

Construction Environmental Management Plan

Job Number: 0570000

Proposed Housing Project at Mill Rd., Kanturk, Co. Cork.





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2 Document Verification

Job Title:	Proposed Housing Project at Mill Rd., Kanturk, Cork					
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3 Introduction

This application seeks to obtain permission for the construction of a 13 No. residential unit development and all ancillary site works at Mill Road, Kanturk, Co. Cork. The site is set in a generally level landscape. The site is situated on the south western side of Kanturk town. Ancillary site development works will include demolition of one vacant disused bungalow, removal of an existing overhead ESB line which is proposed to be diverted underground through the site, connection to the foul sewer in Dr. O'Callaghan Park which is located to the south east of the site.

This CEMP report should be viewed as a LIVE document which allows for flexibility.



3-1 Aerial Photo of Site



2 Clogheen Business Park, Blarney Road, Cork, Ireland. T: +353 (0)21 4399799 F: +353 (0)21 4399797 F: +353 (0)21 4399797	Project:	Housing Project at Mill Road, Kanturk, Co. Cork	Date:	03/04/2023
W: www.rka.ie CONSULTING ENGINEERS CIVIL STRUCTURAL PROJECT MANAGEMENT	Ref No.	0570000	Created By:	MC, BA



3-2 Site Location Map

4 Site Set-Up

4.1 Site Description

The proposed development has an area of circa 0.415 Ha. The site is set in a generally level landscape at Mill Road, Kanturk, Co. Cork. The proposed development will be provided in 3 no. blocks comprising 1 no. 3-bedroom house, 4 no. 2-bedroom houses, 2 no. 1-bedroom houses and 6 no. 1-bedroom apartments. The lowest Finish Floor Level for the development is proposed to be 102.00 mOD. The proposed development also has provision for 22 no. car parking spaces including a wheelchair accessible space.

4.2 Site Establishment

The site set-up will include inter alia the following elements;

- Establishment of site boundaries (security fence that will remain in place for the duration of the construction phase)
- Earthworks to create level areas for construction. This will include the setting up of measures to cater for surface water control, dust, wheel-washing/cleaning facilities etc.
- Establishing a temporary site construction compound. This shall include for all welfare requirements for the staff.





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4.3 Access

Vehicular access to the site will be via the Mill Road which runs adjacent to the eastern boundary of the site. The traffic entrance will be constructed so that a 70m sightline in both directions is achieved for traffic exiting the site. Parking shall be made available on site to prevent parking resulting from construction activities to overspill onto the public road.







5 Preliminary Programme

5.1 Schedule of Works

The schedule of works identified below is an outline of the activities which will be required on site. The final schedule of works/ programme will depend on a number of additional factors which are not considered here such as such as technical/legal/ financial matters which may alter the phasing/sequencing of the works.

<u>Site set up</u>

This will involve the activities as set out in 4.2 above.

Groundworks – Foundations

The foundation system for the development will be strip foundation following the recommendations of the site investigation carried out by Priority Geotechnical Ltd.

Superstructure Frame Construction

The houses and apartments will be standard cavity wall construction with prefabricated roof trusses. The houses will have timber Eco joist first floors and the apartments will have a precast concrete floor with a concrete screed. The ground floor of all the units will be ground bearing concrete floor slab.

Superstructure internal non-structural fit-out

Construction of all non-load bearing walls, joinery, plastering fire stopping etc.

<u>Superstructure M & E installation</u> Installation of all mechanical & electrical plant for the apartments

Superstructure completions

Including all sanitary ware, fitted furniture, flooring and decoration.

Construction of Site Services

Construction of soakaway and all underground services. Foul sewer and watermain in the public road will be by IW contractor.

External works completion

Completion of all site services including connection to services, all roads and footpaths and installation of all landscaping.





6 Environmental Control

6.1 Noise Assessment & Control Measures

6.1.1 Noise Control

The site is located in a residential area and close to a school so measures will be put in place to ensure that no unreasonable disruption is caused to local residents.

6.1.2 General Considerations

- 1. All site staff shall be briefed on noise mitigation measures and the application of best practicable means to be employed to control noise.
- 2. The contact details of the contractor and site manager shall be displayed to the public, together with the permitted operating hours, including any special permissions given for out of hours work.
- 3. In the event that The Contractor gets a complaint about noise from a neighbour he will act immediately to remedy the situation.
- 4. Internal haul routes shall be maintained.
- 5. Material and plant loading and unloading shall only take place during normal working hours unless the requirement for extended hours is for traffic management (i.e., road closure) or health and reasons.
- 6. Minimise opening and shutting of gates through good coordination of deliveries and vehicle movements.

6.1.3 Plant Considerations

- 1. Ensure that each item of plant and equipment complies with the noise limits quoted in the relevant European Commission Directive 2000/14/EC.
- 2. Fit all plant and equipment with appropriate mufflers or silencers of the type recommended by the manufacturer.
- 3. Use all plant and equipment only for the tasks for which it has been designed for.
- 4. Shut down all plant and equipment in intermittent use in the intervening periods between work or throttle down to a minimum.
- 5. Power all plant by mains electricity where possible rather than generators.
- 6. Maximise screening from existing features or structures and employ the use of partial or full enclosures for fixed plant.
- 7. Locate movable plant away from noise sensitive receptors where possible
- 8. All plant operators to be qualified in their specific piece of plant.
- 9. Compressors and generators will be sited in areas least likely to give rise to nuisance where practicable.
- 10. Carrying out preventive maintenance: as parts become worn, noise levels can change.



6.1.4 Vehicle Activity Considerations

- 1. Ensure all vehicle movement (on site) occur within normal working hours.
- 2. Plan deliveries and vehicle movements so that vehicles are not waiting or queuing on the public highway, if unavoidable engines should be turned off.
- 3. Where reversing is required use broadband reverse sirens or where it is safe to do so disengage all sirens and use banks-men.

6.1.5 Ground Works

• Consider concrete pour sizes and pump locations if required. Plan the start of concrete pours as early as possible to avoid overruns.

6.1.6 Monitoring of Noise

- 1. Carry out regular on-site observation monitoring and checks/audits to ensure that BPM is being used at all times. Such checks shall include;
 - Hours of work
 - Presence of mitigation measures
 - Number and type of plant
 - Construction methods
- 2. In the event that The Contractor gets a complaint about noise from a neighbour he will act immediately to remedy the situation.

6.1.7 Proper Use of Hearing Protection

- Earmuffs & Earplugs
- Follow directions for use, make sure that they are wearing it properly
- Ensure hearing protection is in good condition and is effective.

6.1.8 Relevant Legislation

- Council Directive 89/391/EEC of 12 June 1989, on the introduction of measures to encourage improvements in the safety and health of workers at work
- Directive 2003/10/EC of the European Parliament and of the Council of 6 February 2003 on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (noise)
- Council Directive 89/656/EEC of 30 November 1989 on the minimum health and safety requirements for the use by workers of personal protective equipment at the workplace
- *S.I. No.* 299 *of* 2007 Safety, health and welfare at work (general application) regulation s2007 revised (updated to 1 January 2018)





6.2 Surface Water Management Plan

The surface water drain which services the site is in the public road. It discharges to a small river approx.. 350M south of the site. It is imperative that the control of surface water runoff from the construction site is managed in an effective manner.

6.2.1 Overview

One of the main impacts which could arise with this project is the effect on the local hydrology through an influx of potentially silt laden surface run-off.

The Contractor will consult the CIRIA guidance documents, "Control of Water Pollution from Construction Sites 2001," and "Control of Water Pollution from Linear Construction Projects 2006" for best practice measures for controlling water pollution.



6-1 Proposed Drainage Layout





6.2.2 Sediment Erosion Control

Control of both erosion and sediment entrainment in runoff will be a key undertaking for the duration of the project. The Contractor will ensure that the risk of potential erosion is minimised during the construction works undertaken as part of the development. Silt management measures will be implemented onsite utilising a combination of silt fencing and cut-off/diversion drains. These drains will be used to channel potentially silt-laden run-off to a desired location and prevent contaminated run-off offsite.

Cut-off/Diversion drains will be employed for the following activities;

- Diverting upslope runoff, particularly off-site runoff, along, across or around the site.
- For collecting and channelling silty runoff down slope of the site to prevent it leaving the site,
- Around the toe of stockpiles or cut/fill embankments,
- At the top of slopes, channelling runoff to a slope drain,
- Around any other disturbed area.

The performance of silt control measures will be assessed through frequent observations and measurements by the team put in place by the Contractor.

It is also recommended to install silt fencing down gradient of any stored spoil area. This will further reduce the risk of potentially, excessive silt-laden surface water run-off from traversing the site and impacting on existing drainage features or adjacent lands.

A silt fence can comprise geo textile filter fabric supported by posts, straw bales or a combination of the two installed in the path of sheet flow runoff to filter out heavy sediments. Silt fences are suitable for use along the perimeter of a site, below the toe of a cleared slope, regular inspection of silt fences will be carried out to check for clogging, tears and to clear sediment build up when required and particularly after periods of heavy rainfall.

A moveable silt fencing will be placed on the site if/ as required. The location of the fence will need to respond to the construction activities.

The cut drains shall be connected to temporary surface water soakaways on site to prevent run-off from the site during construction.

6.2.3 Protecting Water Quality & Environmental Management

Protocols to protect water quality and manage environmental issues will address the following:

- Promotion and Awareness;
- Excavation and Spoil Management Principles;
- Placement of materials / rock;
- Concrete works guidelines;





- Materials Storage Guidelines;
- Site Plant Management Guidelines;
- Incident Management, and
- Incident Reporting.

All site personnel will be made aware of their environmental responsibilities at the site induction prior to being allowed to work on site, and through the production of a Method statement, outlining environmental requirements for sub-contractors, which will include environmental emergency response procedures to deal with spillages, should they occur. In principle, soil excavation will be undertaken during dry periods. However, it is noted that other factors may affect working timeframes. Therefore, working only during dry weather will not always be practicable or feasible. The works programme for the initial construction stage of the development will take account of weather forecasts, and predicted rainfall in particular. Large excavations and movements of subsoil or vegetation stripping should be suspended or scaled back if heavy rain is forecast. The extent to which works should be scaled back or suspended will relate directly to the amount of rainfall forecast.

It is recommended to suspend works if forecasting suggests either of the following is likely to occur:

- >10 mm/hr. (i.e., high intensity local rainfall events); or
- >25 mm in a 24-hour period (heavy frontal rainfall lasting most of the day); or, half monthly average rainfall in any 7 days.

Prior to works being suspended the following control measures shall be completed:

- Secure all open excavations to prevent ingress of rainwater/runoff;
- Provide temporary or emergency drainage in the form of diversion channels to prevent back-up of surface runoff; and,
- Avoid working during heavy rainfall and for up to 24 hours after heavy events to ensure drainage systems are not overloaded.



6-2 Fabric Silt Fencing Protecting Water Course





Erosion control and attenuation facilities, namely diversion/cut-off drains will be regularly maintained during the construction phase. If during the works the drains are found to be eroding, they will be lined with a suitable geotextile fabric. All personnel working onsite will be trained in pollution incident control response.

6.2.4 Dewatering

In order to prevent ingress of surface water into open excavations during construction, the following actions will be implemented:

- Cut-off ditches/trenches be created surrounding the open excavations,
- Grading the ground or;
- Placing sand bags or a small earth bund around the edge of the excavation.

Where dewatering is required, pumped and filtered water will be discharged to the proposed construction phase drainage network comprising diversion drains following visual inspection.

All pumps using fuel or containing oil will be locally and securely bunded.

6.2.5 Spoil Management

The Contractor will ensure that any storage of excavated material is controlled so that it does not pose a negative impact on water quality. It is proposed that excavated soils will be stored within the site. The following will be adhered to as a minimum in terms of drainage for spoil management areas:

- Where practical, the surface of the stored spoil will be shaped to allow efficient run-off of surface water. Where possible, shaping of the surface of the stored spoil will be carried out as placement of spoil within the storage area progresses.
- Silt fencing will be used where necessary to prevent entry to existing drainage.
- Cut-off drains will be constructed at the toe of the proposed spoil heap.
- Where possible, the Contractor will use excess spoil for site landscaping and reinstatement.
 Surplus materials post construction works will be removed and placed in a licensed waste facility.
- Movement of material will be minimised in order to reduce of the soil structure and minimise generation of dust.
- Topsoil heaps stored on site for longer periods shall be seeded to mitigate dust, erosion and runoff.

6.2.6 Concrete & Materials Delivery, Storage and Handling

On-site placement of concrete will be planned and strictly controlled to ensure quality control, safe working operation and no impact on the environment. Ready Mix Trucks shall be employed for the transport of concrete to site as required. This operation will be strictly controlled to ensure safe passage of the material with particular attention given to spillage. All transport deliveries shall be carried out strictly within the permitted truck carrying capacity.





Clearly visible signs will be placed in prominent locations close to concrete pour areas, stating that washout of concrete lorries is not permitted on the site. The arrangements for concrete deliveries to the site will be discussed with suppliers before commencement of work, agreeing routes, prohibiting on-site washout and discussing emergency procedures.

Raw or uncured waste concrete will be disposed of by removal from the site.

Only the chute of the concrete delivery truck will be cleaned on site, using the smallest volume of water necessary. Concrete trucks will be directed back to their batching plant for washout. Any spillages will be cleaned up and disposed of correctly and expediently.

Although anticipated to be used in small quantities, all oils and fuel required for the project will be stored in a bunded area with provisions of adequate spill retention capacity (a minimum of 110% tank capacity where applicable).

Where construction materials are imported (e.g., stone, pipe work, concrete etc), these materials will be delivered for secure storage or direct to the area of site where the material will be immediately utilised. All materials will be COSHH assessed and will be stored in accordance with the manufacturer's details. Dry stone may be stockpiled for use over a short period of time and topsoil will be stored for longer durations.

6.2.7 Pollution Control & Environmental Management

The proposed construction works required for this project could lead to environmental pollution under the following main headings.

- Sediment run off from on-site construction works;
- Oil and fuel spills from construction plant;
- Run off from concrete leaching;

With respect to the above risks the following mitigation actions will be taken:

• Sediment run-off from on-site construction works. All construction activity on site will ensure that any works carried out as part of this project will not lead to a free / uncontrolled discharge of soiled waters down gradient or contribute to a wash out of soils with elevated sediment levels reaching any existing water channels.

6.2.8 Oil and Fuel Spills from Construction Plant

In order to carry out the construction works required for this development the Contractor will require the deployment of a number of items of construction equipment. This plant may consist mainly of tracked excavators, dump trucks, backhoe and load-all. In addition, some items of smaller plant such as vibrating rollers, plate compactors, compressors, mechanical pumps and electric generators will also be employed on site. Refuelling of such plant will only occur in a designated and bunded location within the construction compound as discussed above.

An emergency plan to deal with accidental spillages will be drafted and kept on site during the construction period should such an incident occur. Should any item of contractor's equipment require





major mechanical repair then arrangement shall be made to remove the plant off site for repair and maintenance.

6.3 Air Quality - Dust Control

The main air quality impact associated with the construction of the proposed development is the potential for dust. The potential for dust arising depends on a number of factors, including the prevalent weather conditions. It is envisaged that this problem arises during the summer season and on windy days during winter months.

The main creation of dust during the project will be generated from heavy earth moving plant during activities such as excavations, transport and unloading of crushed stone and also vehicle movements over hard, dry surfaces on site.

In order to ensure minimal impact on air quality during the works, mitigation measures will be undertaken. Such measures may include the regular cleaning, sweeping and maintenance of approach roads and construction areas and the suppression of dust using a tractor-drawn bowser. Stockpiles of topsoil will be seeded. If a complaint relating to dust arises it will be entered into the site's complaints log and the Project Manager, following consultation with the Developer, will arrange to meet with those affected. The situation will be acted upon immediately.

6.4 Invasive Species

Prior to the commencement of works the contractor shall engage a suitable qualified specialist to carry out a survey to identify if there are invasive species on site.

The Contractor shall refer to the following publications in the preparation for site operations:

• NRA Guidelines on The Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads (2008)

• Managing Japanese knotweed on development sites - The Knotweed Code of Practice produced by the Environmental Agency (2013)1

• Managing Invasive Non-native Plants in or near Freshwater, Environment Agency (2010)

• Best Practice Management Guidelines Japanese knotweed Fallopia japonica, Invasive Species Ireland (2015).

The Contractor shall be familiar with the Wildlife (Amendment) Act 2000 which governs invasive species under the European legislation, the Birds and Natural Habitats Regulations 2011 (SI 477 of 2011), Section 49(2) prohibit the introduction and dispersal of species listed in the Third Schedule.





7 Health & Safety

7.1 Health & Safety Procedures

The contractor Shall perform the duties of PSCS for the duration of the project. The Contractor shall liaise with the PSDP as required.

7.2 Emergency Planning & Response Procedure

The contractor shall prepare an emergency planning and response procedures as part of the Safety Plan for the development

8 Waste Management

8.1 Waste Prevention & Waste Regulations

It will be a key objective of the Contractor to reduce, re-use and recycle as much of the waste material generated on site as possible within the scope of the contract. Furthermore, where waste is to be removed from the site, the material transported off site will only be transported by permitted hauliers and only recovered or disposed at regulated facilities.

There is an existing dwelling to be demolished on site. The excavation works will require the removal and stockpiling of topsoil and further excavation of sub-soil for foundations and services. Topsoil will be stockpiled for re-use on the site. Some subsoils will be retained for backfilling and the remainder will be removed of site to a licensed recovery facility. The following table gives an estimate of the wastes arising from the demolition and excavation phase of the works: -

Waste Type & Waste Code	Tonnes	Reuse		Recycle / Recovery		Disposal	
		%	Tonnes	%	Tonnes	%	Tonnes
Concrete 17 01 01, Bricks 17 01 02, Tiles, Ceramics							
17 01 03	50	0	0	90	45	10	5
Plasterboard 17 08 02	0.5	0	0	0	0	100	0.5
Roof Tiles 17 01 03	2	0	0	80	1.6	20	0.4
Timber 17 02 01	1	0	0	70	.7	30	.3
Asbestos 17 06 05*	0	0	0	0	0	0	0
Topsoil 17 05 03	50	90	45	10	5	0	0
Soil & Stone 17 05 03	300	20	60	80	240	0	0
Total	403.5		105		292.3		6.2



Table 1 Estimated Demolition & Ecavation Waste Use



In addition to the specific requirements noted above the following categories of waste will be generated during the construction of the project:

- non-hazardous office & canteen waste
- paper/cardboard
- construction and demolition waste including timber, metals, etc.
- waste litter

All recoverable materials shall be segregated and stored on site for removal to a recovery facility.

All records of waste transported (quantities) off-site will be retained and will be input to a database to track waste generation as a metric for overall environmental performance for the project. Copies of the waste contractor's collection permits, waste permits/licences will be available for inspection on site. This plan in turn fits into the overall Construction Environmental Management Plan for the proposed development.

The regulations and guidance of relevance to the management of construction and demolition waste generated in construction projects include the following:

8.1.1 Waste Management Acts 1996-2011 (the Act)

The Act sets out a waste management waste management hierarchy, which applies to all waste, including hazardous waste, the primary focus of which is the prevention of waste at source, with an emphasis on reuse, recycling and recovery prior to disposal as the least favourable option for dealing with waste. *The Contractor will apply a Waste Management Priority Hierarchy in accordance* with Directive 2008/98/EC on waste (Waste Framework Directive) *as shown below.*







Opportunities do exist throughout the life cycle of construction projects for minimisation of waste. The Construction Management Team will ensure that all earthworks and construction works will be supervised to ensure that waste quantities are minimised and that appropriate site management measures around collection and segregation are implemented to reduce the potential for cross contamination of waste streams, thereby minimising the overall volumes of material to be removed as waste.

Through effective supervision, the contractor will ensure that materials of different waste categories are not mixed thereby reducing the hazardous fraction.

Specifically, with regard to management of C&D Waste, the Act (as amended) sets out that specific authorisations are needed for both the collection of C&D waste and its recovery/disposal. The Contractor will ensure that all sub-contractors and their vehicles involved in the collection for transport off site of C&D waste will have current and valid Waste Collection Permit(s).

8.1.2 DoEHLG Best practice Guidelines on preparation of Waste Management Plans for construction and demolition Projects 2006

Regard was had to the requirements of the DoEHLG Best Practice Guidelines in the preparation of this document, particularly in respect of the content of this Plan.

8.1.3 EPA Guidelines including the 2015 Guidelines- Waste classification List and determining if waste is hazardous or not

The contractor shall be aware of the relevant List of Waste (LoW) categories relevant to the earthworks and construction works and are in a position of classify material if so required.

8.1.4 Cork County Council Development Plan and its Waste management Objectives.

Cork County Council requires that a site and project specific Waste Management Plan is prepared to accompany all construction and demolition project (in accordance with National Waste legislation). Specific objectives relating to segregation and reuse or recycling of waste streams, or, where not possible, disposal using appropriately permitted or licensed waste collectors at authorised waste facilities.

Such segregation will facilitate Regional Waste Management Plan by implementation of the waste hierarchy and maximising the diversion of waste from landfill in accordance with current national and European policy.

The preparation by the contractor of the waste management plan reflects fully the objectives of the Council through the application of the waste management hierarchy to the management of C&D wastes generated during the development.

8.2 Reference Documentation





In addition to the documentation cited above, other guidance documents have been used to develop this plan including:

- DoEHLG Best practice Guidelines on preparation of Waste Management Plans for construction and demolition Projects 2006
- EPA Guidelines
- PPG01 Understanding Your Environmental Responsibilities Good Environmental Practices
- GPP05 Works and maintenance in or near water
- PPG06 Working at construction and demolition sites
- PPG07 Refueling facilities
- Construction and Demolition Waste Management a Handbook for Contractors and Site Managers published by FAS and the Construction Industry Federation 2002
- Environmental Good Practice on Site Guide, C741, CIRIA 2015 (Fourth Edition)
- The SuDS Manual CIRIA C753
- Greater Dublin Strategic Drainage Study (GDSDS)
- Department of the Environment's Recommendations for Site Development Works for Housing Areas
- Department of the Environment's Building Regulations 'Technical Guidance Document Part H Drainage and Waste Water Disposal'

