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Stage 1 Construction Management Plan

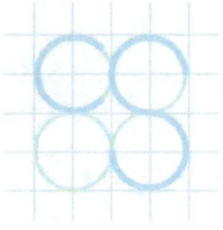
Origo Warehouse Extension

Magna Business Park, Dublin 24

Client: Origo Ltd

Job No. C031

August 2022



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STAGE 1 CONSTRUCTION MANAGEMENT PLAN

ORIGO WAREHOUSE EXTENSION, MAGNA BUSINESS PARK, DUBLIN 24

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1.0 INTRODUCTION

Cronin & Sutton Consulting (CS Consulting) have been commissioned by Origo Ltd to prepare a Stage 1 Construction Management Plan to accompany a planning application for a warehouse extension development at Magna Drive, Magna Business Park, Dublin 24.

The Stage 1 Construction Management Plan includes a description of the proposed works and how these works shall be managed for the duration of the works on site. This plan shall be updated by the contractor and agreed with South Dublin County Council (by the appointed contractor) in advance of the construction phase.

The project shall be under the control of a main contractor who shall be appointed after the approval is granted for the Project Application. Upon appointment and once familiar with the site and having developed a final detailed methodology for the construction of the development project, the contractor shall prepare a 'Detailed Construction Management Plan'. It is anticipated that the contractor's detailed plan shall be based upon the stage 1 plan contained herein. The stage 1 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 this project. Prior to the on-site activities commencing, this plan shall therefore be reviewed and revised by the contractor and expanded to provide a project specific site management plan based on the contractor's preferred construction methodology, incorporating:

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

The Construction Management Plan shall be integrated into the contractor's construction methodology and implemented throughout the construction phase of the project to ensure:

- That all site activities are effectively managed to minimise the generation of waste and to maximise the opportunities for on-site reuse and recycling of waste materials,
- That all waste materials generated by site activities, which 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, the Waste Management (Amendment) Act 2001 and the Protection of the Environment Act 2003,
- The appropriate management and control of any environmental impacts (noise, vibration, dust, water) that project construction and work activities may have on people, properties and the environment adjacent to project work area.

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

- Integrated Pollution Prevention and Control Directive (1996/61/EC);
- The Waste Framework Directive (Directive 2008/98/EC);
- Environmental Protection Agency Act 1992;
- Waste Management Act 1996, the Waste Management (Amendment) Act 2001 and the Protection of the Environment Act 2003;
- Waste Management (Collection Permit) (Amendment)(No.2) Regulations 2016;

- Waste Management (Permit) Regulations 1998 (SI No. 165 of 1998);
- Department of the Environment, Heritage and Local Government – Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects – June 2006;
- 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 AND PROPOSED DEVELOPMENT

2.1 Site Location

The proposed development site is located at the existing Origo Warehouse building, Magna Drive, Magna Business Park, Dublin 24. The site is located in the administrative jurisdiction of South Dublin County Council. The development area subject to the extension is greenfield land.

The development shall include the extension of an existing warehouse by approximately 1,685sqm, and the addition of 1no. loading dock, extension of existing loading yard and upgrade of 11no. parking spaces for E.V charging, 2 spaces to accessible parking spaces, and the addition of 35no. covered bicycle parking spaces all on a site of approximately 1.6 hectares in the townland of Fortunestown

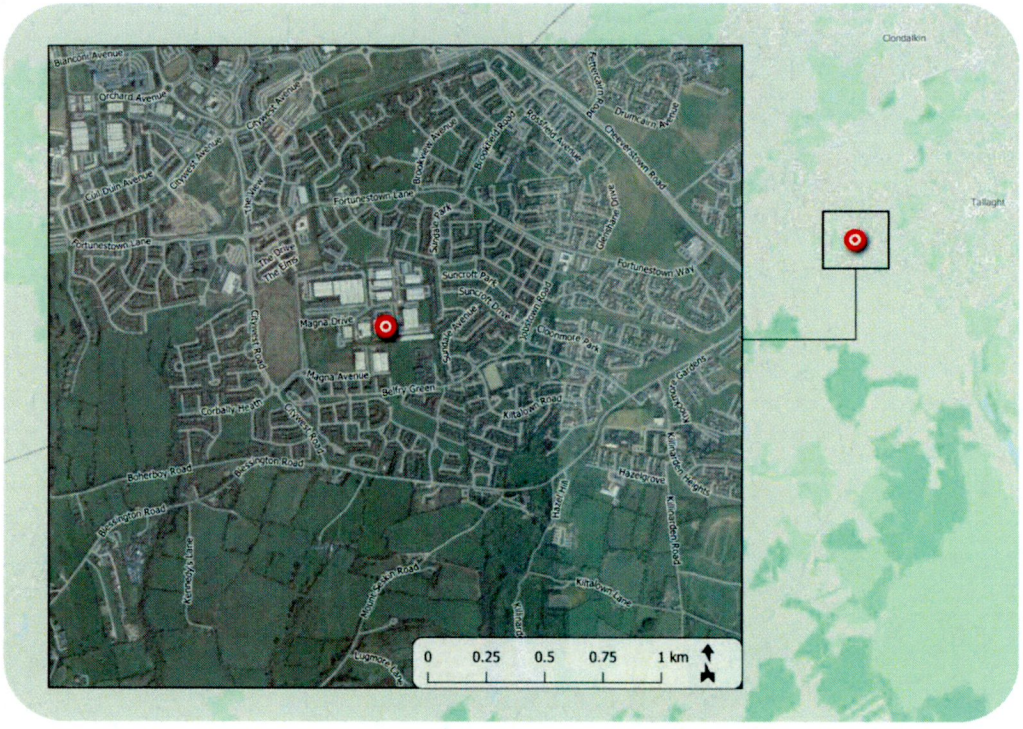

Figure 1 – Site location
(map data: EPA, NTA, OSM Contributors)

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.

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

2.2 Proposed Development

The development shall include the extension of an existing warehouse by approximately 1,685sqm, and the addition of 1no. loading dock, extension of existing loading yard and upgrade of 11no. parking spaces for E.V charging, 2 spaces to accessible parking spaces, and the addition of 35no. covered bicycle parking spaces all on a site of approximately 1.6 hectares in the townland of Fortunestown

3.0 LOGISTICS

3.1 Construction Program & Phasing

Subject to a successful grant of planning, it is intended for the works to commence in Q4 2020. The proposed development is anticipated to be constructed over an approximate 20 to 24 month period.

The proposed development shall be constructed on the following basis:

- Secure access to site, including the setting-up of site perimeter hoarding as necessary, whilst maintaining existing pedestrian and traffic routes around the site,
- Site clearance,
- Excavation,
- Site services installations (drainage, power, water etc),
- Construct building frame and envelope, and lastly
- Finish interior and undertake exterior landscaping

It is noted that several of these broad works packages may overlap or exist concurrently.

3.2 Vehicular Access to Site

The site is currently accessed from Magna Drive in the Magna Business Park. The current existing vehicular access shall be used for the construction of the extension works. It is anticipated that for the duration of the works all access and egress for deliveries shall be from the N81 interchange with the N82 to the south via Magna Drive. There is an existing pedestrian only entrance to the site to segregate vehicular and pedestrian movements to and from site and this shall be maintained during the construction works.

Figure 3 – Construction Access to road network
(map data & imagery sources: NTA, OSM Contributors, Google)

The contractor shall engage with SDCC to ensure that all non-standard or oversized deliveries and temporary diversions if necessary can be carried out in a manner that ensures local access is maintained. Security personnel shall be present at the entrance/ exit of the site to ensure all egressing traffic shall do so safely.

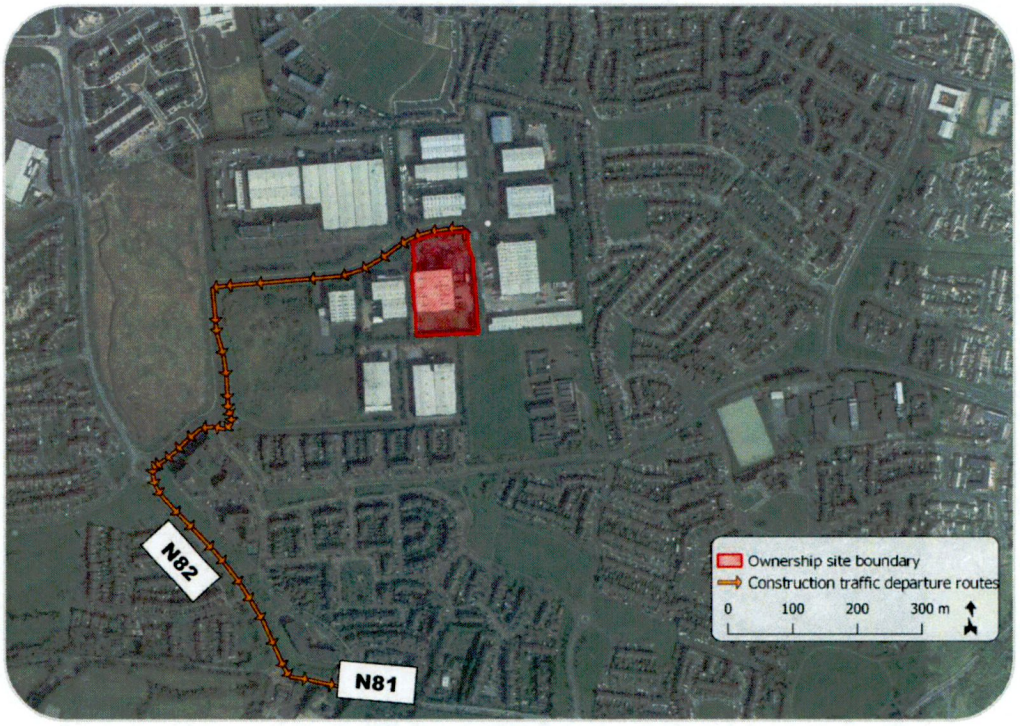

Figure 4 – Construction Egress to Road Network
(map data & imagery sources: NTA, OSM Contributors, Google)

The contractor shall ensure that wheel wash facilities or equivalent measures are installed at the exit from the area of siteworks to prevent any dirt from site being carried out into the public road. If necessary, a road sweeper shall be used to keep the public road around the site clean.

3.3 Protection of Public Areas from Construction Activity

Perimeter hoarding shall be provided around exposed sections of the site to provide a barrier against unauthorized access from adjacent public areas. The hoarding shall be well-maintained and shall be painted. Any hoardings may contain graphics portraying project information etc.

Controlled access points to the siteworks, in the form of gates, turnstiles, or doors, shall be kept locked during any period that these access points are not monitored (e.g. outside working hours).

3.4 Site Security

The site shall be secured with a hoarding.

The site hoarding shall be branded using the appointed contractors logos etc. Some marketing images or information boards may also be placed on the hoarding.

Access to site shall be controlled and monitored outside of site working hours.

All personnel working on site must have a valid Safe Pass card.

3.5 Material Hoisting & Movement Throughout the Site

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

3.6 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 shall be used to separate and segregate materials.

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

3.7 Site Accommodation

On-site facilities shall consist of;

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

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

Water supply to the site shall be provided by means of a temporary connection to the existing site's water main. Similarly, a temporary connection for foul water drainage shall be made to the existing private network of the development site, if necessary. The contractor shall agree all such details with the relevant service providers.

3.8 Site Parking

Due to the location and restricted nature of the site, it is not envisaged that on-site parking shall be limited. Construction staff shall be encouraged to use public transport and information on local transportation should be published on site.

3.9 Site Working Hours

Construction operations on site shall 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 shall generally be between the hours of 07:00 and 18:00, Monday to Friday, and 08:00 to 14:00 on Saturdays. There may be occasions where it is necessary to make certain deliveries outside these

times, for example, where large loads are limited to road usage outside peak times.

4.0 ENVIRONMENTAL ISSUES

4.1 Noise

The contractor shall be required to keep noise levels at the site location to a minimum. Variation of noise levels from those experienced as part of everyday life in an area can result in extreme disruption.

The contractor shall implement measures to eliminate noise above background levels where possible and minimise additional noise where elimination is not practical.

All construction activities shall be carried out in compliance with the recommendations of BS 5228, *Noise Control on Construction and Open Sites: Part 1* and comply with BS 6187 *Code of Practice for Demolition*, or such further limits as imposed by South Dublin County Council as conditions to the granting of planning.

4.2 Vibration

The contractor shall be required to carry out their works such that the effect of vibration on the adjoining buildings and surroundings is minimised and does not cause any damage.

The contractor shall be required to comply with the requirements of the planning permission for any vibration limits for the works. In the absence of any Local Authority requirements, the table below shall set the limitations:

Table 1 – Trigger values for vibration

Trigger Level	Peak Particle Velocity (PPV)	
	50Hz and below	Above 50Hz
1	10 mm/s	10 mm/s
2	10 mm/s	12 mm/s
3	10 mm/s	15mm/s

Background vibrations shall be established prior to commencement.

Condition surveys of adjoining buildings shall be required before excavations commence. Vibrations shall be monitored in accordance with BS 7385-1:1990 "Evaluation and Measurement for Vibration in Buildings", with a limit as noted above.

The contractor shall implement measures to eliminate vibration above background levels where possible and minimise additional vibration levels where elimination is not practical.

4.3 Air Quality & Dust Monitoring

Dust prevention measures shall be included for control of any site airborne particulate pollution. The contractor shall keep dust levels to a minimum in the vicinity of the site in accordance with planning conditions.

4.4 Migrating Dust & Dirt Pollution

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

- Ensuring construction vehicles have a clean surface to travel on within the site (i.e. haul road).
- Providing a "Full-Body Self Contained" wheel wash, constructed and located within the site confines.
- Ensuring an appropriate wheel or road washing facility is provided as and when required throughout the various stages of construction on site. If conditions require it then a manned power washer shall be put in place to assist the wheel wash system.
- A dedicated road sweeper shall be retained for the duration of the haulage works; and Water supplies shall be recycled for use in the wheel wash. All waters shall be drained through appropriate filter material prior to discharge from the site.

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

4.5 Harmful Materials

Harmful material shall be stored on site for use in connection with the construction works only. These materials (if any) shall be stored in a controlled manner, in strict accordance with the manufacturers specifications. Where on-site facilities are used there shall be a bunded filling area using double bunded steel tank at a minimum.

5.0 CONTENTS OF CONTRACTORS CONSTRUCTION MANAGEMENT PLAN

5.1 Temporary Signage

The contractor is required to provide appropriate signage which must conform to the requirements of Chapter 8 of the Traffic Signs Manual.

5.2 Temporary Road Markings

The Construction Management Plan shall include proposals for any proposed Temporary Road Markings. These markings must conform to the requirements of Chapter 8 of the Traffic Signs Manual.

5.3 Operation of a Contra Flow

Any contractor proposals to operate a temporary Contra Flow system must be agreed with the local authority.

5.4 Temporary Road Closure

Any proposals should conform to the requirements of Chapter 8 of the Traffic Signs Manual.

Any road closure can only be operated under agreement with the Local Authority.

5.5 Temporary Traffic Signals

There are no proposals to operate Temporary Traffic Light Signals. Any proposals should conform to the requirements of Chapter 8 of the Traffic Signs Manual.

5.6 Arrangements for Local Access, Pedestrian and Cyclist Access

There are no proposals to alter the existing local access to the surrounding areas. The temporary hoarding along the siteworks perimeter shall necessitate the erection of temporary signage.

5.7 Proposed Lighting Arrangements

There are no proposals to alter the existing lighting arrangements in the area. Any proposals to alter existing lighting arrangements can only be carried out under agreement with the Local Authority. Adequate lighting should be provided within the temporary hoarded walkway.

5.8 Proposed Use of Flag Men

The use of Flag Men/Banks Men is to be incorporated into the Construction Management Plan to direct vehicles accessing/egressing the site via Magna Drive. This requirement shall be on a permanent basis during site opening times regardless of traffic movements. The method of control for access/egress traffic shall be by means of a "stop/go" board.

5.9 Proposed Use of Barriers

The use of barriers is to be referred to in the Traffic Management Plan and the details of which are laid out in accordance with Chapter 8 of the Traffic Signs manual.

6.0 TRAFFIC MANAGEMENT

6.1 Access to the Site

Construction traffic shall access the site from the adjoining street network. Magna Drive, the N82 and the N81 carriageways to the south shall provide access for deliveries and extraction to and from the site.

6.2 Indicative Construction Access Route

The contractor must submit a *finalised* Construction Traffic Management Plan to the Local Authority for approval. Haulage vehicles 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.

6.3 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 shall be during excavation works and construction of the building foundations. The peak LGV movements to and from the site shall be during the building construction and fit out. It is anticipated that the construction traffic impact on the surrounding local road network shall be minimal.

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 shall occur within the site boundary;
- All off-loading of deliveries shall take place on site, away from the public road.

The routes to and from the site shall depend on where the excavated material shall be taken to and from where construction material shall be brought into the site. The above locations shall be identified by the contractor at a later stage and appropriate routes shall be agreed with South Dublin County Council as part of the contractors more detailed construction management plan.

6.4 Minimise Construction Vehicle Movements

Construction vehicle movements shall 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 shall be re-used on site where possible, through various accommodation works;

- Adequate storage space on site shall be provided;
- A strategy shall be developed to minimise construction material quantities as much as possible;
- Construction staff vehicle movements shall also be minimised by promoting the use of public transport.

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

6.4.1 Public Transport

Construction staff shall be encouraged to use public transport as means to travel to and from the site. An information leaflet shall 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.

6.4.2 Cycling

Cycle parking spaces shall be provided on the site for construction staff, in addition lockers may be provided to allow cyclists to store their clothes.

6.5 Public Roads

The following steps shall be taken to ensure the surrounding roads are kept clean during construction.

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

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

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

- A regular program of site tidying shall be established to ensure a safe and orderly site;
- Scaffolding shall have debris netting attached to prevent materials and equipment being scattered by the wind;
- Food waste shall be strictly controlled on all parts of the site;
- Mud spillages on roads and footpaths outside the site shall be cleaned regularly and shall not be allowed to accumulate;
- Wheel wash facilities shall be provided for vehicles exiting the site;
- In the event of any fugitive solid waste escaping the site, it shall be collected immediately and removed.

6.6 Project Specific Traffic Management Plan

A detailed project specific traffic management plan shall be developed by the contractor and agreed with South Dublin County Council prior to works commencing on site. This plan shall be updated as required throughout the project.

Issues addressed in the Traffic Management Plan shall include:

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

- Lighting.

6.7 Public notices

Information on proposed temporary traffic management measures, including potential delay times, locations and duration shall be announced in advance using various media outlets.

6.8 Special Events

The contractor shall ensure that the programme and the construction stage traffic management plan is cognisant of and flexible to accommodate traffic spikes associated with planned major events in area.

It must be noted that An Garda Síochána and South Dublin County Council reserve the right to modify remove or postpone the implementation of a particular construction stage traffic management system if deemed necessary.

7.0 PROVISIONS FOR CONSTRUCTION

7.1 Extent of Works

The construction works shall involve an indicative sequence of works, with a brief description outlined below.

The contractor shall clearly outline works which impact public spaces within the Construction Management Plan that shall be submitted and agreed with South Dublin County Council prior to undertaking works on site.

7.2 Removal of Services

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

7.3 Hoarding, Site Set-Up and Formation of Site Access / Egress points

The site area shall be enclosed with hoarding details of which are to be agreed with SDCC. Hoardings panels shall be maintained and kept clean for the duration of the project.

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

The restricted confines of the site may require the contractor to set up a Construction Staging Area outside of the main works area. This off-site facility should be suitably located to allow efficient delivery of materials and personnel to site. A "Just in Time" approach shall be required for the delivery of building materials such as concrete formwork and reinforcement cages for the piles. The location of this facility should be highlighted within the appointed main contractor's Construction Management Plan.

The contractor shall be responsible for the security of the site. The contractor shall be required to;

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

7.4 Excavation

This development shall involve a bulk excavation and removal of material during the construction of the building foundations.

The Contractor shall prepare a Construction 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.

The strategy for controlling and mitigating potential adverse environmental impacts during construction excavation shall also include the following, as appropriate:

- If required, sampling and testing of excavated spoil in order to assess the suitability of materials for reuse on site.
- Dust suppression from soils by the regular use of water sprays during any dry conditions, sheeting of haulage vehicle loads.

- Should invasive weeds be found, they will be treated as controlled waste and disposed of off- site at a landfill site that is licensed to receive such material.

7.5 Site Service Installations

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

7.6 Construction Sequence of Substructure and Superstructure

The existing warehouse facility is a portal frame structure. It is anticipated that sub structure to the extension shall be traditional strip foundations, reinforced ground beams and concrete floor slabs.

The steel portal frame from ground level can then be erected in one continuous phase as all concrete stabilizing elements shall be in place.

Once the steel portal frame erection works for each rise are completed, the profiled metal envelope/cladding can follow.

On completion of the above the following can then take place:

- Mechanical & Electrical fit-out:
- Internal Fit-out and completion of finishes.
- Commissioning

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

It is envisaged that one tower crane shall be temporarily erected to accommodate the construction works for the distribution of steel, concrete

skips, construction formwork elements and general building materials. The contractor shall need to obtain all necessary licences from the Local Authority.

A mast climber, a climbing platform that allows the user safely to access without the requirement for a full scaffold tower, may be employed.

8.0 CONCLUSION

This Stage 1 Construction Management plan identifies an indicative sequence of the works from the initial enabling works through to sub-structure and superstructure construction.

It is noted that this can only be considered an outline plan and the final Construction Management Plan would be agreed with South Dublin County Council (by the appointed Main contractor) prior to construction commencing.

The Construction Management Plan defines the physical and legal limitations within which a person or persons can carry out development works that affect the existing nature of public roads, footpaths and the surrounding environment for a duration of time.