

Construction Method Statement

The ISG logo consists of the letters 'ISG' in a white, sans-serif font, positioned on the right side of a solid black square.

Project name	Blackley Community fire station
Project address	Rochdale Rd, Manchester M9 7EQ
Client name	Greater Manchester Combined Authority

1. Project details

Brief description of project

The site is Blackley Fire Station, Rochdale Road, Manchester, M9 7EQ. The site includes the existing fire station building as well as the surrounding training yard and areas of bare ground and landscaping around the perimeter of the site.

The site has been an active fire station since the early 1960s. Historical aerial imagery indicates that the current site conditions have remained consistent since at least 2000.

This project comprises of the demolition of the existing three bay fire station including the removal of existing hard standings down to basement level, and the construction of a new Fire Station incorporating a single appliance bay, meeting, rest and welfare provisions.

Site operating times;

8am – 6pm Monday to Friday (Excluding Bank Holidays)

9am-2pm Saturday

Very little work will be carried out, outside these time parameters, however approval from the local authority will be sought for any potentially disruptive works.

1.2 Project programme dates

Planned commencement date.	27 th Nov 2023
Planned completion date.	8 th Jan 2025

2. Project team details and organisation

Professional team

Client	Greater Manchester Combined Authority
Name	Iain Gammack - Employers Agent & PM
Email	iain.ikg@gmail.com

Principal Designer	David Trowler Associates
Name	David Trowler
Email	jason.gould@wtpartnership.com

Contractor	ISG
Name	M Wilks
Email	Mick.wilks@isgltd.com

Architect	Bradshaw Gass and Hope
Name	Steve Thomas
Email	s.thomas@bghbolton.co.uk

M&E consultant	Harley Haddow
Name	Ian Chalk
Email	ian.chalk@harleyhaddow.com

Structural engineer	Bradshaw Gass And Hope
Name	Brendan Howarth
Email	B.Howarth@bghbolton.co.uk

4. Project Layout (access roads, walkways & traffic management plan).

A project layout plan marked up with traffic routes and key installations is produced and displayed – see **Appendix A**. It is regularly reviewed and forms part of the induction process. The layout will be well presented and easily understood by any person. If necessary, the information may be depicted on more than one layout.

The following Arrangements will be put in place and developed as the project moves on to control vehicle movement and interaction with public and pedestrians.

Safe routes for construction vehicle manoeuvring into and around the project have been considered and set out on the attached plan, the additional controls will also be in place for the duration of the build;

- A trained 'banksman'/gateman to manage vehicle movement in and around site.
- Vehicles will be driven into site via a dedicated vehicle gate, Loaded/unloaded within the compound area and driven off site via gates directly leading onto Rochdale rd.
- Vehicle Crossing the foot path will be for short durations, A Banksman to open and close footpath when delivery wagons are crossing. Foot path to predominantly remain open and clear of obstructions.
- Road Clean/Wheel wash provision on exit to keep roads clean during bulk excavation.
- All HGV movements will be planned and managed to avoid waiting outside of the site or within the residential estate nearby.
- Separate entrances will be set up for pedestrian and construction vehicle traffics to form Segregated routes in and around site protecting staff, operatives and the general public and visitors to the site. Safe pedestrian routes to and from work locations will be set up within the compound and site areas.
- Some of the existing trees to the site and will have to be felled or trimmed back to allow for the newbuilding or to minimize damage caused to them during the work.
- Materials will be off loaded on site and stored on suitable hard standing.
- Materials will be brought to site on a "just in time" basis.
- Plant parked on site will never be left running whilst unattended, during periods where the site will be closed all powered plant will be immobilized with security shutters fitted (if provided). The plant will be grouped and parked in a spot clearly visible off site so any potential thief vandals can be spotted by security of passer bye.
- Plant and vehicles will be switched off when stationary and not permitted to idle to reduce fumes and exhaust gasses on and around the site.
- Prior to commencement LA Highways Dept will be invited to carry out a joint dilapidation survey of the existing highways adjacent to the site access/egress.

5. Project security

The site will be fitted with 24/7 monitored CCTV with visiting guards to cover out of hours periods.
The perimeter of the site is secured with a combination of new and existing perimeter fence.
A Biometric access system/turn style will be utilized to restrict access on the main site area to prevent unauthorised access during site operating times
The local neighbourhood policing team will be consulted with prior to works progressing and notified of the site and associated activities.
EMG contact details – Dave Booth Tel 07740070701

Existing hazards / considerations / restrictions	Notes / controls
Adjacent buildings – schools offices, shops etc	The Area around site comprises mainly of residential properties, with a park and medical centre located further down Rochdale road.
Access restrictions	Deliveries will be managed and timed so as not to cause congestion or general nuisance on or around site.
Noise/Dust and vibration	Site will be constantly monitored from and environmental impact including noise assessments and vibration monitoring. See section 10
Excavations	Will be protected throughout the duration using fixed steel barriers to prevent unauthorised and accidental access to those involved in the work, visiting or trespassing on site.
Storage of materials (particularly hazardous materials) and work equipment	Fuel and chemicals will only be stored on site within plant or in bunded tanks with spill prevention/protection all of which will be locked off or secured when not in use.

6. Waste management

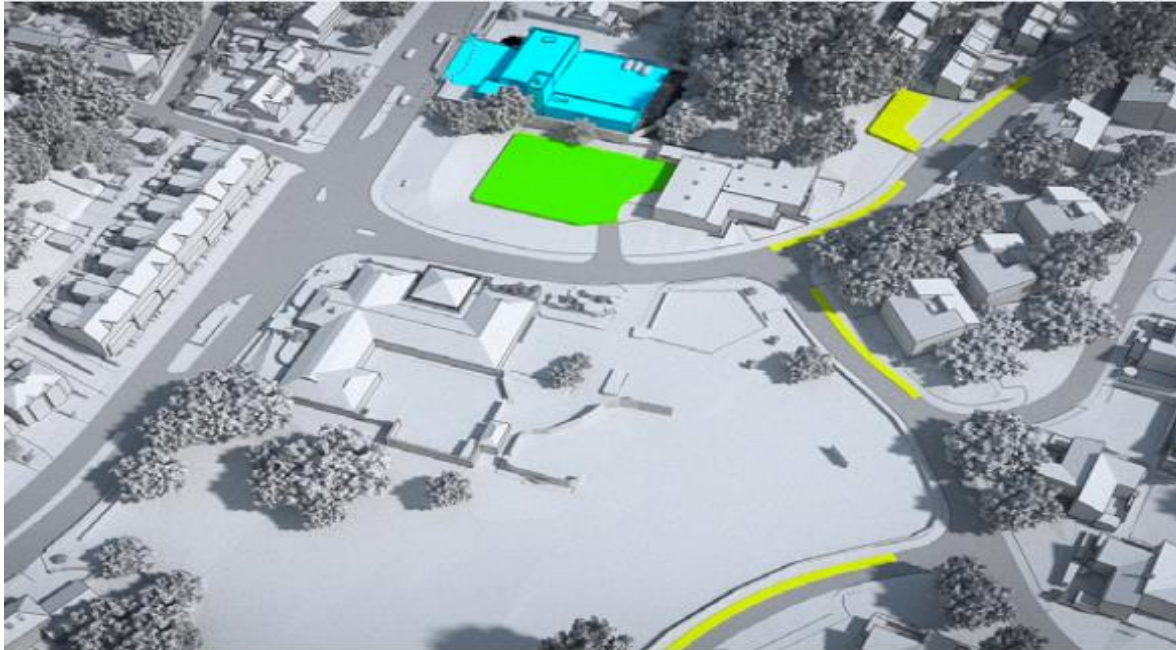
A site-specific Waste management plan will be developed for the project ensuring that all waste produced or held on a site is disposed of safely, efficiently and in accordance with the law. The plan will set out and manage.

- targeted waste streams for all construction activities.
- How waste will be handled both off and on site.
- Roles and responsibilities.
- Waste minimization.
- Project targets.
- Forecast.
- Record actual quantities produced.

Separated skips provided by a licenced waste handler will be utilized for part of the works segregating waste at source, with some skips being combined and segregated off site. Bulk excavated material will be loaded directly into wagons and carted off site utilizing a registered waste carrier and disposed of at a licenced Tip.

7. Parking

The site has limited opportunity for parking. The strategy for operative and visitors parking during this early stage will be to utilise on street parking along White Moss Road and Haverfield Road. Additional focus will also be on ensuring the use of the Dam Head Park is not impeded or additional highways risk are introduced. Use of the adjacent site will be investigated prior to commencement as an alternative to on street parking



8. Neighbourhood engagement

A community engagement plan will be developed for the project identifying key community group/Residential and neighbourhood groups. We will continue the engagement currently carried out by the existing facility in updating and keeping residents and local businesses informed of the project and any activates likely to impact on their day to day.

An open-door policy will be set up and encouraged throughout the lifetime of the project encouraging neighbours and local resident to contact the site directly. This will be reiterated via regular letter drops and social media updates. The site will also be registered with the considerate constructor scheme enabling an anonymous method of to raising complaints, this information will be distributed within the project newsletters issued to residents and via site signage and banners erected around the site perimeter. The newsletter will be sent out prior to the works commencing and on a monthly basis thereafter or sooner if required.

Within site inductions all staff and operative will be briefed on our expectation of their behaviour in and around the site via the project specific rules. Any operative to breach these rules or those who created nuisance or disruption around the site will be excluded from the project.

All complaints received either directly or indirectly – (via social media or CCS) will be recorded for the duration of the scheme.

Complaints in the first instance will be dealt with via the site teams, if the complaint persists or cannot be resolved by the site team, ISG's quality team will be brought in to take an overview of the situation and deal with any issue away from a site level.

Any complaints received will be responded to within 12 hours of receipt.

9. Monitoring and audit (health, safety, quality and environment)

9.1 On-site monitoring

The Nominated Manager **shall** ensure that performance is monitored on site on an on-going basis, through regular inspections of the site and works in progress, commensurate with the nature of the works and associated risks.

Safety / Environmental and Quality inspections will be undertaken on a fortnightly basis (approximately) by the company's HSQ&E Managers and scored inspection sheets prepared. Non-confirming activities will be addressed in a timely fashion.

The HSQ&E Manager's will visit and inspect the works at any time, either of their own volition or by request.

Throughout the duration of the project the site team will carry out regular sound level Monitoring at the site boundary to ensure that the works are not exceeding reasonable levels causing nuisance to the local residents, the result of which will be recorded and retained for the duration of the works.

Periodic audits to confirm the implementation of Health Safety, Quality and Environmental systems will be carried out in accordance with company procedures.

10. Environmental management

10.1 Environmental aspects and impacts

The site is located within its own grounds there are no water ways or areas of significant ecological value. Surveys have been carried out to establish the presence of endangered and protected species within or around the area and site and Suitable precautions will be implemented based on the results of these surveys.

Prior to any works being carried out to existing trees within the site boundary will be protected. As works within the ground are carried out in the vicinity of the trees a Arboriculturist will be present monitoring the works. It is planned that any felling or pruning of existing trees will be carried out 'outside' of the bird nesting season.

Dust

It is recognised that a key concern for the local community and the surrounding areas will be any disturbance to air quality caused by traffic generated during the construction stages.

A construction traffic management plan (CTMP) will be prepared and communicated to all parties, it lays out the traffic management principles for the project.

There are a number of site activities to be carried out that have the potential to generate substantial amounts of dust and debris. These include; demolition, disk cutting, concrete breakout, filling skips, reduced level digging and ground build up.

Non road mobile machinery (NRMM) requirements will be abided by where possible and best practice methodology put in place

In order to minimise the effect these activities will have on adjacent neighbours and the general public, a series of mitigation procedures shall be performed and real time noise and vibration monitoring will be carried out during the key phases of work.

To minimise the effects of any dust and debris generated on site the following control measures will be employed:

- Tarmac traffic routes to and from site as soon as possible
- Erect solid or Heras style barriers around specific work phase's
- Employ a road sweeper to maintain tarmac traffic routes around the site and also the incoming infrastructure of the site
- Provide a water bowser and hose to dampen down dust/debris during dry periods
- Ensure screens are fitted and used by all wagons delivering and removing debris such as stone and muck from site
- Jet wash the wheels of wagons leaving site when required
- Provide skips and bins that are adequately covered; this will prevent any lighter materials being picked up by prevailing winds and blowing away
- Ensure equipment is fitted with dust bags and water suppression where possible
- Bag or cover materials such as sand and cement
- Weigh down all light materials
- Dispose of waste materials immediately
- Record and immediately take action to mitigate any complaint's
- Damped down stockpiles of excavation arising's when necessary
- Monitor wind direction and strength; if there is a potential for blown dust and debris to be a problem, work suspended until measures are put in place to control the problem or the wind change's
- Damped down dust through the use of water mist generators, such as a Spray Cannons during demolition works.

The site will be regularly monitored by the site management team utilizing a dust monitoring station positioned at the site boundary adjacent to the nearest Residential property - 1060 Rochdale Road (as identified on the plan below ref MP1) and where exceedances are found to have occurred remedial action will be put in place, such as employing such techniques as damping down (i.e. using a spray hose to deliver a fine spray) of stockpiles and sheeting of lorries:

- identify the activity or activities causing the Action Level to be exceeded
- investigate whether the activities could be easily changed, or other simple actions can be taken to substantially reduce dust levels
- if simple and effective remedial measures are not identified, adopt alternative techniques and/or additional mitigation measures, until the problem is rectified.

Construction Noise & Vibration

Overview

The contractor shall take all due care and diligence to ensure work is carried out in accordance with Best Practicable Means at all times to minimise the transmission of noise and vibration to surrounding sensitive premises and the general public.

The quietest available equipment and methods will be used in conjunction with noise barriers and mitigation measures. The use of percussive breaking equipment shall be avoided where practicable, and methods of piling that minimise vibration impacts shall be used.

Appropriate noise and vibration limits have been set herein in accordance with BS 5228: 2009+A1: 2014 '*Code of practice for noise and vibration control on construction and open sites*'.

Identifying Key Phases of Work & Plant

Consideration will be given to noise and vibration at the pre-construction stage for all the various activities involved with delivering the buildings, we will take specialist contractor advice to ensure we minimise excessive noise and vibration, and as such we have identified the noisiest activities and their durations, and these are as follows: -

- Demolition & site prep - 4th December 2023 – 20th February 2024
- Piling - 20th February 2024 – 13th March 2024
- Super-structure framing - 26th April 2023 – 17th July 2024

The following table illustrates expected levels of noise from the various types of machinery to be used on this project: -

Plant Type	BS 5228 Reference	Sound Pressure Level L _{Aeq} (dB) at 10m
Cutters, drills, and small tools	C3.35	65
Pulveriser on Excavator	C1.4	76
Fork lift truck	C4.55	70
Lorries and vans	-	73
Mobile crane	C4.46	67
Mobile lorry mounted concrete pump	C4.30	79
Poker vibrator	C4.33	78
Ready mixed concrete lorry	C4.21	77
Concrete splitters/saws	C1.6	83
Scaffolding and hydraulic access platforms	C4.58	63
Tipper lorries	C2.32	74
Flatbed articulated vehicle	-	73
Large rigid lorries	-	75
Track mounted piling rigs	C3.15	82
Water pumps	C2.45	65

In order to minimise the effect these activities will have on adjacent neighbors and the general public, a series of mitigation procedures shall be performed and real time noise and vibration monitoring will be carried out during the key phases of work.

Noise & Vibration Mitigation Measures

The following steps will be carried out to minimise noise and vibration on site within Best Practicable Means (BPM), as defined in Section 72 of the Control of Pollution Act 1974 and Section 10 of BS 5228 part 1:

- Use methods and machinery and equipment that will have a lower vibration level impact.
- Deploy machines and equipment that has been recently serviced and will be routinely serviced during the project to minimise the amount of noise and vibration.
- Attitude of operatives to the making of noise to be addressed, to have an understanding that work activities have an effect on those around not just other operatives but also on residents and the public. This will be achieved through induction's, toolbox talks and daily activity briefings.
- Screens surrounding the concrete slabs and proprietary formwork wrapping the stair and lift core to minimise noise break out from concreting activities.
- Acoustic screens used to shield metal pipe cutting or concrete cutting activities on site.
- Cutting stations for cutting metal wall studs will be in suitably acoustically sheltered locations.
- All site operatives will be inducted on the potential impact on the surrounding community of site activities. This shall cover principles of BPM pertaining to all site activities, highlight any particularly sensitive or high impact activities and precautions to be taken.
- No shouting tolerated on-site.
- Stereos will not be permitted on site.
- All contractors/sub-contractors will demonstrate and undertake best working practices to avoid exceeding noise or vibration limits which have been agreed with Manchester City Council control limits.
- Sub-contractors shall highlight in their method statement and/or risk assessment any activities that will create significant noise and vibration levels. Sub-contractors will demonstrate how they will mitigate/ manage the emissions.
- All plant and equipment will be switched off when not in use, or where this is not practicable, throttled down to a minimum.
- Wherever practicable, all plant and equipment should be powered by mains electricity in preference to locally powered sources such as diesel generators.
- All compressors and generators shall be models fitted with properly lined and sealed acoustic covers or enclosures which remain closed when in use.

- Noisy plant or equipment should be sited as far away as possible from noise sensitive buildings. Wherever practicable, the use of barriers in the form of acoustic barriers or enclosures will be employed.
- All vehicles, plant and machinery used during operations shall be fitted with effective exhaust silencers and all parts of the machinery, plants and vehicles will be maintained in good working order and repair in accordance with the manufacturer's recommendations.
- Screening from existing features will be maximised or the use of full or partial enclosures will be employed for fixed plant. Fixed or semi-static plant will be located and orientated away from noise sensitive receptors where feasible to do so.
- Identification and use of low noise and vibration techniques. Where construction plant which is known to generate significant levels of noise and vibration then it will be used with consideration, and the construction process closely monitored to minimise noise and vibration impacts on and off the site. NB: Bottom driven steel piling rigs shall be used, as opposed to top driven, which reduces both plant size and the noise/vibration levels.
- Vibratory compaction equipment will be used in a mode which minimises the incident vibration at nearby residential and other sensitive properties. Consideration will be given to engaging concentric weights only when running at speed to avoid run up, run down resonances, the use of smaller equipment, or turning off the mechanical vibration on vibratory rollers and undertaking more passes for areas where there is a particular risk that disruption may occur at neighboring properties.
- Noisy works will be controlled utilising the hierarchy of risk control and measured using noise monitoring equipment to ensure safe levels are not compromised and noisy work hours are not breached. In all noisy work cases substitution of equipment for machines or processes which reduce the noise levels to acceptable levels and therefore minimise the impact on both site personnel and the general public. Where this is not possible engineering controls will be employed utilising such control measures as baffles and 'noise screens'.
- All fabrication and cutting of steelwork (where practical) shall take place off-site. Reinforcing bars would normally be cut to the required lengths and shapes prior to site delivery to minimise any necessary site trimming. Should site cropping of rebar be necessary then hydraulic pneumatic shears will be used where possible, to minimise use of 'noisy' angle grinders.

Community Liaison & Complaints Protocol

Neighbours shall be kept well informed before and during the construction phase through various means:

- A member of the site team will be designated as the Project Community Liaison Manager responsible as a single-point contact to ensure good neighbour relations.
- A regular residents' meeting will 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.

- Newsletters will be widely distributed to identify completed works and focus on forthcoming activities to give neighbours early notice of such works. Information displays in prominent locations will contain various project-specific information.
- A 24-hour emergency contact number will be established to allow concerns to be raised, these will be actively dealt with by the Project Community Liaison Manager until the issue is resolved, the initial response time to concerns being raised is agreed at 12 hours as per the requirements of Manchester City Council.

Note: The site will be registered under the Considerate Constructors Scheme.

Monitoring of Noise & Vibration Levels

The critical construction activities have been identified, as follows: -

- | | | |
|---------------------------|---|--|
| • Demolition & site prep | - | 4 th December 2023 – 20 th February 2024 |
| • Piling | - | 20 th February 2024 – 13 th March 2024 |
| • Super-structure framing | - | 26 th April 2023 – 17 th July 2024 |

We would propose to carry out week-long environmental noise and vibration monitoring at the beginning of each of these phases of work. The monitoring shall be carried out at the site boundary by the nearest noise sensitive residential property: **1060 Rochdale Road** (as indicated below, ref. MP1).



The monitoring will capture hourly dB L_{Aeq} noise levels and PPV (mm/s) vibration levels continuously throughout a full one-week period at the beginning of each of the above three phases of work.

At the end of each survey, the results will be quickly analysed and the risks of exceeding the pre-agreed noise/vibration limits shall be evaluated to the following protocol.

1. If the verification survey deems that activities fall comfortably below the pre-agreed limits, risks of adverse impact would be deemed low, and the works can continue without the need for noise/vibration monitoring for the remainder of that work phase.
2. If the verification survey deems that activities are below the pre-agreed limits, but only by a margin that may suggest that, on certain days/times, the limits could be reached or exceeded, then monitoring would continue for another week. If after this week, the levels remain consistently below the limits with a reasonable margin, risks of adverse impact would be deemed low, and the works can continue without the need for noise/vibration monitoring for the remainder of that work phase.
3. If, however, the verification survey(s) deems that activities have reached or exceeded the pre-agreed limits, then continuous noise and vibration monitoring shall continue for the remainder of that work phase. At this stage, equipment shall be programmed with text/email alerts to warn site operatives when limits are being approached/exceedance, as described below.

In the event of scenario 3 occurring, the monitoring equipment will be programmed to transfer data via cellular connection to an FTP to allow for daily/weekly reports to be produced upon request. Alert trigger levels shall be set up that will ensure the equipment sends an email/text alert to site operatives when limits are being approached/exceeded.

Class 1 equipment will be used in compliance with relevant British Standards (Noise and Vibration).

Noise Level Limits

Noise trigger levels will be set at the following (based on the guidance in BS5228-1, E.3.2), which shall be achieved at 1m from the façade of the nearest dwellings.

- **75 dB L_{Aeq} (10 h)** Monday to Friday working day (08:00-18:00)
- **75 dB L_{Aeq} (6 h)** Saturday working day (08:00 – 14:00)

Noise triggers may be adjusted according to the mounting locations as it may not be practical or reasonably possible to mount the noise monitor onto the receptor's façade. If noise measurements are to be taken at the site boundary, the noise limits will be recalculated according to account for the noise reduction over distance to the receptor's façade from the site boundary. This will be calculated in accordance with BS 5228-1 for distance loss.

In the event of scenario 3 monitoring being required, the equipment will have the calculated trigger level set for working 1-hour periods. The 1-hour alert is intended to inform the construction management of potential issues onsite. The intent is that measures can be taken to reduce the noise activities such that the working period average is not breached.

Following receipt of an alert, the response procedure will be followed as soon as is reasonably practical. The Project Manager will be informed of the breach and the following action will be taken.

- Cease all works likely to be causing any potential noise or vibration.
- Determine the activities / plant that is responsible for the exceedances.
- Ascertain if there are any practicable means of reducing the measured levels including alternative working techniques.

- Determine whether this reduction can be practically employed and if so, the measures will be implemented.

Vibration Level Limits

Vibration will be monitored by real-time, cellular connected vibration monitors and will measure and conform to the standard BS5228-2 which provides guidance on monitoring vibration on construction and open sites.

Limits in the document are based on measuring vibration at the receptor, at the base of the building on the outer wall.

Vibration affecting occupied buildings shall not exceed levels that are likely to give rise to damage to the building or discomfort to the occupants of the building. It will normally be appropriate to set limits in terms of Peak Particle Velocity (PPV), in accordance with BS 5228-2. Human response/discomfort to vibration will be triggered with vibration levels far lower than those required to cause building damage. In accordance with BS 5228-2, a vibration limit of **< 1mm/s PPV** shall be applied for residential receptors. It shall be achieved at the point of entry to the residential building (e.g., at the foundations or base of the ground level wall of the residential property). Appropriate corrections (e.g., ground attenuation with distance) may need to be applied to vibration levels monitored at the site boundary. This will be calculated conservatively based on the relative distances from the primary source of the construction works vibration, and the monitoring position/receptor location, and with reference to BS 5228-2 source data for different machinery operating at a range of distances.

In the event of scenario 3 monitoring being required, trigger levels shall be set to a level circa 80% of the actual calculated limit at the monitoring position. This will ensure text/email alerts are sent to site operatives when levels are 'approaching' the limit. The text/email will confirm the level of the event, so operatives can see whether the alert relates to an 'approach' or an 'exceedance' of the limit.

With an 'approach' alert, works can continue with caution. With an 'exceedance', the following action will be taken.

- Cease all works likely to be causing any potential noise or vibration.
- Determine the activities / plant that is responsible for the exceedances.
- Ascertain if there are any practicable means of reducing the measured levels including alternative working techniques.
- Determine whether this reduction can be practically employed and if so, the measures will be implemented.

Appendices A

Site layout plan / traffic management plan.

Demolition Stage



Construction Stage

