REPORT

Construction Environmental Management Plan

Proposed Infill Housing Development at Spine Site, Darndale

CLIENT	DOCUMENT REFERENCE	DATE
Respond Housing	257501.1015WMR01	13/07/2026

AWN Consulting Ltd, The Tecpro Building, IDA Business & Technology Park, Clonshaugh, Dublin 17, D17 XD90

DOCUMENT CONTROL SHEET

Document Control Sheet	
Our Reference	257501.1015WMR01
Original Issue Date	13/07/2026
Client:	Respond Housing

Revision	Revision Date	Description

Details	Written by	Approved by
Signature		
Name	Laura Griffin	Chonaill Bradley
Title	Senior Environmental Consultant	Associate
Date	13/07/2026	13/07/2026

Disclaimer
This report considers the specific instructions and requirements of our client. It is not intended for third-party use or reliance, and no responsibility is accepted for any third party. The provisions in this report apply solely to this project and should not be assumed applicable to other developments without review and modification.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1. INTRODUCTION

AWN Consulting, Trinity Consultants Team, has prepared this Outline Construction Environmental Management Plan (CEMP) on behalf of Respond Housing (the Client) for the proposed infill housing development of 84 no. social housing units including 50 no. apartments and 34 no. 2-storey houses (the Proposed Development) at Spine Site, Darndale, Dublin 17 (the site).

This CEMP explains the construction techniques and methodologies which will be implemented during construction of the Proposed Development.

The CEMP mitigation measures will be implemented to ensure that pollution and nuisances arising from site clearance and construction activities is prevented where possible and managed in accordance with best practice environmental protection.

The CEMP will be implemented and adhered to by the Main Contractor and will be overseen and updated as required if site conditions change by the Project Manager, Environmental Manager, Environmental Clerk of Works and Ecological Clerk of Works where relevant. All personnel working on the site will be trained in the implementation of the procedures.

The Main Contractor will provide a further detailed CEMP to include any subsequent planning conditions relevant to the Proposed Development and set out further detail of the overarching vision of how the Main Contractor of the Proposed Development manage the site in a safe and organised manner.

This CEMP has been prepared to account for activities at the site during the excavation and construction phases of the Proposed Development.

The main issues that have been considered within this document are as follows;

- Description of works;
- Construction programme and phasing;
- Site logistics;
- Workforce;
- Public relations and community liaison;
- Construction traffic and access; and
- Safety, health and environmental management.

2. DESCRIPTION OF THE PROPOSED DEVELPOPMENT

The Proposed Development comprises an infill social housing scheme on the Spine Site (c. 1488 ha) in Darndale, Dublin 17.

The Proposed Development comprises 84 no. social housing units including:

34 no. 2 storey houses comprising of:

- 14 no. two-bed units;
- 19 no. three-bed units; and
- 1 no. four-bed units.

50 no. apartments comprising of:

- 45 no. one-bed units; and
- 5 no. two-bed units.

The layout comprises four urban blocks across the site:

- The three-storey apartment block adjacent to the Our Lady Immaculate Church and Darndale junior school; and
- Three blocks of two-storey terraced housing ranging eastwards across the site towards Buttercup Avenue and the Malahide Road beyond.

A community hub is provided on the ground floor at the northwestern corner of the apartment block, facing existing community facilities such as the church and community centre. This community facility provides a separate kitchen and large dining room, a co-working space, and W.C. facilities

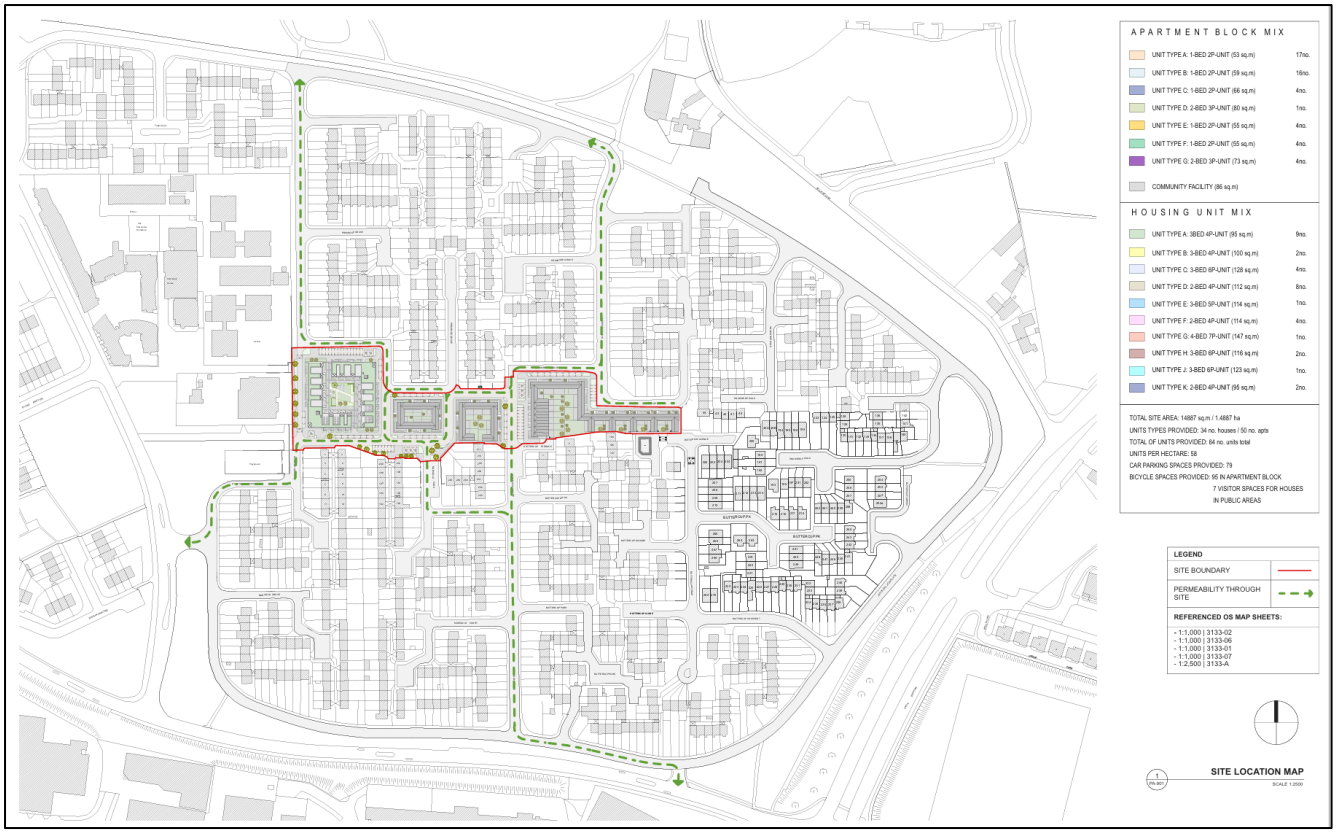

Figure 2.1 Proposed Site Location (illustrated by Red Line Boundary) (Source: Paul Keogh Architects, Drawing No: 2330 / PA / 901 / E, 2026)

3. CONSTRUCTION PROGRAMME AND PHASING

It is estimated that the construction programme for the proposed works will last 31 months/135 weeks from date of commencement. The works will be carried out over 2 phases:

- Phase 1: Construction of Blocks A & D (estimated duration 83 weeks); and
- Phase 2: Completion of Blocks B & C (estimated duration 52 weeks).

The Main Contractor will be required to prepare a detailed construction programme as part of their tender proposal. The Main Contractor can make alternative proposals for agreement with the Employer's Representative (ER)/Dublin City Council (DCC) in advance of the contract. Any alternative proposals shall be in the interest of health and safety and possible acceleration of the works.

The site compound for Phase 1 is proposed to be located in the area given over to Housing Block B and C in the Proposed Development. During the construction of Block B in the final phase of the Proposed Development, it is proposed that the parking area and surrounding pathways southeast of the apartment block be used for the construction compound.

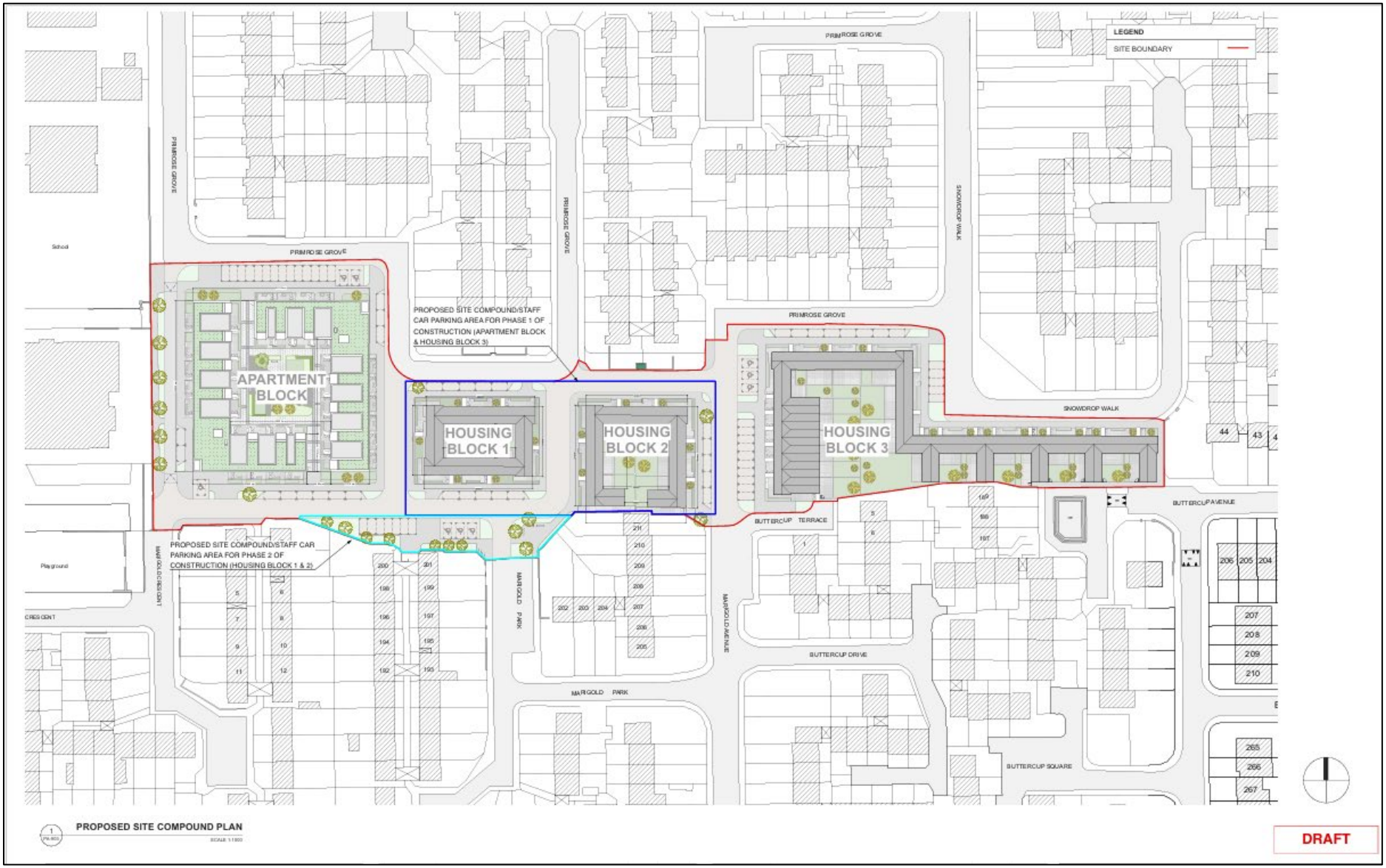

Figure 3.1 Site Construction Compound Location (Source: Paul Keogh Architects, Drawing No: 2330 / PA / 903 / B, 2026)

3.1 Excavation and Construction Phase

A Construction Waste Management Plan (CWMP) has been prepared for the Proposed Development by Hayes Higgins Partnership (2026) and will be updated by the Main Contractor prior to the commencement in accordance with the requirements of the *Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects'* published by the Environmental Protection Agency (November 2021). The RWMP will identify, classify and manage all waste arisings from the excavation and construction phases.

The RWMP will set out procedures for waste minimisation, reuse and recycling, including the designation of appropriate storage areas for segregated materials within the site. The Main Contractor will ensure that all subcontractors comply with the requirements of the RWMP.

The works will include:

- Site set up, welfare facilities and compound establishment;
- Set up of hoarding around compound and the site boundary; and
- Erection of safety signage to all areas and implementation of traffic/pedestrian management plan.

4. EXCAVATIONS

4.1 Archaeological and Architectural Heritage

Should any archaeological features or material be uncovered during archaeological testing or any phase of construction, all groundworks will cease immediately, and the National Monuments Service (NMS) of the Department of Housing, Local Government and Heritage (DOHLGH) will be notified. Time will be allowed for a suitably qualified archaeologist to inspect and assess the finding. If archaeologically significant material is identified, further mitigation may be required as advised by the NMS.

The site is not located within, nor does it contain, any Recorded Monument, Area of Archaeological Potential, Protected Structure or National Inventory of Architectural Heritage (NIAH) listed structure.

Accordingly, no direct impacts on archaeology, architectural heritage or cultural heritage are predicted to occur as a result of the Proposed Development, and no specific mitigation is considered necessary other than adherence to the standard archaeological discovery protocol above.

4.2 Ground Conditions

In the event that contaminated material is found on site, this material will need to be segregated from clean/inert material, tested and classified as either non-hazardous or hazardous in accordance with the Environmental Protection Agency (EPA) publication entitled *'Waste Classification: List of Waste & Determining if Waste is Hazardous or Non-Hazardous'* [2] using the *HazWasteOnline* application (or similar approved classification method). The material will then need to be classified as clean, inert, non-hazardous or hazardous in accordance with the *EC Council Decision 2003/33/EC* [3], which establishes the criteria for the acceptance of waste at landfills

In the event that Asbestos Containing Materials (ACMs) are found, the removal will only be carried out by a suitably permitted waste contractor, in accordance with *S.I. No. 386 of 2006 Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006-2010* [4] *and the Best Practice Guidance for Handling Asbestos (2023)* [5]. All asbestos will be taken to a suitably licensed or permitted facility.

In the event that hazardous soil, or historically deposited waste is encountered during the construction phase, the contractor will notify Dublin City Council (DCC) and provide a Hazardous/Contaminated Soil Management Plan, to include estimated tonnages, description of location, any relevant mitigation, destination for disposal/treatment, in addition to information on the authorised waste collector(s).

5. SITE LOGISTICS

5.1 Site Safety Compliance

The Main Contractor will be responsible for overall management of the site for the duration of the proposed works and will progress their works with reasonable skill, care, diligence and to proactively manage the works in a manner most likely to ensure the safety and welfare of those carrying out construction works.

The Main Contractor shall comply with all relevant Statutory requirements such as the 2005 Safety Health and Welfare at Work Act, The Construction Regulations (SI 291 of 2013), the General Application Regulations (SI 299 of 2007), etc. (and any amendments thereof).

In addition, the Main Contractor shall comply with all the reasonable safety requirements of the Client, the Project Supervisor for the Design Process and the Project Supervisor for the construction phase.

5.2 Site Establishment and Security

The first activity to be carried out at the site will be the establishment of site facilities and security. It is anticipated that site establishment works will take approximately four weeks. The site office and welfare facilities will be confirmed in advance of the commencement of site works and agreed with DCC. Figure 3.1 shows the proposed locations of the site compound and staff parking.

All of the sub-contractors as well as the main contractor and project managers will occupy offices within the construction compounds. The site parking for all staff, contractors and visitors will also be located in this area. Carpooling and the use of public transport will be encouraged to reduce pressure on parking in the area.

5.3 Consents and Licenses

All statutory consents and licences required to commence on-site construction activities will be obtained ahead of works commencing, allowing for the appropriate notice period. These will include, but are not limited to:

- Site notices;
- Construction commencement notices; and
- Licence to connect to existing utilities and mains sewers, where required.

5.4 Services and Utilities

Welfare facilities (canteens, toilets etc.) will be provided within the construction compound and will remain in place for the duration of the works. The Main Contractor will ensure that sufficient welfare capacity is maintained for the duration of the works.

Water supply for welfare facilities, dust suppression and general construction activities will be provided via temporary supply arrangements. If a permanent connection is not yet available, water may need to be trucked to the site until the Main Contractor establishes an agreed supply arrangement. A reliable and safe water supply will be maintained at all times.

Electrical supply for the construction phase will be provided using temporary power (e.g., generators) during mobilsation, with any transition to a permanent connection to be managed by the Main Contractor. All electrical works will be carried out by a suitably qualified contractor.

Foul water from site offices and welfare facilities will discharge to the agreed foul water system serving the site. Where this connection is not yet established, foul water from temporary cabins may be collected by a licensed wastewater contractor.

The Main Contractor will confirm final service arrangements during mobilization and will update the CEMP to reflect any temporary-to-permanent service transitions, method statements and permits/approvals obtained.

5.5 Material Handling and Storage

Key materials will be ordered by specific order for the Proposed Development, a 'just in time' delivery system will operate to minimise storage of materials, the quantities of which are unknown at this stage.

Where possible it is proposed to source general construction materials from the Dublin area to minimise transportation distances.

Aggregate materials such as sands and gravels will be stored in clearly marked receptacles in the compound area within the site. Liquid materials will be stored within temporary bunded areas, doubled skinned tanks or bunded containers (all bunds will conform to standard bunding specifications – BS EN 1992-3:2006 [6]) to prevent spillage.

Construction materials will be brought to site by road. Construction materials will be transported in clean vehicles. Lorries/trucks will be properly enclosed or covered during transportation of friable construction materials and spoil to prevent the escape of material along the public roadway.

The majority of construction waste materials generated will be soil from excavation works. Material will be removed from site regularly to ensure there is minimal need for stockpiling.

5.6 Visitor Management

Visitors will only be allowed to enter the main site compound via the designated pedestrian access gate. A dedicated, secured footpath to the site office is established at the gate for registration and obtaining Personal Protective Equipment (PPE) prior to entering the site. A log will be maintained by security to control access to the site. Visitors will be required to attend a site-specific induction to allow access to the compound and/or construction site unless being accompanied by an inducted member of the site team.

Visitors will then be taken by an inducted member of the construction team to the required area of the site.

5.7 Site Working Hours

Site development and building works will only be carried out between the hours of 07:00 to 18:00 Monday to Friday, and between 08:00 and 14:00 on Saturdays. No construction works will take place on Sundays or public holidays.

Deviation from these times will only take place where prior written approval is granted by DCC in exceptional circumstances.

5.8 Employment and Management Workforce

It is estimated that at peak construction periods that there would be approximately 40-50 people employed on-site.

It is anticipated that the key project managers and Main Contractor representatives will maintain a presence on site for the whole duration of the Proposed Development and the labour workforce will be determined by the specialist contractors required on site.

All employees working on the site will be required to have a SafePass Card (or similar approved Construction Health & Safety card), manual handling training and the necessary certificates to operate machinery as required. The details of training required, records maintained, and induction procedures will be outlined in the Main Contractor's Health and Safety Plan(s).

6. CONSTRUCTION TRAFFIC AND SITE ACCESS

The access to the site is proposed via Primrose Grove or Snowdrop Walk to the North and Marigold Avenue to the South, depending on the location of the block under construction. Marshalling of vehicles will take place at each of these access points to ensure safe access and egress from the site.

In relation to Traffic Management and Access, the following is proposed:

- All construction vehicles will park and set down within the site boundary during the works;
- Staff vehicles will use designated parking spaces within the site boundary;
- Pedestrian routes outside the site boundary will be maintained, and each proposed access point (Primrose Grove, Snowdrop Walk and Marigold Avenue) will have a Marshall/Banksman.

Existing rights-of-way on roads are to be maintained unless by specific agreement with the Roads Authority and with any relevant private landowners. Any agreements entered by the Main Contractor with private landowners shall be at the Main Contractor's expense.

Temporary safety or pedestrian barriers placed around the working areas will be clearly delineated by temporary road signage and coning as specified in the *Traffic Signs Manual* [7].

The Main Contractor will ensure that public roads and access/egress points are kept free from dirt and debris at all times. Provision must be made for the safe passage of the public in the vicinity of the works.

A more detailed Construction Traffic Management Plan (CTMP) will be provided by the Main Contractor prior to the commencement of the construction phase. This will expand the above measures and address access/egress, parking, interactions and existing road users.

The CTMP is to be prepared with reference to the following:

- Department of Transport Traffic Signs Manual 2010 – Chapter 8 Temporary Traffic Measures and Signs for Roadworks; and
- Department of Transport Guidance for the Control and Management of Traffic at Road Works (2010) [8].

6.1 Traffic Queueing

Material deliveries and collections from site will be planned, scheduled and staggered to avoid any unnecessary build-up of construction works related traffic.

Deliveries will be pre-booked through a delivery schedule to ensure that only one delivery vehicle arrives at a time.

No construction vehicles will queue or wait on Primrose Grove, Snowdrop Walk or Marigold Avenue.

6.2 Site Hoarding and Security Fencing

All areas of construction will be fenced / hoarded off to prevent unauthorized access. This fencing shall remain closed at all times during construction works and closed and locked after construction work hours / break times.

This fencing shall be erected in accordance with good practice and the Construction Regulations 2013. Fencing arrangements will be reviewed and adjusted as the works progress and as different blocks commence construction.

6.3 Site Traffic, Traffic and Pedestrian Management

The site will be clearly delineated using appropriate hoarding, fencing and signage. Particular attention will be given to the safety of pedestrians, especially at the construction access points.

Pedestrians will have the right of way at all times.

Where required, localised temporary pedestrian management may be implemented and clearly signed.

6.3.1 Access to the Site

Access for the construction vehicles will occur via the permitted routes at Primrose Grove, Snowdrop Walk and Marigold Avenue.

A banksman/marshall will be present during deliveries and collections to ensure safe and controlled access and egress.

6.3.2 Vehicle Movements During Construction

Construction related vehicle activity will be managed to minimise disruption to local residents.

Deliveries will be coordinated to prevent overlap, and no construction vehicles will be permitted to stop or park on surrounding residential streets.

All unloading/loading will occur within the site boundary, in suitable temporary set-down areas designated by the Main Contractor.

6.3.3 Minimisation of Construction Vehicle Movements

Construction-related vehicle movements will be minimised through:

- Consolidation of deliveries and scheduling outside local peak times;
- Use of prefabricated materials where practicable;
- Minimising material quantities ordered to site; and
- Encouraging construction personnel to use public transport or carpooling to reduce staff vehicle movements.

7. SAFETY, HEALTH AND ENVIRONMENTAL CONSIDERATIONS DURING CONSTRUCTION WORKS

The appointed Main Contractor will implement a Construction, Health and Safety Plan for the duration of the construction phase which contains health and safety measures covering the items below at a minimum:

- Construction Health and Safety training requirements;
- Induction procedures;
- Emergency protocols; and
- Details of welfare facilities.

7.1 Construction Lighting

Construction work will generally be confined to daylight hours, and significant external lighting is not anticipated. However, temporary task lighting may be required during periods of low natural light, or when work is taking place in enclosed or shaded areas.

Where temporary lighting is required, lights will be directed downward and away from nearby dwellings and sensitive receptors, insofar as practicable, and positioned not to cause glare for road users or pedestrians.

Site security and welfare areas may require low-level lighting, which will also be directed and shielded to minimise light spill beyond the site boundary. All lighting installations will comply with relevant safety standards and will be positioned so that they maintain safe working conditions without causing any unnecessary nuisance.

7.2 Air Quality

This section describes the site policy with regard to dust management and the mitigation measures to be implemented during construction works. The objective of dust control at the site is to ensure that no significant dust nuisance occurs at nearby sensitive receptors.

Dust control measures are informed by relevant best practice guidelines, including the Institute of Air Quality Management (IAQM), Guidance on the Assessment of Dust from Demolition and Construction (2024)[9], and other relevant Irish guidance for construction activities.

7.2.1 DCC Requirements

Further dust mitigation measures in line with the DCC Guidance Notes "Air Quality Monitoring and Noise Control Unit's Good Practice Guide for Construction and Demolition (2022) can be found in appendix A of the CEMP.

7.2.2 Site Management

Construction activities will be undertaken with due regard to the surrounding environment and the close proximity of residential units. Dust management will form a core part of site environmental controls.

The following measures will be implemented:

- Complaint registers will be kept detailing all telephone calls and letters of complaint received in connection with construction activities, together with details of any remedial actions carried out;

- Equipment and vehicles used on site will be in good condition such that emissions from diesel engines etc. are not excessive; and
- Pre-start checks will be carried out on equipment to ensure they are operating efficiently and that emission controls installed as part of the equipment are functional.

Dust deposition levels will be monitored as required in order to assess the impact that site activities may have on the local ambient air quality. The following procedure will be implemented:

- The dust deposition rate will be measured by positioning Bergerhoff Dust Deposit Gauges at strategic locations near the boundaries of the site for a period of 30 (+/- 2) days if required. Monitoring should be conducted as required during periods when the highest levels of dust are expected to be generated i.e., during site preparation works and soil stripping activities.
- The exact locations will be determined after consideration of the requirements of Method VDI 2119 with respect to the location of the samplers relative to obstructions, height above ground and sample collection and analysis procedures.
- After each 30 (+/- 2 days) exposure period, the gauges will be removed from the sampling location, sealed and the dust deposits in each gauge will be determined gravimetrically by an accredited laboratory and expressed as a dust deposition rate in mg/m2/day in accordance with the relevant standards.
- Technical monitoring reports detailing all measurement results, methodologies and assessment of results shall be subsequently prepared and maintained by the Site Manager.

A limit value of 350 mg/m^2/day will be used in comparison with recorded values.

7.2.3 Dust Control Measures

The aim is to ensure good site management by avoiding dust becoming airborne at source. This will be done through good design, planning and effective control strategies. The siting of construction activities and the limiting of stockpiling will take note of the location of sensitive receptors and prevailing wind directions in order to minimise the potential for significant dust nuisance. In addition, good site management will include the ability to respond to adverse weather conditions by either restricting operations on-site or using effective control measures quickly before the potential for nuisance occurs.

- During working hours, technical staff will be available to monitor dust levels as appropriate; and
- At all times, the dust management procedures put in place will be strictly monitored and assessed.

The dust minimisation measures will be reviewed at regular intervals during the construction phase to ensure the effectiveness of the procedures in place and to maintain the goal of minimisation of dust generation. In the event of dust nuisance occurring outside the site boundary, site activities will be reviewed, and procedures implemented to rectify the problem. Specific dust control measures to be employed are presented below.

Site Routes

Site access routes (particularly unpaved areas) can be a significant source of fugitive dust from construction sites if control measures are not in place. The most effective means of suppressing dust emissions from unpaved roads is to apply speed restrictions. Studies show that these measures can have control efficiency ranging from 25% to 80% [8].

- A speed restriction of 20 km/hr will be applied as an effective control measure for dust for on-site vehicles or delivery vehicles within the vicinity of the site;
- Bowsers will be available during periods of dry weather throughout the construction period. Research shown found that the effect of surface watering is to reduce dust emissions by 50%. The bowser will

operate during dry periods to ensure that unpaved areas are kept moist. The required application frequency will vary according to soil type, weather conditions and vehicular use; and

- Any hard surface roads will be swept to remove mud and aggregate materials from their surface while any unsurfaced areas shall be restricted to essential site traffic only.

Excavation

Excavation works during periods of high winds and dry weather conditions can be a significant source of dust.

- During dry and windy periods, and when there is a likelihood of dust nuisance, watering shall be conducted to ensure moisture content of materials being moved is high enough to increase the stability of the soil and thus suppress dust;
- During periods of very high winds (gales), activities likely to generate significant dust emissions should be postponed until the gale has subsided.

The movement of trucks containing materials with a potential for dust generation to an off-site location will be enclosed or covered.

Stockpiling

The location and moisture content of stockpiles are important factors which determine their potential for dust emissions. The following measures will be put in place:

- Overburden material will be protected from exposure to wind by storing the material in sheltered parts of the site, where possible; and
- Regular watering will take place during dry/windy periods to ensure the moisture content is high enough to increase the stability of the soil and suppress dust.

Site Traffic on Public Roads

Spillage and blow-off of debris, aggregates and fine material onto public roads will be reduced to a minimum by employing the following measures:

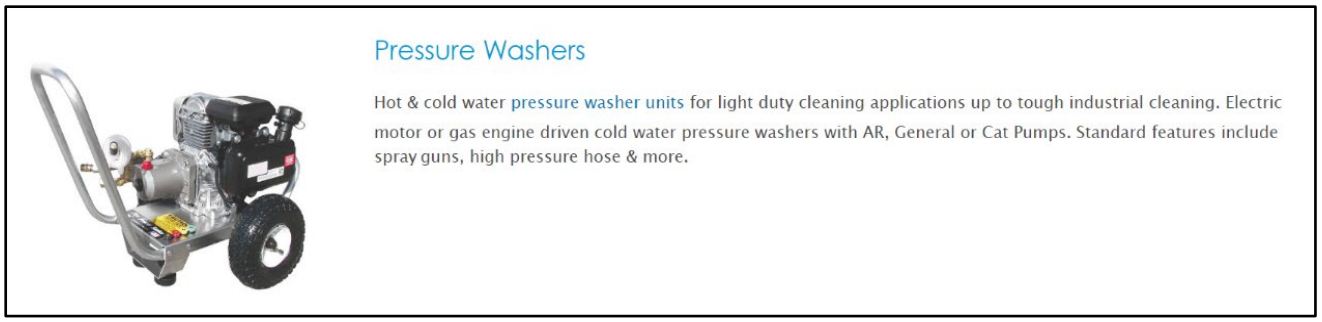

Figure 7.1 Example of Proposed Wheel Cleaning Equipment

- Vehicles delivering material with potential for dust emissions to an off-site location shall be enclosed or covered at all times to restrict the escape of dust;
- Any hard surface site roads will be swept to remove mud and aggregate materials from their surface while any unsurfaced roads shall be restricted to essential site traffic only.
- A power washing facility or wheel cleaning facility will be installed near to the site compound for use by vehicles exiting the site when appropriate, and an example of the washing equipment can be seen in Figure 7.1 ; and

- Road sweepers will be employed to clean the site access route as required.

General
The pro-active control of fugitive dust will ensure that the prevention of significant emissions, rather than an inefficient attempt to control them once they have been released, will contribute towards the satisfactory management of dust by the construction contractor.

7.3 Ecology

The key strategies to be undertaken to minimise impact on the local flora and fauna during site clearing and construction are as follows:

- All site clearance works will comply with current legislative requirements and best practice;
- Taking measures to limit the working area during the construction phase will reduce the impacts of the development on adjacent areas. The construction area will be clearly delimited by the site boundary and machinery should operate only within this allocated site area;
- All re-fuelling of plant, equipment and vehicles will be carried out at the construction site boundary. All fuels, chemicals, liquid and solid waste will be stored in areas bunded in accordance with established best practice guidelines at the construction compound also; and Provision of spill kits;
- Provision of a water and sediment management plan, providing for means to ensure that surface water run-off is controlled such that no silt or other pollutants enter local water courses or drains;
- The measures outlined in Section 7.6 will ensure that silt run-off and potential flooding risks are minimised which will protect any ecological receptors associated with the site; and
- Construction lighting will be designed so as to be sensitive to the potential presence of bats and should adhere to the following guidance:
  - Bats & Lighting: Guidance Notes for Planners, engineers, architects and developers (Bat Conservation Trust, 2010) [10];
  - Guidance Notes for the Reduction of Obtrusive Light GN01 (Institute of Lighting Professionals, 2011) [11];
  - Bats and Artificial Lighting in the UK – Bats and the Built Environment Series. Guidance Note 08/18 (Bat Conservation Trust UK, 2018) [12].

7.4 Noise and Vibration

7.4.1 Noise Criteria

Noise impacts arising from construction activities have the potential to cause annoyance or nuisance to local residents and businesses in the area.

Appropriate criteria relating to permissible construction noise levels for this development are taken from British Standard BS 5228 – 1: 2009 +A1 2014[13]: Code of Practice for Noise and Vibration Control on Construction and Open Sites – Noise. The approach adopted here calls for the designation of a noise sensitive location into a specific category (A, B or C) based on exiting ambient noise levels in the absence of construction noise.

In accordance with the standard, ambient measured noise levels representative of noise sensitive locations should be rounded to the nearest 5 dB and construction noise limits are then set according to the category definitions above. This then sets a threshold noise value that, if exceeded at this location, indicates a potential significant noise impact is associated with the construction activities depending on context. The approach is summarised in Table 7.1.

Table 7.1 Threshold of Potential Significant Effect at Dwellings (BS5228-1)

Assessment Category and Threshold Value Period	Threshold Value (dB)		
	Category A A)	Category B B)	Category C C)
Night Time (23:00-07:00)	45	50	55
Evenings and Weekends D)	55	60	65
Daytime (07:00-19:00) and Saturdays (07:00 – 13:00)	65	70	75

A) Category A: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are less than these values.
B) Category B: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are the same as category A values.
C) Category C: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are higher than category A values.
D) 19:00–23:00 weekdays, 13:00–23:00 Saturdays and 07:00–23:00 Sundays.

7.4.2 Vibration Criteria

Vibration criteria are taken from BS 5228-2:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites- Vibration. This document sets the following vibration limits for transient vibration. For buildings or structures that are structurally unsound, lower vibration magnitudes will apply, typically 50% of those for structurally sound buildings. Protected or historic buildings are not automatically assumed to be more vulnerable to vibration unless they have existing structural defects. The recommend transient vibration thresholds from BS5228-2 for the avoidance of cosmetic damage to light and heavy framed buildings are summarised in Table 7.2.

Table 7.2 Transient Vibration Threshold Values for Buildings

Type of Building	Peak component particle velocity in frequency range of predominant pulse Note 1	
	4 Hz to 15 Hz	15 Hz and above
Reinforced or framed structures. Industrial and heavy commercial buildings	50mm/s	
Unreinforced or light framed structures. Residential or light commercial buildings.	15 mm/s at 4 Hz Note 2 increasing to 20 mm/s at 15 Hz	20 mm/s at 15 Hz increasing to 50 mm/s at 40 Hz and above

Note 1: Values referred to are at the base of the building.
Note 2: At frequencies below 4 Hz, a maximum displacement of 0.6 mm (zero to peak) is not to be exceeded.

7.4.3 General Noise and Vibration Mitigation

Best practice noise and vibration control measures will be employed by the contractor during the construction phase in order to control noise and vibration impacts at the nearest noise sensitive locations. All works on site shall comply with BS 5228 2009+ A1 2014 (Parts 1 & 2) which gives detailed guidance on the control of noise and vibration from construction activities. This includes guidance on several aspects of construction site mitigation measures, including, but not limited to:

- Selection of quiet plant;
- Noise control at source;

- Screening, and;
- Liaison with the Public.

The following key forms of noise control for the site are set out below:

- Site compounds will be located away from noise sensitive boundaries within the site constraints;
- For mobile plant items such as cranes, dump trucks, excavators and loaders, the installation of an acoustic exhaust and or maintaining enclosure panels closed during operation can reduce noise levels by up to 10dB. Mobile plant should be switched off when not in use and not left idling.
- For steady continuous noise, such as that generated by diesel engines, it may be possible to reduce the noise emitted by fitting a more effective exhaust silencer system and avoid idling of engines when not in use.
- For percussive tools, a number of noise control measures include fitting a muffler or sound reducing equipment to the breaker 'tool' and ensure any leaks in the air lines are sealed. Erection of localised screens around breaker or drill bit when in operation in close proximity to noise sensitive boundaries.
- The use of a high quality construction site hoarding will be included around all noise sensitive boundaries.
- For all materials handling, ensure that materials are not dropped from excessive heights, lining drops chutes and dump trucks with resilient materials.
- All items of plant should be subject to regular maintenance. Such maintenance can prevent unnecessary increases in plant noise and can serve to prolong the effectiveness of noise control measures.
- All site staff shall be briefed on noise mitigation measures and the application of best practicable means to be employed to control noise.

Liaison with the Public

The designated environmental liaison officer will be appointed to site during construction works. Any noise complaints will be logged and followed up in a prompt fashion by the liaison officer. In addition, where a particularly noisy construction activity is planned or other works with the potential to generate high levels of noise, or where noisy works are expected to operate outside of normal working hours etc., the liaison officer will inform the nearest noise sensitive locations of the time and expected duration of the noisy works.

Any noise complaints related to activities at the site will be logged and investigated and, where required, measures taken to ameliorate the source of the noise complaint.

Monitoring

During the construction phase, spot check noise monitoring may be required where the construction noise thresholds have the potential to be exceeded at noise sensitive locations. The monitoring shall be carried out by the contractor and used to inform the requirement for any control measures on site to reduce construction noise levels.

Noise monitoring will be conducted in accordance with the International Standard ISO 1996-2:2017 - *Description, measurement and assessment of environmental noise - Part 2: Determination of sound pressure levels* (ISO 2017)[14].

Where required, or requested by the local authority, unattended external noise monitoring will be undertaken at locations on the site boundary closest to sensitive locations. It is considered that it will be appropriate to amend the monitoring program and location as the works progress. Accordingly, monitors may be added, removed or relocated as necessary.

The noise monitoring terminals should provide the following at minimum:

- Logging at hourly intervals; and
- Remote access for information download.

Where required (i.e. where there is potential for exceedance of the vibration thresholds for buildings in Table 7.2), or requested by the local authority, vibration monitoring will be installed at the site boundary to monitor Peak Particle Velocity parameter (PPV, mm/s) in the X, Y and Z directions, in accordance with BS ISO 4866: 2010: *Mechanical vibration and shock – Vibration of fixed structures – Guidelines for the measurement of vibrations and evaluation of their effects on structures* [15].

The mounting of the transducer to the vibrating structure will need to comply with BS EN ISO 5348: 1998: *Mechanical vibration and shock – Mechanical mounting of accelerometers* [16]. In summary, the following ideal mounting conditions apply:

- The transducer and its mountings should be as rigid as possible;
- The mounting surfaces should be as clean and flat as possible;
- Simple symmetric mountings are best; and
- The mass of the mounting should be small in comparison to that of the structure under test.

7.4.3.1 DCC Requirements

Further noise and vibration mitigation measures in line with the DCC Guidance Notes "Air Quality Monitoring and Noise Control Unit's Good Practice Guide for Construction and Demolition (2022) can be found in appendix A of the CEMP.

7.5 Resource and Waste Management

This section outlines the measures that will be undertaken to minimise the quantity of waste produced at the site and the measures to handle the waste in such a manner as to minimise the effects on the environment. A CWMP will be implemented for the Proposed Development, and updated by the Main Contractor prior to the commencement in accordance with the requirements of the

Adherence to the CWMP prepared for the construction works will ensure that the management of waste arising is dealt with in compliance with the provisions of the *Waste Management Act 1996* as amended [17], and associated Regulations, the *Litter Pollution Act of 1997* as amended [18] and the *National Waste Management Plan for a Circular Economy 2024 - 2030 (NWMPCE) (2024)* [19], and that it will achieve optimum levels of waste reduction, re-use and recycling.

Typical waste materials that will be generated from the construction works will include:

- Soil and stones;
- Concrete, bricks, tiles and ceramics;
- Wood, glass and plastics;
- Metals;
- Gypsum-based construction material;
- Paper and cardboard;
- Mixed construction and demolition (C&D) waste; and
- Chemicals (solvents, paints, adhesives, detergents etc.).

The management of all hazardous waste arisings, if they occur, shall be coordinated in liaison with the Project Supervisor Construction Stage (PSCS) and Health and Safety Management.

If ACMs are identified, they will be removed by a competent, the removal will only be carried out by a suitably permitted waste contractor, in accordance with *S.I. No. 386 of 2006 Safety, Health and Welfare*

at Work (Exposure to Asbestos) Regulations 2006-2010 [4] *and the Best Practice Guidance for Handling Asbestos (2023)* [5]. All asbestos will be taken to a suitably licensed or permitted facility.

7.5.1 Waste Minimisation

Waste minimisation measures that will be implemented on-site include:

- Materials will be ordered on an 'as needed' basis to prevent over supply;
- Materials will be correctly stored and handled to minimise the generation of damaged materials;
- Materials will be ordered in appropriate sequence to minimise materials stored on site;
- A waste tracking log will be established;
- Sub-contractors will be responsible for similarly managing their wastes; and
- All wood waste generated by site works will be inspected and examined and will be segregated as re-useable wood and scrap wood waste.

7.5.2 Waste Storage

The main waste storage area will be located in the site compound. A dedicated and secure area containing bins, and/or skips, and storage areas, into which all waste materials generated by construction site activities will be placed, will be established within the Proposed Development.

Waste materials generated will be segregated at the site compound, where it is practical. Where the on-site segregation of certain wastes types is not practical, off-site segregation will be carried out. There will be skips and receptacles provided to facilitate segregation at source. All waste receptacles leaving site will be covered or enclosed. The appointed waste contractor will collect and transfer the wastes as receptacles are filled. There are numerous waste contractors in the Dublin Region that provide this service.

The site Resource Manager will ensure that all staff are informed of the requirements for segregation of waste materials by means of clear signage and verbal instruction. Appointed employees will be made responsible for ensuring good site housekeeping.

7.5.3 Pest Management

A pest control operator will be appointed, as required, to manage pest onsite during the construction phase of the project. Organic and food wastes generated by staff will not be stored in open skips, but in closed waste receptacles. Any waste receptacles will be carefully managed to prevent leaks, odours and pest problems.

7.5.4 Responsibility

It will be the responsibility of the construction manager to ensure that a written record of all quantities and natures of wastes removed from the site are maintained on-site in a waste file (in hardcopy or electronically).

It is the responsibility of the project manager or his/her delegate that all contracted waste haulage drivers hold an appropriate waste collection permit for the transport of waste loads and that all waste materials are delivered to an appropriately licensed or permitted waste facility in compliance with the relevant Regulations as outlined in the RWMP.

The contractor, as part of regular site inspection audits, will determine the effectiveness of the waste management strategy and will assist the project manager in implementing the measures under the RWMP and in determining the best methods for waste minimisation, reduction, re-use, recycling and disposal as the construction phase progresses and waste materials are generated.

Prior to commencement of the excavation and construction activity and removal of any waste off-site, details of the proposed destination of each waste stream will be provided to DCC, along with waste collection permit numbers.

7.6 Surface Water Management

Care will be taken to ensure that exposed soil surfaces are stable to minimise erosion. All exposed soil surfaces will be within the main excavation site which limits the potential for any offsite impacts. All run-off will be prevented from directly entering into any water courses as no construction will be undertaken directly adjacent to open water.

No significant dewatering will be required during the construction phase which would result in the localised lowering of the water table. There may be localised pumping of surface run-off from the excavations during and after heavy rainfall events to ensure that the excavation is kept relatively dry.

The following measures will be put in place during the construction phase to ensure protection of surface waterbodies. Construction works are informed by best practice guidance from Inland Fisheries Ireland on the prevention of pollution during development projects:

- *Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors (C532)* [20];
- *Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters (2016)* [21]
- *Environmental Good Practice on Site (3rd edition) (C692)* [22];
- *Sustainable Urban Drainage (SuDs) Manual Technical Guidance (C753)* [23]; and
- *Control of Water Pollution from Construction Sites (C648)* [24].

Surface water discharge from the site will be managed and controlled for the duration of the construction works until the permanently attenuated surface water drainage system of the proposed site is complete. A temporary drainage system shall be installed prior to the commencement of the construction works to collect surface water runoff by the site during construction.

It is envisaged that a number of geotextile lined settling basins and temporary mounding and/or silt fences will be installed to ensure silts do not flow off site during the construction stage. This temporary surface water management facility will throttle runoff and allow suspended solids to be settled out and removed. All inlets to the settling basins will be 'riprapped' to prevent scour and erosion. Terram or similar silt-interception material will also be installed beneath new drain covers and within gullies where required to prevent silt-laden run-off from entering the drainage network.

Where possible, hard surfaces that are positively drained will be completed at an early stage to allow use of permanent drainage assets for silt and hydrocarbon interception.

7.6.1 Pollution Control

Management of Suspended Solids in Run-Off

Any temporary storage of spoil, hardcore, crushed concrete or similar material will be stored as far as possible from any surface water drains and also stored in receptacles where possible. In order to minimise the risk of contamination, the stockpiled material will be removed off-site as soon as possible. Surface water drain gratings in areas near or close to where stockpiles are located will be covered by appropriate durable polyurethane covers or similar.

There will be no direct pumping of silty water from the works to any watercourse. Sediment entrapment facilities will be installed to reduce sediment discharges to downstream properties and receiving water. All run-off leaving a disturbed area should pass through a sediment entrapment facility before it exits the site

and flows downstream such as straw bales, silt fencing, silt barriers and diversion dams. The location of the silt fencing will be finalised by the Main Contractor as part of the detailed CEMP and installed wherever run-off may occur.

Concrete Run-off

No wash-down or wash-out of ready-mix concrete vehicles during the construction works will be carried out at the site within 10 meters of an existing surface water drainage point. Wash-outs will only be allowed to take place in designated areas with an impervious surface.

Accidental Spills and Leaks

No bulk chemicals will be stored within the active construction areas. Temporary oil and fuel storage tanks will be kept in the material storage area in suitable containers and will be appropriately bunded as required. Refuelling of vehicles and the addition of hydraulic oils or lubricants to vehicles will take place in designated areas of the site, where possible, which will be kept away from surface water drains.

Spill protection equipment such as absorbent mats, socks and sand will be available to be used in the event of an accidental release during refuelling. Training will be given to appropriate site workers in how to manage a spill event.

The following mitigation measures will be taken at the construction site in order to prevent any spillages to ground of fuels during machinery activities and prevent any resulting soil and/or groundwater quality impacts:

- Refuelling will be undertaken off site where possible;
- Where mobile fuel bowsers are used the following measures will be taken:
  - Any flexible pipe, tap or valve will be fitted with a lock and will be secured when not in use;
  - The pump or valve will be fitted with a lock and will be secured when not in use;
  - All bowsers must carry a spill kit;
  - Operatives must have spill response training; and
  - Portable generators or similar fuel containing equipment will be placed on suitable drip trays.

Emergency contact numbers for the Local Authority Environmental Section, Inland Fisheries Ireland, the EPA and the National Parks and Wildlife Service (NPWS) will be displayed prominently, and these agencies will be notified in the event of a pollution incident.

Monitoring

Weekly checks will be carried out to ensure surface water drains are not blocked by silt, or other items, and that all storage is located at least 10m from surface water receptors. Mitigation measures such as silt fencing, terram filters and drainage inlet protection will be inspected at least daily by the Main Contractor, particularly after heavy rainfall events.

A regular log of inspections will be maintained, and any significant blockage or spill incidents will be recorded for root cause investigation purposes and updating procedures to ensure incidents do not recur.

8. SUMMARY

This CEMP sets out the overall management strategy for the excavation and construction works for the Proposed Development. The CEMP aims to ensure the management of construction activity is carried out in a planned, structured and considerate manner which minimises the impacts of the works on the local environment, residents and commercial activities in the vicinity of the site. Due to the nature of construction works, there may be unforeseen events which occur at the site and the project team will actively manage any changes and discuss with the relevant authorities, where required.

The CEMP will be reviewed regularly and will be updated by the construction contractor to account for any subsequent planning conditions issued, any updated guidance released and circumstantial changes at the site as the development progresses.

The project team are committed to ensuring that the construction activities to be carried out are pro-actively managed so as to minimise potential impacts.

9. REFERENCES

1. Environmental Protection Agency (EPA) *'Best Practice Guidelines for the Preparation of Resource and Waste Management Plans for Construction & Demolition Projects' (2021).*
2. Environmental Protection Agency (EPA), *Waste Classification: List of Waste & Determining if Waste is Hazardous or Non-Hazardous* (2018)
3. Council Decision 2003/33/EC, establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC.
4. Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006-2010.
5. Local Government Ireland, Best practice guidance for handling asbestos (2023).
6. British Standards Institution (BSI), *BS EN 1992-3:2006 Eurocode 2: Design of concrete structures. Liquid retaining and containment structures*. (2006).
7. Department of Transport, *Traffic Signs Manual 2010 – Chapter 8 Temporary Traffic Measures and Signs for Roadworks* (2010).
8. Department of Transport, *Guidance for the Control and Management of Traffic at Road Works* (2010).
9. Institute of Air Quality Management (IAQM), *Guidance on the Assessment of Dust from Demolition and Construction* (2014).
10. Bat Conservation Trust, *Bats & Lighting: Guidance Notes for Planners, engineers, architects and developers* (2010).
11. Institute of Lighting Professionals, *Guidance Notes for the Reduction of Obtrusive Light GN01* (2011).
12. Bat Conservation Trust UK, *Bats and Lighting in the UK – Bats and the Built Environment* Series (2018).
13. British Standards Institution (BSI), *BS 5228-2:2009 Code of practice for noise and vibration control on construction and open sites. Vibration (+A1:2014)* (2009).
14. International Standard ISO 1996-2:2017 - Description, measurement and assessment of environmental noise - Part 2: Determination of sound pressure levels (ISO 2017).
15. BS ISO 4866: 2010: *Mechanical vibration and shock – Vibration of fixed structures – Guidelines for the measurement of vibrations and evaluation of their effects on structures.*
16. British Standards Institution (BSI), *BS EN ISO 5348: 1998: Mechanical vibration and shock – Mechanical mounting of accelerometers* (1998).
17. *Waste Management Act 1996* as amended, including sub-ordinate and associated legislation.
18. *Litter Pollution Act 1997* as amended
19. Regional Waste Management Planning Offices, *The National Waste Management Plan for a Circular Economy 2024 - 2030 (2024).*
20. Construction Industry Research and Information Association (CIRIA), Control of Water Pollution from Construction Sites: Guidance for Consultants and Contractors (C532) (2001). ISBN 978-0-86017-532-2.
21. Inland Fisheries Ireland (IFI), Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters (2016).
22. Construction Industry Research and Information Association (CIRIA), Environmental Good Practice on Site (3rd edition) (C692) (2010). ISBN 978-0860176923.
23. CIRIA, *The SuDs Manual* (C753) (2015). ISBN 978-0-86017-759-3.
24. CIRIA, *Control of Water Pollution from Linear Construction Projects: Technical Guidance* (C648) (2006). ISBN 978-0-86017-684-0.

APPENDIX A. DCC RISK ASSESSMENT & MITIGATION REQUIREMENTS

All mitigation considerations that are required based on the results of the DCC risk assessment will be implemented as required. The DCC risk assessment will regularly be reviewed as part of the life cycle of the CEMP and changing conditions on site.

Locality

Identify those who may be affected by noise, including particularly sensitive locations (hospitals/schools) and determine ambient noise levels (noise maps or noise monitoring)

	Low	Medium	High
Expected duration of work			
Less than 6 months			
6 months to 12 months			
Over 12 months			✓
Proximity of nearest sensitive receptors			
Greater than 50 metres from site			
Between 25m and 50m			
Less than 25 metres			✓
Hospital or school within 100 metres			
Day time ambient noise levels			
High ambient noise levels (>65dB(A))			✓
Medium ambient noise levels (55-65dB(A)			
Low ambient noise levels (<55dB(A)			
Working Hours			
7am – 6pm Mon-Fri; 8am-1pm Sat			
Some extended evening or weekend work		✓	
Some night time working, including likelihood of concrete power floating at night			
SUBTOTAL A	0	1	3

Work Information

	Low	Medium	High
Location of works			
Majority within existing building			
Majority External		✓	
External Demolition			
Limited to two weeks	✓		
Between 2 weeks and 3 months			
Over three months			
Ground Works			
Basement level planned			
Non-percussive methods only		✓	
Percussive methods for less than 3 months			
Percussive methods for more than 3 months			
Piling			
Limited to one week	✓		
Bored Piling Only			
Impact or vibratory piling			
Vibration generating activities			
Limited to less than 1 week			
Between 1 week and 1 month		✓	
Greater than 1 month			
SUBTOTAL B	1	3	0

	Low	Medium	High
Risk Assessment A	0	1	3
Risk Assessment B	2	3	0
Total	2	4	3

The column in total risk assessment with the most ticks indicates the risk category that should be employed for the site.

General Site Considerations

All Sites

- All site staff will be briefed on noise mitigation measures and the application of best practicable means to be employed to control noise.
- Material and plant loading and unloading will only take place during normal working hours unless the requirement for extended hours is for traffic management (i.e. road closure) or health and reasons (application will be made to DCC a minimum of 4 days prior to proposed works)
- No materials will be burned on site
- All consignments containing material with the potential to cause air pollution being transported by skips, lorries, trucks or tippers will be covered during transit on and off site.
- The site will be dampened down as necessary to minimise windblown dust when necessary or during periods of dry weather. Where dust is likely to be a persistent problem a water spray system e.g. (IBC tanks fitted with hoses) will be put in place from the commencement of the works where required.
- Dust suppression equipment will be used when point source emissions are likely.
- The use of road sweeper and/or hand held dust vacuums will be used as required to wash external site perimeter to include pavements.

Medium and High-Risk Sites

- Good Quality site hoarding will be erected to maximise the reduction in noise levels
- The contact details of the contractor and site manager will be displayed to the public, together with the permitted operating hours, including any special permissions given for out of hours work
- The site entrance shall be located to minimise disturbance to noise sensitive receptors
- Internal haul routes shall be maintained and steep gradients will be avoided where possible
- The use of rubber linings in chutes, dumpers and hoppers to reduce impact noise where possible
- The opening and shutting of gates will be minimised through good coordination of deliveries and vehicle movements
- Adequate dust/debris screening will be put in place at the site boundary to contain and minimise the amount of windblown dust. This will be maintained in good condition at all times.
- The entry and exit points to the site will be constructed of hard standing which will be regularly dampened to minimise dust emissions.

Plant

All Sites

- Each item of plant and equipment will comply with the noise limits quoted in the relevant European Commission Directive 2000/14/EC
- All plant and equipment will be fitted with appropriate mufflers or silencers of the type recommended by the manufacturer or relevant expert
- All plant and equipment will only be used for the tasks for which it has been designed
- all plant and equipment will be shut down in intermittent use in the intervening periods between work or throttled down to a minimum
- All movable plant will be located away from noise sensitive receptors where possible

Medium and High-Risk Sites

- All plant will be powered by mains electricity where possible rather than generators
- Screening, using existing features or structures will be maxmised and the employ of partial or full enclosures for plant will be installed where practical.

Vehicle Activity

All Sites

- All vehicle movements (on site) will occur within normal working hours where possible. Other than where extension of work requiring such movements has been granted in cases of required road closures or for health and safety reasons.

Medium and High-Risk Sites

- All deliveries and vehicle movements will be planned where is practical so that vehicles are not waiting or queuing on the public roads. If unavoidable engines will be turned off.
- The site layout will be planned to ensure that reversing is kept to a minimum
- Where reversing is required, the use of broadband reverse sirens, where it is safe to do so will disengage and the use banksmen will be implemented.
- Where possible the use of rubber/neoprene or similar non-metal lining material matting will be used to line the inside of material transportation vehicles to avoid first drop high noise levels.
- Wheel washing or wheel cleaning facilities will be used on vehicles prior to exiting the site shall take place to ensure that adjoining roads are kept clean of dirt and debris. Regular washing of adjoining streets will also be carried out by the developer, as required by mechanical road sweepers.

Demolition Phase

All Sites

- If working out of hours for Health and Safety reasons (following approval by DCC) limit demolition activities will be kept to a low level noise activity unless absolutely unavoidable).

Medium and High-Risk Sites

- The use of acoustic screening will be employed when required; this will include planning the demolition sequence to utilise screening afforded by buildings to be demolished where is practical.
- The use low impact demolition methods such as non-percussive plant will be utilised where practicable.
- The transfer of noise and vibration from demolition activities to adjoining occupied buildings will be avoided through cutting any vibration transmission path or by structural separation of buildings where practical.

High-Risk Sites

- Rotary drills and 'bursters' activated by hydraulic or electrical power or chemically based expansion compounds to facilitate fragmentation and excavation of hard material will be utilised where practical.
- The removal of larger sections by lifting them out and breaking them down either in an area away from sensitive receptors or off site will be considered where possible.

Groundworks and Piling Phase

Medium and High-Risk Sites

- The following hierarchy of groundwork/piling methods will be used if ground conditions, design and safety allows:
  - pressed in methods, e.g., hydraulic jacking
  - Auger/bored piling
  - Diaphragm walling
  - Vibratory piling or vibro-replacement
  - Driven Piling or dynamic consolidation

- The location and layout of the piling plant will be designed to minimise potential noise impact of generators and motors
- Where impact piling is the only option a non-metallic dolly between the hammer and driving helmet or enclose the hammer and helmet with an acoustic shroud will be utilised where practical.
- Concrete pour sizes and pump locations will be considered as part of operations. The start of concrete pours will be undertaken as early as possible to avoid overruns.
- Where obstructions are encountered, work will be stopped and a review undertaken to ensure that work methods that minimise noise are used.
- When using an auger piling rig, dislodgement of material from the auger by rotating it back and forth will be avoided where possible. The use alternate methods, where safe to do so will be implemented.
- Pile caps will be prepared using methods which minimise the use of breakers, e.g., use hydraulic splitters to crack the top of the pile when plausible.

Monitoring

All Sites

- Appropriate dust suppression will be employed to prevent fugitive emissions affecting those occupying neighbouring properties or pathways

Medium and High-Risk Sites

- Pre-existing levels of ambient noise will be established by baseline monitoring or use of the noise maps.
- Working methods, processes and procedures will be appraised and reviewed on a regular basis to ensure continuous development of Best Practice Methodology (BPM)
- The 'ABC' Method detailed in Paragraph E.3.2 of BS 5228-1:2009 will be used to determine acceptable noise levels for day, evening and nighttime work.
- Vibration levels will be kept below 1.0 mm/sec (PPV) where possible. Where levels are expected to exceed this value residents will be warned and an explanation given.
- Street and footpath cleaning will be undertaken during the demolition and ground works phase to minimise dust emissions as required.
- The following air quality monitoring procedures will be applied:
  - Continuous real time particulate (i.e. PM10 and PM2.5) monitoring along the site boundary will be undertaken during any demolition, ground works or during a construction phase which Dublin City Council deems necessary. The location of particulate monitors will be agreed with DCC prior to installation. The results of the monitoring will be made available to DCC on request in an agreed format.
  - Dust deposition monitoring will be undertaken using a methodology agreed in advance with DCC.

High-Risk Sites

- Regular on-site observation monitoring and checks/audits will be undertaken to ensure that BPM is being used at all times. Such checks will include;
  - Hours of work
  - Presence of mitigation measures
  - Number and type of plant
  - Construction methods

Site reviews will be recorded and made available for inspection

- The Monitoring of noise and vibration continuously during demolition, piling, excavation and sub and superstructure works at agreed locations and report to DCC at agreed intervals and in an agreed format, when requested by DCC.

To comply with this the following will take place.
The monitoring locations for existing sites as agreed with officers of Dublin City Council must remain in situ. If additional monitoring is required this will be provided and the new locations will be agreed with Dublin City Council. For all new sites the monitoring locations must be agreed with Dublin City Council. The results of the monitoring must be forwarded to officers of the Air Quality Monitoring and Noise Control Unit every two weeks in the following format:

- The construction noise level as defined in British Standard 5228 and the peak particle velocity readings for the hours of operation of the site will be provided. This will include the construction noise level for any overtime period worked outside of normal working hours. A report will be provided detailing and discussing the noise and vibration levels over the reporting period. If a breach is recorded the follow up action that took place to prevent any further breaches will be included in the report.
- This information will be provided in electronic format if results are required owing to complaints. The results will be provided as soon as possible by the contractor to Dublin City Council upon request.

Communication and Liaison

Medium and High-Risk Sites

- A Community Liaison Plan will be developed by the developer in consultation with local residents/businesses and a single point of contact nominated to engage with Dublin City Council and the residents/businesses and to handle complaints and communication of site information if requested by DCC. A copy of this plan will be sent to Dublin City Council Planning Department as a matter of urgency in the case of sites where development has already commenced and 14 days in advance of commencement of works for any other site
- Contact details for the site manager and liaison officer will be displayed on the site hoarding
- All staff will be briefed on the complaints procedure and the mitigation requirement and their responsibilities to register and escalate complaints received.
- Regular updates at appropriate intervals to all identified affected neighbours/ businesses via a newsletter and the posting of relevant information on the site hoarding. The information will be made available via email, including weekly noise monitoring reports if requested by identified affected neighbours/ businesses

High-Risk Sites

- Regular community liaison meetings at appropriate intervals including prior to commencement of the project will be arranged as required.
- Contact with neighboring construction sites will be undertaken as required to ensure activities are coordinated to minimise any potential cumulative issues.

Extension of Working Hours – In Exceptional Circumstances

All Sites

- At least 4 days' notice will be given to Dublin City Council Planning Department when applying for extensions to normal working hours. Out of hours work will not be undertaken unless permission to do so has been granted.
- The applicant will demonstrate in writing that the works required cannot be carried out during normal working hours. The documentation sent in will be accompanied by a detailed engineering or/and traffic management or/and safety case as to why the works are required outside normal hours. Power floating after 6pm is the only activity that will be undertaken during the extensions where they relate to required large concrete pours. All reasonable and appropriate measures to minimise noise associated with these works will be put in place and no works other than those

approved will be carried out during extended working hours. The Developer/there agent will give the times and dates of the proposed work, and the mitigation measures that are to be used to minimise noise/disturbance.

- The identified affected neighbours/ businesses will be advised about the requirement for and duration of any permitted works outside of normal working hours, and associated environmental mitigation measures being put in place during the course of the extended works, following receipt of approval from DCC.
- All complaints will be referred directly to the site liaison person and a reply will be issued to the complaint within 3 hours of receipt of the complaint when possible.

A log of all complaints and a summary of how they were dealt with will be kept and be made available to DCC, as require