

**192115: Abingdon Residential  
Development, Shankill**

**Outline Construction Management Plan**

**October 2020**

## Document Control

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## **1 Introduction**

The purpose of this document is to briefly outline the general activities required for the construction of the proposed residential development at a site in Shankill, Co. Dublin.

A Main Contractor has not yet been appointed to carry out the proposed works. Once appointed, it will be the responsibility of the Main Contractor to prepare and submit a detailed construction management plan for the Client's submission to the local authority for approval. The construction management plan will be a live document that will be updated throughout the project lifecycle by the Main Contractor as required.

Regardless of the form of contract, the Contractor will be contractually bound by any conditions arising from the site constraints identified and specified, all Statutory Regulations governing the works, and any additional measures or modifications that may be imposed on the proposed development by the local authority or An Bord Pleanála.

This document takes guidance from Guidance Notes for Environmental Management of Construction Projects as issued by DLRCC.

## **2 Description of the Works**

The subject site is currently a greenfield site, consisting of a large green area bounded by trees on all sides. There is low density housing to the north, east and west, and a footpath along its southern perimeter located within public park lands.

The proposed development will comprise a build to rent residential development of 193 apartments containing a mix of unit types. The development also includes a new vehicular access via Clifton Park to the east; and new pedestrian accesses, along with all associated site development works including landscaping and boundary treatments, car and cycle parking, bin stores, substations and service provision.

The proposed works are outlined in a series of architectural drawings prepared by MOLA Architects and engineering drawings prepared by PUNCH Consulting Engineers - supplied as part of the planning documentation.

## **3 Indicative Construction Programme**

It is estimated that the construction programme for the works associated with the proposed works will last 20-24 months from the date of commencement. This estimation is based on the typical construction programmes for other similar developments that are currently underway. It is envisaged that construction of the proposed building and external works will be carried out over a single phase. The Main Contractor will be required to prepare a detailed construction programme as part of their tender proposal.

## **4 Site Set-Up and Security**

The Main Contractor will be required to submit a site layout plan that will detail the proposed location of the site compound. The Contractor will ensure that the site compound will be serviced as required and will be secured with appropriate fencing/hoarding. The site compound will be used as the primary location for the storage of materials, plant and equipment, site offices and worker welfare facilities. As Project Supervisor Construction Stage (PSCS), the Contractor will be responsible for site security and they are to ensure that the site and site compound are adequately secured at all times.

As with the other construction activities that are being carried out within the Dun Laoghaire-Rathdown County Council local authority area, activities associated with the construction compounds will be subject to restrictions to the nature and timing of operations so that they do not cause undue disturbance to neighbouring areas and communities.

The site layout plan will also include the site perimeter and the proposed detail with regards the hoarding and gate system.

## **5 Site Access**

Access to the development will be by an entrance route, to be constructed, along Clifton Park Road to the east of the site. This route will be utilised for construction activities and act as the main route for the development in the future.

Construction related traffic will exit the site primarily on to Shanganagh Road (R119). Note: There are two possible junctions on Shanganagh Road that can be used, one north and one south of the site (see Figure 2). Traffic will proceed from that point to the M50, N11 or other route depending on the destination. The M50 and M11 are circa 10 minutes from the site. The proposed route outlines above for construction traffic is subject to agreements with DL RCC and any associated third parties.

Refer to Figure 1 and Figure 2 for illustration.

## **6 Material Storage and Delivery**

The Contractor will ensure that the delivery of materials is coordinated to minimise impacts to adjacent properties. The Contractor will ensure that all materials are adequately stored and secured in their site compound.

For more details please refer to the Outline Construction and Demolition Waste Management Plan prepared and included in the planning submission.

The Contractor will ensure the roads adjacent to the site are kept clean and free of debris.

## **7 Traffic Management Plan**

The Contractor will be required to prepare and submit a detailed traffic management plan as part of their tender submission. Once appointed, the Contractor will further develop the traffic management plan as required and submit to the local authority for approval in advance of works commencing onsite. The Contractor will ensure that advanced warning signs are erected on approaches to the site as required by the PSCS. The Contractor will use a competent sign provider and all signage that meets the requirements of the Safety, Health & Welfare at Work (General Applications) Regulations 2007 and Chapter 8 Traffic Signs Manual. Any proposed temporary road markings must also confirm to the requirements of Chapter 8 of the Traffic Signs Manual.

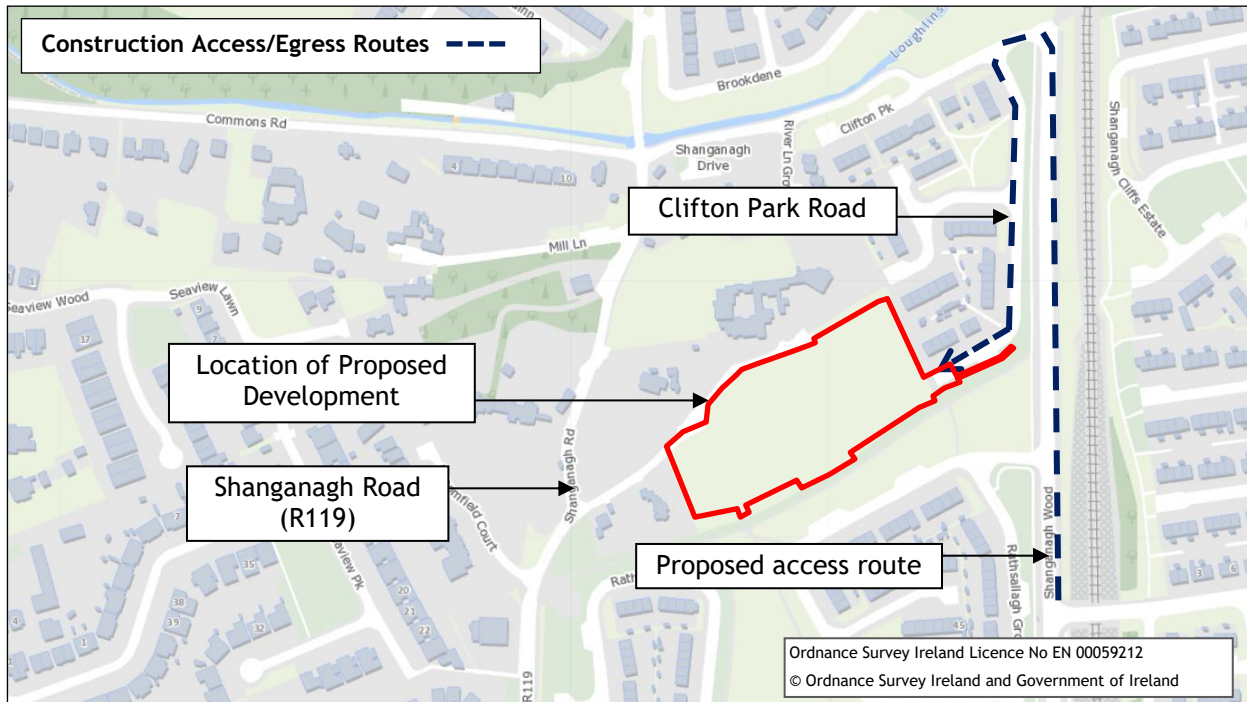


Figure 1: Proposed Primary Route To/From Site

The Main Contractor will be responsible for all site access and works activity and must ensure the continued operation of surrounding local road network as a result of its construction traffic.

The Contractor must submit a Construction Traffic Management Plan to the Local Authority for approval. Haulage vehicle movements should be fully coordinated to comply with the requirements of the agreed plan:

- Construction vehicles must not stop or park along the routes at any time;
- Haulage vehicles must not travel in convoys greater than two vehicles at any time;
- Site entrance to remain free of parked or stationary vehicles at all times;
- All loading of demolition material will occur within the site boundary;
- All off-loading of deliveries will take place within the site, remote from the public road and will access via the agreed construction access point.

The site is located in a suburban area where the roads and junctions are shared with public road users. Therefore, the flow of construction traffic will need to be marshalled and controlled to ensure that potential conflicts are avoided as much as possible.

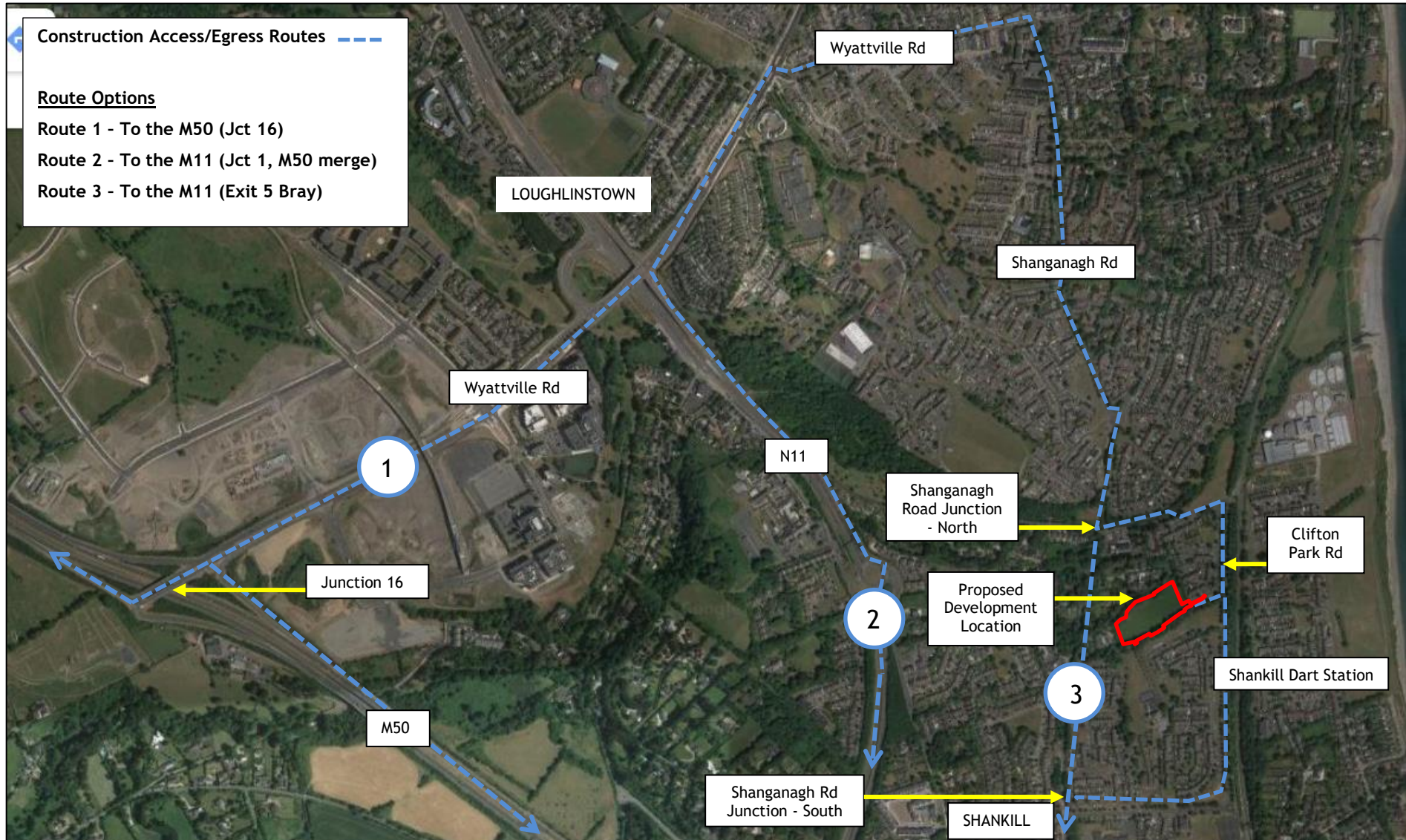


Figure 2: Development Site Location Map and Surrounding Road Network © Google Map

There are no proposals to introduce temporary road closures or temporary traffic light signals to facilitate construction of the proposed development. There are also no proposals to amend the existing local access arrangements to the surrounding areas.

For more details please refer to the Outline Construction and Demolition Waste Management Plan prepared and included in the planning submission.

## **8 Potential Interface with Other Projects**

The proposed works will likely have an interface with other projects within the greater region. The appointed Contractor may need to coordinate with other Contractors in the locality to ensure a smooth interface between projects.

There may be a number of PSCS's operating in the urban locality at any one time on individual sites. It will be responsibility of the appointed Contractor as PSCS to ensure that delivery and haul routes, site access and egress points and potential crossing points associated with the site are fully coordinated and agreed with other Contractors in advance of the works commencing.



## **9 Ecological Impacts**

The contractor shall comply with all relevant mitigation measures as outlined in the Natura Impact Statement, Ecological Impact Statement and any other relevant planning reports as provided by the Ecologist.

The following mitigation measures in section 9.1 and 9.2 below have been taken from the Natura Impact Statement prepared by Scott Cawley for the proposed Abingdon Residential Development at Shankill.

### **9.1 Measures to Protect Surface Waters and Ground Water Quality during Construction and Operation**

Design measures to maintain water quality in the receiving watercourse, the Shanganagh River, c. 138m north of the proposed development site, during operation include those listed below.

The construction contractor will be required to implement the following specific mitigation measures for release of hydrocarbons, polluting chemicals, sediment/silt and contaminated waters control:

- Weather conditions will be taken into account when planning construction activities to minimise risk of run-off from the site.
- Pouring of cementitious materials, if required for the works, adjacent to surface water drainage features, or drainage features connected to same, will only be carried out in the dry. Pumped concrete will be monitored to ensure no accidental discharge. Mixer washings and excess concrete will not be discharged to existing surface water drainage systems. Concrete washout areas will be located remote from any surface water drainage features to avoid accidental discharge to watercourses.
- Any fuels or chemicals on site will be stored within double sealed tanks with bunds to prevent any seepage of same into groundwater.
- Dedicated fuel filling points will be set-up with all plant to be brought to these points for filling. All fuels and chemicals required to be stored on-site will be clearly marked.
- All mobile fuel bowzers shall carry a spill kit and all relevant personnel must be familiar with the use of this equipment. All fuel containing equipment such as portable generators shall be placed on drip trays. All fuels and chemicals required to be stored on-site will be clearly marked. Care and attention should be taken during refuelling and maintenance operations. Particular attention should be paid to gradient and ground conditions, which could increase risk of discharge to waters.
- A register of all hazardous substances, which will either be used on site or expected to be present (in the form of soil and/or groundwater contamination) will be established and maintained. This register will be available at all times and shall include as a minimum:
  - Valid Safety Data Sheets;
  - Health & Safety, Environmental controls to be implemented when storing, handling, using and in the event of spillage of materials;
  - Emergency response procedures/precautions for each material; and,
  - The Personal Protective Equipment (PPE) required when using the material.
- Implementation of response measures to potential pollution incidents.
- Robust and appropriate Spill Response Plan and Environmental Emergency Plan will be prepared prior to works commencing and they will be communicated, resourced and implemented for the

duration of the works. Emergency procedures/precautions and spillage kits will be available and construction staff will be trained and experienced in emergency procedures in the event of accidental fuel spillages.

- All trucks will have a built-on tarpaulin that will cover excavated material as it is being hauled off-site. Wheel wash facilities will be provided at all site egress points, if required. Dedicated road sweeper facilities will be provided as required.
- If, in the very unlikely event, groundwater is encountered during construction works and temporary pumping at a localised location is required:
  - An appropriate dewatering system and groundwater management system specific to the site conditions will be designed and maintained. These will include measures to minimise any surface water inflow into the excavation, where possible, and the prolonged exposure of groundwater to the atmosphere will be avoided.
  - Any groundwater encountered will be gathered locally to facilitate pumping with subsequent discharge, under licence, to the local sewerage drainage network. The pumped water will be discharged under licence to the local sewerage drainage network. Prior to any discharge, the water will be passed through silt traps and hydrocarbon/oil interceptors within the construction site confines. This will result in the separation of sediment from the water prior to its discharge and will ensure that the water is of adequate quality before it enters the local authority drainage system. The use of silt traps and interceptors will be supplemented by proper housekeeping and control measures such as regular testing and monitoring of water quality to ensure compliance.
  - Qualitative and quantitative monitoring will be adopted to ensure that the water is of sufficient quality to discharge to the river. The use of silt traps will be adopted if the monitoring indicates the requirement for same with no silt or contaminated water permitted to discharge to the receiving water environment
- The removal of any contaminated land from the proposed development site, if required, and transportation to an appropriate licenced facility shall be carried out in accordance with the Waste Management Act, best practice and guidelines for same.
- A watching brief and discovery procedure for contaminated material if required will be prepared and adopted by the appointed contractor prior to excavation works commencing on site. These documents will detail how potentially contaminated material will be dealt with during the excavation phase.
- Implementation of measures to minimise waste and ensure correct handling, storage and disposal of waste (most notably wet concrete, pile arisings and asphalt).
- All of the above measures implemented on site will be monitored throughout the duration of construction to ensure that they are working effectively, to implement maintenance measures if required/applicable and to address any potential issues that may arise.

## **9.2 Measures to Prevent the Introduction/Spread of Invasive Species during Construction**

A detailed invasive species management plan will be prepared by a suitably qualified invasive species specialist prior to commencement of any construction works (including enabling works). The management plan will include the following measures which are required to control invasive plant species listed on the Third Schedule of the EC (Birds and Natural Habitats) Regulations S.I. 477 of 2011 as amended on

site and prevent the spread of such species to the wider environment during construction or operation of the proposed development:

- The proposed development site will be re-surveyed for Third Schedule invasive plant species (including three-cornered leek and rhododendron) prior to any construction works (including enabling works). This will be undertaken in late spring, when the plants are in their vegetative phase and clearly identifiable above ground;
- Areas identified will be demarcated by fencing and signage by the site ecologist prior to the commencement of a construction works within the lands;
- Detailed eradication methods for three-cornered leek and rhododendron are included in below sections. Contaminated material will be removed from site by an appropriately qualified and licenced professional with experience in treatment of invasive species. The movement of plant material of any plants listed on the Third Schedule requires a licence from the National Parks and Wildlife Service (NPWS) under Section 49 of *the European Communities (Birds and Natural Habitats) Regulations, 2011* (as amended). Invasive species (particularly roots, flower heads or seeds) must be disposed of at licensed waste facilities or composting sites, appropriately buried, or incinerated having regard to relevant legislation. All disposals must be carried out in accordance with the relevant Waste Management legislation;
- Species listed on the Third Schedule of the EC (Birds and Natural Habitats) Regulations 2011<sup>1</sup> are considered to be high-risk invasive plant species. The requirement for further treatment of both species will be determined based on ongoing monitoring of the lands following completion of initial clearance.

#### *Biosecurity Measures*

The appointed contractor will implement appropriate biosecurity measures on site, as deemed relevant and advised by the specialist invasive species contractor during and after the management of invasive species located within the site. These will include but not be limited to the following biosecurity measures:

- All invasive species will be clearly demarcated by fencing with appropriate signage, prior to and during construction, to avoid any disturbance and to exclude access by plant and machinery;
- No machinery used will be used for other works until they are fully cleaned down at a designated wash area and then visually inspected by a specialist to ensure no invasive species are present;
- The footwear of any site personnel working within the contaminated areas, as part of the management works, will also be washed down at the designated wash area and then visually inspected to ensure no invasive species are present; and,
- The material left after machinery has been pressure washed must be contained, collected and disposed of along with the other invasive species material.

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<sup>1</sup> *European Communities (EC) (Birds and Natural Habitats) Regulations 2011 to 2015*; hereafter the 'Birds and Habitats Regulations'. This legislation transposes the Habitats and Birds Directives into Irish law. It also contains regulations (49 and 50) that deal with invasive species (those included within the Third Schedule of the regulations).

### ***Three-cornered leek***

The population of Three-cornered leek will be mapped prior to construction commencing on site. The map of the species' extent will be shared with the planning authority and with the construction contractor, to inform a final construction and environment management plan for the proposed scheme. Construction personnel will be trained on identification of invasive species, and best practice methods to avoid spreading invasive species. This will include avoiding earthworks in the area of infestation, and the operation of a wheel wash and designated equipment wash-down area for vehicle and personnel entering and exiting site.

As earthworks are required, it will not be feasible to fence off infestations of Three-cornered leek from construction work. In this instance, the infested areas will be treated through careful removal and disposal of soil and bulbs and/or spraying with an herbicide (by an appropriately licenced and qualified contractor) during the growth season.

Repeated eradication efforts may be required.

### ***Rhododendron***

Rhododendron regrows vigorously when cut. As a result, some method of stump killing or removal is always necessary. Any untreated cut stump will regrow and in most cases flower within 3-4 years. Treatment programmes can be divided into 3 main stages: initial removal, control of stems and roots, and follow up. Measures are taken from Invasive Species Ireland Best Practice Management Guidelines<sup>2</sup> guidance document.

Cut and remove stems by hand or chainsaw, cutting as close to the ground as possible to remove above ground growth. Chip or remove the cut material from the area to allow for effective follow-up work and prevent regrowth. Chipped material can provide good weed barrier around ornamental garden areas. Flailing has also been effectively used in Ireland to treat young or immature growth. Although not suitable on all sites and locations, especially steeply sloping or wet sites, it is very effective as it breaks up woody stems upon contact.

The removal of above ground growth will not prevent regrowth as Rhododendron will regrow from cut stems and stumps. There are four recommended methods to achieve successful management after the initial cut and removal:

- Digging the stumps out. The effectiveness of this technique is increased by removing all viable roots. This can be done manually or with a tractor and plough. To avoid regrowth, stumps should be turned upside down and soil should be brushed off roots.
- Direct stump treatment by painting or spot spraying freshly cut low stumps with a herbicide immediately after been cut. Glyphosate (20% solution), triclopyr (8% solution) or ammonium sulphate (40% solution) are known to be effective during suitable weather conditions i.e. dry weather. The herbicide concentrations used, and timings of applications vary according to which chemical is used. Use of a vegetable dye is recommended to mark treated stumps and all stumps should be targeted. A handheld applicator will help avoid spray drift onto surrounding non-target species. Always read the label and follow the manufacturers guidelines when using herbicides. Remember that using
- A variation on the stump treatment method is stem injection, using a 'drill and drop' methodology, whereby, if the main stem is cut and is large enough for a hole to be drilled into

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<sup>2</sup> Maguire, C.M., Kelly, J. and Cosgrove, P.J. (2008). Best Practice Management Guidelines Rhododendron Rhododendron ponticum and Cherry Laurel Prunus laurocerasus. Prepared for NIEA and NPWS as part of Invasive Species Ireland.

it, the hole can be used to facilitate the targeted application of glyphosate (25% solution). The main drawback is that the dead Rhododendron may persist in situ for 10-15 years.

- Stump regrowth and seedlings can be effectively killed by spraying regrowth with a suitable herbicide, usually glyphosate. Best practice spraying protocols should be carefully followed. General broadcast spraying is not as effective as stump spot treatment and has the potential to impact on surrounding non-target species. Rhododendron leaves are thick and waxy. For herbicide treatment to be effective each individual leaf needs to be thoroughly wetted with herbicide to kill the plant.

## 10 General Construction Approach

### 10.1 Construction Working Space

Construction working space will be set out in the detailed construction management plan at compliance stage.

Construction access routes, haul routes and delivery routes to the site are to be agreed with the Engineer/Employer's Representative in advance of works commencing onsite.

Any road closures required will be submitted and approved in advance with the local authority. It is the responsibility of the Main Contractor to prepare and submit the road closure application to the local authority in advance of works commencing onsite.

### 10.2 Outline Strategy

It is currently envisaged that the proposed development will be completed in a single phase as outlined below. For further details relating to the works, please refer to the more detailed planning drawings (architectural, engineering, landscape, etc.). The strategy is outlined as follows:

1. Construction of temporary entrance/access to site at Clifton Park Road (see Appendix A).
2. Installation of secure perimeter fencing and hoarding along site boundary as required and establish site compound.
3. Topsoil removal and regrading of site throughout.
4. Completion of internal road network to service Block A then Blocks B, C, and D as required.
5. Construction of associated service routes (to be progressed in tandem with Item 4). Connections to external utility/service networks to be advanced.
6. Construction of foundations, for residential units from A through to D. This includes podium car parks utilising transfer slabs at stages between construction of Blocks A and B, and similarly between C and D.
7. Delivery of landscaping and parks/recreation elements throughout the above.

### 10.3 Outline Works Description

The construction works will involve an indicative sequence of works, as described in short below. The Contractor will outline works which impact public spaces within the Construction Management Plan that shall be subject to submission and agreement with Dun Laoghaire-Rathdown County Council.

#### 10.3.1 Hoarding, Site Set-up and Formation of Site Access/Egress

The site area will be enclosed with hoarding details of which are to be agreed with DLRCC. Hoarding panels will be maintained and kept clean for the duration of the works. This will involve erecting hoarding around the proposed site perimeter in line with the finished development extents.

The available site footprint will enable the Contractor to set up the site compound within the site boundary.

The Contractor will be responsible for the security of the site. The Contractor will be required to:

- Operate a Site Induction Process for all site staff;
- Ensure all site staff shall have current 'Safe Pass' cards and appropriate PPE;
- Install adequate site hoarding to the site boundary;
- Maintain site security at all times;
- Install access security in the form of turn-styles and gates for staff;
- Separate public pedestrian access from construction vehicular traffic;

This will be completed in conjunction with the construction of site entrance at Clifton Park Road as per drawings.

### **10.3.2 Site Clearance and Demolition**

The site is a greenfield site and will require minimal demolition works, including site clearance, topsoil removal and some tree removal.

### **10.3.3 Construction Sequence of Development**

The construction of the proposed Blocks A, B, C, and D will consist of construction of RC framed structures over a slab foundation. An associated transfer slab at Level 1 over undercroft parking is required between Blocks A and B, and C and D.

The construction methodology and programme of these activities will be dictated by the Contractor.

#### **Site Grading**

The site falls from west to east but slopes are not pronounced and there are no requirements for basement construction.

The Contractor must prepare a Construction and Demolition Waste Management Plan in accordance with the “Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects” (Department of Environment, Heritage and Local Government, 2006) and ensure that all material is disposed of at an appropriately licensed land fill site. The Contractor must also outline detailed proposals within the Construction Management Plan to accommodate construction traffic.

## Construction Sequence of Superstructure

The construction of the various superstructures will involve complex sequencing of activities and various construction methodologies could be adopted to deliver the Contract. The nature of the buildings in Plots A-D, the column grids and economic factors, among other issues, would suggest that the buildings will be constructed utilising reinforced concrete frames.

### Building Structure Block A:

- Construction of pad foundation and ground floor foundation slabs.
- Construction of rising elements to Level 1 and construction of Level 1 floor slabs.
- Construction of concrete block masonry to Level 1 and construction of Level 1 floor slab
- Commencement of envelope works to Level 1 when structure has progressed to approximately Level 2/3;
- The structural blockwork will also act as the envelope for the structure, and cladding will follow completion of the blockwork.

### Parking podium between A and B:

- Construction of the ground floor foundation slab.

### Building Structure Block B:

- As per Block A
- Construction of rising elements of parking podium to Level 1 and construction of transfer slab at Level 1 for the undercroft parking between the two plots A and B.

### Building Structure Block C:

- As per Block A

### Parking podium between C and D:

- Construction of the ground floor foundation slab.

### Building Structure Block D:

- As per Block B
- Construction of rising elements of parking podium to Level 1 and construction of transfer slab at Level 1 for the undercroft parking between the two plots B and D.

### Mechanical & Electrical Fit-Out:

- First fix will commence from ground floor level upwards;
- This will be followed by the second fix and final connections.

### Fit-Out:

- Initial installation of stud work when cladding completed and floor is weather tight;
- Installation of equipment and associated connection to services;
- Completion of finishes.

### Commissioning:

- The final commissioning period will commence during fit-out.

The above represents a high-level indicative construction sequence only. The actual sequence will be dictated by the Contractor. The Contractor will issue a detailed construction programme outlining the various stages prior to commencement of works.

It is envisaged that multiple tower cranes will be temporarily erected to accommodate the apartment block construction works for the distribution of building materials and plant. The Contractor is required to obtain all necessary licences from DLRCC.



## **11 Waste Management Plan**

The Main Contractor will be required to prepare a detailed waste management plan for the project. This will be included in the overall construction management plan that will be submitted to the local authority.

Waste generated on site should be tracked from site to final destination. Gate receipts for the licenced facility to which excavation and demolition wastes are brought must be retained to ensure that waste materials removed from sites are properly disposed of; in compliance with statutory obligations under the Waste Management Acts 1996, as amended.

A materials source and management plan showing the type of materials and the proportion of reused/recycled materials to be used shall be implemented by the developer.

If hazardous soil or hazardous waste is encountered during the work, the contractor must notify Dún Laoghaire Rathdown County Council, Environmental Enforcement Section and adhere to their disposal process.

A dedicated and secure compound will be established, containing bins and skips into which all waste generated by construction site activities will be collected. A single person will be responsible for providing signage and verbal instructions. They will also ensure records are kept and proper segregation of construction waste materials is adhered to.

For more details please refer to the Outline Construction and Demolition Waste Management Plan prepared and included in the planning submission.

## **12 Communications and Local Stakeholder Management**

The Contractor will, as required, liaise with owners of the local properties in advance of works commencing onsite. The Contractor will use a competent sign provider and all signage used will meet the requirements of the Safety, Health & Welfare at Work (General Applications) Regulations 2007 and Chapter 8 Traffic Signs Manual.

## **13 Construction Noise, Dust, Odour and Vibration**

The Main Contractor will be required to monitor noise, dust and vibration as will be outlined in the planning conditions. The Contractor will establish baselines for noise, dust, odour and vibration in advance of works commencing onsite. As part of their detailed construction management plan, the Contractor will be required to clearly indicate how they plan on monitoring noise, dust, odour and vibration throughout the course of the project. The Contractor will also be required to clearly outline the mitigation measures they plan on putting in place to ensure any breaches in the baselines are mitigated.

### **13.1 Air Monitoring**

The contractor will implement a programme of air quality monitoring at the site boundaries for the duration of the excavation and construction activities to ensure that the air quality standards as set out in The Air Quality Standards Regulations 2011 are not exceeded.

Locations of the monitoring will be selected by a suitably qualified air quality expert. Technical reports will be kept on site detailing the measurements recorded.

### **13.2 Noise Monitoring**

Baseline noise levels should be established before construction works commence. Stations will be installed and maintained to record the impact of the site activities on local residents.

Technical reports will be kept on site detailing the measurements recorded and an assessment of the noise impacts.

Appropriate measures should be implemented if the noise limits are exceeded or cause any adverse or unacceptable impact on the locality.

For more details please refer to the Construction and Demolition Waste Management Plan prepared and included in the planning submission.

## **14 Working Hours**

The proposed hours of work on site will be 07:00 hrs to 19:00 hrs Monday to Friday and 08:00 hrs to 16:30 hrs Saturday unless otherwise specified by planning conditions. It is anticipated that construction working hours will be stipulated in the planning conditions attached to the planning grant. Any working hours outside the normal construction working hours will be agreed with Dun Laoghaire-Rathdown County Council. The planning of such works will take consideration of sensitive receptors, in particular any nearby businesses and homes.

For more details please refer to the Outline Construction and Demolition Waste Management Plan prepared and included in the planning submission.

## **15 Lighting**

There are no proposals to alter the existing lighting arrangements in the area. It is not envisaged that any existing public lighting will need to be disconnected as a result of the proposed works. Appropriate lighting will be provided as necessary at construction compounds. All lighting will be installed so as to minimise light spillage from the site.

## **16 Construction Employment**

Construction employment numbers will vary depending on the construction stage of the project and the actual approach adopted by the Contractor. However, it is anticipated that at the peak of construction there may be a workforce of approximately 50 people employed (maximum).

## **17 Complaints**

The contractor must keep a record of all complaints made in relation to the construction works. A log must be kept detailing the following details:

- Name and address of complainant
- Time and date complaint was made
- Date, time and duration of noise
- Characteristics, such as rumble, clatters, intermittent, etc.
- Likely cause or source of noise
- Weather conditions, such as wind speed and direction
- Investigative and follow -up actions

A community Liaison Officer should be appointed as the single point of contact to engage with the community and respond to any concerns or issues made.