

**PRELIMINARY
CONSTRUCTION AND
ENVIRONMENT
MANAGEMENT PLAN**

Nursing Home Extension

Sally Park Nursing Home,
Sally Park Close,
Firhouse, Dublin 24.

Unit 7 Block E, Nutgrove Office
Park, Rathfarnham, Dublin 14.
Tel 01 460 2000

17 South Mall,
Cork.
Tel 021 427 2000

Email: info@ceaarchitects.ie

Web: www.ceaarchitects.ie

Table of Contents

Table of Contents	2
1. Introduction	3
2. Receiving Environment and Proposed Development.....	4
2.1 General Construction Activities	4
2.2 Construction Waste	4
3. Potential Impact of Construction Works	5
3.1 General Construction Activities	5
3.2 Construction Waste	5
3.3 Proximity to environmental features	6
4. Surface Water Run-Off.....	7
4.1 Construction Stage	7
4.2 Operational Phase	8
5. Construction Traffic and Site Access.....	10
5.1 Impact on Public Roads	10
6. Site Logistics	11
6.1 Site Establishment and Security	11
6.2 Material Storage and Handling	11
6.3 Site Welfare Facilities	11
7. General Safety and Health Considerations	12
7.1 Control Substances Hazardous to Health	12
7.2 Outline Environmental Incident Procedures	12
8. Air Quality.....	14
8.1 Effective material storage and handling	14
8.2 Construction Plant.....	14
8.3 Vehicle Movements.....	14
9. Noise and Vibration	15
9.1 Construction Noise	15
10. Invasive species Control	16
10.1 Himalayan Balsam and Japanese Knotweed	16

1. Introduction

This Construction and Environment Management Plan (CEMP) has been prepared by CEA Engineers & Architects on behalf of the client to support the construction of a residential development at Sally Park Nursing Home, Sally Park Close, Firhouse, Dublin 24.

This document comprises the CEMP and in particular provides details of the intended construction practice for the development, the proposed hours of working, noise management measures, and also demonstrates how environmental impacts are minimised during the construction phase of the development.

2. Receiving Environment and Proposed Development

It is proposed to construct the development in a single phase, involving all architectural, Engineering and Landscaping works granted under the planning application SD19A/0270 made to South Dublin County Council on the 22 Day of August 2019.

2.1 General Construction Activities

The proposed development comprises the Construction of an institutional residential building for the housing of a vulnerable population, specifically the elderly and psychologically infirm. The specific machinery that will be used on the site to construct the development is likely to include excavators, dumper trucks, JCBs, generators & haulage Lorries. The potential impacts and mitigation measures for the general construction activities are dealt with in detail below.

2.2 Construction Waste

The development will result in the generation of waste material from the following sources:

- Excavation of soil to foundations, ductwork and sewers;
- Excavation sewer tie-ins to existing sewers;
- Surplus material (off-cuts, damaged materials, packaging etc.) generated during the construction of the new development;
- It is envisaged that excavated material will be re-used on site, should the material be suitable

3. Potential Impact of Construction Works

The construction phase of the development will generate a certain amount of activity on the site. The general activities on site are likely to generate air and noise emissions and traffic movements. Alongside these general activities there will also be an amount of construction waste generated.

3.1 General Construction Activities

The construction phase will involve the preparation of the site, excavation and removal of on-site material, construction of site roads and building of the proposed residential Building. With the construction activity there will be an increased number of vehicular movements in the locality, both construction and worker vehicles. The construction at the site will also have the potential of raising dust into the air and depositing or spilling material on adjoining roads during the construction works. Noise will also be emitted from the construction site during the course of the works. Currently, there is no published Irish guidance relating to the maximum permissible noise level that may be generated during the construction phase of a project, however, limits on the hours of operation is the norm to keep noise to a minimum. The flow of vehicular traffic to and from a construction site is also a potential source of relatively high noise levels. The potential for vibration at neighbouring sensitive locations during construction is typically limited to excavation works and lorry movements on uneven road surfaces.

3.2 Construction Waste

Unsustainable management and inappropriate disposal of this construction and demolition waste can result in a waste of natural resources and lead to environmental pollution. The main source of waste material at the site will be construction waste. Waste is defined as any substances or object belonging to a category of waste specified in the First Schedule (of the Waste Management Act 1996) or included in the European Waste Catalogue, which the holder discards or intends or is required to discard and anything which is discarded or otherwise dealt with as if it were waste shall be presumed to be waste until the contrary is proved.

There are two main types of construction waste — Hazardous and Non-hazardous as detailed below:

Hazardous Wastes

Hazardous Wastes are defined as wastes which can have a harmful effect on the environment and on human health as they exhibit ignitability, reactivity, corrosive Nature and/or toxicity and/or are listed as hazardous by the European Waste Catalogue and/or may be identified as hazardous by application of the EPA Waste Characterization Tool compiled by The Clean technology Centre.

The hazardous wastes that may be experienced at a development of this nature are as follows:

- Adhesives and Sealants
- Aerosols
- Batteries
- Chemicals
- Cleaning Products
- Oil
- Oil (Contaminated absorbent Material or debris)
- Paints and Thinners

Non-hazardous

- Timber Waste
- Scrap Metal
- Plastic
- Paper / Cardboard
- Canteen Waste
- Litter

3.3 Proximity to environmental features

The site comprises a courtyard bordered around by existing planting. Proposed construction running along these boundaries will require the removal of some portion of the trees and planting (see Arboricultural Report accompanying this application). Significant tree stands are proposed to be retained along the boundary with proposed planting to be undertaken after the completion of the works at the entrance to the site and the existing tree lined boundary to the south. All due care should be afforded to plan all construction to avoid damage to the trees or their root structures including but not limited to exclusion areas and clearly marked vehicular circulation routes. As per attached Map

4. Surface Water Run-Off

There are no watercourses crossing or bounding the site that could convey silt-laden or contaminated run-off into the adjacent storm water network however effort should be made to prevent runoff into public and private property adjacent to the site.

4.1 Construction Stage

During the construction stage, site runoff will generally percolate to ground. However, where construction works take place near existing surface-water network in the wider area, standard environmental controls will be implemented (CIRIA 2010 & 2001). Such controls will be specific to the proposed works, site and surrounding / nearby environmental points of interest including but not limited to adjacent storm water network, as new points of interest are identified the CEMP will be updated;

To ensure that there will be no contamination of surface water effecting local services and residences,

- any excess excavated material will be immediately removed (i.e. either used within the development for landscaping or removed to a licensed fill facility) and the excavated material (e.g. top soil) will be stored adjacent to the excavated hole so that it can be reused to backfill and finishing around the sides of the tank and associated sewer trenches once the tank and sewers have been installed;
- The short term storage and removal/disposal of excavated material will be planned and managed such that the risk of pollution from these activities is minimised.
- Silt fencing will be erected and maintained in place during the construction phase and until such time as the integrity of the re-instated ground/material has been fully established;
- The silt fencing will be checked twice daily during construction and once per day thereafter to ensure that it is working satisfactorily until such time as the re-instated ground/material has been fully established;
- Works associated with the attenuation tanks will be completed as expeditiously as possible and during dry weather conditions to mitigate any risk of discharge(s) to any nearby watercourses;
- Sediment traps (such as earthen berms and/or settlement ponds) and/or silt fences will be provided for to prevent run-off from the site;

- Drainage channels beside construction roads will flow into settlement ponds or swales in series to allow primary and secondary settlement of sediment. Each swale series will have an outfall manhole directly downstream in which final settlement can take place and the outflow to the existing network can be monitored. Outfall manholes will be regularly emptied of sediment during periods of heavy rainfall. These measures will prevent run-off from the site and total suspended solid levels in all discharge shall be in compliance with the Quality of Salmonid Water Regulations (SI293:1988);
- An emergency-operating plan will be established to deal with incidents or accidents during construction that may give rise to pollution within any nearby watercourses. This will include means of containment in the event of accidental spillage of hydrocarbons or other pollutants. Permanent hydrocarbon interceptor tanks will be installed upstream of these outfalls and will be online during the construction stage as well as the operation stage;
- Through all stages of the construction phase the contractor will ensure that good housekeeping is maintained at all times and that all site personnel are made aware of the importance of the requirement to avoid pollution of all types.
- The storage of oils, hydraulic fluids etc. will be in a bunded facility with filling and take off points within the bunded area in accordance with current best practice;
- The pouring of concrete, sealing of joints, application of water proofing pain etc. will be completed in the dry to avoid pollution of the freshwater environment. As grout / cementitious materials are highly toxic to aquatic life all such works must be contained in complete isolation of all waters and storm water systems.

4.2 Operational Phase

During the operational phase, surface-water run-off associated with the site will be collected by a new surface-water drainage system installed at site that will connect into the existing storm water infrastructure at the existing connection. Capacity is anticipated to be present due to the built up nature of the area however this will be confirmed by a pre-connection application to Irish Water in due course. However, operational phase surface-water run-off will be managed and controlled prior to discharge into the environment as follows;

- All storm water discharge will be directed through hydrocarbon interceptors and grit sumps.

- Storm water will be discharged at green-field rates through the integration of attenuation tanks with hydro-brake along the storm water drainage network.
- The storm drainage calculations shall ensure that the proposed storm drainage system (i.e. storm drainage network, attenuation tank, hydro-brake and hydrocarbon bypass interceptor) are appropriately sized to serve the wider Abbey Wood area.
- A cleaning and maintenance schedule will be implemented for the proposed storm drainage system and tank during the operation phase.
- The proposed storm network will be inspected following construction to ensure that no cross connection between the proposed foul and storm network exists.
- The storm drainage system will be cleaned appropriately and inspected prior to being fully commissioned i.e. before being allowed to discharge to receiving waters. Water sampling of the receiving waters upstream and downstream of the proposed outfall will be undertaken before construction commences and for a period of 6 months following the completion of the development to ensure that the proposed water quality controls (both for the construction and operational phases) are appropriate and operating satisfactorily.
- There will be bunding of heating oil tanks to prevent possible spillage runoff.

4.3 Additional Identified Points of Environmental Interest

- Location...
- Extent...
- Interest...
- Specific Measures of Protection...

5. Construction Traffic and Site Access.

5.1 Impact on Public Roads

Access to the site will be via the sally park close Cul de Sac from the Ballycullen road and the Firhouse Road accessing the greater Dublin Road Network. The access point at the gate to this road will be secured for the duration of construction, and safety signage placed on all fencing and gates as required.

In order to reduce the impact of vehicles on the existing properties in the area, the Contractor will provide management of all site traffic movements and parking throughout the duration of the works.

During the construction phase a vehicle wash-down will be provided, and all vehicles will be washed down prior to exiting onto the public road. All roads and footpaths adjacent to the site where dust, debris or spillage occurs will be cleaned on a regular basis. All vehicles carrying open loads (e.g. skips) will ensure the loads are properly covered to ensure no spillage of waste material occurs.

6. Site Logistics

6.1 Site Establishment and Security

The first stage of the demolition and construction programme will be to establish the area as a demolition/construction site;

- The working areas will be secure and the general public will be separated from the works by the utilisation of existing boundaries and the installation of fencing.
- All site facilities will be contained within the site area.

6.2 Material Storage and Handling

Contractors and their subcontractors will be expected to maintain a tidy site and to operate a "just in time" policy for the delivery and supply of materials for the works, particularly the final phase of the works when on site storage will be at a minimum. No unloading on or over the existing estate roads will occur.

In general;

- Materials stored on site to minimise damage by vehicles, vandals, weather or theft;
- Packaging would be returned, where possible.

6.3 Site Welfare Facilities

A portable chemical toilet will service the construction site. The chemical toilet will be a proprietary system and a licensed contractor will empty this on a regular basis and dispose of the waste to a suitably licensed facility.

7. General Safety and Health Considerations

Construction works will be carried out in a safe manner and in such a way as to limit, as far as is practicable, adverse environmental impact.

Construction workers carrying out safety critical tasks must complete Construction Skills Certification Scheme (CSCS) training, and general operatives will be required to have a valid and current Safe Pass card.

A formal Health & Safety Policy Statement will be adopted, in accordance with the requirements of the Health & Safety Authority.

7.1 Control Substances Hazardous to Health

The strategy for controlling all substances coming onto site and all work activities and progress which may generate hazardous substances will be managed and controlled in accordance with best practice guidance. Some control measures to be employed are as follows:

- In case of spills or discharges, remedial action will be taken as soon as possible, and set procedures will be compiled with;
- A logistics plan will be developed to take into account the management and control of hazardous substances on site; and
- Personal protective equipment (PPE) suitable to prevailing conditions will be used by all construction workers.

7.2 Outline Environmental Incident Procedures

Measures will be carried out to avoid environmental incidents, however if these occur then the following types must be reported to the responsible person within the Construction Team.

The overall strategy in the event of a spillage will be to "Stop-Contain-Notify" Spills or discharges to the atmosphere, water supplies, sewerage systems, rivers and other watercourses, or to the ground of:

- Any chemical product or formulation;
 - Oils and fuels;
 - Effluents/fumes and gases;

- Waste or contaminated materials.
- Damage to existing:
 - Trees and wildlife;
 - Flora and existing local habitats.
 - Streams and watercourses.
- Any environmental incident that could lead to:
 - Local authority or regulatory enforcement;
 - Public complaint.

8. Air Quality

8.1 Effective material storage and handling

The storage and handling of construction materials can be a significant dust emission source. The adoption of appropriate dust control measures will greatly reduce dust emissions from these sources and ensure that any adverse effects are reduced or eliminated.

Vehicles carrying dusty materials into or out of the site shall be sheeted down to prevent any escape of materials.

8.2 Construction Plant

Construction plant can be a significant source of emissions although control measures can be implemented to minimise any adverse impacts. The following measures will be employed:

- Site plant and equipment will be kept in good repair and maintained in accordance with the manufacturers specifications. Allowing for economic constraints, the plant will be selected on the basis of which has the least potential for dust and other emissions;
- Plant will not be left running when not in use;

8.3 Vehicle Movements

Vehicle movements may result in dust emissions (by re-suspending dust from the road or from spilling dusty loads) and exhaust emissions. However, a number of control measures can be adopted to eliminate or minimise such emissions:

- Wheel washing facilities on site to prevent mud from construction operations being transported on to adjacent public roads;
- Damping down of site haul roads by water bowser during prolonged dry periods;
- Regular cleaning of hard-surfaced site entrance roads.

9. Noise and Vibration

Noise and vibration levels will be controlled as set out below to ensure that the Development is operated in a way that minimises detrimental impact to the amenities of local residents.

9.1 Construction Noise

Infrastructure works, excavations and foundation construction will be among the most significant activities. Although concreting operations will also give rise to noise, the levels generated would not be considered to be significant.

As the buildings within the proposed Development rise above the ground, there will be some noise from scaffolding and formwork erection but the majority of activities and plant (e.g. concrete pumping) are considered to generate low noise.

In order to minimise the noise impact further on the adjoining residential properties it is proposed that heavy equipment and machinery including pneumatic drills, construction vehicles and generators only work between the hours shown below. All plant and equipment will be maintained in good working order in accordance with BS.5228 in order to minimise air and noise emissions.

Normal Working Hours:

Monday to Friday: 08:00 to 18:00hrs

Saturdays: 7:00 to 14:00hrs

Sundays & Bank Holidays: No Normal Working Hours

On occasions it may prove necessary to carry out noisy activities outside of normal working hours. In such instances prior consultation will be carried out with South Dublin County Council and all efforts made to minimise the disruption to local residents.

10. Invasive species Control

10.1 Himalayan Balsam and Japanese Knotweed

While the presence of Invasive species has not been identified onsite, the following protocols shall exist to control their spread should an undesirable species be discovered...

Upon the identification of an invasive species on site;

- Extent and variety of the offending flora is to be identified and mapped.
 - Ensure site wide awareness and adherence to good site hygiene such as:
 - Marking out of contaminated areas.
 - Ensuring that vehicles with caterpillar tracks do not work within contaminated areas.
 - Treating contaminated soils carefully.
 - Limit use of tracked machinery at infested sites.
- Cleaning machinery or equipment that could be contaminated.
- Establish the length of presence of the offending flora.
- Develop a threat specific Management Plan.
- Follow-up control work to prevent regrowth and gestation of missed seedlings