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Outline Construction Management Plan

Strategic Housing Development

Baldoyle-Stapolin Growth Area 3, Baldoyle, Dublin 13

Client: The Shoreline Partnership

Job No. R090

July 2021

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OUTLINE CONSTRUCTION MANAGEMENT PLAN

STRATEGIC HOUSING DEVELOPMENT

BALDOYLE-STAPOLIN GROWTH AREA 3, BALDOYLE, DUBLIN 13

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1.0 INTRODUCTION

Cronin & Sutton Consulting Engineers (CS Consulting) have been commissioned by The Shoreline Partnership to prepare an Outline Construction Management Plan (OCMP) for a proposed Strategic Housing Development at Baldoyle, Dublin 13.

The aim of this OCMP is to address issues that can arise during construction including noise and vibration, traffic management, working hours, pollution control, dust control, road cleaning, compound / public health facilities and staff parking, all associated with the construction works. This plan will be updated by the contractor and agreed with Fingal County Council (FCC) in advance of the construction phase.

This Outline Construction Management Plan (CMP) has been prepared to give an overview of the processes to be employed during construction of this project. Prior to the on-site activities commencing, this plan will be revised by the appointed lead contractor and expanded to produce a Detailed Construction Management Plan, which shall incorporate:

- Operational Health & Safety (OH&S) Management Plan;
- Environmental Management Plan, including Waste Management Plan;
- Pedestrian and Traffic Management Plan.

The final Construction Management Plan will be integrated into and implemented throughout the construction phases of the project to ensure the following:

- that all site activities are effectively managed to minimise the generation of waste and to maximise the opportunities for on-site reuse and recycling of waste materials;
- that all waste materials generated by site activities, that cannot be reused on site, are removed from site by appropriately permitted waste

haulage contractors and that all wastes are disposed of at approved waste licensed/permitted facilities in compliance with the Waste Management Acts 1996 to 2005;

- that any environmental impacts (noise, vibration, dust, water) of project construction work activities on receptors and properties located adjacent to the project work areas, and on the local receiving environment, are managed and controlled.

2.0 SITE LOCATION AND CONTEXT

2.1 Site Location

The proposed development site is located at Baldoyle-Stapolin Growth Area 3, Baldoyle, Dublin 13, in the administrative jurisdiction of Fingal County Council. The area enclosed by the application boundary extends to 6.89ha.

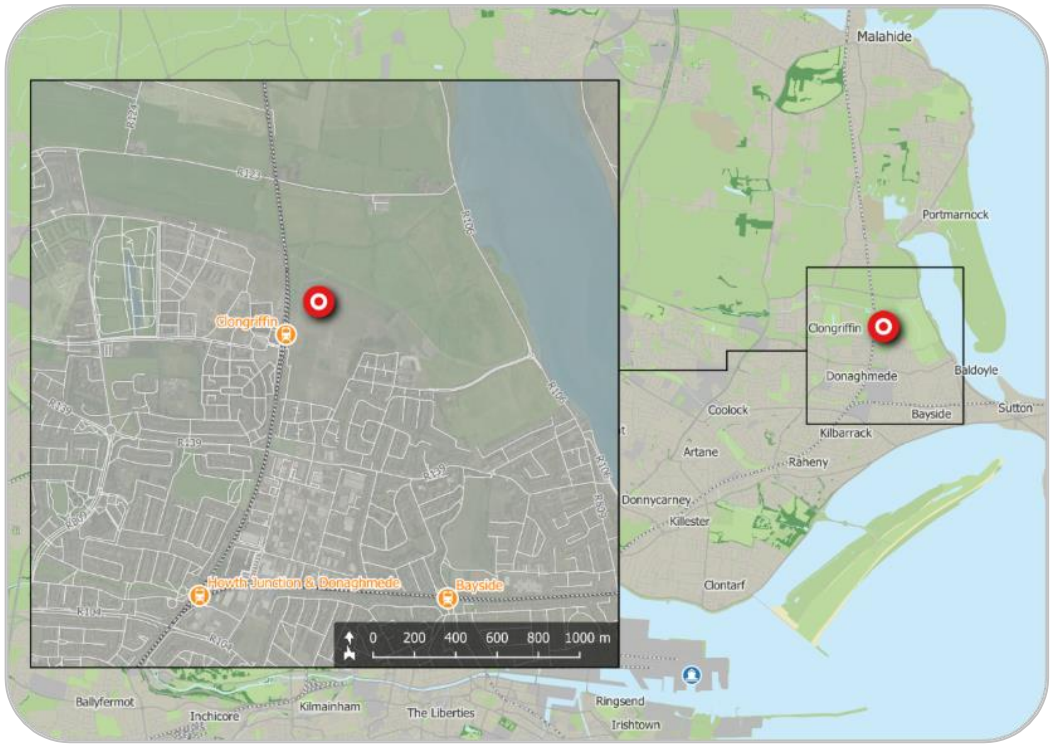

Figure 1 – Location of proposed development site
(*map data & imagery: EPA, OSi, OSM Contributors, Google*)

The location of the proposed development site is shown in Figure 1 above; the indicative extents of the development site, as well as relevant elements of the surrounding road network, are shown in more detail in Figure 2.

The site is bounded generally to the west by The Dublin-Belfast rail line, to the south and east by further zoned development lands, and to the north by lands zoned as High Amenity.

Figure 2 – Site extents and environs
(*map data & imagery: NTA, OSi, OSM Contributors, Google*)

2.2 Existing Site Condition

The subject lands are currently undeveloped; however, works were carried out previously to install infrastructure. These works included removal of vegetation/topsoil, construction of a road network interlinked with partially prepared site areas, and installation of underground services.

The existing infrastructure has been unmaintained for some years.

2.3 Adjacent GA1 Development

As previously noted, the subject site forms part of Baldoyle-Stapolin Growth Area 3 (GA3), as defined by the *Baldoyle-Stapolin Local Area Plan 2013–2019* (as extended). The subject site is bounded to the south by further zoned development lands within Baldoyle-Stapolin Growth Area 1 (GA1), which are also in the applicant's ownership.

Planning permission has been granted (reg. ref. F16A/0412 / ABP ref. PL06F.248970, as amended under reg. refs. F20A/0258 and F21A/0046) for a mixed-use development on these GA1 lands. As currently permitted, this development comprises the following:

- 159no. houses;
- 385no. apartments;
- retail units with a total gross floor area of 837m^2;
- a crèche with a gross floor area of 880m^2; and
- a café with a gross floor area of 200m^2.

99no. houses permitted under this application, located in the south-east corner of the site, are currently under construction.

An SHD application (ABP ref. TA06F.310418) has been made to An Bord Pleanála for permission to amend the permitted development to comprise the following (excluding the 99no. houses currently under construction):

- 135no. dwelling houses;
- 747no. apartments;
- convenience retail units with a total gross floor area of 1,027m^2;
- a medical centre with a gross floor area of 462m^2;
- a pharmacy with a gross floor area of 268m^2;
- a crèche with a gross floor area of 539m^2;
- a restaurant/café with a gross floor area of 485m^2; and
- a gym with a gross floor area of 411m^2.

The full extents of the currently permitted GA1 development, as well as the extents of the area subject to the above amendment application, are shown in Figure 3.

Figure 3 – Permitted GA1 development and planned amendments
(*map data & imagery: OSM Contributors, OSi, Microsoft*)

2.4 Coordination with Adjacent Development

The development proposed under the present application represents Phase 2 of the Project Shoreline masterplan scheme; this masterplan encompasses both Baldoyle-Stapolin Growth Area 1 (GA1) and Growth Area 3 (GA3). Phase 1 of the Project Shoreline masterplan comprises the development of Growth Area 1 as described in sub-section 2.3.

Construction of the permitted Phase 1 GA1 development has commenced, and it is intended that construction of the proposed Phase 2 GA3 development would proceed in tandem with the Phase 1 development.

The site establishment and access arrangements for the two phases (including the haul road permitted under reg. ref. F16A/0412 / ABP ref. PL06F.248970, as shown in Figure 4) shall complement one another and allow efficient operation of both construction sites.

There is overlap between the application boundaries of the subject GA3 application and the pending GA1 amendment application. This overlap represents the extents of:

- the continuation of Longfield Road northward to serve both sites; and
- the proposed new bus ramp and its connecting service road from Longfield Road, which shall link the two sites to Clongriffin railway station.

Each of these applications shall therefore independently ensure the provision of this necessary infrastructure. All works within these areas of overlap will be programmed to satisfy the logistical requirements of both sites, in accordance with the relevant final planning permissions.

3.0 PROJECT DESCRIPTION

The proposed development will consist of the development of 1,221 no. residential apartment/duplex dwellings in 11 no. blocks ranging in height from 2 to 15 storeys and including for residential tenant amenity, restaurant/cafe, crèche, car and bicycle parking and public realm. Residential Tenant Amenity Facilities are located in Blocks E3, E4, G3, G4 & G5 and external communal amenity space is provided at ground, podium and terrace levels throughout the scheme. Car Parking is provided in a mix of undercroft for Blocks E1-E2, F1 and F2 and at basement level for Blocks G1-G3 and G4-G5. Cycle parking spaces are provided for residents, visitors and commercial uses, in secure locations and within the public realm throughout the scheme. A new central public space between Blocks E1-E2 and E3 and E4 and a new linear space between Blocks G2-G3 and G4-G5 provides pedestrian and cycle connectivity from Longfield Road to the proposed future Racecourse Park to the north. A proposed new bus, cycle, pedestrian and taxi ramp to the south of the site and north of Stapolin Square provides access from Longfield Road to Clongriffin Train Station. For a full description of the development please see the Statutory Notices.

4.0 SITE MANAGEMENT

4.1 Site Establishment

The contractor will provide all necessary accommodation, material handling and secure storage for its operations.

The facilities to be provided and maintained by the contractor will include:

- construction plant;
- hoisting equipment and cranes;
- scaffolding, platforms, access ladders, barriers, handrails;
- barricades and hoardings;
- temporary driveways, road crossovers and construction zone;
- 24/7 emergency vehicle access to site during working hours;
- on-site hardstand areas for vehicle loading and unloading;
- storage sheds and compounds;
- rubbish sorting areas;
- site amenities with all required equipment and facilities;
- construction worker accommodation;
- first aid facilities;
- site administration accommodation.

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

First Aid facilities for the use of all construction staff in the form of a fully provisioned first aid area within the site office with life-saving and safety

equipment as required by relevant statutes, authorities and awards will be maintained at all times by the contractor.

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

4.2 Construction Phasing

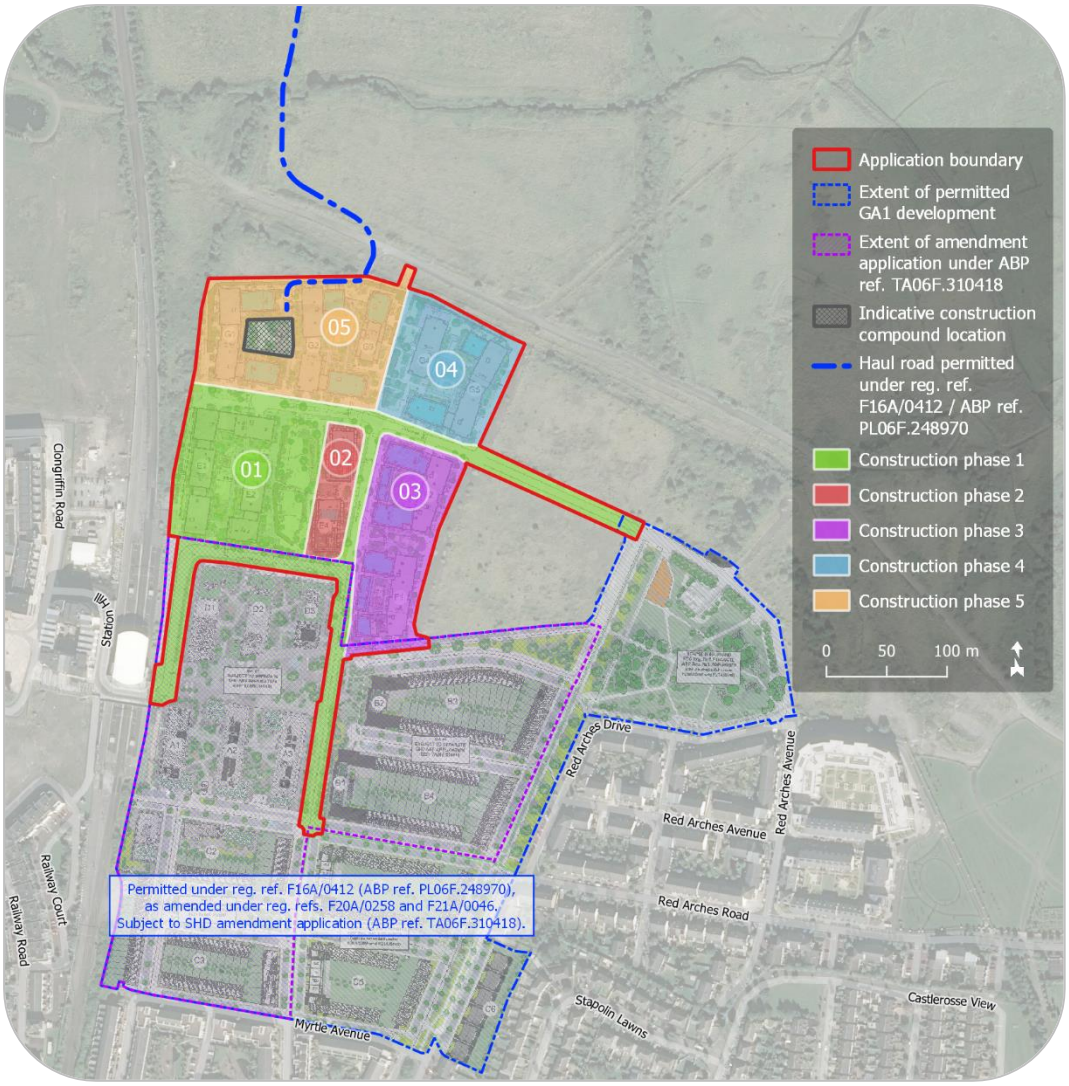

Figure 4 – Proposed construction phasing and compound location
(*map data & imagery: EPA, OSM Contributors, Henry J. Lyons, Microsoft*)

It is anticipated that the development shall be constructed in 5no. phases, details of which shall be agreed with Fingal County Council. The indicative intended phasing plan is shown in Figure 4, as is the indicative location of the construction compound to be used throughout the works. Construction phases shall run in the numerical order given, although it is anticipated that phases may overlap. Construction phase 1 shall include the construction of the principal road infrastructure to be delivered as part of the subject development.

4.3 Hoarding and Fences

Prevention of unauthorised access to the site is a very high priority and will be vigorously managed throughout the construction period. When the contractor is appointed, the site will be secured with site barriers and hoardings in accordance with the final Construction Management Plan. Any hoardings and signboards to the perimeter of the site will comply with the requirements of the relevant authorities and the relevant Health and Safety Acts.

The contractor will be required to erect a single project signboard to the hoarding at the main entrance points to identify the site.

4.4 Services Relocations and Temporary Protection of Public Domain

Prior to any works commencing on site, dilapidation reports will be carried out for structures adjoining the subject site (i.e. the existing raised podium and pedestrian access structures at Clongriffin Station), as well as for footpaths, kerbs, road pavements and utility infrastructure features of the main access routes to the site.

The contractor will provide protection to existing adjacent structures potentially impacted by the works. Protection may be in the form of

screened hoardings, scaffolding and fencing, taped drop sheets and the like, all installed prior to commencement of works in the vicinity.

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

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

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

4.5 Major Plant and Equipment

Plant and equipment used during the entire works are:

- articulated and rigid trucks;
- rigs, bulldozers, excavators, backhoes, with ancillary equipment (rock hammers or saws);
- mobile cranes;
- concrete delivery trucks;
- concrete pumps;
- man, and material hoists;
- scissor, boom and fork lifts.

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

4.6 Vehicular Access to Site

Construction site access will be via the haul road permitted under reg. ref. F16A/0412 / ABP ref. PL06F.248970 (as amended under reg. refs. F20A/0258 and F21A/0046), running in a north-south direction from an existing entrance at Moyne Road via an existing road bridge over the River Mayne. This route will keep construction traffic away from any potential future conflict with users of the proposed public park and two-way cycle route under construction to the north east of the proposed development. There is an existing field entrance which will be improved as outlined below, to ensure safe access and egress of site vehicles.

- Entrance will be widened to ensure two rigid body vehicles can pass each other, i.e. one can enter while another waits to leave.
- Entrance gate will be set back a minimum of 18m from the road edge to ensure all vehicles leave the road before stopping.
- Appropriate sight lines will be provided by cutting and trimming existing hedge growth and removing existing earth embankments at the entrance.
- Advanced warning provided to all users on the road and directional signage for site traffic.

Revised measures will be developed further as part of the **Construction Traffic Management Plan (CTMP)** developed by the contractor in consultation with the Design Team and Fingal County Council.

The principal objective of the CTMP is to ensure that the impacts of all building activities generated during the construction of the proposed development upon both the public (off-site) and internal (on-site) workers environments, are fully considered and proactively managed / programmed respecting key stakeholders requirements thereby ensuring that both the public's and construction workers safety is maintained at all

times, disruptions minimised and undertaken within a controlled hazard free / minimised environment. It is noted that the impact of the construction works will be temporary in nature.

The CTMP will be prepared in accordance with the principles outlined below and shall always comply 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; and
- Any additional requirements detailed in the Design Manual for Roads and Bridges & Design Manual for Urban Roads & Streets (DMURS).

Note that all construction traffic would be utilising the haul route to the north. Later phases will utilise Longfield Road only to access incomplete phases and only via the haul road from the north. Construction traffic will not be permitted to use Red Arches Road to the east and Grange Road to the south unless agreed with the local authority.

In order to ensure satisfactory operation of the construction stage the following is proposed:

- No access will be permitted to the site via Grange Road unless explicitly agreed with Fingal County Council and only in exceptional circumstances.
- Provision of sufficient on-site parking and compounding to ensure no potential overflow onto the local network.

As referenced previously, site offices and compound will be located within the site boundary. The site will be able to accommodate employee and

visitor parking throughout the construction period with construction of temporary hardstanding areas.

Finally, truck wheel washes will be installed at construction entrances and any specific recommendations regarding construction traffic management made by the Local Authority will be adhered to.

The following mitigation measures will be incorporated into the CTMP:

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

4.7 Site Security

Access to site will be controlled by means of an electronic access control system and camera remote monitoring system for out of hours use. During working hours, a gateman will control traffic movements and deliveries.

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

4.8 Material Hoisting & Movement Throughout the Site

It is envisaged that the periodic use of mobile cranes will be sufficient for all construction works on site. Mobile crane visits will be coordinated with the other site activities to ensure that all risks are correctly assessed and guarded against. A detailed crane analysis will be prepared for verification of the safe load parameters. No loads will be lifted over the public domain or adjacent properties.

Hoists and teleporters may also be used within the site and around its perimeter as required during the project, to facilitate material and waste movements into and out of the site.

4.9 Deliveries & Storage Facilities

All deliveries to site will be scheduled to ensure their timely arrival and avoid the need for storing large quantities of materials on site. Deliveries will be scheduled outside of rush hour traffic to avoid disturbance to pedestrian and vehicular traffic in the vicinity of the site.

4.10 Site Accommodation

On-site facilities shall include:

- a materials and equipment storage area;
- a site office;
- staff welfare facilities (e.g. toilets, drying room, canteen, etc.).

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

Water supply to the site during construction works will be provided by means of a temporary connection to a public watermain. Similarly, a

temporary connection for foul water drainage will be made to the public network.

4.11 Site Parking

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

4.12 Site Working Hours

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

- Monday to Friday: 07:00 to 19:00
- Saturdays: 08:00 to 14:00
- Sundays & Bank Holidays: Works not permitted

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

5.0 ENVIRONMENTAL MANAGEMENT

The contractor will establish guidelines and controls for all activities that may impact on the surrounding environment for the duration of the works, including; air, water, land, natural resources, flora, fauna, humans, and their interrelation.

The project is to be developed to provide all personnel with the means to understand their responsibilities and to meet the contractor's statutory, contractual and procedural obligations relating to environmental management.

For each activity, the environmental aspects and associated actual and potential impacts are to be identified as they relate to the following environmental elements:

- emissions to air;
- releases to water;
- releases to land;
- use of raw materials & natural resources;
- use of energy;
- waste and by-products;
- community & neighbours;
- flora & fauna;
- heritage & cultural.

Further details of environmental protection measures during construction of the proposed development are also provided in the Construction Environmental Management Plan (CEMP) prepared by Altemar Ltd. These measures are coordinated with this OCMP. The CEMP is included under separate cover within this planning application.

5.1 Materials and Decontamination

Excavation works will each address the requirements of this investigation report and verify the treatment and removal of all materials and contamination encountered during the works.

5.2 Storm Water and Waste Management

Storm water and wastewater management will be constructed as per the conditions of the planning permission granted under reg. ref. F16A/0412 / ABP ref. PL06F.248970 (as amended under reg. refs. F20A/0258 and F21A/0046), which includes new wetlands. The purpose of these procedures is to ensure that storm water and wastewater runoff is managed and that there is no off-site environment impact caused by overland storm water flows.

The project environmental management plan will be developed in detail to include:

- silt control on the roads;
- discharge water from dewatering systems;
- diversion of clean water;
- treatment and disposal of wastewater from general clean-up of tools and equipment;
- spills control;
- a buffer zone of at least 20m separating working machinery from watercourses;
- a prohibition on machinery entering watercourses;
- refuelling of machinery off-site or at a designated bunded refuelling area;
- silt trapping and oil interception (to be considered where surface water runoff may enter watercourses).

5.3 Noise and Vibration

During the construction works the Contactor shall comply with:

- The Environmental Impact Statement (EIS) accompanying this planning application, as well as that of the application previously permitted under planning reg. ref. F16A/0412 / ABP ref. PL06F.248970 (as amended under reg. refs. F20A/0258 and F21A/0046).
- Safety, Health and Welfare at Work (General Application) Regulations 2007, Part 5 Noise and Vibration.

In reference to the EIS under separate cover in this application and as previously permitted under planning reg. ref. F16A/0412 / ABP ref. PL06F.248970 (as amended under reg. refs. F20A/0258 and F21A/0046) and using BS 5228-1:2009+A1:2014, construction noise levels at the nearest noise sensitive receptors arising during each phase of the construction period have been predicted. These are outlined in Table 1 below.

Phase	Predicted Construction Noise Level (dBLAeq(1hour))	Daytime Construction Noise Criteria (dBLAeq(1hour))	Complies?
Site Preparation	63	65	Y
Foundations	64		Y
General Construction	64		Y
Landscaping	63		Y

Table 1 - Predicted Noise Levels at nearest noise sensitive receptors at Myrtle

The total noise (LAeq) which should not be exceeded during daytime is therefore 65dB.

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

All works on site shall comply with 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:

- A construction noise and vibration management plan are prepared.
- In accordance with Best Practicable Means, plant and activities to be employed on site are reviewed to ensure that they are the quietest available for the required purpose.
- Hoarding to be provided and where required, improved sound reduction methods are used e.g. enclosures.
- Site equipment is located away from noise sensitive areas, as much as physically possible.

- Regular and effective maintenance by trained personnel is carried out to reduce noise and / or vibration from plant and machinery.
- Hours are limited during which site activities likely to create high levels of noise and vibration are carried out.

A site representative responsible for matters relating to noise and vibration will be appointed prior to construction on site.

A noise and vibration monitoring specialist will be appointed to carry out independent monitoring of noise and vibration during critical periods at sensitive locations for comparison with limits and 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 silences 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.

Where construction activities are required in close proximity to neighbouring noise sensitive properties, a solid hoarding of approximately

2.4m in height should be erected to provide a degree of acoustic screening to the lower storeys.

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

An acoustically screened area should be provided on the site specifically for noisy operations such as grinding and cutting metal.

A 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.

5.4 Air Quality Monitoring

An air quality monitoring (Air Quality and Dust monitoring) specialist will be appointed to carry out independent monitoring during critical periods at sensitive locations for comparison with limits and background levels.

5.5 Migrating Dust & Dirt Pollution

The Contractor will ensure that all construction vehicles that exit the site onto the public roads will not transport dust and dirt to pollute the external roadways. This will be achieved through a combination of the following measures:

- Hard surface roads will be swept to remove mud and aggregate materials from their surface while any unsurfaced roads will be restricted to essential site traffic.
- Any road that has the potential to give rise to fugitive dust must be regularly watered, as appropriate, during dry and/or windy conditions.
- Vehicles exiting the site shall make use of a wheel wash facility where appropriate, prior to entering onto public roads.

- Vehicles using site roads will have their speed restricted, and this speed restriction must be enforced rigidly. On any unsurfaced site road, this will be 20kph, and on hard surfaced roads as site management dictates.
- Vehicles delivering material with dust potential (soil, aggregates) will be enclosed or covered with tarpaulin at all times to restrict the escape of dust.
- Public roads outside the site will be regularly inspected for cleanliness and cleaned as necessary.
- Material handling systems and site stockpiling of materials will be designed and laid out to minimise exposure to wind. Water misting or sprays will be used as required if particularly dusty activities are necessary during dry or windy periods.
- During movement of materials both on and off-site, trucks will be stringently covered with tarpaulin at all times. Before entrance onto public roads, trucks will be adequately inspected to ensure no potential for dust emissions.
- Restrict unsealed roads to essential site traffic.
- Construction techniques shall minimise dust release into the air.

The use of appropriate water-based dust suppression systems will greatly reduce the amount of dust and windborne particulates as a result of the construction process. This system will be closely monitored by site management personnel, particularly during extended dry periods and in accordance with site management methods.

5.6 Harmful Materials

Harmful material will be stored on site for use in connection with the construction works only. These materials will be stored in controlled manner.

Where on site facilities are used, there will be a bunded filling area using double bunded steel tank at a minimum.

6.0 WASTE MANAGEMENT

Please refer to the separate Waste Management Plan for details of waste management during the construction and operational phases of the project.

7.0 TRAFFIC MANAGEMENT

7.1 Site Traffic, Traffic and Pedestrian Management

The anticipated truck movements from and to the site in relation to the preliminary programme for the works will be nominated in the construction methodology by the main contractor.

The construction site will be delineated by means of hoardings and lockable gates with screened fencing at the entry and exit points. The Contractor will pay particular attention to pedestrian traffic and safety at the entrances. All vehicles will enter and exit the site in a forward direction.

Pedestrians will have right of way. If required, alternate pedestrian routes around the site will be created and clearly signed. Depending on the progress of the works and temporary constraints imposed by the construction methodology, the location of access and exit points to the site may vary.

7.2 Minimization of Construction Vehicle Movements

Construction-related vehicle movements will be minimized through:

- consolidation of delivery loads to/from the site and scheduling of large deliveries to occur outside of peak periods;
- use of precast/prefabricated materials where possible;
- reuse of 'cut' material generated by the construction works on site where possible, through various accommodation works;
- provision of adequate storage space on site;
- development of a strategy to minimise construction material quantities as much as possible;
- promotion of public transport use by construction personnel, in order to minimise staff vehicle movements.

The following headings identify some of the measures to be encouraged.

7.2.1 Cycling

Cycle parking spaces will be provided on the site for construction personnel. In addition, lockers will be provided to allow cyclists to store their cycling clothes.

7.2.2 Car Sharing

Car sharing among construction personnel will be encouraged (to the extent permitted by public health restrictions), especially from areas where construction personnel may be clustered. The contractor shall aim to organize shifts in accordance with personnel origins, hence enabling higher levels of car sharing. Such a measure offers a significant opportunity to reduce the proportion of construction personnel driving to the site and will minimise the potential traffic impact on the surrounding road network.

7.2.3 Public Transport

Construction personnel will be encouraged to use public transport as means to travel to and from the site. An information leaflet shall be provided to all personnel as part of their induction on site, highlighting the location of the various public transport services in the vicinity of the construction site.

7.3 Public Roads

A Visual Condition Survey (VCS) will be carried out of all surrounding streets prior to any site works commencing. The contractor will liaise with the Transportation and Infrastructure department of FCC to agree any changes to load restrictions and construction access routes for the site. Measures will be put in place as required to facilitate construction traffic whilst simultaneously protecting the built environment.

All entrances and temporary roads will be continuously maintained for emergency vehicle access.

The following 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;
- scaffolding will have debris netting attached to prevent materials and equipment being scattered by the wind;
- 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;
- wheel wash facilities will be provided for vehicles exiting the site;
- in the event of any fugitive solid waste escaping the site, it will be collected immediately and removed.

8.0 SEDIMENT AND WATER POLLUTION CONTROL PLAN

All works carried out as part of these infrastructure 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 of the Environmental Section of Fingal County Council. Reference should also be made to the EIS accompanying this application and Chapter 6 of the Environmental Impact Statement as permitted under the grant of permission F16/0412.

As part of the overall construction methodology, the following issues will be addressed and have been identified as being of particular risk and/or concern to pollution.

- Contamination of Watercourse / Groundwater – There is a risk that ground water could become contaminated with lime from cement which subsequently finds its way into the local adjacent watercourses. The measures proposed to be put in place to mitigate any potential damage from the effluent of contaminated ground water would be to create an exclusion zone, as far as reasonably practicable, by the erection of a visible 1.0m high barrier along watercourses. This will be formed by means of steel road pins, which will be used to support a PVC 'orange' barrier with warning signs appropriately fixed at regular intervals. The signs shall read **'NOTICE – NO DISCHARGE OF ANY KIND IS PERMITTED IN THIS VICINITY OR BEYOND THIS EXCLUSION ZONE'**
- Sediment & Erosion – Similar to the above, adjacent watercourses/groundwater need to be protected from sedimentation and erosion due to direct surface water runoff generated onsite during the construction phase. To prevent this from occurring surface water discharge from the site will be managed and controlled for the duration of the construction works until the permanently attenuated surface water drainage system of the proposed site is complete. A

temporary positive drainage system shall be installed prior to the commencement of the construction works to collect surface water runoff by the site during construction. A series of geotextile lined cascading, high level outfall, settling basins will be installed upstream of the agreed discharge point. This temporary surface water management facility will throttle runoff and allow suspended solids to be settled out and removed before being discharged in a control manner to the agreed outfall. All inlets to the cascading settling basins will be riprapped to prevent scour and erosion in the vicinity of the inlet.

- Minimisation of site disturbance
- Implement sediment control (as outlined above)
- Minimise the potential for erosion
- Prevent sediment-contaminated water leaving the site

Such measures shall be agreed as part of the sites discharge licence.

8.1.1 Mayne River

- Discharge Licences – It will not be permitted to discharge into any newly constructed storm water systems or watercourse without adhering to the conditions of the discharge licence and agreeing the same with the Design Team, Site Manager and Local Authority Area Engineer.
- Over Ground Oil / Diesel Storage – Only approved storage system for oil / diesel within the site will be permitted, (i.e. all oil / diesel storage to be located within a designated area placed furthest away from adjacent watercourses and contained within constructed bunded areas e.g. placed on 150mm concrete slab with the perimeter constructed with 225mm solid blockwork rendered internally). The bunded area will accommodate the relevant oil / diesel storage capacity in case of accidental

spillage. Any accidental spillages will be dealt with immediately on site however minor by containment/removal form site. Any accidental spillages will be dealt with immediately on site however minor by containment /removal form site.

- Re-fuelling will be contained within a designated area adjacent to the storage area.
- Concrete Washout – The washing out of concrete trucks on site will not be permitted as they are a potential source of high alkalinity in watercourses. Consequently, it is a requirement that all concrete truck washout takes place back in the ready-mix depot.
- Disposal of Wastewater off Site – The Site Management Team will maintain a record of all receipts for the removal of toilet or interceptor waste off site to insure its disposal in a traceable manner. These will be available for inspection by the Environment Section of Fingal County Council at all times.
- Road Sweepers / Cleaning – The cleaning of public roads in and around the subject site will be undertaken to reduce environmental impacts and care will be taken to prevent any pollution of watercourses from this activity.
- Maintenance of existing gullies on existing roads used for site access.
- The contractor should comply with the requirements as outlined in the Environmental Impact Statement accompanying this application.
- All measures detailed in the Construction Environmental Management Plan (submitted separately in support of this planning application) will be adhered to.

9.0 COMPOUND FACILITIES / PARKING

The construction compound for the infrastructure works shall be entirely within the site boundary, although in some instances located outside the phase being constructed. The compound shall be constructed using a clean permeable stone finish and will be enclosed with security fencing. Site accommodation to be provided will include suitable washing / dry room facilities for construction staff, canteen, sanitary facilities, first aid room, office accommodation etc. Access to the compound will be security controlled and all site visitors will be required to sign in on arrival and sign out on departure.

A permeable hardstand area will be provided for staff parking and these areas will be separate from designated machinery / plant parking.

A material storage zone will also be provided in the compound area. This storage zone will include material recycling areas and facilities.

A series of 'way finding' signage will be provided to route staff / deliveries into the site and to designated compound / construction areas.

On completion of the works all construction materials, debris, temporary hardstands etc. from the site compound will be removed off site and the site compound area reinstated in full on completion of the works.

10.0 PROVISIONS FOR WORKS IN PROXIMITY TO RAILWAY LINE

The Dublin to Belfast line tracks is in the proximity to the southern boundary of our site. Contractor shall liaise with CIE/Irish Rail to ensure the necessary protection measures are put into place to protect the rail line from Vibrations and dust during demolition and construction.

Cranes will be fitted with limiting system to prevent cranes from operating over Rail line. All works to be carried out in accordance to Iarnrod Eireann document "Guidance on Third Party Works" "I-DEP-0120 Issue 1.0"

The western boundary of our site shares a boundary line with CIE/Iarnród Éireann. In general, our new building footprint is greater than the 4m from the shared boundary line with CIE/Iarnrod Eireann.

A minimum separation distance of 4m between the development's buildings and the CIÉ/Iarnród Éireann boundary is maintained along the length of the site's western boundary. This provides sufficient space for the maintenance of these buildings without the need to enter CIÉ /Iarnród Éireann property.

A liaison officer will be appointed by the contractor as a key member of the construction management team, to review all items with CIÉ/Iarnród Éireann and other neighbours.

10.1 Correspondence with Iarnród Éireann

Prior to the preparation of this report, CS Consulting and representatives of the applicant engaged in a consultation process with Iarnród Éireann, meeting with Nick West and Mark Dunne of Iarnród Éireann on the 7th of April 2020. Comments and actions from that meeting have been incorporated into the design.

Prior to the commencement of development, the main contractor shall contact Iarnród Éireann to ensure an agreed safe system of work is implemented in the vicinity of overhead lines and equipment. Any works associated with the proposed development including boundary treatments and landscaping shall ensure that the integrity of the embankment adjacent to the railway line is maintained

10.2 Safety Measures during Site Clearance and Construction

Safety of members of the public as well as safety of Iarnród Éireann infrastructure is a primary concern while carrying out works in proximity to Iarnród Éireann line. Various safety measures will be taken to mitigate the risks during all stages of construction.

10.2.1 Construction Stage

Building foundations and loads will be transferred through pile foundations at basement level. Therefore, no vertical or horizontal load will be imposed on the adjacent embankment. All piling works will be augured piles, therefore limiting any vibration or impacts on the adjacent embankment.

10.2.2 Piling works

Following site clearance, piling works will take place. Retaining walls are to be constructed around the full extents of the proposed basements. Following on from piling and excavation works, a reinforced concrete frame will be constructed. The use of permanent concrete pumps on site will be examined closer to construction but should they not be used concrete will be pumped using mobile equipment. Following completion of the superstructure, façade and fit out works will be completed.

A specialist piling contractor will be engaged to design and carry out the works. They will also carry out a full risk assessment before any site work commence. Only bored piles will be used. The piling rig will operate from within the hoarding lines at all time. Care will be taken to keep the rig at a safe distance from the Overhead Contact System (OCS). During piling operation, all care will be taken to avoid any dislodged dirt being thrown outside the hoarding perimeter. Auger of the piling machine will be cleaned by hand and retracted from the ground carefully.

A piling mat will be designed to provide a stable platform for the piling machine. Design will be carried out by a competent engineer. Site investigation will be carried out before design of the piling mat to account for local ground conditions. If necessary existing ground can be stabilized. Piling mat designer will issue a certificate verifying suitability of the mat for loads imposed.

During piling monitoring of vibration and settlement will be set out as described above to ensure no impact on adjacent buildings or Iarnród Éireann property.

10.2.3 Excavation

Excavation and drainage works will take in the order of 6-12 months, however only the west side of our site is in close proximity to the Iarnród Éireann site boundary line.

10.2.4 Superstructure

The proposed buildings shall have reinforced concrete frames. Should any structural components need to be lifted, this will be done using appropriate craneage operated by trained crane drivers and assisted/directed by banksmen. Lifting of such items will take place only in light wind conditions and the items will be steered using guide ropes.

Scaffolding for each building structure will be erected gradually with progress of the building. It will be covered with a light debris netting only. It is not envisaged to cover the scaffold in a solid facing. The use of a mesh netting provides an effective screen for falling debris, acts as a useful noise damper and dust barrier and provides a more acceptable finish on the working scaffold. The scaffold will generally be lifted in line with the super structure programme and once erected, will remain in place until completion of the façade and glazing works.

10.2.5 Erection and operation of cranes

It is envisaged that the periodic use of mobile cranes will be sufficient for all construction works on site. Should the development require the use of a crane that could swing over the railway property, then the developer must enter into an agreement with Iarnród Éireann/C.I.E regarding this issue. Mobile crane visits will be coordinated with the other site activities to ensure that all risks are correctly assessed and guarded against. A detailed crane analysis will be prepared for verification of the safe load parameters. No loads will be lifted over the public domain or adjacent properties. All lifts by mobile crane will be carried out parallel to the train line ensuring that the load can't come into contact with overhead power lines without the driver knowingly slewing the machine beyond the boundary line. In order to control the crane movements and to prevent crane from operating over the train line an electronic limiting system can be fitted into the cranes.

10.2.6 Works in proximity to overhead power lines

Contact with the overhead Iarnród Éireann power lines is a high-risk event and therefore special measures to mitigate said risk will be put in place.

A risk analysis will be carried out for all works in vicinity of power lines. Risk assessments will be completed prior to any works on site and accompanied by a list of measures to eliminate or manage the hazard.

Competent and correctly trained slingers/banksmen will guide works in the vicinity of Iarnród Éireann OCS lines.

Mobile cranes will operate parallel to the train line with slings and tag lines positioned to avoid any reach over train tracks and station.

Operations regarded as very high risk can be carried out during out of hours with power to the overhead lines turned off, subject to agreement with CIÉ.

10.3 Relocation of Existing CIÉ Compound

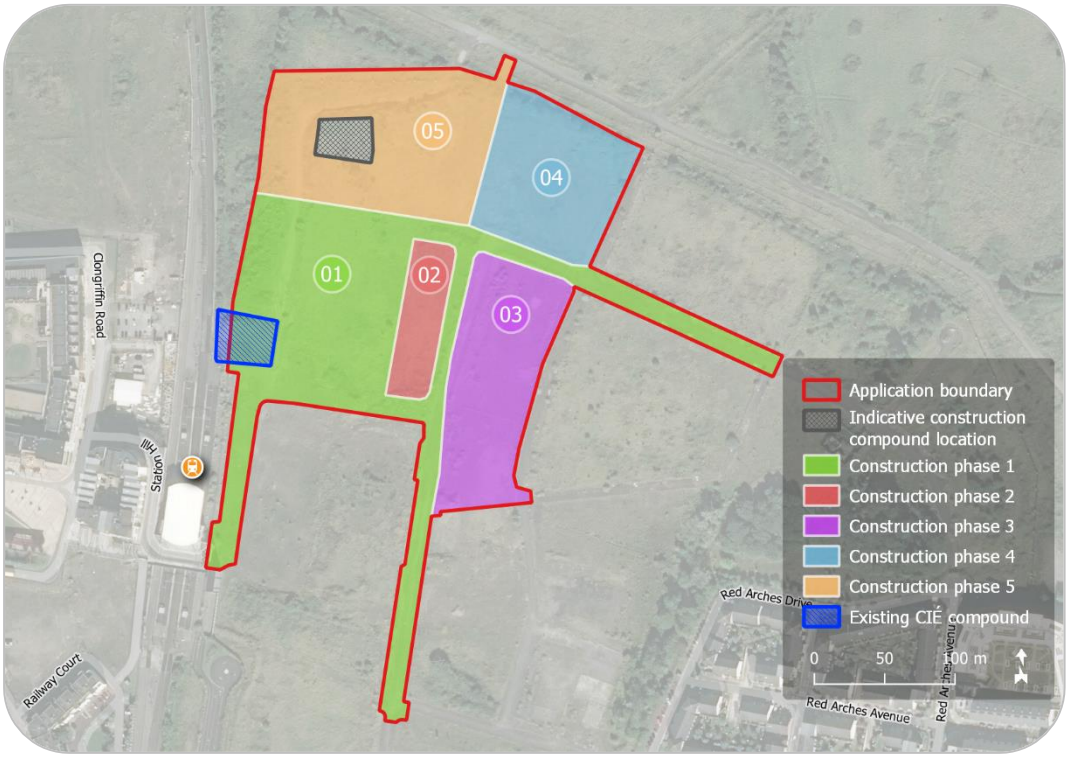

Figure 5 – Location of existing CIÉ compound
(*map data & imagery: OSM Contributors, OSi, Microsoft*)

An existing CIÉ maintenance compound is located on the eastern side of the Dublin-Belfast railway line, largely within the subject application site (see Figure 5). Construction of the subject shall entail the removal and relocation of this facility, a timeline for which will be agreed with CIÉ.

While the existing compound is located within the area of Construction Phase 1, it may be necessary to defer works at this location until a later stage of the development's construction in order to facilitate the operational requirements of CIÉ.

11.0 PROVISIONS FOR WORKS IN PROXIMITY TO DUBLIN AIRPORT

Prior to the commencement of works on site, representatives of the applicant will engage in a consultation process with the Dublin Airport Authority and the Irish Aviation Authority.