Construction Logistics & Environmental Management Plan

Doc. Ref: St. Modwen Homes/Uxbridge The Dice/CLPCEMPV1.2 Date: May 2018

Project: St. Andrew's Park_ The Dice development comprises 101 Apartment and associated parking, landscaping and infrastructure between Grays Road and the Park.

"Safety is, without doubt, the most crucial investment we can make. And the question is not what it costs, but what it saves."

- Robert E McKee

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Construction Method Statement & Construction Environmental Management Plan
Revision Sheet
Record of Amendments

Version No	Date	Brief description of Amendment
1.0	31/05/16	Preliminary issue
2.0	14/6/18	For issue to Hillingdon Council

Note : This is a live document, to be reviewed every 4 months and will be updated as and when any changes occurred

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1.0 Project Summary

1.01 Introduction and Purpose

Planning conditions associated with the outline planning consent for this development requires St. Modwen Homes to submit a Construction Logistic Plan (CLP) & Construction Environment Management Plan (CEMP) for the site. For the ease of reference these 2 documents have been combined to form the following.

These proposals hereby contained within the document will be managed subject to changes of conditions on the site and would be subject to change unless otherwise agreed in writing with local authority.

The CLP & CEMP has been drawn up to discharge Planning conditions. The approved statement will be adhered to throughout the construction period and will provide for the following:

- Specify the type and number of vehicles;
- Provide for the parking of vehicles of site operatives and visitors;
- Provide for the unloading and unloading of plant and materials;
- Provide for the storage of plant and materials used in constructing the development
- Provide for wheel washing facilities;
- Specify the intended hours of construction operations;
- Measures to control the emission of dust and dirt during construction.

The purpose of this document is to reduce the risk of adverse impact from construction work on sensitive environmental resources and to minimize disturbance to local residence, businesses and infrastructure.

This CLP & CEMP describes how St. Modwen Homes will provide the management framework needed for the planning and implementation of construction activities in accordance with environmental commitments identified in our Environmental Policy and any requirements of planning conditions or Section 106 legal agreements. The CEMP will be regularly monitored and revised to reflect and incorporate the S106 requirements.

St. Modwen Homes is making adherence to the CLP & CEMP a contractual requirement of any construction contract associated with the Uxbridge project. It is to cover the management of a contractor's activities and those of any sub-contractor working under the main contractor's control. The CLP & CEMP defines the minimum requirements that have to be met.

All works conducted on this site will be carried out in accordance with St. Modwen Homes Safety, Health and Environmental Management System and the Company Environmental Policy (Appendix 1).

St. Modwen Homes recognizes the environmental benefits of a robust CLP&CEMP ensuring;

- Reduced damage to our natural environment;
- Reduced demand for natural resources;
- Reduced disturbance to our neighbours.

St. Modwen Homes also recognizes the economic benefits of improved environmental performance and recognises that, "Pollution prevention is always better than remediation".

1.02 Planning and Conditions

This document has been drawn up to discharge the following planning conditions of the Outlined Planning Permission (Ref: 585/APP/2015/84) in relation to the Dice scheme, in particular Planning Conditions 27 and 51.

Planning Condition 27 states:

Prior to commencement of any phase of the outline or full planning permission elements of the development as hereby approved, detailed drawings and supporting documentation for the relevant phase/relevant component of the full planning element shall be submitted to and approved in writing by the Local Planning Authority. Unless otherwise agreed in writing by the Local Planning Authority, the detailed drawings and supporting documentation shall include the following:

(i) A demolition and construction environmental management plan including a method statement which shall include:

- The phasing of any construction work and construction traffic signage, a construction logistics plan and construction method statement,

- The phasing of development works,

- The hours during which development works will occur (please refer to informative 12 for maximum permitted working hours),

- A programme to demonstrate that the most valuable or potentially contaminating materials and fittings can be removed safely and intact for later re-use or processing,

- Measures to prevent mud and dirt tracking onto footways and adjoining roads (including wheel washing facilities),

- Traffic management and access arrangements (vehicular and pedestrian) and parking provisions for contractors during the development process (including measures to reduce the numbers of construction vehicles accessing the site during peak hours), which shall accord with the following:

1. The principle construction access to the site will be from the main access off Hillingdon Hill,

2. No construction access will be permitted from the Greenway / Hillingdon Hill junction until the Greenway and Kingston Lane junction improvements have been implemented,

3. No construction access will be permitted from Vine Lane,

- Measures to reduce the impact of the development on local air quality and dust through minimising emissions throughout the demolition and construction process.

- The storage of demolition/construction materials on site,

- Details of the site manager, including their contact details (phone, facsimile, postal address and email),

- The location of a large notice board on the site that clearly identifies the name, telephone number and address for service of the site manager,

- Any means of protection of services such as pipes and water mains within the road reserve,

- Measures to be adopted to maintain the site in a tidy condition in terms of disposal/storage of rubbish, storage and unloading of building materials and similar construction activities,

- Measures to be adopted to ensure that pedestrian access past the site on the public footpaths is safe and not obstructed during construction works,

- Proposed numbers and timing of truck movements throughout the day and the proposed routes,

- Proposed hours of work on the site,

- Measures to ensure deliveries avoid peak periods,

- Ensuring no adverse impact on the Battle of Britain Bunker and associated buildings in the south eastern portion of the site which is to be retained in MOD operation and ownership building

- Measures for protecting neighbours and the public from noise and vibration

- ensure appropriate communication with, the distribution of information to, the local community and the Local Planning Authority relating to relevant aspects of construction

- Appropriate arrangement should be made for monitoring and responding to complaints relating to demolition and construction.

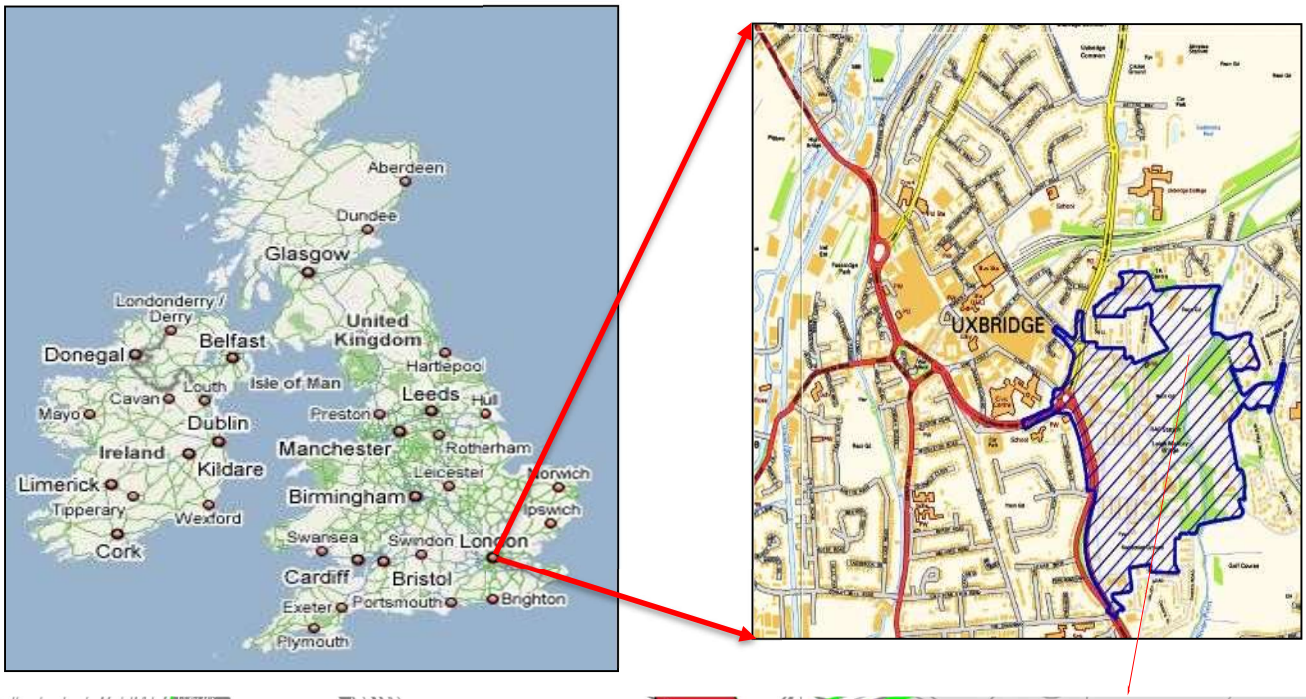
Thereafter and during the construction of each relevant phase of the outline and full elements as hereby approved, the scheme shall be completed in strict accordance with the approved details for the relevant phase of the full element of development for which full planning permission is approved, unless consent to any variation is first obtained in writing from the Local Planning Authority.

Planning Condition 51 states:

Prior to commencement of each phase of the outline element of the development or any of the elements of development for which full planning permission is hereby approved, a construction logistics plan for the relevant phase/relevant component of the full planning element shall be submitted to and approved in writing by the Local Planning Authority. The construction logistics plan shall include measures to minimise the impact of construction of the relevant phase or relevant component of the full planning element on the strategic highway network in accordance with the London Freight Plan and shall include, but is not be limited to measures such as consolidated deliveries, off site prefabrication and the use of recycled materials on site and avoiding peak periods.
For each relevant phase or relevant component of the full planning element, the provisions of the construction logistics plan shall be carried out in strict accordance with the approved details unless otherwise agreed in writing by the Local Planning Authority.

1.03 Project Outline and Location

The site address is the former RAF base, at Uxbridge, Hillingdon, Uxbridge, UB10 0AD. Reference 51⁰ 32' 31.96" N, 0⁰ 28' 20.51" W, see Image 1. It is located to the west [Grab your reader's attention with a great quote from the document or use this space to emphasize a key point. To place this text box anywhere on the page, just drag it.] of central London and approximately 3.2 km from the A40/M40.



The works involve the construction of 7 blocks with a total number of 101 apartment and 109 parking; 86 in the basement and 23 on street level.

1.04 Site Description

Current Site

The proposed area of work is the site of previous buildings which were demolished as part of previous works, the site was then subject to various earthworks in preparation of the future development.

1.05 Timetable for implementations, Schedule and timing of movements

St. Modwen Homes will start this phase of works in July 2018.

Indicative construction dates have been detailed in the table below. These dates and timescales are current best estimates on the information know at this stage.

Key Construction Dates		
Element	Target Start Date	Target Finish Date
Mobilization and site clearance	01.06.2018	16.07.2018
Basement (Block 3 -7)	16.07.2018	30.04.2019
Block 1 & 2	30.07.2018	30.08.2019
Block 3,4,5	20.04.2019	20.08.2019
Block 6 & 7	07.10.2019	20.11.2019

Phasing Strategy:

Mobilisaton and Site Clearance
Target Implementation Date 01.06.2018 - 16.07.2018

Phase 1:
Basement Construction to Blocks 3-7
Target Implementation Date 16.07.2018 - 30.04.2019

Phase 2:
Blocks 1&2 Substructure, Superstructure , Envelope & External works
Target Implementation Date 30.07.2018 - 30.08.2019

Phase 3:
Blocks 3,4&5 Substructure, Superstructure , Envelope & External works
Target Implementation Date 29.04.2019 - 28.08.2019

Phase 4:
Blocks 6&7 Substructure, Superstructure , Envelope & External works
Target Implementation Date 07.10.2019 - 20.11.2020

01 PROPOSED PHASING - SITE PLAN

1.06 Site Working Hours

The following working hours, as informed by the Planning Conditions will be adhered to at all times.

Working Hours	
Monday – Friday	07:30 – 18.00
Saturday	07:30 – 13.00
Sundays, Bank Holidays & Public Holidays	No Works

2.0 Construction Management

2.01 Dealing with Regulatory Agencies

The following table sets out the Regulators likely to be involved in the project and their responsibility: -

Regulator	Responsibility
London Borough of Hillingdon	Noise, Air Quality, Traffic, Nuisance
London Borough of Hillingdon	Local traffic management
Environment Agency	Effluent Discharge, Abstraction Licenses. Surface Water Discharge to river
London Borough of Hillingdon	Tree Preservation orders
Thames Water	Foul Water Discharge to Sewer
London Borough of Hillingdon	Ecological Interest
Health and Safety Executive	Health and Safety Issues

All St. Modwen Homes operatives will follow the guidelines listed here to help ensure efficient and effective management of environmental issues.

- Plan ahead, try to avoid problems and give regulators advance warning of potential problems;
- Give regulators the time needed to process any enquiries;
- Display the relevant emergency number for the regulatory agencies. Include in the Construction Safety, Health and Environmental Management Plan and put on the site notice board;
- Ensure that all site personnel know the correct procedures for reporting incidents – they should let the site manager know before contacting the regulatory agencies;
- Notify through the Site manager the Environment Agency and the Local Authority of any significant uncontrolled contaminating spillages and/or issues.

2.02 Management Responsibilities

Management responsibilities for company personnel are set out in the Company's responsibilities section of St. Modwen Homes Safety, Health and Environmental Management System – Policies section.

The St. Modwen Homes Site Manager has principal 'duty of care' responsibility for the management of environmental issues throughout the project.

The Site Manager for this project shall be:

Lee Graham **Mobile:** 07790602283 **Email:** LGraham@stmodwen.co.uk

The Site Manager will delegate certain responsibilities for the day-to-day management to members of his site team. These responsibilities will include auditing environmental practice on site, liaising with regulatory authorities and monitoring contractors.

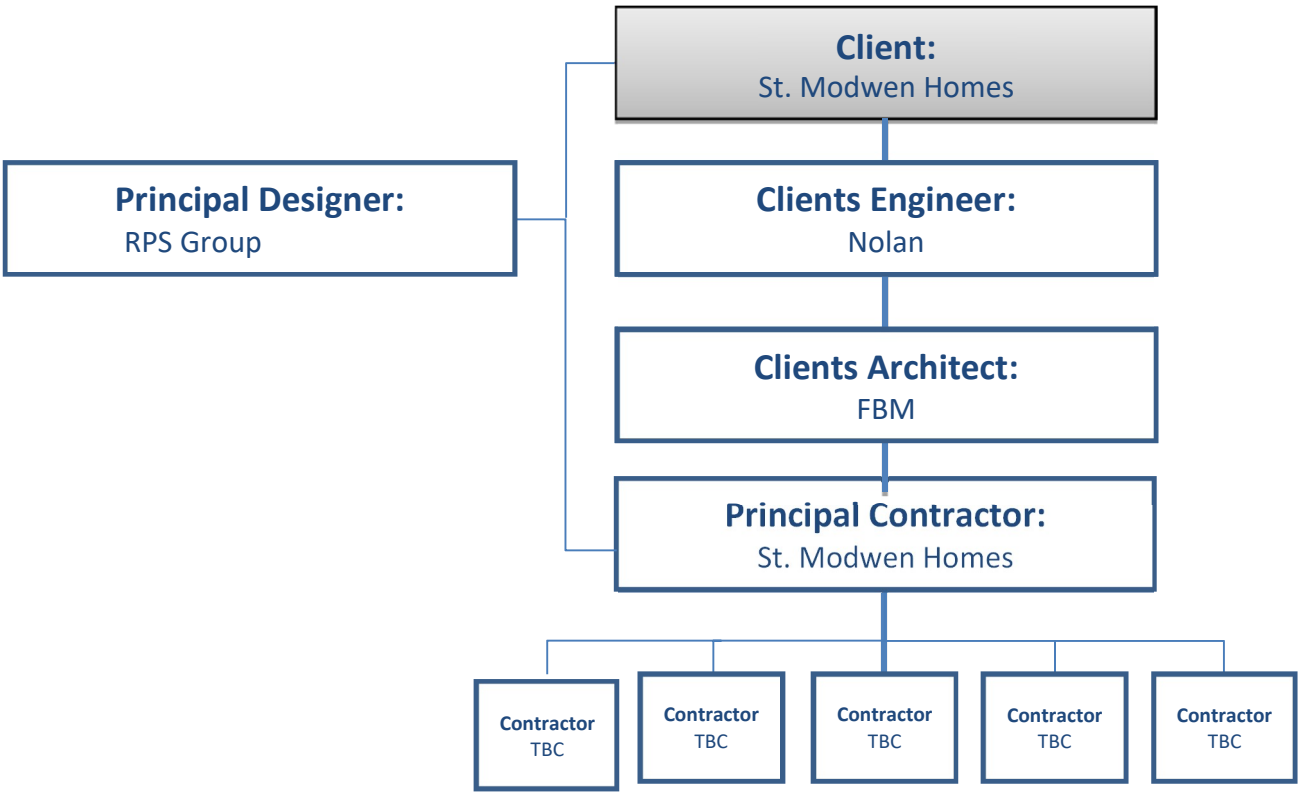
The SHE Advisor for this project shall be:

Ayo Menns **Mobile: 07966202768** **Email:** AMenns@stmodwen.co.uk

St. Modwen Homes safety, health & environmental advisors will make regular unannounced visits to site to check health and safety performance and will include environmental issues, their inspection regime and reporting.

Site engineers and site foremen are usually in the best position to put the project environmental plan into practice and as such the Site Manager will ensure that engineers and foremen understand the environmental obligations and the practical measures needed to comply with them.

The Site Manager will record all emergency incidents and make them subject to the procedure for non-conformance, corrective and preventive action, and review contract specific emergency procedures at stages of the contract to ensure that changing circumstances are catered for.



2.03 Management of Contractors

The Site Manager will ensure that all contractors employed by St. Modwen Homes understand their obligations towards the environment and meet them.

To achieve this, the Site Manager will ensure the following:

- Contractors are made aware of our approach to environmental management before starting work on site through our work package plan, this is issued to all contractors to inform them of what is expected on this project in all areas of risk management and quality control;
- Contractors are made aware of their environmental obligations on the project during initial site induction;
- The past record on environmental performance is checked prior to appointment and proper controls are included in their sub-contracts to ensure conformance with all reasonable requirements with regard to the environment, and encouragement to achieve good environmental performance.

St. Modwen Homes will also insist on contractors signing up to an environmental code of practice (Appendix 3) which will be distributed as part of the work package plan, this environmental code of practice will commit the contractor to:

- Minimise any disturbance or negative impact (in terms of noise, dust and inconvenience) caused by the construction site to the immediate neighbourhood;
- Manage their work activities with due regard to the environment;
- Ensure necessary care is taken to prevent damage, accidental or otherwise, to natural features, especially hedgerows, wetlands, grass verges…etc.

2.04 Raising Awareness

Raising awareness amongst all staff, operatives and contractors will be achieved through a series of toolbox talks which will be held at regular intervals corresponding with the stage of the development. The tool box talks will be based on the text included in the Construction Confederation Tool Box Talks Series (Appendix 2 gives an example) and will include the following topics.

- Spill Control;
- Water Pollution Prevention;
- Dust & Air Quality;
- Noise & Vibration;
- Water Pollution – Silt;
- Water Pollution – Cement & Concrete;
- Waste Management – Reduce, Reuse, Recycle of Waste;
- Storage & Use of Petrol;
- Material Handling & Housekeeping;
- Archaeology;
- Bentonite;
- Pumping & Over-pumping;
- Washing Down Plant & Machinery;
- Tree Protection;

All operatives will have attended the Construction Skills Certification Scheme (CSCS) which includes environmental issues in the training books and test.

2.05 Liaising with the Client and Designers

In regular meetings with the Client, environmental issues affecting the design will be raised and discussed.

Alternative approaches and alterations to the design may be required where environmental improvements can be achieved and these will be discussed and agreed with the client and designers as the works proceed.

2.06 Liaising with Neighbours

At the start of the contract, the interests of the site 'neighbours' will be carefully considered. St Modwen Homes will hold meetings to ensure that the construction work programme and Environmental Policy are explained. Any likely nuisances to 'neighbours' will be clearly stated together with the measures taken to minimise disturbance and impacts.

Dependent upon local needs, these meetings will be repeated to continue monitoring of the effectiveness of mitigation measures and to advise of any changes to the programme.

All work will be carried out in such a manner as to cause as little inconvenience as possible to adjoining owners/residents and the general public. St. Modwen Homes will notify all residents in the immediate vicinity of the site of the proposed works and will update them throughout the project should it be deemed necessary, e.g. if there are particularly noisy works such as piling to take place. St. Modwen Homes shall also liaise with the local school and where necessary provide information to educate the children on the dangers of construction sites.

St. Modwen Homes will liaise with local commercial residents to ensure that our activities do not impinge on external activities and that hazards relating to unauthorised site access are communicated to those parties who may be affected.

St. Modwen Homes is aware of the newly constructed John Locke Academy within the wider site, which acts as a primary school for children of the local area. It is understood precious talks have been given to the school by St. Modwen Developments Limited. As such, St. Modwen Homes will liaise with the school as whether they feel another talk necessary and deliver an 'Ivor Goodsite' talk, utilising the Considerate Constructors established safety talk for children.

St. Modwen Homes Ivor Goodsite talk at Locking Primary School

3.0 Site Operations

3.01 Site Management and Control

The Site Manager will have ultimate responsibility to ensure that all environmental responsibilities have been defined and that site personnel understand that environmental issues must be taken seriously. Personnel will be made aware their responsibilities and liabilities to all environmental standards and obligations.

3.02 Considerate Constructors

St Modwen Homes will apply to the *Considerate Constructors Scheme* in relation to this project, and will work to the principles of the scheme laid out below:

Considerate: All work will be carried out with positive consideration to the needs of traders and businesses, site personnel and visitors, and the general public. Special attention is to be given to the needs of those with sight, hearing and mobility difficulties.

Environment: Noise from construction operations and all other sources will be kept to a minimum at all times. Efforts will be made to select and use local resources wherever possible. Attention will be paid to waste management and the avoidance of pollution. Recycling and the use of recycled materials are encouraged.

Cleanliness: The working site will be kept clean and in good order at all times. Safety barriers, lights and warning signs will be maintained in a clean and safe condition. Surplus materials and rubbish will not be allowed to accumulate on the site or spill over into the surroundings. Dirt and dust from construction operations will be kept to a minimum.

Good Neighbours: General information regarding the Scheme will be provided for all neighbours affected by the work. Full and regular communication with neighbours, including adjacent traders and businesses, regarding programming and site activities will be maintained from pre-start to completion.

Respectful: Respectable and safe standards of dress will be maintained at all times. Lewd or derogatory behaviour and language will not be tolerated under threat of severe disciplinary action. Pride in the management and appearance of the site and the surrounding environment will be shown at all times. Operatives will be instructed in dealing with the general public.

Safe: Construction operations and site vehicle movements will be carried out with care and consideration for the safety of site personnel, visitors and the general public. No building activity will be a security risk to others.

Responsible: Ensure that everyone associated with the site understands implements and complies with this code.

Accountable: The Considerate Constructors poster is to be displayed where clearly visible to the general public. A site's contact details will be obvious to anyone affected by its activities.

3.03 Health and Safety Management

St. Modwen Homes will ensure there are clear responsibilities, and those responsibilities are known by all, and effective arrangements are in place for the management of health and safety, through the Construction Phase Health and Safety Plan, which will be in place prior to any work being undertaken on site.

This plan will be reviewed and updated as the project progresses and will have a direct link to this CEMP through various sections ensuring environmental management and health and safety are key drivers throughout the project.

St Modwen Homes is committed to promoting a positive safety culture which will be achieved by:

- Ensuring all persons are competent to undertake the role, task and responsibilities including recruitment, training and advisory support;
- Ensuring adequate control over operations through the effective allocation of responsibilities, securing commitment, instruction and supervision;
- Ensuring the co-ordination and co-operation between individuals, groups and advisors;
- Ensuring good channels of communication throughout all levels of management and the workforce including spoken, written and visible resources.

The Site Manager will maintain a register of accidents, Incidents, near misses and complaints.

To further ensure these arrangements, St. Modwen Homes have in place a monitoring policy for periodic checks on all equipment and procedural records and paperwork such as issue records and registers of inspections conducted by the contractors. The following levels of monitoring will be implemented on this project.

Level 1

The relative longevity of the works could present new hazards over the duration of the project that has yet to be identified. Therefore, it has been agreed between the Client, St. Modwen Homes and Safety For Design Ltd that independent site inspections will be carried out unannounced by Safety For Design Ltd as to affect pro-active health and safety management of the construction site. Inspections will evaluate the effectiveness of our health and safety policy, together with compliance with risk assessment controls and exposure of personnel to perceived site hazards.

Level 2

Site inspections will be carried out by St. Modwen Homes Project Manager or his Site Management representative(s) on a daily basis and records kept in accordance with lawful requirements i.e. excavation (using form HS35) and scaffolding inspections (using form HS34) undertaken by the contractors.

Level 3

St. Modwen Homes Site Managers will continually consider health and safety as they go about their duties and ensure employees and contractors offer similar awareness to site hazards. This will include the continual assessment of plot development (using form HS56) and consultations with employees and contractors on works in progress, such as toolbox talks.

3.04 Good housekeeping

Good housekeeping is an important part of good environmental practices and it helps everyone to maintain a safe and efficient site. The site will be tidy, secure and have clear access routes that are well signposted.

The measures below will be adopted to manage housekeeping on a daily basis:

- Segregate waste as it is produced;
- Remove waste frequently from site;
- Keep the site tidy and clean, all operatives to pursue a “clean as you go” culture;
- Ensure that material and plant storage areas are properly managed;
- Keep hoardings tidy – repair them and repaint them when necessary, remove any fly posting.

Regular checks will be carried out to ensure that litter has not blown around the site or perimeter fencing and we will adopt a policy that any litter within 20m of our site is ours and will be cleaned up by our personnel.

3.05 Public relations

St. Modwen Homes recognises that a significant duty as Principal Contractor is to minimise the risk of disturbance to neighbours and that good public relations is imperative.

The arrangements that will be considered are outlined below:

- Visit occupants of particularly sensitive buildings and keep them informed of progress;
- Prepare a leaflet and distribute it to nearby residents or occupiers. Provide regular updates;
- Identify key local community representatives and keep them informed;
- Write articles about the progress on site in the local press;
- Display a Considerate Contractor contact board at the site perimeter so that the public know who to contact if they have a complaint or a comment to make. Use this board to display information on the phasing and other relevant matters including Site Manager and other contact details;
- Establish a complaint line and check that it works by calling it;
- When complaints arise deal with them quickly and in accordance with a defined complaints procedure. Create a log of complaints;
- Consider providing a position so that passers-by can observe activities on site.

3.06 Managing materials

The following will be adopted when ordering and receiving deliveries:

- Order the right quantity and quality of materials to arrive at the time when they are needed. This reduces the length of time materials have to be stored on site and therefore reduces the potential for damage or theft to occur;
- When ordering, find out in what form the materials will be delivered, so that the appropriate unloading plant can be arranged;
- After placing an order, check the arrangements for handling and storing materials as soon as they arrive on site;
- Arrange for deliveries to be received by a member of site personnel who is able to supervise the delivery, carry out a quality inspection and ensure that the materials are unloaded to the appropriate place.

Storage

There will be a combination of central storage and workplace storage used on site. The balance between them will depend on the works in progress. It is important to manage storage areas well because they set an example for the site. The following points will be followed:

- Ensure that the material supplier's instructions on storage are being followed;
- Store materials that are valuable or attractive to thieves in a secure area;
- Store materials away from waste storage containers and from vehicle movements that could cause accidental damage;
- Secure lightweight materials to protect them from wind damage or loss;
- Take special care over the storage of materials that are potentially polluting.

Handling - There are many methods of moving materials around site. Options include cranes, trucks, forklifts and even manual handling. The Site Manager will ensure that the supplier's instructions on handling their materials are followed to minimise damage to materials and injury to site personnel. St. Modwen Homes will have a dedicated site telehandler and trained operative to assist with the movement of all material around the site.

Typical storage area

Typical lockable storage

Note: The position of the material storage and welfare area may change before the project commences or during the project, in which instance this plan will be updated.

3.07 Waste Management

The project will produce waste materials as a natural part of the work. This waste material, due to the volumes involved, and the limited space at temporary compounds and depots, will be disposed of swiftly, cost effectively and in full compliance with all legal requirements.

Duty of Care - All those who produce or handle wastes from demolition, earthworks and construction activities have legal responsibilities – Duty of Care – for its safe keeping, transport and subsequent recovery or disposal.

Duty of Care requires you to take care of your waste while it's in your control, check that the person to whom you give your waste is authorized to receive it, make out a waste transfer note when the waste is handed over and to take all reasonable steps to prevent unauthorized handling or disposal by others. For example, checking that your waste goes to the intended facilities can avoid fly- tipping.

Examples of authorized persons are council waste collectors, registered waste carriers, holders of a waste management license or holders of a registration of an exemption from the need to hold a waste license.

Waste Classification - Wastes from construction, demolition and excavation operations will normally be a controlled waste, classified as commercial or industrial waste and hence subject to waste-related legislation.

However, certain types of controlled waste have properties that make them especially hazardous or difficult to dispose of. These wastes are referred to as Hazardous Waste and require a pre-consignment note system for their recovery or disposal.

Although the Site Waste Management Plan (SWMP) Regulations 2008 have now been revoked St. Modwen Homes will still produce a Site Waste Management Plan. The key aim being improving materials resource efficiency, by promoting the economic use of construction materials and methods so that waste is minimised and any waste that is produced during the course of works can be re-used, recycled or recovered in other ways before disposal options are explored.

The plan will describe a set of waste management estimates, against which the St. Modwen Homes will compare performance as the construction project progresses. The plan will forecast how much waste is likely to be produced on site, and then for each type of waste the proportion that will be re-used or recycled on site, or removed from the construction site for re-use, recycling, recovery or disposal elsewhere

St. Modwen Homes will ensure best practice regarding site waste management, and sort out waste into their appropriate recyclable and land fill skips as required, and incorporate skips/containers for any contaminated material.

Waste skips will not be situated:

- Near the site boundary where arson can be a consequence;
- Close to structures/buildings which can result in the spread of fire, more than 8 meters away;
- Near to drains, sewers or water courses to prevent contamination.

All wastes generated from the works will be dealt with in full compliance with the statutory duty of care as defined by the *Environmental Protection Act 1990* and all subsequent amendments. It is anticipated that the waste planned for disposal will be classified predominantly as non-hazardous waste, although there may be a certain amount of classified as hazardous waste.

St. Modwen Homes will be the waste producer; it will be a St. Modwen Homes responsibility to comply with all regulatory and duty of care obligations in the transportation and disposal of these materials. Copies of the licenses of receiving sites will be secured at least 14 days prior to start of disposal. Copies of all consignment and transfer notes will be kept on record for audit purposes.

St. Modwen Homes will be responsible for the off-site disposal of all unsuitable materials. Materials classified as unsuitable, including waste identified as being hazardous arising from the works, will be tested by St. Modwen Homes for compliance with the required waste acceptance criteria if disposal to licensed landfill is required.

Acceptable waste is to be transferred by St. Modwen Homes to a facility licensed to take the waste. St Modwen Homes will be responsible for all pre-treatment of waste. St. Modwen Homes will, before commencing any part of the works, collate a list of locations of tips off site that they propose to use for the disposal of materials arising from the temporary and permanent works, which are authorised by the local authorities.

St. Modwen Homes will ensure all skips, where required are sheeted prior to removal from site to eliminate airborne debris during transit. If dust and dirt become an issue, St. Modwen Homes will provide cleaning procedures i.e. wheel wash facility and a road sweeper if required.

Waste material will not be allowed to accumulate within the compound. This means controlling build-up of waste at local points around the site, particularly where they impede access and egress, as well as any major accumulation points.

In accordance with the duty of care St. Modwen Homes will provide copies of all controlled waste transfer notes relating to the disposal of materials arising from the temporary and permanent works. Cradle to-grave waste audits will be undertaken at regular intervals. Where removal and disposal of waste is sub-let St. Modwen Homes will ensure that the contractor complies in full with the requirements of the regulations. There will be NO burning of timber, rubbish or any other waste materials on site.

3.08 Haulage and construction traffic

St. Modwen Homes will develop a construction traffic management plan for the project taking into account the movement of construction traffic including all vehicles and pedestrian movements on and around the site.

Access to the site is via Hillingdon Road, located on the western site boundary. Large construction vehicles will access via either Park Road (dual carriageway) or alternatively via Oxford Road (single carriageway) from Junction 1 of the M40 to the north, and from Junction 4 of the M4 to the south via Harlington Road. The site is bounded to the west by

Park Road running into Hillingdon Road, to the south by Dawes Road running into and across the northern edge of Hillingdon Golf Course, to the north by Honeycroft Hill and bounded in the east by the River Pinn into Saunders Road, St. Andrews Road and Yew Tree Road.

No construction access will be permitted via the Greenway/Hillingdon Hill junction. Construction vehicle traffic will not be permitted to access the site from Vine Lane or via the newly constructed school access.

3

Surrounding Roads

Due to the location, roads, footpaths and all accesses will be kept clear of debris and free of mud at all times. It is anticipated that the works will some deliveries or removal of materials, as such the Principal Contractor is to make provision wheel washing facilities, should they be requested by the Client, and participate in the site wide road sweeping to ensure no detritus is taken on to the public highway.

St. Andrews Road is used as an access route to the John Locke Academy and the residential areas to the East. Access is restricted to this area by a card controlled road barrier and is to be used only by residents of the area.

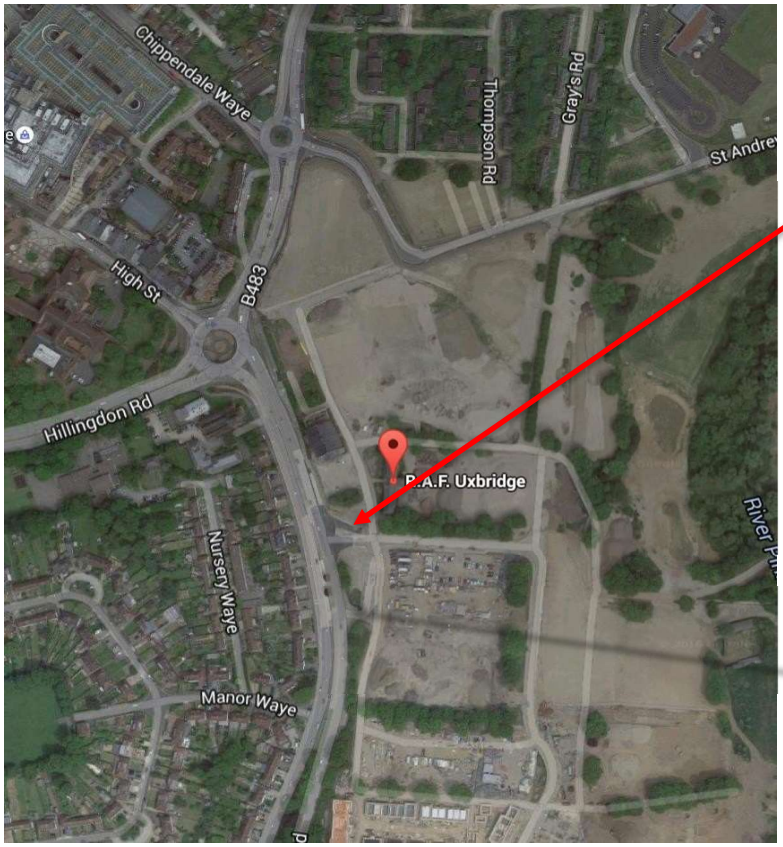
There are two vehicle bridges located within the site, crossing the River Pinn, however it not anticipated that there will be a requirement for crossing these bridges. The two bridges both have weight restrictions imposed.

The specific weight restrictions are as follows:

Leigh Mallory Bridge – 40t;

St Andrews Bridge – 7.5t.

The Principal Contractor will ensure that their activities do not impede access to local residents.



Site entrance

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Concerns of local community

St. Modwen Homes recognises that a key concern for the local community of Uxbridge and the surrounding areas will be any disturbances caused by traffic. Therefore we have developed our construction design and methodology to:

- Minimise the generation of traffic;
- Use agreed routes avoiding built up areas and having the least impact on road infrastructure in the area;
- Safely manage pedestrians;
- Endeavour to ensure that materials delivered by road travel as short a distance as possible;
- Maintain access for pedestrians;
- We will liaise with the local population to ensure that our proposed access to the site has a limited impact and we will programme our works accordingly.

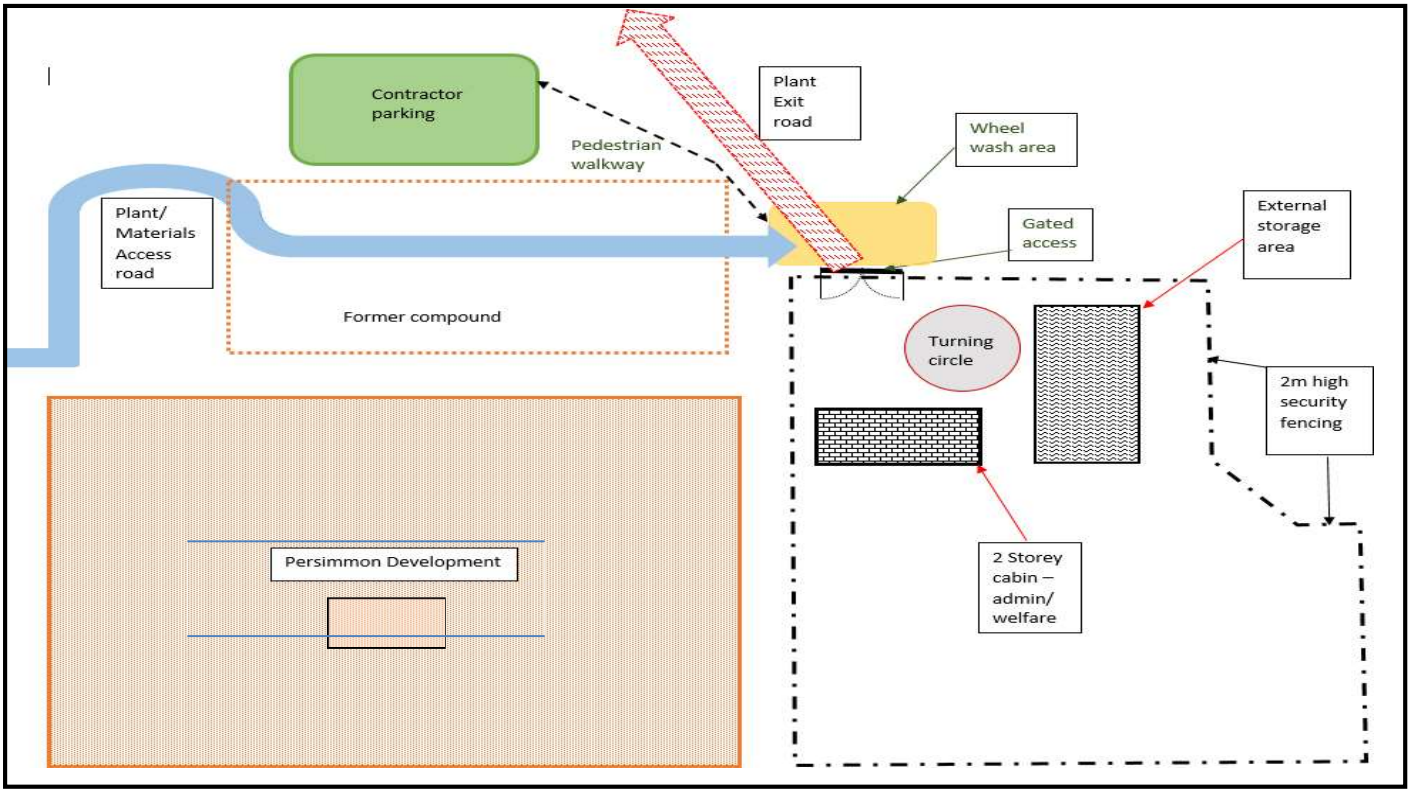
Fuel consumption will be minimised by using local materials and sub-contractors. St Modwen Homes will have strategies in place to reduce both noise and dust emissions during the construction processes.

Traffic Management considerations & details

St. Modwen Homes will comply with Regulation 27 (Traffic Routes) and Regulation 28 (Vehicles) of CDM 2015, by providing a construction traffic management plan which will be displayed in the site office, welfare facilities and included in briefing sessions. The objectives of the plan will ensure:

- The safe and efficient working environment for all staff, visitors and contractors when on the site;
- To ensure visiting traffic and deliveries arriving and leaving the site can operate within definitive areas;
- To ensure that any contractors on site can operate their workforce, plant and equipment in a safe manageable environment.

The plan below shows a basic methodology for the site traffic routes, including indicative positions for site welfare.



The initial works will include the following plant:

- 360° excavator x 2;
- Dumpers x 2;
- Roller x 1;
- Piling rig x 1;
- Telehandler x 1.

The full plan will detail for the site traffic management only:

- Speed restrictions;
- Traffic flow directions;
- Road crossing points;
- Turning circles;
- Wheel wash locations (where necessary);
- Ingress and egress points (both vehicular and pedestrian);
- Fencing type and positioning thereof;
- Site office;
- Welfare provision;
- Material storage areas;
- Visitor car parking;
- Staff and contractor car parking;
- Emergency evacuation assembly points;
- Segregated pedestrian walkways;
- Footprint boundaries.

The phasing of the works is to construct the site infrastructure first. This will provide a robust road system to reduce the spread of dust and mud, and to manage the pedestrian and vehicle traffic on site during construction.

In order to maintain the visual and structural integrity of the tarmacadam surfaced access routes, only vehicles with tyres will be allowed to utilise these routes.

As the works progress St. Modwen Homes will update the construction traffic management plan, with phased traffic management drawings of how vehicular traffic will be maintained and protected whilst the developing construction works are to take place.

Car parking will be in marked/segregated areas with safe access and egress to the site offices, as shown in the plan above the site parking will be adjacent to the site welfare. Safe pedestrian routes from the site office and welfare facilities to the workplace will be in place, with clear signs and instructions. These will be segregated using suitable barriers such as pedestrian barriers with clear crossing points in place.

St. Modwen Homes will implement traffic routes and means of segregating vehicles and pedestrians to reduce the possibility of vehicles overturning or hitting pedestrians, other vehicles or structures, including scaffolding.

The site entrance will be clearly signed to raise delivery driver's awareness to the site entrance ensuring sufficient direction is given so that no confusion can be made, which would result in vehicles missing the site entrance and causing unnecessary congestion, the main site entrance has sufficient room for a number of vehicles to pull off public highway.

St. Modwen Homes will impose a speed limit of 5 mph on site vehicles, when operating within the works. All drivers will be notified individually of the limit. Speed limit signs will be posted at the entrance and at regular intervals through the site.

St. Modwen Homes will put in place a *Drivers Induction Card* to raise delivery drivers' awareness of any increased risks on site. All materials, plant and equipment will be off loaded and loaded in a designated area as shown above, off the proposed haul road adjacent to the car parking area.

The use of a competent banksman will be adopted wherever applicable to direct and co-ordinate movement of construction vehicles into, around and off the site and compound area. St. Modwen Homes will formulate a site layout to reduce the reversing of vehicles on site and where reversing cannot be eliminated the nominated, identifiable and trained banksman will be used, the banksman will wear orange high visibility clothing at all times.

All haul routes will be kept free from mud and detritus at all times, if necessary by regular use of a mechanical road sweeper. St. Modwen Homes will, where reasonably practicable, give consideration to the use of multiple telehandlers to operate a clean and dirty system so that telehandlers operating in muddy areas will not come on to the public highway which will only be access by the 'clean' telehandler.

St. Modwen Homes will ensure that all plant/vehicles on site have:

- An audible reversing alarm fitted;
- All round visibility aids fitted, i.e. additional convex mirrors, cameras…etc.; and
- All audio/visual aids are in good order at all times i.e. flashing beacons.

St. Modwen Homes will ensure the safety of visitors and workers by including, where appropriate, marked and segregated pedestrian walkways, road crossing points and no go areas to pedestrians. Instructions relating to visitors and non-authorised persons will be clearly displayed at the site entrance.

St. Modwen Homes will address slips, trips and falls on the same level, for visitors and site personnel, which can result in broken bones. Consideration will be given to:

- Surfaces – e.g. potholes in roads, site debris and excavations;
- Changes in level caused by temporary road surfaces or reinstatements, excavation covers, heavy plant tracks, ramps and chamber lids not clearly marked;
- Slippery surfaces caused by water, mortar, oils, fuels, silt and mud;
- Site rules not enforced – e.g. inappropriate footwear, running or not taking care on site; and
- General obstructions in walkways such as trailing cables.

The following pictures show the welfare and site compounds used on similar projects, which will be utilised on this scheme.

Typical storage area

Typical lockable storage

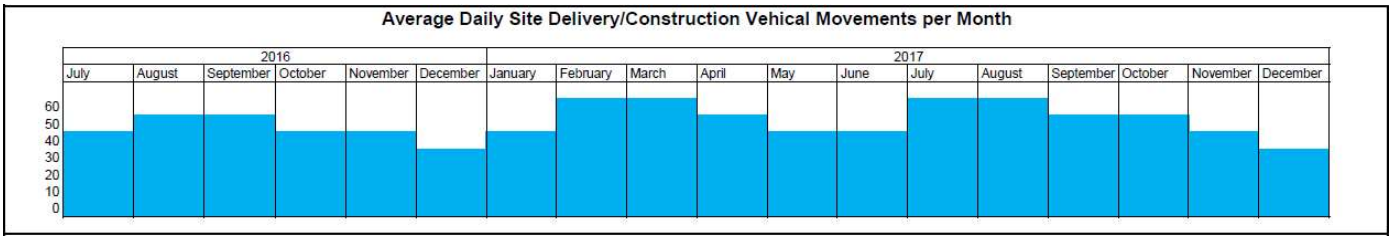
A parking area will be provided in a hardstanding area within the site which is marked on the traffic management plan, as mentioned previously, this will be located adjacent to the site welfare and will be monitored to ensure adequate space is available at all times. This will ensure that the movement of vehicles on Site is restricted to construction plant and deliveries. A pedestrian walk way will be provided from the car parking area on to the site. All personnel will sign in at the site office.

3.09 Deliveries and loading

There will be a requirement for deliveries throughout the construction phase. There will also be the need for the removal of materials and waste from the site, this will be managed in a “just in time” basis as to minimise the likelihood of congestion.

It is expected that there will be number of deliveries to and from the site at differing times throughout the project, however all deliveries shall avoid the peak hours of 08:00-09:00 and from 3.00pm onwards to take into account the finishing time of the John Locke Academy. The construction traffic management plan will demonstrate methods for ensuring this.

The graph below has been drawn up to show our anticipated vehicle movements for the duration on the works.



A letter instructing all delivery companies of the constraint will be attached to all orders by the Quantity Surveyor. If delivery companies knowingly break this constraint, a warning letter will be issued. If this is repeated the offending company will be removed from our supplier list and not used again.

Contractors will ensure that material suppliers will select applicable delivery vehicles which will enter the site as long as the delivery can be received and offloaded in a safe and proper manor.

Due to the various other works expected to be on site during or works, it will be ensured that clear signage is displayed throughout the site to direct deliveries to our site. Drivers when reaching the construction site will be instructed to stop and report to the site office before entering the site by signage local to the site entrance gates, which will commonly be kept shut. Drivers will be directed to the offload area by use of traffic signage. Under the supervision of the contractor the delivery vehicle will be directed to the contractor’s designated offloading/storage area. The offloading of delivery vehicles will be carried out by each contractor for their materials.

To reduce the hazards caused by air borne dust, vehicles carrying loose aggregate and workings, will be sheeted if required. Stockpiles of soils and materials will be located as far as possible from sensitive properties, taking account of prevailing winds.

The surface areas of stockpiles will be minimised (subject to health and safety and visual constraints regarding slope gradients and visual intrusion) to reduce the area of surfaces exposed to wind pick-up.

The unloading/loading area will be pedestrian free due to the amount of reversing during the unloading/loading of vehicles. All audible and visual devises will be used on plant undertaking loading/unloading i.e. reversing alarm and flashing beacon. Personnel working in the storage area will wear high visibility clothing at all times.

Where reversing operations are required vehicles will be restricted from such operation unless managed by a banksman, each contractor will supply a trained and competent banksman to oversee their operations.

It is not thought that any abnormal loads will be used on this project. Where possible, deliveries will be broken down in size, so that smaller deliver vehicles are used. If abnormal loads are delivered to site the local constabulary will be contacted. All recommendations from the police will be adhered to.

3.10 Site security and temporary warning signs

St. Modwen Homes will be responsible for security of the Site and for maintaining adequate warning signage to ensure the health and safety of our own staff and visitors. Site security outside working hours will also be the responsibility of St Modwen Homes and be sufficient to minimise the risk of unauthorised access onto the site and harm to the public, such as securing excavations. To this end, the site will be monitored by a tagged security system which will be monitored off site by a response team who will have direct contact with the Site Manager.

Temporary directional signage will be placed along the route to the site, to advise all delivery vehicles and visitors to site, the correct route to take. This will prevent unnecessary traffic on local roads not affected by the project.

The boundary of the site will be secured with a mix of timber hoarding and Heras fencing with access gates. The main access to the is via Hillingdon Road. No construction access will be permitted via the Greenway/Hillingdon Hill junction. The security gates will be locked out of hours, no personnel will be allowed on site without authorisation from the Client, St. Modwen Homes, and this will include weekend work.

The boundary fence will be erected by a specialist contractor, who will design and install the boundary hoarding and Heras fencing. The hoarding will consist of timber supports concreted into the ground at a suitable depth to support the timber boarding. The boarding will be screwed to the supports to a height of approximately 2.4 meters. The hoarding will be painted St. Modwen Homes Blue and will support any necessary signage and visual panels. All hoarding will be controlled through the temporary works register.

Site security is an important component of good environmental management. Vandals often cause damage that can harm the environment by:

- Opening taps on tanks containing fuel;
- Tipping out other liquids from drums and containers;
- Smashing/stealing raw materials;
- Playing on plant;
- Spraying graffiti or fly posting on site hoardings;
- Destroying works in progress.

The incidences of vandalism are higher on sites in urban areas, especially where they are close to schools or housing estates. St. Modwen Homes will try to reduce vandalism by securing the site, and moving valuable items and those prone to theft from public view. Valuable goods and equipment will be placed in a locked container or storage area.

The site is currently secured by means of various security installations such as hoarding, lockable gates and fencing.

The following rules and examples of good practice will also be implemented to further improve security:

- Avoid stacking materials against the site boundary or fence as this mayhelp vandals and thieves to scale it;
- Within the site ensure that materials that are potentially hazardous to the environment are well secured. Lock fuel outlets when not in use;
- Secure plant to prevent vandalism;
- Immobilize plant and equipment overnight;
- Install deterrents such as lights, warning notices, 24-hour security guards and alarm systems;
- Control the movement of people on and off site by using site passes;
- Position the Site Manager’s office to give a good view of the site;
- If the site is large or at high risk from trespassers, consider installing CCTV cameras;
- Inform local police about the site and seek their advice on security.

Typical St Modwen Homes site hoarding

Typical St Modwen Homes site entrance gate

Warning signage used on other projects

Warning signage used on other projects

4.0 Environmental Issues

4.01 Protection of habitats, wildlife and archaeological site

The *Wildlife and Countryside Act 1981* – makes provisions for the protection of flora and fauna and sets up the framework for designating areas which have special development restrictions. This legislation is relevant to St Modwen Homes in the planning and construction stages of new projects. Consideration is also required during demolition and land reclamation work, to ensure provisions are made if, since the original construction, an area has become a designated area under the Act.

The *Town and Country Planning Act 1990* – requires Local Authorities to address issues of conservation and environmental improvement. Therefore, Local Authorities will be contacted to determine whether there are any restrictions on activities in certain areas due to the necessity for environmental protection.

The *Planning (Listed Buildings and Conservation Areas) Act 1990* – requires the Local Planning Authority to ensure sites which are designated as a conservation area are maintained. These sites will be given special consideration during the planning of new contracts. St. Modwen Homes are aware that there are no listed buildings or conservation areas within this phase.

Our work is highly visible and subject to scrutiny by the Environment Agency, Clients, Consultant Engineering Companies acting on behalf of government departments, members of the public and environmental groups whose interests lie fundamentally in the protection of important features of the countryside and archaeological sites.

Protection of the above areas involves preventing physical damage to wildlife and eco systems by using environmentally friendly work methods and materials which will avoid damage or destruction of trees, plants, nests, sets, warrens…etc.

St. Modwen Homes will avoid undue interference to wildlife and damage to archaeological sites should such sites be encountered, however given that this is an urban, brownfield site these are not anticipated. .

In the case of previously unknown archaeological sites being unearthed (e.g. human remains or artefacts such as coins, metalwork, clay objects…etc.), work will be stopped immediately and brought to the attention of an Agent, Engineer or Site Manager. The Client representative and County Archaeologist will be contacted as soon as possible. If natural or archaeological features are accidentally damaged, work will be stopped, the Site Manager informed and the County Archaeologist will be contacted.

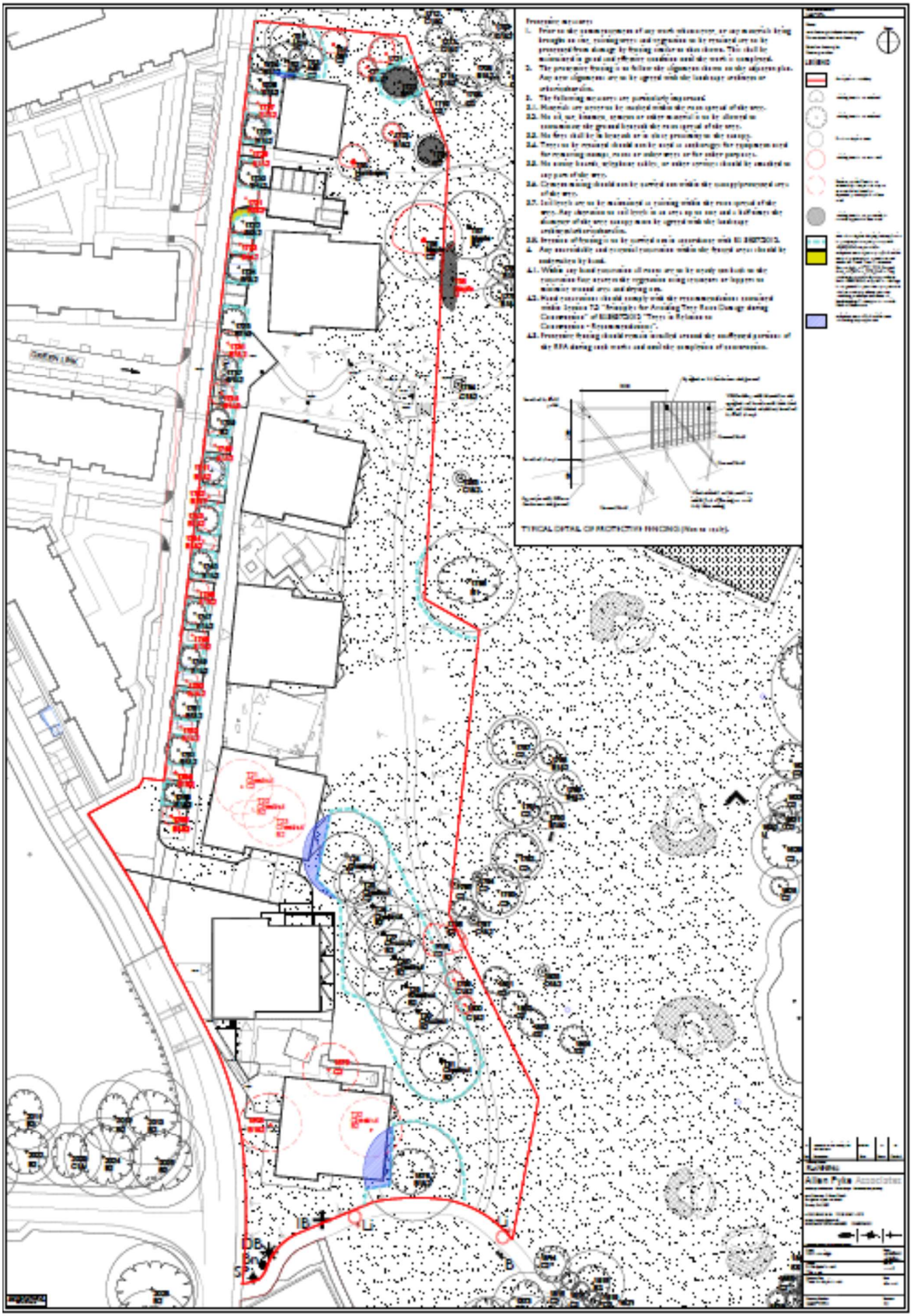
As per Badger survey recommendation and Given the proximity of setts within the wider development, it was considered likely that badger may use the site for foraging/commuting. As such a precautionary method of works should be carried out during construction.
All grassland areas, shrubs and trees will be inspected for the presence of nesting and/or roosting and/or loafing birds. Any birds found to be roosting/loafing will be dispersed while any nests/eggs found will be removed under an appropriate license obtained by Natural England if deemed a significant hazard. See BAA Advice Note 8 for further details.

4.02 Ecology and the protection of trees

including the capping of open pipes and inclusion of mammal ladders in open trenches.
To take this further St. Modwen Homes have studied the implications during the construction phase regarding the positioning of temporary site offices, storage space for materials, temporary services (such as telephone, electricity and water links), vehicle movements and working space. St. Modwen Homes have also considered issues such as soil level changes, services, surface treatments and any other actions or alterations that may affect newly planted trees and landscaping across the site.

St. Modwen Homes have implemented arrangements to alleviate or mitigate the impact from the construction work through this document and the Construction Phase Health and Safety Plan which will both be reviewed and updated as the project progresses. St Modwen Homes will also use the document Tree Protection Plan, as guidance information for the protection and maintenance of new and existing trees.

The plan below details the trees affected by these works and those to be retained, removed or protected. Also included is the details of the protective fencing which will be erected to protect those which are indicated as requiring such measures.


Protective measures
1. Prior to site access commencement of any work whatsoever, or any materials being brought on site, existing trees and vegetation to be retained are to be protected from damage by fencing similar to that shown. This shall be maintained in good and efficient condition until the work is completed.
2. The protective fencing is to follow the alignments shown on site adjacent plan. Any new alignments are to be agreed with the landscape architects or arboriculturalists.
3. The following measures are particularly important:
3.1. Materials are prohibited to be stored within the root spread of the trees.
3.2. No oil, tar, bitumen, cement or other material is to be allowed to contaminate the ground beneath the root spread of the trees.
3.3. No fires shall be lit beneath or in close proximity to the canopy.
3.4. There is to be no ground disturbance and no excavations for equipment and for removing soil, roots or other trees or for other purposes.
3.5. No water hoses, telephone cables, or other services should be routed to any part of the site.
3.6. Chemical mixing should not be carried out within the canopy/protected area of the tree.
3.7. Ground levels are to be maintained as existing within the root spread of the trees. Any alteration to soil levels in an area up to and including the diameter of the tree canopy must be agreed with the landscape architect/arboriculturalist.
3.8. Pruning of trees is to be carried out in accordance with BS 3998:2010.
4. Any unavoidable and essential excavation within the fenced areas should be undertaken by hand.
4.1. Within any hand excavation all roots are to be neatly cut back to the excavation face using the appropriate sharp instrument or tools to minimise wound area and drying out.
4.2. Hand excavation should comply with the recommendations contained within Section 7.3 "Strategies for Avoiding Tree Root Damage during Construction" of BS3998:2010 "Trees in Relation to Construction - Recommendations".
4.3. Protective fencing should remain installed around the confirmed portions of the RPA during work works and until the completion of construction.
TYPICAL DETAIL OF PROTECTIVE FENCING (Not to scale)
LEGEND
Allan Pyke Associates

4.03 Protection of water resources

Water pollution is the contamination of water bodies (e.g. lakes, rivers, oceans, and groundwater). Water pollution affects plants and organisms living in these bodies of water; and, in almost all cases the effect is damaging either to individual species and populations, but also to the natural biological communities. Water pollution occurs when pollutants are discharged directly or indirectly into water bodies without adequate treatment to remove harmful compounds.

Sources of water pollution on building sites include: diesel and oil; paint, solvents, cleaners and other harmful chemicals; and construction debris and dirt. When land is cleared it causes soil erosion that leads to silt being run-off and sediment pollution. Silt and soil, which runs into natural waterways turns them turbid, which restricts sunlight filtration and destroys aquatic life.

Surface water run-off also carries other pollutants from the site, such as diesel and oil, toxic chemicals, and building materials like cement. When these substances get into waterways they poison water life and animals that drink from them. Pollutants on construction sites can also soak into the groundwater, a source of human drinking water. Once contaminated, groundwater is much more difficult to treat than surface water.

Measures to prevent water pollution

St Modwen Homes will ensure good construction site practice to help control and prevent pollution; the following measures will be taken to mitigate the risks:

- St Modwen Homes will prevent erosion and run-off, and minimise land disturbance;
- Cover piles of building materials like cement, sand and other powders; regularly inspect for spillages, and locate them so they will not be washed into waterways or drainage areas;

- Use non-toxic paints, solvents and other hazardous materials wherever possible;
- Segregate, tightly cover and monitor toxic substances to prevent spills and possible site contamination;
- Cover up and protect all drains on site;
- Collect any wastewater generated from site activities in settlement tanks, screen, discharge the clean water, and dispose of remaining sludge according to environmental regulations.

Concrete is highly alkaline and corrosive and can have a serious impact on watercourses. It is essential to take particular care with all works involving concrete and cement. Suitable provision will be made for the washing out of concrete mixing plant or ready mix concrete lorries so that washings do not flow into any drain or watercourse or seep underground.

In the event of a spillage on site, the material will be contained (using an absorbent material such as sand or soil or commercially available booms). All spillages will be reported to the Site Manager who will inform the Environment Agency in the event of a significant occurrence.

Run-off waters and silt pollution

The *Water Resources Act 1991* makes it an offence to cause pollution to controlled waters, either deliberately or accidentally. Controlled waters include all watercourses and water contained in underground strata (groundwater).

The EA has issued pollution prevention guidelines relevant to oil and fuel storage and handling (Preventing Pollution on Industrial Sites; Above Ground Oil Storage). Although the guidance was prepared for permanent industrial sites, the principles of care also apply to temporary sites. To this end St Modwen Homes will ensure:

- Containers are clearly labelled;
- Storage areas are bunded, bunding of tanks will include all delivery points;
- Only appropriate tanks or containers that will not leak or corrode will be used for storage;
- Delivery of oils…etc., will be supervised by a responsible person, and any spillages contained and reported immediately;
- The volume of oil and fuel stored at any time will be kept to the minimum for operations;
- A nominated member of staff will be responsible for fuel storage and handling;
- Oil and fuel will only be stored in suitable containers which are clearly labelled;
- Oil and fuel WILL NOT be stored outside the designated storage area. Any containers found outside these areas will be confiscated.

Fuel storage areas will be located at a distance from surface waters or any surface water drains, and have an impermeable surface and a bund with 110% containment of the stored fuel. This can also be achieved by a mobile storage rack/tank with integral spillage containment, or by using several layers of heavy duty polythene sheeting with edges raised to contain even major leakages. Double skinned tanks can be an alternative.

Storage areas will be marked and will only be located in areas without danger of accidental damage by vehicles to stored equipment. Storage areas will be locked or otherwise protected to reduce the risk of vandalism and theft which may result in pollution incidents.

Storage containers (tanks, drums, other containers) will be checked regularly for signs of corrosion or physical damage, and will be routinely inspected by the nominated responsible person.

Any material contaminated with oil (e.g. soil, rags, and other absorbent materials) will be classed as hazardous waste and will be disposed of accordingly (see Section 3.7 – Waste Management for details).

The development site will store some diesel fuel for vehicles and fuel/oil for plant and machines. The volumes will vary, depending on demand.

Storage and handling of fuel and oil may result in spillages due to operator error, mechanical damage to containers. This may result in soil and surface water contamination, and possibly subsequent groundwater contamination. St. Modwen Homes will clean up any spillages, to prevent environmental damage. To this end spill kits, with absorbent material and padded bunds will be present on site.

Loss of oil to surface waters is highly visible and likely to attract the immediate attention of the Local Authorities and/or members of the public even if the quantities involved are minute. As little as one gallon of oil can cover an area of water of approximately 100 sq. meters. Oil pollution is currently the single major environmental issue most targeted by the Environment Agency.

Soakage materials will be held on all sites where fuel/oils are stored and staff will be trained in their use. An Emergencies Procedure will be issued when required and it will be prominently displayed in all site/depots accommodation.

Although not so obvious a cause of water pollution as chemicals or farm waste, for example, silt causes six per cent of all water pollution incidents. Any works which create silt therefore pose a serious threat to the water environment.

Silt causes lasting damage to river life by:

- Clogging gills, so fish suffocate and die;
- Destroying spawning sites;
- Injuring fish by its abrasive action;
- Destroying insect habitats on the riverbed, starving fish of their food source;
- Stunting aquatic plant growth, limiting oxygen supplies, shelter and a food source;
- Building up to cause flooding.

Also, oil and chemicals are often present in silt, especially from roads, land reclamation, and construction sites. This causes even more dangerous pollution.

Preventing silt pollution in the first place is the best solution – and can be done by careful planning and taking suitable precautions.

The construction industry is a major cause of silt pollution. There are many reasons – rainfall running off disturbed or stripped ground, for example.

Virtually all development, construction and maintenance works are likely sources of silt pollution. These include;

- Land reclamation;
- Any pipelines construction and repairs;
- Dewatering or pumping out excavations;
- Demolition; Concreting;
- Culvert cleaning;
- Sand blasting;
- Road cutting.

4.04 Protection of Amenity – Noise, Air Quality, Mud and Vibration

The *Environmental Act (Part III) 1990* – requires local authorities to inspect their areas to detect statutory nuisances (e.g. noise, accumulation of waste). The Act makes provisions for individuals to take action in the case of a grievance involving a statutory nuisance, for example, noise.

The *Environmental Act (Part IV) 1990* - makes it an offence to leave litter at work sites and depots (unless a prior agreement with the landowner has been arranged).

No contaminated soils or other materials shall be imported to the site. All imported soils for landscaping purposes shall be clean and free of contamination. All imported soils shall be tested for chemical contamination, and the results of this testing shall be submitted to and approved in writing by the Local Planning Authority.

Piling or other deep foundation works using penetrative methods shall not be permitted other than with the express written consent of the Local Planning Authority, which may be given for those parts of the site where it has been demonstrated that there is no resultant detrimental impact upon the stability and fabric of the historic buildings on site.

Noise

Noise from plant and tools as well as vehicles is a major source of complaints from residents.

St. Modwen Homes will ensure equipment meets the advised sound limits. World Health Organisation limits for daytime outdoor noise are recommended at 55 decibels to prevent annoyance.

<u>Additional Requirements</u>

Great consideration will be given to the neighbouring community at all times with regard to noise, which is hereby defined as ‘any unwanted sound’.

Site radios will be at the discretion of St. Modwen Home’s Site Manager, where allowed on site the volume will be kept at a reasonable level.

St. Modwen Homes will achieve the lowest reasonably practicable noise levels by utilising items of equipment, which have been specifically designed and/or modified to reduce the noise of normal operations. All static equipment will be so located and installed as to minimise nuisance to persons living or working in the vicinity.

Construction work by definition involves heavy plant and machinery and will result in unwanted sound (the accepted definition of noise). However, St. Modwen Homes (with similar expectations upon contractors) will follow the mnemonic E.R.I.C.P.D wherever practicable:

E- Eliminate: the risk in the first instance;

R- Reduce: where risk cannot be eliminated, then reduce exposure to the risk;

I – Isolate: set barriers to physically separate operator and risk e.g. guarding dangerous machinery;

C- Control: set engineering controls e.g. local exhaust ventilation to remove fumes; or safe systems of work e.g. prohibition of smoking on site;

P – Personal Protective Equipment: used as a last resort until other alternatives are installed.

D – Discipline: involving clear communication of safety rules, safe practices, use of safety signs, managers/supervisors setting a good example and ultimately the use of company disciplinary procedures.

The E.R.I.C.P.D hierarchy of control measures is applicable to all risks.

Where construction activities occur close to occupied properties or sensitive areas all practical measures will be taken by St Modwen Homes to minimise noise. Unless specified otherwise the recommendations in B.S. 5228:1984 Code of Practice for Noise Control on Construction and Open Sites, Guide to Noise Control Legislation for Construction and Demolition including Road Construction and Maintenance, will be adhered to for noise levels at the site boundary and occupied buildings within the site. St. Modwen Homes will at all times comply with The Noise at Work Regulations 1989.

Noise assessments will be completed for all plant, machinery and tasks to help ensure employees, contractors, visitors and neighbours to the site are protected where necessary and with a minimum of disruption to the community. Noise monitoring will be undertaken at regular intervals at the site boundary adjacent to residential areas, which will be documented. Contractors will assess sources of noise likely to exceed occupational action levels prior to commencement of works on site.

St. Modwen Homes will employ suitable measures to reduce and contain any noise at source. These measures will include well maintained plant and machinery, preventative maintenance on plant and equipment, the use of temporary baffles and sensible positioning of plant and equipment, and utilise technological advances e.g. suppressed/insulated equipment.

Only sound-reduced compressors will be used, with properly lined and sealed acoustic covers fitted in accordance with the manufacturer’s instructions and kept closed whenever the machines are in use. All ancillary pneumatic percussive tools will be fitted with mufflers or silencers of the type recommended by the manufacturer.

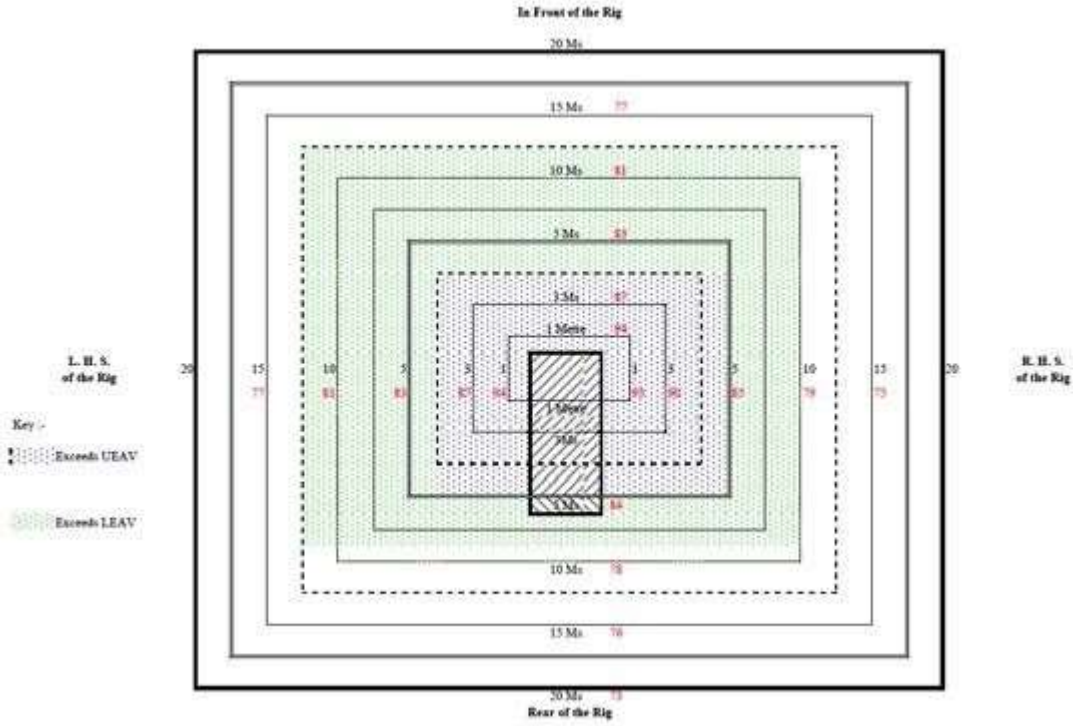
When plant/equipment exceeds the recommended noise levels St. Modwen Homes will remove it from site and find an alternative; as a minimum PPE i.e. ear defenders, will be provided in accordance with operator’s manuals and recommendations, not only to the operator but to all personnel who have to undertake tasks in the vicinity of the noise.

Machines in intermittent use will be shut down in periods between work periods or throttled down to a minimum. Pumps and mechanical static plant will be enclosed by acoustic sheds. St. Modwen Homes will remove from the works any item of plant which in the opinion of the Site Manager is ineffectively silenced.

St. Modwen Homes recognises that compliance with the above clauses and the related noise schedule does not relieve the PC of his general obligations under the Environmental Protection Act, 1990.

There will be a requirement for piled foundations on this site, St. Modwen Homes will use a competent contractor for the piling whose piling rigs are fitted with a 'quiet hammer' system to reduce noise associated with driven piles. Rather than an exposed hammer, an encase hammer will be used, which greatly reduces noise. They will use a short sectional pile which reduced the overall high of the rig's mast therefore the area of influence from the hammer. BS 5228 Part 1 suggests that during the working hours of 8am to 6 pm the noise trigger threshold is 75 dB. As you can see from the attached noise output level map, at 20 metres, levels are 73 db.

Fig 1.2 - Contour Noise Output Level Map - Mobile Driven Piling Rig - 5010



Air Quality

Dust control is essential and will almost certainly be required at various stages of development - the need will be assessed at the time of contract start-up. Water bowsers with spray attachments will be held in readiness and roadways will be kept as clean as possible at all times through regular cleaning patterns.

As stated earlier the road system will be constructed early in the build programme, which will greatly reduce the amount of dust generated and the spread of dust.

The location of the site and the planned construction activities do not give rise to a serious risk to air quality. However, contractors will be expected to take measures to minimise the presence of air borne dust during construction. It is anticipated that dust will travel a considerable distance from where it is generated.

The principle mitigation measure to avoid contamination to the neighbouring houses, buildings and infrastructure is to reduce dust at source with water and/or vacuumed extraction measures.

The following additional measures will be taken:

- Design controls will be implemented for construction equipment and vehicles, and appropriately designed vehicles are to be used for materials handling;
- Completed earthworks will be vegetated as soon as practicable;
- The site will be regularly inspected and site boundaries checked for dust deposits and removed as necessary. In addition, local roads will be checked and cleaned when necessary;
- There will be no burning of materials on site.
- Haul routes will be constructed with tarmac or stoned up to a suitable standard;
- Design controls will be implemented for construction equipment and vehicles, and appropriately designed vehicles are to be used for materials handling;
- Completed earthworks will be vegetated as soon as practicable.

Mud

St Modwen Homes will take all reasonable measures to avoid mud being deposited on public roads. Adjacent roads and footways will be regularly inspected and cleaned.

Measures to be adopted will include:

- The provision of easily cleaned and properly drained hardstanding for vehicles entering, parking on and leaving the site;
- The provision of wheel-washing facilitie;
- The use of approved mechanical road sweepers, to clean hard-standings and any mud or debris deposited by site vehicles on roads or footpaths in the vicinity of the site;
- Secure sheeting of lorries carrying spoil or other particulate materials.

St. Modwen Homes will take all reasonable measures to minimise sedimentation of highway drainage systems. This may include the use of sediment traps and/or barriers to prevent mud and/or contaminated materials entering the system. If deemed necessary at any point, St. Modwen Homes will provide a gateman on the exit of the site and a wheel wash station (or similar system) will be present to wash down exiting vehicles to stop mud and dirt spreading on the surrounding roads.

It is proposed to wherever possible to prevent any mud or deleterious material from being brought on to the highway, by constructing the site infrastructure as soon as possible.

The site manager will assess the site conditions, taking into account site activities and weather conditions. This will determine when further measures are required. These will be the use of a power washer, or a mechanical road sweep. Internal roads will be cleaned using a road sweep attachment for the telehandler.

Road sweeper used on other projects

Telehandler attachment used on earlier projects

Vibration

St. Modwen Homes will be using concrete driven piles for this phase. The ground vibration levels will be monitored and recorded at the perimeter of the site.

In the event that any levels monitored exceed an acceptable level the works will stop and be reassessed with the piling contractor for a solution to mitigate this going forward.

4.05 Visual impact

Temporary site accommodation, fencing and materials storage areas will be sited to minimise visual impact. Visual impact will be considered throughout the project. At this stage every effort will be made to minimise the environmental impact of visual intrusion.

5.0 Appendices

5.01 Appendix 1 – St Modwen Environmental policy

St. Modwen Homes recognises that our business activities have an impact on the environment; therefore we are committed to encouraging a proactive environmental attitude through environmentally sound policies and effective management by following our Environmental Code of Practice and supporting documentation contained in our Safety, Health and Environmental Management (SHE) System.

St. Modwen Homes accepts and acknowledges its obligations and responsibilities under legislation and guidance in dealing with environmental issues that affect or arise in consequence of our construction business.

St. Modwen Homes strategy is to use competent persons/companies to identify environmental issues and assess their significance. These persons/companies will then provide advice and guidance so that St. Modwen Homes can implement measures to mitigate and minimise the potential impact to the environment.

The key elements of our strategy to achieve this policy within our construction operations, including sites on which we operate, are to ensure;

- We maintain compliance of all relevant environmental legislation and continuously improve our environmental performance by integrating recognised environmental management best practice into our business operations;
- We promote environmental awareness amongst those working for or on behalf of St. Modwen Homes, providing training and encouraging sub-contractors and suppliers to adopt sound environmental practices;
- We quantify and take action to reduce the carbon footprint of our business activities to meet our objectives and targets;
- We are considerate in the use of land undergoing development having special regard to the storage, treatment and disposal of any waste, hazardous or potentially toxic materials to avoid environmental harm;
- We use and re-use materials to minimise and curtail creating waste and whenever practicable, using materials and products from sustainable sources;
- We control the emission of pollutants, noise and dust, and the use of potentially harmful substances and treatments particularly during construction activities;
- We conserve energy through sensible selection, use and management of resources, equipment, plant and transport;
- We consider environmental issues and energy performance in the acquisition, design, construction, location and use of buildings;
- We continue to develop, monitor and investigate our systems, practices and procedures at each stage of manufacture and construction to ensure the environment remains a foremost consideration.

This policy represents our general position on environmental issues, and the policies and practices we apply in conducting our regeneration business. St. Modwen Homes will ensure arrangements are in place to review and update this policy annually and/or in line with any changes in legislation.

5.02 Appendix 2 – Toolbox Talk example

ST.MODWEN HOMES	Toolbox Talk Dust & Air Quality	Section 4 Supporting Documentation

Introduction

Many of the materials that we use have the potential to create dust and dirt.

Fine particles of dust and dirt, once airborne will settle out on the environment and cause a nuisance through soiling of surfaces, as well as causing health problems.

Another common cause of complaint made towards us as a construction company is a direct result of vehicles depositing mud on public highways.

Contaminated or hazardous material such as asbestos require specialist attention in order to comply with legislation, but general dust and dirt can be reduced on site by complying with the following guidelines:

Reducing dust on site

- Good housekeeping and site planning will help in general to reduce dust and dirt created on site;
- Store dusty materials in an enclosed area, reducing the potential of wind erosion;
- Ensure that all dust collecting equipment is properly maintained and is operated efficiently;
- During periods of dry weather, especially during the summer use fine water sprays in order to dampen down materials, haul roads and vehicle routes;
- Make use of Wheel wash facilities, especially when leaving the site and using public highways;
- Sheet vehicles when transporting fine or contaminated materials;
- Keep your vehicle speed low on site especially during periods of dry weather;

Do's

- ✓ Damp down stock piles in dry periods;
- ✓ Store stock piles away from populated areas if possible;
- ✓ Use a wheel wash system to prevent mud being carried onto the highway;
- ✓ Recycle as many materials as possible this will cut down on the amount that has to be brought in;
- ✓ Plan site works so that soil stripping and replacement can be undertaken in summer months.
- ✓ Identify a person responsible for supervising soil management.
- ✓ Clearly mark out all haul routes and areas to be protected from construction activity.

Don'ts

- ✗ Do not drive vehicles erratically on site;
- ✗ Do not allow vehicles off site if they are not sheeted up;

5.03 Appendix 3 – Contractors Environmental code of practice

We have prepared the code of practice to enable contractors appointed by ourselves to understand what standards should normally be adopted when undertaking the following types of building works:

1. Demolition;
2. Site clearance and remediation;
3. Construction;
4. Maintenance and repair.

It is the responsibility of the contractor to ensure that all contractors and site personnel, working under their control, are aware of and comply with the requirements of the code.

St Modwen Homes Construction and Environmental Management Plan will provide more project specific information; the contractor should generally consider the following issues;

Hours of working

We consider that the following working hours should apply when there are sensitive receptors (e.g. school, hospital, residential property) adjacent to the site. These details will be confirmed in pre-construction information issued to the contractor and at the project's pre start meeting.

Unless agreed in advance with us no working should be undertaken on Sunday or Public/Bank Holiday.

Changes in daylight hours will also be considered where necessary.

Construction works outside these hours may be undertaken in the event of an emergency or to facilitate a safe working environment

We also acknowledge that some activities may be undertaken on site without causing disturbance to neighbours (e.g. electrical rewiring) and therefore may be scheduled outside the normal working hours. The arrangements for such work should be discussed with our site management team.

Temporary hoardings

Construction sites should be fully enclosed to protect the general public and deter unauthorised entry. As a general guide site hoarding should be plywood faced on a timber frame with a minimum mass per unit surface area of 7kg/m2. The minimum height above pavement level should be 2.4 meters.

Temporary hoarding should not be used for advertising. However, it may be used to display details of the site including project name and duration, name, address and telephone number of the main contractor and/or site agent. On key sites the opportunity for public art and community involvement should be explored with us. The provision of viewing points for the public through the hoardings will be considered.

Note that permission to erect a temporary hoarding on the public highway will require a license in accordance with Section 172 of the Highways Act 1980.

Access gates, Scaffolding and Gantries

Where possible access to and from the site should be organised to allow vehicles to enter and leave the site in a forward gear. Scaffolding and gantries that encroach onto or overhang the public highway will require approval by the local authority.

Artificial lighting

Where he has been appointed to do so, the contractor should ensure that any artificial lighting of the site and its perimeter is sufficient to ensure the safety of pedestrians. In addition artificial lighting should be located and orientated so that it does not cause intrusion to adjacent residential property or distract passing motorists.

Highway management

Where reasonably practicable all loading and unloading of contractors' vehicles should be within the site boundary. Deliveries and collections should be scheduled to coincide with the normal working hours. Contractors should avoid parking vehicles on the public highway and vehicle movements should be staggered to avoid queuing outside the site access point.

Any damage to the pavement, kerbs or carriageways that is directly attributable to the site works should be repaired to the satisfaction of us as soon as practicable.

When it is not reasonably practicable to load and unload contractors' vehicles on site it may be necessary to discuss alternative arrangements with the local authority.

Mud on the roads

Hard-standings or equivalent compacted areas should be provided on site for vehicle parking and adjacent to access points. Where required, a wheel washing facility should be provided to minimise the deposit of mud onto public highways. Where necessary a mechanical road sweeper should be used to remove any excess deposits.

Dust

Although a high standard of general site housekeeping will minimise dust emissions the following steps should assist:

1. Bulk storage of potentially dusty materials should be located away from the site boundary.
2. Cutting and grinding operations should be undertaken using appropriate dust suppression techniques.
3. Potentially dusty spoil and other waste materials should be damped down regularly when handled and transported in sheeted vehicles.
4. Rubble-chutes should be used with care and "drop heights" kept to a minimum.

Air pollution

Smoke, fumes and particulate emissions can be minimised by ensuring that:

1. No on-site bonfires are used for the disposal of any waste.
2. All plant is properly maintained and throttled down or switched off when not in use.
3. Fuel storage tanks are located away from the site boundary, secured in a bunded area and vented at a point remote from sensitive receptors (e.g. school, hospital or residential property).

Noise and vibration

We will expect contractors to use the "best practicable means" to minimise noise, for example:

1. All plant and equipment should be selected having regard to its published sound power level.
2. If an activity is inherently noisy (e.g. driven piling) then an alternative technique should be investigated.
3. Effective silencers and acoustic covers should be provided and maintained in good working order.
4. Plant and equipment should be located having regard to its proximity to sensitive receptors (e.g. school, hospital and residential property).
5. Temporary structures and buildings may provide useful noise screening.
6. Fixed items of plant (e.g. generators) should be electrically powered rather than diesel or petrol driven, where possible.
7. Anti-social behavior involving swearing, shouting and loud radios will not be allowed and may result in personnel being removed from site.

Water and Effluent

Water and effluent generated from on-site activities should be treated and disposed of in accordance with the requirements of the Environment Agency. Adequate pollution prevention techniques should be adopted to ensure that any potentially hazardous substances do not come into contact with vulnerable water (e.g. via surface water drainage systems). Recycling water should be encouraged.

Pest control

Preventative measures should be adopted to control any rodent activity on site and, where required, pest control specialists should be employed to confirm the existence or otherwise of an infestation. All redundant drainage and sewerage infrastructure should be removed or stopped up and accumulations of putrescible waste should be avoided.

Protection of Flora and Fauna

Contractors must ensure they are aware of any protected foliage and/or fauna on site, e.g. Japanese Knotweed, Tree Preservation Orders, habitats of wildlife etc. and their work activities must not impact on any such areas.

General arrangements

Display relevant emergency contact numbers for the regulatory agencies on the site notice board. All site personnel will be made aware of the incident reporting procedure during induction.

No toxic or hazardous materials are to be introduced to the project area.

The contractor is to inform the Site and Site Manager immediately of any contamination spillages and/or any environmental issues.

We recommend the use and re-use materials to minimise and curtail creating waste and, whenever practicable, materials and products from sustainable sources.

St Modwen Homes Limited safety, health and environmental advisors will make regular, unannounced visits to site to check health and safety performance, including environmental issues.

This code of practice will be reviewed and amended in line with our Construction and Environmental Management Plan for each project and changing legislation and guidance. The success of this code of practice will be monitored against regular environmental audits.