CS CONSULTING

GROUP

DUBLIN | LONDON | LIMERICK

Outline Construction and Environmental Management Plan

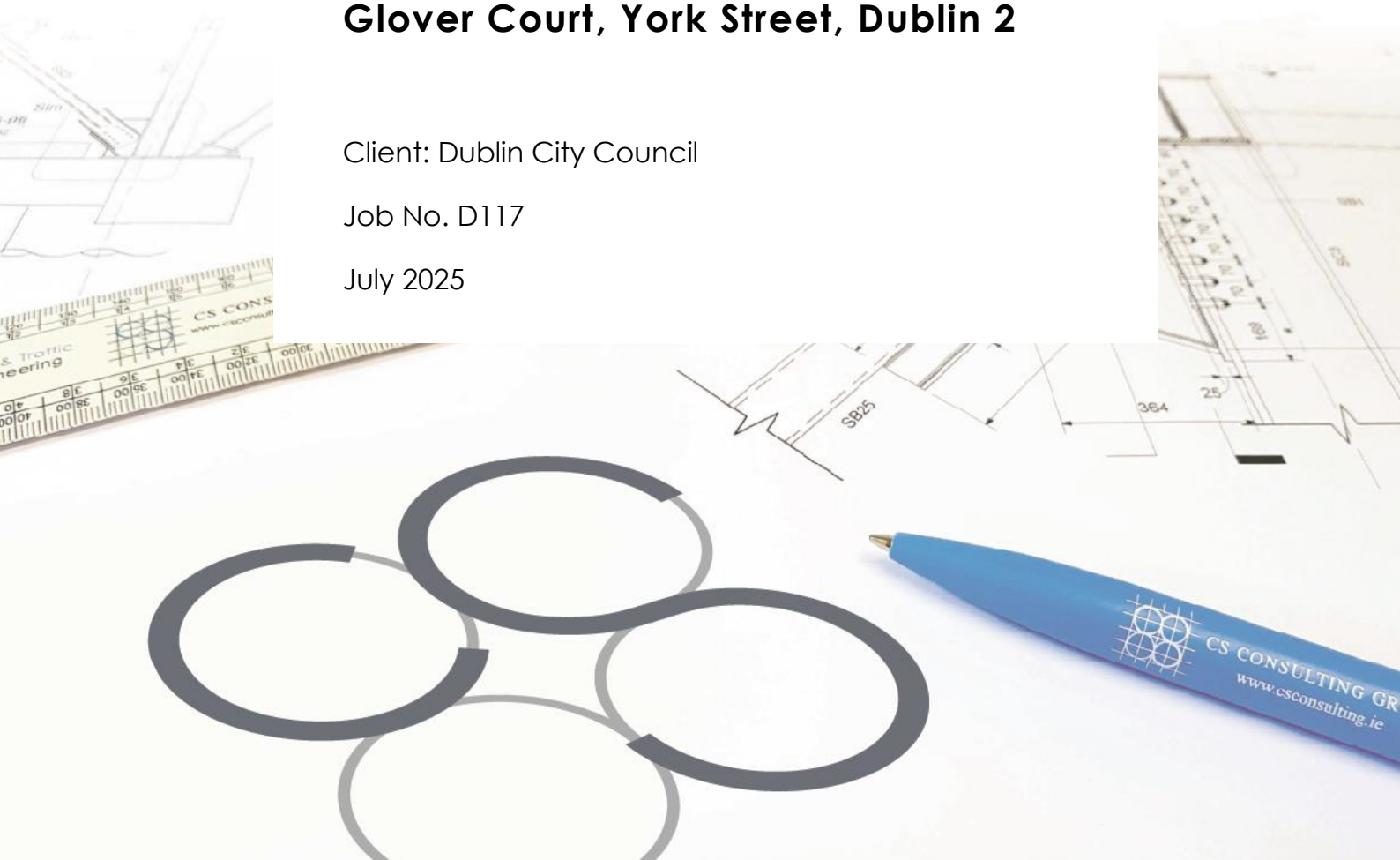
Proposed Residential Development

Glover Court, York Street, Dublin 2

Client: Dublin City Council

Job No. D117

July 2025



CS CONSULTING
GROUP

CS CONSULTING
GROUP

OUTLINE CONSTRUCTION AND ENVIRONMENTAL MANAGEMENT PLAN

PROPOSED RESIDENTIAL DEVELOPMENT,

GLOVER COURT, YORK STREET, DUBLIN 2

CONTENTS

File Location: Job-D117\B_DOCUMENTS\1.0 Planning\1.0 CIVIL ENGINEERING\Report\OCEMP

BS 1192 FIELD	**D117-CSC-ZZ-XX-RP-C-0003**

Job Ref.	Author	Reviewed By	Authorised By	Issue Date	Rev. No.
D117	HY	SS	OS	01.07.2025	P1

CS CONSULTING
GROUP

1.0 INTRODUCTION

Cronin & Sutton Consulting (CS Consulting) have been commissioned by Dublin City Council to prepare an Outline Construction and Environmental Management Plan (OCEMP) for a proposed residential development at Glover Court, York Street, Dublin 2.

The OCEMP is a preliminary plan. This provides a framework within which all final construction processes, site management arrangements, and environmental protection measures employed during construction are to be specified. Construction of the proposed development shall be under the control of a lead contractor, who shall be appointed following a grant of planning permission. Upon appointment, once familiar with the site and having developed a final detailed methodology for construction, the lead contractor shall expand upon the OCEMP to produce a detailed Construction and Environmental Management Plan (CEMP). The content of the contractor's CEMP shall be agreed with Dublin City Council (DCC) prior to commencement of works.

The contractor's detailed Construction and Environmental Management Plan shall give greater detail of construction management arrangements and processes, while adhering to the stipulations of this OCEMP. It shall also incorporate the following:

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

The contractor's Construction & Environmental Management Plan shall be integrated into and implemented throughout the construction stage of the project to ensure the following:

- That all site activities are effectively managed to minimise the generation of waste and to maximise the opportunities for on-site reuse and recycling of waste materials.
- To ensure 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 licensed facilities in compliance with the Waste Management Act 1996, the Waste Management (Amendment) Act 2001, and the Protection of the Environment Act 2003.
- To manage and control any environmental impacts (noise, vibration, dust, water) that construction activities may have on the local receiving environment, in particular on receptors and properties adjacent to the construction site.
- To comply with all planning conditions and requirements imposed in relation to waste management.

The OCEMP demonstrates how the appointed contractor, and the appointed Project Supervisors (Site Manager, Health & Safety Officer, and Project Ecologist) shall comply with the following relevant legislation and 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
- Wildlife Act 1976 (as amended by the Wildlife (Amendment) Acts 2000 to 2012)
- Environmental Protection Agency (EPA) – Best Practice Guidelines for the Preparation of Resource Management Plans for Construction & Demolition Projects – 2021.

2.0 SITE LOCATION AND PROPOSED DEVELOPMENT

2.1 Site Location

The site of the proposed development is located at Glover court, York Street, Dublin 2, in the operational area of Dublin City Council. The area enclosed by the planning application boundary is approximately 0.3ha.

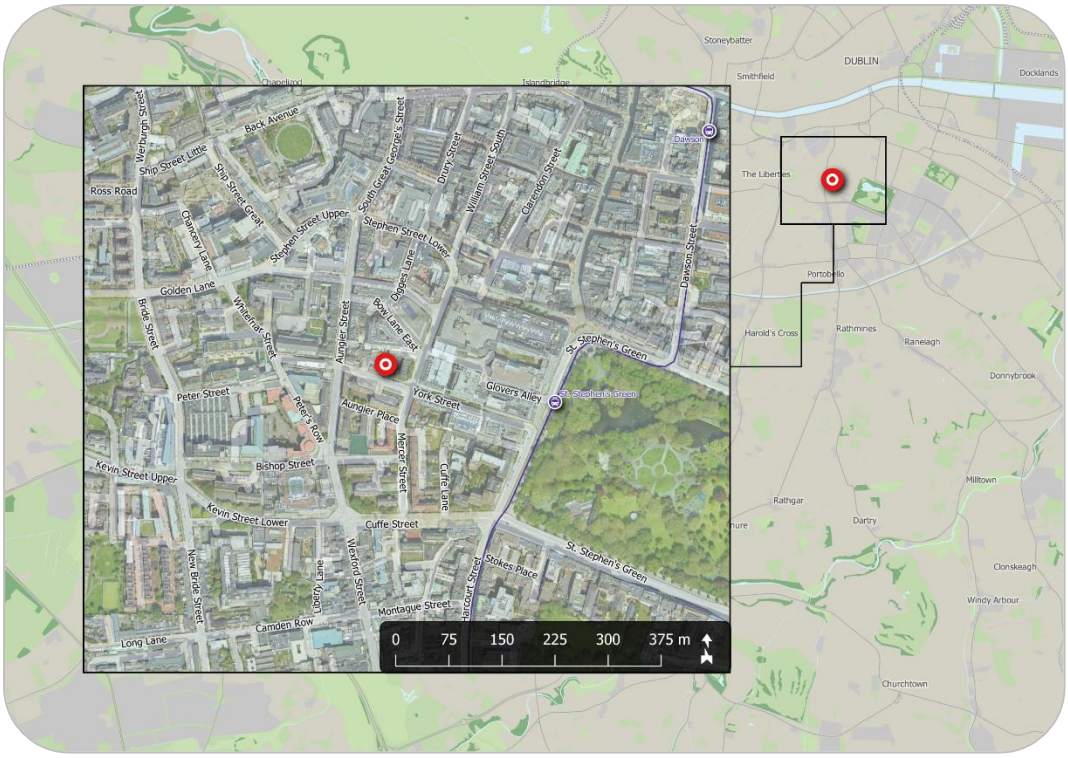


Figure 1 – Location of proposed development site
(map data & imagery: EPA, NTA, OSM Contributors, Google)

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

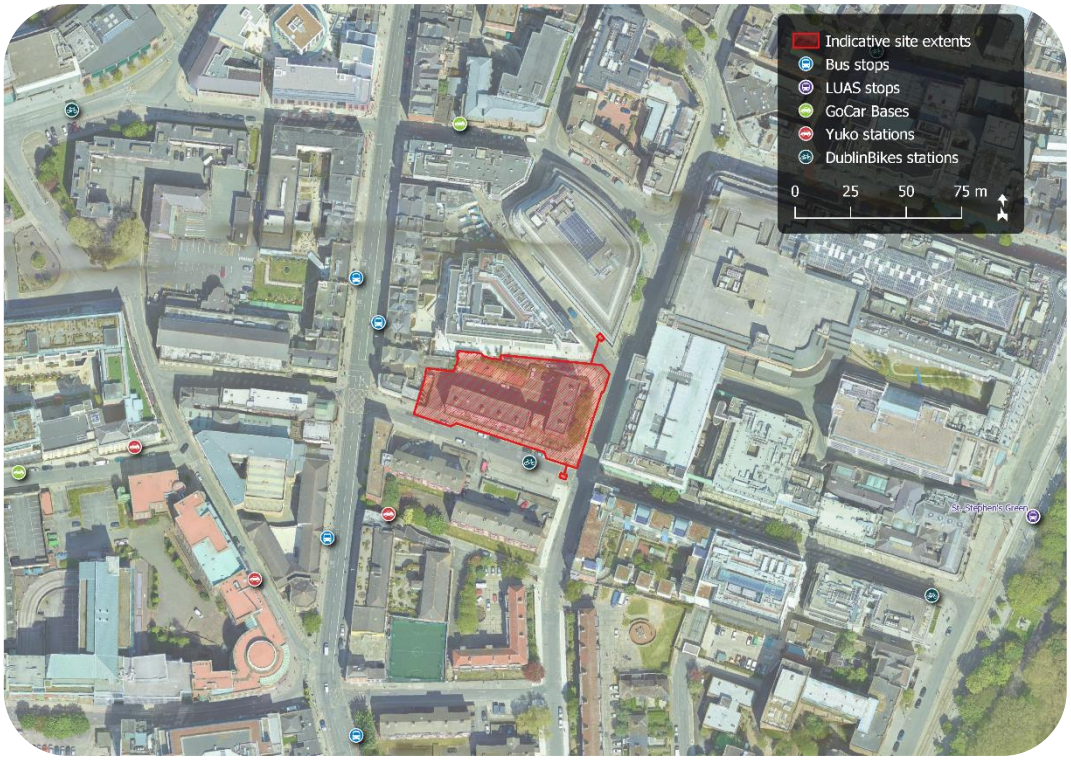


Figure 2 – Application boundary and site extents
(map data & imagery: NTA, Dublin Bus, GoCar, Yuko, DublinBikes, OSM Contributors, Google)

2.2 Existing Land Use

The subject site currently comprises of existing residential units which shall be refurbished under this planning application. The site currently generates minimal vehicular, cyclist, and pedestrian traffic. The site is currently assessed from York Street.

2.3 Description of Proposed Development

The project comprises of the retrofit and amalgamation of the existing blocks, with the addition of new bays, additional floors, new vertical cores, new access decks and balconies. The proposal is to provide 53 residential units comprising of 15 no. 1 bed apartments, 30 no. 2 bed apartments, 8 no. 3 bed apartments. The York Street block will be extended at both ends and by one additional

upper floor. The upper floor on the York Street block will be held back on the new build section of the western boundary to create a stepping down in height in respect of the protected structure context to Aungier Street which includes the Swan Bar. The Mercer Street block will be extended on the corner with York Street and by two additional upper floors. The amalgamated building will comprise of a 5 and 6 storey block to York Street and a 7-storey block to Mercer Street. New stairs and lift cores are to be accommodated within the grid of the existing frame, one in each block. A new external façade is introduced throughout the building with access provided by a new access deck to the internal courtyard and balconies to the street facing facades.

3.0 LOGISTICS

3.1 Construction Programme and Phasing

Subject to a successful grant of planning, it is intended for the works to commence in Q1 2025. The proposed development is anticipated to be constructed over 12-18-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
- Road construction and upgrade works
- Reduced level excavations and foundation construction
- Site services installations (drainage, power, water)
- Building superstructure and roof construction
- Finish interior and exterior landscaping

3.2 Vehicular Access to Site

It is anticipated that for the duration of the construction works all construction access and egress for deliveries shall operate via York Street to the south of the development site in early stage, when the southern part is built, a new access will be via Bow Lane East. In addition, one or more separate pedestrian only entrance(s) to the site shall be installed, to segregate vehicular and pedestrian movements to and from site.

Security personnel shall be present at the entrance/exit of the site to ensure all egressing traffic shall do so safely. A wheel wash shall be installed at the exit from the site to prevent any dirt being carried out into the public road. A road sweeper shall be employed as required to keep all public roads around the site clean.

3.3 Protection of Public Areas from Construction Activity

Perimeter hoarding shall 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, shall be kept locked at any time that these areas are not monitored (e.g., outside working hours).

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

3.4 Site Security

The site shall be secured with a hoarding. This shall be branded using the appointed Contractors' logos. 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 and Movement throughout the Site

It is envisaged that one or more tower cranes shall be erected on site to assist with superstructure and exterior works. In addition to the tower cranes, separate mobile cranes visits may also be required from time to time. These visits shall be coordinated with the other site activities and crane operations to ensure all risks are correctly assessed and guarded against.

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

3.6 Deliveries and Storage Areas

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 background peak traffic hours (within the permitted site working hours) 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 including but not limited to toilets, drying room, canteen.

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 public watermain. Similarly, a temporary connection for foul water drainage shall be made to the public network.

3.8 Site Parking

No on-site parking shall be provided for construction staff and visitor given the development site's location and its proximately to Dublin city centre. Construction staff shall be encouraged to use public transport, and information on local transportation shall 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.

Deliveries of materials to site shall generally be between the hours of 07:00 and 19:00, Monday to Friday, and 08:00 to 14:00 on Saturdays (subject to planning conditions). 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. Any such deliveries shall be made with the advance agreement of Dublin City Council.

4.0 ENVIRONMENTAL ISSUES

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

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

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

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

4.1 Stormwater and Wastewater Management

The purpose of these procedures is to ensure that storm water and wastewater runoff is managed and that there is no off-site environment impact caused by overland storm water flows.

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

- silt control on the roads
- discharge water from dewatering systems
- diversion of clean water
- treatment and disposal of wastewater from general clean-up of tools and equipment
- spills control
- silt trapping and oil interception (to be considered where surface water run-off may enter watercourse)
- refuelling of machinery off-site or at a designated bunded refuelling area.

4.2 Noise and Vibration

The Contractor shall be required to carry out their works such that the effect of noise and vibration on the adjacent buildings and surroundings is minimised, and that no damage to these results from construction activity on site.

All works on the site for the development shall strive to meet the criteria of and comply with the limits of the '*Air Quality Monitoring and Noise Control Unit's Good Practice Guide for Construction and Demolition'* insofar as is practical.

In general, the contractor shall implement the following mitigation measures during the proposed infrastructure works:

- Noise monitoring stations, which will be monitored daily, located on site and at recommended locations in the vicinity of the site to record background and construction noise activity.
- Avoid unnecessary revving of engines and switch off equipment when not required
- Minimise drop height of materials

- Keep internal haul roads well maintained and avoid steep gradients.
- Start-up plant sequentially rather than all together.

More specifically the Contractor shall ensure that:

- A construction noise and vibration management plan are prepared.
- In accordance with Best Practicable Means, plant and activities to be employed on site are reviewed to ensure that they are the quietest available for the required purpose.
- Hoarding to be provided and where required, improved sound reduction methods are used e.g., enclosures.
- Site equipment is located away from noise sensitive areas, as such as physically possible.
- Regular and effective maintenance by trained personnel is carried out to reduce noise and / or vibration from plant and machinery.
- Hours are limited during which site activities likely to create high levels of noise and vibration are carried out.

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

A noise and vibration monitoring specialist shall be appointed to carry out independent monitoring of noise and vibration during critical periods at sensitive locations for comparison with limits mentioned in '*Air Quality Monitoring and Noise Control Unit's Good Practice Guide for Construction and Demolition insofar as is practical*'.

All vehicles and mechanical plant used for the purpose of the works shall be fitted with effective exhaust silencers and shall be maintained in good and efficient working order.

In addition, all diesel engine powered plant shall be fitted with effective air intake silencers. All compressors shall be "sound reduced" models fitted with properly lined and sealed acoustic covers which shall be kept closed whenever the machines are in use. All ancillary pneumatic percussive tools shall be fitted with mufflers or silences of the type recommended by the manufacturers, and where commercially available, dampened tools and accessories shall be used.

All ancillary plant, such as generators and pumps, shall be positioned so as to cause minimum noise disturbance. If operating outside the normal working week acoustic enclosures shall be provided.

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

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

A noise liaison officer should be appointed and charged with the responsibility of keeping people informed of progress and by setting down procedures for dealing with complaints

4.3 Air Quality Monitoring

All works on the site for the development shall strive to meet the criteria of and comply with the limits of the '*Air Quality Monitoring and Noise Control Unit's Good Practice Guide for Construction and Demolition'* insofar as is practical.

An air quality monitoring (Air Quality and Dust monitoring) specialist shall be appointed to carry out independent monitoring during critical periods at sensitive locations for comparison with limits mentioned in '*Air Quality Monitoring and Noise Control Unit's Good Practice Guide for Construction and Demolition'*.

Dust prevention measures shall be included for control of any site airborne particulate pollution. The Contractor shall continuously monitor levels of dust and airborne particulate matter (PM_{10} and $PM_{2.5}$) in the vicinity of the site throughout demolition and construction works, in accordance with planning conditions, and records shall be kept of such monitoring for review by the Planning Authority.

4.4 Migrating Dust and Dirt Pollution

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

- Hard surface roads be swept to remove mud and aggregate materials from their surface while any unsurfaced roads shall be restricted to essential site traffic.
- Ensuring an appropriate wheel or road washing facility is provided as and when required throughout the various stages of construction on site.
- Ensuring all construction vehicles are inspected by the gateman for cleanliness prior to exiting the site.
- Vehicles using site roads shall have their speed restricted, and this speed restriction must be enforced rigidly. On any unsurfaced site road, this shall be 20kph, and on hard surfaced roads as site management dictates.
- Vehicles delivering material with dust potential (soil, aggregates) shall be enclosed or covered with tarpaulin at all times to restrict the escape of dust.
- Public roads outside the site shall be regularly inspected for cleanliness and cleaned as necessary.

- Material handling systems and site stockpiling of materials shall be designed and laid out to minimise exposure to wind. Water misting or sprays shall be used as required if particularly dusty activities are necessary during dry or windy periods.
- During movement of materials both on and off-site, trucks shall be stringently covered with tarpaulin at all times. Before entrance onto public roads, trucks shall be adequately inspected to ensure no potential for dust emissions.
- Restrict un-surfaced roads to essential site traffic.
- Construction techniques shall minimise dust release into the air.
- The use of appropriate water-based dust suppression systems to reduce the amount of dust and windborne particulates as a result of the construction process. This system will be closely monitored by site management personnel particularly during extended dry periods and in accordance with site management methods.

4.5 Harmful Materials

Harmful material will be stored on site for use in connection with the construction works only. These materials will be stored in a controlled manner. Where on-site storage facilities are used, there will be a bunded filling area using double bunded steel tank at a minimum.

4.6 Asbestos

A Refurbishment/Demolition Asbestos Survey shall be carried out prior to the commencement of the demolition works. All extant buildings on site will be surveyed for the purpose of detecting and recording incidences of asbestos containing materials (ACMs). A report shall then be prepared which will contain a register showing the location and type of asbestos, if encountered, and the risks and recommendations in relation to the material identified.

ACMs identified by the Asbestos survey will be required to be removed by suitably trained and competent persons, removed from site by a suitably permitted waste contractor, and transported to a suitably licenced disposal facility. The Contractor shall handle ACMs in accordance with the Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006, as amended and associated approved Codes of Practice. The Contractor shall be responsible for preparing specified Risk Assessment and Method Statements for the identification and removal of all ACMs on site.

5.0 WASTE MANAGEMENT

Please refer to Construction and Demolition Waste Management Plan submitted under separate cover with this planning application for details on waste management during demolition and construction stage.

6.0 TRAFFIC MANAGEMENT

6.1 Site Traffic, Traffic and Pedestrian Management

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

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

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

6.2 Vehicular Access to Site

Construction traffic will access the site from the adjoining street network. The proposed development is well connected to R135 via adjacent York Street, Mercer Street Upper and R110 which provide easy access to the N11 via a network of local distributor roads for deliveries and extraction to and from the site.

Security personnel shall be present at the entrance/exit of the site to ensure all exiting traffic shall do so safely. A self-contained wheel wash system shall be installed at the exit from the site, to minimise dirt being carried out into the public road, and a road sweeper shall be employed as required to keep public roads around the site clean.

The vehicular access to the construction site shall include the following design elements:

- Appropriate sight lines for vehicles exiting onto the public road, to be ensured by removing existing visual obstructions and by appropriate design of perimeter hoarding.
- Directional signage for site traffic and advance warning signage for all other road users.

6.3 Minimisation of Construction Vehicle Movements

Construction vehicle movements shall be minimised 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.

6.4 Minimisation of Staff Vehicle Movements

Construction staff vehicle movements to and from the site shall be minimised by promoting more sustainable means of transport among construction personnel. The following headings identify some of the measures to be adopted in this regard.

6.4.1 Walking

Lockers and drying facilities will be provided to allow personnel to store clothing and umbrellas, and to dry wet gear.

6.4.1 Cycling

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

6.4.2 Public Transport

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

6.5 Monitoring and Maintenance of Public Roads

A Visual Condition Survey (VCS) shall be carried out of all surrounding streets prior to any site works commencing. The Contractor shall liaise with Dublin City Council Roads and 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 programme 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

6.6 Project Specific Traffic Management Plan

A detailed project specific traffic management plan shall be developed by the Contractor and agreed with DCC 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 Vehicle Movements During Construction

The major construction items include demolition excavation, construction, and fit out. It is anticipated that the peak of HGV movements to and from the site shall be during demolition and excavation works. 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 final programming and scheduling of excavation, and construction works shall be determined by the appointed contractor. Under a 'worst-case' scenario, however, it is possible that up to 4no. HGV trips may be made to the site each hour during this phase (one HGV arrival and one HGV departure every 30 minutes). In addition to HGV traffic, periodic deliveries of materials to site shall be made by Light Goods Vehicles (LGVs). Under a worst-case construction traffic generation scenario, 3no. such LGV arrivals and 3no. LGV departures are assumed in each of the background peak hours. No car parking provision is likely to be provided for construction personnel on site during construction works as the subject development is located in the proximity of high frequency public transport.

Table 1 – Maximum Peak Hour Construction Traffic Generation

Time Period	Heavy Goods Vehicles	Light Vehicles	TOTAL (PCU) [1]
Arrivals			
AM Peak	2	3	8
PM Peak	2	3	8
Departures			
AM Peak	2	3	8
PM Peak	2	3	8
Total Trips			
AM Peak	4	6	16
PM Peak	4	6	16

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.

[1] 1 Light Vehicle (car or LGV) = 1 PCU; 1 HGV = 2.3 PCU

- 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;
- At no time should haulage vehicles be parked or stopped at the entrance(s) to the site;
- All loading of excess material shall occur within the site boundary;
- All off-loading of deliveries shall take place within the site, away from the public road and shall access via the construction site access.

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 appointed Contractor at a later stage and appropriate routes shall be agreed with Dublin City Council as part of the Contractor's detailed Construction Management Plan.

The increase in traffic as a result of construction shall be minor and is expected to be readily accommodated by the existing road network.

7.0 PROVISIONS FOR CONSTRUCTION

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

The site area will be enclosed with hoarding, details of which are to be agreed with DCC. Hoarding panels will be maintained and kept clean for the duration of the project.

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

The partial demolition of the existing buildings on the site is required to facilitate the proposed development. The following is a high-level method statement for the demolition of existing buildings:

- Establish a site set-up and welfare facilities.
- Carry out a full asbestos survey (see sub-section 4.6). This survey is to be performed before any demolition is performed on site.
- 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.

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.

7.4 Excavation

This development will involve excavation and removal of material from site for foundations, and regrading of the site profile. It is not envisaged that rock will be encountered during the excavation works.

The appointed Contractor will engage with the project archaeologist prior to the commencement of excavation on site. Excavation will be carried out under the supervision of the project archaeologist.

The Contractor must prepare a Construction & Environmental 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). The Contractor must also outline detailed proposals within the Construction & Environmental Management Plan to accommodate construction traffic.

7.5 Site Service Installations

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

7.6 Construction Stage

The existing Stair Block will be demolished, and the two residential blocks will be preserved. Extensions will be built on the two ends of Block 1 and on one end of Block 2. One story will be added to Block 1 and two stories to Block 2. Balconies and walkways will be built on the new facades.

The new extensions to the ends of the existing blocks will be built with load-bearing block walls and a 150mm thick precast hollow core slab with a 75mm structural screed. A steel frame will be used in Block 1 to break the slab's spans. For Block 2, a wall beam three will be used to transfer the cantilever section above the ground floor. At the first floor, a transfer slab is necessary. In order

not to add load to the existing gable walls, steel frames will be used to carry the new slabs. New ground beams on piles will support the newly built extensions.

The additional floors will be built with steel frames and lightweight stud walls. A composite slab of Comflor 60 metal deck and 150mm concrete depth is proposed for the apartment and roof slab.

The structure for the new balconies/walkways consists of precast columns and beams connected to the primary structure. The slabs will be 150mm deep precast hollowcore units. On gridline O, a movement joint will be provided via slip joint.

7.7 Superstructure

The construction of the superstructure shall involve a coordinated sequencing of activities, and various construction methodologies could be adopted to deliver the Contract. 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.

7.7.1 Buildings Structure:

- Installation of any temporary works which needs to be verified as part of detail design.
- Demolition of the Stair Block.
- Site clearance including install/removal of below-ground services.
- Excavation/fill and construction of the foundations, to support the new vertical structure.
- Stripping old finishes and existing partition walls.
- Strengthening the existing foundations where required.

- Construction of the new ground-floor slabs.
- Construction of walls, columns, beams and floors slab for the new build extensions at the end of each block. This will be constructed in a sequential manner with the proper integration with the existing structure.
- Construction of the steel frames and slabs of the additional floors on top of the existing structure and the extensions.
- Building the balcony and walkway frames and slabs on new foundations and tying them to existing columns and walls.
- Building the frame and slab of the bike store.

7.7.2 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.

7.7.3 Mechanical & Electrical fit-out:

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

7.7.4 General fit-out:

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

7.7.5 Commissioning:

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

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.