in size and generally the smaller the particle the more dangerous it is.
- Dusts with a smaller particle size of less than 10 microns, are known as "Respirable dusts" and are most harmful as they can reach the lungs. (One micron = 1,000th of 1mm).
- Dusts with larger particles, known as "Inhalable dusts", are slightly less harmful as they will generally only reach the respiratory tract.
- Asbestos is often considered a type dust, however it is not. The particles produced when asbestos is disturbed are actually long microscopic fibres, whereas dust particles are generally rounder in shape.
- The HSE uses the term 'construction dust' to describe different dusts you might find on a construction site. There are 3 main types: silica dust, wood dust and other 'general' dust (eg gypsum in plasterboard, limestone, marble etc)

4 – Sources of dust

Now ask: **What sort of materials can create dust when they are cut, sanded or similarly worked with?**

Pause here. Give people the chance to answer

Some suggestions may have been made, some may be correct, and some maybe not. Whichever the case, now it's time to explain:

Many materials commonly encountered on site can give off dust when they are worked with. Some of the most common examples include:

- Bricks and blocks
- Concrete
- Wood
- Plaster
- Plasterboard
- Stone
- Crushed materials

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5 – Diseases

Now ask: **What sort of diseases can exposure to dust at work lead to?**

Pause here. Give people the chance to answer

Some suggestions may have been made, some may be correct, and some maybe not. Whichever the case, now it's time to explain:

Diseases caused by dust develop over long periods of time and in many cases can cause debilitating, life-long, and often fatal medical conditions including:

- Chronic Obstructive Pulmonary Disorder (COPD)
- Silicosis (caused by silica from bricks, concrete, stone etc)
- Lung cancer
- Various other respiratory cancers
- Pleural thickening
- Occupational asthma

6 – Protecting yourself

Now ask: **What is the best way to protect yourself from exposure to dust at work?**

Pause here. Give people the chance to answer

Whenever you undertake any work, including that which may expose you to dust, your employer must carry out a risk assessment and put in place control measures to protect you.

Some dusts are classed as hazardous substances under the COSHH regulations (eg silica dust, wood dust) so you may also be briefed on a COSHH assessment.

You must ensure that these control measures are adhered to whilst working.

Control measures should always follow a set hierarchy and may include options from one or more of the following:

1. The first consideration will be **Eliminating** the dust altogether, which is obviously the best way to deal with any hazard. This could be achieved by using pre-cut materials for example or, even better, having stuff arrive on site already assembled.
2. If the dust cannot be eliminated altogether, your employer may consider the next best option which is to **Substitute** the hazardous aspect(s) of the task for something less hazardous. For example, you may be required to use hand tools rather than power tools.
3. Where the risk level is still too high, your employer may decide to put in place **Engineering Controls**. This term is used to describe a wide range of physical control measures which can be implemented and could include on-tool extraction, cutting booths, local exhaust ventilation, water bottles or even signs and barriers.
4. Your employer may also choose to implement **Administrative Controls** to further help lower the level of risk. These could include anything from detailed systems of work (method statements), supervision or enhanced training for those doing the work.
5. If the level of risk is still deemed too high then the employer will need to implement the "last line of defence" control measure, which is **Personal Protective Equipment (PPE)**. However, PPE should always be considered a last resort and all reasonable steps should be taken to make the task itself safer.

Note to presenter: Where operatives are going to be using RPE, please ensure that relevant toolbox talk on RPE is given.

7 – Concerns

Now ask: **If you or someone else is being exposed to dust on site, who should you report it to?**

Pause here. Give people the chance to answer

Some suggestions may have been made, some may be correct, and some maybe not. Whichever the case, now its time to explain:

- Should you have any concerns about dust exposure on this site, report them to your Supervisor, or a BAM Manager immediately.

Toolbox talks: pollution prevention

PP6

Silt

What?

- silt is the term used for very fine sand, clay or other material carried by running water
- silt can be washed off construction sites into nearby watercourses and drains with the potential of causing blockages and leading to flooding
- the biggest cause of pollution incidents is construction operations
- pollution by silt can be caused by:
  - rainwater run-off from uncovered areas of the topsoil stripped site
  - pumping out and dewatering of excavations
  - cleaning of ditches and drains.

Why?

- **avoid environmental harm:** high levels of silt suspended in water can suffocate fish by blocking their gills, remove essential oxygen from the water, kill plants, animals and insects living in the water by stopping sunlight reaching them
- **avoid environmental harm:** silt often combines with other contaminants such as oils and chemicals potentially causing greater pollution than silt alone
- **avoid environmental harm:** silt running into drains carries the risk of blocking them and cause flooding and pollution

- **avoid prosecution:** it is illegal to allow silt to enter a watercourse or drain. Silt pollution is easily traceable to the site from where it originated. In the past it has been a major cause of prosecution.

Questions

1. What activities on this project could generate silt?
2. What causes silt to leave the site?
3. Where are the suitable discharge locations at this site?
4. Where does surface discharge on this site go to?

Do

- ✓ only discharge silty water into designated settlement systems
- ✓ check the site drainage and settlement systems are working – discolouration may indicate high pollution loading
- ✓ stop pumping and contact a line manager if there is a problem arising
- ✓ ensure that all hardstandings are kept clean – notify a line manager if an area is silty or is covered in mud
- ✓ notify a line manager immediately if silty water is seen entering a watercourse or drain. Do try to stop it or divert it away by, for example, using sand bags
- ✓ consider installing cut-off trenches or silt fences to prevent silty surface runoff
- ✓ monitor weather forecasts and plan work accordingly
- ✓ regularly check watercourses that could be affected by dewatering operations or rainwater runoff
- ✓ ensure drain cleaning operations have systems in place to intercept polluted water.

Don't

- ✗ dewater any excavation without getting permission from a line manager
- ✗ pump silty water directly into rivers, ditches or surface water drains
- ✗ strip land of vegetation unless it is absolutely necessary – vegetation reduces silt runoff
- ✗ store soil, stone or similar materials within 10 m of watercourses or drains
- ✗ dig a grip to release ponded water to a watercourse or drain.

With thanks to the organisations that supported the development of these Toolbox talks
Date issued: January 2016

Toolbox Talk – Climate change
Waste

What do you think are the biggest impacts of waste on the planet?

- Filling up landfill
- The wastage of perfectly good materials/products, so the energy and raw materials that have gone into the making, moving and forming of the products have been wasted too.
- Vehicle emissions from the transportation of waste
- Materials are limited, so wasting them means they may be harder to get hold of in the future.

Why do you think these impacts are such an issue?

- **Landfills release harmful greenhouse gases and produce leachate**. Greenhouse gases contribute to climate change and leachate can pollute groundwater and land if not properly controlled. Landfills require ongoing maintenance for decades after closing, and space to make new landfills is also running out – this means that landfill is becoming a costly way of managing waste.
- **The construction and operation of buildings consumes 60% of materials produced globally, yet 10-15% of materials purchased are wasted during the construction of a building.** The energy and raw materials that have gone into making these wasted products is lost, but you have also paid for products that you haven't used and have to pay for their disposal.
- **Emissions from waste lorries contribute harmful gases into the atmosphere.** These not only contribute to climate change but can reduce air quality too, with air pollution from fossil fuels linked to one in five deaths globally.
- **Raw materials are limited, so relying on the linear system of take → make → dispose, increases risks in price and supply disruption.**

What could we do right now to make a difference?

- **Set up a material reuse area**
- **Don't over order materials**
- **Use a packaging bailer to reduce the volume of waste**
- **Segregate skips so a better recycling rate can be achieved**
- **Send materials/pallets/packaging back for reuse**

Do you do anything at home to reduce your waste?

- **Buy products that aren't packaged or are made from recyclable or minimal packaging. You can buy toilet roll and kitchen roll in paper packaging or go back to having a milk round in glass bottles.**
- **Use Freegle/Freecycle/Shpock/Facebook Marketplace/donate to charity to get rid of things that you don't need or won't use. Often you can get money for your unwanted products rather than having to pay for them to be disposed of.**
- **Shop at supermarkets that let you take your own containers**
- **Reuse plastic bags as many times as possible**
- **If you have the space, bulk buying items reduces the amount of packaging overall.**
- **Save leftovers for lunch, and get a reusable water bottle or coffee mug**
- **Use soap and shampoo bars rather than bottled products**

Toolbox talks: pollution prevention

PP4

Fuel and oil

What?

- poor storage, lack of care during refuelling, vandalism and poorly maintained plant can all result in spillage of fuel or oil.

Why?

- **avoid environmental harm:** even a small spillage of oil or fuel can cause damage to the environment and harm plants, animals, fish, and humans
- **avoid prosecution:** a spillage, even one caused by vandalism or during theft can result in a prosecution, a significant fine, and damage a company's reputation
- **reduce costs:** spillages will lead to clean up costs, which can be significant, often many times greater than any fine.

Questions

1 How far away from drains or watercourses should oils be stored?
2 What is the minimum capacity of a bund?
3 What should be done if there is a spillage?

Do

- ✓ ensure bulk fuel and oil storage tanks are bunded and that the bund has a capacity of 110 per cent of the tank
- ✓ store all containers of oil and fuel in a secure, bunded area
- ✓ regularly check tanks, containers and bunds for damage and leaks
- ✓ supervise all fuel and oil deliveries
- ✓ lock containers and tanks when not in use
- ✓ ensure a spill kit is provided adjacent to fuel storage and refuelling areas
- ✓ place a drip tray or absorbent mat under all static plant and mobile plant during fuelling
- ✓ clear up all minor spillages immediately
- ✓ use a funnel when refuelling small plant
- ✓ use an automatic shut off or pistol grip delivery system when refuelling plant
- ✓ seek advice from a line manager before disposing of waste fuel or oil, or contaminated spill granules or absorbent mats
- ✓ liaise with a line manager to organise removal of contaminated water from bunds and drip trays by an appropriate contractor.

Don't

- ✗ pour waste fuel and oil down drains
- ✗ wash fuel and oil spillages down drains
- ✗ store fuel and oil, or carry out refuelling, within 10 m of a watercourse or drain
- ✗ allow drip trays or bunds to overflow
- ✗ locate fuel and oil tanks/storage area near to vehicle routes
- ✗ leave a tank to fill unsupervised.

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Toolbox Talk – Climate change

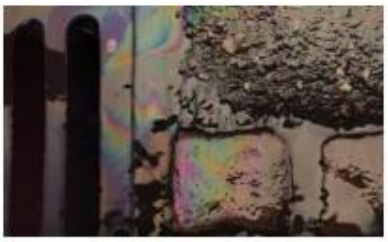
Oil, fuels and chemical use

What do you think are the biggest impacts of oil and chemical use in construction on the planet?

- Oils or chemicals being spilt into the environment
- The emissions from using hand tools and equipment
- The emissions associated with using fuel to power generators
- Simply the fact that these harmful chemicals are in use when alternatives might be available

Why do you think these impacts are such an issue?

- **As little as one litre of oil can contaminate one million litres of water.** Even though water feels abundant here in the UK, the majority of counties are defined as seriously water stressed, covering an area from the Midlands down to Kent and from Norfolk across to Wiltshire.
- **Air pollution from fossil fuels is linked to one in five deaths globally.** Using fuel powered equipment on site releases gases that are harmful to you when working on our sites, as well as our neighbours.
- **Using fuel for generators (even for small power generation) is 2000% worse than a green tariff electricity in terms of its carbon impact.** Climate change is happening, which is why early grid connection and battery powered plant and equipment is key to BAM's emission reduction strategy.
- **Harmful chemicals are by their very nature, harmful.** Although their use in general on sites is reducing, these chemicals can have harmful fumes, be harmful to wildlife or damage the ozone.



What could we do right now to make a difference?

- **Do not use small generators when battery powered hand-tools could be used instead**
- **Ask the suppliers of heavy plant and equipment what their plans are to electrify equipment**
- **Ask suppliers if their equipment can run on Hydro treated Vegetable Oil (HVO)**
- **Review specifications to eliminate harmful chemicals**

Do you do anything to limit fuel and chemical use at home?

- **Walk or bike if you can instead of taking a car**
- **Make your next car purchase an electric or ultra-low emission vehicle (like a hybrid)**
- **Use an electric mover, or if you have a small garden, try a hand push mower**
- **Buy non-toxic cleaning products or make your own cleaning products using natural ingredients. More and more brands and shops have their own eco range if you want ready-to-use products, or baking soda and vinegar are the staples of many home cleaning tips (and cheaper too).**
- **Try not to use artificial air fresheners – baking soda can absorb many odours, so try sprinkling some in bins, or leaving some in an open container in your fridge.**

Toolbox talks: waste

WAS2

Demolition

What?

- the demolition of buildings and structures can have a significant impact on the environment, so it is seen as high risk and must be effectively managed.

Why?

- **avoid environmental harm:** demolition has the potential to pollute the atmosphere and watercourses
- **avoid environmental harm and prosecution:** demolition can affect protected species (eg bats)
- **avoid prosecution:** it is illegal to mix different hazardous/special waste and to mix hazardous/special and non-hazardous waste
- **avoid prosecution:** without careful management demolition works can cause contaminated land
- **avoid prosecution:** manage asbestos to prevent release during demolition.

Questions

1. Has any asbestos feature been identified?
2. Has any protected species/plant been found on site?
3. What kind of waste will be generated?
4. What should be done during demolition?

Do

Before demolition:

- ✓ refer to surveys carried out on the structure(s) that highlighted presence of:
  - protected species (especially nesting birds)/plants (eg trees protected by a Tree Preservation Order [TPO]) – mitigation measures will need to be agreed with the local authority
  - asbestos and other hazardous materials
  - local listed buildings
- ✓ ensure that supplies to the building (water and gas) are disconnected and capped
- ✓ protect drains and watercourses from dust
- ✓ identify what waste will be generated by the demolition and ensure provision if made for each segregated waste stream
- ✓ notify a line manager if any unexpected materials requiring specialist management (eg asbestos) are encountered during demolition
- ✓ make provision to channel dust suppression waters into a lined receptacle for disposal off site or where it can be sampled before disposal to drainage system if clean.

During demolition

- ✓ where possible screen works to prevent spread of noise and dust and hose any vegetation to clear dust build up
- ✓ dampen down structures and channel any liquid to a containment area
- ✓ unless approved by local authority keep demolition activities within core working hours
- ✓ arrange 'rest periods' during which noisy activities are temporarily ceased
- ✓ if using a hydro-vac ensure that removal of sludge from site has the correct waste information or if disposed of on-site ensure that a settlement system is in place.

Don't

- × affect protected species/plants
- × touch any bats discovered, but immediately contact a line manager.

With thanks to the organisations that supported the development of these Toolbox talks
Date issued: January 2016

Toolbox talk: Birds

What are they and how do I recognise them?

- More than 400 bird species are regularly recorded in the UK. These consist of resident breeding species and migrants.
- Birds occur in both rural and urban areas, with many species adapted to living in bridges, buildings, houses and gardens.
- You may also find used and unused nests made of twigs, grass and moss, droppings and food pellets or food remains.

Where might I expect to find them?

- Species show different preferences as to where they nest. Most birds are more likely to nest in scrub or hedgerows than in trees. They also build nests in or on buildings, ledges, cliffs and on the ground, depending on the species.

When might I expect to find them?

- Birds in the UK typically build their nests and lay their eggs between March and the end of July. The peak months for breeding are May and June.
- Exceptions include the barn owl, which may breed for a longer period, and the collared dove and wood pigeon, which nest all year round.
- However, birds may be found breeding on a construction site at unexpected times of the year.

DO NOT CARRY OUT SCRUB CLEARANCE DURING THE NESTING SEASON!

What do I do if I find nesting birds?

All wild birds are protected by law throughout the UK when they are nesting. It is ILLEGAL to *kill, injure or take* any wild bird, or *damage or destroy the nest or eggs* of breeding birds. ***This includes commonly seen birds, such as blackbirds, robins etc***.

Certain bird species are specially protected making it also illegal to *disturb* these species while they are nesting.

If nesting birds are found on site, all works in that area will have to stop until the birds have completed breeding. Nesting sites should be inspected only by experienced ecologists. ***Works must not damage the nests of breeding birds or be conducted in the vicinity of the nests of specially protected species.***

PENALTIES

Breaking the law can lead to fines of up to £5000 *per offence* and, potentially, prison sentences of up to six months. Clearing scrub at the wrong time of year and thereby destroying a bird's nest with eggs can lead to prosecution. Any vehicle used to commit the offence may be forfeited. Both the company and/or individuals can be held liable.

Birds often move onto sites to nest on machinery or scaffolding and other temporary site structures. If this happens the equipment cannot be used until the birds have finished nesting, and areas may need to be sealed off to prevent disturbance.