

Preliminary Construction Management Plan

Carmanhall Road Strategic Housing Development, Sandyford Industrial Estate, Dublin 18

Prepared for: Atlas GP Limited

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1.0 INTRODUCTION

Golder Associates Ireland Ltd (Golder) has been commissioned to prepare this preliminary Construction Management Plan (pCMP) on behalf of Atlas GP Ltd, as Developer and Applicant for the Carmanhall Road Strategic Housing Development (SHD; the 'Proposed Development), on lands located at the former Avid Technology International site on Carmanhall Road, Sandyford Industrial Estate, Dublin 18 ('the Site').

This pCMP is being prepared in accordance with the Dún Laoghaire-Rathdown County Development Plan 2016-2022 (DLRCDP), setting out the over-arching construction plan, layout and the sequencing of construction works for the Site, as well as any mitigation against the effects of the proposed construction.

The purpose of this pCMP is to outline the general activities required for the construction of the proposed development.

This pCMP is a 'live' document, which shall be updated by the Developer and the appointed construction contractor (Main Contractor) as the project is progressed. Ultimately, this pCMP will evolve into the finalised Construction Management Plan (CMP) prepared by the Main Contractor.

This pCMP sets out the typical arrangements and measures to be employed during the construction of the proposed development in order to ensure that the site is managed in a manner that minimises the impacts from the construction works to the local road networks and neighbouring residences and businesses. As a minimum, the following measures will be implemented:

- Working within the confines of the site boundary;
- Appropriate and proportionate traffic management;
- Maintaining site and road conditions to an acceptable standard;
- Implementing adequate environmental control measures;
- Maintaining good site housekeeping; and
- Ensuring a good neighbour policy, through the identification of potential impacts from the project along with appropriate mitigation measures, performance criteria and responsible persons.

2.0 SITE LOCATION AND DESCRIPTION

2.1 Site Location

The Site is located on the south-western corner of the intersection of Carmanhall Road and Blackthorn Road in the Sandyford Industrial Estate, Dublin 18 (as shown in Figure 1). The Site is located approximately 8.8 km south of Dublin City Centre.

The northern and eastern boundaries of the Site are delineated by Carmanhall Road and Blackthorn Road, respectively, with the site immediately south occupied by a four-storey office building. The site immediately west is occupied by a double storey office building. Vehicular access is provided in the north-western corner of the site via a crossover to Carmanhall Road. The site slopes from south to north towards Carmanhall Road.

The Site measures approximately 1.03 hectares and is brownfield land. The Site was formerly occupied by Avid Technology International, however the previous building has now been demolished and the Site is vacant.



Figure 1: Location and Application Boundary of the Proposed Carmanhall Road SHD

2.2 **Development Description**

The Proposed Development comprises the construction of a Build-To-Rent residential development within a new six to seventeen storey over basement level apartment building comprising 428 no. apartments 41 no. studio, 285 no. one-bedroom, 94 no. two-bedroom and 8 no. three-bedroom units. Of these apartments 413 no. will have access to private amenity space, in the form of a balcony or lawn/terrace, and 15 no. apartments will have access to a shared private roof terrace (142 m²) at ninth floor level.

All of the apartments will have access to ca. 2,600 m² of communal amenity space, spread over a courtyard at first floor level and roof terraces at the sixth, eighth and ninth floor levels. A residents' childcare facility will be located on the ground floor level. Further residents' amenities will include concierge/meeting rooms, office/co-working space, cinema, gym, yoga studio, laundry and café/lounge at ground floor level. The café/lounge will primarily serve the residents of the development and will be open for community use on a weekly/sessional basis.

The Proposed Development is served by a ground floor level carpark, accessible via new vehicular entrance from Carmanhall Road, providing a total of 145 no. vehicular parking spaces (including 8 no. mobility parking spaces, 2 no. club-car spaces and 44 no. electric charging spaces) and 5 no. motorcycle parking spaces. Bicycle parking, plant and storage is accommodated at basement level with 752 no. bicycle parking spaces. A further 22 no. residential short stay bicycle parking are provided at Ground Floor Level bringing the total bicycle parking provision for the development to 774 no. spaces.

The Proposed Development includes improvements to street frontages and the public realm of Carmanhall Road and Blackthorn Road comprising provision of an upgraded pedestrian footpath, an increased quantum of

landscaping and street-planting, new cycling infrastructure, the provision of new street furniture comprising bins, benches and cycle parking spaces and the upgrading of the existing Carmanhall Road and Blackthorn Road junction through provision of a new uncontrolled pedestrian crossing.

The site benefits from a previous planning permission for a student accommodation development with an overall gross floor area of 25,459 m² over one block which was proposed to be seven to nine storeys in height.

3.0 HEALTH AND SAFETY

Works at the Site are to be carried out in accordance with all relevant Health and Safety legislation, including the Safety, Health and Welfare at Work (Construction) Regulations 2013 (S.I. No. 291 of 2013).

A Construction Stage Health and Safety Plan shall be developed by the Main Contractor's Project Supervisor Construction Stage (PSCS). This will be a live document for the management of health and safety during proposed construction at the Site. The document will evolve as potential works progress at the Site and will change depending on hazards and risks associated with the works planned.

The PSCS will be an appropriately qualified and competent person or organisation appointed by Atlas GP Ltd and shall be responsible for conducting the relevant duties as required under the Safety, Health and Welfare at Work (Construction) Regulations.

The PSCS role shall include as a minimum:

- The identification of hazards, and coordinating the elimination of those hazards or the reduction of risks during construction;
- The development of a site-specific Construction Stage Health and Safety Plan in conjunction with the Project Supervisor Design Process (PSDP) prior to the commencement of construction works;
- Provide a site induction process for all staff and contractors;
- Coordination of contractor health and safety and the implementation of the Safety, Health and Welfare at Work (Construction) Regulations by site contractors;
- Reporting applicable accidents and incidents to the Health and Safety Authority (HSA);
- Providing notification to the HSA prior to the commencement of construction (development to be completed over a period of more than 30 working days);
- Regularly assess safe working procedures at the development and monitor the compliance of contractors., (this includes the use of Personal Protective Equipment on Site). Take corrective actions should nonconformances be identified;
- Implement relevant arrangements to ensure that applicable workers possess safety awareness card, e.g.
 Safe Pass, and a Construction Skills Certification Scheme (CSCS) card for relevant machine operators;
- Coordinate the appointment of a site safety representative where there are more than 20 persons on site; and
- Appoint a safety adviser where there are more than 100 persons on site.

Other PSCS duties and the duties for other relevant health and safety roles should be clearly defined in the Construction Stage Health and Safety Plan.

4.0 GENERAL SITE MANAGEMENT

This preliminary plan should be consulted and inform the final Construction Management Plan (CMP) for the Proposed Development, which will be developed and implemented by the appointed Main Contractor. The CMP will align with the requirements of the DLRCDP and will govern works during the course of the project's construction phase. The Main Contractor will be required to ensure the effective management of the construction activities according to the CMP.

The Main Contractor is required to conduct the works in line with best practice and all relevant legal obligations. These obligations include all relevant Health and Safety guidelines and legislation, and all planning authority requirements.

Elements of this pCMP may vary depending on the methods of the appointed Main Contractor, however the final CMP will be agreed with Dún Laoghaire-Rathdown County Council prior to the commencement of construction works.

4.1 Indicative Construction Programme

It is anticipated that the construction of the Proposed Development will be conducted in a single phase over a period of 24 months, from the commencement of the construction works to final completion. It is expected that a detailed Construction Programme will be prepared by the appointed Main Contractor for the works.

4.2 Sequencing of Works

The proposed sequencing of the construction phase of the Proposed Development is as follows:

- Initial set-up of Site, including security and construction compound;
- Identifying and locating above and below ground utilities and services at the Site and its surroundings;
- Removing limited on site vegetation;
- Site preparation, including the stripping of soils, tarmac/asphalt surfaces, segregation, stockpiling and export from site;
- Development of the Proposed Development's foundations and substructure. Activities at this stage include the use of rebar, concrete formwork and pour;
- Development of the Proposed Development's superstructure. Activities at this stage include the use of rebar, concrete formwork, pour and blockwork;
- Construction of the superstructure's external envelope and façade;
- Internal finishing, including the mechanical and electrical fit out; and
- External landscaping, including roof top gardens and perimeter planting.

4.3 Site Set-Up

A general condition survey of the existing roads and infrastructure will be completed prior to any work being carried out at the Site.

A construction compound will be established at the Site, underlain by hardcore fill, if required. This will likely be near the point of access/egress to the Site, outside the floor plan area of the Proposed Development. Given the proposed design footprint and the relatively small size of the Site, the construction compound will likely have to be moved and adjusted by the Main Contractor as works progress (an indicative location is identified on Figure 2). The construction compound will consist of:



- Office portacabins;
- Site welfare facilities;
- Secure storage for construction equipment;
- Storage areas for general construction materials; and
- Secure bunded storage for hazardous materials, such as limited quantities of oils and lubricants for vehicle maintenance. Significant quantities of fuels will not be stored on site. Equipment will be fuelled as required by mobile fuel tankers using a drip tray and a spill kit should be provided at refuelling points.

A stockpile storage area will be established for the storage of topsoil and other materials required for construction (indicative location included in Figure 2). Stockpiles should follow best practice guidelines as per HSA guidance or as approved by an engineer/suitably qualified person. A waste storage area with sufficient space to accommodate skips for differing waste streams will also be provided, in accordance with the requirements of the detailed CDWMP that has been prepared for the Proposed Development. Contaminated soils, if present, will be handled in accordance with the approach outlined in the CDWMP. If excavated contaminated soils are required to be stored on site pending removal then they will be placed in segregated stockpiles.

Car parking and visitor parking will initially be provided within the confines of the Site, adjacent to the construction compound. Carparking arrangements during the construction phase will be developed by the Main Contractor in their Construction Traffic Management Plan (CTMP). This plan should ensure that congestion on surrounding access roads and that on-street parking external to the Site is avoided.

4.4 Access and Egress

The main access and egress to the Site will be from the north-western corner of the site via a crossover to Carmanhall Road, as indicated on Figure 2. The existing pedestrian crossing adjacent to this entrance will be relocated. The existing pedestrian crossing is located west of the proposed site entrance and will be relocated to the east of the entrance.

The management of construction traffic within the Site and on the public road network around the Site is a critical part of the overall project and must be actively managed by the Main Contractor. The Main Contractor must submit a CTMP to the Local Authority for approval prior to commencement of works on site. The CTMP should include any recommendations made in the Traffic and Transport chapter of the Environmental Impact Assessment Report (EIAR). Haulage vehicle movements should be fully coordinated to comply with the requirements of the agreed plan. Likely requirements include:

- Segregation of pedestrians and vehicular traffic;
- 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 construction material will occur within the site boundary; and
- 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.



Figure 2: Construction Site Layout; Compound, Parking, Stockpiles and Access/Egress

4.5 Traffic Management

The Main Contractor will develop a detailed Construction Traffic Management Plan (CTMP) for the Proposed Development. This will support the plans and provisions in the CMP where construction activities interact with public roads or have the potential to interact with public roads.

Measures to be detailed in the CTMP include:

- Adherence to an agreed construction route it is proposed that all construction traffic accesses and exits the Site via the M50 Junction 14 – Drummartin Link Road – Blackthorn Drive – Carmanhall Road (and reverse);
- Installation of warning signs/advanced warning signs at appropriate locations;
- Use of appropriate speed limits; and
- Regular maintenance of all plant and vehicles to reduce risk of leaks or spills.

The CTMP will be developed in consultation with all relevant authorities and submitted to Dún Laoghaire-Rathdown County Council for approval prior to the commencement of the construction phase.

The CTMP will provide for the following additional matters, where required:

The Applicant and Main Contractor to maintain the condition of the local road during the construction works to the condition at the commencement of the works as a minimum;

- The Applicant shall at all times keep all public and private roads and footpaths entirely free of excavated materials, debris and rubbish, undertake road sweeping (as required) and thoroughly clean all wheels and arches of all vehicles as they leave the site;
- Proper designed and designated access and egress to the construction site to minimise impact on external traffic:
- Banksman and/or traffic lights will be used to control the exit of construction vehicles from the site onto the public road, if required; and
- Establishment and the maintenance of a HGV holding/set down area within the site.

Vehicle movements during construction will ultimately depend upon the construction approach, methodology and sequencing of the Main Contractor. Details of proposed vehicle movements during construction will be identified within the finalised CMP and CTMP which will be agreed with Dún Laoghaire-Rathdown County Council prior to the construction phase. At this current stage of the development process, a reasonable estimate of likely daily vehicle movements based on the size and scale of the development are:

- 50 daily LVs, (including private vehicle), 100 movements per day; and
- 60 daily HGVs, 120 movements per day.

4.6 **Working Hours**

In accordance with the DLRCDP, the proposed typical working hours would be:

- 08:00hrs to 19:00 hours Monday Friday; and
- 08:00hrs to 14:00 hours Saturday.

No work will be carried out on Sundays or bank holidays and the Site will remain secure when construction is not taking place. No work, or other activity that could reasonably be expected to cause annoyance to residents in the vicinity (including deliveries), will take place on site between 19:00 hours and 08:00 hours.

The above working hours are typical. Special construction operations, however, may be identified by the Main Contractor as the project progresses and may need to be carried out outside these hours in order to minimise disruption to the surrounding area. Dún Laoghaire-Rathdown County Council would be consulted regarding such construction operations in advance.

4.7 Site Security and Hoarding

The Main Contractor will be responsible for maintaining the security of the Site and restricting access to appropriate personnel only. Initial works on site will establish fencing and/or hoarding, as appropriate, along the Site's boundaries to secure the Site from unauthorised access.

Perimeter fencing/hoarding will be maintained and managed throughout construction to ensure it effectively excludes access to non-authorised persons and reduces the visual impacts of the development works.

As appropriate, and to be assessed by the Main Contractor, it may be necessary to establish a regime of security patrols and/or CCTV systems at the Site.

4.8 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.



4.9 Site Welfare Facilities

Site facilities will consist of temporary portacabins within the construction compound. Canteen facilities, including a potable water supply, will be provided within the site compound for the use of site workers. If temporary electrical or water supplies are needed, the Main Contractor will make the necessary applications for this.

Toilets will be provided for workers in the form of portaloos or a temporary welfare portacabin. The Main Contractor will establish a service contract with an appropriately qualified local contractor. These facilities will be serviced and maintained on a regular basis.

4.10 Waste

A separate, detailed Construction and Demolition Waste Management Plan (CDWMP) has been prepared for the Proposed Development, detailing how waste will be managed during the construction phase of the development.

The CDWMP includes specific information regarding the management of waste associated with the removal of asbestos cement watermains identified beneath the Site. All asbestos containing materials will be handled in accordance with the relevant legislation and best practice guidance.

4.11 Cranes

The Main Contractor will be responsible for the safe management of crane operations at the Site. The use and management of craning operations will be restricted to only trained personnel and operators. Only trained employees shall act as signaller/banksman for crane operators.

Work method statements shall be prepared for crane lifting operations in order to help reduce the risk of incident. Relevant certificates of testing and examination will be retained by the Main Contractor for all lifting equipment (both lifting device and rigging equipment, e.g. slings/wire ropes).

The work area will be inspected by the operator prior to setting up cranes and lifting equipment to ascertain the location of any overhead cables, services or structures (including scaffolds) in the lift area, as well as other site operations.

All appropriate licences and consents will be in place before the erection and use of any crane.

5.0 CONSTRUCTION ACTIVITIES

5.1 Site Clearance and Preparation

Prior to the commencement of works, the Main Contractor will survey the exact locations of all services on site. This includes both overhead and buried services. All services are to be indicated on a services plan and appropriately delineated and protected during all works in the interests of health and safety and disruption to the local utility networks.

A volume of soil will be generated during the site clearance and construction stage of this project. In order minimise excess material arising from excavation, the following principles will be considered during the detail design and construction phase:

- The quantity of excavated materials to be removed from or imported to the site will be minimised by establishing a level for the proposed building which optimises the volume of cut and fill;
- Waste should be designed out, where possible;
- Re-use and recycling on site of concrete block and timber cut offs is promoted during construction stage;

- Careful separation of builder's rubble packaging and contaminated waste from re-usable material will result in the minimisation of the disposal of material to landfill; and
- If surplus subsoil is excavated from the site, it will be reviewed for possible reuse as engineering fill on adjoining or other construction sites within the region in accordance with the waste management legislation as required.

Topsoil shall be stored in designated stockpiles. All soil arisings from foundation excavations shall, where possible, be retained on site for landscaping purposes. Where soil is to be removed offsite, it shall be moved in accordance with the requirements of Irish waste legislation for appropriate reuse, recovery or disposal to authorised and approved sites/facilities. Where soil is considered a waste, all waste movements from site must be carried out by hauliers with current waste collect permits.

5.2 Construction - Substructure and Superstructure

The Proposed Development is subject to detailed design, but will likely be constructed using conventional methods, i.e. bottom up, starting with the substructure (foundations and basement), followed by the superstructure.

The substructure will likely be constructed using reinforced concrete in a Pad and Column design, with options for excavation and piling to be evaluated and determined during the detailed design process.

The Main Contractor appointed will be responsible for ensuring that the sequence of construction works can be delivered in a logistically sensible and safe way at the Site. The Main Contractor will manage how site activities (including access/egress, deliveries and traffic management) will be coordinated in conjunction with the various construction events occurring at any given time.

The Main Contractor will ensure that the Proposed Development will be constructed in accordance with current building regulations and certified by an appropriated qualified engineer during and after construction.

5.3 Proposed Development – Service Connections

As part of the Proposed Development, foul water and surface water drainage systems will be constructed to collect and convey the water flow generated by the residential units to the public wastewater collection system. A potable water connection with the watermain will also be established.

The construction sequencing in the final CMP will allow for the installation of these services and incorporate specific measures to mitigate the potential impact on access/egress, deliveries and traffic management.

The sequence of these works will be agreed with all relevant stakeholders prior to the commencement of works; including Dún Laoghaire-Rathdown County Council, Transport Infrastructure Ireland, Irish Water and all relevant neighbouring businesses and residents who may be affected.

5.4 Site Completion and Handover

Landscaping works shall be conducted in accordance with the approved landscaping designs and schedules for the Proposed Development. Topsoil generated from stripping on site shall be used in the landscaping of the development, however, should imported topsoil be required then this material shall be clean and free from physical and chemical contamination.

All internal roads will be kerbed and surfaced with tarmacadam/asphalt finish. The internal road design details shall be as per the engineering design for the Proposed Development. All other utility infrastructure for power, foul and water is to be fully connected and operational prior to site completion.

6.0 ENVIRONMENTAL CONTROL & MANAGEMENT

6.1 Development of Site-Specific Construction Environmental Management Plan

A Construction Environmental Management Plan (CEMP) has been developed for the Proposed Development.

The aim of the CEMP is to define the organisation structure, responsibilities, practices, procedures, processes and resource to allow the management of the construction of the development in general accordance with ISO14001 (EMS) Standard. The CEMP outlines the Developer's and the Main Contractor's intention to avoid, wherever practicable, environmental risk; to reduce consumption of resources; to restrict the production of waste; and to promote good relationships with interested parties and the general public.

The CEMP should be considered as a living document that will be updated according to changing circumstances on the project and to reflect current construction activities. The CEMP can be used to develop method statements for specific components of work.

The Main Contractor will be responsible for ensuring that the contents of the CEMP are satisfactorily circulated and explained to relevant staff for implementation during construction.

6.2 Good Neighbour Policy

A Good Neighbour Policy will be implemented during all phases of the development works. This policy will be developed over the course of the development so that it is tailored and meets the specific requirements of the neighbours in question. Some aspects of this policy will include:

- Close liaison with neighbours throughout the period of construction work,
- Noisy operations will be planned and carried out during limited periods during which the impact on neighbours will be reduced; and
- Protective sheeting will be used in conjunction with the scaffolding to provide additional protection to neighbouring properties from dust and debris.

6.3 Air Quality and Dust Control

Construction dust can be generated from many on-site activities, such as excavation and backfilling. The extent of dust generation will depend on the type of activity undertaken, the location and the nature of the dust (e.g. soil or sand). In addition, dust dispersion is influenced by external factors such as wind speed and direction, and/or periods of dry weather. Construction traffic movements also have the potential to generate dust. Loose soils and unpaved vehicle access routes can contribute to dust generation and affect local air quality, impact on fauna and flora and reduce residential amenity. The generation of dust from the site can be a major nuisance to local activities as well as creating unacceptable working conditions.

The site-specific CEMP will document the provisions for the effective management of air quality and dust impacts from the construction of the proposed development. The key measures which shall be incorporated in addressing this issue will include:

- Communication and education of site workers on the air quality and dust controls and procedures through a site induction programme and by means of Toolbox Talks;
- A water tanker will be employed, if required, to dampen work areas, exposed soils and any unpaved access
 routes to prevent the emission of excessive dust from the Site;
- Limit dust blow from stockpiles or disturbed areas by providing cover, mulch or rapidly re-vegetate areas where practicable to minimise wind erosion, and install mitigation devices to reduce the transfer of spoil and dust;



- Ensure that all equipment used and all facilities erected on site are designed, operated and maintained to control the emission of dust, fumes and any other air impurity into the atmosphere;
- All access roads shall be surfaced in selected materials mud stone, clay stone and shale stone shall not be used;
- Trafficable areas shall be clearly defined by guide-posts or other suitable barriers to prevent unnecessary vehicle movement onto other areas;
- If required, trucks transporting material from the Site shall be covered immediately after loading to prevent wind-blown dust emissions and spillages. The covering must be maintained until immediately before unloading the trucks;
- The tailgates of all trucks leaving the premises must be securely fixed prior to loading or immediately after unloading to prevent loss of materials;
- All construction equipment will be maintained to ensure exhaust emissions comply with the relevant air quality regulations;
- No fires of any kind shall be ignited; and
- All waste material will be removed from the site in a manner described in the CDWMP.

6.4 Noise and Vibration Control

The CEMP shall consider the effects of noise and vibration disturbance to the local community. The plan shall identify the nearest noise sensitive receptors (NSRs) and commit to the mitigation and management noise.

Noise will be generated on the project site during construction by vehicle movements, generators, heavy machinery (e.g. excavators and loaders) and hand-held machinery and tools. Some vehicle noise may be generated by vehicles using transport routes to and from the Site.

Measures to reduce potential noise impacts will include:

- Communication and education of site workers on the noise and vibration controls and procedures through a site induction programme and by means of Toolbox Talks;
- Site activities will only take place during the hours of 08:00 and 19:00 Monday to Friday and 08:00 to 14:00 on Saturdays. There will be no activities on Sundays or Public Holidays;
- As appropriate, hoarding will be constructed along site boundaries to maximise noise reduction;
- All haul roads to be kept clean and maintained in a good state of repair;
- Heavy goods vehicles entering and leaving the existing the Site will have tailgates securely fastened;
- Plant will be operated in a proper manner with respect to minimising noise emissions, e.g. minimisation of drop heights, no unnecessary revving of engines, plant used intermittently not left idling;
- All mobile plant used at the Site will have noise emission levels that comply with relevant guidance;
- Plant will be subject to regular maintenance, i.e. all moving parts kept well lubricated, the integrity of silencers and acoustic hoods maintained;
- Plant will be fitted with effective exhaust silencers and maintained in good working order to meet manufacturers' noise rating levels. Defective silencers will be replaced; and
- A complaints register will be created as appropriate if complaints are received.

6.5 Water Management

Shallow groundwater may be encountered during the construction works in particular the basement excavation. Collected surface waters will also accumulate at the site that will require appropriate management. Where water must be pumped from the excavations, water will be managed in an in accordance with best practice standards (i.e., CIRIA – C750) and regulatory consents.

It is anticipated the construction water will be disposed to foul sewer. Disposal to sewer will require, a consent/licence issued under Section 16 of the Local Government (Water Pollution) Acts and Regulations and must be obtained from Irish Water.

A monitoring programme will be implemented to ensure that water quality criteria set out in the discharge licence are achieved prior to discharging to the sewer.





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