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# Social Housing Bundle 4, Development at the Stanley Street Depot, Dublin 7 Construction Environmental Management Plan (CEMP)

# **Dublin City Council**

ENGINEERING A SUSTAINABLE FUTURE

# Stanley Street Depot, Dublin 7 Construction Environmental Management Plan (CEMP)

#### **Document Control Sheet**

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# 1 Introduction

This report is prepared in support of the planning application for a residential development on a site at Stanley Street Depot, Dublin 7.

The proposed development consists of the construction of 167 apartments and duplex units at a site c. 1.15 ha at the former Dublin City Fire Brigade Maintenance Depot and Dublin City Council Mechanical Division, Stanley Street, Grangegorman Lower, Dublin 7. Development at the site will consist of the following:

- The demolition and site clearance of the existing buildings, sheds, warehouses and garages.
- Retention and modification of the south and east elevation of an existing structure (facing onto Grangegorman Lower) to form part of apartment Block G at the southeast corner of the site.
- Construction of 167 no. apartment and duplex units across Blocks A-K (including frontage onto Grangegorman Lower).
  - Blocks A C consist of 71 no. apartment units (43 no. 1 bed and 28 no. 2 bed units) and ranges from 5 to 6 storeys.
  - Blocks D-G consist of 84 no. apartment units (43 no. 1 bed units, 29 no. 2 bed units and 12 no. 3 bed units) and ranges from 4 to 5 storeys.
  - Blocks H-K consist of 12 no. duplex units (6 no. 1 bed and 6 no. 3 bed units) and are 3 storeys.
- Provision of 270 long-stay and 101 short-stay bicycle parking spaces, 19 no. car parking spaces and 1 no. motorcycle parking space.
- Construction of a 277.54 sqm creche.
- Provision of 552 sqm of community, cultural and arts space located at ground floor level across Blocks B, E, F and G.
- 0.113 ha of public open space and 1350 sqm of communal open space
- Vehicular access is proposed from Grangegorman Lower and vehicular egress onto Stanley Street.
- Boundary treatments, public lighting, site drainage works, internal road surfacing and footpaths, ESB meter rooms, ESB substations, stores, bin and cycle storage, plant rooms, landscaping; and
- All ancillary site services and development works above and below ground.

# 1.1 Objective of Construction Environmental Management Plan

This Construction Environmental Management Plan (CEMP) is an outline document of the proposed approach to ensure that construction activities have the least impact on the surrounding environment. Below is an outline of the objectives:

- Ensure appropriate measures to prevent or mitigate nuisance emissions of noise and dust.
- Ensure that discharges to surface/groundwater sources are controlled.
- Ensure that any nearby ecological receptors (SPAs, SACs, NHAs) and archaeological sites are not adversely impacted by construction activities.
- Minimise the impact on local traffic conditions resulting from construction activities.
- Outline how the measures proposed above shall be implemented.

This CEMP has been prepared for the planning phase of the development to outline the general considerations of the works, from initial enabling works to sub-structure and superstructure construction with regards to waste and the environment. A contractor is yet to be appointed to this project. This document will be revised upon appointment of an experienced and competent contractor, and the development will be constructed in accordance with the environmental management measures contained herein.

The CEMP, due to its structure and nature, will also require constant updating and revision throughout the construction period. Therefore, this is a working document and will be developed further prior to and during construction.

### 1.2 Responsibility

A contractor has not yet been appointed to carry out the proposed project. Once appointed it will be the responsibility of the contractor to maintain and update the construction stage CEMP throughout the work and this updated document will be issued to Dublin City Council.

# 2 Site Details

# 2.1 Site Location

The proposed site is located just off Stanley Street and Grangegorman Lower in the inner-city district of north Dublin. The site is currently a depot for the Dublin fire brigade. The proposed development is located within land zoned as Z5 City Centre by the Dublin City Council. The site's current access point is through the site gate at the end of Stanley Street. An overview of site access and egress points is provided in **Section 5**.

There are existing two storey houses with back gardens and apartments bordering the development on the northwest and northeast of the site. The western boundary is bordered by a mix of two storey housing/commercial units as well as Stanhope Street Primary School to the northwest. To the east of the site, opposite Grangegorman Lower, lies a recently developed 6-storey student accommodation building. Various apartment and commercial developments are located towards the south of the site.

An approximate outline of the subject site and its environs is provided in Figure 2.1 below.



Figure 2.1: Site location and environs (Source: Google Maps)

### 2.2 Site Environmental Considerations

#### 2.2.1 Topography

The proposed development is to be constructed on a brownfield site following the demolition of existing structures. There is a slight downward gradient on site ranging from *ca.* 13.5m OD to the northeast to *ca.* 12.0m OD to the southwest.

# 2.2.2 Geology, Hydrology & Hydrogeology

Maps generated by the Environmental Protection Agency (EPA) and featuring data from the EU Water Framework Directive (WFD) were consulted to assess the extent and quality of waterbodies present in the vicinity of the proposed development. The closest waterbody to the site consists of the River Liffey which is 475m south of the proposed site. The Poddle Stream and Camac River also outflow into the Liffey *ca*. 700m southeast and 900m southwest of the site, respectively.

Taking the scale and nature of the proposed development into consideration, only waterbodies within a 1.5km radius of the site were considered as potential receptors, and as such, only these waterbodies were included in this analysis. A summary of the nearest waterbodies can be found in **Table 2.1** below.

Table 2.1: Waterbodies in Proximity to Proposed Site					
Waterbody	WFD Sub-basin Name	Code	Distance from Site	Direction from Site	
Liffey Estuary Upper	Tolka_060	IE_EA_090_0400	475m	South	
Poddle Stream	Poddle_010	IE_EA_09P030800	700m	Southeast	
Camac River	Camac_040	IE_EA_09C020500	900m	Southwest	

The WFD runs in 6-year cycles with the most recent data being generated between 2016-2021. The Directive takes rivers, lakes, estuaries, groundwater and coastal waters into consideration and each waterbody can be awarded one of five statuses: High, Good, Moderate, Poor, and Bad. Additionally, waterbodies can be assigned a risk level ("At Risk", "Not At Risk", "Review") which represents the risk of the waterbody of failing its WFD objectives by 2027.

The WFD Status of the Liffey Estuary Upper is designated as "Good" and has been assigned a risk level of "Review." The Poddle Stream and Camac Stream have both been designated as "Poor" and assigned a risk level of "Review." The Liffey Estuary Upper is projected as "Review". The River Liffey is the primary inputting surface waterbody to the Liffey Estuary and is classified as "At Risk" due to urban run-off and urban wastewater treatment agglomerations (combined sewer overflows).

The River Liffey flows through the centre of Dublin to its mouth within Dublin Bay. Its major tributaries include the Poddle Stream and River Camac. The river supplies much of Dublin's potable water.

The proposed site is located within WFD catchment 09, Liffey and Dublin Bay, and is located within sub-catchment "Tolka\_SC\_020". The 3<sup>rd</sup> Cycle Draft Liffey and Dublin Bay Catchment Report (HA 09) published in 2021 provides a summary of the quality assessment outcomes of waterbodies within the catchment.

The site was cross-referenced with the Teagasc Soil Information System (SIS) soil profile map which states that the surface soil at the site location is classed as 'Urban'. Urban soils are formed from human construction and industrial activities along with fuel combustion, transport emissions and waste dumping and therefore contain manufactured materials and waste. The subsoil of the site is classed as "made". Subsoil classification within the confines of Dublin City is predominantly "made".

# 2.2.3 Groundwater Vulnerability

According to the Geological Survey of Ireland map viewer, the site is underlain by a Locally Important Aquifer consisting of made ground bedrock which is moderate to poorly productive in local zones only. The groundwater vulnerability is classed as 'Low'. The subsoil permeability is classified as 'Moderate'.

# 2.2.4 Flood Risk

The OPW Floodinfo.ie website was consulted for high level information on any potential flood risk on or near the site. The closest flood events occurred along the River Liffey *ca*. 600m southeast of the proposed site. **Table 2.2** summarises the sources of the nearest floods and their proximity to site.

Table 2.2: Flood Events in Proximity to Proposed Site					
Flood Event Code	Location	Date	Flood Source	Distance from Site	
ID-13040	Croppies Acre, Dublin 7	January 2014	River	600 m SE	
ID-13093	Ballygall Crescent and Fairways Green, Finglas	February 2014	null	670 m SE	
ID-1168	Ashling Hotel, Parkgate Street, Dublin 8	October 2011	null	750 m SE	
ID-14077	Tolka and Finglas Rivers	August 1984	null	980 m E	

The proposed site itself is of sufficient distance from the projected flood risk area hence the fluvial flood risk is considered to be low. The site is not located within benefitting land associated with the Arterial Drainage or District Drainage Schemes. National Indicative Fluvial Mapping (NIFM) models the extent of land that might be flooded by rivers during a theoretical flood with an estimated probability of occurrence. The proposed site is not within the range of a Medium Probability flood event (1 in 100 years) according to NIFM mapping. Based on current data available it is not foreseen that the development will present any significant increase in flooding risk either within the site or downstream of the site.

#### 2.2.5 Archaeology

*John Purcell Archaeological Consultancy* carried out an Archaeological Impact Assessment of the site at Stanley Street. The report provided an overview of pre-development test excavations that were carried out in the vicinity of the site. A summary of the findings is provided below:

- Licence 22E0001 Medieval garden soil was recorded during excavations of a site immediately west of the proposed development. The soil layer is considered to be associated with the back gardens of 18<sup>th</sup> century houses or as part of Grangegorman Manor. An earth-cut well was also discovered on site.
- Licence 10E0137 Test excavations were carried out immediately north of the proposed development and indicated remnants of now demolished late 19<sup>th</sup>-century school structures. Post-medieval garden soil was also found in test trenches.

It is recommended that archaeological testing should take place to identify deposits and formulate a strategy for resolution to take place prior to development. There is potential for accidental damage to occur to the historic surfaces on Stanley Street during construction works at the site. All recommendations are subject to agreement with the Department of Housing, Heritage and Local Government.

Protective measures against potential impacts to the surfaces on Stanley Street are on pg. 20 of the Traffic Mobility Management Plan provided by Malone O'Regan Consulting Engineers. Protective measures are summarised as follows:

The typical damage incurred by heavy construction vehicles is chipping and settlement/displacement. The actions for protection should include:

- 1. Recording and Mapping before works commence,
- 2. Imposing a no work or set down within the cobbled area,
- 3. Take all measures to limit the extend of traffic movements through Stanley Street, and
- 4. Recording and Mapping on completion.

# 2.2.6 Ecological Receptors

According to the National Parks & Wildlife Service map viewer, the proposed site is located a sufficient distance (1.5km) from any designated sites such as Special Protection Areas (SPAs), Special Areas of Conservation (SACs) or Natural Heritage Areas (NHAs). The nearest designated sites consist of the Royal Canal proposed Natural Heritage Area (pNHA) located *ca.* 1.5km north of the proposed site. The next nearest designated site is the Grand Canal pNHA which is south across the River Liffey, *ca.* 2.3km south of the proposed site.

An Appropriate Assessment (AA) Screening Report was carried out by NM Ecology Ltd. on behalf of Dublin City Council and has determined that a Natura Impact Statement (Appropriate Assessment) is not required in respect of this proposed development.

A Preliminary Ecological Appraisal was also carried out by NM Ecology to assess whether any sensitive ecological receptors were present on site. **Section 4** of this report summarises the relevant ecological assessment reports and outlines best practice measures for the mitigation of impacts to ecological receptors during the course of works.

Given the scale and nature of the proposed development, it is unlikely that any designated sites will be impacted as a result of the works.

## 2.2.7 Historical Maps

The GeoHive Historic map viewer was consulted to assess the previous land uses or developments within or in the vicinity of the proposed site boundaries. According to the First Edition 6" maps developed between 1829-1841, the location of the proposed site previously consisted of urban fabric and community infrastructures. From black and white aerial survey maps generated in 1995, the structures of the dense residential areas surrounding the site can be seen, as well as the site of Stanhope Primary School. The surrounds of the proposed site have remained relatively unchanged since these 1995 aerial survey maps, with minor density increases in housing estates and residential areas.

### 2.2.8 Noise Pollution

Under the Environmental Noise Directive (END) 2002/49/EC, members are required to develop strategic noise maps and noise management action plans for transport noise sources every 5 years. These strategic noise maps can be accessed via the EPA.ie website. **Figure 2.2** below outlines the modelled noise extents of the roads in the vicinity of the site undertaken by the EPA. As can be seen the site is not contained within the modelled noise extents of the survey. However, the busy Manor Street to the west of the proposed site is a key route in and out of Dublin City Centre. Short-term access for construction traffic will be located at Stanley St. until access via Grangegorman Lower is established.

As can be seen the site is not contained within the modelled noise extents of the survey. The new development is not foreseen to significantly increase ambient noise levels, once completed. Noise levels along Stanley Street and North Brunswick Road will range from 45-59dB as a result of traffic moving through the area. The highest concentration of noise generation currently occurs along the Manor Street to the west of the site which is a major national road. Noise levels along this road range from 65 to over 75dB.

Noise generation during the construction phase is projected to increase due to the movement of heavy goods vehicles and construction equipment along North Brunswick Street and within the site itself. Noise emission within Cabra and Stoneybatter may increase temporarily, although proposed mitigation steps outlined in **Section 5** will ensure that construction traffic is routed in such a way that minimises disruption to nearby amenities and regular flow of traffic.

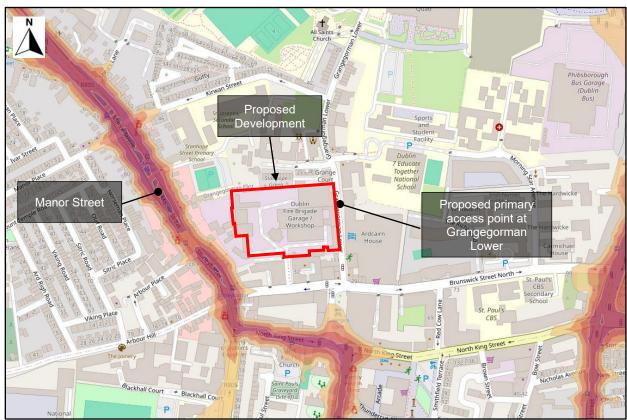


Figure 2.2: EPA Strategic Noise Map (Daytime Noise) (Source: epa.ie Map Viewer)

# 3 Development Description

# 3.1 Phasing of the Development

This Construction Environmental Management Plan (CEMP) will outline the intended sequence of works. A construction program of 12 - 18 months serves as an estimated timeline for the project. A layout plan of the development is detailed in **Figure 3.1** below.

The proposed development includes the following sequence of works:

- The demolition and site clearance of the existing buildings, sheds, warehouses and garages.
- Retention and modification of the south and east elevation of an existing structure (facing onto Grangegorman Lower) to form part of apartment Block G at the southeast corner of the site.
- Construction of 167 no. apartment and duplex units across Blocks A-K (including frontage onto Grangegorman Lower).
  - Blocks A C consist of 71 no. apartment units (43 no. 1 bed and 28 no. 2 bed units) and ranges from 5 to 6 storeys.
  - Blocks D-G consist of 84 no. apartment units (43 no. 1 bed units, 29 no. 2 bed units and 12 no. 3 bed units) and ranges from 4 to 5 storeys.
  - Blocks H-K consist of 12 no. duplex units (6 no. 1 bed and 6 no. 3 bed units) and are 3 storeys.
- Provision of 270 long-stay and 101 short-stay bicycle parking spaces, 19 no. car parking spaces and 1 no. motorcycle parking space.
- Construction of a 277.54 sqm creche.
- Provision of 552 sqm of community, cultural and arts space located at ground floor level across Blocks B, E, F and G.
- 0.113 ha of public open space and 1350 sqm of communal open space
- Vehicular access is proposed from Grangegorman Lower and vehicular egress onto Stanley Street.
- Boundary treatments, public lighting, site drainage works, internal road surfacing and footpaths, ESB meter rooms, ESB substations, stores, bin and cycle storage, plant rooms, landscaping; and
- All ancillary site services and development works above and below ground.

Figure 3.1 shows the proposed site plan.



Figure 3.1: Site Plan

The project is to be divided into several distinct phases as follows:

Pre-Construction Phase – Site clearance and preliminary works

- Demolition of existing structures associated with the Fire Brigade Maintenance Depot
- Site set-up, temporary services, site hoarding/fencing, staff welfare facilities
- Ground works and landscaping.

#### Phase 1 – Construction

- Construction of 167 no. apartment and duplex units
- 277.54 sqm creche
- 552 sqm of community, cultural and arts space at ground floor level

Ancillary works - which will consist of:

- Sustainable Drainage System (SuDS)
- Surface water and foul sewer network and associated attenuation
- 270 no. long-stay and 101 no. short-stay bicycle parking spaces
- 19 no. car parking spaces and 1 no. motorcycle parking space
- Electrical and telecom services

- Mains water supply connections
- Wastewater drainage connections
- Pedestrian access routes
- Permeable paving and roads
- Vehicular entrance along Grangegorman Lower and exit at Stanley Street
- Landscaping of public and communal open areas

#### 3.2 **Pre-Construction Activities**

The main contractor will conduct enabling works for the demolition of existing structures, establishing site setup, appropriate signing, hoarding, security fencing and welfare facilities.

#### 3.2.1 Demolition of Existing Structures

The existing site consists of premises associated with a Fire Brigade Maintenance Depot, and as such features an agglomeration of office buildings and warehouse-style units. Demolition of these structures is required prior to construction of the proposed development. Measures for C&D waste disposal associated with demolition works are discussed further in the RWMP for the project (Document No. SHB4-SSD-RP-ORS-CS-P3-0002-Resource Waste Management Plan).

#### 3.2.2 Site Set-Up and Hoarding

Perimeter hoarding will be provided around the site to provide a barrier against unauthorized access from the public areas. Controlled access points to the site, in the form of gates or doors, will be kept locked at any time that these areas are not monitored (e.g., outside working hours).

The hoarding will be well-maintained and may be painted. Any hoardings may contain graphics portraying project information. The site hoarding may be branded using the appointed Contractors logos, etc. Some marketing images or information boards may also be placed on the hoarding. Access to site will be controlled and monitored outside of site working hours. All personnel working on site must have a valid Safe Pass card and the relevant CSCS cards.

A suitably secure site compound will be set up, wherever the restricted confines of the site will allow and will facilitate the efficient delivery of materials and personnel to the site. This compound is to include material storage, site office and meeting room, and staff welfare facilities. **Figure 3.2** below shows proposed compound site.



Figure 3.2: Proposed Site Compound Location

# 3.2.3 Communication

Communication regarding construction methodologies and phasing will be implemented throughout the development through finalised site plans as well as through the relevant Civils Reports which will outline the scope of works required. The Site Contractor and Site Manager will ensure effective communication among site personnel and contractors.

# 3.3 Construction Sequence of New Structures

The exact construction specifications of the proposed residential units and associated infrastructure are yet to be finalised. This section of the CEMP will be updated once a main contractor is appointed and a definitive construction program is established, in advance of the commencement of the project.

A summary of operations for the construction phase is listed in **Table 3.1** below.

Table 3.1: Summary of Operations Expected					
External envelope will or may require the following operations:	Internal work will or may require the following operations:				
<ul> <li>Blockwork/Brickwork</li> <li>Sand &amp; cement rendering</li> <li>Windows &amp; doors</li> <li>Roof Coverings – Concrete, Green/Blue Roofing</li> <li>Flashing, Aprons and Tray – Leadwork/Powder coated metal</li> </ul> Above ground external operations: <ul> <li>Landscaping</li> <li>Installation of manholes</li> <li>Lamp posts</li> <li>Permeable paving and green roads</li> <li>Signs</li> <li>Car parking and mobility compliant car parking</li> </ul>	<ul> <li>Electrical installation</li> <li>Mechanical installation</li> <li>Fireproofing</li> <li>Partitions and ceilings – use of gypsum based products</li> <li>Painting</li> <li>Plastering</li> <li>Stairs</li> <li>Joinery</li> <li>Tiling</li> <li>Air Tightness sealing and testing</li> <li>Metal Work</li> <li>Sanitary-ware installation</li> <li>Vanity units</li> <li>Reinforcement works</li> <li>Insulation</li> <li>Plumbing</li> <li>Concreting/ floor slab</li> <li>Carpet installation</li> </ul>				
<ul> <li>Foul sewer, surface water, rainwater, and potable water networks</li> <li>Detention basin and attenuation tanks.</li> <li>Electrical ducting</li> </ul>	Green/Blue Roofing				

# 3.4 Site Working Hours

Construction operations on site will generally be subject to a planning permission and conditions. However, 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.

Deliveries of materials to site will generally be between the hours of 07:00 - 18:00 Monday to Friday, and 08:00 to 14:00 on Saturdays, or as specified by the Dublin City Council. There may 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 Plan

# 4.1 Background

A preliminary risk assessment was carried out for the proposed site location in accordance with the Air Quality Monitoring and Noise Control Unit's Good Practice Guide for Construction and Demolition, produced by the London Authorities Noise Action Forum, July 2016. This assessment took into account factors relating to the proximity of the site to sensitive receptors and rated the levels of nuisance and disruption anticipated with scheduled work practices.

Following the completion of this risk assessment, available in **Appendix A**, the proposed development was determined to be a high-risk site. This section outlines suitable measures to minimise nuisance noise and dust emissions in order to minimise any impact of the proposed developments on surrounding receptors.

# 4.2 Noise

The Contractor will aim to restrict noise levels to the following levels:

- Daytime (08:00 to 19:00 hrs) 70dB
- Evening (19:00 to 23:00 hrs) 50dB
- Night-time (23:00 to 08:00 hrs) 45dB (measured from nearest noise sensitive location).

To minimise noise from construction operations, no heavy construction equipment/ machinery (to include pneumatic drills, construction vehicles, generators, etc.) shall be operated on or adjacent to the construction site before 08:00 or after 19:00, Monday to Friday, and before 08:00 or after 14:00 on Saturdays. No activities shall take place in site on Sundays or Bank Holidays. No activity, which would reasonably be expected to cause annoyance to residents in the vicinity, shall take place on site between the hours of 19:00 and 08:00am.

The proposed development will be obliged to comply with BS 5228 "*Noise Control on Construction and open sites Part 1*". The contractor shall implement the following measures to eliminate or reduce noise levels where possible:

- All site staff shall be briefed on noise mitigation measures and the application of best practicable means to be employed to control noise.
- All staff should be briefed on the complaints procedure, the mitigation requirement and their responsibilities to register and escalate complaints received.
- Good Quality site hoarding is to be erected to maximise the reduction in noise levels. It is recommended to incorporate a 2.4m timber hoarding to mitigate excessive noise pollution to neighbouring estates and sensitive receptors.
- Contact details of the contractor and site manager shall be displayed to the public, together with the permitted operating hours.
- Material and plant loading and unloading shall only take place during normal working hours.
- Ensure that each item of plant and equipment complies with the noise limits quoted in the relevant European Commission Directive 2000/14/EC.
- Fit all plant and equipment with appropriate mufflers or silencers of the type recommended by the manufacturer.
- Use all plant and equipment only for the tasks for which it has been designed.

- Locate movable plant away from noise sensitive receptors.
- Avoid the transfer of noise and vibration from demolition activities to adjoining occupied buildings through cutting any vibration transmission path or by structural separation of buildings.
- Ensure written confirmation is received from Dublin City Council Planning Department when applying for extensions to normal working hours. No out of hours work to be undertaken unless permission to do so has been granted.
- In the event that excessive noise levels are deemed necessary, Dublin City Council and local residents must be suitably notified in advance of said works.

### 4.3 Dust and Air Quality

Dust prevention measures will be put in place for any particulate pollution. 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 most likely sources of dust generation at this site include demolition of existing structures, soil stripping and excavation of foundations for the main building and the sawing of wood and concrete throughout the duration of the project. Dust can also be dispersed by excessive vehicular movement around the site during dry periods. Control Measures are outlined as follows:

- Soil will not be exposed until a replacing capping layer is almost ready to be placed. This is to ensure that soil is left exposed for the minimum amount of time possible.
- During the demolition phase, dust suppression systems (misters, atomizers, etc.) may be required to minimise the amount of dust generated by activities. This is particularly important on dry, windy days, where the potential for dust to disperse offsite is greater.
- Material stockpiles will be strategically placed to reduce wind exposure. Materials will be ordered on an "as needed" basis to reduce excessive storage.
- The contractor will spray water on the surface of all roads in the vicinity of the site if required in order to minimise dust generation from the construction activities.
- Appropriate dust suppression will be employed to prevent fugitive emissions affecting those occupying neighbouring properties or pathways.
- Restrict vehicle speeds to 15 kmph as high vehicle speeds cause dust to rise.
- Covers or dampening of soil stockpiles when high wind and dry weather are encountered, if required.
- All consignments containing material with the potential to cause air pollution being transported by skips, lorries, trucks or tippers shall be covered during transit on and off site.
- Street and footpath cleaning shall be undertaken during the ground works phase to minimise dust emissions.
- A road sweeper with vacuuming capabilities will operate along construction traffic routes throughout the development cycle to alleviate excessive material deposition along transport routes in the vicinity of the site.
- Wet cut concrete saws are only to be used on site. Tools with dust extraction filters are to be used when and where possible.
- No materials shall be burned on-site.

#### 4.4 Surface Water and Groundwater Protection

Surface water drainage from the proposed site will be controlled by the incorporation of tree pits, green and blue roofs, rain gardens, rainwater harvesters, permeable paving, soakaways

and the establishment of a dry pond/detention basin to the northwest of the site. For the purposes of surface water attenuation, 5 no. catchment areas are proposed for the site as outlined in **Figure 4.1** below. The catchment areas are summarised as follows:

- Catchment area 1 (highlighted in orange) serves 50% of the apartment blocks A-C and has an area of 2070.707m<sup>2</sup>. Surface water from this catchment area is attenuated for in the detention basin and using the blue roof and intensive green/blue roofs.
- Catchment area 2 (highlighted in yellow) serves 50% of the apartment blocks A-C and the open space and has an area of 2212.529m<sup>2</sup>. Surface water from this catchment area is attenuated for using an attenuation tank, permeable paving and green space.
- Catchment area 3 (highlighted in green) serves apartment blocks D-G and has an area of 3111.449m<sup>2</sup>. Surface water from this catchment area is attenuated for in the attenuation tank and using the blue roof and intensive green/blue roofs.
- Catchment area 4 (highlighted in blue) serves the duplexes (blocks H-K) and has an area of 1509.839m<sup>2</sup>. Surface water from this catchment area is attenuated for using the extensive green roofs and permeable paving.
- Catchment area 5 (highlighted in turquoise) serves the road within the site and has an area of 2285.445m<sup>2</sup>. Surface water from this catchment area is attenuated for through permeable paving and gullies at locations along the road feeding back into the main drainage line.



Figure 4.1: Proposed catchment areas.

A number of discrete landscape areas are also proposed which will provide bioretention of

rainwater during minor rainfall events. Rainwater resulting from larger storm events will be collected via overflow drainage infrastructure and collected within the detention basin.

The main pollutants with the potential to impact water receptors are silt, fuel/oil, concrete and chemicals. The steps outlined below aim to eliminate contamination of site surface water runoff. The below recommendations are advised with reference to the Inland Fisheries Board recommendations for protection of adjacent water courses during the construction phase:

- Harmful materials such as fuels, oils, greases, paints and hydraulic fluids must be stored in bunded compounds well away from storm water drains and gullies. Refuelling of machinery should be carried out using drip trays.
- All manholes and gullies will be covered with silt fencing material and sandbags to limit silt and chemical run-off into surface water.
- Refuelling will not be permitted within 10m of surface drains, with the exception of pumps for dewatering purposes, which are to be stored on portable spill bunds.
- Runoff from machine service and concrete/grout mixing areas must not enter storm water drains and gullies leading off-site.
- No direct discharges to be made to waters where there is potential for cement/ residues/ oils/ chemicals in discharges.
- Stockpile areas for sands and gravel should be kept to minimum size, well away from storm water drains and gullies leading off-site.
- Open excavations to be backfilled immediately following installation of services, etc.
- Earthworks and the movement of plant on soil surfaces will be avoided during periods of extensive rainfall to limit silt laden runoff and damage to soil structure.
- Pre-cast concrete should be used wherever possible. When this is not possible, any works using cast-in-place (poured) concrete must be done in the dry and effectively isolated from any flowing water or drains for a sufficient period to ensure no leachate from the concrete.
- As per the plans, a detention basin (64.241m<sup>3</sup>) will be established to the northwest of the site.
- In the event of high rainfall events, drainage silt chambers will be blocked off to prevent excessive silt outflows to the surface water drainage system.

# 4.5 Protection of Ecological Receptors

#### 4.5.1 Screening for Appropriate Assessment

An Appropriate Assessment Screening Report was published by NM Ecology Ltd. in relation to the proposed development which assessed the proximity of the site to nearby sensitive ecological receptors (SPAs, SACs, NHAs) and outlined potential pathways to such receptors during development. The main findings of the report were as follows:

- The Site is not within or adjacent to any European sites so the proposed development poses no risk of direct impacts.
- Surface Water Pathways: There are no rivers or streams within or adjacent to the Site, so surface water can be ruled out as a pathway to any European sites.
- Groundwater Pathways: If any pollutants soaked to ground within the Site, they would have to pass through at least 3.5 km of intervening subsoils / bedrock before reaching the closest European site. This would reduce any pollutants to negligible concentrations, in which case they would pose no risk of impacts. Therefore, groundwater can be ruled out as a feasible

pathway.

- Land Pathways: There is no risk that any pollutants could flow 3.5 km over land to reach the European sites.
- Air Pathways: The only potential airborne pollutant generated at the Site would be dust. There is no risk that any perceptible quantity of dust could be carried 3.5 km to the European sites.

The Site is not within or adjacent to any European sites, so the proposed development poses no risk of direct impacts. In summary, no feasible pathways were identified between the Site and any European sites.

# 4.5.2 Preliminary Ecological Appraisal

NM Ecology Ltd. also carried out a Preliminary Ecological Appraisal of the Site to identify any important ecological features that could be affected by development. The report outlines the following predicted impacts to ecological receptors and possible mitigation measures:

- **Protection of Treeline and Nesting Birds**: Gulls were observed nesting on the roof of one of the warehouses in the south of the Site and could potentially also use other buildings. Under Section 22 of the Wildlife Act 1976 (as amended), it is an offence to kill or injure a protected bird or to disturb their nests. It is recommended that the buildings are demolished between September and February (inclusive), i.e. outside the nesting season. If this is not possible, an ecologist will survey the affected areas in advance to assess whether or not any breeding birds are present. If any are encountered, demolition may be delayed until the breeding attempt has been completed, i.e. after chicks have fledged and a nest has been abandoned.
- **Biodiversity Enhancement and Net Gain**: The Site currently consists almost entirely of buildings and artificial surfaces, which are of no ecological value.

If biodiversity enhancements can be incorporated into the landscaping proposals for the scheme, it may be possible to achieve a net gain in the biodiversity value of the Site. Suitable measures may include the following:

- Inclusion of a range of native trees and shrubs, including species that provide berries for birds (e.g. hawthorn, rowan)
- Managing grassland areas as meadows, by mowing only once per growing season and removing cuttings. Guidance is provided in the All-Ireland Pollinator Plan
- Provision of bird boxes, including designs suitable for common garden birds (e.g. finches, tits, blackbirds), or species that nest on buildings (swifts, martins, swallows). Swift nesting boxes should be considered for tall buildings (at least 5 m in height). Bat boxes and hedgehog boxes will not be suitable for this Site because the surrounding habitat is unsuitable for these species.
- Creation of a pond or similar semi-natural wetland feature with native fringing vegetation. Ponds may also be suitable for frogs / newts. These measures may be feasible for aboveground SUDS features (e.g. attenuation ponds, swales)
- Incorporating biodiversity features on the roofs of structures including apartment roofs, cycle shelters, sheds etc. Such features should use the site's soils and have appropriate long-term maintenance.
- Artificial lighting should be avoided near retained habitat features, to ensure that they are

suitable for bats and other nocturnal species. Similarly, paths and cycleways should not be located alongside biodiversity features, because the associated infrastructure, human disturbance, vegetation management, lighting, etc can substantially reduce the biodiversity value of these features.

In conclusion, as the Site is of low baseline ecological importance and no ecological impacts are currently envisaged, it is not necessary to carry out an Ecological Impact Assessment. The proposed development is likely to provide a net gain in biodiversity (subject to the landscape proposals), and thus complies with Policy GI 16 of the Dublin City Development Plan.

#### 4.5.3 Arboricultural Assessment

An Arboricultural Impact Assessment & Method Statement was published by *Charles McCorkell Arboricultural Consultancy* in April 2024. Impacts to existing vegetation as well as mitigation measures are outlined as follows:

#### **Arboricultural Impacts:**

- Loss of trees The proposed development requires the removal of three trees (T524, T525, T526) that are of low quality and value (C Category). The loss of these trees will have an insignificant impact on the character and appearance of the surrounding local area due to their internal location within the site and their low quality.
- **Pruning works** The lateral branches of trees T8 to T12 are overhanging the site boundary and are in direct contact with the existing buildings. These branches are required to be pruned to provide sufficient clearance to facilitate the demolition works. All pruning works must be carried out by a reputable arboricultural contractor in accordance with the recommendations given in BS 3998:2010 Tree Work Recommendations.
- The extent of pruning works required is minimal and will not adversely impact the health or visual appearance of the trees concerned.
- **Demolition operations** The proposed demolition of the existing buildings along the northern boundary, adjacent to the neighbouring trees T1 to T12, is required to be undertaken from within the Application Site using the 'top-down, pull-back' method of works. This will ensure that all loose material is pulled away from the neighbouring tree canopies.
- **Construction operations** The theoretical circular RPAs from the northern boundary trees extend into the main Application Site, as shown on the Tree Protection Plan. In reality, this is highly unlikely to be the case. These trees (T1 to T12) are located at a higher level than the Application Site and the existing boundary wall will be acting as a retaining feature, therefore, deflecting tree roots away from the site. Any root growth that does extend beneath the wall and into the Application Site is likely to be insignificant, considering the rooting environment within the site is impermeable hard standing, which is unfavourable for root growth.
- Although root incursion into the site from these trees (T1 to T12) is unlikely, it is still
  recommended that the removal of the existing hard standing and any excavation works
  within the theoretical root protection areas is carried out under the guidance and
  supervision of the arboricultural consultant.
- **Drainage and services** The proposed underground services are required to avoid the root protection areas of retained trees. To ensure that trees and hedgerows are correctly considered, it will be necessary that arboricultural input is required during the final design of the proposed underground service and drainage runs.

- If avoiding root protection areas is not possible, the installation of underground services and drainage runs must adhere to industry best practice. The BS 5837:2012 recommends the National Joint Utilities Group Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees Volume 4, issue 2: NJUG, 2007 as a normative reference in these instances.
- **Tree protection measures** The existing boundary wall located adjacent to the northern boundary trees will be retained as part of the development works. This wall will act as sufficient protection and prevent construction operations from impacting the retained trees.

#### **Arboricultural Mitigation:**

- A detailed landscape plan has been designed and will form part of the planning application for the development proposal. This design includes the planting of new high-quality trees.
- The proposed new planting will mitigate the loss of trees and in the medium to long term, have a positive impact on the character and appearance of the new development and surrounding local area.
- New tree planting should take into consideration the location of the site and the character of the local landscape. It is important that a diverse selection of species is chosen to increase the resilience of the tree population due to the risks posed by pests and diseases and climate change.
- All new tree planting should take into consideration the mature growing size of the trees proposed to ensure that a harmonious relationship between proposed structures (buildings and hard landscaping) can be sustained for the long-term without the need for unnecessary removal or pruning works.

**Figure 4.2** below outlines the tree categories and root protection zones as per the Arboricultural assessment.

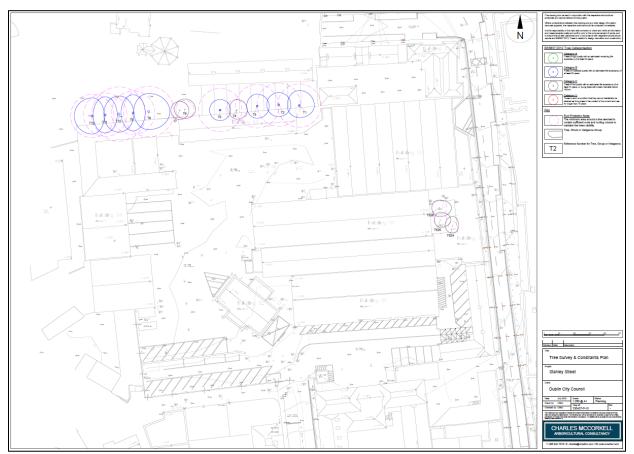


Figure 4.2: Tree removal and protection plan (Source: Charles McCorkell Arboricultural Consultancy)

# 5 Outline Traffic Management Plan

# 5.1 Background

This Outline Traffic Management Plan (OTMP) is designed to facilitate access to the site by plant, machinery, and work vehicles during collections/ deliveries; and to minimise traffic impacts of construction to residents and amenities in the vicinity of the site. The site is located in a prominent urban area of the North Inner Dublin City area. As such this Outline Traffic Management Plan aims to provide options for the routing of construction traffic that will reduce impact on sensitive receptors (schools, healthcare facilities, public amenity areas). **Section 5.5** provides an outline of traffic routes that may minimise disruption to traffic in the site vicinity.

# 5.2 Outline Traffic Management Plan

The construction phase OTMP has been prepared in accordance with the following best practices publications and demonstrates compliance with the requirements of the Health and Safety Authority:

- 1. Chapter 8 of the Traffic Signs Manual and the Safety, Health & Welfare at Work (Construction) Regulations Department of Transport
- 2. Temporary Traffic Management Design Guidance Department of transport, Tourism and Spot.

The main contractor will be required to implement monitoring measures to confirm the effectiveness of the mitigation measures outlined in the OTMP. The OTMP shall address the following issues:

- Site Access & Egress
- Traffic Management Signage
- Routing of Construction Traffic/ Road Closures
- Timings of Material Deliveries to Site
- Traffic Management Speed Limits
- Road Cleaning
- Road Condition
- Road Closures
- Enforcement of Construction Traffic Management Plan
- Details of Working Hours and Days
- Details of Emergency plan
- Communication
- Construction Methodologies
- Particular Construction Impacts.

# 5.3 Construction Entrance and Construction Traffic Control

#### 5.3.1 Access In

Entry to the site is currently provided to the south via Stanley Street. Using the N3 national road as the nearest major roadway in proximity to the site providing access to the M50, construction traffic will approach the site southbound Manor Street which connects Stoneybatter to the N3 *ca.* 6km N of the site. This will provide access to the southern entry point to the site by utilising

North Brunswick Street. This access point will be used on a short-term basis until access via Grangegorman Lower is established. Once developed, the entry point along Grangegorman Lower will be the sole point of entry to the site for both the construction phase and operational phase. The entrance will be manned by a banksman at all times who will direct traffic safely into the construction site and facilitate the safe navigation of larger construction vehicles as required. The short-term entry along Stanley Street is detailed in **Figure 5.1** and the location of proposed primary access along Grangegorman Lower is provided in **Figure 5.2**.



Figure 5.1: Short-term site access point at Stanley Street (Source: Google Maps).



Figure 5.2: Proposed Primary Access at Grangegorman Lower (Source: Google Maps).

The entrance gates will be located within the boundaries of the site and will prevent incoming vehicles from causing obstruction to local traffic on Stanley Street/North Brunswick Street and Grangegorman Lower. Strong lines of communication with hauliers, strict delivery schedules and just-in-time delivery methods will be in operation to ensure no more than two trucks will visit the site at any one time. It is envisaged that strict adherence to these protocols will ensure that queuing along North Brunswick Street and Grangegorman Lower is limited.

- Access to Stanley Street will be provided initially in the short term until Building 01 is demolished. Following which, main access to the site will be via Grangegorman Lower.
- It is noted that large vehicles currently access the Depot via Stanley Street hence the road surface is used to receiving loading of same and should be capable of supporting an infrequent amount of heavy vehicles in the short term.
- Measures will be provided within the site boundary such as a defined area for a wheel wash facility to avoid run off containing any debris/materials after exiting the site.

It should be noted that plans propose a one-way system be implemented for the development once completed. This system will begin at the proposed Grangegorman Lower entry and exit at Stanley Street.

# 5.3.2 Access Out

When vehicles are due to depart from the site the banksman will ensure the roadway is safe to proceed and will communicate with the driver in the cab. The proposed construction exit from the site will be the same as that used for entrance to the site, see **Figures 5.1 & 5.2** above.

The main contractor is required to ensure the provision of adequate guarding and lighting appropriate to the circumstances. Traffic signs should be placed in advance of the works area on both sides to ensure adequate warning to the general public and maintained, when necessary, they should be operated as reasonably required for the safe guidance or direction of the public with regard to the needs of people with disabilities. The main contractor will comply with Regulation 97 of the Safety, Health, and Welfare at Work (Construction) Regulations 2013.

Access to the construction site will only be to authorised persons. During afterhours, security will be employed by the main contractors to ensure no unauthorised access.

#### 5.4 Deliveries to Site / Site Access

The site entrance will be gated and manned at all times with access only permitted for site vehicles and plant movements when necessary.

Deliveries of materials to site will be planned and programmed to ensure that the materials are only delivered when required by adopting a 'just in time', lean construction management approach. There will be periods where multiple vehicle deliveries will be required, e.g., site fill material under roads, houses and landscape areas, pre-cast concrete and large concrete pours. These will be planned well in advance and no queuing of vehicles will be allowed on the public road at the entrance to the site. Supply chain to be directed as not to travel in convoys greater than three at any time.

All off-loading of material will take place within the site, remote from the public road and access

via the agreed access construction point only. Bulk deliveries to take place outside of peak traffic hours within a six-day week as to minimise impact on the existing road network.

**Access control:** The site entrance will always be controlled by a banksman. The contractor will carry out a visitor induction briefing for all visitors or other persons who need access to the construction area. All visitors to the site will be required to have current 'Safe Pass' cards.

**Material delivery:** Material deliveries to the site will be coordinated as to avoid peak traffic hours associated with the neighbouring estates which could be expected around regular commuting times in the morning and evening.

**Sign management:** Signs are to comply with statutory requirements on public roads. Other construction sites may be carrying out construction activity at the same time as the subject site. It is therefore imperative that directions to each site are distinctly identifiable.

### 5.5 Routing of Construction Traffic

All traffic associated with the development must turn on to North Brunswick Road from Manor Street. Provision of suitably large national roads in the vicinity of the site are limited and as such, construction traffic must travel through local roads associated with the residential estates surrounding the site. Using the N3 as a primary source of construction traffic, it is proposed that vehicles utilise the Navan Road exit at Blanchardstown and travel southbound along the Navan Road through Ashtown and Cabra. Construction traffic is proposed to travel *ca.* 6km south along the Navan Road until the left turn on to Manor Street to North Brunswick Road. Traffic will travel 80m east along North Brunswick Road to the short-term access point of the site at Stanley Street. Once demolition of Building 01 has completed, access via Grangegorman Lower will be established allowing construction traffic to enter the site via Grangegorman Lower and exit via Stanley Street.

In due consideration of the potential additional travel time caused by disrupted traffic flow within Stoneybatter when travelling from the north, it is not expected that the proposed transport route will cause any undue additional travel time to the site. See **Figure 5.3** for the suggested construction traffic route.



Figure 5.3: Traffic routes to proposed site (Source: Google Maps).

### 5.6 Traffic Management Speed Limits

Adherence to posted/ legal speed limits will be emphasised to all contractors and subcontractors during induction training.

Drivers of construction vehicles/ HGVs will be advised that vehicular movements in locations, such as local community areas, shall be restricted to 50 km/h. Special speed limits of 30 km/h shall be implemented for construction traffic in sensitive areas such as residential. Such recommended speed limits will only apply to construction traffic and shall not apply to general traffic.

#### 5.7 Road Cleaning

A wheel wash facility will be provided prior to exit of the site when required throughout the various stages of construction on-site. This is to ensure that minimal suspended solids reach nearby waterbodies or surface water drainage systems, and that minimal road sweeping will be required on the public roads. Although a requirement for road sweeping cannot be eliminated entirely, control measures within site are aimed at limiting the need for road sweepers. If conditions require it, then a manned power washer shall be put in place to assist the wheel wash system.

Road sweeping operations to remove any project related dirt and material deposited on the road network by construction/ delivery vehicles will be utilised as required. It is recommended that road sweepers used have a vacuum function that can remove fine silt and dust from nearby surfaces effectively and prevent them from entering nearby waterbodies and drainage systems. All material collected will be disposed of to a licensed waste facility.

The following additional measures will be taken to ensure that the site, public roads and surroundings are kept clean and tidy:

- A regular program of site tidying will be established to ensure a safe and orderly site.
- Food waste will be strictly controlled on all parts of the site.
- Mud spillages on roads and footpaths outside the site will be cleaned regularly and will not be allowed to accumulate. This process is pertinent in cases of heavy rainfall where sediments can more easily reach nearby waterbodies and drainage systems.

# 5.8 Road Condition

The higher volume of heavy vehicle traffic movements and the nature of the payload may create problems to the local road network in terms of:

- Fugitive losses from wheels, trailers, or tailgates.
- Localised areas of subgrade and wearing surface failure.

The main contractors shall ensure that:

- Loads of materials leaving each site will be evaluated and covered if considered necessary to minimise potential dust impacts during transportation.
- The transportation contractor shall take all reasonable measures while transporting waste or any other materials likely to cause fugitive loses from a vehicle during transportation to and from site, including but not limited to:
- Covering of all waste or material with suitably secured tarpaulin/ covers to prevent loss.
- Utilisation of enclosed units to prevent loss.
- Roads forming part of the haul routes will be monitored visually throughout the construction period and a truck mounted vacuum mechanical sweeper will be assigned to roads along the haul route as required.

The proposed exit point located to the south of the site leads onto a cobblestone road with tram lines associated with Stanley Street. As the existing premises is used as a servicing depot for fire brigade vehicles, the movement of heavy vehicles occurs somewhat frequently along Stanley Street, suggesting that the surface is capable of supporting an infrequent degree of heavy traffic. It is therefore suggested that heavy vehicles utilise this entry during the demolition phase until the entry point onto Grangegorman Lower is established. Once established, heavy vehicles should utilise this entrance only.

#### 5.9 Enforcement of TMP

The traffic management plan will be enforced by both the Construction Project Manager and the Resident Engineer.

All project staff and material suppliers will be informed of the measures proposed by the OTMP during site induction and will be required to adhere to the final OTMP. As outlined above, the contractor shall agree and implement monitoring measures to confirm the effectiveness of the OTMP.

### 5.10 Working Hours

Deliveries of materials to site will generally be between the hours of 08:00 and 19:00 Monday to Friday, and 08:00 to 14:00 on Saturdays. No deliveries will be scheduled for Sundays or Bank Holidays.

### 5.11 Emergency Procedures

The main contractor shall ensure that unobstructed access is provided to all emergency vehicles along all routes and site accesses. The contractor shall provide to the local authorities and emergency services, contact details of the contractor's personnel responsible for construction traffic management. In the case of an emergency the following procedure shall be followed:

- Emergency Services will be contacted immediately by dialling 112.
- Exact details of the emergency/ incident will be given by the caller to the emergency line operator to allow them to assess the situation and respond in an adequate manner.
- The emergency will then be reported to the Site Team Supervisors and the Safety Officer.
- All construction traffic shall be notified of the incident (where such occurs off site).
- Where required, appointed site first aiders will attend the emergency immediately.
- The Safety Officer will ensure that the emergency services are on their way.

#### 5.12 Communication

The main contractor shall ensure that close communication with Dublin City Council and emergency services is maintained throughout the construction phase. Such communications shall include:

- Submissions of proposed traffic management measures/ closures for comment and approval.
- Ongoing reporting relating to the condition of the road network and updates to construction programming.
- Information relating to local and community events that could conflict with proposed traffic management measures and construction traffic aimed towards implementing alternative measures to avoid such conflicts.
- The contractor shall also ensure that the local community is informed of any proposed traffic management measures in advance of their implementation. Such information shall be disseminated by posting advertisements in local newspapers and delivering leaflets to houses in the affected areas. Such information shall contain contact information for members of the public to obtain additional information and to provide additional knowledge such as local events, sports fixtures, etc., which may conflict with proposed traffic management measures.

# 6 Implementation

# 6.1 Role and Responsibilities

Due to the scale and nature of this development, the appointment of a full-time environmental manager is deemed surplus to requirements for the duration of the project. The Construction Project Manager will be responsible for the day-to-day implementation of the measures outlined in the Project CEMP. The Construction Project Manager will be supported by an Environmental Consultant who will be involved in the project on an ad-hoc basis should unforeseen or significant environmental incidents arise.

### 6.1.1 Construction Project Manager

The Construction Project Manager will have the overall responsibility of ensuring the measures outlined in the Project CEMP are adhered to for the duration of the construction phase. The primary responsibilities of the Construction Project Manager are as follows:

- Promotion of awareness of environmental issues associated with each project phase.
- Ensure adherence with all environmental and traffic management standards listed in the Project CEMP.
- Facilitate environmental audits and site visits.
- Monitor the impact of construction traffic on local traffic conditions.
- Awareness and implementation of relevant legislation, codes of practice, guidance notes as stated in the CEMP.
- Conduct regular site inspections to facilitate the timely identification of environmental risks or incidents.
- Ensure all construction activities are carried out with minimal risk to the environment.
- Report environmental incidents in a timely manner to the project Environmental Consultant and the relevant authorities.

# 6.1.2 Construction Project Manager Contact Details

Contact details of the project manager are pending until a project manager has been appointed.

- Name: Pending
- Telephone: Pending
- Email: Pending

#### 6.1.3 Project Environmental Consultant

Given the scale of the proposed development and the sensitivity of the receiving environment a dedicated Environmental Consultant is not deemed to required. the Construction Project Manager will assume the role of Project Environmental Consultant. Should any issues or impacts arise throughout the project then a suitable Environmental Contractor will be contacted. The primary responsibilities of the Project Environmental Consultant are as follows:

- Quality assurance of the Project CEMP.
- Update of the Project CEMP as required paying particular attention to site-specific

environmental hazards or changes in legislation.

- Ensuring compliance of Project CEMP with the conditions of the Planning Permission.
- Provide expertise to the Construction Project Manager on environmental concerns.
- Conduct the various specialist environmental monitoring tasks outlined within the Project CEMP (noise, dust, surface water monitoring etc.).
- Prompt response to environmental issues if they arise.

# 6.1.4 Resident Engineer

Typically, the Resident Engineer's primary role involves assurance that the construction work of a project is carried out according to the quality, time and cost requirements of the contract. A significant degree of cross-over can usually be anticipated between the roles of a Resident Engineer, a Construction Project Manager and an Environmental Consultant. With respect to the Project CEMP, the Resident Engineer is expected to play a crucial role in the Traffic Management Plan (TMP) along with the following responsibilities:

- Performing or coordinating site inductions.
- Monitoring the performance of subcontractors.
- Monitoring the performance of the traffic management plan.
- Managing and supervising less experienced site engineers and operatives.
- Ensuring that work activities have been carried out in accordance with the plans, specifications, and industry standards.
- Ensuring that tests and inspections are performed.
- Liaising with construction management to remove any hazards associated with work activities.
- Ensuring that delivered materials meet specifications and established quality standards.
- Initiating and maintaining records, back-charge procedures, progress reports etc.

# 6.2 Awareness and Training

# 6.2.1 Environmental Induction

The key environmental topics outlined in the Project CEMP will be summarised and integrated into the general site induction. Site-specific concerns and best work practices will be outlined to all contractors and sub-contractors due to carry out work at the site. As a minimum this will include:

- The roles and responsibilities of the Construction Project Manager the Environmental Consultant and the Resident Engineer along with the responsibilities of contractors/sub-contractors themselves.
- Incident and complaints procedure.
- Outline of the CEMP structure.
- Site-specific environmental concerns.
- Best work practices

# 6.2.2 Toolbox Talks

Daily toolbox talks will be conducted by the Construction Project Manager as standard practice. It is the duty of the Construction Project Manager to liaise with the Project Environmental Consultant and Resident Engineer to assess site operations for environmental concerns particularly as the project advances and new activities commence. Appropriate mitigation measures will be devised and communicated to the relevant personnel prior to the commencement of any such activities.

### 6.3 Environmental Incidents and Complaints Procedure

The Construction Project Manager will maintain a register of environmental incidents which will document the nature, scale and severity of any environmental incident or complaint which arises due to site activities. In the event of an environmental incident the following steps must be followed:

- The Project Environmental Consultant is notified immediately.
- The Project Environmental Consultant will liaise with the competent authority if necessary.
- The details of the incident will be recorded on an Environmental Incident Form which will record the following details:
  - 1. Cause of the incident
  - **2.** Extent of the incident
  - **3.** Immediate actions
  - **4.** Remedial measures
  - 5. Recommendations made to avoid reoccurrence
- If the incident has impacted on an ecologically sensitive receptor (SPA, SAC, NHA) an ecological specialist will be consulted.
- The Project Environmental Consultant and Construction Project Manager will fully cooperate with any investigations conducted by the competent authority.

# 7 Conclusion

This Construction Environmental Management Plan (CEMP) will form part of the construction contract and is designed to reduce possible impacts which may occur during the construction of the proposed development.

Measures and policies for proper waste management during this project are outlined in in the dedicated Resource Waste Management Plan report for this project.

Extensive measures shall be taken to prevent uncontrolled emissions to drains and gullies leading off the site. Noise mitigation measures will be utilised as required. Several measures have been outlined to ensure adequate dust suppression throughout the project. Noise and dust monitoring shall be carried out at various stages throughout the project to ensure compliance with the relevant standards.

Suitably qualified personnel including a Construction Project Manager, Project Environmental Consultant and Resident Engineer will be appointed to implement the procedures and protocols relevant to their profession as outlined in this CEMP.

The Client shall be responsible for ensuring that The Contractor manages the construction activities in accordance with this Construction Project Management Plan and shall ensure that any conditions of planning are incorporated into the final Construction Project Management Plan prepared by the appointed works contractor.

# Appendix A: Risk Assessment as per Air Quality Monitoring and Noise Control Unit's Good Practice Guide for Construction and Demolition

Risk Assessment A – Locality/Site Information

	Low	Medium	High
Expected duration of work			
Less than 6 months			
6 months to 12 months			
Over 12 months			x
Proximity of nearest sensitive recep	tors		
Greater than 50 metres from site			
Between 25m and 50m			
Less than 25 metres			
Hospital or school within 100 metres			x
Day time ambient noise levels			
High ambient noise levels (>65dB(A))			
Medium ambient noise levels (55- 65dB(A)		x	
Low ambient noise levels (<55dB(A)			
Working Hours			
8am – 7pm Mon-Fri; 9am-2pm Sat	x		
Some extended evening or weekend work			
Some night-time working, including likelihood of concrete power floating at night			
SUBTOTAL A	1	1	2

Risk Assessment B – Works Information

	Low	Medium	High
Location of works			
Majority within existing building			
Majority External			x
External Demolition			
Limited to two weeks	x		
Between 2 weeks and 3 months			
Over three months			
Ground Works			
Basement level planned			
Non-percussive methods only			
Percussive methods for less than 3 months		x	
Percussive methods for more than 3 months			
Piling			
Limited to one week			
Bored Piling Only		x	
Impact or vibratory piling			
Vibration generating activities			
Limited to less than 1 week			
Between 1 week and 1 month			
Greater than 1 month			x
SUBTOTAL B	1	2	2

### **Total Risk Assessment**

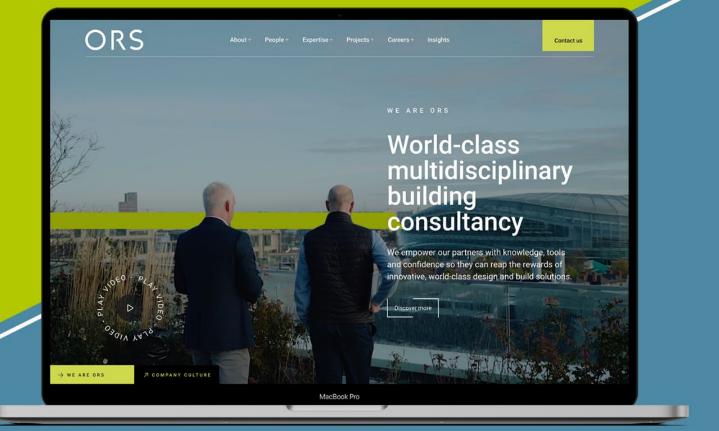
	Low	Medium	High
Risk Assessment A	1	1	2
Risk Assessment B	1	2	2
Total	2	3	4

The site is assessed as a high overall.



website.





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