

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP)

INTRODUCTION

The aim of the Construction Environmental Management Plan (CEMP) is to set out the responsibilities regarding compliance with legislation and to implement any mitigation measures.

This CEMP details management measures to minimize environmental impact from the construction phase of the development. Further, it provides a framework within which the measures will be implemented throughout the project.

The CEMP provides project-specific management measures and is a dynamic document which should be reviewed if activities or conditions onsite change that may influence management measures.

This document has been developed to avoid, minimize and mitigate against any construction effects on the environment and surrounding community. It should be considered a living document with reviews being undertaken at set intervals and new information added as appropriate.

For the purposes of this document, the working area is defined as any area where there will be a requirement for temporary or permanent works to facilitate the construction of the development. This includes areas required for access, temporary construction and temporary storage areas.

REGULATORY FRAMEWORK

The proposed scheme is to create a new Housing Development on land off Church Lane, Ulceby. This includes improving an existing footway / cycleway.

The primary requirements of the planning consent are the implementation of the core document; the Construction Environmental Management Plan (CEMP). The CEMP is required to encompass environmental controls when required with due consideration to relevant environmental legislation.

The CEMP provides the framework for which commitments and requirements of planning conditions can be realized. The CEMP outlines the contractor's approach to environmental management throughout the construction phases with the primary aim of reducing any adverse impacts from construction on local sensitive receptors.

ROLES AND RESPONSIBILITIES

Contracts Manager:

The Contract Manager is responsible for:-

- Ensuring that the CEMP is developed & held on site and that it is implemented throughout all phases of the project. Ensuring the CEMP details are updated as and when relevant information is provided by the stakeholders associated with each section of the CEMP; e.g. further consent conditions, pre-construction surveys, etc.
- Maintaining the CEMP and ensuring that all contractors and visitors comply with it.
- Ensuring that environmental issues identified within the Pre-Construction Information and the pre-construction site surveys and relevant information gathered from agencies, local councils etc. are addressed.
- Producing environmental project specific controls for all significant risks identified and implementing control measures to minimize the risk of damage to the environment.
- Communicating the CEMP and other related document to employees, contractors and client representatives.
- The Contracts Manager shall nominate and appoint an experienced Environmental Advisor.

Contractors and Visitors:

Contractors and visitors to the project will be responsible for:

- Ensuring that the control measures identified from environmental surveys are implemented as they are relevant to their work / visit.
- Ensuring that the project management team are notified of any non- conformance of control measures or environmental incident where the environment has been put at risk.

Site Manager:

The site manager is responsible for:

- Ensure the site and all stored materials and chemicals are safe and secure.
- Ensure F10 notice and signage indicating where and whom visitors should report to are clearly displayed,
- The site is kept in a tidy and orderly fashion. Waste will be managed in conjunction with
- Controlled access arrangements as so those entering site may avoid hazards.
- Emergency egress arrangement so those leaving site in the event of a pollution or spillage incident may do so safely.
- There are First Aid Facilities and appropriately trained First Aid staffs, spill kits are available and appropriately trained staff.
- **Ensure all those that work on site:**
 - Have a Site Induction including briefing on environmental issues pertinent to the project and relevant toolbox talks.
 - Understand and obey the Site Rules.
 - Are made aware of the Emergency egress arrangements, Muster points, First Aid facilities and First Aiders, spill and clean up procedures.
 - Read and understand the site hazard board.
 - Have current certification for activities as required.
 - Are aware of all environmental matters which arise on site.

- **Ensure the activities on site:**

- When necessary are carried out under Client Operational Safety Rules.
- Have, task specific risk assessments and method statements (RAMS) in place identifying any environmental issue which may be applicable.
- Are carried out in accordance with the requirements of any associated RAMS.

INFORMATION FOR CONTRACTORS AND VISITORS

All contractors and visitors to the site will be made aware of the Environmental policy and the controls applicable to their presence and activities on site including but not limited to:

- Method statements
- Risk Assessments
- Site induction which include Environment briefings
- Toolbox talks

Relevant site layout and location plans/ CDM drawing detailing the location and construction of the site compound, storage locations and car parking are to be displayed on an information board at the site entrance.

AIR QUALITY

It is known that a key concern for the local community and surrounding areas will be any disturbance to air quality caused by traffic generated during the construction period. Emissions to the air including dust & exhaust fumes can be caused from certain activities including earthworks, excavation, demolition, use of diesel-powered plant & equipment.

All necessary & practicable measures to control dust emissions through good housekeeping & site operational practices shall be carried out including:

Only a limited number of car and HGV construction movements typically occur during the peak hours. The working hours of most operatives would not coincide with the network peak, construction processes would be programmed to avoid reliance on deliveries of concrete and bituminous materials during the more congested periods and delivery drivers would wish to avoid being on the network at congested times of the day when drivable hours used are disproportionate to the quantities of goods deliverable.

All HGV's carrying loose material capable of spillage or which has the potential to give rise to dusty emissions are to sheeted / covered.

A list of Plant to be used on site is provided below:

- Earth Moving Equipment
- Tracked Loader
- Hydraulic Excavator
- Vibratory Compactor
- Road Making Equipment
- Roller
- Hauling Equipment
- Tractors/trailers
- Tipper
- Crane
- Concreting Equipment
- Mixers
- Dumpers

Only trained, certified, competent operatives will be allowed to operate the plant machinery. A record of all operatives' certificates should be kept in the site office.

All plant should come to site with a current and up to date record of service and an annual inspection sheet. An onsite weekly inspection will be carried out by the Site Manager of all operated plant and recorded. All plant maintenance is to take place in the site compound only. Refueling of all plant is to take place in the compound are (ref PPG 7). No construction plant or vehicle shall leave its engine running when not directly in use

Management of Dust - The application of standard dust control measures included in the British Research Establishment guidance (Building Research Establishment, 2003) are normal working practice on all well managed construction sites in the UK. Standard measures will be applied to the construction areas within the Site as agreed with the local authority air quality/pollution control officer or Environmental Health Officer.

1. Staff will be trained in the control of dust and will ensure the site is monitored for levels of surface dust. Should dust build up this will be damped down with hosepipes / sprays.
2. Record all dust and air quality complaints, identifying cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
3. Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the logbook.
4. The access road into and out of the site will be monitored for excessive dust build up. Should surface dust build up the road will be swept.
5. The name and contact details of person(s) accountable for air quality and dust issues will be displayed on the site boundary. This may be the environment manager/engineer or the site manager.
6. Bonfires and burning of waste materials is strictly prohibited.

Storage mounds shall be profiled to reduce erosion where the nature of the material could lead to it being rain washed or windblown. Mound surfaces shall be kept sufficiently damp on dry / windy days.

CONSTRUCTION SITE WASTE

The Construction Site Waste Management Plan (SWMP) will be completed and maintained on site by the Project/Site Manager. It should be made available to all personnel on site as appropriate.

Site Waste Management Plan (SWMP)

A SWMP should identify the personnel and their roles and responsibilities. This includes maintaining records of waste transfers. The appointed site manager should also ensure compliance within any permits and record keeping.

All controlled waste is managed in accordance with the following Duty of Care requirements:

- Ensure all waste is correctly assessed and categorized;
- Prevent the illegal deposit or handling of controlled waste by any other person.
- Prevent waste material from escaping our control.

Waste Segregation - Wherever possible, different types of waste should be segregated as they are produced to allow for correct disposal. Each type must be stored separately and securely to prevent pollution and cross-contamination and each waste container should be clearly labelled. Waste limits include:

- Waste must not be stored for longer than 3 months
- No more than 50 cubic metres of non-liquid waste can be stored at any one time
- The total quantity of liquid waste must not exceed 1,000 litres at any one time.

Re-use - Possibilities for re-use of clean non-hazardous excavation material as infill on the site or in landscaping works will be considered following appropriate testing to ensure material is suitable for its proposed end use.

In the event of excavation material which may not be re-used being found, the sub-contractor will endeavor to send material for recovery or recycling so far as it is reasonably practicable. The sub-contractor will ensure that any off-site interim storage facilities for excavated material have the appropriate waste licenses or waste facility permits in place.

Material Management - The amount of waste material on site will be reduced as far as reasonably practicable, through waste-minimisation, re-use and recycling. This shall be implemented by the following measures:

- Storage- material shelf life is not exceeded, damage and contamination is prevented including loss, theft and vandalism.
- Delivery- Damage during unloading, delivery to the correct location on site, acceptance of materials and components only in accordance with the order
- Handling- Materials and components are handled using correct methods, in minimal fashion
- Protection- Damage is avoided by provision of temporary protection where applicable.

Waste Types

Excavated clay, soil and stones - This will be loaded directly to vehicles for use within the project as appropriate. Where short term temporary storage is unavoidable topsoil will be stored separately from other soil types and where possible clay mounds will not be more than two metres in height as they may damage the soil structures and limit its future use.

Concrete - Waste is to be sent back to the supplier for re-use. Where this is not possible, the concrete may be crushed and screened out and used within the project such as in the sub-base. The necessary permission for any crushing and screening activities required will be discussed within the environmental department of the local authority prior to any works being undertaken. There is an anticipation that approximately 10,000t of recycled Type 1 and 6F5 Capping will be used throughout the entire scheme (all phases).

Metals - One of the primary sources of metal waste is rebar and this will be reduced by ordering made to measure rebar from the manufacturer and detailed scheduling of all Reinforced Concrete (RC) structural elements. Skips may be provided and when full should be sent to a metals recycling facility.

Timber - This will be stored separately as it is readily contaminated by other wastes so any pallets will be returned to the supplier for re-use. Off cuts and trimmings will be used in formwork where at all possible. A skip for waste wood will be covered by a waste contractor who will forward it to a wood recycling facility for chipping.

Treatment of timber with chemicals and the overuse of nails will be minimised and avoided as this will make it difficult to reuse/recycle the timber afterwards. The utilisation of reclaimed timber products will also be investigated.

Packaging and Plastic - Double handling will be avoided by segregating packaging wastes immediately after unwrapping. It is intended that where possible materials with recycled packaging will be purchased. Waste packaging will be segregated and stored in separate skips, preferably covered for collection and /or returned to the supplier.

Blocks, Bricks and Tiles - The most likely wastes produced will be off-cuts, trimmings and waste arising from breakages. Every effort will be made to use broken bricks and off cuts. Final quantities of these wastes generated will be stockpiled (possibly crushed and/or screened) and used at the site as subbase material for roads, hard standing etc.

Hazardous Wastes - Hazardous wastes will be identified, removed and kept separate from other construction and demolition waste materials in order to avoid cross contamination. Specific method statements detailing the necessary mitigation measures required during excavation, handling transportation and disposal of hazardous wastes encountered on the site will be prepared as required.

The likely disposal/treatment options for any hazardous wastes will depend on the nature of the material and the concentration of parameters of concern.

Hazardous Liquids - Oils, paints, bitumen, adhesives and chemicals will be kept in a separate contained storage area which will be locked when not in use. Lids will be kept on containers in order to avoid spillage or waste by evaporation. These will be stored in a containment tray with a capacity to contain 110% of the volume of the largest container.

Fuels and chemicals will be stored in double skinned containers or within a bund i.e. an impervious structure with the capacity to contain 110% of the volume of the largest tank stored within it. All containers will be carefully labelled.

Canteen Wastes - Staff canteens have the potential to generate food waste and packaging waste. Designated receptacles will be provided at the canteen to allow for the segregation and storage of individual waste streams. These will include receptacles for food waste (e.g. brown bin for waste foods, peelings etc.) dry recyclables (e.g. green bin for packaging, plastics, metals, wood, paper, cardboard, tetra pack, etc.) and residual bin (e.g. black bin for mixed food and packaging waste). Separate receptacles for the recyclable fractions may be provided such as plastics, metals, glass.

Other Wastes (Residual) - This waste is normally made up of residual non-recyclable waste such as soiled paper, cloth, cardboard or plastics as well as canteen waste to include food as above and general waste found on the sites including plastic bottles, bags, cans etc. Given the heterogeneous nature of this material it is most important that residual waste is kept separate from the other waste streams to avoid contamination. This material will be stored in a dedicated container in the Waste Segregation Area.

Skip size and collection frequency will be assessed with waste management contractors as works proceed. All residual wastes will be dispatched to a suitably licensed facility for disposal. Other construction and demolition waste material will be collected in receptacles with mixed construction and demolition waste materials for subsequent separation and disposal at a segregation facility.

The need for waste disposal is to be reduced together with minimizing the generation & environmental impacts of wastes arising during the works. All waste is to be segregated at source using dedicated skips.

WATER CONSUMPTION

Effective construction management can deliver major savings in water use and the associated costs of energy, water supply and wastewater treatment. This can be achieved without compromising the performance and user acceptability of the project.

Typically, the use of water will take place in the following areas.

Dust suppression

- Vehicular dust suppression
- Stockpiles of soil

Domestic and Welfare facilities

- Toilets
- food preparation
- canteens
- offices
- Drinking water

Cleaning

- Road sweepers
- High pressure washing

Construction

- Mortar mixing
- Crushing operations
- block work
- plastering

The project should where appropriate utilise the following examples of best practice, or equivalent. Ensure all areas of site water consumption are quantified.

- Consider splitting welfare and “site-based” water consumption.
- Record site water consumption on a regular basis for review

Influence user behaviour: Creating a culture that changes attitude and behaviour to accepting ownership of water efficiency is fundamental to improving the use of water in an efficient manner.

Good housekeeping (e.g. reporting/repairing leaks, turning off taps which are not in use, and generally using water in an efficient manner) can assist the site reduce its overall water use. The provision of information on appropriate use of fittings and appliances; awareness raising of the costs and environmental importance of water efficiency via Toolbox Talks; guidance on processes for identifying and reporting water leakage / poorly performing fittings; method for providing feedback to building occupants on water.

POLLUTION PREVENTION AND HAZARDOUS MATERIAL STORAGE

Chemicals and hazardous materials such as fuels and lubricants are to be stored on site during the construction phase of the project.

These include but are not limited to:

- Oils
- Lubricants
- Paint and Coating
- Adhesives and resins
- Solvents
- Compressed gases
- Fuels
- Cements and binders

Measures will be developed, implemented, maintained and monitored in order to comply with the Water Resources Act (1991) section 85 and associated regulations.

The following list shows measures that will be put in place to prevent pollution and would conform to the best practice policy proposed by the Environment Agency (EA) via the Pollution Prevention Guidelines (PPGs):

- the handling, use and storage of hazardous materials to be undertaken in line with the EA's Pollution Prevention Guidelines (e.g. PPG2 Above Ground Oil Storage Tanks);
- adequately bunded and secure areas with impervious walls and floor for the temporary storage of fuel, oil and chemicals on site during construction;
- drip trays to collect leaks from diesel pumps or from standing plant;
- oil interceptor(s) fitted to all temporary discharge points and for discharge from any temporary oil storage/ refueling areas;
- development of pollution control procedures in line with the EA's Pollution Prevention Guidelines, and appropriate training for all construction staff;
- Provision of spill containment equipment such as absorbent material on site.

Surface Water Management - The perceived risks to surface water in the form of silt will be managed:

- Wheel wash facilities should be provided for vehicles moving to and from the Site at all entry/exit points. Silty water from wheel-wash facilities will require appropriate disposal to prevent unacceptable levels of suspended solids entering any nearby surface water bodies. Any disposal of surface water generated on site during construction to controlled waters will require consent from the EA. Wheel wash facilities should not be located too close to surface waters.
- If dewatering is required along any part of the construction corridor, pumped groundwater should be disposed of appropriately according to EA Pollution Prevention Guidelines;
- The early re-seeding of cleared land, where practicable, to minimise exposed land and the entrainment of sediment by overland flow; and this can be managed by ensuring construction plant/ materials are stored on hard-standing surfaces where possible. Where this is unavoidable, we will ensure any compacted topsoil is loosened as soon as possible following completion of the works;

If there is the potential of hazardous waste being stored on the site, it must be stored in accordance with the Environment Agency Pollution Prevention Guidance (PPG2) so as not to cause any further water/land contamination.

Pollution Prevention Guidelines (PPGs) are based on relevant legislation and reflect current good practice. The project construction phase will adhere to the following Environment Agency Pollution Prevention guidance listed below.

PPG2: Above ground oil storage tanks: Provides information about storing oil in above-ground storage tanks, for new installations and existing tanks. The guidance is for small to medium size commercial oil storage. It gives advice on choosing, installing, using and maintaining oil tanks and how to deal with spills.

PPG7 Refueling facilities: It includes guidance on planning, designing, operating and maintaining refueling facilities, plus information on storing other related, non-fuel products and dealing with environmental incidents.

PPG13: Vehicle Washing & Cleaning: provides information on how to comply with the law and prevent pollution when washing and cleaning vehicles. It includes advice on dealing with effluent, waste management and storing and using chemicals.

All contractors will be familiar with and apply the relevant best practice listed in the above guidance documents. It is recommended that copies are available in the site office.

CONSTRUCTION LIGHTING

In determining the lighting arrangement on site, consideration will be given to residents and other sensitive receptors that may experience a nuisance by light.

Where appropriate, measures will be implemented to reduce obtrusive light.

Where possible a daylight only construction schedule will be adopted to minimise adverse lighting. It is unavoidable that construction work may require work during the hours of darkness in consideration of shorter daylight availability during winter months.

Where appropriate the following measures will be considered for implementation

- Dim or switch off lights where it is safe to do so
- Use specifically designed equipment
- Position lights sensibly

It is not anticipated that any construction works will be carried out at night.

NOISE & VIBRATION

Noise and vibration statutory nuisance are controlled under the Environmental Protection Act 1990.

There are no medical buildings or care homes located within 300m of the development area

The potential noise disturbance from the site may result from vehicle movements,

The contractors will be required to comply with other relevant provisions of the Control of Pollution Act 1974. The contractor should also comply with the recommendations set out in BS 5228:1997 AMD 1 Code of practice for noise control on construction and demolition sites.

Muffling should be in accordance with the recommendations set out in BS 5228:1997, Code of practice for noise control on construction and demolition sites:

- compressors should be fitted with properly lined and sealed acoustic covers, which should be kept, closed whenever in use
- pneumatic percussive tools should be fitted with mufflers or silencers of the type recommended by the manufacturers
- machines in intermittent use should be shut down in the intervening periods between work or throttled down to a minimum
- care should be taken when loading or unloading vehicles or dismantling scaffolding or moving materials etc. to reduce impact noise

The contractor will follow best practicable means to reduce the noise effect on the local community including the following:

- I. Materials will be handled with care e.g. material such as scaffolding and steelwork will be placed rather than dropped.
- II. Drop heights of materials from lorries and other plant will be kept to a minimum.
- III. With regards to the piling of foundations, to ensure where possible, that noise and vibration effects during these works are minimised.
- IV. Fixed and semi-fixed ancillary plant such as generators, compressors and pumps liable to create noise and/or vibration whilst in operation will, as far as reasonably practicable, be located away from sensitive receptors.
- V. The use of barriers to absorb and/or deflect noise away from noise sensitive areas will be employed where required and reasonably practicable.
- VI. All plant used on site, paying particular attention to the integrity of silencers and acoustic enclosures will be maintained in good and efficient working order and operated such that noise emissions are minimised as far as reasonably practicable.
- VII. As far as reasonably practicable, any plant, equipment or items fitted with noise control equipment found to be defective should not be operated until repaired.
- VIII. Where reasonably practicable, fixed items of construction plant should be electrically powered in preference to diesel or petrol driven.
- IX. Vehicles and mechanical plant, where reasonably practicable, will be fitted with effective exhaust silencers and will be maintained in good working order and operated in a manner such

that noise emissions are controlled and limited as far as reasonably practicable.

- X. Machines in intermittent use should be shut down or throttled down to a minimum during periods between works.

Risk Assessments and Method Statements (RAMS) from contractors will be scrutinised and authorised before work commences to ensure the requirements above are understood, factored into working methods and adhered to.

HOUSEKEEPING AND SECURITY

The site compound plan and the material storage plan highlight key areas such as:

- I. Main Office
- II. Tool stores
- III. Materials store
- IV. Waste skips
- V. Topsoil storage areas.

Where necessary security fencing consisting of 2.4m high welded mesh panels shall be provided. Pollution Prevention Guidelines by Environment Agency set out basic environmental management guidance regarding housekeeping and will be used to set up stores etc.

PPG 6: Construction and Demolition Sites:

Section 4 Materials storage, stockpiles & exposed ground.

- Must prevent stockpiles on exposed ground from generating pollution as water run-off or dust.
- Locate stockpiles away from watercourses and on level ground to prevent any run-off from entering drains, ditches or watercourses.
- Contaminated material must be stockpiled on an impermeable surface, in a bunded area, at least 10m from a watercourse.

Section 9 Chemicals and hazardous substances.

- Store all chemicals and hazardous substances away from watercourses and drains in a contained, bunded area on an impermeable surface.
- Store all chemicals and hazardous substances away from areas where there is risk of damage from impact or collision e.g. site traffic.
- Ensure all chemicals and hazardous substances are labelled, containers are sealed when not in use and inspected regularly and fit for purpose.
- Dispose of any damaged/ old containers in line with the duty of care requirements; these may be considered hazardous waste.
- Train staff in use of spill kits/emergency procedure.
- Ensure there is a designated 'responsible person' on site at all times.
- Lock storage facilities when not in use.

Risk Assessments and Method Statements (RAMS) from contractors will be scrutinised and authorised before work commences to ensure the requirements above are understood, factored into working methods and adhered to.

Hours of working

Construction Operations - Mon to Fri 8.00am to 6.00pm
Sat 8.00am to 1.00 noon

No working on Sundays or Public / Bank Holidays.

During the winter periods working hours are reduced so no construction work is carried out in the dark.

SITE ESTABLISHMENT

Facilities will be established to minimise risk to the environment & promote efficient use of resources. This will include:

- Temporary protective fencing will be erected to delineate the working areas & site boundaries.
- Temporary offices, welfare facilities & secure storage of equipment.
- Materials storage areas will be set up & managed.
- Waste segregation areas will be set up.
- Sewage effluent from the site office & welfare facilities will be removed from site using a vacuum tanker, if no sewer connection is available.
- Temporary lighting will be designed to minimise spillage of light & orientated away from residential properties.