Dust and Noise Plan

LAND AT SOUTH VIEW
PADDOCK
HUDDERSFIELD

ARCHITECTURE

C49 Architecture Ltd
Springrow, Bradford
www.C49Architecture.co.uk
Tel: 01535 281432
Email: Info@C49Architecture.co.uk

Dust & Noise Management Plan

Introduction

The following sets out the general approach to eliminate, mitigate and manage dust and noise emissions in relation to the above development during the Construction Phase and in pursuant to the discharge of the planning condition imposed upon the Proposed Development

Site

The site is located just off South View, Paddock, Huddersfield

Description of Project

The scheme comprises of a single dwelling.

Neighbouring houses are of approximate 20m distance from the building works.

Mitigation of Fugitive Dust & Mud Transfer

Dust Arising from On-site Activities

Construction activities that have the potential to generate and/or re-suspend dust include:

- Securing of the Site and the implementation of temporary fencing;
- Creation of internal access, haulage routes; parking and traffic measures;
- Creation of construction compounds;
- Site clearance, including vegetation
- Earthworks and surface re-profiling/sub-base works to obtain required finished floor levels;
- Foundation construction (at this stage it is assumed that strip foundations would be required);
- Materials handling, storage, stockpiling, spillage and disposal;
- Movement of vehicles and construction traffic within the Site (including excavators and dumper trucks);
- Use of crushing and screening equipment/plant;
- Exhaust emissions from site plant, especially when used at the extremes of their capacity and during mechanical breakdown;

- Construction of buildings, roads and areas of hardstanding alongside fabrication processes;

- Internal and external finishing and refurbishment; and site landscaping after completion.

Dust comprises particles typically in the size range 1-75 micrometres (μm) in aerodynamic diameter and is created through the action of crushing and abrasive forces on materials. The large dust particles fall out of the atmosphere quickly after initial release and therefore tend to be deposited in close proximity to the source of emissions. Dust therefore is unlikely to cause long-term or widespread change to local air quality; however, its deposition on property and cars can cause 'soiling' and discolouration. This may result in complaints of nuisance through amenity loss or perceived damage caused, which is usually temporary.

The smaller particles of dust (less than 10μm in aerodynamic diameter) are known as particulate matter (PM10) and represent only a small proportion of total dust released; this includes a finer fraction, known as PM2.5 (with an aerodynamic diameter less than 2.5μm). As these particles are at the smaller end of the size range of dust particles they remain suspended in the atmosphere for a longer period of time than the larger dust particles, and can therefore be transported by wind over a wider area. PM10 and PM2.5 are small enough to be drawn into the lungs during breathing, which could have a potential impact on human health.

The majority of the releases are likely to occur during the 'working week'. However, for some potential release sources (e.g. exposed soil produced from significant earthwork activities) in the absence of dust control mitigation measures, dust generation has the potential to occur 24 hours per day over the period during which such activities are to take place.

The prevailing wind direction for the site is from west to east. Therefore, receptors located to east of the Application Site are more likely to be affected by dust and particulate matter emitted and re-suspended during the construction phase.

Under low wind speed conditions, it is likely that the majority of dust would be deposited in the area immediately surrounding the source.

Mitigation Measures for Dust/Mud

The construction works will include various site clearance and construction activities, which all have the potential to generate particulate emissions arising from dust. The site management team will be responsible for dust suppression on the site.

A number of mitigation methods will be implemented to minimise the nuisance and impact arising from dust produced during construction. These include;

- The requirements to minimise dust emissions are to be included in the site induction / 'tool box talks' provided to all personnel working on site.

- Plan the site layout so that machinery and noise/dust causing activities are located away from receptors, as far as is practicable.

- Fully enclose site or specific operations where there is a high potential for noise or dust production.

- Road signage erected for the duration of the construction period will be placed either side of the site entrance. The signs will be standard construction warning signage reading 'Slippery Road' with 'Mud on the Road' sub plate.

- The site management team are responsible for daily visual inspections and monitoring of the cleanliness of Westminster Drive. The site will keep a record of all such complaints in a log book. The log of complaints and action taken are to be made available to the local authority on request.

- A wheel wash facility is to be positioned at the site exit until the roads leading to the compound are constructed. The location for this facility is indicated on the Site Execution Plan.

- The wheel Wash scheme is to be combined with regular water assisted road sweepers. The site manager will monitor this situation as part of their daily duties and request additional road sweeps as necessary.

- Any haul routes within the site to be damped down during dry conditions using water sprays if required.

- Un-necessary movements of construction traffic around site will be minimised and excessive speeds prohibited.

- When required, excavation areas and/or stockpiles will be damped down to minimise dust release during dry / windy conditions or when dust emitting activities are being undertaken close to sensitive receptors.

- Minimisation of drop heights from excavator buckets, screen discharge conveyors, etc.

- Contact details for the site manager responsible for dust and emissions generated from the site is to be displayed on the site boundary, to allow local residents to contact the site to raise any issues that they may have and report complaints.

- Landscaping of finished earthworks will be progressive through the site as plots are completed.

- Top soil is to be stripped and stored in safe areas within the site ready to be reused in gardens and landscape areas.

- Any other materials that have the potential to cause dust or emissions will be removed from site as soon as they are surplus to the site. If they are to be retained on the site they are to be covered whilst not in use.

- All vehicle loads being transported from site will be covered to reduce dust emissions.

- Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.

- Ensure an adequate water supply on the Site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible.

- Avoid scabbling (roughing of concrete surfaces).

- There are to be no bonfires or burning of waste on site, at any time.

- Sand and other aggregates / cement to be stored within the segregated materials storage area within the site compound. The materials are to be monitored by the site manager and appropriate action to be taken should dust omissions become an issue such as covering up of the relevant materials.

- Use enclosed rubble chutes with linings to use for wastes off and cover skips to prevent dust and material being thrown in air

- Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.

- Any smaller supplies of fine powder materials which are supplied in bags are to be sealed after use and stored appropriately to prevent dust.

Mitigation of Noise & Vibration

Noise & Vibration Arising from On-site Activities The development site is located within a noise-sensitive area, being in close proximity to existing residential developments. During the development process a wide range of noise sources will be present during the works. Possible noise impact during the construction phase includes:

- Vehicle movements (Dumpers, Excavators)
- Hand tools (Circular saw)
- Air compressors
- Generator – diesel powered
- Plant and equipment (Forklift Trucks, Delivery Vehicles)

Other sources will be present at intervals during the development, including excavation and screening plant, haulage vehicles, impact noise from trades work and materials handling, pumps, etc.

Mitigation Measures for Noise & Vibration

Vibration from construction phases of the development has the potential to result in loss of amenity to sensitive receptors near to the site and in some cases nuisance or structural damage.

Best practice is to be adopted to minimise the creation of un-necessary noise/vibration at all times and the site management team will undertake regular site inspections to ensure that best practice is adopted. Wherever practicable all activities will be restricted to below 85dBIs

This will achieved on site by following the **HSE Guidance L108** on *Controlling Noise at Work (Appendix L)* and by complying with the Control of Noise at Work Regulations 2005.

The requirements to minimise noise & vibration is to be included in the site induction/'tool box talks' provided to all personnel working on site. Although not exhaustive, the following best practice procedures are to be followed where practicable:

Site Manager will monitor noise and vibration in accordance with **BSG 05** (*Appendix D)* & **BGS 06** (*Appendix E*).

- Static vibration sources/ noisy plant or equipment to be located away from sensitive areas.

- Consideration to be given to the use of alternative equipment which results in less disturbance, and justification provided for the equipment used to be recorded in the site log book.

- Vibration monitoring to be carried out by the contractor responsible for the works, at a suitable position on site nearest to the closest sensitive property from the vibration source if deemed necessary.

- Vibration monitoring is to be assessed continuously during the vibration causing activity with records of monitoring and any remedial steps taken recorded in the site log book.

- will insist that all vehicles used on site are not less than 5 years old with all machines will be regularly maintained in accordance with manufacturer's instructions to ensure they operate at their lowest noise levels. Vehicles to be fitted with appropriate silencers or noise baffles as approved by the machinery manufacturers. Vehicle Maintenance logs are to be provided for inspection.

- Machines in intermittent use shall be shut down where possible or otherwise throttled down to a minimum when not in use.

- Where possible, compressors will be fitted with properly lined and sealed acoustic covers, which shall be kept closed whenever in use. The use of pneumatic percussive tools will be avoided so far as possible, but if use is essential, will be fitted with mufflers or silencers of the type recommended by the manufacturer.

- Where practicable, equipment powered by mains electricity shall be used in preference to equipment powered by internal combustion engines or locally generated electricity.

- Avoid double handling or multiple movement of materials around the site to help reduce heavy plant vehicle movements

- Noise when loading or unloading vehicles, dismantling scaffolding or handling materials shall be minimised by avoiding drops from height etc.

- In the event of any complaint being received about noise from site operations the Site

Manager is to investigate the complaint and take remedial actions as required in accordance with the complaints procedure forming part of this Construction Management Plan.

- All plant and machinery used for construction of the development has been designed to minimise noise omission and vibration. All plant and machinery will meet the minimum legislation with regards noise omission.

- The loading/unloading of equipment/materials is to be linked with the specified Hours of Work (*Section 3.6*).

Summary of Additional Measures Adopted Monitoring

- Regular site inspections to monitor compliance with the CEMP should be carried out, inspection results recorded, and an inspection log made available to the local authority when asked.

- The frequency of site inspections should be increased when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.

- Areas considered to be sensitive receptors are to be monitored more frequently and control measures shall be enhanced if required

General Description of Works to be carried out

- Enabling Works-
- Groundwork's
- Dwelling Walls
- Roofing
- Internal Works
- External Finishing Works

Nominated Representative

A member of the principal contractors construction Team will be nominated as the "nominated representative" responsible for the implementation of the dust and noise mitigation and management strategy and will fulfil this duty on a day to day basis.

It will be this person's responsibility to ensure:

- The dust mitigation measures are implemented on site.
- The dust monitoring is carried out as set out in this protocol; and
- The remedial action in the event that the trigger levels are exceeded, as detailed below; and
- The results of the monitoring are reported to LBN

Site Activities

Noise and Dust generating activities may occur during the construction phase of the development and all efforts will be made to eliminate, mitigate this.

Working Hours

All construction works will be carried out during the hours of 0800 to 1800hrs Monday to Friday with limited works being planned for Saturday, Sundays or bank holidays.

Due regard will be given to activities that have potential to generate noise and will be carried out at times which are less likely to cause nuisance to all.

Potential Receptors to Dust & Noise

- General Public
- Operatives
- Personnel working on adjacent Developments-Construction Phase-
- Neighbouring Dwellings

DUST-Assessment of Potential Risk: Construction Phase

The initial excavation could result in air borne dust

Additionally movement of plant and equipment and disturbance of running surfaces has the potential to generate air borne dust

The general construction activities have also the potential to generate dust through day to day activities in three different categories:

1. Silica Dust-Concrete/Masonry etc.
2. Non Silica Dust-Plasterboard
3. Wood Dust-Skirting Architraves/Kitchens etc.

Dust Control Dust Management Monitoring

Implement a dust management plan to be approved by the local authority.

Undertake daily on and off-site visual inspections.

Dust Mitigation and Control Methods

Communications

- Develop a stakeholder communication Plan
- Display name and contact details of responsible person for dust issues on site boundary.
- Display Office contact information

Site Management	• Record all complaints and incidents and resulting actions in a log book. • Record any exceptional events • Liaise with other high risk construction sites within 500meters to ensure plans are co-ordinated

	• Increase frequency of inspections during periods of high risk activities or in dry periods • Agree monitoring protocol with Local Authority if required.
Preparing and Maintaining the Site	• Use site layout to locate activities away from sensitive receptors • Erect solid screens and barriers around site. • Avoid site run off of water and mud • Keep site fencing barriers and scaffold clean. • Reduce storage of dusty materials to a minimum. • Minimise emissions from stockpiles by covering or damping down.
Construction Traffic	• Sheeting and containment of delivery Vehicles • Produce a Construction Logistics Plan to manage delivery of goods. • Record inspections of haul routes in the site log book. • Implement a sustainable Travel Plan for site workers. • Access to the site via paved areas • Regularly sweeping of access roads using water assisted dust sweepers. • Damping Down during dry periods • Limiting Vehicle speeds • Switching off all engines when not in use • All vehicles will be washed down before leaving site.

Measures specific to Excavations	• Minimize drop heights when loading and off loading • In dry periods damp down general area • Sheeting and containment of the loads immediately

Distribution of Materials via Hoist and Scaffold Tower	• Water will be available on the common Hoist Tower-to allow for dust suppression as required.
Cutting-Masonry/Concrete.	• Cutting equipment will use water as a dust suppressant. • Dust extraction units will be fitted to equipment wherever possible and site personnel will ensure equipment is in good working order. • Note General Cladding Panels are manufactured off site-thus minimising the risk of dust generation due to reduced workload on site. • Face Fit dust masks will be provided to Operatives.
Cutting-Wood-Carpentry/Kitchens	• Dust extract equipment will be fitted to all saws • Face Fit Dust Masks will be provided in accordance with the agreed Risk Assessments and method statements.
General Construction Activities.	• Effective barriers around dusty activities and site boundary will be introduced and the area cordoned off with a permit to enter system in operation. • Site will not allow runoff of water or mud onto the public highway. • The need for dust masks will be risk assessed and implemented in accordance with the agreed method statements. • Ensure suitable cleaning materials are available at all times to clean up spills.
Waste Management	• Only use registered waste carriers to remove waste off site. • No bonfires on site. • All floor plates will be cleaned regularly-damping down as required during the brushing process. • Waste Bins will be made available at all levels • A central waste management area will located at ground level-Material will be sorted and segregated off site

Rubbish Skips will be covered

Use enclosed chutes and conveyors.

Noise Control

Noise can emanate from a wide variety of sources across all activities:

Source of Noise
Noise Mitigation and Control Methods

Construction Traffic/Plant and Equipment Tools

- Switching off all engines when not in use
- All vehicles to be fitted with silencers
- All Plant and Equipment will be in good working order, regularly serviced and maintained
- All plant and equipment will be used in an efficient way by trained personnel.
- Stationary plant will be cited with consideration to the local environment and those likely to suffer nuisance as a consequence.
- All equipment will be selected with due regard to the noise emission's levels and ear protection will be worn in accordance with the manufacturers and hirers recommendations our as stated within the agreed method Statement and Risk Assessments

- A solid 2.4 Meter high hoarding will be erected around the boundary of the site to which fronts the main road and to the public footpath on the old railway line.

General Construction Activities

- Site Management will manage and control all activities and personnel on site.
- All personnel are inducted and will be aware of the requirements to minimise Noise
- Regular Tool Box Talks will be given to ensure risks and the need to wear ear defenders are fully understood

Noise & Dust Monitoring; Dust

We understand the action trigger levels for total inhalable particle are as follows:

- \- Threshold Concentration is $0.1 mg/m^3$
- \- Action Concentration(1) is $0.2 mg/m^3$
- \- Action Concentration(2) is $0.5 mg/m^3$

Noise

Monitoring data will be recorded in terms of 5-minutes 'A' weighted L_{eq}. Where a result is obtained which exceeds the on-site trigger level of 70 dB L_{Aeq}, 5 minutes, or other such level as may be agreed with the local authority, a note shall be made and additional monitoring will be carried out. If the 5-minute on site trigger level is exceeded by the results obtained at one or more monitoring stations, additional noise monitoring will be undertaken to establish whether or not noise levels at nearby sensitive receptors are likely to exceed the offsite trigger level of 75dB L_{Aeq}, 1-hour, or other such level that may be agreed in writing by the local authority.

Monitoring

We propose to undertake dust and noise monitoring using hand held optical analyser dust monitors and noise meters to determine dust levels at specified locations at known times during the working day. All equipment will be fully calibrated, and in good working order at all times. Monitoring will always be carried out by a competent member of the construction site staff, with daily logs being maintained throughout the construction period.

We propose to establish three monitoring locations, which will be adjacent to the main existing residential areas in closest proximity to our site boundary. The monitoring equipment will be situated in a location approximately 1.2 to 1.5 metres above the local site level, taking the possible effects of any local screening or reflection into account. The calibration and battery levels of both meters will be recorded at the beginning, and end of each monitoring session.

We will obtain background noise and dust levels during periods of non-activity on site. If the recorded levels exceed the agreed target trigger levels, we will bring this to the Councils attention, with a view that alternative target levels may be set.

Monitoring will be undertaken not less than twice daily, once in the morning, and once during the afternoon, at each specified monitoring location. Data will be gathered during normal site operation.

We feel it will not be necessary to carry out dust monitoring during periods of significant precipitation. All such periods will be recorded in the site log sheets.

Prevailing weather conditions, including wind direction and speed, temperature, incidence of precipitation and degree of cloud cover, will be recorded and logged during each monitoring session. Wind speed and direction will be recorded using a portable anemometer and compass.

The contractor recognises the need to monitor the effect of dust and noise on the workforce and record their findings accordingly and wherever possible ensure that exposure is eliminated, minimised or if unavoidable the right protective measures are adopted.

Proposed Monitoring Locations

Residential areas adjacent to the junctions at: **Station 1** TBC
Station 2 TBC
Station 3 TBC

Monitoring Process	• Visual monitoring of downwind site boundaries on a regular basis. • Monitoring using meters and acting on empirical data recorded • Stop works as required and take mitigation measures. • Review and up-date dust control measures as required. • All personnel will be inducted and / or trained as required.

Complaints Procedures

The contractor will clearly display contact details in prominent locations, at various points around the site boundary.

The contractor will keep accurate records of any complaints received.

We would propose that we will advise the ***Local Authority Environmental Protection Team*** of any complaints received and how we have addressed them.