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Stage 1 Construction Management Plan

Proposed Residential Development at Sommerville, Dundrum, Dublin 14

Client: Eir

Job No. E037

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STAGE 1 CONSTRUCTION MANAGEMENT PLAN

PROPOSED RESIDENTIAL DEVELOPMENT AT SOMMERVILLE, DUNDRUM, DUBLIN 14

CONTENTS

File Location: J:\E_JOBS\Job-E037\B_Documents\C_Civil\A_CS Reports\CMP

Job Ref.	Author	Reviewed By	Authorised By	Issue Date	Rev. No.
E037	LJ	FB	NB	15.02.2022	P4
E037	FB	FB	NB	16.12.2021	P3
E037	LJ	FB	NB	24.11.2021	P2
E037	DR	DS	NB	04.03.2021	P1
E037	DR	DS	NB	19.02.2021	-

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1.0 INTRODUCTION

Cronin & Sutton Consulting (CS Consulting) have been commissioned by Eir to prepare a Stage 1 Construction Management Plan to accompany a planning application for a proposed strategic housing development at Sommerville, Dundrum, Dublin 14. The "Proposed Development" refers to the works outlined in section 4.0 of this document.

The Stage 1 Construction Management Plan includes a description of the proposed works and how these works will be managed for the duration of the works on site. This plan will be updated by the contractor and agreed with Dún Laoghaire-Rathdown County Council (by the appointed Contractor) in advance of the construction phase. This report is accompanied by a Construction Environmental Management Plan (by TMS) and a Construction & Demolition Waste Management Plan (by CS Consulting) which describe the proposed construction methodology in relation to environmental-specific and waste generation issues respectively.

The proposed development will be under the control of a main contractor who will be appointed after the approval is granted for the proposed development application. Upon appointment and once familiar with the site and having developed a final detailed methodology for the construction of the proposed development, the contractor will prepare a Detailed Construction Management Plan. The detailed plan will have regard to this plan and may be based on this plan. This outline construction management plan (CMP) is a preliminary plan which has been prepared to give an outline of the processes to be employed during construction of the proposed development. Prior to the on-site activities commencing, this plan will be revised by the contractor and expanded to provide a project-specific site management plan, incorporating:

- Operational Health & Safety (OH&S) Management Plan;

- Environmental management including provisions for waste management (as described in the Construction and Environmental Management Plan and Construction and Demolition Waste Management Plan). ;
- Pedestrian and Traffic Management Plan.

The Construction Management Plan will be integrated into and implemented throughout the construction phase of the proposed development 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 (as described in the Construction and Demolition Waste Management Plan).
- To ensure 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 Act 1996 (as amended) and the Protection of the Environment Act 2003. (as described in the Construction and Demolition Waste Management Plan).
- To manage and control any environmental impacts (noise, vibration, dust, water) that construction work activities may have on receptors and properties that are located adjacent to work areas adjacent to the proposed development and on the local receiving environment (as described in the Construction and Environmental Management Plan).
- To comply with planning conditions and requirements relating to construction management as required by Dún Laoghaire-Rathdown County Council.

The proposed Stage 1 Construction Management Plan has been prepared to demonstrate how the appointed contractor and the appointed Project Supervisors will comply with the following relevant legislation, and relevant Best Practice Guidelines:

- The Waste Framework Directive (Directive 2008/98/EC);
- Environmental Protection Agency Act 1992;
- Waste Management Act 1996 (as amended) and the Protection of the Environment Act 2003;
- Local Government Water Pollution Act 1977.

This Stage 1 Construction Management Plan presents the potential environmental impacts and proposed management and monitoring methodologies based on the concept of Best Practice and the proposed mitigation measures to be implemented at the site.

2.0 SITE LOCATION

2.1 Site Location

The site of the proposed development lies immediately east of Dundrum Road, approximately 750m to the north of Dundrum village centre in Dublin 14. The site has a total area of approx. 0.79ha and is located in the administrative jurisdiction of Dún Laoghaire-Rathdown County Council.

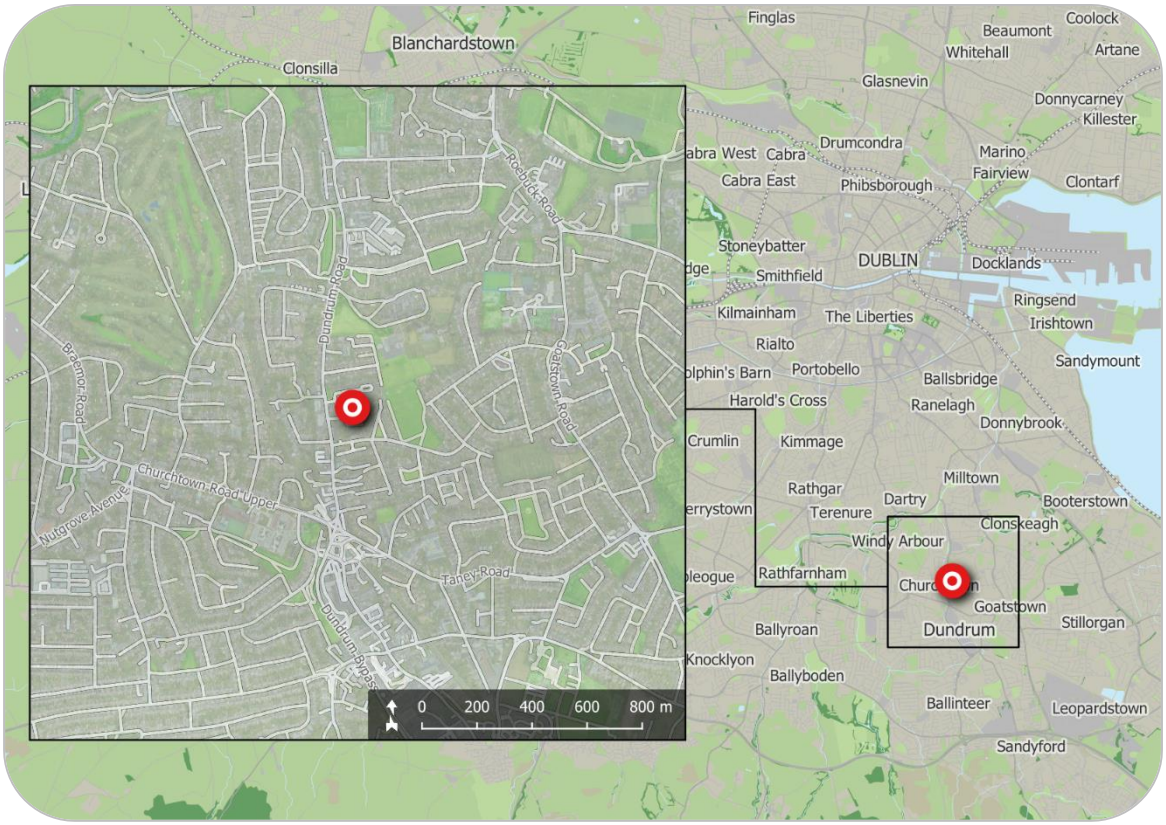

Figure 1 – Location of the proposed development site
(map data & imagery: EPA, OSi, OSM Contributors, Microsoft)

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 to the north, south and east by existing residential properties and to the west by the Dundrum Road.

Figure 2 – Elements of surrounding road network
(*map data & imagery: NTA, OSM Contributors, Google*)

3.0 EXISTING LAND USE

The subject development site is predominantly occupied by a part two-storey, part single storey telecommunications exchange, with associated surface car parking. There is a green border to the northern and eastern boundaries, and existing established trees to the eastern and southern boundaries.

4.0 PROJECT DESCRIPTION

The proposed development will consist of:

- Demolition of all structures on the site and site clearance works.
- The construction of 2 no. apartment blocks (Blocks A and B) providing 111 no. apartments in total (comprising 3 no. studios, 51 no. one bedroom units, 46 no. 2 bedroom / 4 person units and 11 no. 2 bedroom / 3 person units. Block A (Western block, fronting Dundrum Road) comprises a 6-storey block (5 levels over lower ground level / semi-basement) stepping down to the east to 4-storeys in height. Block B (Eastern block, towards the rear (east) of the site) is of part 2-, and part 3-storey height. The proposed development has a total gross floor area of 10,291 sq.m and provides; internal communal ancillary residential services / amenities to include a post room at lower ground floor level within Block A; a shared amenity / lounge (17.5 sq.m) and a storage room (11.8 sq.m) at second floor level within Block B.
- A semi-basement / lower ground floor level is provided in Block A that will be accessed via a vehicular ramped access/egress onto/off Sommerville Road to the north. This semi-basement provides two refuse stores; 39 no. car parking spaces (of which 10 no. spaces are fitted for Electric Vehicles and including 3 no. car club spaces); secure bicycle parking / storage in the form of 82 no. double stacked bicycle storage spaces providing 164 no. residents cycle parking spaces; 2 no. cargo bike storage areas; 3 no. motorcycle spaces; plant room (75 sq.m) and an ESB substation/switch room.
- At ground / surface level provision is made for 2 no. disabled car parking spaces (both fitted for Electric Vehicles) together with 56 no. short stay bicycle storage spaces in the form of 28 no. Sheffield stands and a further 3 no. Sheffield stands providing 6 no. long stay

bicycle spaces plus 2 no cargo storage bike spaces. An enclosed bin store is also provided at surface level to the north of Block B.

- Communal Outdoor Amenity space is provided for residents in the form of rooftop terraces located at 2nd floor level within Block A and B, respectively Application Form in respect of Strategic Housing Development Revised 5th Sept 2018 Page 9 of 31 (totalling 360 sq.m in area), and communal courtyard spaces at ground floor level between blocks (totalling 1,563 sq.m in area).
- Private amenity spaces are proposed in the form of patios / terraces at lower ground and ground floor levels with balconies serving apartments at the upper levels.
- Hard and soft landscaping works are proposed at ground floor level which includes the provision of footpaths; fire tender access and an informal play area for children.
- Provision of 4 no. rooftop telecommunications antennae (Block A) and an associated base station / cabinet that will be located within a designated comms room (approximately 13.6 sq.m) that is situated at lower ground floor level within Block A.
- Works proposed to the existing Sommerville and Dundrum Road junction include the provision of an uncontrolled pedestrian crossing (including dropped kerbs and tactile paving) and reduced junction radii to 6.0m.
- Works proposed at the site access road from Sommerville Road include the provision an uncontrolled pedestrian (to include dropped kerbs and tactile paving).

5.0 LOGISTICS

5.1 Construction Program & Phasing

Subject to a successful grant of planning, it is intended for the works to commence in Q4 2022. The proposed development is anticipated to be constructed over an 18 month period.

The development is proposed to be constructed on the following basis;

- Set up site perimeter hoarding, maintaining existing pedestrian and traffic routes around the site;
- Site Clearance and Demolitions;
- Reduced Level excavations;
- Site services installations (drainage, power, water and the like);
- Construct Building Frame and Envelope; and
- Finish Interior and Exterior Landscaping.

5.2 Vehicular Access to Site

The site is currently accessed from an entrance on the northern boundary to Sommerville. The existing vehicular access will be maintained and altered slightly as part of the development works. It is anticipated that for the duration of the works all access and egress for deliveries will be via the existing vehicle access from Sommerville. It is recommended that a pedestrian only entrance to the site should be installed onto Dundrum Road or Sommerville to segregate vehicular and pedestrian movements to and from site.

Security personnel will be present at the entrance/exit of the site to ensure all egressing traffic will do so safely. A wheel wash will be installed at the exit from the site to prevent any dirt being carried out into the public road.

If necessary, a road sweeper will be used to keep the public road around the site clean.

5.3 Protection of Public Areas from Construction Activity

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 for any time that these areas are not monitored (e.g. outside working hours).

The hoarding will be well-maintained and will be painted. Any hoardings may contain graphics portraying project information.

5.4 Site Security

The site will be secured with a hoarding.

The site hoarding will 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.

5.5 Material Hoisting & Movement Throughout the Site

Hoists and teleporters may be utilised as required during the project to facilitate material movement into the structures and waste movements out. With the commencement of the fit-out activities, hoists strategically positioned will play a key role for successful project delivery. They are also less susceptible to being affected by inclement weather conditions.

5.6 Deliveries & Storage Facilities

It is proposed that unloading bays are provided for deliveries to the site within the hoarding perimeter. They should be accessible by forklifts. Appropriately demarcated storage zones will be used to separate and segregate materials.

All deliveries to site will be scheduled to ensure their timely arrival and avoid need for storing large quantities of materials on site. Deliveries will be scheduled outside of rush traffic hours to avoid disturbance to pedestrian and vehicular traffic in the vicinity of the site. The existing layby on Dundrum Road maybe used for delivery set down.

5.7 Site Accommodation

On-site facilities will consist of;

- Materials storage area;
- Site office & meeting room;
- Staff welfare facilities i.e. toilets, drying room, canteen, etc.

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

Water supply to the site will be provided by means of a temporary connection to the public water main. Similarly, a temporary connection for foul water drainage will be made to the public network.

5.8 Site Parking

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

5.9 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 0700-1900, Monday to Friday, and 08:00 to 14:00 on Saturdays. It may be necessary for some construction operations to be undertaken outside these times subject to agreement with Dún Laoghaire Rathdown County Council, for example: service diversions and connections. 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.

6.0 TRAFFIC MANAGEMENT

6.1 Access to the Site

Construction traffic will access the site from the adjoining street network. The site is bound by the Dundrum Road which provides easy access to the M50 via a network of local distributor roads for deliveries and extraction to and from the site.

6.2 Vehicle Movements During Construction

The major construction items include excavation, construction and fit out. It is anticipated that the peak of HGV movements to and from the site will be during excavation works and construction of the building foundations and basement. The peak LGV movements to and from the site will be during the building construction and fit out. It is anticipated that the construction traffic impact on the surrounding local road network will be minimal. Refer to section 5.7 of the submitted Traffic and Transport Assessment for further details on Construction Stage Traffic Assessments.

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 layout and requirements herein.

- At no time should construction associated vehicles be stopped or parked along the routes.
- Haulage vehicles should not travel in convoys of greater than two vehicles at any time.
- Haulage vehicles should be spaced by a minimum of 250m at all times.
- Strictly at no time should haulage vehicles be parked or stopped at the entrance to the site.

- All loading of excess material will occur within the site boundary.
- All off-loading of deliveries will take place within the site, away from the public road and will access via the construction site access.

The routes to and from the site shall depend on where the excavated material will be taken to and from where construction material will be brought into the site. The above locations will be identified by the Contractor at a later stage and appropriate routes will be agreed with Dún Laoghaire-Rathdown County Council as part of the Contractors more detailed construction management plan.

The increase in traffic as a result of construction will be minor and can be readily accommodated within the existing road network. However, the site is located in a residential area where restricted road and junction space is shared with vulnerable road users and the flow of construction traffic will need to be marshalled and regulated to ensure that potential conflicts are avoided as much as possible. Security personnel will be present at the entrance/exit of the site to ensure all egressing traffic will do so safely and will pay cognisance to the presence of pedestrians crossing the existing Sommerville junction.

6.3 Minimise Construction Vehicle Movements

Construction vehicle movements will be minimized through:

- Consolidation of delivery loads to/from the site and manage large deliveries on site to occur outside of peak periods;
- Use of precast/prefabricated materials where possible;
- 'Cut' material generated by the construction works will be re-used on site where possible, through various accommodation works;
- Adequate storage space on site will be provided;
- A strategy will be developed to minimise construction material quantities as much as possible;

- Construction staff vehicle movements will also be minimised by promoting the use of public transport.

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

6.4 Public Transport

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

6.5 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 Dún Laoghaire-Rathdown County Council Roads & Traffic Department 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.

6.6 Project Specific Traffic Management Plan

A detailed project specific traffic management plan will be developed by the Contractor and agreed with Dún Laoghaire-Rathdown County Council prior to works commencing on site. This plan will be updated as required throughout the project.

Issues addressed in the Traffic Management Plan will include:

- Public safety;
- Construction traffic routes;
- Delivery schedule;
- Special deliveries (wide and long loads);
- Traffic flows;
- Signage and lighting;
- Road opening requirements;
- Road closures;
- Lighting.

7.0 PROVISIONS FOR CONSTRUCTION

7.1 Hoarding, Set-up of Site & Access/Egress Points

The site area will be enclosed with hoarding details of which are to be agreed with Dún Laoghaire-Rathdown County Council. Hoarding panels will be maintained and kept clean for the duration of the project.

This will involve erecting the hoarding around the proposed site perimeter in line with the finished development description.

7.2 Removal of Services

Prior to any works a utility survey will be carried out to identify existing services. All services on site will be disconnected, diverted or removed as agreed with service providers.

7.3 Site Clearance & Demolition

On the site there is an existing part one-storey, part two-storey telecommunications exchange. In initial decanting works will involve the removal of all electrical, server equipment and generators. A services strip out will remove exposed services. The building structure consists of a steel and concrete frame with brick/rendered blockwork cladding. The building will be demolished in a top-down form, and all foundations will be excavated. The remaining site consists mostly of green area space, an existing car parking.

The following is a high-level method statement for the site clearance and demolition of existing buildings:

- Establish a site set-up and welfare facilities;

- Carry out an invasive species survey using a qualified and approved surveyor;

- Carry out a detailed services survey of the site to identify all buried services, determine what services are live, redundant and potentially serve neighbouring properties. This survey is to be performed before any demolition is performed on site;

- Carry out any necessary services diversions and decommissioning works;

- Demolition will only take place following a full asbestos survey. Any materials identified as being hazardous will be removed and disposed of in strict accordance with the applicable legislation. All services will be disconnected and removed from the building along with a 'soft strip' of any fixtures, fittings and demountable non-load bearing structure. Demolition will be completed by appropriately experienced and skilled Contractors who will commence by removing the remaining roof. Where possible material will be removed by hand or by low impact equipment. Walls will be demolished by pulling them from the top down back into the site so as not to impact on adjoining lands. The existing slab and concrete foundations will be broken by excavators. All reinforced concrete will be partially processed on site to separate the steel from the concrete. All materials will either be fully separated on site and disposed of to the applicable landfills / processing facility or failing that material will be sent to a processing facility for separation. Relevant certification and documentation confirming the final separation and most environmentally friendly disposal will be available.

7.4 Excavation

This development will involve excavation and removal of material from site for foundations and regrading of the site profile.

Nearby historic borehole information (R2205/B84947) from Geological Survey Ireland indicate that bedrock was not encountered at a depth in excess of 5m. As such, it is not envisaged that rock will be encountered during the excavation works.

The Contractor must prepare a Construction Waste Management Plan in accordance with the current "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. It should be noted that the EPA has recently undergone public consultation on an updated draft of the "Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects" in April 2021 which would, should it be adopted, supersede the current 2006 guidelines. A Construction and Demolition Waste Management Plan has been prepared and submitted within the subject planning application which shall provide the basis for the Contractor's final Construction and Demolition Waste Management Plan. The Contractor must also outline detailed proposals within the Construction Management Plan to accommodate construction traffic.

7.5 Site Service Installations

Drainage, power, water and the like will be installed to serve the proposed development.

7.6 Construction Stage

Following on from site clearance and excavations, foundations will be laid, and the external building envelope and roof constructed. Reinforced concrete walls will form retaining elements to the east and south of the Lower Ground Floor. The building frame will most likely consist of load bearing masonry walls with reinforced concrete cores. Floors will likely be constructed using hollow core precast slabs overlaid with structural screed but with some localised elements of reinforced concrete slabs are also likely for transfer slabs and larger cantilevers.

Works to the façade will commence following partial completion of the external envelope. Once the buildings are weather sealed, the internal fit out and completion works will take place.

7.7 Superstructure

The construction of the superstructure will involve complex sequencing of activities and various construction methodologies could be adopted to deliver the Contract. It is envisaged that all buildings could be constructed as combination masonry and reinforced concrete frame subject to change in detailed design stages. The façades may consist of a typical rendered block 100mm thick outer leaf.

As noted, the construction methodology and therefore the programme of the construction activities will be dictated by the Contractor.

The following outlines a general construction sequence for the superstructure:

<u>Buildings Structure:</u>

- Construction of the foundation basement slab and permanent retaining wall structures in Block A;
- Construction of rising elements to ground floor and construction of ground floor slab in Block A;
- Construction of strip footings for Blocks B;
- Construction of 215mm masonry load bearing walls and any required reinforced concrete beams and columns;
- Installation of precast floor panels on load bearing walls;
- Installation of screed on precast floor panels.

Envelope / Cladding:

- Commencement of envelope works to ground floor when structure has progressed to approximately Level 2/3, with suitable temporary openings in the façade left for ease of transport of construction material;
- Advancing of external leaf two or three levels behind the structure

Mechanical & Electrical fit-out:

- First fix will commence at each level behind structure; and
- This will be followed by the second fix and the final connections

Fit-out:

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

Commissioning:

- The final commissioning period will commence during fit-out; and

- The above is an indicative construction sequence. The final sequence will be dictated by the Contractor. The Contractor must issue a detailed construction programme outlining the various stages prior to commencement of works.

Erection and operation of cranes

It is envisaged that two tower cranes will be temporarily erected to accommodate the construction works for the distribution of reinforcing steel, concrete skips, concrete formwork element and general building materials. The Contractor will need to obtain all necessary licences from the Local Authority. A "mast climber" maybe installed at some local areas to facilitate particular façade features. The mast climber is essentially a climbing platform that allows the user safely to access any level without the requirement for a full scaffold tower.