ENVIROMENTAL MANAGEMENT SCHEME EMS

FOR THE WORKS

AT

DOWNINGS MALTHOUSE, BAKERS QUAY, GLOUCESTER

Environmental Plan

Project Baker's Quay, Gloucester – The Downings

Contents Introduction

Dated 18th March 2022

Environmental Plan

INTRODUCTION

This Project Environmental Plan details the approach and actions which will be undertaken to manage the Environmental aspects on this project.

In section 3, the construction work that will be undertaken in relation to Environmental aspects will be reviewed prior to work commencing. Resulting from this a number of specific action notes have been developed, which will be managed through the Environmental Management System.

1.0 PROJECT DETAILS

Project Title - Bakers Quay, Gloucester – The Downings

Location – Merchant Road, Gloucester

Client – Downing's Gloucester Limited

Commencement Date – to be confirmed

Completion Date – to be confirmed

2.0 PROJECT DESCRIPTION

The site is situated on the Baker's Quay development.

The project is a mixed use development comprising the design and construction of residential units and ground floor retail units within the former Downings warehouse.

All demolitions and site clearance works will be undertaken by others prior to commencement on site.

Associated external works including pavings and drainage.

3.0 PROJECT ENVIRONMENTAL ASPECTS AND IMPACTS

The following environmental issues have been identified which will be addressed within this Site Environmental Plan:-

- **Use of raw materials** in construction activities.
- **CO_2 production** from site activities including plant, machinery and deliveries;
- **Energy consumption** arising from site activities including generators, welfare cabins, temporary electrical supplies and gas consumption;
- **Water consumption** on site arising from temporary connections made for the duration of the construction period;

- **Waste production** on site from construction and delivery activities;

- **Air pollution** arising from construction and delivery activities. This is specifically related to dust which can cause local air quality issues, public nuisance, odours and can affect safe use of public highway;

- **Water Pollution** to surface and ground waters as well as effects to local drainage systems (foul, storm or combined);

- **Soil contamination** during construction activities;

- **Nuisance** issues of noise, dust, traffic, vibration, etc to local residents and other businesses;

- **Ecology** of the site to be considered, look to improve existing site and prevent damage/ loss to existing habitats.

4.0 CLIENT OR PROJECT SPECIFIC CONTRACTURAL REQUIREMENTS

The following contractual requirements are specified:

- The site will need to be registered under the Considerate Constructors Scheme and the Contractor will commit to go beyond best practice site management principals

- The Contractor will need to commit the site management team to the following:-

  - Using only reused / recycled timber for temporary site uses such as hoardings, covering holes, formwork or timber which is covered by a full chain of command which is sustainable sourced with certification from suppliers. Further written commitment required from client and suppliers

  - Monitoring and reporting energy consumption from site activities

  - Monitoring and reporting water consumption from site activities

  - Monitor construction waste on site

  - Sort and recycle construction waste. – **due to site area restrictions, waste will be recycled off-site at designated waste re-cycling stations and records maintained in site waste management plan.**

  - Adopt best practice policies in respect to air (dust) pollution

  - Adopt best practice policies in respect to water (ground and surface) pollution

5.0 ROLES & RESPONSIBILITIES

Site Manager

The Site Manager are responsible for the implementation of this plan throughout the project life-cycle by all levels of staff. They shall ensure that:

- All site staff will be aware of, and comply with this plan and associated/referenced documentation;
- All site staff who have specific roles or responsibilities with this plan will be aware of that responsibility and are competent and trained to fulfil this role;
- The project meets its legal and contractual obligations for the environment and legislation;
- all required measures for the reduction of environmental impacts are implemented and maintained;
- Monitoring against the provisions of this plan is undertaken by nominated personnel, the results of which used to set objectives and targets and to continually improve upon these;
- environmental awareness and competence of the Project Team is maintained throughout the project life-cycle, arranging for briefings and training to be undertaken as roles and responsibilities require;
- all staff follow Emergency Response Plan and Procedure in the event of an environmental discovery or emergency;
- A nominated Biodiversity champion will be appointed and will liaise with the site management to ensure that the site's ecology is adequately protected and to ensure that all visitors to the site will be aware of potential hazards or issues which may be relevant. Records will be retained on site detailing checks and measures taken to maintain the ecology of the site and prevent any damage.

6.0 PROCEDURES

This section describes how the site and associated operations aspects and impacts will be controlled, monitored and recorded.

6.1 CO_2 EMISSIONS / ENERGY CONSUMPTION

The Site Manager will ensure that the electricity supply to site is metered. He will nominate a member of the site team to maintain an inspection regime for the electricity meter. Every month on 1st working day of the month, the nominated person will take readings from the meter. The readings will be taken and recorded in kWh and the conversion factor to CO_2 obtained from the utilities company will be applied and recorded electronically on a spreadsheet. The Site Manager will estimate projected electricity consumption for the remainder of the project and set targets to limit use of electricity on site.

These targets will drive efficient use of energy which will be achieved by the following:

- All communal lighting, task lighting, etc. to be switched off at the end of the working day;
- Tools and equipment to be unplugged and stored correctly;
- Standby mode for any piece of equipment not to be permitted. If not in use, it should be switched off;

- Charging of hand tools, electrical access platforms, etc. to be done overnight only. Unplug once charged and do not continue to 'trickle charge';
- Sensor switches for lighting to be in use in the office/welfare cabins;

Note: All emergency lighting, actuators, alarms, etc. must remain on at all times for safety reasons and therefore this circuit must remain live.

Monthly meter reading, conversion and plotting graphically will continue by the nominated person through to contract completion. The graphical representation will have included on it the following and will be displayed throughout the contract period on the notice board:

- Monthly meter readings converted to equivalent CO_2 emissions;
- Projected consumption based upon current data at the time of monthly review;
- Target monthly consumption;
- Labelled peaks and troughs in consumption with footnote identifying reasons for this.

6.2 WATER CONSUMPTION

The Site Manager is responsible for ensuring that all temporary connections to water supplies are metered. This is now a requirement of all water distribution companies. In order to monitor and set project targets for water consumption, meter readings must be undertaken and logged:

- A weekly water meter reading is required to be taken by a person nominated by the Project Manager.
- Values obtained must be input to a spreadsheet showing monthly consumption, cumulative consumption to date and projection for the remainder of the project. Figures will be expressed in m^3.
- The above figures will be graphically represented and displayed on site.

After two months on site, the figures collated will be reviewed by the Site Manager and targets will be set for the remainder of the project. Water reduction measures may form part of the targets, for example, automatic shut off for taps in the welfare area and strict maintenance regimes for temporary water supplies to the structure thereby ensuring that any leakages are found early and rectified.

6.3 AIR POLLUTION

The Contractor will encourage the use of equipment and methods that comply not only with legislation but also those that recognise best practice in the reduction of air pollution and potential for public nuisance from dusts, waste management activities, noise, and vibration. The following actions will be taken by members of the Site Team nominated by the Site Manager:

- Exhaust fumes and noise will be minimised by ensuring that plant and equipment brought to site by sub-contractors or directly hired in are of good quality and maintained in accordance with legal requirements where applicable and best practice.

- All loads of dry fine-grade granular materials prone to being affected by wind being brought to site must be sheeted. All loads of dry granular materials, soils or other excavated arising being taken from site must also be sheeted. This is to prevent escape of the materials and cause local dust issues and accidental spillage onto the public highway or other property. This stipulation must be made via contract arrangements with the sub-contractors, suppliers and haulers and is the responsibility of the Purchasing Manager / Quantity Surveyor to action this. Monitoring of this aspect will be undertaken by the Site Manager.
- Skips containing light materials prone to escape by being wind-blown must be sheeted or have hatches/doors closed when not in use or being transported. The responsibility for provision of these is with the Total Waste Management Company. Sub-contract operatives are responsible for the use of sheeting and/or closing doors.
- There will be NO fires on site.

6.4 WATER POLLUTION

The Contractor always adopts best practice relating to prevention of pollution. For drainage systems, surface and ground water protection the Site Team are required to implement the following at applicable points during the contract:

- Direct disposal of any substance to land, drainage systems or watercourses of any description is prohibited and will lead to dismissal from site.
- All temporary connections made to drainage systems for the construction period must be notified to the local drainage authority or water company as applicable. Consent must be obtained in writing and kept on file.
- Any bowsers/IBC's kept on site for the purposes of refuelling or decanting of substances to smaller containers must be kept in good condition and this is to be monitored. They must be stored on or in bunds of appropriate capacity (at least 110% of capacity of container) and their lids, caps and delivery points kept closed to prevent escape of fumes and odours. All containers including bowsers must be clearly marked with their contents with associated material safety data sheets available for reference in the event of spillage or release. Bunds must be inspected regularly to ensure that their capacity as a bund is not affected by rainfall. All waters from bunds are treated as contaminated and must be disposed of as hazardous waste.
- Run-off from hard areas of site must not be allowed to enter drains, the adjacent canal or culvert nor must it be contaminated with other substances. Good housekeeping practice, substance storage, decanting procedures and well maintained plant and equipment will contribute to ensuring that run-off remains uncontaminated. The uncontaminated run-off may be channelled into a specially constructed trench to allow water to drain away naturally through soils leaving silt behind or, subject to discharge consent from the sewerage authority / water company, into a foul or combined sewer. Operations such as dewatering of excavations may require an application for discharge consents to sewers or watercourses.
- Stockpiling materials is not recommended as materials should be ordered in as required to prevent wastage or misuse. Material stockpiles may only be kept if they are covered and those covers weighted down. Sandbags or other similar system must be placed on uphill edge of stockpile to prevent erosion by water on the base of the stockpile. Water may be channelled around stockpiles are per above.

- Concrete wagons may only wash chutes on site into a lined skip to settle out aggregate and cement particles may be appropriate, with measured quantities of water from the top of the skip being pumped out to foul sewer under a discharge consent. This can be done daily at the commencement of shift having allowed overnight settlement.
- All works will where appropriate comply with the Canal and Rivers Trust (CRT) code of practice.

6.5 NUISANCE CONTROL

The Contractor will encourage the use of equipment and methods that comply not only with legislation but also those that recognise best practice in the reduction of air pollution and potential for public nuisance from dusts, waste management activities, noise, and vibration. The following actions will be taken by members of the Site Team nominated by the Site Manager:

- Exhaust fumes and noise will be minimised by ensuring that plant and equipment brought to site by sub-contractors or directly hired in are of good quality and maintained in accordance with legal requirements where applicable and best practice.
- Environmental noise (statutory nuisance) generated by plant operations, site activities must be kept to a minimum. Poorly managed and maintained plant can become noisy over time so exercising the controls above for exhaust emissions will contribute to the reduction in unnecessary noise. Plant with exhaust silencers should be used for any external works if these are available. Noisy works will only occur between 8.00am and 5.00pm Monday to Friday and 10.00am to 1.00pm Saturday.
- Operations generating dust will be contained within the envelope of the existing building. Wet operations are always preferred to dry operations in terms of health and safety; however the wet waste from the operation must be collected and stored until dry enough to place in the solid waste skips provided that the mixing of the dust and water does not render the dry product hazardous.
- All loads of dry fine-grade granular materials prone to being affected by wind being brought to site must be sheeted. All loads of dry granular materials, soils or other excavated arising being taken from site must also be sheeted. This is to prevent escape of the materials and cause local dust issues and accidental spillage onto the public highway or other property. This stipulation must be made via contract arrangements with the sub-contractors, suppliers and hauliers and is the responsibility of the Purchasing Manager / Quantity Surveyor to action this. Monitoring of this aspect will be undertaken by the Site Manager.
- Skips containing light materials prone to escape by being wind-blown must be sheeted or have hatches/doors closed when not in use or being transported.

6.6 CONTAMINATED LAND

No contamination has been identified on the site. Ground conditions will be monitored throughout the groundwork activities and if the conditions of the ground noticeably changes further testing will be carried out.

The chances or direct contamination is considered very remote. The Contractor will be adopting best practice policies in respect to water pollution to ensure that we do not allow any pollution to enter the land and as a subsequence, pollute the soil.

6.7 RESOURCE USE

The client and design team have been concerned about resource use throughout the design and have insisted that this be replicated during the construction process, by minimizing the wastage levels as much as possible.

This is firstly achieved through considerate design and sourcing of suitable materials at the design and procurement stages and through good site storage, best practice management principles, workmanship and protection.

Timber Goods

The following requirements relate to any timber products purchased for this project:

- At least 80% of all timber products must be procured from sustainable sources which are independently certified by parties such as FSC, CSA, PEFC, MTCC, etc, as citied in Credit Requirements MW8.
- Any temporary timber should also be sustainable sourced by certified parties or could be sourced from another site, i.e. Reused or be from a recycled source. This would be the timber used for site set-up, additional hoardings, storage/lay-down, notice-boards, temporary works, temporary security doors, formwork, etc.
- Timber off-cuts of viable size must be stored for re-use. Non-viable size off-cuts must be stored for recycling in the appropriate container.

Non-timber Goods

Although there will not be a specific requirement to achieve credits under MW8, consideration should be given to the selection of non-timber goods where the manufacturer holds a valid ISO 14001 or EMAS certificate. Companies operating an Environmental Management System to ISO 14001 or EMAS will be aware of their impacts and aspects and are operating in a manner whereas to prevent pollution, comply with all relevant legislation and make continual improvements year on year.

6.8 WASTE MANAGEMENT

The Contractor is to produce a Site Waste Management Plan which aims to minimise waste and where appropriate divert waste sent to landfill through reuse on site and recycling.

Construction waste will be segregated off-site. Canteen and office waste will be disposed using local waste collection services.

In addition there will be one secure galvanised steel bin sited adjacent to the spill kit which will be for the storage of spill clean-up materials only.

The above will be advised to site operatives as part of site induction procedure.

The Contractor is required by the client to maximise reuse and recycling and minimise waste generated as a result of construction activities and as such have to report on waste management information on a regular basis. The project team will be aware of the Industry Environmental KPI benchmarks and use these as an informal measure to target against.