

The Former Ford Distribution Site

Construction and Environmental Management Plan

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1 INTRODUCTION

This document is an initial Construction Management and Environmental Plan for the proposed works to redevelop the site at Former Ford Distribution Site, Cork City. It includes an outline description of the proposed works and how these works will be managed for their duration. It also includes details of the Preliminary Construction Management Traffic Plan, refer to section 10.

This project is currently at planning stage and as such input from the contractor has not been incorporated into the plan. On appointment of a contractor this preliminary document will be issued to them to be further developed into their final construction management plan for the project.

The outline plan seeks to demonstrate how works can be delivered in a logical sensible and safe sequence with the incorporation of specific measures to mitigate the potential impact on people and the surrounding environment.

Nothing stated in this document shall supersede or be taken to replace the terms of the Contract or the detailed design description issued with the Contract tender or the conditions of planning. Similarly, the issues covered within this document may be amended or added to by the Main contractors or in accordance with their specific works proposals, sequencing and procedures.

When read by the contractor, this document should be read carefully in conjunction with all drawings, specifications and survey information provided.

Any consequences that result through failure to implement measures in this construction plan, or inadequate development of this plan by the contractor are the responsibility of the contractor and not DBFL.

2 SITE DESCRIPTION & EXISTING CONDITIONS

The subject site is approximately 0.84 Ha in size and is located along South Docks area of Cork City, approx. 2km east of the City Centre. The site is bounded by Centre Park Road to the northwest, Marsh Land to the east. The lands to the southwest is to be developed with residential apartments as per planning reference: ABP-309059-20. The application site, known as the Former Ford Distribution Site, was used in more recent years for hosting music and cultural events, please refer Figure 2.1 below for the site location.

The site slopes from southwest to the northeast with levels ranging from 1.8m to the southwest rising to 3.9m at the northeast. The site boundaries are generally formed by fencing and scrub vegetation. The east of the site is formed by marshlands located south of the Lee Rowing Club. Structures on the site are limited to an entrance canopy and adjoining industrial shed. Centre Park Road is characterised by mature trees on both sides.

The site lies on the strategic transport corridor intended to facilitate a rapid transit system as identified in the Cork Metropolitan Area Transport Strategy.

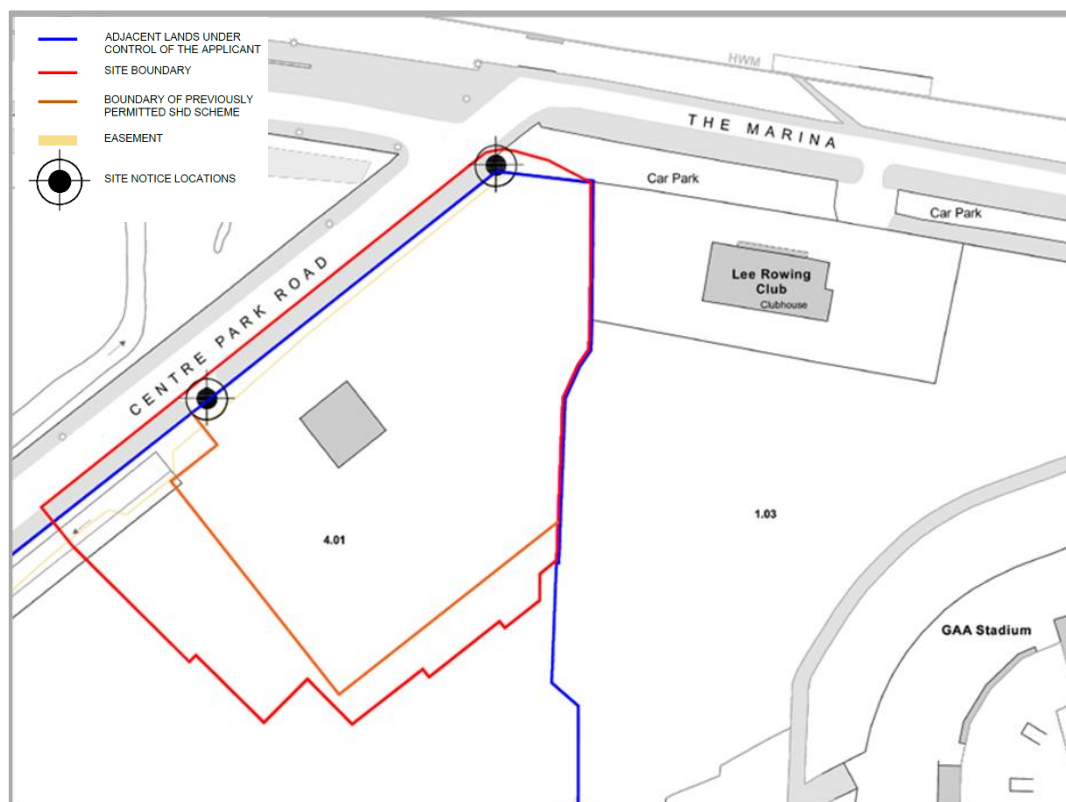


Figure 2-1: Site Location Plan (Source: JFA Architects)

2.1 Proposed Development

Permission for the construction of 176 no. 1, 2 and 3 bed apartment units in 2 no. blocks, 1 no. creche, 1 no. gym, a retail/café space and all associated ancillary development works.

3 CONSTRUCTION PROGRAMME & PHASING

3.1 General

The project is currently at planning stage and subject to approval and detailed design. It is estimated that the works would be tendered in Q2 2025 with commencement in Q3, an estimated site program of 18-24 months depending on construction phasing.

The proposed order of construction of key elements is as follows, however this is subject to detailed review by the Contractors at construction stage and specifics may require adjustment once the contractor has been appointed:

- Site Setup including welfare facilities and hoarding;
- Set up of construction cranes;
- Earthworks, including cut and fill and disposal of excess material off site;
- Construction of substructure including concrete basement and access ramp;
- Construction Super Structure Frame to buildings in sequence to roof level;
- Construction of site services including surface water and foul drainage and water supply network;
- Roof and Façade finishes;
- Instillation of major plant items;
- M&E services & utilities;
- Internal fit out;
- External fit out, planters etc.;
- External site works and tie into Centre Park Road.

3.2 Site Setup

Immediately after access to the site is made and it is secure, the site compound will be established. Existing site services will be isolated including the decommissioning of any existing services and the provision of a temporary builders power supply.

The site will be secured with hoarding on all open sides and accessible approaches. The site boundary will be established as indicated by the red-line boundary.

3.3 Clearance Works

All site clearance works will be complete prior to development.

3.4 Earthworks

Earthworks will consist of excavation for the undercroft level of the apartment blocks and reducing existing level area for foundations. Excess material will be disposed offsite to a suitably licensed facility.

3.5 Protection of Adjacent Areas

Work areas will be segregated from the adjacent public areas for the extent of the project by means of a suitable hoarding fence where necessary. All hoardings will be designed by a competent Temporary Works Engineer to resist wind loads.

All materials being hoisted by telehandler or crane, or other means will be controlled using guide ropes where possible.

3.6 Site Clearance, Excavation

A comprehensive site investigation will be carried out prior to construction commencing.

A specialist ground works contractor will be appointed to carry out the foundation excavation. The appointed specialist contractor will carry out a full risk assessment prior to the commencement of work.

In the current scenario stockpiles of material from the neighbouring development, which is owned by the same developer, is currently the temporary storage area for excess material which is to be taken off site. This forms part of the neighbouring site's Construction Waste Management Plan and will be disposed of before construction work commences for this development.

A ground works operation will be carried out in order to ensure that any material removed from the ground is taken away at regular intervals in order to reduce the amount of material that will be stored on site. Excavated material may be reused on site where possible subject to Waste Acceptance Criteria (WAC) analysis.

4 WORKING HOURS

Working hours will be strictly in accordance with the granted planning conditions with no works on Sundays or Bank Holidays. If work is required outside of these hours, written approval will be sought by the contractor from the Local Authority.

It is anticipated that normal working hours may be 7am to 7pm Monday to Friday and 7am to 2pm on a Saturday. Working outside these hours will be subject to agreement with the Local Authority.

Deliveries of material to site will be planned to avoid high volume periods. There may be occasions where it is necessary to have deliveries within these times. The Contractor will develop, agree and submit a detailed Traffic Management Plan for the project prior to commencement.

5 SEDIMENT AND WATER POLLUTION CONTROL PLAN

All works carried out as part of these works will comply with all Statutory Legislation including the Local Government (Water Pollution) acts, 1977 and 1990 and the contractor will co-operate in-full with the Environmental Section of Cork City Council.

As part of the overall construction methodology, sediment and water pollution have been identified as a risk and/or concern due to the proximity to the River Lee. Standard construction and operational controls will be incorporated into the proposed development project to minimise the potential negative impacts on the ecology within the Zone of Influence (Zoi).

Mitigation measures will address the main activities of potential impact which include:

- Control and management of contaminated soil.
- Control and management of surface water runoff.
- Control and management of water including potentially contaminated groundwater and management of dewatering activities.
- Piling.
- Control and handling of cementitious materials.
- Appropriate fuel and chemical handling, transport and storage.
- Management of accidental release of contaminants at the site.
- Flooding.
- Welfare facilities.

The construction works will be managed with consideration of applicable regulations and standard international best practice; good construction management practices will minimise the risk of pollution from construction activities at the site including but not limited to:

- Construction Industry Research and Information Association, 2000. Environmental Handbook for Building and Civil Engineering Projects (CIRIA – C528).
- Construction Industry Research and Information Association, 2001. Control of Water Pollution from Construction Sites: Guidance for Consultants and Contractors (CIRIA – C532).

- Construction Industry Research and Information Association, 2006. Control of water pollution from linear construction projects: Technical guidance (CIRIA - C648).
- Construction Industry Research and Information Association, 2015. Environmental Good Practice on Site Guide (CIRIA – C741).
- Construction Industry Research and Information Association, 2016. Groundwater control: design and practice (CIRIA – C750).
- EPA, 2013. Amendment to IPC Guidance Note on Storage and Transfer of Materials for Scheduled Activities' (EPA, 2013b).
- National Roads Authority, 2009. Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes.
- UK Pollution Prevention Guidelines (PPG) UK Environment Agency, 2004.

5.1 Control and management of contaminated soil

Contaminated soil will be encountered during groundworks at the site. Remedial works undertaken to date have removed a large portion of the contaminated soil at the site. However, the soil validation results demonstrate that petroleum hydrocarbon and solvent impacted areas remain at validation sample locations across the site.

The Human Health Risk Assessment will be used to inform the remediation plan to ensure that residual sources of contamination in soil are removed offsite. The removal of the residual soil source will be validated in accordance with relevant guidelines including EPA 'Guidance on the Management of Contaminated Land and Groundwater at EPA Licensed Sites' (EPA, 2013a) and guidance and standards current at the time of construction works.

In accordance with Inland Fisheries Ireland, if stockpiling is required for re-use of material, this material will be located away from any sensitive receptors such as watercourses or drains.

5.2 Control and management of surface water runoff

The control and management of surface water run-off from the construction phase of the development will be set out in further detail once a main contractor is appointed for the development.

A temporary drainage system will be set up and maintained for the site and altered as necessary during the differing stages of the construction phase. This temporary surface water management system will throttle run-off to allow suspended solids to be settled out and removed before being discharged in a controlled manner to the agreed outfall.

There will be no direct discharges from construction activities to groundwater or surface water during the construction phase of the Proposed Development.

Excavation works for piling caps; utility infrastructure and other works will be undertaken in a phased manner in order to minimise the exposure of soil to rainfall. Where feasible groundworks will be undertaken during dryer weather and avoided where heavy rainfall is forecast. Suitable temporary cover (e.g., tarpaulins) of potentially contaminated areas will be required to prevent ingress of rainfall.

A regular review of weather forecasts of heavy rainfall will be conducted, in particular during groundworks, and a contingency plan will be prepared for before and after such events to minimise any potential nuisances. As the risk of the break-out of silt laden run-off is higher during these weather conditions, no work will be carried out during such periods where possible.

Surface water from the surrounding areas will be prevented from draining into the open excavations onsite during construction works through the use of temporary bunds / sandbags around excavation areas to provide diversion of surface water away from excavations.

5.3 Control and Management of Groundwater

It is anticipated that localised dewatering or sump pumping on a temporary basis will be required during excavation and management of water from these excavations will include control of surface water runoff and pumping of water from excavations.

Where water must be pumped from the excavations, water will be managed through robust dewatering methodologies in accordance industry best practice standards (i.e., CIRIA – C750) that will be designed by the contractor to minimise the potential impact on the local groundwater flow regime.

- Dewatering must be carried out in cells or localised work areas and larger scale dewatering of the entire Site must be avoided to prevent an extensive groundwater drawdown across the site.
- The current groundwater flow regime must not be altered to ensure any risk of increasing the distribution of contaminants within the groundwater beneath the site.

Monitoring of groundwater levels and contaminant concentrations around the periphery of the works area will be required as part of the groundwater management.

There will be no authorised discharge of water to ground during the construction phase. Where dewatering of shallow groundwater is required or where surface water runoff must be pumped from the excavations, water will be discharged by the contractor to sewer in accordance with the necessary discharge licences issued by UE under Section 16 of the Local Government (Water Pollution) Acts and Regulations for any water discharges to sewer or from FCC under Section 4 of the Local Government (Water Pollution) Act 1977, as amended in 1990 for discharges to surface water.

Under no circumstances will any untreated wastewater generated onsite (from equipment washing, road sweeping etc.) be released offsite. Where required, all public sewers will be protected to ensure that any untreated wastewater generated onsite does not enter the public sewers.

5.4 Piling

Given the presence of hydrocarbons and solvents in the soil and the presence of groundwater beneath the site, it is recommended that a piling risk assessment is completed by the appointed Contractor in advance of construction works commencing on site.

The piling method will also include procedures to ensure any potential impact to water quality is prevented including preventing surface runoff or other piling/drilling fluids from entering the pile bores and surrounding formation. Where there is a requirement to use lubricants, drilling fluids or additives the contractor will use water-based, biodegradable, and non-hazardous compounds under controlled conditions.

5.5 Concrete Works

Cementitious grout and other concrete works will be minimised on site where possible to reduce the risk of contamination of the ground and any surface water run-off from the site.

In addition to this ready-mixed concrete will be delivered to the Site by truck. Concrete batching will take place offsite, wash down and wash out of concrete trucks will take place into a container located within a controlled bunded area which will then be emptied into a skip for appropriate compliant removal offsite in accordance with all relevant waste management legislation. Any excess concrete is not to be disposed of onsite.

Pre-cast concrete will be used where technically feasible to meet the design requirements for the Proposed Development. Where cast-in-place concrete is required (i.e., building foundations), all work must be carried out in dry conditions and be effectively isolated from any groundwater.

A suitable risk assessment for wet concreting shall be completed prior to works being carried out. Pumped concrete will be monitored to ensure there is no accidental discharge.

5.6 Handling of Fuels, Chemicals and Materials

Any diesel, fuel or hydraulic oils stored onsite will be stored in designated areas of the site. These areas will be bunded and located away from surface water drainage and features. Bunds will have regard to Environmental Protection Agency guidelines 'Amendment to IPC Guidance Note on Storage and Transfer of Materials for Scheduled Activities' (EPA, 2013).

The appointed contractor will maintain an emergency response action plan and emergency procedures will be developed by the appointed contractor in advance of any works commencing. Construction staff will be familiar with the emergency response plan.

Spill kits will be made available onsite and identified with signage for use in the event of an environmental spill or leak. A spill kit will be kept in close proximity to the fuel storage area for use in the event of any incident during refuelling or maintenance works. Heavy machinery used on the Site will also be equipped with its own spill kit.

Emergency procedures will be developed by the appointed Contractor in advance of works commencing and spillage kits will be available onsite including in vehicles operating onsite. Construction staff will be familiar with emergency procedures for in the event of accidental fuel spillages.

5.7 Flooding

The appointed Contractor will provide method statements for weather and tide/storm surge forecasting and continuous monitoring of water levels in the Lee (Cork) Estuary Lower. The appointed Contractor will also provide method statements for the removal of site materials, fuels, tools, vehicles, and persons from flood zones in order to minimise the risk to persons working on the site as well as potential input of sediment or construction materials into the waterbodies during flood events.

5.8 Welfare Facilities

Welfare facilities have the potential, if not managed appropriately, to release organic and other contaminants to ground or surface water courses. Foul drainage from temporary welfare facilities during the construction phase of the Proposed Development will be discharged to temporary holding tank(s) the contents of which will periodically be tankered off Site to a licensed facility. All waste from welfare facilities will be managed in accordance with the relevant statutory obligations by tankering of waste offsite by an appropriately authorised contractor.

Any connection to the public foul drainage network during the construction phase of the Proposed Development will be undertaken in accordance with the necessary temporary discharge licences issued by Uisce Eireann (UE).

6 DUST & DIRT GENERATION

It is probable that the construction activities on site will generate some dust emissions which would be in addition to any dust generated by the activities in the vicinity of the proposed development, including traffic flows. The extent of dust generation under construction activities being carried out is dependent on environmental factors such as rainfall, wind speed and wind direction.

The objective is to ensure that dust does not impact significantly at nearby receptors most significantly the River Lee. The main activities that may give rise to dust emissions during construction include the following:

- Excavation of material;
- Materials handling and storage;
- Movement of vehicles (particularly HGV's) and mobile plant.
- Contaminated surface runoff

Therefore, a dust management plan (DMP) will be formulated for the site upon receipt of planning permission which will address the following:

- Specify a site policy on dust
- Identify site management of dust
- Develop documented systems for managing site practices and implementing management controls
- Outline how the DMP can be assessed

6.1 Dust control measures

- Consultation will be carried with an ecologist throughout the construction phase;
- Trucks leaving the site with excavated material will be covered so as to avoid dust emissions along the haulage routes.
- Apply a speed limit of at least 15km/hr for on-site vehicles
- Provide water bowzers during periods of dry weather to ensure unpaved areas are kept moist. Spray exposed site haul roads during dry and / or windy weather.

- Ensure paved roads are kept clean and free of mud and other materials. Sweep hard surface roads, inside and outside the site, to ensure roads are kept clear of debris, soil or other material.
- Restrict un-surfaced roads to essential site traffic.
- Provide water bowsers during periods of high winds and dry weather conditions to ensure moisture content is high to increase the stability of the soil.
- During the proposed infrastructure works the following mitigation measures shall be implemented to minimise dust emissions:
 - Construction techniques shall minimise dust release into the air.
 - Protect overburden material from exposure to wind by storing the material in sheltered regions of the site.
 - Regular watering of stockpiles during dry and windy periods.
 - Locate any stockpiles away from sensitive receptors, (i.e. receptors sensitive to dust release).
 - Provide tarpaulins over all unacceptable excavated materials being carted off site.
- The wheels of all vehicles leaving the construction site will be washed to ensure that dirt and dust is not transferred onto the public roadway.
- During dry spells and if deemed necessary monitoring of dust levels shall be carried out using the Bergerhoff Method i.e. analysis of dust collecting jars left on-site (German Standard VDI 2119, 1972). Results will be compared to the TA Luft guidelines (TA Luft, 1972). Should an exceedance of the TA Luft limit occur, additional mitigation measures, for example more regular spraying of water, shall be implemented.

6.2 Site Management

The siting of construction activities and storage piles will consider the location of sensitive receptors and prevailing wind conditions to minimise the potential dust nuisance. Site management will include the ability to respond to adverse weather conditions by either restricting operations on site or using effective control measure in a timely manner before potential for nuisance occurs.

- Regular inspections of the site and boundary should be carried out to monitor dust, records and notes on these inspections should be logged.
- Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
- Make the complaints log available to the local authority when asked.
- Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the log book.

6.3 Monitoring

Daily on-site and off-site inspection should be undertaken, where receptors are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces within 100 m of site boundary, integrity of the silt control measures, with cleaning and / or repair to be provided if necessary.

6.4 Preparing and Maintaining the Site

- Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.
- Fully enclose specific operations where there is a high potential for dust production and the site is active for an extensive period.
- Avoid site runoff of water or mud.
- Keep site fencing, barriers and scaffolding clean using wet methods.
- Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below.
- Cover, seed or fence stockpiles to prevent wind whipping.
- Hard surface roads will be swept to remove mud and aggregate materials from their surface while any un-surfaced roads will be restricted to essential site traffic.

6.5 Operations

- Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.

- Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.
- Use enclosed chutes and conveyors and covered skips.
- Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.
- Ensure spill response kits are available and ready to use when necessary.

6.6 Measures Specific to Earthworks

- Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.
- Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable.
- Only remove the cover in small areas during work and not all at once.
- During dry and windy periods, and when there is a likelihood of dust nuisance, a bowser will operate to ensure moisture content is high enough to increase the stability of the soil and thus suppress dust.
- The Contractor will be required to consult with an ecologist prior to the beginning of works to identify any additional measures that may be appropriate and/or required.

7 NOISE & VIBRATION

The construction of the project will involve the use of noise generating construction plant. There will also be an increase in noise relating to delivery of materials to site. It is intended that noise from the construction phase of the development will be kept to a minimum in accordance with:

- “BS 5228: Code of Practice for Noise and Vibration Control on Construction and Open Sites” Part 1 and Part 2.
- Guidelines for the Treatment of Noise and Vibration in National Road Schemes (NRA, 2014).
- Safety, Health and Welfare at Work (General Application) Regulations 2007, Part 5 - Noise and Vibration.

The proposed development shall comply with these documents during all phases of construction. Unless absolutely necessary, construction work will be performed within the hours indicated in the relevant planning permission and any works outside this time frame shall be agreed with Cork City Council in advance.

The noise limits to be applied for the duration of the infrastructure works are those specified in the B Category of BS 5228. BS5228-1:2009+A1:2014 gives several examples of acceptable limits for construction or demolition noise, the most simplistic being based upon the exceedance of fixed noise limits.

The following noise limits, measured outside the nearest window of the occupied room closest to the site boundary, will be applied:

- Daytime (07:00 – 19:00hrs): 70dB(A) for residential properties
- Evening (19:00 – 23:00hrs): 60dB(A) for residential properties

It is proposed that communications be maintained between the Developer, the Local Authority and Local Residences throughout the construction phase of the works to ensure that noise emission and vibrations are maintained at a low level and that any possible complaints can be rectified speedily.

All works on site shall comply with BS 5228-2009 which gives detailed guidance on the control of noise and vibration from construction activities. In general, the contractor shall implement the following mitigation measures during the proposed infrastructure works:

- Avoid unnecessary revving of engines and switch off equipment when not required.

- Keep internal haul roads well maintained and avoid steep gradients.
- Minimise drop height of materials.
- Start-up plant sequentially rather than all together

More specifically the Contractor shall ensure that:

- Regular and effective maintenance by trained personnel is carried out to reduce noise and / or vibration from plant and machinery.
- The selection of construction plant with low potential for generating noise.
- The siting of noisy construction plant as far from neighbouring properties as possible.
- The erection of temporary barriers around items such as generators or compressors if required.
- Any and all ancillary plant shall be positioned so as to cause minimal noise disturbance.
- Where construction activities are required in close proximity to neighbouring noise sensitive properties, a solid acoustic blanket mounted on full height fences of approximately 2.5m in height should be erected to provide a degree of acoustic screening to the lower storeys.
- An acoustically screened area should be provided on the site specifically for noisy operations such as grinding and cutting metal.
- A site representative responsible for matters relating to noise and vibration will be appointed prior to construction on site.
- The phasing programme will be arranged so as to control the amount of disturbance in noise and vibration sensitive areas at times that are considered of greatest sensitivity. During excavation or other high noise generating works in progress on site at the same time as other works of construction that themselves may generate significant noise and vibration, the working programme will be phased so as to prevent unacceptable disturbance at any time.

A site representative responsible for matters relating to noise and vibration will be appointed prior to construction on site. The noise liaison officer should be appointed and charged with the responsibility of keeping people informed of progress and by setting down procedures for dealing with complaints.

A noise and vibration monitoring specialist will be appointed to periodically carry out independent monitoring of noise and vibration during random intervals and at sensitive locations for comparison with limits and baseline background levels. It is proposed that noise and vibration levels be maintained below those outlined above as part of these infrastructure works.

All vehicles and mechanical plant used for the purpose of the Works shall be fitted with effective exhaust silencers and shall be maintained in good and efficient working order. In addition, all diesel engine powered plant shall be fitted with effective air intake silencers. All compressors shall be “sound reduced” models fitted with properly lined and sealed acoustic covers which shall be kept closed whenever the machines are in use. All ancillary pneumatic percussive tools shall be fitted with mufflers or silencers of the type recommended by the manufacturers, and where commercially available, dampened tools and accessories shall be used.

All ancillary plant, such as generators and pumps, shall be positioned so as to cause minimum noise disturbance. If operating outside the normal working week acoustic enclosures shall be provided.

Local screening should be provided for stationary plant such as generators and compressors.

Notwithstanding the above, the developer shall comply with any requirements set out in the Codes of Practice from the Drainage Division, the Roads, Streets & Traffic Department and the Noise & Air Pollution Section.

8 BIODIVERSITY

8.1 Surface Water Protection

Appropriate mitigation measures will be implemented during the construction phase to ensure there will be no significant impact on the receiving hydrological network both on and off-Site via construction best practice including new marina Stream, Cork Harbour SPA and the adjacent swamp area to the east of the Site.

8.2 Timing of Works and vegetation Clearance

Timed works for any activities that are required that may cause a disturbance to nesting birds, if possible, these works should take place outside the breeding season.

8.3 Construction Phase Lighting

No overnight lighting will be directed to the natural habitats along the boundaries of the Site where possible, if this cannot be avoided due to health and safety reasons, the lighting will be designed to minimise impact on local wildlife and in accordance with the Bat Conservation Trust Guidelines on artificial lighting and bats.

8.4 Waste Management

As best-practice, all construction-related rubbish on-site e.g., plastic sheeting, netting etc. should be kept in a designated area on-site and kept off ground level so as to protect small fauna (such as small mammals) from entrapment and death.

9 SITE SETUP

The proposed development site has a single entry-point for vehicles and pedestrians through at the west of the site in Centre Park Road.

The existing site access is to be maintained and utilised as the development entrance. It is envisaged that the contractor may use this access as the primary access point for construction traffic and deliveries etc.

Waste removal will be in trucks to Centre Park Road as construction activities require. Specific control measures will be implemented to fully segregate construction traffic from external pedestrian traffic.

The Contractor shall provide arrangements to provide for vehicular traffic to the site with control measures where crossing the public footpath. The proposed location of the Contractor compound will be internally within the site.

Hoardings will be painted metal panel hoarding circa 2.4m including supports and appropriate anchoring (Designed by Temporary Works Engineer), external lighting and safety signage will be set up. Site hoarding will include Health and Safety warnings at appropriate intervals.

Site security will be provided by way of a monitored infrastructure systems such as site lighting and CCTV cameras, when deemed necessary.

10 CONSTRUCTION TRAFFIC

10.1 General Site Access / Egress

- As part of the Construction Stage Safety Plan for the works a Traffic Management Plan (TMP) will be prepared in accordance with the principles outlined below and held on site. It shall comply at all times with the requirements of;
- Chapter 8 of the Department of the Environment Traffic Signs Manual, current edition, published by The Stationery Office, and available from the Government Publications Office, Sun Alliance House, Molesworth Street, Dublin 2;
- Guidance for the Control and Management of Traffic at Road Works (June 2010) prepared by the Local Government Management Services Board;
- Any additional requirements detailed in the Design Manual for Roads and Bridges & Design Manual for Urban Roads & Streets (DMURS)

Vehicular access to the proposed development will be via or adjacent to the existing vehicular access off Centre Park Road. Traffic volumes are not anticipated to be significant and turning movements into the site shall be accommodated without delay. Warning signage will be provided for pedestrians and other road users on all approaches in accordance with Chapter 8 of the Traffic Signs Manual and the Contractor's Traffic Management Plan.

All construction activities will be governed by a Construction Traffic Management Plan (CTMP), the final details of which will be agreed with Cork City Council prior to the commencement of construction activities on site. The principal objective of the CTMP is to ensure that the impacts of all building activities generated during the construction phase upon the public (off-site), visitors to the subject site (on-site) and internal (on-site) workers environments, are fully considered and proactively managed/programmed thereby ensuring that safety is maintained at all times, disruption is minimised and undertaken within a controlled hazard free/minimised environment

The construction of external works e.g. surface water outfall, footpaths and boundaries on Centre Park Road will be undertaken from the site or as per the conditions of the road opening license.

During the general excavation of the foundations there will be additional HGV movements to and from the site. All suitable material will be used for construction and fill activities where possible and appropriate. All spoil material will be removed to a registered landfill site.

In addition to the traffic generated by the movement of subsoil to and from the site, there will be traffic generated from deliveries of construction materials and equipment. It should be pointed out that construction traffic generated during the development works tends to be during off-peak hours. Such trips would generally be spread out over the full working day and are unlikely to be higher than the peak hour predicted for the operational stage.

Construction traffic will consist of the following categories:

- Private vehicles owned and driven by site construction and supervisory staff;
- Excavation plant and dumper trucks removing excavations / waste material from site;
- Materials delivery vehicles involved in site development works.

Deliveries would arrive at a steady rate during the course of the day. It is estimated that peak delivery rates would be in the region of 1 - 2 deliveries per hour throughout the day.

In the absence of a final construction programme, it is difficult to assess the exact impact during the construction period. Nevertheless, the following estimates have been made in respect of the construction period impacts:

- Appropriate on-site and compounding will be provided to prevent overflow onto the local network. Parking in nearby residential estates shall be strictly prohibited.
- It is likely that some numbers of the construction team will be brought to/from the site in vans/minibuses, which will serve to reduce the trip generation potential.
- During the period of excavation and disposal off site, it is likely that up to 2-3 no. truck trips per hour (on average) will be generated by vehicles removing unsuitable spoil from the site to allow for the construction of the development and for the removal of demolition waste.
- The site offices and compound will be located within the site boundary.

10.2 Staff And Parking

The site is readily accessible by public transport with Bus Eiren services all within nearby walking distance. On-site employees will generally arrive before 07:00, thus avoiding the morning peak hour traffic. Construction employees will generally depart after 17:00. It should be noted that a large proportion of construction workers may arrive in shared transport.

Construction traffic will not be permitted to park on the public roads or within the general area outside the main site. It is anticipated that approximately 5-6 staff will be on site, although this will vary for each phase of the construction process and will be detailed further by the appointed contractor.

10.3 On Site Accommodation

Facilities will be provided by the contractor within the confines of the site hoarding as follows;

- Adequate materials drop-off and storage area;
- Set down areas for trucks;
- Dedicated staff parking and visitor parking;
- Staff welfare facilities i.e. toilets etc.

10.4 Construction Activities

The most onerous construction period with regards to traffic generation is expected to be HGVs during the following work elements;

- Excavation stage where waste and soil are removed from site;
- Bringing construction materials to site;
- Bringing concrete to site for Substructure and Superstructure;
- Bringing pre-cast and steel elements to the site;
- Bringing the glazing.

10.5 Minimisation Of Movement And Impact

Construction vehicle movements and their impact will be minimised through;

- 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;
- All road works will be adequately signposted and enclosed to ensure the safety of all road users and construction personnel;
- Consolidation of delivery loads to / from the site and management of large deliveries on site to occur outside of peak periods;

- Use of precast / prefabricated materials where possible;
- “Cut” materials generated by the construction works to be re-used onsite where possible, through various works;
- Adequate storage space on site to be provided;
- The design of the works has involved an element of minimising the quantity of material to be removed from site by way of cut and fill balance;
- A programme of street cleaning on Glenamuck Road will be implemented;
- Scheduling of movements to outside peak traffic times and school pick-up / drop-off times.

10.6 Public Roads

The following measures will be taken to ensure that the site and surroundings are kept clean and tidy;

- A regular programme of site tidying to be established to ensure a safe and orderly site;
- Mud spillages on roads and footpaths outside the site to be cleaned regularly and will not be allowed to accumulate;
- Wheel-wash facilities or similar will be provided for vehicles exiting the site if deemed appropriate or when significant vehicle movements are planned (e.g. disposal of topsoil from site);
- Dedicated road sweeper will be put in place if site conditions require.

11 CONCLUSION

This Construction and Environmental Management Plan addresses construction activities on site that may result in noise, air quality, water quality, or biodiversity issues, should the plan not be put in place and implemented.

These include procedures for monitoring and tracking construction activities and ensuring construction personnel are trained and educated as necessary. The Construction & Environmental Management Plan should be reviewed as the construction phase progresses to accommodate any changes in activities on site.

This CEMP has been carried out prior to construction stage and as such will be reviewed again prior to works commencing on site and incorporated into the Contractor's Site Safety Plan and Construction Traffic Management Plan (CTMP). The contents of the Site Safety Plan and the CTMP should then be reviewed and updated as the construction phase progresses to accommodate any changes in activities on site.



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