

4. DESCRIPTION OF THE PROPOSED DEVELOPMENT

4.1 Introduction

This section of the Environmental Impact Assessment Report (EIAR) describes the Proposed Development and its component parts. This chapter also describes the key features of the environmental controls that will be used within the development during the construction phase and the management of site operations. This description sets the basis against which the EIAR has been carried out.

The Proposed Development site which covers an area of 5.37 hectares (ha) will consist of a mix of residential units, open spaces, creche and all other site related infrastructure. The Proposed Development is a component of a larger residential development project (Proposed Project). The Proposed Project involves the construction of more than 500 residential units, and the development will require separate, individual planning applications for each part of the project.

The Proposed Development will consist of the following:

- Provision of 362 no. residential units in 4 no. development areas with a mix of apartment and house types on a site area of 5.37 ha. The buildings range between 2 no. and 6 no. storeys in height. The development will comprise the following:
 - 4 no. 2-bed townhouses;
 - 40 no. 3-bed townhouses;
 - 21 no. 4-bed townhouses;
 - 15 no. 1-bedroom duplex apartments;
 - 46 no. 2-bedroom duplex apartments;
 - 15 no. 2-bedroom duplex houses;
 - 46 no. 3-bedroom duplex houses;
 - 114 no. 1-bedroom apartments;
 - 56 no. 2-bedroom apartments;
 - 5 no. 3-bedroom apartments.
- Demolition of existing structures (333.8 m²);
- Vehicular access to the proposed development from a permitted road (Planning Reference 24/60370 refers);
- The provision of new active travel cycle and pedestrian access from Millers Lane;
- Upgrades to the existing access at Kingston Road
- The provision of a childcare facility (440 m²);
- The provision of public open space;
- The provision of 665 no. bicycle parking spaces;
- The provision of 313 no. car parking spaces;
- Public lighting, bin stores, signage, services, ESB substation, site landscaping and all ancillary site development and enabling works.

All elements of the Proposed Development have been assessed as part of this EIAR.

4.2 Site Setting

4.2.1 Site Description

The site is located within the townland of Knocknacarra and is approximately 3 kilometres (km) to the west of Galway City Centre. Irish Transverse Mercator (ITM) coordinates for the centre of the site are X 526636, Y 724682.

The planning application (red line) boundary area measures 5.37ha. The site itself is comprised of a mixture of agricultural grassland and brownfield. Stone walls and treelines are also present within the boundary of the site. There is an existing dwelling in the centre of the site along with some agricultural buildings. The surrounding area is urban in character and the site is surrounded by a number of residential estates and commercial and industrial buildings.

The Proposed Development site can be accessed via both the Western Distributor Road which is located to the north of the site and the Kingston Road (R337) which runs in an east west direction to the south of the site. Both of these roads provide connectivity to Galway City and beyond.

The Proposed Development site is located within the Galway Bay North hydrological catchment (Catchment 31), and the Knock [Furbo]_SC_010 hydrological sub-catchment. The Knocknacarragh stream (31K16) watercourse which is a 2nd order watercourse (part of the Knocknacarragh_010 system) is located approximately 10 metres (m) from the northeastern boundary of the Proposed Development site. It should be noted that this is not an open watercourse and appears to have been culverted in the past.

The Proposed Development site is underlain by the Spiddal groundwater body. An area deemed 'Extreme', 'High' and 'Exposed rock' groundwater vulnerability was identified in the northwest of the Proposed Development site as per EPA maps. The WFD Status 2016-2021 for the Spiddal groundwater body was deemed 'Good'.

The Proposed Development site is not located in any European sites (designated pursuant to the obligations under the Habitats Directive and Birds Directive). The Proposed Development site is located approximately 0.7km north of the Galway Bay Complex (SAC) and approximately 0.9km north of the Inner Galway Bay (SPA). The Proposed Development site is located 2.5km from Lough Corrib SAC and approximately 3.6km from Lough Corrib SPA. In this regard, an Appropriate Assessment Screening has been undertaken and a Natura Impact Statement has been prepared to accompany the application, so as to enable Galway City Council, as competent authority, to carry out a Stage Two Appropriate Assessment.

There are no protected structures or archaeological monuments located within the application site. The nearest recorded monument (GA094-111) is located c. 300 metres north-east of the site, however this is separated from the site by the Gort na Bró road. Therefore, given the distance and separation of the site from the recorded monument by the Gort na Bró road, the Proposed Development site does not fall within the zone of notification.

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Plate 4-1: View from Centre of the Site looking North-West.



Plate 4-2: View from Southern Section of the Proposed Development Site looking south towards existing residential houses.

Figure 4-1 below provides an overview of the Proposed Development site layout.



Notes:

- Do not scale from this drawing. Use figured dimensions in all cases.
- Verify dimensions on site and report any discrepancies to the Architect immediately.
- This drawing is to be read in conjunction with the Architect's Specification.
- © This drawing is copyright and may only be reproduced with the Architect's permission.

Drawing Notes:

| Unit Breakdown: | | | |
|---------------------------------|----|-------------------------------------|------------|
| 2-Bedroom + Study Townhouses | 4 | 2-Bedroom Ground Floor Duplex Apts. | 44 |
| 3-Bedroom Townhouses | 40 | 3-Bedroom Duplex Houses | 46 |
| 4-Bedroom Townhouses | 21 | 1-Bedroom Apartments | 114 |
| 2-Bedroom Mews Duplex Apartment | 2 | 2-Bedroom Apartments | 56 |
| 1-Bedroom Duplex Apts. | 15 | 3-Bedroom Apartments | 5 |
| 2-Bedroom Duplex Houses | 15 | | |
| | | Total | 362 |

| Issues & Revisions | | | |
|--------------------|----------|-------|-----------------------------|
| Rev. | Date | Drawn | Details of Issue / Revision |
| P3-S-01 | 16.09.25 | JK | PLANNING PERMISSION |

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Client Details:
Kingston Stables Ltd.

Project Details:
Residential Development @ Knocknacarra District Centre South, Knocknacarra, Galway

Job No: **P23-180D**
Issue Date: **13/08/2025**

Sheet Size: **A1_Portrait**
Drawn By: **JK**

Scale @A1: **1 : 1000**
Reviewed By: **DP**

Drawing Title:
Proposed Site Layout

Status: **P3**
Purpose of Issue: **PLANNING PERMISSION**

Project - System - Spatial Zone - Level - Type - Originator - Role - Number / Revision
P23-180D-RAU-00-XX-XX-DR-AR-1003 P3-S-01

4.3 Construction Management

4.3.1 Construction Timing and Phasing

It is expected that the construction works will take approximately 36 months to complete.

4.3.2 Working Hours

Normal construction working hours for the development and the concurrent works will be:

- > 8am - 6pm, Monday to Friday;
- > 9am - 1pm, Saturday; and
- > Sunday and Public Holidays - no working

It may be necessary in exceptional circumstances to undertake certain activities outside of the construction core working hours. Any construction outside of the construction core working hours will need to be agreed in advance with Galway City Council and scheduling of such works will have regard to nearby sensitive receptors.

4.3.3 Construction Phase Monitoring and Oversight

A Construction and Environmental Management Plan (CEMP) has been prepared for the Proposed Development and is included in Appendix 4-1 of this EIAR. The CEMP includes details of waste management and outlines clearly the mitigation measures and monitoring proposals that are required to be adhered to in order to complete the works in an appropriate manner. In the event that planning permission is granted for the Proposed Development, the CEMP will be updated prior to the commencement of the development, to address the requirements of any relevant planning conditions, including any additional mitigation measures which are conditioned and will be submitted to the Planning Authority for approval.

Routine inspections of construction activities will be carried out on a daily and weekly basis by the Senior Project Manager, Senior Engineers and Foremen to ensure all controls to prevent environmental impact, relevant to the construction activities taking place at the time, are in place. Environmental inspections will ensure that the works are undertaken in compliance with this CEMP and all other planning application documents. Only suitably trained staff will undertake environmental site inspections.

4.4 Construction Methodologies

This section describes the construction methodologies that will be used for the Proposed Development. Further details are also provided in the CEMP included as Appendix 4-1 of this EIAR.

The proposed anticipated construction methodology is summarised under the following main headings:

- > Site Establishment
- > Perimeter Fencing
- > Demolition Works
- > Site Excavation
- > Traffic Measures and Junction Upgrade Works
- > Proposed Site Roads and Footpaths
- > Services and Utilities
- > Residential Unit and Creche Construction
- > Landscaping Works

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4.4.1 Site Establishment

Prior to the commencement of any construction, entrances to the Proposed Development site will need to be fully established with appropriate security gates. Access to the site will be via a road which connects to the Western Distributor Road to the north and also via the Kingston Road (R337) to the south.

A site compound inclusive of a parking area for construction worker's vehicles will be provided within the confines of the site. There will be no parking permitted for any vehicles associated with the Proposed Developments construction phase unless agreed with the local authority prior to works inception.

4.4.2 Perimeter Fencing

The existing site boundaries are comprised primarily of stone/block walls along with a section of hedgerows and treelines. Perimeter hoarding will be provided around the site, where required. This will be in the form of heras fencing, hoarding or similar, to provide a barrier against unauthorised access from the public areas. A controlled access point in the form of a site entrance will be kept locked outside of normal working hours.

The fencing and hoarding will be well maintained and painted or covered with graphics portraying project information. Due to the nature of the works and the construction traffic using the site entrance, appropriate signage will be provided along relevant footpaths and site entrances to alert pedestrians to the traffic exiting/entering the site. Likewise, appropriate signage will be installed within and outside the site to alert drivers of the pedestrians crossing ahead. The contractor will be required to undertake the following.

- Conduct a comprehensive site induction for all site personnel prior to commencing work.
- Ensure all site staff possess valid and up-to-date Safe Pass certification.
- Maintain on-site security staff at all times during the construction phase.
- Install secure access control measures, including gated entry points for authorised personnel.
- Separate public pedestrian access from construction vehicular access,
- Ensure restricted access is maintained to the works

4.4.3 Demolition Works

Demolition works will be carried out on existing agricultural sheds (333.8m²) during the construction phase. The sequencing of the demolition works will be decided by the main contractor following detailed site survey of the buildings and surrounding area. Such a survey will provide detail on the:

- The condition of the buildings and demolition methods recommended.
- The location and removal methods for any toxic or hazardous materials.
- The type and location of adjoining and surrounding premises which may be affected by noise, vibration, dust and removal of the structures.

Demolition works at the Proposed Development site will primarily involve the following:

- Disconnection of services
- Soft strip of the buildings to be demolished;
- Complete structural demolition of the buildings;

- Grubbing up of the rising walls, foundations and redundant underground services within the footprint of the demolished structures.

4.4.4 Site Excavation

Soil Stripping and temporary stockpiling of soils and other excavated materials will be required around the site as the Proposed Development progresses. While these works occur, the following will apply:

- The area where excavations are planned will be surveyed and all existing services will be identified.
- All relevant bodies (i.e. ESB, Gas Networks Ireland, Eir, GCC, etc.) will be contacted and all drawings for all existing services sought.
- All plant operators and general operatives will be inducted and informed as to the location of any services.
- All plant operators and general operatives will be inducted and informed as to the identification of invasive species.
- A tracked 360-degree excavator will be used to strip the topsoil, and a dumper will be used to move the excavated materials to the temporary stockpile location.
- All excavated material will be reused for future landscaping works or for backfill of excavations.
- All stockpiles will be covered in a sheet of polythene, as required, which will prevent the creation of nuisance dust, and will also prevent sediment runoff in times of heavy precipitation.
- In all circumstances, excavation depths and volumes will be minimised.
- All excavated spoil will be stockpiled and contained entirely within the confines of the site. Alternatively, spoil will be transported off site to a designated waste facility.
- Earthworks will only be carried out during periods of dry weather.

4.4.5 Traffic Measures and Junction Upgrade Works

As outlined in the Traffic and Transportation Assessment which has been prepared by Tobins Consulting Engineers for the Proposed Development, vehicular access to the Proposed Development will be gained via the Altan arm of the Western Distributor Road / Bothar Stiofain / Altan roundabout and from the Kingston Road (R337) at the location of an existing laneway.

As part of the enabling works for the development, vehicular access to the proposed development will be gained from the Western Distributor Road, from an existing roundabout. There is also a second proposed access off the Kingston Road, north of the Galway Golf Club, in the vicinity of an existing laneway. The laneway will undergo upgrade works in accordance with Design Manual for Urban Roads and Streets (DMURS).

Pedestrian paths and cycle routes will be provided throughout the site, linking onto the existing Western Distributor Road and Kingston Road infrastructure

All internal roads will be designed in accordance with the requirements of DMURS and the Recommendations for Site Development Works for Housing Areas. Autotrack vehicle swept path analysis will be completed for the proposed site layout for a Large Car, a Refuse Truck and a Fire Tender to ensure the vehicles can safely manoeuvre around the Proposed Development site.

4.4.6

Proposed Site Roads and Footpaths

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Site Roads and Parking Areas

The construction methodology for the proposed access roads and parking areas is as follows:

- Excavation will take place until a competent stratum is reached.
- The competent stratum will be overlain with up to 500mm of granular fill and compacted.
- A layer of geogrid/geotextile may be required at the surface of the competent stratum.
- A final hard surface layer will be placed over the excavated road to provide a road profile to accommodate construction traffic.
- Prior to completion of the construction works on site, the finished asphalt road surface will be applied.

Footpaths

- Excavation will be required to reach the desired levels,
- Shuttering will be installed along the section where footpaths are to be installed,
- A layer of granular material (clause 804 or similar) will be placed within the shuttered area. This layer will then be compacted.
- Once the layer of aggregate material has been compacted to the desired level, concrete will be poured into the shuttered area. The concrete will be levelled with the appropriate falls and allowed to cure for the appropriate time period.
- Once the concrete has cured, the shuttering will be removed.
- Mitigation measures to control potential concrete runoff are outline in Section 3.3 below.

4.4.7

Services and Utilities

Any underground services encountered during the works will be surveyed for level and where possible will be left in place. If there is a requirement to move the service, then the appropriate body (ESB, Gas Networks Ireland, etc.) will be contacted, and the appropriate procedure put in place. Back fill around any utility services will be with dead sand/pea shingle where appropriate. All works will be in compliance with required specifications.

It is proposed to direct wastewater generated from the Proposed Development to an existing Uisce Éireann owned 225mm foul sewer line located west of the site, along the southern arm junction off the adjacent roundabout and Altan Road. The 225mm foul sewer outfalls to an existing Uisce Éireann 375mm foul network.

The foul sewer network has been designed using Causeway Flow drainage modelling software. All gravity pipes will be thermoplastic structured wall pipes, with diameters ranging from 150mm to 225mm. Gradients will vary between 1/21 and 1/200, and flow velocities will remain within the required range of 0.75 to 2.5 m/s, in accordance with Uisce Éireann standards. A pre-connection application was submitted to Uisce Éireann for the wastewater demand from the Proposed Development, and a Confirmation of Feasibility (CoF) statement has been received.

As outlined in the accompanying Civil Design Report which has been prepared by Tobins Consulting Engineers, the proposed Storm water drainage infrastructure incorporates the philosophies of nature-based Sustainable Drainage Systems (SuDS) to manage surface water runoff quantity and quality.

Water will be provided to the Proposed Development via a new connection to a nearby Uisce Eireann owned 315mm watermain which runs along the Kingston Road.

The installation of services and connections to the residential units will be carried out as follows:

- The area where excavations are planned will be surveyed and all existing services will be identified.
- All relevant bodies (i.e., ESB, Gas Networks Ireland, Eir, GCC etc.) will be contacted and all drawings for all existing services sought.
- A traffic management plan will be produced if required for connection works to the existing service network.
- A road opening licence will be obtained where required for connection to existing services.
- All plant operators and general operatives will be inducted and informed as to the location of any services.
- A tracked 360-degree excavator or similar will be used to excavate the trench to the required dimensions.
- All excavated material will be removed to an authorised waste recovery facility or, if suitable, stockpiled and reused for backfilling and landscaping where appropriate.
- Once the trench has been excavated the ducting/pipework will then be placed in the trench as per specification.
- Once the service ducts/pipework has been installed couplers will be fitted as required and capped to prevent any dirt etc. entering the ducts/pipes.
- The as built location of the ducting/pipework will be surveyed using a total station/GPS.
- Backfill material will be carefully placed so as not to displace the ducting/pipework within the trench.
- The appropriate warning/marker tape will be installed above the ducts/pipes at the appropriate depths.
- The surface will be reinstated as per original specification or to the requirements of the site layout/Local Authority as appropriate.

4.4.8 Residential Unit and Creche Construction

The residential dwellings along with the proposed creche will be constructed using the following methodology:

- The area where excavations are foundations are to be installed will be surveyed and all existing services will be identified.
- All relevant bodies (i.e. ESB, Bord Gáis, Eircom, GCC etc.) will be contacted and all drawings for all existing services sought.
- The area of each building will be marked out using ranging rods or wooden posts and the soil and overburden stripped and removed to nearby storage area for later use in landscaping.
- All plant operators and general operatives will be inducted and informed as to the location of any services.
- A tracked 360-degree excavator or similar will be used to excavate the area down to a competent stratum as approved by the Design Engineer and appropriately shuttered reinforced concrete will be laid over it.
- Foundations will be shuttered and cast with reinforced concrete as per the Design Engineer's specification.
- The block work walls will be built up from the foundation including a Damp Proof Course (DPC) and the floor slab constructed, having first located any ducts or trenches required by the follow on mechanical and electrical contractors.

- The block work will then be raised to wall plate level and the gables & internal partition walls formed. Scaffold will be erected around the outside of the buildings for these works.
- Any concrete flooring slabs will be lifted into position using an adequately sized mobile crane.
- The timber roof trusses will then be lifted into position using a teleporter or mobile crane depending on site conditions. The roof trusses will then be felted, battened, tiled and sealed against the weather.
- Windows, electrics, plumbing and all other building components and services will be installed in as timely a manner as is possible.
- Each building will be inspected and certified by the project design engineer at the appropriate stages of construction.

4.4.9 Landscaping Works

Prior to the completion of works on the Proposed Development site, the landscaping works will be carried out. This work will be carried out before the completion of each phase in order to ensure that the development will be an aesthetically pleasing place for residents to live. These works will involve the use of plant and machinery in order to carry out tasks such as earth moving. Materials which have been stockpiled for the task will be used as much as possible, and material will only be imported where it is required. During site preparation works, where topsoil is stripped prior to excavation, this material will be retained on site for use in landscaping.

Cunnane Stratton Reynolds have prepared detailed landscape drawings and a Landscape Design Report which can be found in Appendix 6-3 below.

4.5 Management of Construction Phase Activities

4.5.1 Environmental Management

All proposed construction activities on the site of the Proposed Development are outlined in the CEMP. The CEMP includes details of drainage, overburden management and waste management. In the event planning permission is granted for the Proposed Development, the CEMP will be updated prior to the commencement of the development, to address the requirements of any relevant planning conditions, including any additional mitigation measures which are conditioned and developed through the detailed design to be submitted to the Planning Authority for approval.

4.5.2 Protecting Water Quality

Prior to the commencement of any subsequent construction activities, the necessary mitigation measures will be put in place to ensure that no silt laden water runoff generated at the site will flow to nearby watercourses or drains thus ensuring the protection of surface water during the works. This will involve confirming the location of all existing services and delineating between drainage systems. Surface waters will be managed to ensure the prevention of run off from areas where excavation occurs does not result in silt laden water entering the existing storm water network.

Particular emphasis will also be placed on hazardous materials management and prevention of spills or leaks of fuel oils to ensure watercourses and groundwater are not impacted. Section 5 of the CEMP provides an Emergency Response Plan for dealing with spillages which may result in adverse environmental effects

Waters will not be discharged directly to any existing surface water sewers or drains. Particular emphasis will also be placed on hazardous materials entering the surface water management system as well as spill or leaks of fuel oils.

Excavation works have the potential to encounter sub-surface waters and ground water. In the event of encountering groundwaters during excavation, the excavation will be de-watered using a pump equipped with a silt bag on the discharge outlet. The pumped water will be discharged to either the existing surface water drainage system or to a suitably vegetated area within the site boundary. Where discharge to a vegetated area is required, the area will be enclosed with silt fencing, as necessary, to prevent sediment-laden runoff and ensure compliance with best practice environmental controls. In order to avoid hydrocarbons encountering groundwaters onsite, Section 3 of the CEMP presents mitigation measures to avoid the release of hydrocarbons onsite.

Surface and storm water generated during the operational phase will be captured by the proposed drainage network within the confines of the site boundary as outlined in Section 2 of the CEMP.

4.5.2.1 Prevention Pollution Control Measures

The following measures will be put in place to prevent the transportation of silt laden water or pollutants from entering any of the wider environments including watercourses/drains within or near the site:

- The site boundary will be fenced off with heras fencing (or similar) prior to works commencing to protect adjacent habitats and to prevent any egress of machinery outside of the site during construction activities.
- There are no watercourses on site and surface water will not be directly discharged into any external water bodies, surrounding land, or adjacent roadways. Any run-off generated on-site will undergo the necessary filtration process as previously outlined.
- The works will be managed to ensure there will be no silt-laden run-off beyond the site boundary. This will be achieved through the use of appropriate excavation techniques during the initial construction works. Where necessary, silt fencing will be installed downslope of the construction areas, particularly where drains or drainage pathways are present. These measures will serve as a protective measure to contain silt material within the site.
- Any requirement for temporary fills or stockpiles will be damped down or covered with polyethylene sheeting as required to avoid sediment release associated with heavy rainfall.
- Excavations will be carried out using a suitably sized excavator and, in all circumstances, excavation depths and volumes will be minimised.
- Excavated spoil will be stockpiled and contained entirely within the confines of the site boundaries. Material stockpiles will be kept at least 10m from any manholes. Depending on the nature of the excavated material, the stockpiles of excavated materials will be sealed with a digger bucket to reduce the potential for sediment runoff. These areas will be surrounded with silt fencing, if deemed necessary to prevent runoff.
- The minimum number of soil/subsoils and bedrock material should be removed from site. Soil may be reused for landscaping elsewhere on the site. However, any excess construction material shall be removed from the area and sent to an authorized waste recovery facility
- Works shall not take place at periods of high rainfall and shall be scaled back if or suspended if heavy rain is forecast during excavation works.
 - High rainfall' is defined as follows:
 - >10 mm/hr (i.e. high intensity local rainfall events);
 - >25 mm in a 24-hour period (heavy frontal rainfall lasting most of the day);
- Rainfall total greater than monthly average recorded in 7 consecutive days (prolonged heavy rainfall over a week).
- Stockpiles will also be covered with plastic sheeting during high rainfall to prevent runoff.
- In the event of encountering groundwaters during excavation, groundwater will be pumped out of the excavation using a pump equipped with a silt bag on the

discharge pipe, if necessary, to capture any silty material prior to subsequent natural percolation to ground. The area surrounding the silt bag will be surrounded by silt fencing if deemed necessary.

- As construction advances there may be a small requirement to collect and treat surface water within the site. This will be completed using perimeter swales at low points around the construction areas, and if required water will be pumped from the swales into silt bags prior to overland discharge allowing water to percolate naturally to ground. Overland discharge, if required, will be located within the confines of the site boundary.
- No wastewater will be discharged on-site during the construction phase.
- Good construction practices will be implemented at the site. This will ensure minimal risk. The Construction Industry Research and Information Association (CIRIA) provides guidance on the control and management of water pollution from construction sites, as outlined in *Control of Water Pollution from Construction Sites, guidance for consultants and contractors* (CIRIA, 2001). This guidance will be adhered to throughout the construction phase to ensure that surface water generated on site contains minimum sediment.

Details of control measures which will be implemented at the site, if required are included in the Plates below.



Plate 4-3. Silt Bag with water being pumped through.



Plate 4-4. Silt Bag under inspection.

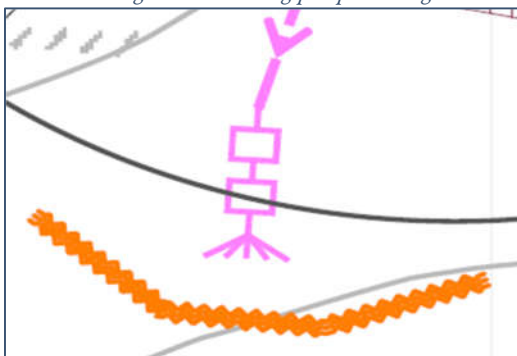


Plate 4-5. Silt Fence surrounding the discharge from Silt Bag.



Plate 4-6. Embedded Silt Fence

(Note: Approximate locations for such a control measure cannot be provided as it cannot be identified where such measure may be adopted on site prior to commencement.)

4.5.2.2 Cement Based Products Control Measures

The complete washing out of concrete trucks will not be permitted at the site during the construction phase. Suppliers will be directed back to their own facility to complete the washout process. However, a washout area for chute cleaning will be provided at various locations in close proximity to the concrete pour locations.

The following mitigation measures are proposed to avoid release of cement leachate from the site:

- No batching of wet-cement products will occur on site.
- Ready-mixed supply of wet concrete products and where possible, emplacement of pre-cast elements, will take place. Where possible pre-cast elements for culverts and concrete works will be used.
- No washing out of any plant used in concrete transport or concreting operations will be allowed on-site.
- Where concrete is delivered on site, only chute cleaning will be permitted, using the smallest volume of water possible. No discharge of cement contaminated waters to the construction phase drainage system or directly to any artificial drain or watercourse will be allowed.
- Use weather forecasting to plan dry days for pouring concrete.
- Ensure pour site is free of standing water and plastic covers will be ready in case of sudden rainfall event.

4.5.2.3 Refuelling, Fuel and Hazardous Materials Storage

The following measures are proposed to avoid release of hydrocarbons at the site:

- Storage/refuelling will be located in and carried out in a designated area of the construction site, located a suitable distance from excavation works. This area should be underlain by concrete hard standing, and tanks should be inspected for leaks regularly. Spill kits should be supplied at these stations and staff should be trained in their use and in spill control. Drainage from these areas shall be diverted for collection and not discharged into waterbodies without treatment and other best management practices.
- Fuels, lubricants and hydraulic fluids for equipment used on the site will be carefully handled to avoid spillage, properly secured against unauthorised access or vandalism, and provided with spill containment.
- Minimal refuelling or maintenance of construction vehicles or plant will take place on site. Off-site refuelling will occur at a controlled fuelling station.
- On-site refuelling will take place by direct refuelling from the delivery truck or from fuel stored within a bunded fuel tank. Mobile measures such as drip trays and fuel absorbent mats will be used during all refuelling operations.
- Vehicles will never be left unattended during refuelling. Only dedicated trained and competent personnel will carry out refuelling operations and plant refuelling procedures shall be detailed in the contractor's method statements.
- All diesel or petrol pumps required onsite will be operated within bunded units.
- The small volume of fuels, lubricants and hydraulic fluids that will be stored at the site will be placed within an appropriately bunded storage area within the boundaries of the Proposed Development site.
- Storage bunds/trays, if required will be constructed of an impermeable membrane (HDPC Plastic) and will have the adequate capacity to contain the volume of the liquids contained therein, if a leak/spillage does occur from one of the storage vessels.
- All site plant will be inspected at the beginning of each day prior to use. Defective plant shall not be used until the defect is satisfactorily fixed. All major repair and maintenance operations will take place off site.

- Spill kits will be available in each item of plant to deal with any accidental spillage in and outside the refuelling area.
- All plant and machinery will be serviced before being mobilised to site.
- Potential impacts caused by spillages etc. during the construction phase will be reduced by keeping spill kits and other appropriate equipment on-site.
- Spill kits will be used to deal with any accidental spillage in and outside the refuelling area. Spill control measures as outlined fully in the CEMP accompanying this application will be adhered to.
- Harmful materials shall be stored on site for use in connection with the construction works only. These materials shall be stored in a controlled manner.
- An emergency plan for the construction phase to deal with accidental spillages will be contained within Emergency Response Plan.

4.5.3 Dust Control

Construction dust can be generated from many on-site activities such as excavation and backfilling. The extent of dust generation will depend on the type of activity undertaken, the location, the nature of the dust, i.e. soil, sand, etc and the weather. In addition, dust dispersion is influenced by external factors such as wind speed and direction and/or periods of dry weather. Construction traffic movements also have the potential to generate dust as they travel along the approach road. The measures below will also prevent construction debris arising on the public road network.

Proposed means to control dust include:

- Any site roads with the potential to give rise to dust will be regularly watered, as required, during dry and/or windy conditions
- The designated public roads outside the site and along the main transport routes to the site will be regularly inspected by Site Management for cleanliness, and cleaned as necessary
- Material handling systems and material storage areas will be designed and laid out to minimise exposure to wind
- Water misting or bowsers will operate on-site as required to mitigate dust in dry weather conditions
- The transport of soils or other material, which has significant potential to generate dust, will be undertaken in tarpaulin-covered vehicles where necessary
- All vehicles leaving the construction areas of the site will rinse their wheels at a designated wheel wash area prior to entering the local road network.
- All construction related traffic will have speed restrictions on un-surfaced roads to 15 kph
- Daily inspection of construction sites to examine dust measures and their effectiveness.
- When necessary, sections of the approach road will be swept using a truck mounted vacuum sweeper.

4.5.4 Noise Control

The operation of plant and machinery, including construction vehicles, is a source of potential noise impacts. Construction phase noise is typically assessed in light of guidance set out in British Standards Institution (BSI) (2014) *BS 5228-1:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 1: Noise*¹, as well as the National Roads Authority (NRA) (now TII) (2014) *Good Practice Guidance for the Treatment of Noise during the Planning of National Road*

¹ British Standards Institution (BSI). (2014) *BS 5228-1:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 1: Noise*. London: BSI.

*Schemes*². Although the NRA document is not directly relevant to the Proposed Works, it has seen increasing application to non-road projects in recent years in the absence of any specific Irish guidance.

All construction plant used on-site will be required to comply with maximum sound power levels set out in *Directive 2000/14/EC of the European Parliament and of the Council of 8 May 2000* on the approximation of the laws of the Member States relating to the noise emission in the environment by equipment for use outdoors, implemented in Ireland by the *European Communities (Noise Emission by Equipment For Use Outdoors) Regulations, 2001 (S.I. 632 of 2001)*⁴, as amended by the *European Communities (Noise Emission by Equipment for Use Outdoors) (Amendment) Regulations, 2006 (S.I. 241 of 2006)*⁵.

Proposed measures to control noise include:

- Construction equipment for use outdoors shall comply with the European Communities Regulations– Noise Emission by Equipment for Use Outdoors – SI 241 - 2006.
- Diesel generators will be enclosed in sound proofed containers to minimise the potential for noise impacts.
- Where practical, separation distances to any locations of frequent human use where noise would have the potential to interfere with typical activities will be maximised through appropriate on-site positioning of plant. Plant will also be sited so as to maximise potential screening provided by intervening topographical features, structures, and barriers
- Plant with the potential of generating noise or vibration will be placed as far away from sensitive properties as permitted by site constraints.
- Plant and machinery with low inherent potential for generation of noise and/or vibration will be selected. All construction plant and equipment to be used on-site will be modern equipment and will comply with the European Communities (Construction Plant and Equipment) (Permissible Noise Levels) Regulations;
- Regular maintenance of plant will be carried out in order to minimise noise emissions. Particular attention will be paid to the lubrication of bearings and the integrity of silencers;
- All vehicles and mechanical plant will be fitted with effective exhaust silencers and maintained in good working order for the duration of the works;
- Compressors will be of the “sound reduced” models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use and all ancillary pneumatic tools shall be fitted with suitable silencers;
- Machines which are used intermittently will be shut down during those periods when they are not in use;
- Training will be provided by the Site Management to drivers to ensure smooth machinery operation/driving, and to minimise unnecessary noise generation.
- Local areas of the access route will be condition monitored and maintained if necessary.
- It is recommended that drivers of heavy goods vehicles (HGVs) associated with the development extend due care and courtesy to other road users. Excessive use of and unnecessary engine racing will be avoided.

The proposed construction working hours are as follows:

- 08:00 – 18:00 Monday to Friday

² *National Roads Authority (NRA) (now TII) (2014) Good Practice Guidance for the Treatment of Noise during the Planning of National Road Schemes.*

³ *Directive 2000/14/EC of the European Parliament and of the Council of 8 May 2000*

⁴ *European Communities (Noise Emission by Equipment For Use Outdoors) Regulations, 2001 (S.I. 632 of 2001)*

⁵ *European Communities (Noise Emission by Equipment for Use Outdoors) (Amendment) Regulations, 2006 (S.I. 241 of 2006)*⁵.

- > 09:00 to 13:00 on Saturday.
- > Closed Sundays or Public Holidays.

Deviation from these times will only be allowed in exceptional circumstances where written approval has been received from the planning authority.

There is no published statutory Irish guidance relating to the maximum permissible noise level that may be generated during the construction phase of a project. Local authorities normally control construction activities by imposing limits on the hours of operation and consider noise and vibration limits at their discretion. However, there are several publications commonly used in Ireland to set appropriate construction criteria.

The Transport Infrastructure Ireland (TII) *Guidelines for the Treatment of Noise and Vibration in National Road Schemes* (2014)⁶ provides detailed information on the permissible construction noise levels for various hours of operation. The maximum allowable construction noise level limits, as per the TII publication, are listed below:

- > Monday to Friday 07:00 to 19:00hrs 80 dB
- > Monday to Friday 19:00 to 22:00hrs 65 dB
- > Saturdays 08:00 to 16:30hrs 75 dB
- > Sundays & Bank Holidays 08:00 to 16:30hrs 65 dB

All complaints of noise received during the construction phase will be logged in a register and investigated immediately. Details of follow-up action will be included in the register.

4.5.5 Vibration Control

Vibration standards can be considered in two varieties: those dealing with human comfort and those dealing with cosmetic or structural damage to buildings. For example, vibration is perceptible at around 0.5mm/s in the case of road traffic, however at higher magnitudes, this vibration may become an annoyance. Guidance relevant to the protection of building structures is contained in the following documents:

- > **British Standards Institution (BSI). (1993) *BS 7385-2:1993 Evaluation and Measurement for Vibration in Buildings – Part 2: Guide to Damage Levels from Ground Borne Vibration*. London: BSI⁷.**
- > **British Standards Institution (BSI). (2014) *BS 5228-2:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 2: Vibration*. London: BSI⁸.**

Vibration can be more difficult to control than noise, and there are few generalisations which can be made about its control. It should be borne in mind that vibration can cause disturbance by causing structures to vibrate and radiate noise in addition to perceptible movement. The following mitigation measures will be implemented at the site during the demolition and construction phases to control vibration levels:

- > The hours of working should be planned, and account should be taken of the effects of vibration upon persons in areas surrounding site operations and upon persons

⁶ *Transport Infrastructure Ireland (TII), 2014. Guidelines for the Treatment of Noise and Vibration in National Road Schemes. Dublin: Transport Infrastructure Ireland*

⁷ *British Standards Institution (BSI). (1993) BS 7385-2:1993 Evaluation and Measurement for Vibration in Buildings – Part 2: Guide to Damage Levels from Ground Borne Vibration. London: BSI*

⁸ *British Standards Institution (BSI). (2014) BS 5228-2:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 2: Vibration. London: BSI*

- working on site, taking into account the nature of land use in the areas concerned and the duration of work.
- Where reasonably practicable, low vibration working methods should be employed. Consideration should be given to use of the most suitable plant, reasonable hours of working for operations which might give rise to perceptible vibrations, and economy and speed of operations.
 - Vibration should be controlled at source and the spread of vibration should be limited.
 - Where reasonably practicable, plant and/or methods of work causing significant levels of vibration at sensitive premises should be replaced by other less intrusive plant and/or methods of working.
 - Vibration from stationary plant (e.g. generators, pumps, compressors) can, in some instances, prove disturbing when located close to sensitive premises or when operating on connected structures. In these instances, equipment should be relocated or isolated using resilient mountings.
 - Where processes could potentially give rise to significant levels of vibration, on-site vibration levels should be monitored regularly by a suitably qualified person appointed specifically for the purpose, particularly if changes in machinery or project designs are introduced. A method of vibration measurement should be agreed prior to commencement of site works.
 - On those parts of a site where high levels of vibration are likely to be a hazard to persons working on the site, prominent warning notices should be displayed.
 - Offsite fabrication - In method statement/risk assessment the contractor will highlight any activity that may cause significant vibration levels and include measures in helping to mitigate these emission levels.
 - Equipment is to be task specific.
 - Best practice vibration control measures will be employed by the contractor.
 - A designated member of staff will be appointed as the point of contact for any queries or complaints from nearby local residents.

4.5.5.1 Waste Management

The CEMP, Appendix 4-2 of this EIAR, provides a waste management plan (WMP) which outlines the best practice procedures during the construction phase of the project. The WMP outlines the methods of waste prevention and minimisation by recycling, recovery and reuse at each stage of construction of the Proposed Development. Disposal of waste will be a last resort.

A comprehensive site-specific Construction Demolition Waste Management Plan (CDWMP) has also been prepared by Tobins Consulting Engineers. The purpose of the Construction & Demolition Waste Management Plan (CDWMP) will ensure that waste storage and movement within the development takes place in a manner which complies with relevant legislation and has a minimal impact on the nearby existing commercial and residential areas and ensures, where prevention is not possible, that maximum reuse, recycling and recovery of waste with diversion from landfill, wherever possible.

The plan estimates the type and quantity of waste to be generated from the proposed development during the Construction and Demolition phases and provides a strategy for managing the different waste streams. Guidance will also be given to ensure appropriate method of transportation of waste is used to prevent littering or other serious environmental pollution.

The Waste Management Act 1996 (Act) and its subsequent amendments provide for measures to improve performance in relation to waste management, recycling and recovery. The Act also provides a regulatory framework for meeting higher environmental standards set out by other national and EU legislation.

The Act requires that any waste related activity must have all necessary licenses and authorisations. It will be the duty of the Waste Manager on the site of the development to ensure that all contractors

hired to remove waste from the site have valid Waste Collection Permits to ensure that the waste is delivered to a licensed or permitted waste facility. The hired waste contractors and subsequent receiving facilities must adhere to the conditions set out in their respective permits and authorisations.

4.5.5.2 Third Schedule of Non-native Species

The introduction and/or spread of Third Schedule non-native species such as Japanese Knotweed, Himalayan Knotweed, Himalayan Balsam, Gunnera, and Giant Hogweed for example, could result in the establishment of the species and this may have knock on effects on the surrounding environs.

During the Invasive Species Survey, which was carried out on the 15th of May 2024, Sea Buckthorn and Three Leaved Garlic were both recorded within the Proposed Development boundary. As a result of these third schedule non-native invasive species being present on the Proposed Development site, a site-specific Invasive Species Management Plan has been created. This is attached as Appendix 6-2 of the Biodiversity chapter.

Appropriate control measures will be incorporated into the design and construction phase of the development to ensure that the relevant measures (outlined in the following section below) will be implemented.

4.5.5.2.1 Treatment and Management Methodologies

Preliminary Stages

A dedicated invasives species survey of the Proposed Development site will be carried out three months prior to commencement of works on site to determine if the species have spread further throughout the site. Surveys should be undertaken during the summer months (June - July) when the extent of infestation will be fully visible.

The treatment methodologies have been carefully considered and are proposed to eradicate Sea buckthorn and Three-cornered leek and manage their spread further within the Proposed Development site. These treatment measures are considered as part of the planning application. An ecologist will be on site to supervise the treatment. The infested areas will be marked out with posts and hazard tape prior to any machinery ingress or works within or near this area.

Three- Cornered Leek

The following management is proposed in relation to Three-cornered Leek:

- An ecologist will be on site to supervise the treatment.
- The infested area will be marked out with posts and hazard tape prior to any machinery ingress or works within or near this area.
- Three-cornered leek can be controlled through chemical means. This invasive plant species will be treated chemically;
 - Chemical treatment is the chosen treatment method. It is advised to treat the plant *in-situ* and avoid disturbance and the increased risk for spread and dispersal.
 - This plant can be treated with a Glyphosate based chemical herbicide on an annual basis. It is recommended that a Glyphosate-based herbicide will be applied as a spot treatment to individual plants, or by foliar and stem spray in early spring before the plant flowers which typically happens between April and June. It is best to manually break the leaves prior to applying the chemical to insure it enters the leaf. Follow-up annual treatments are necessary as large numbers of shoots may re-appear the following year as may new seedlings.

- The timing of the treatment applied is vital for the eradication of three-cornered leek. The control methods must be implemented in March or April when the leaves of the three-cornered leek are fully formed. Control methods should not be carried out if plants have finished flowering and produced seed (from the outset of May) as the movement of plants at this stage in the plant's cycle can cause a further spread of the invasive species.
- Three-cornered leek produces vast amounts of seeds annually and these seeds can persist and remain dormant in the soil for years before germinating. Due to this, a monitoring programme will be established to eradicate the invasive plant where the plants currently exist onsite. Therefore, it is key to undertake the control and treatment measures for a consecutive number of years to eradicate the seed bank and bulbs. The area will need to be surveyed by an ecologist in March/April, May and again in September for the presence of Three-cornered leek for a minimum of 3 years after the treatment to ensure no further spread is taking place.

Sea Buckthorn

Mechanical/ physical removal of Sea buckthorn controls the spread of the invasive species by either damaging or removing the plant material via physical action, i.e., uprooting, felling, slashing, mowing, grubbing etc. Juvenile Sea buckthorn saplings were recorded within the site. It is anticipated that the construction phase will span 2 years and as such it is likely to mature with time, in the absence of control measures being implemented.

The recommended treatment methodology for Sea buckthorn includes;

- Any juvenile new shoots of Sea buckthorn will be removed by hand pulling or manual removal using hand tools. The plant will be physically cut and dug up from the root either by hand or using an excavator to grub up the plant.
- Larger stumps will be cut and the stumps painted with Glyphosate herbicide.
- Following clearance of woody material, any necessary excavation of the ground will be undertaken. As sea-buckthorn can readily regenerate from root and rhizomatous material present in soil, any soil arising from areas infested with sea-buckthorn must be contained and disposed of appropriately.
- The vegetation material can be disposed of by burning or incineration.
- If for any reason, burning of plant material is not feasible on-site this material and the soil potentially contaminated within root or rhizome fragments must be gathered and disposed of off-site, to a waste disposal facility that has a pollution prevention and control permit or waste management licence. In order to move material potentially contaminated with Third or First Schedule invasive plant species, a licence is required to be obtained from NPWS. The conditions of the permit or licence of the waste disposal facility must allow the disposal of invasive plants at the site. Delivery should be agreed with the waste site in advance to make sure they can accept material containing invasive plants. When transporting invasive plant material and soil potentially contaminated with invasive plant material, any vehicle used must be covered or securely sheeted so that plant material cannot be accidentally dispersed during transportation.

4.5.6 Traffic Management

As part of the Construction Stage Safety Plan for the works a Traffic Management Plan (TMP) will be prepared by Tobins Consulting Engineers in accordance with the principles outlined below and held on site. It will comply at all times with the requirements of;

- Chapter 8 of the Department of the Environment Traffic Signs Manual, current edition, published by The Stationery Office, and available from the Government Publications Office, Sun Alliance House, Molesworth Street, Dublin 2;
- Guidance for the Control and Management of Traffic at Road Works (June 2010) prepared by the Local Government Management Services Board;

- Any additional requirements detailed in the Design Manual for Roads and Bridges & Design Manual for Urban Roads & Streets (DMURS).

Construction traffic will consist of the following categories:

- Private vehicles owned and driven by site construction and supervisory staff,
- Excavation plant, dumper trucks and materials delivery vehicles involved in site development works,

The following mitigation measures will be implemented, as required in order to minimise movement and potential impacts associated with construction phase traffic:

- The aggregates required for the construction of the Proposed Development will be sourced, as much as is possible and practicable, from quarries and suppliers located as near as possible to the Proposed Development. This will reduce the potential for any negative impacts associated with the haulage of the materials to the site of the Proposed Development. Existing soils and subsoils located on the site will be used where possible to reduce the amount of such materials required for import onto the site. Aggregates will be transported to the site in tarpaulin covered trucks.
- Warning signs / Advanced warning signs will be installed at appropriate locations in advance of the construction access locations.
- Construction and delivery vehicles will be instructed to use only the approved and agreed means of access; and movement of construction vehicles will be restricted to these designated routes.
- Speed limits of construction vehicles to be managed by appropriate signage, to promote low vehicular speeds.
- Parking of site vehicles will be managed and will not be permitted on public road, unless proposed within a designated area that is subject to traffic management measures and agreed with Galway City Council.
- Consolidation of delivery loads to / from the site and management of large deliveries on site to occur outside of peak periods,
- Use of precast/prefabricated materials where possible,
- Adequate storage space on site to be provided where possible,
- Scheduling of movements to outside peak traffic times and school pick-up/drop off times.
- All vehicles to switch off engines when not in use,
- No idling of vehicles at the site,
- Vehicle cleaning and wheel washing to take place on leaving the site,
- On-road vehicles to comply to set emission standards,
- All non-road mobile machinery (NRMM) to be fitted with appropriate exhaust systems and to be regularly serviced,
- Haul routes to be hard surfaced and cleaned and appropriate speed limits applied around the site.
- All vehicles will be suitably serviced and maintained to avoid any leaks or spillage of oil, petrol or diesel.
- Safe and secure pedestrian facilities provided where construction works obscure any existing pedestrian footways. Alternative pedestrian facilities will be provided in these instances, supported by physical barriers to segregate traffic and pedestrian movements, and to be identified by appropriate signage. Pedestrian facilities will cater for vulnerable users including mobility impaired persons.

4.5.6.1 Staff and Parking

The site is readily accessible by bus services within nearby walking distance. On-site employees will generally arrive before 08:00, thus avoiding the morning peak hour traffic. Construction employees will

generally depart after 17:00. It should be noted that a large proportion of construction workers may arrive in shared transport.

Construction traffic will not be permitted to park on the public roads or within the general area outside the main site. Restricted parking facilities will be provided by the contractor. Parking of site vehicles will be managed and will not be permitted on public road, unless proposed within a designated area that is subject to traffic management measures and agreed with Galway City Council.

4.6 Operational Phase

The Proposed Development will require periodic maintenance throughout the operational phase. The operation of a residential development is not a recognized source of environmental emissions or nuisance and so there will be no adverse effects associated with its operation.

The storm water drainage infrastructure for the Proposed Development will incorporate the philosophies of nature based Sustainable Urban Drainage Systems (SuDS). It is proposed to divert and then culvert the existing surface water drains within the site so that they run beneath the development and outfall to their natural existing destination. . The proposed storm water drainage system will be designed to cater for all surface water runoff from all hard surfaces in the Proposed Development including roadways, roofs, parking areas etc. All stormwater generated on site from roadways and roofs will discharge via an Oil/Petrol Interceptor to soakaways/attenuation units. The soakaway/attenuation units will be strategically situated within the site. Any existing open drains located within the site will be diverted if necessary and culverted so that they run beneath the development and outfall to their natural existing destination.

Water will be provided to the Proposed Development via a new connection to a nearby Uisce Eireann owned 315mm watermain which runs along the Kingston Road.

The proposed foul drainage layout for the development will outfall, via gravity, to an existing Uisce Eireann owned 225mm foul sewer line located west of the development along the southern arm junction of the adjacent roundabout and Altan road. The 225mm foul sewer outfalls to an existing Uisce Eireann 375mm foul network.

It is proposed that all pipes will be thermoplastic structured wall pipes with the maximum and minimum sizes being between 150mm and 300mm respectively. The maximum and minimum pipe gradients shall fall between 1/30 and 1/200. The sewer network has been designed to cater for six times the dry weather flow rate. A flow of 150 litres head per day plus an additional 10% allowance to account for infiltration within a new development have been considered in the foul sewer design as per Uisce Eireann.

4.6.1 Property Management – Operational Stage

A property management company will be formed at an early stage of the development to ensure that all property management functions are dealt with for the development.

The property management company has a number of key responsibilities including compiling the service charge budget for the development for agreement with the owners' management company. The service charge budget covers such items as cleaning, landscaping, refuse management, utility bills, insurance, maintenance, and security. A full detailed summary of the provisions which the estate management company and appointed managing agents will be responsible for is outlined in the Estate Management Strategy Report which is prepared by Aramark and accompanies this EIAR and planning application.

4.6.2 Sustainable Energy Use

A Climate Scheme Sustainability Statement has been prepared by Moloney Fox Consulting for the Proposed Development and is outlined in Appendix 4-2. The Statement outlines how a target Building Energy Rating (BER) rating of A2 will be achieved using heat pump solutions as heating provisions.

Design intent for apartments and townhouses has considered this also. Aluminium radiators will be provided in each space complete with thermostatic radiator valves (TRVs) as required. These radiators are specifically designed to work with low temperature heating systems and have quicker heat up periods and transfer rates than standard steel panel radiators

Demand Control Ventilation will be provided to provide controlled natural ventilation to each dwelling. Demand Control Ventilation (DCV) is an energy-saving strategy used in building ventilation systems to optimize the amount of fresh air brought into a space based on its actual occupancy and ventilation requirements. DCV systems improve indoor air quality while reducing energy consumption by delivering the right amount of ventilation air when and where it is needed.

DCV systems utilize sensors and controls to monitor various factors such as occupancy, carbon dioxide (CO₂) levels, temperature, humidity, and volatile organic compounds (VOCs) in the space. These sensors provide feedback to the ventilation system, allowing it to modulate the amount of fresh air supplied accordingly.

Light emitting diode (LED) lighting and advanced lighting controls shall be implemented into the houses and apartments. LEDs have become the lighting technology of choice in modern apartment buildings due to their numerous advantages over traditional lighting options. LED lights are highly energy-efficient, consuming significantly less electricity than incandescent or fluorescent bulbs. They convert a higher percentage of electrical energy into light, minimizing wasted energy as heat.

LED lighting and lighting control systems have transformed modern buildings, offering energy-efficient illumination, improved user experiences, and sustainable practices. The combination of LED technology and advanced controls provides residents with flexibility, comfort, and cost savings while promoting environmental stewardship in residential communities.

4.7 Decommissioning Phase

It is not intended that the proposed buildings will be removed, as permanent planning permission is being sought for this development. The Proposed Development will form an integral part of the local housing needs. Therefore, it is intended that the Proposed Development will be retained permanently and will not be decommissioned.