

Tilbury Douglas Construction

Sandilands school

Version 01 (March 2023)



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1. Introduction

Background and Purpose

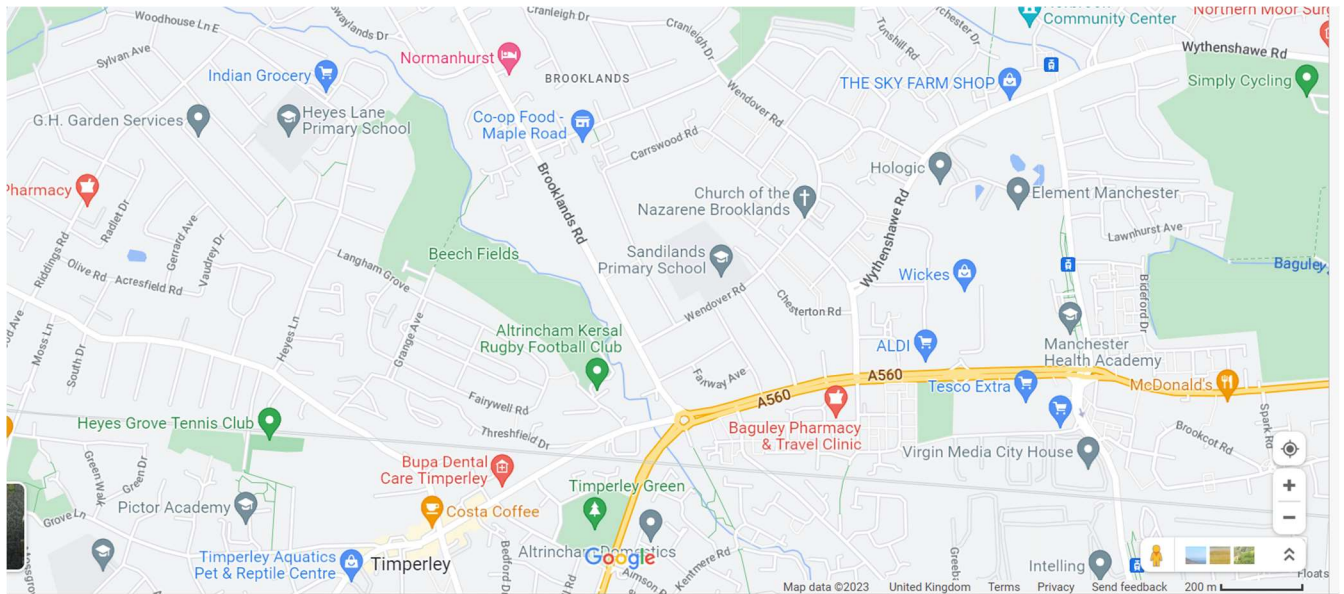
- 1.1 This document has been prepared by Tilbury Douglas Construction (hereafter referred to as TDC) to establish a Construction Environmental Management Plan (CEMP) for the proposed development.
- 1.2 It should also be noted that this document will remain live for the duration of the project and will be updated as and when necessary to reflect any design amendments. TDC, as the Principal Contractor, will be responsible for updating this document (including appendices). All updates will be subject to approval in writing by the Borough Council.

Structure of Document

- 1.3 This document is structured into four sections:
 - Description of the Proposed Development
 - Construction Methodology
 - Environmental Management Practices to address the above points (i) to (iv) including the Site Waste Management Plan (SWMP).
 - Public Relations and Community Consultation

2. Description of the Proposed Development

- 2.1 Sandilands is in Greater Manchester. It is accessed via Wendover Road with a dedicated access and egress and is within proximity to the A560.
- 2.2 A key part of this programme is to provide facilities which meet the current needs of the school and its pupils, but also to provide facilities that will be fit for purpose in the future. The aim of this project is to provide a sustainable environment to deliver safe, effective, efficient, timely, equitable and pupil centred educational facilities for the school.



- 2.3 The purpose of this construction project is to provide new teaching facilities to the students and staff, as well as provide new outdoor space, which consists of a canopy where children and staff can have a space that it is covered from the external elements all year round.

2.4 Phasing of the project has been split into the below:

- Phase 1 – New teaching build block with main hall & dining
- Phase 2 – Segregation and Demolition of the existing school, with external landscaping & teaching space

3. Methodology

3.1 The Development Approach

The development approach has been to provide the school with a building reflecting the school's drive for continuous improvement. Its configuration is to make the best use of space by providing teaching spaces that are of high quality and a good use of the space to enable maximum free area.

We have developed a construction sequence to help deliver the facility with minimum disruption to the school's activities. Decanting has been kept to a minimum and, where possible, facilities are moved directly from their current location into their final location.

In developing the scheme, it has been recognised that:

- the school must be able to deliver the educational curriculum to all its pupils with minimal impact from the building works
- there is only one access point on to the site, which must be always managed and closely co-ordinated with the school & nursery
- the school is situated in the middle of a residential area
- there is a necessity to maintain the existing sports facilities throughout the works
- it is of the utmost importance to segregate pupil circulation routes from construction access routes, as far as practicable

3.2 Site establishment

After the mobilisation works are completed and all land access rights granted, the construction-site can be established. Prior to the commencement of works in any area, the following activities will be completed:

- Establishing the permanent construction accesses to the site
- Segregation of the public
- Traffic management strategy
- Wheel washing facilities at access points to work sites and egress points to public roads (To be provided only as and when required)
- Fire Alarm interface

The site will be fenced off prior to commencement of the construction programme

3.3 Mobilisation works

There will be a mobilisation period between planning consent being granted and construction works starting on-site. The activities to be completed during this period are as follows (in no particular order):

- update construction methodology, schedule,
- completion of scheme design and validation and verification to reflect consent requirements
- procurement of bulk material suppliers and construction contracts
- preparation of construction workforce strategies
- Tendering of construction and material supply contracts.

3.4 Site access

Access to the site for construction vehicles will be off Wendover road which will be a shared access with the school/ nursery this is shown on the Access, Circulation and Car Parking Plan within the methodology document. The construction works will share the main access with the Facilities deliveries, access to Nursery and keep segregated away from the main car park and school access.

3.5 Construction Hours

Construction / demolition shall be confined to the following hours unless otherwise agreed in writing by the School and Borough Council as planning authority:

- Monday – Friday 7.30am – 5.30pm
- Saturday/ Sunday –Weekend Works will only be requested as and when required, we will liaise with the client to get written approval before any weekend work commences.
- Bank Holidays – No work
- There will be a few periods over the project where works will be required to extend past the planning hours, these will be predominantly during the concrete pour works which require power floating and finishing. TD will confirm these dates in advance.

The workforce may arrive on site 30 minutes prior to these hours. Noise will be kept to a minimum during the first hour.

3.6 Site Logistics

In developing the approach to the logistics of carrying out the works, we recognised the need to minimise disruption to the school and, in particular, the need to:

- Segregate pupils and staff from construction activities
- Control deliveries to site
- Agree decanting into and out of current accommodation
- Provide car parking for construction staff to minimise impact on local residential area
- Ensure there is a well thought out fire escape strategy for each phase of the works
- Continuity of services
- Noise and dust minimisation

In order for this project to succeed, a close working relationship will need to be forged between the school and project delivery team. This will involve holding weekly co-ordination meetings as and when required to discuss the works targeted for the forthcoming week. During the co-ordination meeting, the school will be able to advise of any school activities that require quiet time. This will enable us to adjust our planned work, accordingly.

3.7 Deliveries

TDC will carefully co-ordinate and consistently manage the interaction vehicular movements on Wendover road to minimise any disruptions.

A gateman will be in a site hut at the dedicated construction site entrance. TDC will implement a rigid delivery timetable for all material deliveries; these deliveries will be scheduled outside the peak times:

- From 8:00 to 9:00 am in the mornings
- From 3:00 to 4:00pm in the afternoon.

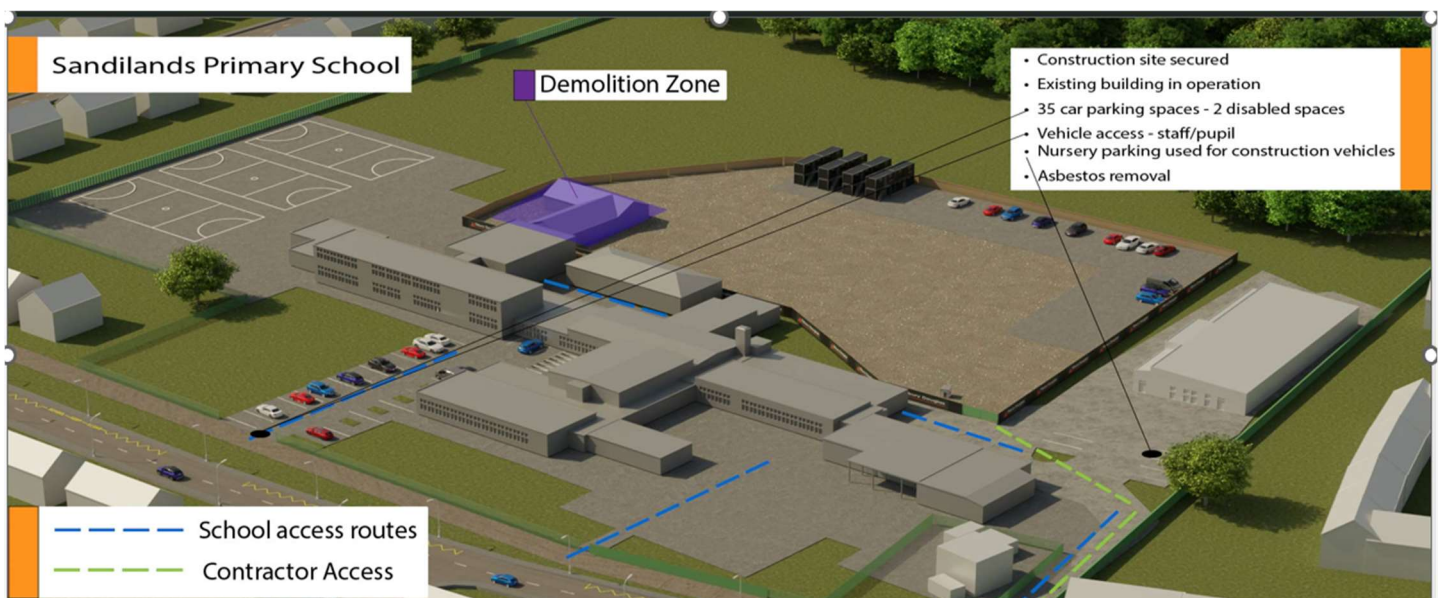
All vehicles will be required to phone ahead to the gateman to schedule an arrival time, in order to avoid a conflict of deliveries to site. Any vehicle attempting to enter without having permission from the gateman will be turned away from the site.

Once the vehicle has arrived at the site, it will be taken inside of the site compound to minimise disruption.

A 'just in time' delivery policy will also be implemented, so that the minimum amount of storage area on the site is required.

3.8 Site Parking

We recognise that parking at the school is restricted and that it cannot facilitate any construction parking. As a result of this, we intend to have parking facilities within the site work area, to alleviate as much pressure and stress on the local residential area.



3.9 Segregation of pupils and staff from construction activities

During the delivery of the project, it is imperative that the construction activities are separated from school access routes as far as practicable. This will be carried out by erecting fencing to the main construction routes, to prevent pupils or staff inadvertently wandering into dedicated construction routes. As previously described, all deliveries will be timetabled and escorted to the required position on the construction site by a banks man.

During engagements, we have looked at the access routes for pupils and construction traffic around the site and will produce a series of drawings showing the agreed routes for each phase.

During the build phase all construction traffic will be taken through the dedicated construction site entrance. Where hoarding will be provided around the construction site. The hoarding lines indicated in the below visuals will be solid, continuous painted plywood to a minimum height of 2.4m. This will reduce the distraction caused by the construction works whilst teaching is undertaken in adjacent classrooms. Visibility panels can be cut into the hoarding at agreed points with the school, so that the construction work can be viewed from agreed vantage points.

Once the new build phase of the works is complete the hoarding line will be reduced for pedestrian access to the building and then allow for the hoarding line to be installed to the demolition phase of the project.

Following on from this all works will be completed to allow the hoarding to be taken down, site compound decanted and full access to the site re-instated.

3.10 Main Construction Risks

We began to identify potential construction risks at the start of the bidding process and prepared an initial risk register. The risk register will be developed as the scheme evolves and more information becomes available. Some of the early risks identified have been resolved and removed from the register; other risks have been added as circumstances change.

Both the cost and programme implications of the risks are considered, and a scoring system that assesses the probability and the severity of each risk occurring is used to identify the main project risks. Whenever possible, mitigation measures are adopted to eliminate or reduce the impact of the risk in question. Elimination or reduction of any particular risk could occur as a result of: designing out the risk; considering alternative methods of construction; re-arranging the order that design and/or construction is carried out; or carrying out further surveys to increase our level of knowledge. The risk register is a live document that is reviewed and updated on a regular basis.

At this stage, the principal construction risks identified for the school are:

- Failure to obtain Planning Approval or other statutory approvals and consents
- Delay to the installation of utility owned services
- Delay in obtaining agreement for route and location of services
- Drainage connections
- New services installed
- Segregation of construction activities from school activities, whilst working in a live school environment
- Maintaining hoarding/fencing lines
- Supervision of crossing points on site access roads
- Traffic management when accessing the site
- Just in time delivery strategy for materials is maintained to avoid peak school times and minimise storage requirements
- Temporary Works
- Demolition Works
- Noise and dust
- Unforeseen ground conditions, including obstructions left after demolition works
- Exceptionally inclement weather
- Craneage activities

3.11 Health and Safety Risks

During design development, a process of Health and Safety design risk assessment is carried out to identify the risks and hazards associated with constructing, maintaining, and eventually demolishing the works. The aim is to produce designs which: are safe and easy to build and maintain; use readily available materials and resources; and do not require the use of potentially dangerous or hazardous substances. For example, we use metal stud systems for the inner leaf of the external walls and the internal partitions to eliminate many of the manual handling and other physical problems associated with the construction of dense block work walls.

Health and Safety is always on the agenda for our strategy and design team meetings throughout the design and construction phases of our projects. Comprehensive health and safety risk assessments are undertaken for all activities on the site which could present a potential risk. Our subcontractors prepare detailed method statements for their works, which are reviewed and approved by members of our site management team before work is allowed to start on site.

Summary

As ever, there are always likely to be a few residual risks, which will be carried to the end of the project. Nevertheless, we remain confident that our management procedures will allow us to successfully eliminate or mitigate many of the potential risks identified above, although we recognise that there are some external factors which are outside our control.

3.12 Soft Landings Approach

The hand over, decant and commissioning process can be a stressful time for school staff if it isn't handled competently, sensitively and planned well in advance. TDC has developed a robust and well-detailed plan to ensure that decanting happens with the minimum of impact on staff time. In recognising that continuity of operations is a key requirement for any academic organisation, and we will ensure that teaching, learning, and other activities continue uninterrupted during the various phases of construction work at. Working with the school to ease anxiety and provide confidence in the process is one of the most crucial elements of this part of the project.

There are several 'phases' associated with the construction process, all of which will necessitate the decanting of some students, staff and facilities directly into the finished buildings. Each of the decants and handovers will be programmed and managed to ensure that: teaching activities continue un-interrupted; student safety is addressed at all times; mechanical, electrical and ICT services are fully maintained; and that construction works can progress.

To successfully achieve this, we will appoint a migration manager whose key responsibilities will be:

- To integrate the decant and handover process with school operations.
- Programme and manage phased decants and handovers to ensure continuity of teaching activities
- Manage our Soft-Landing approach to the handover process

During the design period, a detailed construction programme will be developed to include the timing of decant and all services alterations. A separate programme will be produced detailing pre-handover commissioning sequence of all M&E and heating systems and all room snagging and acceptance procedures.

A series of periodic meetings will be scheduled following the first handover to obtain feedback

from the school's facilities management and maintenance teams, and from all building users – staff for incorporation as learning points for the following handovers as 'lessons learnt'.

Planning of the commissioning, handover and decanting process start during the detailed design phase. We will involve the school, staff and students and the facilities management staff in the handover planning process to ensure that we fully understand and make provision for all constraints and desires, where possible. We will organise familiarisation visits for staff, students, community groups and facilities management personnel to ease anxiety and to demonstrate the layout and services.

We will use our expertise in planning and sequencing to assist in drawing up a detailed decanting programme, which will identify the teaching areas to be closed. Other areas for the migration manager's involvement include where teaching functions will be moved to; what ICT equipment, books, teaching aids and furniture will be affected; and a logical movement schedule drawn up

The school's on-site facilities management team will be involved in learning about the systems in the months leading up to the handover period, during commissioning and testing, and during the decanting period. This is to ensure that the FM team fully understands the systems and can operate the building efficiently from the outset. In this way, the Operations and Maintenance manual will be a reference document to the FM managers, who will be fully conversant with the individual systems.

Our ethos is one of openness and co-operation, and we will draw up a detailed training plan, in conjunction with the FM operators, school staff and users, this is to ensure that the FM staff are involved in the commissioning, testing, and balancing of M&E services systems and have the ability and understanding to operate the system at building handover. Similarly, we will conduct a series of explanation and training workshops for school staff in the operation of user interfaces (thermostats, switches, locks etc.) with building systems together with an explanation of the system safety features.

The TDC Project Manager will be the first point of contact between all building users and the construction team, and will be responsible for producing co-ordination plans, decanting schedules, and interface programmes to bring together all aspects of the interface between the school and the builder. TDC will also hold periodic and programmed meetings with school staff and the FM teams to: explain the construction works and their sequence; to clarify the effects of the works on these groups; and to respond to any questions or concerns arising.

All of the school's user groups will be consulted during development of the decanting programmes and sequences, to ensure the most efficient sequence is identified and to ensure a smooth transition into the new accommodation. In addition to formal meetings and open discussions, we will also use questionnaires to pass on information about the decanting process. The response to these questionnaires will be used to inform and continuously improve decant, project commissioning and handover.

3.13 Testing and Commissioning

Our ICT partners have worked closely with our design team to agree ICT infrastructure service routes and its provision within individual spaces, internal climate control, interfaces, commissioning regimes etc. TDC has ensured that FM and ICT have taken an integrated part in this design process, and this is continued through to and beyond the project commissioning of each phase.

Cabling for the ICT equipment will be installed at a suitable point in the programme. Access for installation of servers and panels will be made available when the internal building finishes are nearing completion and power supplies are available and commissioned.

Mechanical, electrical, and plumbing installations will be progressively tested throughout the installation period together with the ICT installation. Prior to handover, thorough commissioning will take place along with preparation of all operation and maintenance manuals. We have allowed a period towards the end of the construction programme for testing and commissioning each phase of the works. During this period, training will be provided for relevant employees and stakeholders, and the building manuals will also be completed. Installation of "loose" ICT equipment, together with final testing of the ICT systems, will take place in the weeks prior to the completion of each phase.

Planning of the commissioning and handover process will start during the design development phase. A detailed plan and programme for the preparation of building and operating manuals, testing, commissioning, and witnessing of the building systems will be prepared to ensure structured commissioning at handover to the FM setup and ensure compliance and functionality of the ICT. Towards the end of this period, teaching and support staff will be able to visit the new building and become familiar with the new facility.

All the plant and system performance tests will be carried out in accordance with the codes of practice and the requirements for each system detailed in the specification. Pressure tests and continuity tests will be carried out and monitored as the installation progresses. Pre-commissioning will be carried out zone-by-zone as works progress, and the final balancing and fine-tuning of controls will be carried out when the building works are almost complete.

Thorough inspection, testing, demonstration and witnessing of the various systems will take place in accordance with the agreed plan, in order to achieve a smooth handover of the completed building on the due date.

3.14 Handover

One of TDC's principal objectives is to hand over the new school "defect free". In order to achieve this aim, we build time into our construction programme to allow a snagging process to be undertaken, so that any defects can be rectified. This process plays a key part in being able to successfully commission and hand over the building. To assist us in this, we employ a system of inspection, testing and recording, and nominate dedicated personnel on site experienced in this process to undertake and manage this work. It is designed to sign off aspects of the works as they are installed or completed by the various trades. The purpose of this is to work towards a zero-defects regime. This system is rigorously enforced as a key part of our construction management system. If an inspection reveals items that fall outside the required standards of this system, they are incorporated into a snagging database for rectification. Each snag will be entered with date, name raised by, location, full description, action required by, responsibility, date actioned, status, and so on.

By managing the snagging using our online systems, we are able to ensure the required actions will be carried out efficiently, effectively and timely. This will allow us to achieve systematic completion of the building and a structured hand over to the schools FM team.

As construction progresses and the various building services are installed, we will prepare a record of our "as built" drawings to give a true representation of the building, its services and equipment as actually constructed. These drawings will be collated by the Design Manager and document controller for inclusion in the Building Manual, which will be issued in draft form during the commissioning process. The final version of the manual will be available shortly after Practical Completion.

The Independent Certifier will undertake final inspections of the completed facilities and also witness testing of the various building systems. On satisfactory completion of the inspections and testing, the Certifier will sign-off the building subject to completion of the decanting. When the decanting is complete, the Certifier will issue the Completion Certificate and declare the building ready for service.

TDC recognises that construction activities can have a disruptive influence on education delivery. Our aim is to deliver this project with the minimum disruption to the school, so that it is 'business as usual' for the school management and its support team. To achieve this, a number of factors that will affect school operations have to be considered, and procedures and plans put in to place to mitigate their effects.

3.15 Decant

The decant of the existing school facilities into the new building has been and will be further developed to minimise disruption to the school and its pupils, the objective is to complete this process during school holidays, dependant on other programme impacts.

3.16 Service Continuity

Drainage

It is important that, at each stage of the build process, the services to each part of the school, be that existing, new or temporary, are fully available for curriculum delivery at each stage of occupation.

For example, when the existing buildings are demolished, the drainage from the retained blocks need to be maintained to allow the school to function as normal.

ICT

We have developed ICT continuity plans for all phases of the programme, including during the decant and enabling phases. To ensure that we minimise both disruption to school users and wasteful expenditure, our approach is to:

- Continue to provide the same level of ICT service as currently available within the specific departments when they decant.
- Reuse legacy equipment to support the existing areas and services
- Build the ICT server room for the new building as soon as possible
- Build and implement the new service before handover and occupation

At all times, our main objective is to cause as little disruption to learners, staff and the operation of the school. To achieve this, we will ensure that:

- ICT provision within the existing accommodation will be always maintained.
- Installation and commissioning works will be scheduled in a way that does not interfere with or disturb critical school functions such as exams, reporting or the start and end of school

3.17 Building services

Initial Works

Prior to any works being carried out, and at a time to suit the school that does not cause disruption to the day to day running, a comprehensive survey of all M & E services will be carried out. The purpose of this will be to ascertain the supply and isolation points of all M & E services, and enable the planning for suitable isolation, connection and adaptation to the M & E services, to allow the phasing of the project without disruption or loss of services to the school.

Maintaining M & E Supplies

During this works we are only providing new systems to the new build facility, all other supplies are to be either retained or diverted to allow all works to be carried out. To enable the school to remain operational the M & E, fire alarm and security systems will remain connected to their existing systems.

Prior to the demolition of any existing buildings, a thorough survey of the existing M & E services will be undertaken to ascertain the implications on the M & E supplies of any such demolition. Isolations/re-arrangement of services or any temporary supplies required to the areas outside of the demolition area will take place outside of the normal school day following consultation with the school.

LV Supplies

Diversions of existing supplies are to be carried out and permanently reinstated to allow the building to operate as normal, a dedicated supply and switch room will be provided for the newbuild, the location is yet to be agreed.

Heating Mains

Diversions of existing supplies are to be carried out and permanently reinstated to allow the building to operate as normal, the new building will have its own dedicated supply provided for in the buildings own plant room.

Water Main

Supplies will be maintained, and the new build will have its own feed into the building.

Fire Escape Strategy

The fire escape strategy will be fully integrated with the schools' existing policy, with the Muster point(s) to be agreed. The signage for the fire escape routes will be required to change at the start of each new phase, as appropriate, to ensure absolute safety of all occupants in the event of a fire. We also propose that a fire drill takes place towards the start of each phase to ensure that the evacuation plans are safely achievable. The fire drill would also get the building occupants used to the new procedures and Muster points.

4. Environmental

4.1 Introduction

The purpose of this section is to set out the environmental measures that will be adopted during construction in order to prevent or reduce potential environmental effects associated with construction activities.

This sets out:

- an environmental management framework to which the Contractor's management systems will comply;
- environmental management and monitoring measures to be adopted and implemented throughout the construction phase; and
- Responsibilities for implementation of management and monitoring measures during construction.
- Environmental Management Framework
- Environmental Management System.

4.2 Responsibility for Environmental Measures

TDC will seek to select contractors who are suitably qualified, competent, and experienced in terms of environmental management for the duration of the works they are contracted to undertake. The Project Manager will be responsible for Environmental matters. They will be supported by additional environmental specialists where necessary.

4.3 Environmental Incident Procedures

TDC will establish and implement an environmental incident procedure. This procedure will be designed to respond to anticipated environmental hazards and risks at the site and will include emergency control measures that will take into account the Environment Agency's Pollution Prevention Guidelines.

The environmental incident procedure will include:

- development of an environmental incident / pollution reporting and response plan
- measures to mitigate the adverse effects of an environmental incident
- 24 hour emergency contact details for and method of notifying Emergency Services, Local Authorities, Environment Agency, other statutory authorities and key staff; and
- measures to be adopted to investigate and prevent the recurrence of an environmental incident.

4.4 Reduction of Noise

Wherever possible we will endeavour to carry out particularly noisy operations out of normal school hours, or at agreed times with the school.

Following the weekly review meeting with the school, the exact times and locations of any forthcoming exams will be obtained – our long-term master programme will have details of the planned exam days for the whole duration of the project. When the exams are being sat, all noisy operations will be stopped or, by agreement, only carried out in areas well away from examination rooms.

During normal school periods, construction noise reduction measures will be implemented to reduce the impact on teaching and learning immediately adjacent to the works. For example, noise from the demolition works to the existing building and construction of the new block, have the potential to cause major disruption to activities within it. However, we will mitigate the impact of the works by:

- The use of quiet demolition techniques, such as, the use of hydraulic cutters. The 'cutters' fitted to the excavators will 'cut' the structural elements from the buildings into sections, that can then easily be removed from site and therefore reduce the amount of noise and vibration that would normally be produced using crushing techniques.
- Any surveys that are required to be carried out in the existing buildings are undertaken during holidays or out of operational hours to minimise disruption.
- The programme of works has been scheduled so that the envelope to the new block is lined before the main summer examinations, reducing the impact of air borne noise. The certainty of meeting this programmed activity is enhanced by using fast-track construction techniques, such as light weight metal framing to the outer envelope, enabling us to 'encapsulate' the building much faster than using traditional block work.

Measures will be identified and employed to reduce noise and vibration arising from construction activities. Specific measures will include:

- Selection of construction method and programme to minimise noise and vibration at sensitive receptors.
- Selection of routes and programming for the transport of construction materials, spoil and personnel to minimise noise and vibration at sensitive receptors.
- Design and use of site hoardings and screens to provide acoustic screening at the earliest opportunity.
- Doors and gates will not be located opposite occupied noise-sensitive receptors.
- Avoidance of vehicles waiting or queuing on the public highway with engines running.
- The design and construction of temporary infrastructure to minimise noise and vibration.
- Only plant conforming to relevant national or international standards, directives and recommendations on noise and vibration emissions will be used.

- Plant and equipment liable to create noise or vibration will be located away from sensitive receptors or will be controlled by the use of lined and sealed acoustic covers or enclosures to prevent or reduce risk of disturbance.
- Where used, acoustic covers or enclosures will remain in place whilst the relevant noise generating equipment is in use.
- Regular maintenance will be undertaken on all plant and equipment in accordance with manufacturer's guidelines. Maintenance records will be kept on site.
- Plant and equipment will be used where practicable in the mode of operation that minimises noise and shut down when not in use.

4.5 Dust Minimisation

Airborne dust from construction sites is a problem for a number of reasons. It can:

- Create health problems, particularly for those with respiratory problems
- Cause environmental degradation, including air and water pollution
- Create problems with visibility
- Damage or dirty property and belongings
- Create unsafe working conditions
- Increase costs associated with the loss of materials or additional work involved

The most common causes of dust include:

- Demolition activities
- Site preparation activities
- Construction activities
- Vehicle movement
- Uncovered stockpiles
- Cutting of concrete products

Dust will be controlled during demolition works by:

- Waste arising from the building will be removed via dedicated waste chutes coming out of the building into segregated covered skips
- Using hydraulic grabs fitted to excavators that can lower sections of the building to the ground rather than simply letting them fall.
- Continually dampening the building and access roads with a fine water mist during the demolition process
- Removing all materials from the site in covered wagons

Dust will be controlled during construction works by:

- Erecting solid hoardings around the construction area
- Limiting the size of the excavated area during groundworks
- Continually dampen down the ground and access roads during dry weather
- Ensuring all goods vehicles accessing and leaving the site are covered
- All stockpiles will be sealed or covered over.
- When cutting materials, the equipment will be fitted with dust suppressants such as water sprays.

4.6 Materials handling and storage

Construction materials will be stored within the site, away from the site boundary unless used for the purposes of screening.

Materials will be stored in the site compound where required and delivered to site via a forklift as and when required, allowing the construction area to be set and an efficient size to build.

Stockpiled materials will either be sprayed with water if appropriate, or if the mounds are likely to remain undisturbed for a significant duration, they will be sprayed with an appropriate chemical dust suppressant, or vegetated.

4.7 Smoke and odours

Measures will be taken to avoid causing nuisance from smoke, odours, dust and other air emissions, which will include the following:

- there will be no fires on site
- vehicles and plant will be maintained in accordance with manufacturers' guidance
- waste will be managed and will be removed from site on a regular basis to avoid excessive accumulation; and
- the siting of activities with the potential to emit aerosols, fumes, odours and / or smoke, including refuelling and site ablution, will take account of prevailing wind conditions and will avoid where reasonably practicable the transmission of such emissions to locations where there are sensitive receptors.

4.8 Contaminated land

The following environmental management and monitoring measures will be adopted throughout the construction phase.

General measures

The possibility that unforeseen contamination may be encountered during construction will be considered in the development of relevant health and safety procedures and pollution incident control procedures.

Where ground with significant levels of contamination is encountered during construction, working methods and procedures will be employed to minimise adverse impacts to human health and the environment.

During construction, measures will be implemented to maintain the requirements of the existing S106 agreement.

Where contamination is encountered, the site will be divided by internal fencing into 'clean' and 'dirty' (contaminated) work areas.

All personnel working in the dirty (contaminated) areas will wear appropriate personal protection equipment (PPE) and will receive detailed advance briefings on the hazards likely to be encountered and the procedures to be followed.

Site Clearance Control Measures

Measures, including fencing and/ or screening, will be implemented to ensure that demolition debris is kept within a controlled area, in order that the area of ground potentially affected by demolition works is kept to a minimum.

In the event that presence of asbestos was detected in the existing ground then asbestos would be removed by a specialist contractor and disposed of in accordance with the relevant legislation.

Monitoring

A watching brief for contamination will be maintained during all ground works. If any ground contamination is revealed during construction, by visual or olfactory evidence, the affected area will be investigated, a risk assessment carried out, and remedial action taken as appropriate. The Environment Agency will be informed in writing of any contamination revealed during construction.

Chemical testing of soils will be undertaken where contamination is suspected or found. Samples will be sent as soon as practicable to a United Kingdom Accreditation Services accredited laboratory for testing against a suite of contaminants.

4.9 Ecology

The following environmental management and monitoring measures will be adopted throughout the construction phase. Unless otherwise stated the contractor will be responsible for the implementation of all measures.

General measures

Specific measures will be put in place to protect the nature conservation interest in accordance with relevant guidance.

All ecologically sensitive features which are to be retained will be fenced off prior to site clearance allowing for any agreed undisturbed buffer zones. BS 1722 British Standard for Fencing will be applied to fencing installed around trees and shrubs to safeguard the root zone.

Clearance of features of ecological value will be carried out under supervision of a competent and suitably experienced ecologist.

If protected species are discovered during construction, works in the affected area will temporarily stop and advice sought from a suitably experienced ecologist.

Lighting will be positioned and directed to minimise intrusion and disturbance of sensitive areas of nature conservation value.

Birds, Bats

Measures will be taken to clear trees, scrub and tall herbaceous vegetation outside the bird-breeding season (i.e. clearance to occur between September and February). The building will also be closely monitored prior to demolition.

Where clearance works cannot be avoided during the nesting season, a walkover of the site will be undertaken by an ecologist prior to clearance to ensure the area does not contain active nests and a suitably experienced ecologist will be present during the vegetation removal. If nesting birds are located, a buffer zone of existing vegetation around the nest will be designed and introduced in consultation with the ecologist before the relevant works proceed.

Invasive Weeds

During the surveys undertaken no invasive plants have been found, this is to be monitored by the site team, if any are occurring works are to stop and appropriate measures are to be taken to remove them.

4.10 Mud on Roads

Easily cleaned hard standing will be provided for areas where vehicles enter and leave the site.

Roads will be maintained throughout the project by the most appropriate means.

An approved mechanical road cleaner will be employed to clean the site hard standing and the public highway in the vicinity of the site, should it prove necessary to supplement.

All Lorries exiting or entering site and carrying materials that could spill onto the road will be adequately sheeted to prevent the spillage of material during transport.

4.11 Water

The following environmental management and monitoring measures will be adopted throughout the construction phase.

General measures

Where water is to be abstracted from surface water or groundwater a licence will be obtained from the Environment Agency. Where discharges are required to controlled waters or sewers, consent will be obtained from the Environment Agency or the statutory sewerage undertaker as applicable.

4.12 Site drainage

Site foul drainage will be discharged, or removed from site, in accordance with relevant permissions obtained from the sewerage or statutory authority. Discharge to watercourses will only be permitted where discharge consent or other relevant approval has been obtained. Site drainage will meet the effluent standards required by the sewerage undertaker or Environment Agency as appropriate.

Site drainage plans will be submitted to the Environment Agency for approval prior to the commencement of works.

4.13 Pollution control

All potentially polluting substances will be stored on impermeable surfaces with controlled drainage, away from storm water sewers, grids, channels, watercourses and ditches or adequate measures will be taken to protect against pollution.

All fuel, chemicals and oils will be stored within bunded areas in accordance with PPG 26 and PPG 2.

All tank discharge pipes, valves and trigger guns will be contained securely within the bund when not in use.

Bowsers will be stored within secure areas when not in use to protect from theft and vandalism.

Leaking or empty oil drums will be removed from site immediately and disposed of via an appropriately licensed waste disposal contractor.

All hazardous substances on site will be controlled in accordance with COSHH Regulations. The storage compound will be fenced off and locked when not in use to prevent theft and vandalism.

Refuelling of plant and machinery will take place with appropriate spillage controls. Vehicles will not be left unattended during refuelling.

Fuel storage tanks will be locked when not in use to prevent unauthorised access and reduce the risk of vandalism.

Wheel washing will be undertaken in a designated area. Water from wheel washing facilities and wash down areas will be recycled or fully contained and disposed of via tanker or through connection with the foul sewer (in accordance with relevant consent from the sewerage undertaker).

Washing out of concrete trucks, hoppers, and mixers will take place on site and a dedicated washout plant will be used.

Spill kits will be held on site with a variety of absorbent materials to be used in the event of a spill of fuel, oil or chemicals.

4.14 Protection of surface water and groundwater

A minimum of a 10m buffer will be maintained adjacent to surface watercourses (e.g. rivers, ponds) except where works are specifically required to the surface water courses e.g. culverting or diversion of watercourses. This 10-metre buffer area will be fenced to prevent storage of materials, refuelling, vehicle traffic and similar activities.

Where works are required in or adjacent to watercourses protection measures will be provided in accordance with the requirements of the relevant authority.

Equipment liable to float away and potentially polluting materials will not be stored within areas at significant risk of flooding. Fuel oils and other chemicals stored in bulk will be located no less than 10m from any watercourse.

4.15 Other good housekeeping

The following environmental management and monitoring measures will be adopted throughout the construction phase. Unless otherwise stated the Contractor will be responsible for the implementation of all measures.

4.16 Site Security

- Valuable items will be removed from public view and stored in locked areas.
- Site boundaries will be secured when not in use using fencing and locks on gates.
- Potentially hazardous materials will be well secured (e.g. fuel outlets will be locked).
- Plant and equipment will be immobilised overnight.
- The movement of people in and out of site will be controlled with the use of site passes.
- Site security cameras may be used in locations which minimise disturbance to local residents.
- The security of neighbouring sites will be taken into consideration. Scaffolding, ladders or any other site equipment will not be left in areas that may cause a nuisance to neighbouring properties.

4.17 Waste Management

Construction waste on site through the demolition process will be removed by licensed carriers and taken to licensed skip locations.

Materials from the building will be segregated onsite as much as possible commencing with an initial soft strip of all doors, ceilings, fittings etc prior to the commencing of demolition

It is not intended to crush any materials onsite as part of the demolition to reduce the risk of dust contamination and unnecessary noise to surrounding properties

All waste that is removed from site is controlled by the TDC site waste management plan. Within this plan the following items are controlled:

- Waste Transfer
- Licenses
- Amounts
- Recyclable Content
- Targets – Planned/Actual

Waste produced through the general build process will be separated on site where possible. This will include:

- Metal
- Timber
- Plaster Board
- COSHH
- General

All waste taken off site is sieved, sorted and disposed off. Monthly reports are provided by the waste company

4.18 General Good Housekeeping Measures

Good housekeeping will be maintained on-site and on access routes. Measures will include but are not limited to:

- clear access routes with appropriate signposting
- segregation and regular removal of waste (including food waste) from site
- keeping site tidy and clean
- inspect hoarding frequently, repair and repaint as necessary
- visual inspections of plant, equipment and material storage areas for leaks or spills
- toilet facilities will be kept clean
- open fires will be prohibited at all times
- hard standing for vehicles (parking and access / egress areas) will be cleaned frequently, and

5. Public Relations and Community Consultation

5.1 Liaison with neighbours and surrounding businesses

During the works, we will be responsible for dealing with matters that arise between the construction work, neighbours and adjacent businesses. To help with the need to focus on the school's neighbours, we will be joining the Considerate Constructors Scheme for this project.

The Considerate Constructors Scheme is a voluntary national initiative designed to improve the image of construction through better management and presentation of its sites. All sites registered with the Scheme are monitored by an industry professional who assesses the contractor's performance against the eight-point Code of Considerate Practice: Considerate, Environment, Cleanliness, Good Neighbour, Respectful, Safe, Responsible and Accountable. The three main areas covered by the Scheme's Code are:

- The environment – TDC will do all we can to reduce any negative effect they have on the environment and will carry out the works in an environmentally conscious and sustainable manner.
- The workforce – we will provide clean, appropriate facilities for those who work on them; these facilities will be comparable with any other working environment.
- The general public – we will do all we can to reduce any negative impact they may have on the area in which they are working.

In pursuance of the Scheme and as good management practice, we will issue notices to surrounding neighbours and businesses by 'letter drops', outlining the works to be undertaken, the time scales and the point of contact on the site for any matters that may arise.

6. Summary and Conclusion

Overall, for our approach of delivering the programme with minimum disruption to the school to succeed, the following principles will be applied to each of the individual area:

- Maintain clear lines of communication between all concerned parties
- Close liaison with the Senior Staff by holding regular co-ordination meetings
- Create and sustain a safety culture
- Provide a dedicated access roads to serve construction activities, segregated from the daily operations of the school
- Where the interface between school activities and the need to carry out construction work overlap, then the construction work will be carried out, out of hours, or in such a manner as to minimise disruption
- When the only option is to work in live areas, erect partitions or hoardings to ensure segregation of the construction activities at all times
- Incorporate environmental and safety aspects of design and good construction practice to minimise any adverse impact on the school and local residents
- Limit construction traffic and operations at the start and end of the school day
- Maintain good site husbandry at all times i.e., clear litter and rubbish as soon as practically possible
- Damp down any construction surfaces that may cause dust to blow across the site
- No burning of any materials will be allowed on site
- All operatives will wear Identifiable High Vis Vests
- Keep noise of construction operations within accepted levels and impose more stringent noise levels during examination periods.