



Crocon Engineers Ltd.

Preliminary Construction & Environmental Management Plan

Conversion of former Garda Station to 2
no. dwelling units & all ancillary site works

at
former Garda Station,
Adrigole,
Co. Cork

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1 INTRODUCTION

1.1 General

CROCON Consulting Engineers have been commissioned by Cork County Council to prepare a Construction & Environmental Management Plan for the proposed conversion of the former Garda Station into 2 no. dwelling units at Adrigole, Co. Cork as part of the Part 8 application for Cork County Council.

1.2 Site Location

The site is located in Adrigole, adjoining the R572. The residential development consists of an overall site area of c.0.094 hectares within a “brownfield” site adjoining existing residential areas to the north, east, and west with the public road to the south.

The development will comprise of conversion of former Garda Station into 2 no. dwelling units. The surrounding area is predominantly residential in nature.

Pedestrian and vehicle access is proposed via the adjoining public road.



Figure 1: Approx Site Location (Google Maps)

2 DEVELOPMENT DESCRIPTION

Permission for the conversion to 2 no. residential units and all associated ancillary development works including access, footpaths, parking, drainage, landscaping and amenity areas at former Garda Station, Adrigole, Co. Cork.

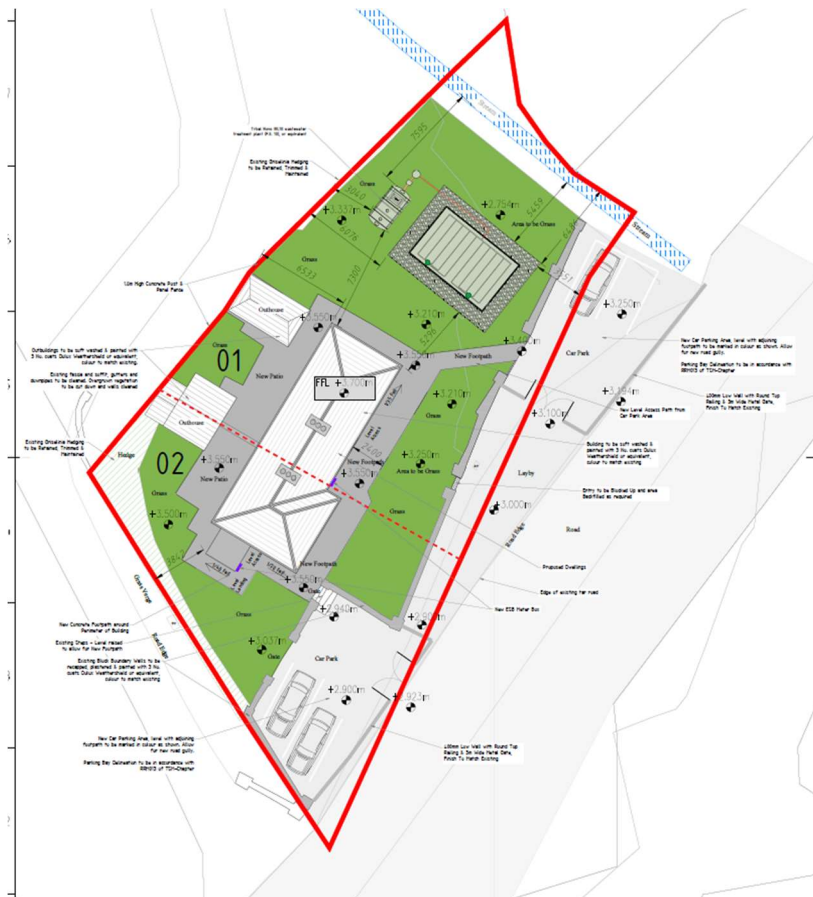


Figure 2: Proposed Development Layout.

2.1 Construction Planning

The construction of the project is planned to take approximately 12 months.

It is envisioned that the entire proposed development area with all associated green areas and infrastructure will be constructed as one project.

3 SITE MANAGEMENT

3.1 Site Establishment

The contractor shall provide all necessary accommodation, material handling and secure storage for their operators. The Contractor's compound and storage area shall be located as shown in Figure 4 below, with construction access via the existing entrance.

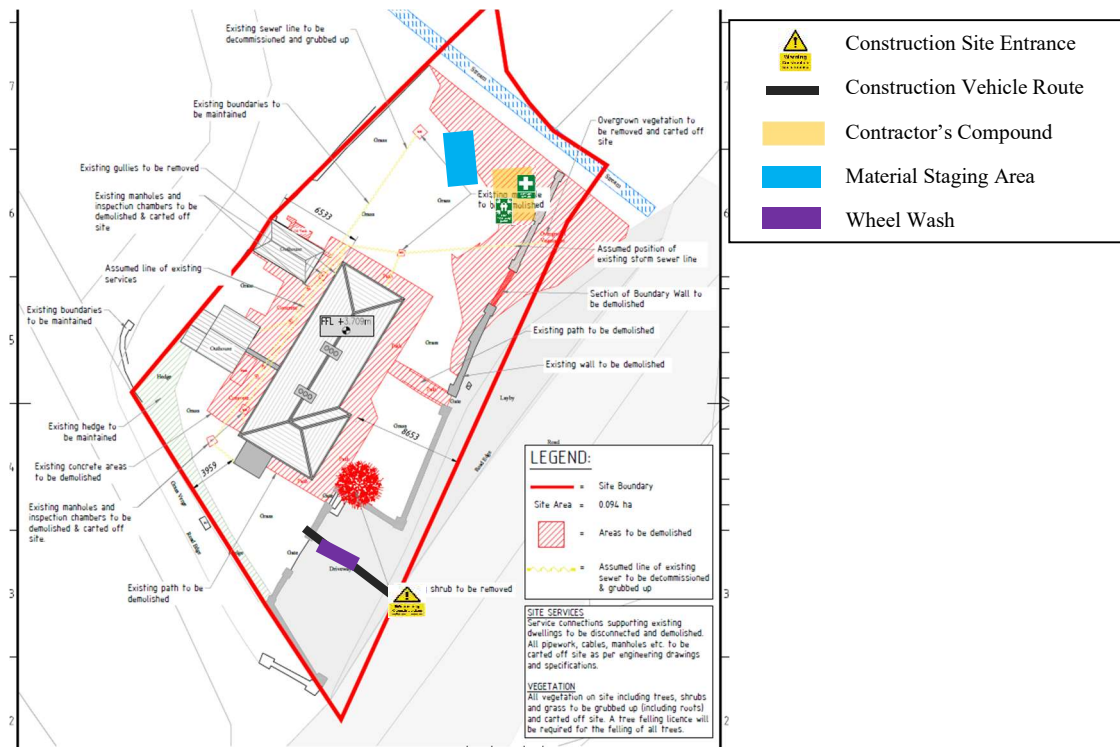


Figure 3: Proposed construction site compound.

The facilities to be provided and maintained by the Contractor shall include:

- Construction plant
- Hoisting equipment and cranes
- Scaffolding, platforms, access ladders, barriers, and handrails
- Barricades and hoardings
- Temporary driveways, road crossovers, and construction zones
- 24/7 emergency vehicle access
- On-site hardstand areas for vehicle loading and unloading
- Storage sheds and compounds



- Rubbish sorting areas
- Site amenities with all required equipment and facilities
- Construction worker accommodation
- First aid facilities
- Site administration accommodation

Construction plant and site amenities shall comply with the requirements of all relevant authorities and be wholly contained within the hoarded site. All construction plant and equipment will be progressively removed when no longer required.

First Aid facilities for the use of all construction staff in the form of a fully provisioned first aid area within the site office with lifesaving and safety equipment as required by relevant statutes, authorities and awards will be always maintained by the contractor.

The contractor shall obtain all required permits, pay the applicable fees and comply with all conditions.

3.2 Hoarding and Fences

Prevention of unauthorised access to the site is a very high priority and will be vigorously managed throughout the construction period. Any hoardings and signboards on the perimeter of the site will comply with the requirements of the relevant authorities and the relevant Health and Safety Acts. The contractor shall be required to erect a single project signboard at the existing entrance to identify the site.

3.3 Temporary Protection of Public Domain

Prior to any works commencing on site, detailed dilapidation reports shall be carried out to properties adjoining the site.

Further dilapidation reports shall be carried out for footpaths, kerbs, road pavements and utility infrastructure features of the main access routes in the immediate vicinity to the site.

The contractor shall provide protection to existing surrounding building elements potentially impacted by the works. Protection may be in the form of screened hoardings, scaffolding and fencing, taped drop sheets and the like. Similarly, suitable existing building materials to be re-used shall be suitably stored and protected from the elements.



The type of required hoardings, scaffolding and fencing will vary over the duration of the works, depending on how the site activities potentially impact on the adjoining public domain and neighbourhood.

“Dial-before-you-dig” enquiries and detailed services location investigations shall be carried out to identify any need for temporary protection of elements of existing utility infrastructure (if any) that are not to be diverted as part of the works.

All temporary protection is to be installed and maintained during the duration of the works until they are no longer required.

3.4 Major Plant & Equipment

Plant and equipment used during the works are as follows:

- Articulated and rigid trucks
- Piling rigs, bulldozers, excavators, and backhoes, with all necessary ancillary equipment
- Mobile cranes
- Concrete delivery trucks and concrete pumps
- Man, and material hoists.
- Scissor, boom and forklifts

All plant and equipment will be operated by experienced and qualified personnel with the appropriate registrations.

3.5 Vehicular Access to Site

The primary access to the site shall be determined by the contractor in their Construction Traffic Management Plan (CTMP). Primary vehicle movement shall be limited to access/egress via the construction site entrance demonstrated in point 3.1 above.

In order to ensure satisfactory operation of the construction stage, it is proposed to provide sufficient on-site parking and compounding to ensure no potential overflow onto the local network.

Finally, truck wheel washers will be installed and any specific recommendations regarding construction traffic management made by the local authority will be adhered to.



The following mitigation measures shall be incorporated into the CTMP:

- During the pre-construction phase, the site will be securely fenced off from adjacent properties, public footpaths and roads.
- The surrounding road network will be signed to define the access and egress routes for the development.
- The traffic generated by the construction phase of the development will be strictly controlled in order to minimise the impact of this traffic on the surrounding road network.
- All road works will be adequately signposted and enclosed to ensure the safety of all road users and construction personnel.
- All employees' and visitors' vehicle parking demands will be accommodated on-site.
- A programme of street cleaning if, and when, required.
- Any associated directional signage
- Any proposals to facilitate the delivery of abnormal loads to the site
- Measures to obviate queuing of construction traffic on the adjoining road network.

3.6 Site Security

Access to the site shall be controlled by means of an electronic access control system and camera remote monitoring system for out-of-hours use.

All personnel working on site shall be required to have a valid Safe Pass card.

3.7 Material Hoisting & Movement Through Site

All lifting activities will have to be coordinated on-site by the appointed person on site. All lifts will have to have a proper lift plan in place prior to commencement. No loads will be lifted over the public domain or adjacent properties.

3.8 Deliveries & Storage Facilities

All deliveries to the site shall be scheduled to ensure their timely arrival and avoid the need for storing unnecessary large quantities of materials on site. Deliveries shall be scheduled outside of peak traffic times as far as possible to minimise disturbance to pedestrian and vehicular traffic in the vicinity of the site.



3.9 Site Accommodation

On site facilities shall include:

- A materials and equipment storage area
- Site offices
- Staff welfare facilities (e.g., toilets, drying room, canteen, etc.)

Electricity will be provided to the site via the national grid.

Water supply to the site during construction works will be provided by means of a temporary connection to a public watermain. Similarly, a temporary connection for the foul water drainage will be made to the public network.

3.10 Site Parking

Vehicular parking for construction personnel shall be accommodated within the development site. To the extent possible, personnel will also be encouraged to use public transport, and information on local transportation will be published on site.

3.11 Site Working Hours

Subject to the agreement of the Planning Authority, the following site operation hours are proposed:

- Monday to Saturday: 07:00 to 19:00
- Sundays & Bank Holidays: Works not permitted.

It may be necessary for some construction operations to be undertaken outside these times, for example, service diversions and connections, concrete finishing, and fit-out works, etc. There may also be occasions where it is necessary to make certain deliveries outside these times, for example, where large loads are limited to road usage outside peak times.



4 ENVIRONMENTAL MANAGEMENT

During construction, cognisance will have to be taken of the following guidance documents for Consultants and Contractors:

- Ciria C648 Control of Water Pollution from Construction Sites.
- Guidelines for the Crossing of Watercourses during the Construction of National Roads Schemes (TII, 2006).
- The Management of Invasive Alien Plant Species on National Roads – Technical Guidance (TII, 2020).

4.1 Timing of Works

Site clearance during construction and tree and shrub maintenance during operation will take place outside the nesting bird season (1st March – 31st August inclusive). If site clearance is required during the nesting bird season, the area will be checked by a suitably qualified ecologist. If nesting birds are found to be present, the site clearance works will cease until the chicks have fledged, or, until the NPWS have been consulted to determine the course of action.

The felling of trees will take place in the months of September to November inclusive, or in February and March in order to avoid the months bats are most sensitive to disturbance. Note that this programme must also consider the presence of nesting birds.

4.2 Artificial Lighting

Any lighting being used at night on site during construction will be considerate of the impacts it might have on nocturnal species in the area. The lights will not be left on overnight. If lighting is required during construction, the lights will only be illuminating work areas when necessary and will avoid illuminating any woodland habitats and trees.

4.3 Surface Water Run-off

Surface runoff from the compound will be minimised by ensuring that the paved/impervious area is minimised. All surface water runoff will be intercepted and directed to appropriate treatment systems (settlement facilities and oil traps) for the removal of pollutants and/or silt prior to discharge. The site compound will be fenced off as part of the site establishment period.



4.4 Wastewater

Wastewater drainage from all site offices and construction facilities will be contained and disposed of in an appropriate manner to prevent water pollution and in accordance with the relevant statutory requirements.

4.5 Hydrocarbons

The storage of all fuels, other hydrocarbons and other chemicals shall be within the construction compound only and shall be in accordance with relevant legislation and best practice. In particular:

- Fuel storage tanks shall have secondary containment provided by means of an above ground bund to capture any leakage.
- Storage tanks and associated provisions, including bunds, will conform to the current best practice for oil storage and will be undertaken in accordance with Best Practice Guide BPGCS005 – Oil Storage Guidelines (Enterprise Ireland).

4.6 Noise

During the construction works the contractor shall comply with:

- Safety, Health and Welfare at Work (General Application) Regulations 2007, Part 5 Noise and Vibration.

A noise limit of 70dB(A) LAeq, 1hr shall be applied when measured at any noise sensitive receptor.

4.7 Vibrations

BS5228-1:2009+A1:2014 recommends that for soundly constructed residential properties and similar structures that are generally in good repair, a threshold for minor or cosmetic (i.e., non-structural) damage should be taken as a peak component particle velocity (in a frequency range of predominant pulse) of 15mm/s at 4Hz increasing to 20mm/s at 15Hz and 50mm/s at 40Hz and above. Below these values minor damage is unlikely. Where continuous vibration is such as to give rise to dynamic magnification due to resonance, the guide values may need to be reduced by up to 50%. BS 5228-2:2009+A1:2014 also comments that important buildings which are difficult to repair might require special consideration on a case-by-case basis.

All works on site shall comply with BS5228-1:2009+A1:2014 Part1 Noise & Part 2



Vibration which gives detailed guidance on the control of noise and vibration from construction activities.

4.8 Harmful Materials

Harmful materials will be stored on site for use in the construction works only. These materials will be stored in a controlled manner. Where on site facilities are used, there will be a bunded filling area using double bunded steel tanks at a minimum.

5 WASTE MANAGEMENT

5.1 Responsibility for Construction Phase Waste Management

Prior to construction commencing, the contractor shall nominate a suitably competent and experienced representative as Construction Waste Manager for the project. The function of the Waste Manager is to communicate effectively the aims and objectives of the Waste Management programme for the project to all relevant parties and contractors involved in the project, for the duration of construction works on site.

5.2 Construction Waste Generated by the Proposed Development

Waste generated during construction is typically called construction and demolition waste (C&D) and includes the following:

- Clay, stones and other excavated materials
- Concrete, bricks, tiles, and cement
- Glass and composite cladding systems
- Wood
- Plastics
- Bituminous mixtures, coal tar, and tarred products
- Metals (including their alloys)
- PCB-containing materials (e.g., sealants, resin-based floorings, capacitors, etc.)
- Oil wastes and waste of liquid fuels
- Batteries and accumulators
- Packaging (paper/cardboard, plastic, wood, metal, glass, textile, etc.)



5.3 Estimate of C&D Waste Produced

An EPA report: “*Development of an Audit Methodology to Generate Construction Waste Production Indicators for The Irish Construction Industry*” found that the amount of C&D waste generated during construction can be estimated as follows:

- For new residential developments: 70 kg/m²

Therefore, based on the above estimates and the proposed development size (GFA = 177m²), the total amount of C&D waste that will be generated during construction is estimated to be:

- For residential development: 12.2 ton

5.4 Waste Management and Mitigation Measures

The following measures are proposed to ensure effective management of construction waste at the development site, to maximise recycling of construction waste, and to minimise the environmental impact of construction waste.

A waste storage compound shall be set up on-site from the commencement of site activities. The compound shall include the following:

- Separate waste skips labelled with signage stating the nature of waste materials that can only be placed in the skips.
- Waste oils/containers shall be placed in dedicated mobile bunds units.
- Soils contaminated by accidental on-site spillages of oils/construction hydrocarbons shall be stored in clearly identified hazardous waste storage containers.
- Spill kits with instructions shall be located in the waste storage compound.
- On-site segregation of all waste materials into appropriate categories, including:
 - Topsoil, sub-soil, bedrock
 - Concrete, masonry
 - Asphalt, tar, and tar products
 - Metals
 - Dry recyclables (e.g., cardboard, plastic, timber)
- All waste material will be stored in skips or other suitable receptacles in a designated waste storage area on the site.
- Wherever possible, left-over material (e.g., timber cut-offs) and any suitable demolition materials shall be reused on or off site.



- Uncontaminated excavated material (topsoil, sub-soil) will be reused on site in preference to the importation of clean fill, as soil to be reused or removed from site must be tested to confirm its contamination status and subsequent management requirements.
- All waste leaving the site will be transported by a suitably licensed/permitted contractor and taken to a licensed/permitted facility.
- All waste leaving the site will be recorded and copies of relevant documentation retained.

These measures are intended to ensure that the waste arising from construction of the proposed development is dealt with in compliance with the EPA Best Practice Guidelines for the Provisions of Resource & Waste Management Plans for Construction & Demolition Projects, and Chapter 15 of the Cork County Council Development Plan 2022.

6 CONCLUSION

This Preliminary Construction & Environmental Management Plan (CEMP) has been prepared for the proposed development at Adrigole, Co. Cork to give an overview of the processes to be employed during construction.

The aim of this CEMP is to address the following issues that can arise during construction:

- Noise and vibration
- Traffic management
- Working hours
- Pollution control
- Road cleaning
- Compound/public health facilities and staff parking
- Waste management and mitigation