



**Construction Phase Environmental
Management Plan (Extract of Project
Management Plan)**

Project No: **PV-WITH-001**
Rev No: 0
Rev Date: 22/06/23



Construction Phase Environmental Management Plan

(extract from Project Management Plan)

for

Withington Community Hospital – Community Diagnostics Centre

Project No. **PV-WITH-001**

Rev No: **01** Dated: **22/06/23**

Prepared by	<u>Paul Virdi – Project Manager</u>	Date	<u>22/06/23</u>
Approved by	<u>Rob Bailey – Construction Director</u>	Date	<u>22/06/23</u>

Internal Distribution	
The complete PMP (including this Construction Phase Environmental Plan) shall be distributed to the following: Project Team, Regional Safety Advisor, Regional Sustainability Representative, Sustainability Manager.	
External Distribution, e.g. Client, Subcontractors, Others (please specify)	
Issued to:	Date:
MFT	06/06/23
MFT	22/06/23

Subsequent revisions of this PMP will be distributed to all the above recipients.

Revision Record



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Rev	Date	Revision Details	Revised by
A	22/06/23	Minor updates in line with MFT comments, Temp Project Number added	S. Loftus

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Environmental Management

This excerpt of the Withington Hospital 2023 Development Project Management Plan considers and identifies the relevant Environmental Hazards (also known as Aspects) and Control measures to be put in place for the project duration.

1.1) Environmental Records

Details of the documents that will be held on site are listed below.

Please note, BAM SMaRT is BAMs in house management tool that is used for example to record quantities and type of waste, timber, water usage etc. This is an online portal and is managed by a dedicated Team Member under supervision of the Project Manager. BAM SMaRT is also regularly audited by Ruth Beavers, Regional Environmental, Compliance & Sustainability Manager to ensure full and accurate records are in place.

Additionally, BIM 360 is another online Collaboration Tool, utilised principally to administer Design and Field Install information on the project. Each BAM Team member, and Sub-contract Supervisor will all have live access to this portal / information in real time via iPads and Laptops to ensure issues are identified, actioned and recorded. BIM 360 is provided by Auto Desk ensuring stability of Platform with proper functionality and technical support available.

Environmental Records	Owner	BAM File Ref:
Project Management Plan	Paul Viridi (PM)	15
Resource Management Plan (RMP)	Paul Viridi (PM)	50-05 BAM SMaRT
Environmental Permit / Waste Management Licence / Exemptions, Carrier Registrations [off-site]	Paul Viridi (PM)	BAM SMaRT
Environnemental Permit / Exemption Certificate [on-site]	Paul Viridi (PM) / Sarah Allcock (SSM)	50-05
Waste Transfer Notes	Paul Viridi (PM) / Sarah Allcock (SSM)	BAM SMaRT
Street cleaning & septic tank duty of care information	Paul Viridi (PM) / Logistics Manager	50-05
Energy supply arrangements (type of supply, supplier, MPAN, MPRN, account number(s))	Building Services Manager	BAM SMaRT
Key Performance Indicator information (pollution incidents, energy use, mains water use, waste production, timber sustainability, environmental toolbox talks)	Sarah Allcock (SSM)	50-05 BAM SMaRT
Method Statements and Risk Assessments	Paul Viridi (PM)	50-10
COSHH Assessments	Sarah Allcock (SSM)	50-10
Site Incident Response Plans	Paul Viridi (PM) / Sarah Allcock (SSM)	50-05
Regional Sustainability Representative Visit Reports	Paul Viridi (PM) / Sarah Allcock (SSM)	BAM SMaRT/ BIM360 Field
Section 60 / 80 Notices	Paul Viridi (PM)	50-05
Section 61 Consents	Paul Viridi (PM)	50-05
Part B Authorisations	Paul Viridi (PM)	50-05
Trade Effluent Consent	N/A	50-05
Controlled Water Discharge Permit	N/A	50-05
Other Consents (Archaeological, Hedge Removal, Tree Removal, etc.)	Paul Viridi (PM)	50-05

BREEAM	Paul Viridi (PM) / Sarah Allcock (SSM)	60
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* PM denotes Project Manager, SSM denotes Senior Site Manager

1.2) Contractual Obligations

Insert any contractual, client, or planning authority environmental obligations, e.g. restricted working hours, BREEAM rating, timber chain of custody policy, etc. To be determined from MFT at Contract Agreement.

TARGET – TBC

1.3) Project Specific Environmental Aspects

List below is all anticipated environmental Aspects (areas that will impact on the environment) and will be further defined within the Environmental Pre-commencement checklist [bam/ep/construction/5.2](#).

- Client requirements
- Planning restrictions / requirements
- Sustainable material procurement (including timber)
- Waste management
- Resource use
- Nuisance
- Contaminated land – TBC upon completion of Surveys if applicable
- Earthworks
- Emergency procedures
- Hazardous chemicals (including fuel)
- Recycling waste on site (aggregates)
- Transport
- Local watercourses (including groundwater) – TBC upon completion of Surveys if applicable
- Water discharge / abstraction – TBC upon completion of Surveys if applicable
- Concrete
- Maintaining clean roads
- Training & Awareness

1.4) Project Specific Environmental Controls

Targets set out below are the BAM Construction minimum requirements on each project. Where more stringent targets have been set, e.g. through BREEAM, these will also be inserted / added.

1.4.1) Construction Targets

The project will measure its performance against the Environmental Targets for Construction KPIs (Key Performance Indicators). An example of the Targets to be employed are noted below.

1. The Project will register with the Considerate Constructors Scheme and target minimum score of 40 (*BREEAM exemplary level performance*) out of 50 with a minimum of 7 in each category.
2. Target zero pollution incidents across the entire site establishment, Construction and de-mobilisation period.
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 CO₂ emissions of 10,000kg /£1 million. (Final Target to be agreed at Contract Agreement)
4. Water use readings (in m³) from the meter installed at the entry point to the site are also to be recorded on BAM SMaRT.
- Target maximum water use of 50m³ /£1 million. (Final Target to be agreed at Contract Agreement)
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 of 105 m³ /£1 million. (Final Target to be agreed at Contract Agreement)
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. (Final Target to be agreed at Contract Agreement)
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.
9. The Project Environmental Management Plan and Resource Management Plan are to be reviewed on a quarterly basis.

1.4.2) Ecology, Archaeology, and Rights of Way

The following measures will be employed to protect the ecology on the site:

- Site management is to be notified if any suspected Protected Species or Archaeological remains are encountered. TBC upon completion of Surveys if applicable
- (*BREEAM statement for Land Use and Ecology Credits*) The nominated Biodiversity Champion is **Paul Virdi** who has the authority to direct and influence site activities and ensure that detrimental impacts on site biodiversity are minimised in line with the recommendations of a Suitably Qualified Ecologist (SQA). *A formal letter of appointment is to be saved as BREEAM Evidence.*
- If the trees are required to be removed during nesting season, an Ecologist is to be appointed to undertake survey prior to removal

1.4.3) 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.
- The project will support and give preference to procuring products which are able to demonstrate compliance with a recognised responsible sourcing scheme, certified by a third party. In particular:
 - 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 Forestry Certification Schemes (PEFC), or Grown in Britain (GiB) to ensure legality and sustainability. Where this is not possible the client will be informed and alternative timbers proposed.
 - Dimensional stone (including granite kerbs, roof slates, flag stones, wall and floor tiles) if specified, will be from suppliers that hold BES6001 certification for the specific product, or who are members of Stone Federation GB along with participation in the Ethical Trading Initiative (ETI Stone Group), the TFT Responsible Stone Program, or the United Nations Global Compact.
 - There will be a preference for procuring the following products with BES6001 certification: aggregates, asphalt, blocks, bricks, cementitious products, cladding, concrete, flooring, glass, gypsum products, insulation materials, kerbs, masonry products, mortar, paving, plasterboard, SLC, reinforcement bar, roof tiles, sand, screed, steel
- The project will procure materials and services as well as source labour locally when possible.

Waste Skips / Bins

There will be several skips required, Plasterboard recycle skip, Timber Recycle Skip, Concrete Washout Skip and General Skips. These will be located on site in an area shown on the BAM Logistics Layout. Note – position will be agreed with MFT Estates Team prior to commencement of works.

Additionally, the welfare will have bins for general waste, which will be adjacent to the Cabin Set Up, with minimum weekly collection (more frequent as required).

Also within the Welfare and Office areas there will be separate bins for Dry Mixed Recycling that are taken away and processed.

All waste is to be managed and removed from within the confines of the site hoarding.

1.4.4) 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 (bunded) 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 bundled 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 BAM Logistics Manager. Only authorised personnel 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/5.11](#)) which will be attached to all storage containers. The Logistics 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.

The location of Subcontractors' oil storage areas and procedures must be agreed with BAM Logistics Manager prior to any deliveries. No storage will be permitted within 10m of any stream or surface water drains. An Oil Storage Checklist ([bam/ep/construction/5.07 Appendix 1](#)) is to be completed for all oil storage locations.

1.4.5) Nuisance Prevention

In considering the potential for Nuisance due to Noise, consideration has been made against BS 5228-1:2009 + A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites. BS 5228 has been considered as guidance in establishing mitigation to generated noise levels.

For specific areas of the works, all Contractors will establish and review their anticipated Noise Production Levels and fully demonstrate, that their Task / Trade Specific Risk Assessments and associated Method Statements deal with and mitigate any excessive noise.

Baseline background Noise Level Surveys will be undertaken prior to the physical site works commencing at project outset. Ongoing Automated Noise Monitoring will take place with recorded results produced on equipment installed and maintained by IDOM (or other - professional monitoring engineers).

The following general measures are to be implemented to reduce the nuisance to neighbours, from the project. In addition, a more detailed assessment considering BS 5228 is given in table form below these general notes.

Please note, once Building Envelope is substantially enclosed and acting as a barrier to noise travelling from inside to outside the building, the Automated Noise and Dust Monitoring as provided by IDOM, will be withdrawn.

General Notes

- Physical Construction / Demolition works shall be confined to the following hours unless otherwise agreed in writing by the City Council's Environmental Health Service:
 - Monday – Friday: 8.00am – 6pm (Times to be agreed at Contract)
 - Saturday: 9.00am – 2pm (Times to be agreed at Contract)
 - Sunday / Bank holidays: No work (Times to be agreed at Contract)Site will open for Operatives to get ready etc, at 7.30am, however no noisy works will take place until after 8am. BAM have Automated Noise Monitoring equipment in place to monitor this.
The Local Authority's Environmental Health Officer will be kept informed of all upcoming major activities that may impact on the local residents.
- All foundation piles to be installed are CFA (Continuous Flight Auger). There are no 'Driven Piles' (installed with a hammer or impact method), and as such no significant vibration or impact noise will be generated. Vibration, Noise and Dust monitoring will be employed through the project works, with real time readings being taken, utilising monitoring equipment that is linked back to the project office.

- Banksmen with Jet Wash will be stationed at both vehicle exit gates (as shown on BAM Logistics Drawing). Jet wash will be used to hose off tyres before they leave the project hoarding confines, with trucks only allowed to leave once wheels and arches are clear of mud and debris. Road Sweepers will be employed around site perimeter in regular visits to ensure high standards are kept. The wash down area will be cleared by BAM Operatives and any mud and debris will be dealt with and removed – NOTE, this is for the Bulk Dig, Pile Install and Grade Slab Install phase of the works.

Site Neighbours, Complaints and keeping Neighbours informed.

A leaflet drop will be undertaken to all residents / business adjacent to the site, targeted as a minimum every 4 months. This leaflet will give details on the project, what the stage of construction is, and who any parties can contact should there be any issue. This will be done by means of an email address for the BAM Project Manager and Project Administrator, noted on the leaflet, along with notices on site entrance. If it is an urgent query, the leaflet will clearly state that if they require a response within 48 hours on a reasonable basis, they will receive a response from the BAM Project Manager or appointed deputy for holiday cover etc. A complaints register will be set up, using the form 405-411 recording all Neighbour Complaints Raised throughout the project.

Should the complaint concern MFT this will be shared with them.

Upon BAM responding to the complaint, should there be any further action required, or escalation to BAM Senior Management, this will be actioned by the Project Manager notifying the appropriate Directors etc.

BAM Project Manager for the scheme is Paul Verdi – pverdi@bam.com
Tel : 07766 724949

Specific Noise Control Considerations

Risk Area	Guidance Considered	Control Measure / Mitigation
Nuisance being caused by Noise affecting nearby Residents / Neighbours	BS 5228 – Section 4 – Community Relations	• Establish good relations with neighbours • 4 monthly newsletter to surrounding areas • Contact Details for Project Manager displayed at entrance • PM to be Public Liaison • All complaints to be recorded and answered within 48 hours.
Contractors / Operatives – Production of Noise	BS 5228 – Section 5.1 – Training	• Operatives to be sufficiently trained to undertake tasks safely and understand and consider Noise as a hazard. • Subcontractor RAMS to fully consider and demonstrate –

		• 1 – proper use & maintenance of tools – reporting • 2 – positioning of machinery on site where possible to minimise noise nuisance to operatives and neighbours • 3 – avoiding unnecessary noise when carrying out manual tasks or operating plant and equipment. • 4 – protection of all persons against noise • 5 – correct use of Sound Monitoring Equipment (designated personnel)
Contractors / Operatives – Noise induced hearing loss	BS 5228 – Section 5.2 & 5.3 – Protection from Noise Induced Hearing Loss	• Production and implementation of fully considered RAMS for task / activity. • Subcontractor RAMS to fully consider and demonstrate – • 1 – Management of and Reduction in Exposure time where applicable • 2 – Full and appropriate Hearing Protection PPE to be used as considered in RAMS • 3 – Consider location of works – e.g confined space, noise reflective surfaces etc • 4 – Appropriate screens and segregation for all, including those not involved in the task • 5 – Directional Noise from plant – attendant banksmen to be considered • 6 – Plant cabs to have appropriate Noise Reduction through Cab walls / screens / doors • 7 – Tools should be Sound Reduced where possible, and Operatives to have full appropriate PPE.
Contractors / Operatives – Noise Induced Stress	BS 5228 – Section 5.4 – Mitigation and Controls for Workforce	• Production and implementation of fully considered RAMS for task / activity • Subcontractor RAMS to fully consider and demonstrate – • 1 – Understand the impact of noise on the wider workforce, not those necessarily involved in the task – obtain feedback from Site Personnel on Noise levels • 2 – Have “Noise across site” as a heading in the daily co-ordination meetings, listen and act on concerns raised.

Neighbourhood Nuisance – Site Noise Levels impacting neighbours / nearby residents	BS 5228 – Section 6 – Disturbance to Neighbours	- Site to be set up by BAM to have clear and consistent site rules / procedures / controls in respect of noise (as noted within this wider section), however specifics to be considered 1 – Compliance with approved RAMS 2 – Competent Trained Operatives 3 – Deal with complaints objectively 4 – Site working hours to be followed for any noise generating works – do not deviate unless with prior MCC / EHO notification, or in Emergency Situation 5 – Ensure the project demonstrates that it is doing all it reasonably can to minimise noise in carrying out the works Baseline Noise levels will have been established prior to works starting.
Fully Considered Project Supervision / Management / Planning the works	BS 5228 – Section 7 – General Aspects	- All works to be planned and considered across the whole project programme giving due regard to reasonable mitigation means in carrying out noisy activities. 1 – Programme to allow sufficient time for activities to ensure they do not over run site hours, or produce a constrained environment meaning more persons are in direct vicinity than required. 2 – Early identification of Noisy Activities to be made, and where reasonably practicable, change these activities to more appropriate methods 3 – Identify High Level Noise Activities on Programme and ensure appropriate measures will be taken prior to RAMS approval and works commencing. 4 – Noise to be controlled at source where possible. 5 – Regular Noise monitoring to be undertaken, and records kept. Action to be taken if trigger levels are exceeded, with appropriate corrective measures / review of RAMS before works re-commence if required. Baseline Noise levels will have been established prior to works starting. 6 – Appropriate signage to be in place at site entrance, work areas, and all relevant locations clearly stating noise control / protection measures required.

Control and Management of Noise Generation and Reduction at Source	BS 5228 – Section 8.2.1 – Control of Noise at Source Generally -	- The following considerations need to be made by all contractors on the project. Demonstration through RAMS as required, and compliance achieved at all times – 1 – Avoid revving of engines / machinery. Start up plant sequentially. 2 – Ensure haul roads / gates are maintained to ensure reduction in repetitive impact noise from transit of loads 3 – Ensure all plant has appropriate sound reduction measures in place as applicable. 4 – Enclosures to be utilised as deemed required in RAMS. 5 – Machinery and Plant to be located as far as possible from sensitive noise receptors if practicable. 6 – Maintenance to tools, equipment and plant to be undertaken regularly. Ensure all acoustic covers are in good order and in place at all times.
Noise generated during Piling Works	BS 5228 – Section 8.5 – Piling Works Noise Control	- BAM have appointed a specialist competent piling contractor for this aspect of the works. Methodology and Plant to be used to be covered with RAMS to be submitted. RAMS to fully consider and demonstrate mitigation measures as applicable within Section 8.5 BS 5228 in addition to 1 – Piling install works to take place within the site working hours as noted 2 – RAMS to demonstrate the anticipated levels of noise that will be generated, and mitigation to direct attendant personnel, and wider affected persons as applicable. 3 – RAMS to cover and ensure adequate noise measurements are made, with records kept.

Dust / Waste / Storage Considerations

Dust and smoke generation will be mitigated by the following measures -

- Any waste stockpiles will be damped down by water sprays and sheeted if required.
- All rubbish skips will be exchanged on a regular basis and sheeted when required.
- Vehicles shall be sheeted to prevent loss of materials off site.

- Storage locations should be aggregated where practical to avoid the creation of many stockpiles, adequately screened to prevent wind loss and damped down where practical when being handled.
- Waste materials shall not be burnt on-site.
- Wastes must be placed in suitable containers prior to appropriate disposal.
- Prolonged storage of materials on site prior to use and/or disposal is to be avoided.
- A road sweeper will be employed to keep all roadways on and adjacent to the site clear of mud and debris through the Bulk Dig, Piling Install and Grade Slab installation phase.

Emissions / Exhaust Considerations

Nuisance from exhaust emissions will be mitigated by the following measures -

- Mobile plant should be located away from sensitive receptors near to the proposed development site.
- Lorries and plant with diesel engines on or off site should be well maintained in order to reduce emissions of visible smoke.
- Engines should not be left idling unnecessarily, and plant and vehicles must not be parked in a position that could give rise to nuisance from exhaust fumes

1.4.6) Water Pollution prevention Measures⁷

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 in line with approved RAMS and Storage Facilities.
- 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.
- Surface water (Rain Water) will be pumped to soakaway areas around the site (as building sits on a 400 - 600mm thick 6F5 granular stone piling mat) should there be excessive stormwater.
- No waste water is to be pumped to any Controlled Waters or to any Foul or Surface Water Drains until specific consent is in place from the NHS Trust Estates Management Team / UU as applicable.
- An impervious concrete wash out area, consisting of polythene lined skip is to be constructed at a convenient location. This is the only area where concrete wagons are permitted to wash out. The resulting waste water will be allowed to evaporate wherever possible. Where the concrete skip water needs to be disposed of, it will be tankered off site.

1.4.7) Other Control Measures⁸

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

- If any suspected contaminated ground is encountered during the works, this is to be reported to the site management.

1.4.8) 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.
Relevant 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.
Performance against, energy, water and waste targets
- Environmental Toolbox Talks relevant to site activities will be conducted once per month.
Ecology toolbox talks will be undertaken based on the findings and recommendations for protection of ecological features highlighted within the Suitably Qualified Ecologist's report.

1.4.9) Emergency Procedures

- A Site Incident Response Plan (*bam/ep/construction/5.11*) is to be displayed at all storage locations where 200 litres or more of a possibly polluting substance is to be stored.

1.5) Resource Management Plan

A Resource Management Plan (RMP), which complies with the requirements of the Site Waste Management Plan Regulations where they apply, will be drawn up, based on the template [*bam/em/construction/5.03 – Appendix 1.*](#)

The RMP will be produced to ensure that resource efficiency measures have been considered 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