FEHILY TIMONEY

CONSULTANTS IN ENGINEERING, ENVIRONMENTAL SCIENCE & PLANNING

RESIDENTIAL DEVELOPMENT AT SPEAKER'S CORNER, LOWER CAREY'S RD, LIMERICK

OUTLINE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

Prepared for:

Comhairle Cathrach & Contae Luimnigh

Limerick City & County Council

Date: **August 2022**

Core House, Pouladuff Road,
Cork, T12 D773 Ireland

T: +353 1 658 3500 | E: info@ftco.ie

CORK | DUBLIN | CARLOW

www.fehilytimoney.ie

RESIDENTIAL DEVELOPMENT AT SPEAKER'S CORNER, LOWER CAREY'S RD, LIMERICK.

REVISION CONTROL TABLE, CLIENT, KEYWORDS AND ABSTRACT
User is responsible for Checking the Revision Status of This Document

Rev. No.	Description of Changes	Prepared by:	Checked by:	Approved by:	Date:
0	**Issue for Planning**	DM	JH	JH	15.06.2021

Client: Limerick City and County Council

Keywords: **Outline** Construction and Environmental Management Plan, oCEMP, Residential, multi-story apartments, Limerick City, Part 8.

Abstract: Construction and Environmental Management Plan, for Residential Apartment Development at Lower Carey's Road, for the purposes of an application for planning consent under Part 8 of the Planning and Development Regulations 2001 (as amended).

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1. INTRODUCTION

This document is the Outline Construction Environmental Management Plan (oCEMP) for the proposed development of 36 no. apartments within a single 4 storey block on a site of approximately 0.14 ha. This oCEMP has been prepared by Fehily Timoney and Company (FT) on behalf of Fewer Harrington Partner for Limerick City and County Council on a preliminary basis to accompany an application for planning consent under Section 179 of the Planning and Development Act 2000 (as amended) and Part 8 of the Planning and Development Regulations 2001 (as amended) for the proposed development.

1.1 Purpose

The oCEMP sets out the key environmental management issues typically associated with the construction and maintenance of the development to ensure that during these phases the environment is protected and impacts on the environment are minimised. The outline methodology of construction is also outlined. The oCEMP is intended to provide the basis for the final Construction Environmental Management Plan to be prepared by the contractor for the development prior to construction.

1.2 Proposing Local Authority

Limerick City and County Council is the site owner and is the proposing local authority for the Part 8 consenting process.

1.3 The Site

The proposed site is located at Lower Carey's Road on 'brown field' lands of approximately 0.14ha. The site is known as Speaker's Corner and was previously occupied by residential development, now demolished. The lands are bounded by 3 storey buildings to the west and south, with residential and commercial units to its western side and residential units to the south. To the east on Hyde Road are two storey residential housing with a commercial 3 storey office unit at the corner of Lower Carey Road and Hyde Road.

The site is an inner city area, it lies opposite Hyde road Park, the Peoples Park and LDMC Football club. It has good bus connections and is adjacent to the Colbert bus and train Station.

2. EXISTING ENVIRONMENTAL CONTEXT

2.1 Existing Environment

The site is made up of a cleared 'brownfield' site of approximately 0.14ha. The lands within the site are low-lying, with a relatively flat topography. The site is predominantly man-made with abundant concrete and rubble with a narrow layer of soil in parts. Until recently the lands were used as the 'construction compound' for works associated with new car parking arrangements and road alignments at the open space area at Hyde Road park. Since completion of the works the site is empty and cleared.

Historically, the lands were occupied by high density terraced housing set-out is a series of narrow lanes set tangently off Carey's Road (earlier Henry Street South). It is understood these were demolished between post WW2 and 1950's and approximately 8 no. local authority, 2 story houses were constructed. These in turn were demolished in 2006/07 to leave the site in its current condition.

A site visit by FT Ecologist was undertaken in April 2021. The survey identified species typical of disturbed grounds growing in gravel areas together cracks and crevices and along the borders of the site. These include various grasses, dandelion, broad-leaved dock, thistle species, and the invasive buddleia, as well as some immature sycamore trees along the eastern boundary. No species of concern were identified and not evidence of significant invasive species, specifically no evidence of Japanese Knotweed.

No evidence of any mammals was noted, and it is extremely unlikely that the site is used by any terrestrial species of concern. Likewise, there were no trees or structures likely to maintain roosting or breeding bats. No birds were noted on site and again, there is nothing on site to attract any notable diversity of birds.

It was considered unnecessary to conduct further habitat classification or bat, mammal, or bird surveys on site, following the site visit as the largely concrete/hardcore nature of the site is highly unlikely to change significantly between seasons. The site was found to have no direct hydrologically links to any protected sites, aquatic surveys are also deemed unnecessary. Roadside drains off the site on Lower Careys Road provide for strom water management. Design engineers, Garland's Consulting have these are connected to Bunlickey Waste Water Treatment Plant (WWTP).

The lands are located in Flood Risk Zone C, site levels of the development lands are between 11.0 m and 12.5m mOD and are comfortably above the 1:1000 year flood level of 5.17m in the area.

Following plates illustrate the site context and environment.

Plate 1: Speaker's Corner – looking west. The largely concrete/hardcore nature of the site is visible, with some grasses and species of disturbed grounds present. There are no ecologically significant features on site.

Plate 2: Speaker's Corner – looking east. The man-made nature of the substrate continues. Some small sycamores can be seen growing along the border of the site.

Plate 3: Speaker's Corner – looking south. Some immature buddleia can be seen growing along the southern boundary.

3. OVERVIEW OF THE PROPOSED DEVELOPMENT

3.1 Description of Proposed Development

The proposed development consists of a single apartment of 5 no. storeys to provide for 36 no. apartments consisting of 25 no. 2-bed units and 11 no. 1-bed units. The proposed finish will be of brick with passive UPVC casement windows and aluminium doors and sills together with coloured spandrels. Balconies to include pressed metal canopies are proposed for each apartment. The 5th story will be set-back from the front and rear façade and will have a metal cladding. A 'green' flat roof is proposed for the building. Services will be provided internally with service riser proposed as part the single central lift shaft and stair core. Bin storage, and services rooms are proposed to on the eastern side of the block. The building entrance is located centrally and will lead directly to Lower Careys Road. An extract of the site layout is provided below in figure 3.1.

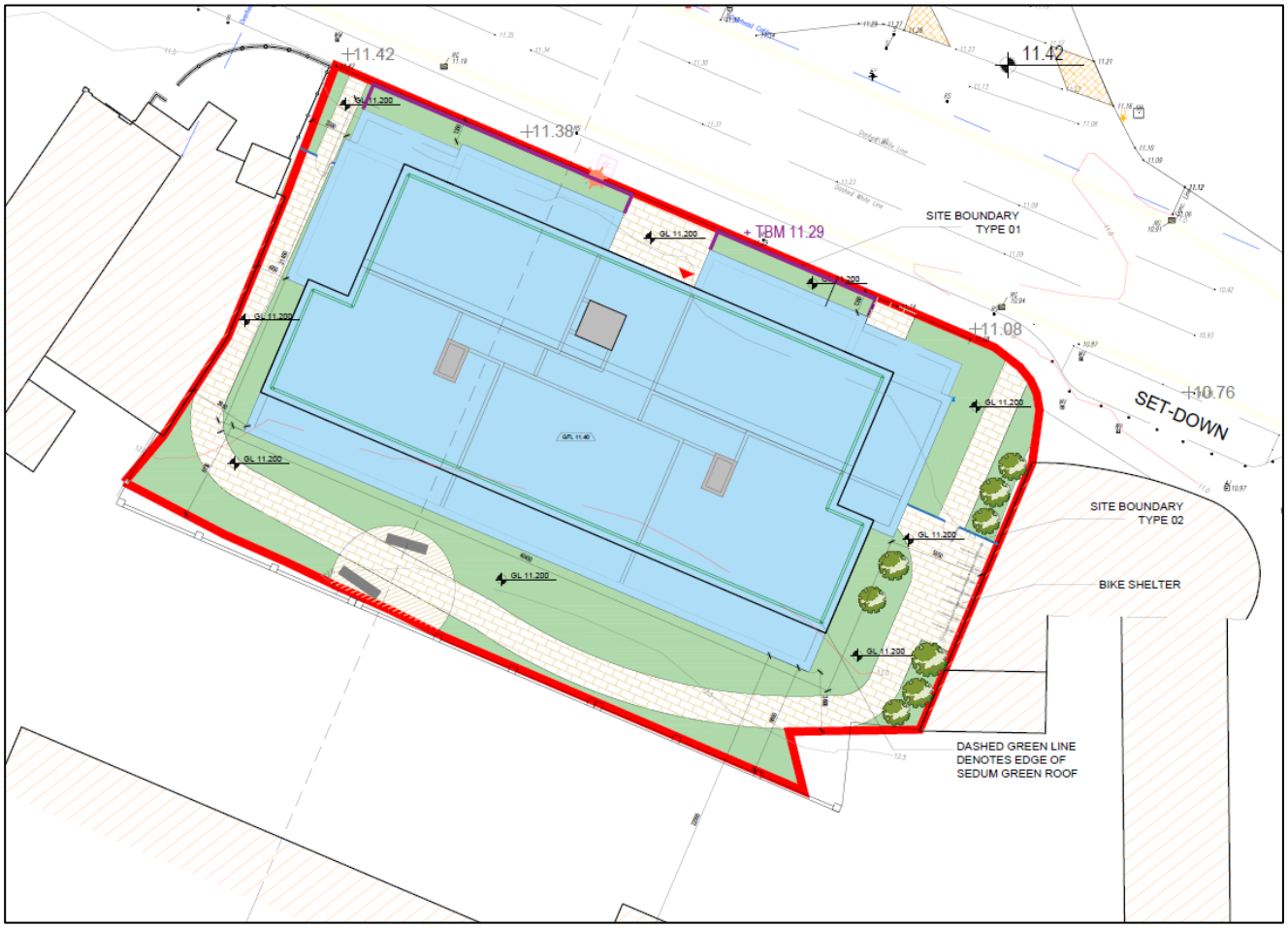

Figure 3-1: Extract of Site Layout from Drawing No. PP-01

The total gross floor space for the building is 3,196 m2[1] and building ground floor footprint will be 668 m2. The site level is proposed at 11.20mOD proposed ground floor level (GGL) is at 11.40 mOD and proposed level is 27.65 mOD (top of roof parapet) to give a total building height of 16.45 m.

[1] Excludes balconies and terraces.

The grounds of the building will be landscaped to provide public open space for the apartment residents. A sheltered bike store is proposed on the eastern side of the grounds area.

3.2 Site Location

The site is located at Lower Carey's Road to the south of Hyde Road Park.

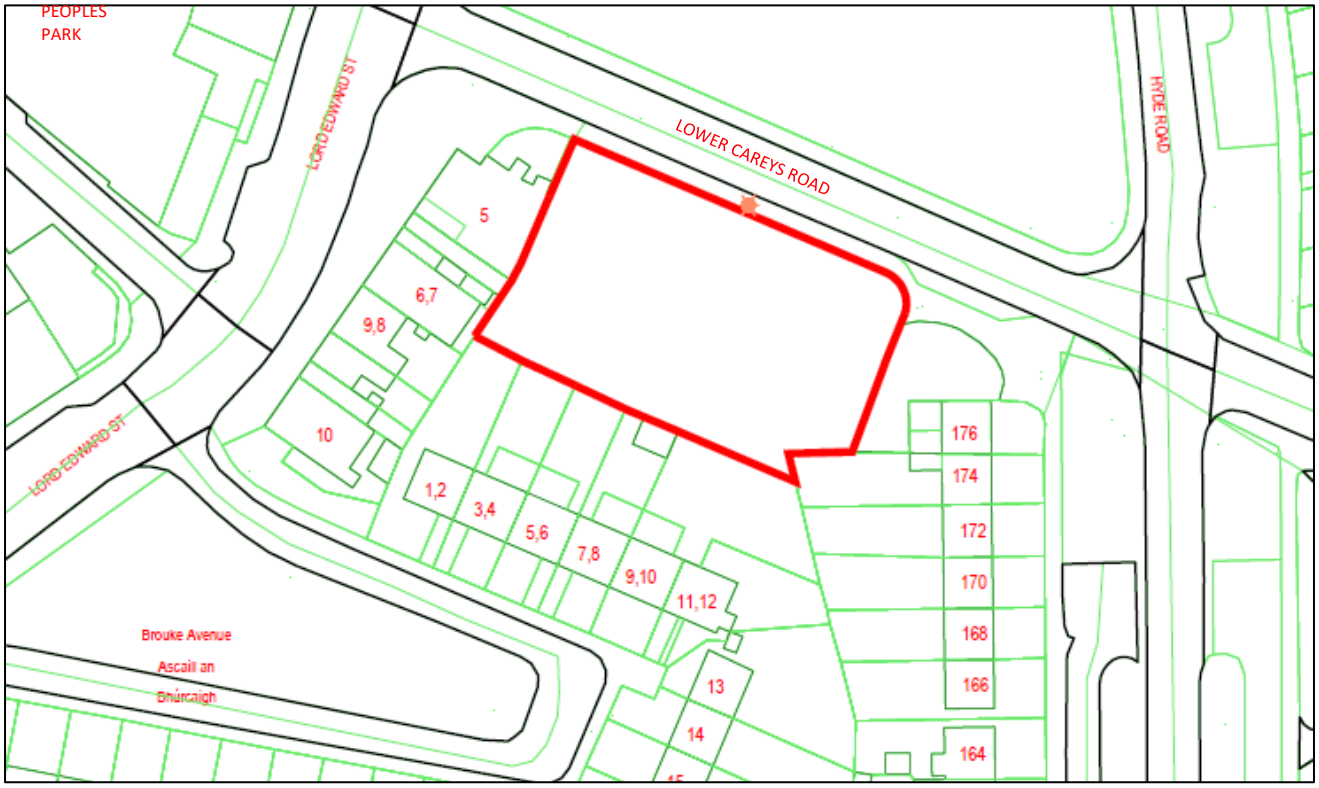

Figure 3-2: Site Location

3.3 Surface Water Drainage

The proposed storm water drawing system will include attenuation tanks to manage flow of water (rate of 2l/s is proposed) prior to discharge to the existing combined sewer at the north east boundary of the site.

A sustainable urban drainage system (SUDS) to cater for storm runoff from the development has been designed in accordance with the CIRIA SUDS Manual 2015 and Greater Dublin Strategic Drainage Study (GDSDS). Proposed SUDS features include the following:

- Green roof.
- Catchpit manhole.
- Attenuation tank.
- Hydrobrake limiting flow to Qbar greenfield rates.

Details of the proposed SUDS measure and site constraints are set-out in the accompanying Engineering Services report. Storm water from the green roof will be collected using a pipe network. The pipe network will discharge via a catchpit manhole to the proposed underground geo-cellular attenuation tank. From the tank surface water will discharge to the combined foul and storm water network for treatment at Bunlickey WWTP.

3.4 Foul Drainage

The proposed foul sewer network layout for this development is shown on GARLAND Drawings W0622-GAR-XX-XX-DR-C-0010. The foul sewer network was designed in accordance with Irish Water Code of Practice July 2020 and to IS EN 12056 and IS EN 752.

A pre-connection enquiry lodged with Irish water for the proposed development outlining proposed flows and loading. This was accepted in principle as feasible by Irish water.

3.5 Water Supply

The proposed internal water supply network for the development has been designed in accordance with Irish Water Code of Practice July 2020. The proposed water supply network layout for the development is shown on GARLAND Drawing W0622-GAR-XXXX- DR-C-0010.

The pre-connection enquiry to Irish Water confirmed the requirements of the proposed development was acceptable in principle.

3.6 Construction Period

An outline programme has been prepared for the Outline Construction Methodology and estimates an approximate timeline for the construction of approximately 12 months. It is relevant to note that a number of factors including further detailed design and the contractor selected will result in the on-going development of the programme and construction methodology. This estimate will thus be refined and confirmed as part of the finalised construction programme to be determined by the contractor prior to commencement. Further details are set-out in Section 5 of this document.

3.7 Construction Work Hours

The hours of construction activity will avoid unsocial hours and will be in accordance with BS5228: Part 1:1997 and will be agreed with the contractor prior to commencement.

4. OUTLINE CONSTRUCTION METHODOLOGY

This construction methodology is intended to identify key components of the construction activity and provides a high-level explanation of the anticipated methods building formation from initial enabling works and temporary works, to completion of the overall structure.

4.1 Proposed Enclosure/Hoarded Area

Site hoarding will be erected along the face of the site on Lower Careys Road, this will follow the existing site boundary and positioning of existing security fences.

Site hoarding is subject to licence which the building contractor will need to obtain prior to commencement of construction.

All site hoarding will be removed from Lower Careys Road and around the development site on completion of the construction works.

4.2 Proposed Site Compound

The proposed temporary site compound for the construction works will be provided within the main site area. The temporary site compound will incorporate the building contractor's offices with staff and visitor welfare. The site compound will be removed on completion of the construction works.

4.3 Excavation

The approximate excavation volumes for the foundations are estimated to comprise 250m3 of topsoil below the building and excavate 150m3 of ground below topsoil level.

4.4 Proposed Crane Strategy

It is proposed to construct a tower crane on commencement of works at Lower Careys Road, the crane will be erected to accommodate the creation of the building superstructure. A tower crane will be required for the construction of the building frame and for allowing deliveries to be taken from the street to the centre of the site.

The location of the tower crane is anticipated at the eastern side of the site, however final positioning will be decided at construction stage. The tower crane will have access from within the site only.

4.5 Proposed Loading/Unloading Zone

Deliveries will be planned in advance which will allow the site to have control of loading and unloading and ensure that no unexpected traffic arrives at the site for loading/unloading. Loading and unloading will be conducted in front of the development site at Lower Careys Road. A banksman will be used to ensure that traffic and the public are not at risk and the loading/unloading can be conducted in a safe manner.

4.6 Proposed Material Lay Down Areas/Material Storage

Laydown areas are anticipated to be available within the open areas to the east of the building. Possibilities for temporary laydown areas exist to the rear of the primary structure.

4.7 Proposed Site Access/Egress

Access will be gained through the front of the site at Lower Careys Road. The main gate will be kept closed with the exception of deliveries and loading/unloading activities. A flagman will be placed at the gate when the access remains open for longer durations throughout the day. The main gate will be closed during hours which the site is not active.

4.8 Site Signage

All signage around the site will be provided in line with best practice. Advanced warning signs will be provided to inform traffic and pedestrians of the construction site presence.

Signs erected at or near the site will be audited regularly to ensure that any damaged or expired signs will be removed and/or replaced in line with construction activities at the site.

4.9 Site Parking

There will be no available parking within the proposed site at Lower Careys Road, limited street parking is available. Use of public transport, shared car commuting and walking/cycling will be encouraged.

5. PROPOSED OUTLINE PROGRAMME

An outline programme has been prepared by Garland Consulting below provides an approximate timeline for the construction of the apartment block and associated works and gives an indication of the duration of the possible effects from the construction phase to the surrounding area.

Table 5-1 Preliminary Construction Programme

Key Phase	Duration - Months (indicative)											
	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
Site Establishment												
Reduce Site Level												
Foundations Excavation												
Construction of Foundations												
Below Ground rising Elements												
Ground Floor												
Superstructure												
Façade / Water Tight Elements												
Mechanical Installation												
Electrical Installation												
Lift Installation												
Site works (including attenuation tank, lighting, services ducts)												
Internal Finishes												
Electrical Connection												
Sewer Connection												
Water Connection												
Telecoms Connection												
Completion												

5.1 Construction Sequence

The structure of the proposed works will be constructed in the following sequence.

- Erecting of site hoarding on Lower Careys Road and site establishment.
- Excavation and construction of reinforced concrete foundation.
- Erection of tower crane to complete the construction of the apartment block building.
- Erection of Block Superstructure.
- Construction of glazing and facades.
- Remove tower crane.
- Complete site works.
- Compete internal finishing and furnishings, connections and snag new building.

6. ENVIRONMENTAL MANAGEMENT PLAN

6.1 Project Obligations

The construction of the development at Lower Careys Road will impose several safety management obligations on the developer, designer and contractor. Responsibilities and obligations are comprehensively set-out in health and safety at work legislation listed below. As well as statutory obligations, there may be specific obligations set out in the planning conditions for the development.

The contractor for the main construction works and all sub-contractors are to ensure that they are fully aware of and in compliance with these safety obligations.

6.1.1 Health and Safety Obligations

The Safety, Health and Welfare at Work Act 2005 and the Safety, Health and Welfare at Work (Construction) Regulations 2013 place a responsibility on the Developer as the "Client", the Designer, the Project Supervisors and the Contractor.

The Client must:

- Appoint a competent and adequately resourced Project Supervisor for the Design Phase (PSDP).
- Appoint a competent and adequately resourced Supervisor for the Construction Stage (PSCS).
- Be satisfied that each designer and contractor appointed has adequate training, knowledge, experience and resources for the work to be performed.
- Co-operate with the project supervisor and supply necessary information.
- Keep and make available the safety file for the completed structure.
- Provide a copy of the safety and health plan prepared by the PSDP to every person tendering for the project.
- Notify the Authority of the appointment of the PSDP.

Designers must:

- Identify any hazards that their design may present during construction and subsequent maintenance.
- Eliminate the hazards or reduce the risk.
- Communicate necessary control measures, design assumptions or remaining risks to the PSDP so they can be dealt with in the safety and health plan.
- Co-operate with other designers and the PSDP or PSCP.
- Take account of any existing safety and health plan or safety file.
- Comply with directions issued by the PSDP or PSCS.

The PSDP must:

- Identify hazards arising from the design or from the technical, organisational, planning or time related aspects of the project.
- Where possible, eliminate the hazards or reduce the risks.
- Communicate necessary control measure, design assumptions or remaining risks to the PSCS so they can be dealt with in the safety and health plan.
- Ensure that the work of designers is coordinated to ensure safety.
- Organise co-operation between designers.
- Prepare a written safety and health plan for any project and deliver it to the client prior to tender.
- Prepare a safety file for the completed structure and give it to the client.

The PSCS must:

- Co-ordinate the identification of hazards, the elimination of the hazards or the reduction of risks during construction
- Develop the Safety and Health Plan initially prepared by the PSDP before construction commences.
- Co-ordinate the implementation of the construction regulations by contractors
- Organise cooperation between contractors and the provision of information.
- Co-ordinate the reporting of accidents to the Authority
- Notify the Authority before construction commences.
- Provide information to the site safety representative.
- Co-ordinate the checking of sage working procedures.
- Co-ordinate measures to restrict entry on to the site.
- Co-ordinate the provision and maintenance of welfare facilities
- Co-ordinate arrangements to ensure that craft, general construction workers and security workers have a Safety Awareness card, e.g. Safe Pass and a Construction Skills card where required.
- Co-ordinate the appointment of a site safety representative where there are more than 20 persons on site.
- Appoint a safety adviser where there are more than 100 on site.
- Provide all necessary safety file information to the PSDP.
- Monitor the compliance of contractors and others and take corrective action where necessary;
- Notify the Authority and the client of non-compliance with any written directions issued.

The Contractor must:

- Co-operate with the PSCS.
- Promptly provide the PSCS with information required for the safety file.
- Comply with directions of the project supervisors.
- Report accidents to the Authority and to the PSCS where an employee cannot perform their normal work for more than 3 days.
- Comply with site rules and the safety and health plan and ensure that your employees comply.
- Identify hazards, eliminate the hazards or reduce risks during construction.
- Facilitate the site safety representative.
- Ensure that relevant workers have a safety awareness card and a construction skills card where required.
- Provide workers with site specific induction.
- Appoint a safety officer where there are more than 20 on site or 30 employed.
- Consult workers with site specific induction.
- Monitor compliance and take corrective action.

Consequently, at all stages of the project there are statutory requirements for the management of safety, health and welfare of all involved in or affected by the development.

6.2 Environmental Management Programme

6.2.1 Drainage

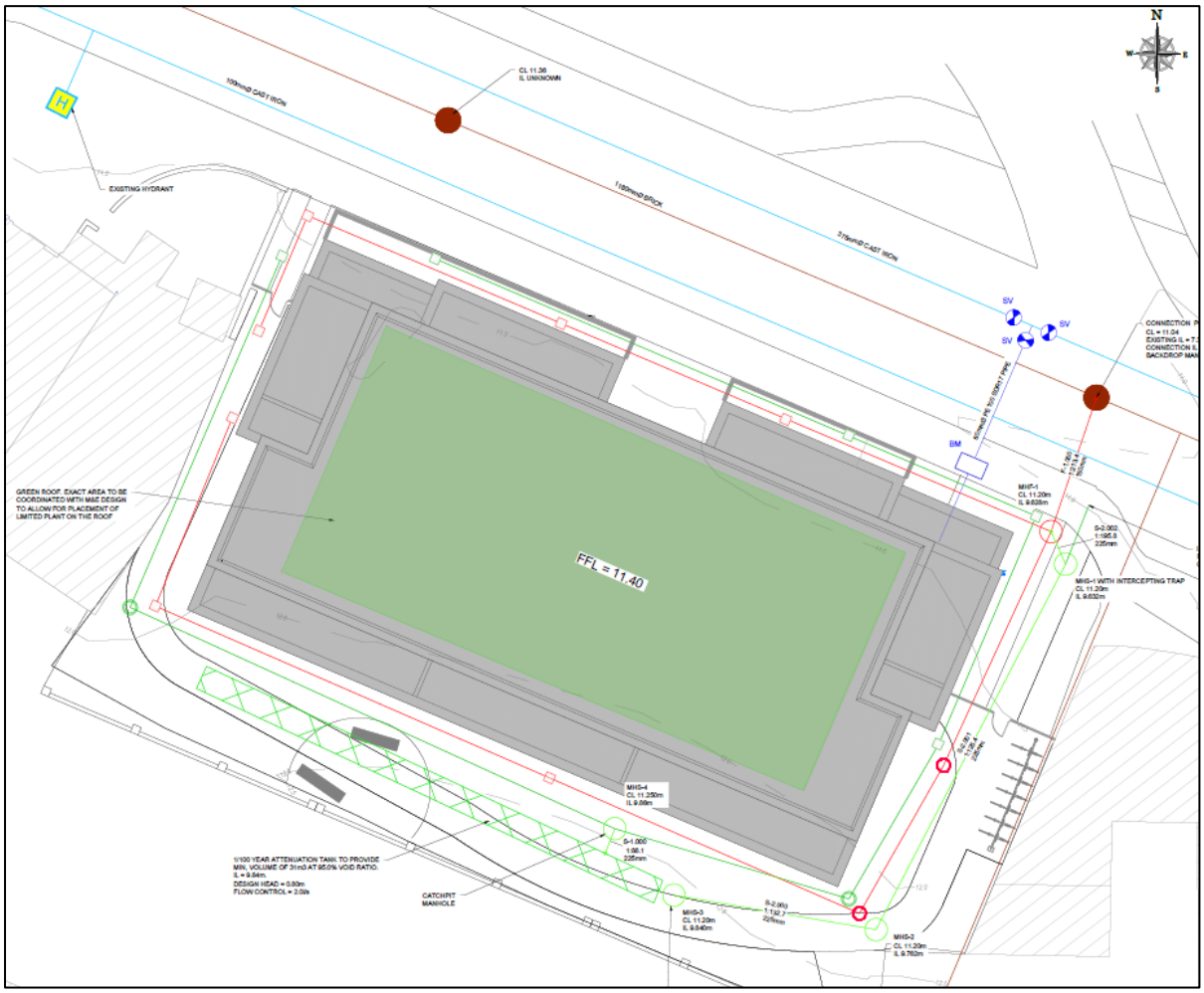

Figure 6-1: Extract from Civil Services and First Floor Level Layout (GARLAND Dwg. Ref. P01)

Site drainage management for the completed building is set-out in the Engineering Services report. No specific drainage measurements during construction is required. Run-off during heavy rain event from the site is not considered likely. In the unlikely event of hydro-carbon spills or sediments being washed to adjacent storm water network, treatment and management will occur at Bunlickey WWTP prior to any further discharge.

6.2.2 Noise

Noise will be generated temporarily during the construction phase from plant, excavation, and construction operations. The main control measure will be the suppression of noise at source by the use of plant and equipment in good working order.

All plant operatives will contact their foremen in the event that their machine becomes defective with resulting high noise emissions. Plant will be inspected regularly, and defective plant will be kept out of service until necessary repairs are done.

Construction works will be carried out in accordance with best practice and in line with recommendations contained within BS 5228: Part 1:2009[1]. Working hours will be planned and will take account of the effects of noise upon persons in areas surrounding site operations and upon persons working on site.

To mitigate against the impacts of noise on the local community during construction, the following measures are proposed:

- A pre-construction commitment to managing nuisance noise will be agreed through notification and consultation with affected parties, if deemed necessary
- Working hours at the site during the installation phase will be limited to 08:00 to 19:00 Monday to Saturday inclusive. Work on Sundays or public holidays will only be conducted in exceptional circumstances and subject to prior notification insofar as possible with the local community.
- Construction contractors will be required to comply with the requirements of the European Communities (Construction Plant and Equipment) (Permissible Noise Levels) Regulations, 1988 as amended in 1990 and 1996 (S.I. No. 320 of 1988, S.I. No. 297 of 1990 and S.I. No. 359 of 1996), and the Safety, Health and Welfare at Work (Control of Noise at Work) Regulations, 2006 (S.I. No. 371 of 2006)

The main control measures will be focused on control of noise at source using the following methods in line with Clause 8 'Control of noise' of BS 5228:2009:

- Operators of all mobile equipment will be instructed to avoid unnecessary revving of machinery (Clause 8.2.1 General).
- Use of appropriate plant and equipment where possible with low noise level generation where possible (Clause 8.2.2 Specification and substitution).
- All construction plant to be used on site should have effective well-maintained silencers (Clause 8.2.3).

Modification of existing plant and equipment.

- Noise generating equipment will be located as far as possible away from local noise sensitive areas identified (Clause 8.2.5 Use and siting of equipment).
- Regular and effective maintenance of site machinery including a full maintenance schedule to ensure that all pieces of equipment are in good working order.
- With efficient use of well-maintained mobile equipment, considerably lower noise levels than those predicted can be attained (Clause 8.2.6 Maintenance).

In addition, the following best practice measures are proposed:

- Training of site staff in the proper use and maintenance of tools and equipment.
- Avoidance of unnecessary noise when carrying out manual operations and when operating plant and equipment.
- Machines that could be in intermittent use will be shut down between work periods or will be throttled down to a minimum.
- Plant start-up will be sequential rather than all together.

- Internal access tracks to be well maintained.
- Plant known to emit noise strongly in one direction will, when possible, be orientated so that the noise is directed away from noise-sensitive locations.
- Drop heights for materials such as gravels will be minimised whenever practicable.

6.2.3 Dust and Air Quality

Dust emissions on site will be managed through the implementation of a dust minimisation plan. It is the main contractor's responsibility to formulate the plan that relates to the type of construction activity and the environmental factors pertaining to the site.

Mitigation measures to reduce dust nuisance will be employed during the construction and decommissioning phases of the proposed development. These mitigation measures will include the following:

- Hard surface areas shall be swept to remove mud and aggregate materials from their surface while any un-surfaced areas shall be restricted to essential site traffic only.
- A water bowser will be available to spray work areas and access, especially during periods where works coincide with dry periods of weather. This will suppress dust migration from the site.
- All loads with potential to cause dust nuisance will be covered to minimise the potential for fugitive emissions during transport.
- All other stockpiles will be kept damp and covered to prevent windblown dust emissions.
- The access and egress of construction vehicles will be restricted to designated locations, along defined routes and all vehicles will be required to comply with on-site speed limits.

In the event of dust nuisance occurring outside the site boundary, significant dust producing activities will be immediately terminated and satisfactory procedures implemented to rectify the problem before the resumption of the operations.

Dust monitoring will be carried out using a hand held Microdust Pro Automatic dust monitoring unit or equivalent. The measure will continue for the duration of the enabling works and the bulk dig which are the periods in which the most dust would be created on site.

Any additional information referring to the site during the survey period will be noted. A note will also be made if the site is operational or dormant. In addition, the wind direction and weather for the day will be recorded.

6.2.4 Vibration

The construction works are required to comply with BS5228 (2009): Code of practice for noise and vibration control on construction and open sites- Part 2: Vibration: Noise control on construction and open sites, which offers detailed guidance on the control of noise and vibration from demolition and construction activities.

A variety of practicable noise and vibration control measures will be employed. These shall include:

- selection of plant with low inherent potential for generation of noise and/or vibration.
- erection of barriers around items such as generators or high duty compressors.
- Situate noisy/vibratory plant as far away from sensitive properties as permitted by site constraints and the use of vibration isolated support structures where necessary.

6.2.5 Biodiversity

The proposed development site is comprised of built land and artificial surfaces and offers low ecological value habitat to local wildlife. Site inspection (April 2021) for mammal, bird and plants indicated no evidence for presence of any species of concern.

No hydrological or other link to any protected European or national conservation sites was found. This has been confirmed in the accompanying Appropriate Assessment Screening.

6.2.6 Archaeology and Cultural Heritage

ÆGIS Archaeology Ltd. have prepared an Archaeological and Cultural Heritage assessment of the proposed site and adjacent area. This was based on examination of relevant documentary sources and site visit. The assessment concluded that predicted impacts would be natural and no further mitigation or protection measures were necessary during construction. However the developer and site owners will remain subject to ongoing obligations under the National Monuments Acts (1930 – 2014) in particular concerning the finding of any items or objects during construction.

6.2.7 Traffic and Transport

The site at Lower Careys Road is well served by good access to the local and national road network. The portion of Lower Careys Road is a 'one-way' street and access will be required from the east from either Hyde Road or Upper Careys Road. Site egress will require a right turn onto Lower Careys road and from there either left or right turn is available onto either Lord Edward Street or Parnell Street respectively to access exit routes that will avoid the city center.

The construction phase for the proposed development will result in additional traffic on the roads in the vicinity of the development, in particular the Lower Careys Road. This additional traffic will include the following:

- Construction worker vehicles
- HGVs carrying conventional equipment such as excavators, rollers, road paving equipment, Heavy lifting vehicles, fork lifts and petrol/ diesel powered generators.
- Delivery vehicles carrying conventional construction materials, including aggregates.
- Aggregate trucks removing excess material during excavation.
- Delivery vehicles providing concrete and

- Delivery vehicles carrying electrical cabling, and building materials fixtures and fittings.

The foundation excavation is estimated to generate approximately 400m3 of topsoil and subsoil. This is estimated to require between 20 to 25 loads (40 to 50 no vehicle trips) using standard 3-axel rigid tipper truck.

The crane transport to and from the site will be an 'exceptional load' and managed by contractor. No other exceptional load are anticipated.

As has become standard practice, the contractor will prepare a site-specific Traffic Management Plan (TMP) prior to the construction works commencing. The contractor will be responsible for the implementation of all agreements between the developer and Limerick City and County Council with the objective that the transportation needs for the proposed development will have a minimal impact on the road network and local communities.

All vehicles hauling materials to and from the site shall only use agreed transport routes that avoid traversing the city centre. Public roads shall be kept free of mud, dust, spillages and debris from the construction site, construction plant or haulage vehicles. Any necessary measures shall be put in place at the site entry/exit points.

6.3 Environmental Management Responsibility

The Contractor's Project Manager will be responsible for the delivery of all elements of the Environmental Management Plan. The Contractor's Project Manager will retain all responsibility for issuing, changing and monitoring the Environmental Management Plan throughout.

6.4 Waste Management Plan

The contractor will prepare a specific construction waste management plan for the site prior to commencement of the works.

During construction, waste generated, such as off-cuts of timber, oversupply of materials and damaged or broken concrete blocks and tiles, along with packaging materials such as cardboard, plastic and polystyrene will be produced. The waste management plan must clearly outline the procedure for storing and removing this waste from site. Segregation of waste should be conducted on site as to ensure that site waste is removed to suitable waste facilities.

6.5 Training, Awareness and Competence

All site personnel will receive environmental awareness information as part of their initial site briefing. The detail of the information should be tailored to the scope of their work on site. The contractor for the main construction works may decide to conduct the environmental awareness training at the same time as Health and Safety Training (often referred to as Site Inductions).

This will ensure that personnel are familiar with the environmental aspects and impacts associated with their activities, the procedures in place to control these impacts and the consequences of departure from these procedures.

Relevant information relating to environmental management of the site will be posted on the main site notice board during the project. Two-way communication will be encouraged by inviting all personnel to offer their comments on environmental performance at the site.

6.6 Environmental Policy & Legislation

The contractor is responsible for preparing and maintaining an Environmental Policy for the site. The policy should be appropriate to the project, commit to continuous improvement and compliance with legal requirements and provide a framework for objectives and targets. This will be communicated to all site personnel and will be available on-site notice boards.

The contractor is responsible for preparing and maintaining a register of key environmental legislation pertaining to the site. This register will reference all current environmental legislation and will be inspected, reviewed and updated regularly to ensure compliance.

6.7 Objectives and Targets

Objectives and targets should be set to ensure that the project can be constructed and maintained in full accordance with the planning conditions and legislative requirements, with minimal impact on the environment.

Environmental objectives are the broad goals that the contractor must set in order to improve environmental performance. Environmental targets are set performance measurements (key performance indicators or KPI's) that must be met in order to realise a given objective.

The contractor will set objectives based on each significant environmental impact. Key objectives are likely to include the following:

- To ensure that the rivers and streams are not negatively impacted by construction works.
- To ensure that humans are not negatively impacted by dust generated by construction works.
- To ensure that humans are not negatively impacted by noise or vibration generated by construction works.
- To ensure that impacts to habitats and wildlife are minimised during works.
- To ensure that a waste management plan for this site will be fully implemented.
- To ensure that the visual impact during the construction work is minimised.
- To ensure the development is constructed in compliance with planning conditions.

6.8 Control of Documents

The Contractor will establish, implement, and maintain a procedure to control project documents and records so they are clearly identifiable, organised, current, easily located and revised when necessary.

FEHILY TIMONEY

CONSULTANTS IN ENGINEERING, ENVIRONMENTAL SCIENCE & PLANNING

www.fehilytimoney.ie

CORK OFFICE
Core House
Pouladuff Road,
Cork, T12 D773,
Ireland
+353 21 496 4133

Dublin Office
J5 Plaza,
North Park Business Park,
North Road, Dublin 11, D11 PXT0,
Ireland
+353 1 658 3500

Carlow Office
Unit 6, Bagenalstown Industrial Park, Royal Oak Road,
Muine Bheag,
Co. Carlow, R21 XW81,
Ireland
+353 59 972 3800