

Ballymastone Phase 3

Preliminary Construction & Environmental Management Plan

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1 WORKS PROPOSAL

This Preliminary Construction & Environmental Management Plan is for the works associated with the construction of 398 residential units, creche, community facility, and associated infrastructure at Phase Three Ballymastone, Donabate, Co. Dublin.

This LRD Application for Phase Three of the Ballymastone masterplan development to Fingal County Council is prepared on behalf of Glenveagh Living Limited, consisting of a c.11.28 ha site area which is located at Ballymastone, Donabate, Dublin. Please see Figure 1 below indicating the site layout.

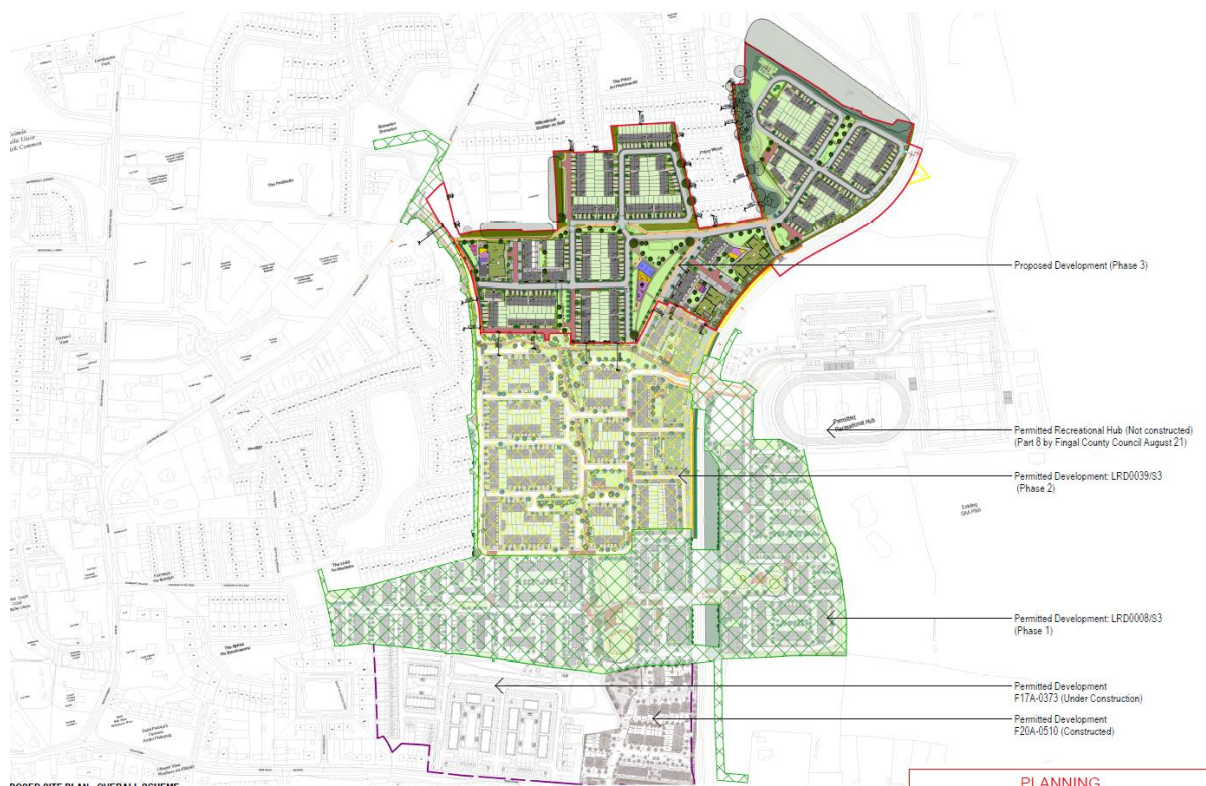


Figure 1: Site Layout

In summary, the proposed development will consist of the construction of a residential development, which represents Phase 3 of the wider development of the Ballymastone Lands, ranging in height from 2- to 6-storeys, to accommodate 398 no. residential dwellings (including a mix of apartments, duplexes and houses), private amenity space, a crèche (c. 646sq.m), and a community space (c. 100sq.m). The site will accommodate 316 no. car parking spaces in total (comprised of 288 no. residential spaces, 10 no. spaces for the proposed crèche/community space, 6 no. EV charging spaces including accessible spaces, and 12 no. spaces ducted for future provision), 1,619 total no. bicycle parking spaces, new pedestrian/cycle links, road improvements,

storage, services (including water, wastewater, electricity and telecommunications) and plant areas. Landscaping will include communal amenity areas, SuDS features, and significant public open space (c. 15.3% of the net site) including outdoor exercise and play equipment. The construction management issues addressed within this plan include the following:

- General issues
- Working Hours
- Traffic Management
- Stripping of Topsoil and Excavation of Subsoil
- Erosion and Sediment Control
- Accidental Spills and Leaks
- Biodiversity
- Waste Management
- Noise and Vibration
- Air, Dust & Climatic Factors
- Landscape and Visual Impact
- Archaeology
- Material Assets – Site Services
- Site Compound Facilities and Parking

This Preliminary Construction & Environmental Management Plan shall be referenced in all tender and contract documentation for the proposed works and is to be read in conjunction with all relevant Engineering and Architectural documentation.

All works must be carried out in accordance with the mitigation measures outlined in this document.

2 PROJECT RESPONSIBILITIES

The Contractor appointed to undertake the construction works, shall be responsible for developing, and managing, the project specific Construction Environmental Management Plan (CEMP) incorporating the methodologies described in this plan. The plan will be developed in consultation with Fingal County Council. The proposed methodologies described in this report are industry best practice. Logistical issues, such as traffic restrictions and available space for storage, manoeuvres etc. may necessitate certain revisions.

The Contractor's Project Manager will be responsible for the overall implementation of the plan and associated procedures. The Project Manager will ensure that reporting and recording requirements are met and all necessary resources are in place to support the implementation of the plan.

To ensure the CEMP remains 'fit for purpose' for the duration of the project it will be reviewed and updated by the Project Manager during the life of the project to ensure that it remains suitable to facilitate efficient and effective delivery of the project environmental commitments. The environmental review will consider past performance from inspections, audit report and monitoring data, and plan actions required to mitigate forthcoming risks.

The Contractor shall designate a Site Engineer/Manager/Assistant Manager as the Resource Manager and who will have overall responsibility for the implementation of the project-specific Resource & Waste Management Plan (RWMP). The Resource Manager will have the authority to instruct all site personnel to comply with the specific provisions of the Plan. A technically competent person will also be required to assess waste arisings and determine classification in accordance with the Hazardous Waste List. The Project Manager will instruct all site personnel to comply with the CEMP.

At operational level, a foreman from the Contractor and appropriate personnel from each sub-contractor on the site shall be assigned the direct responsibility to ensure that the operations stated in the CEMP are performed on an on-going basis. Key aspects would be waste management, dust control, minimising noise and vibration, chemical management, SuDs/Landscaping, traffic management and the control of silt generation and fuel spills.

In the event of finding any contaminated materials, The Contractor shall employ the services of an approved Specialist Waste Management Sub-Contractor to assist with the safe management and disposal of contaminated waste materials. They shall specialise in the investigation of such

material, the carrying out of sampling and testing of hazardous material and the preparation of treatment and disposal methodologies.

A report and method statement will to be prepared by the Contractor, in consultation with their approved Waste Management Specialist Sub-Contractor, for the safe removal and disposal of the identified hazardous materials. This must be agreed with the Employers Representative prior to commencement of any excavation activities.

Reporting

The Site Manager / Project Manager is responsible for collating and maintaining all reporting. This would include all environmental and compliance documentation.

Environmental Targets and Objectives

Targets:

- Zero pollution incidents;
- Segregation of site waste to include timber, general waste and other materials;
- Completion of environmental checklists as required;
- Fuel spill kit to be present on each site at all times; and
- Maintain all waste licences and waste transfer notes for all waste movements including contractors.

Reporting Specific Objectives:

- Environmental incidences to be reported to Site Manager without delay.

The following documentation will be reported to FCC on a 4 weekly basis:

- Environmental incidents and nonconformities raised, including nature, status, corrective and preventive actions and potential for statutory intervention;
 - Key environmental issues raised by others;
 - Significant environmental incidents;
 - Complaints and the current status of those complaints; and

- Actions or interventions undertaken by enforcement organisations.

Site Specific Objectives:

- Reduce waste, water and energy use on the project including within all of the site offices;
- Ensure that everyone comply with the environmental requirements in the contract;
- Seek ways to incorporate environmental protection opportunities within the design;
- Seek ways to reduce the carbon footprint of the contract;
- Reduce the amount of construction waste and excavated material generated which goes to landfill;
- Zero pollution incidents onsite;
- Recycle construction waste where possible;
- Maximise beneficial reuse of the materials: and
- Ensure that all waste documentation (waste transfer docket, permits etc.) is available for inspection at the site office / in head office.

Environmental Complaints and Incidents

The site manager will develop and implement an appropriate queries / complaints procedure. Records will include full details of the concerns expressed and ensure that a formal assessment is commenced of the reported concern. The site manager will also discuss complaints with the Project Manager and oversee an initial response to the person who has submitted the complaint/concern confirming its receipt.

An investigation to assess the issue of concern will be carried out and decisions made to see what corrective and/or preventive action, or further investigation is necessary. With overall responsibility for complaints, the site manager will respond within a reasonable timescale and maintain records of all correspondence and actions taken. If significant corrective action and external stakeholder involvement is required, the site manager / project manager will oversee all elements of the process.

Any complaints received will be logged, assessed and appropriate action taken as soon as practical. The construction company will be actively seeking liaison with all parties throughout the construction periods. It will be critical to the success of the project that key issues are properly

addressed from the outset to create a good working relationship and an integrated team approach to identifying and resolving potential issues before they may cause environmental impacts.

The project team appreciates that occasionally incidents arise whereby it is impossible or impractical to comply with all the requirements. In these emergency situations, as much notice as possible about the works will be given to Fingal County Council (FCC).

In the event of spillages, or other incident, steps will be taken to prevent environmental pollution, for example through protection of drains by use of drain covers or booms, use absorbent granules following oil / chemical spill and turning off equipment or other sources of noise or dust.

Once the situation has been rectified, full details about the incident and remedial actions undertaken will be provided to the corporation and relevant authorities and recorded in the site environmental register. Feedback will be provided to all CEMP implementation personnel where required.

3 GENERAL

The following general measures are to be implemented during the construction phase in order to minimise overall environmental impacts:

- In order to minimise the volume of material being exported off-site, excavated material will be reused on-site (e.g. as fill material) where feasible.
- Hydrocarbons, solvents and other such hazardous substances will be stored in secure, bunded hardstanding areas.
- Re-fuelling and servicing of construction plant and machinery will only be permitted at suitably located, designated hardstanding areas.
- Spill kits will be present on-site at all times.
- The proposed construction phase working hours are as follows, subject to conditions of the planning authority:
 - Monday – Friday: 07:00 – 18:00
 - Saturday: 08:00 – 14:00
 - Sundays and Bank Holidays: No works

Any works proposed outside of these hours, e.g. for water mains / foul drainage connections, will be subject to prior approval by Fingal County Council.

- Prior to works commencing on-site, a Construction Traffic Management Plan will be prepared by the appointed contractor in accordance with the following guidance documents:
 - Department of Transport, Tourism and Sport (DTTS) (2019). Chapter 8: Temporary Traffic Measures and Signs for Roadworks, in Traffic Signs Manual.
 - DTTS (2013). Design Manual for Urban Roads & Streets ('DMURS').
 - Department of Transport (2010). Guidance for the Control and Management of Traffic at Road Works (Second Edition).
 - NRA (2015). Design Manual for Roads and Bridges ('DMRB').
- A project-specific Resource & Waste Management Plan (RWMP) has been prepared by AWN Consulting (2025) in line with the requirements of the EPA 'Best Practice Guidelines

for the Preparation of Resource and Waste Management Plans for Construction & Demolition Projects' (2021) and is included as Appendix 19.1 Volume 3 of the EIAR. The implementation of the mitigation measures presented in the RWMP will ensure effective waste management and minimisation, reuse, recycling, recovery and disposal of waste material generated during the excavation and construction phases of the proposed development. Prior to commencement, the appointed Contractor(s) will be required to refine / update the RWMP in agreement with FCC, detailing specific measures to minimise waste generation and resource consumption, and provide details of the proposed waste contractors and destinations of each waste stream. The Contractor will be required to fully implement the RWMP throughout the duration of the proposed construction phase.

- An Arboricultural Impact Assessment & Method Statement has been prepared in respect of the proposed development by John Morris Arboricultural Consultancy (2025) and submitted under separate cover as part of the planning application. It contains an Arboricultural Impact Assessment, Method Statement and recommendations in relation to tree protection on construction sites. The method statement and recommendations contained in the Arboricultural Impact Assessment & Method Statement shall be integrated into the final CEMP, and implemented in full during the proposed construction works.

The following general measures are to be implemented during the operational phase in order to minimise overall environmental impacts:

- A Mobility Management Plan (MMP) has been prepared by DBFL Consulting Engineers (2025) for the operational phase of the proposed development (refer to standalone document submitted under separate cover), to promote sustainable mobility among the residents of the proposed development through a range of measures. The Operator of the site during the operational phase will be responsible for ensuring – allocating personnel and resources, as needed – the ongoing implementation of the MMP. This is intended to be a live document, to be updated by the Applicant / Operator, where appropriate, e.g. to ensure the Plan remains fit for purpose and up-to-date with relevant policy.
- An Operational Waste Management Plan (OWMP) has been prepared by AWN Consulting (2025), containing measures to promote operational phase waste management in accordance with the waste hierarchy, i.e. high rates of reuse, recycling and recovery. Refer to Appendix 19.2 Volume 3 of the EIAR. The Operator / Facilities Management of the site

during the operational phase will be responsible for ensuring – allocating personnel and resources, as needed – the ongoing implementation of the OWMP. This is intended to be a live document, to be updated by the Applicant / Operator, where appropriate, e.g. to ensure the Plan remains fit for purpose and up-to-date with relevant policy.

4 POPULATION AND HUMAN HEALTH

The following measures are to be implemented during the construction phase in order to minimise impacts on population & human health:

- A Community Liaison Officer (CLO) will be appointed by the contractor for the duration of the construction phase. They will be responsible for keeping the local community and businesses informed of the timing and duration of potentially disruptive works, and for receiving and addressing any concerns of the local population in relation to the proposed works.

5 TRAFFIC AND TRANSPORTATION

A Traffic Management Plan (TMP) will be prepared for the works in accordance with the principles outlined below and shall comply at all times with the requirements of:

- Department of Transport Traffic Signs Manual 2019 – Chapter 8 Temporary Traffic Measures and Signs for Roadworks
- Department of Transport Guidance for the Control and Management of Traffic at Road Works (2010)
- Any additional requirements detailed in the Design Manual for Roads and Bridges (DMRB) & Design Manual for Urban Roads & Streets (DMURS)

In general, the impact of the construction period will be temporary in nature and less significant than the operational stage of the proposed development (in terms of HGV vehicle movements, typically these are not expected to exceed 4 vehicle movements per hour. This may increase slightly to 6-8 HGV vehicle movements per hour during the busiest period of construction activity).

The proposed entrances to the site will be from the Donabate Distributor Road (DDR) that runs from north-south adjacent to the proposed development.

Construction traffic will continue to enter the site via the DDR for the remaining construction phases of the development with construction traffic diverted to internal, temporary haul roads to access construction areas.

Construction traffic will consist of the following categories:

- Private vehicles owned and driven by site staff and management
- Construction vehicles e.g. excavation plant, dump trucks and material delivery vehicles, involved in site development works

On-site employees will generally arrive before 08:00, thus avoiding morning peak hour traffic. These employees will generally depart after 16:00.

It should be noted that a large proportion of construction workers would arrive in shared transport.

The following measures are to be implemented in order to mitigate the impact of construction traffic on the surrounding area:

- During the pre-construction phase, the site will be securely fenced off from adjacent properties, public footpaths and roads.
- Appropriate on-site parking and compound area will be provided to prevent overflow onto the local network.
- The traffic generated by the construction phase of the development will be strictly controlled in order to minimise the impact of this traffic on the surrounding road network and local properties. All HGV trips could potentially be restricted from traveling to / from the development during the local road network's peak hours.
- Truck wheel washes will be installed at construction entrances and any specific recommendations with regard to construction traffic management made by Fingal County Council will be adhered to.
- Potential localised traffic disruptions during the construction phase will be mitigated through the implementation of industry standard traffic management measures. These traffic management measures shall be designed and implemented in accordance with the requirements of:
 - Department of Transport, Tourism and Sport (DTTS) (2019). Chapter 8: Temporary Traffic Measures and Signs for Roadworks, in Traffic Signs Manual;
 - DTTS (2013). Design Manual for Urban Roads & Streets ('DMURS');
 - Department of Transport (2010). Guidance for the Control and Management of Traffic at Road Works (Second Edition); and
 - NRA (2015). Design Manual for Roads and Bridges ('DMRB').
- Site entrance points from the DDR will be constructed with a bound, durable surface capable of withstanding heavy loads and with a sealed joint between the access and public highway. This durable bound surface will be constructed for a distance of 10m from the public highway.
- Material storage zone will be established in the compound area and will include material recycling areas and facilities.
- 'Way finding' signage will be provided to route staff / deliveries into the site and to designated compound / construction areas.

- The construction works areas will be reinstated following completion of development with landscaped areas provided where proposed. The works will be restricted to the footprint of the site for the proposed development. Excavated topsoil and subsoil will be reused in reinstatement and landscaping where appropriate or dealt with in the appropriate manner i.e. sent for soil recovery as appropriate.
- Dedicated construction haul routes will be identified and agreed with Fingal County Council prior to commencement of activities on-site.
- Construction vehicle routing practices and construction vehicle parking practices will be undertaken if issues with regards to the routing of or parking of construction vehicles arise.
- On completion of the works, all construction materials, debris, temporary hardstands etc. from the site compound will be removed off-site and the site compound area reinstated in full on completion of the works.

During the construction stage, the following monitoring measures are proposed:

- If issues with regards to the routing of construction vehicles occurs, then compliance with construction vehicle routing practices will be undertaken;
- If issues with regards the parking of construction vehicles on the surrounding network occurs, then compliance with construction vehicle parking practices will be undertaken;
- If issues with regards the condition of the surrounding road network occur, then internal and external road conditions will be monitored; and
- If issues with regards the timing or programming of construction activities occur, then timing of construction activities will be monitored.

The construction works areas will be reinstated following completion of development with landscaped areas provided where proposed. The works will be restricted to the footprint of the site for the proposed development. Excavated topsoil and subsoil will be reused in reinstatement and landscaping where appropriate or dealt with in the appropriate manner i.e. sent for soil recovery as appropriate.

6 SOILS, GEOLOGY & HYDROGEOLOGY

Site development works will include stripping of topsoil, excavation of subsoil layers and lime stabilisation. These activities have potential to expose the soils and geological environment to pollution.

The contractor shall obtain approval of their proposed erosion and sediment control measures Fingal County Council's Environment Section prior to commencing works on site. The contractor shall also agree the rock breaking methodology with Fingal County Council where required.

The following measures are to be implemented in order to mitigate against such risks:

- Measures shall be implemented to capture and treat sediment laden surface water runoff (e.g. sediment retention ponds distilling tanks, surface water inlet protection, fencing and signage around specific exclusion zones and earth bunding adjacent to open drainage ditches).
- Suitable soils will be reused on site as backfill in the grassed areas, where possible.
- Contractors shall be required to submit and adhere to a method statement indicating the extent of areas likely to be affected and demonstrating that this is the minimum disturbance necessary to achieve the required works.
- Temporary storage of soil will be carefully managed in such a way as to prevent any potential negative impact on the receiving environment and the material will be stored away from any open surface water drains. No soil storing will be allowed within 30 m of the open water where sufficient working areas are available within the site boundaries, which is in line with best practices outlined in the Inland Fisheries Ireland (IFI) Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters.
- Movement of material will be minimised in order to reduce degradation of soil structure and generation of dust.
- Although there is no evidence of historical contamination in the proposed development area, all excavated materials will be visually assessed for signs of possible contamination such as staining or strong odours. Should any unusual staining or odour be noticed, samples of this soil will be analysed for the presence of possible contaminants in order to ensure that historical pollution of the soil has not occurred. Should it be determined that

any of the soil excavated is contaminated, this will be disposed of by a licensed waste disposal contractor.

- Stockpiles have the potential to cause negative impacts on air and water quality. Stockpiles will be formed within the proposed development site boundary and the contractor will ensure that there are no direct links or pathways from stockpiles to any surface water body.
- Overburden material will be protected from exposure to wind by storing the material in sheltered parts of the site, where possible.
- All fill and aggregate for the proposed development will be sourced from reputable suppliers. All suppliers will be vetted for:
 - Aggregate compliance certificates/declarations of conformity for the classes of material specified for the proposed development;
 - Environmental management status; and
 - Regulatory and legal compliance status of the company.
- To minimise any impact on the underlying subsurface strata from material spillages, all oils, solvents and paints used during construction will be stored within temporary bunded areas. Oil and fuel storage tanks shall be stored in designated areas, and these areas shall be bunded to a volume of 110% of the capacity of the largest tank/container within the bunded area(s) (plus an allowance of 30 mm for rainwater ingress). Drainage from the bunded area(s) shall be diverted for collection and safe disposal. Discharge from any vehicle wheel wash areas is to be directed to on-site settlement ponds.
- Refuelling of construction vehicles and the addition of hydraulic oils or lubricants to vehicles will take place in a designated area (or, where possible, off the site) that will be away from surface water gullies or drains. In the event of a machine requiring refuelling outside of this area, fuel will be transported in a mobile double skinned tank. An adequate supply of spill kits and hydrocarbon adsorbent packs will be stored in this area. All relevant personnel will be fully trained in the use of this equipment. Guidelines such as 'Control of Water Pollution from Construction Sites: Guidance for Consultants and Contractors' (CIRIA 532, 2001) will be complied with.

- A response procedure shall be put in place to deal with any accidental pollution events and spillage kits shall be available and all personnel working on the site will be suitably trained in the implementation of the procedures.
- Where feasible all ready-mixed concrete will be brought to site by truck. A suitable risk assessment for wet concreting will be completed prior to works being carried out which will include measures to prevent discharge of alkaline wastewaters or contaminated storm water to the underlying subsoil.
- 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. Washouts will only be allowed to take place in designated areas with an impervious surface where all wash water is contained and removed from site by road tanker or discharged to foul sewer submit to agreement with Irish Water / FCC.
- 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 off-site impacts.
- Pouring of cement-based materials for works will only be carried out in dry conditions. Pumped concrete will be monitored to ensure there is no accidental discharge. Mixer washings and excess concrete will not be discharged directly into the drainage network. Concrete washout areas will be created to avoid any accidental discharge from the proposed development site.
- The construction contractor will be required to implement emergency response procedures, and these will be in line with industry guidance. All personnel working on the Site will be suitably trained in the implementation of the procedures.
- Should any discharge of construction water be required during the construction phase, discharge will be to the foul sewer network within Phase 3 that was constructed as part of phase 2. Pre-treatment and silt reduction measures on site will include a combination of silt fencing, settlement measures (silt traps, 20 m buffer zone between machinery and watercourses, refuelling of machinery off-site) and hydrocarbon interceptors (as per Fingal Development Plan, 2023 – 2029). However there is no likely discharge from the site (without settlement and treatment) as most drainage is directed to the permitted

attenuation ponds, petrol interceptors and silt traps installed during Phases 1 & 2 of the development.

- Pre-treatment and silt reduction measures on site will include a combination of silt fencing, settlement measures (silt traps, 20 m buffer zone between machinery and watercourses, refuelling of machinery off-site) and hydrocarbon interceptors (as per Fingal Development Plan, 2023 – 2029).
- Any minor ingress of groundwater and collected rainfall in the excavation will be pumped out during construction. It is estimated that the inflow rate of groundwater will be low and limited to the northeast of the site. It is therefore proposed that the water be discharged via the existing stormwater sewer network. Extensive monitoring will be adopted to ensure that the water is of sufficient quality to discharge to the sewer
- The use of additional slit traps will be adopted if the monitoring indicates the requirements for the same with no silt or contaminated water permitted to discharge to the sewer.
- Temporary construction surface drainage and sediment control measures, including the use of SuDS, will be provided before earthworks commence.
- All discharges to surface waters will be suitably treated prior to discharge. There will be no direct discharge of surface water from any element of the works without proper attenuation and treatment. Measures will be implemented to capture and treat sediment laden surface water runoff (e.g. sediment retention ponds, surface water inlet protection and earth bunding adjacent to open drainage ditches).
- Surface water runoff from areas stripped of topsoil and surface water collected in excavations will be directed to on-site settlement ponds/ distilling tanks where measures will be implemented to capture and treat sediment laden runoff prior to discharge of surface water at a controlled rate.

During construction phase the following monitoring measures will be implemented:

- Regular inspection of surface water run-off and sediments controls e.g. silt traps will be carried during the construction phase.
- Soil sampling to confirm disposal options for excavated soils in order to avoid contaminated run-off.

- Regular inspection of construction/mitigation measures will be undertaken e.g. concrete pouring, refuelling etc.

7 HYDROLOGY

Run off may contain sediment and accidental hydrocarbon leakage for contractor vehicles, however there is no likely discharge from the site (without settlement and treatment) as most drainage is directed to the permitted attenuation ponds, petrol interceptors and silt traps installed during Phases 1 & 2 of the development.

The SUDs features that will be constructed as part of Phase 3 will require shallow excavation and would not be as deep as the excavations required for drainage trenches for these above & below ground SUDS / NBS. These will be constructed in line with the mitigation measures as outlined below. All SUDs/NBS works will be constructed in accordance with the CIRIA SUDs manual, FCC development plan 2023-2029 and the governments Nature-based Solutions to the Management of Rainwater and Surface Water Runo_ in Urban Areas Best Practice Interim Guidance Document.

There are no new outfall locations to be constructed as part of Ballymastone Phase 3. The outfalls to be utilised by the Phase 3 drainage will have been built as part of previous phases. The outfall to the 1350mm culvert was built as part of phase 1 and the outfall to the Existing Drainage ditch in the North East is being built as part of Phase 2. Please see locations of these outfalls in Figure 2 below.

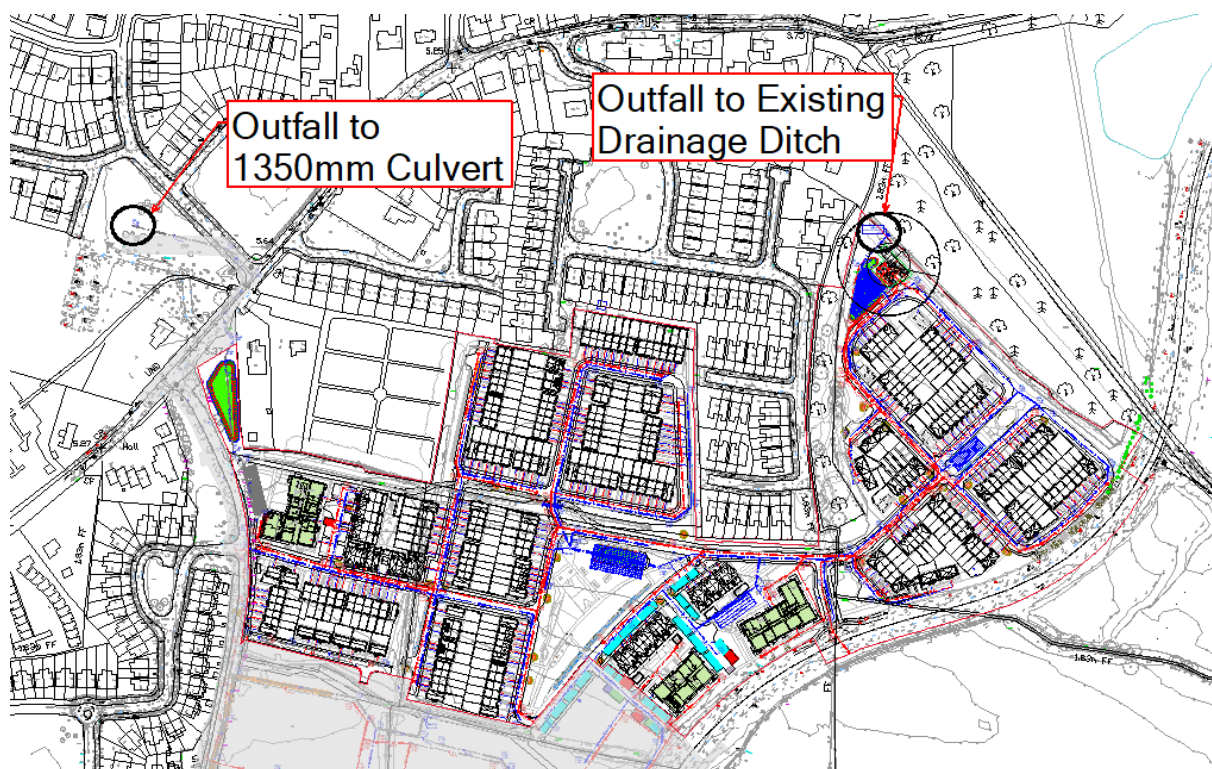


Figure 2: Location of existing SW outfalls

No instream works are required. Discharge from the subject lands will be attenuated on site to cater for the 100-year storm, and a petrol interceptor will also be provided.

The following additional mitigation measures will be implemented during the construction phase:

- Measures shall be implemented to capture and treat sediment laden surface water runoff within additional sediment retention ponds where waters are not directed to the Phase 1 & 2 permitted attenuation ponds.
- During earthworks and excavation works 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.
- Run-off water containing silt will be contained on site via settlement tanks and treated to ensure adequate silt removal.
- Silt reduction measures on site will include a combination of silt fencing and settlement measures (silt traps, silt sacks and settlement tanks/ponds).
- 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.
- A stabilised entranceway consisting of an aggregate on a filter cloth base that is located at any entry or exit point of the construction site.
- Aggregate will be established at the site entrance points from the construction site boundary extending for at least 10 m.
- The temporary storage of soil will be carefully managed. Stockpiles will be tightly compacted to reduce runoff and graded to aid in runoff collection.
- Aggregate materials such as sands and gravels will be stored in clearly marked receptacles within a secure compound area to prevent contamination.
- Movement of material will be minimised to reduce the degradation of soil structure and generation of dust.
- Excavations will remain open for as little time as possible before the placement of fill. This will help to minimise the potential for water ingress into excavations.

- Weather conditions will be considered when planning construction activities to minimise the risk of run-off from the site.
- Any surface water run-off collecting in excavations will likely contain a high sediment load. This will not be allowed to directly discharge directly to the stormwater sewer.

The following mitigation measures will be implemented during the construction phase in order to prevent any spillages to ground of fuels and other construction chemicals and prevent any resulting to surface water and groundwater systems:

- Designation of bunded refuelling areas on the Site.
- Provision of spill kit facilities across the Site.
- Where mobile fuel bowzers 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 bowzers to carry a spill kit and operatives must have spill response training.
 - Portable generators or similar fuel containing equipment will be placed on suitable drip trays.

In the case of drummed fuel or other potentially polluting substances which may be used during the construction phase, the following measures will be adopted:

- Secure storage of all containers that contain potential polluting substances in a dedicated internally bunded chemical storage cabinet unit or inside a concrete bunded area;
- Oil and fuel storage tanks shall be stored in designated areas, and these areas shall be stored within temporary bunded areas, doubled skinned tanks or bunded containers to a volume of 110% of the capacity of the largest tank/container. Drainage from the bunded area(s) shall be diverted for collection and safe disposal.
- Clear labelling of containers so that appropriate remedial measures can be taken in the event of a spillage.
- All drums to be quality approved and manufactured to a recognised standard.
- If drums are to be moved around the Site, they will be secured and on spill pallets; and

- Drums will be loaded and unloaded by competent and trained personnel using appropriate equipment.

The following are additional measures to be implemented during the construction phase in order to minimise environmental impacts in relation to surface water:

- Where feasible all ready-mixed concrete will be brought to site by truck. A suitable risk assessment for wet concreting will be completed prior to works being carried out which will include measures to prevent discharge of alkaline wastewaters or contaminated storm water to the underlying subsoil.
- No wash-down or wash-out of ready-mix concrete vehicles during the construction works will be carried out at the site within 10 metres of an existing surface water drainage point. Washouts will only be allowed to take place in designated areas with an impervious surface where all wash water is contained and removed from site by road tanker or discharged to foul sewer submit to agreement with UÉ.
- The construction contractor will be required to implement emergency response procedures, and these will be in line with industry guidance. All personnel working on the Site will be suitably trained in the implementation of the procedures.
- Rainfall and all stormwater at the construction site will be managed and controlled for the duration of the construction works. The discharge of this treated water will occur to the storm water network and eventually to the Rogerstown Estuary.
- Surface water runoff from areas stripped of topsoil and surface water collected in excavations will be directed to on-site settlement ponds/ distilling tanks where measures will be implemented to capture and treat sediment laden runoff prior to discharge of surface water at a controlled rate. Monitoring of these sediment control measures will be undertaken throughout the construction phase.
- Discharge from any vehicle wheel wash areas is to be directed to on-site settlement ponds/distilling tanks.
- On-site settlement ponds are to include geotextile liners and riprapped inlets and outlets to prevent scour and erosion.
- Concrete batching will take place off site, wash down and wash out of concrete trucks will take place off site and any excess concrete is not to be disposed on site.

- Surface water discharge points (not directed to the Phase 1 & 2 permitted attenuation pond) during the construction phase are to be agreed with Fingal County Council's Environment Section prior to commencing works on site.
- Rainwater pumped from excavations is to be directed to on-site settlement ponds / distilling tanks.
- Groundwater pumped from excavations is to be directed to on-site settlement ponds / distilling tanks.
- On-site settlement ponds are to include geotextile liners and riprapped inlets and outlets to prevent scour and erosion. Monitoring of same will be undertaken.
- Surface water discharge points during the construction phase are subject to agreement with Fingal County Council's Environment Section prior to commencing works on site.
- Foul wastewater discharge from the site will be managed and controlled for the duration of the construction works.
- Site welfare facilities will be established to provide sanitary facilities for construction workers on site. The main contractor will ensure that sufficient facilities are available at all times to accommodate the number of employees on site. Foul water from the offices and welfare facilities on the site will discharge into the existing sewer on site (the cabins may initially need to have the foul water collected by a licensed waste sewerage contractor before connection to the sewer line can be made).
- The construction contractor will implement emergency response procedures, and these will be in line with industry guidance. All personnel working on the Site will be suitably trained in the implementation of the procedures.

During construction phase the following monitoring measures will be implemented:

- Regular inspection of surface water run-off and sediments controls e.g. silt traps will be carried during the construction phase.
- Soil sampling to confirm disposal options for excavated soils in order to avoid contaminated run-off.
- Regular inspection of construction / mitigation measures will be undertaken e.g. concrete pouring, refuelling etc.

8 MATERIAL ASSETS - SERVICES

The following measures are to be implemented during the construction phase in order to minimise impacts on material assets - services:

- Utility Records identify the location of power lines and will inform detailed design. All works in the vicinity of ESB Networks infrastructure will be carried out in ongoing consultation with ESB Networks and will be in compliance with any requirements or guidelines they may have including procedures to ensure safe working practices are implemented when working near live overhead/underground electrical lines. Works will be in compliance with Health & Safety Authority (HSA) *Code of Practice for Avoiding Danger from Underground Services* (2016), and the *ESB Networks & Health and Safety Authority Code of Practice for Avoiding Danger from Overhead Electricity Lines* (2019).
- The exact locations of the below ground ESB Networks infrastructure will be confirmed as part of the Detailed Design Phase. Prior to excavation the Contractor will carry out additional site investigation, including slit trenches, in order to determine the exact location of the below ground network. This will mitigate against the risk of damage to underground electricity network during the excavation phase prior to diverting the ESB network. The ESB diversion shall be carried out by ESB and its new location clearly documented to mitigate the risk of a cable duct damage during the construction phase.
- The Contractor will be obliged to put measures in place to ensure that there are no interruptions to existing services in compliance with Safe Construction and the Electricity Network published by ESB Networks and all services and utilities are maintained unless this has been agreed in advance with ESB Networks.
- Existing Gas Networks Ireland gas main requires a diversion and this will be carried out by GNI in accordance with *HSA Code of Practice for Avoiding Danger from underground services*.
- Utility Records identify the location of power lines and have informed detailed design. Prior to excavation the Contractor will carry out additional site investigation, including slit trenches, in order to determine the exact location of the telecommunications networks in close proximity to the works area. This will ensure that the underground telecommunications network will not be damaged during the construction phase.

- The Contractor will be obliged to put measures in place to ensure that there are no interruptions to existing services and all services and utilities are maintained unless this has been agreed in advance with the relevant telecommunication provider.
- All works in the vicinity of the telecommunications providers infrastructure will be carried out in ongoing consultation with the relevant provider and will be in compliance with any requirements or guidelines they may have. Consultation has been undertaken between the applicant and both Eir and Virgin Media with both utility companies providing information on their design to allow this be integrated into the overall design of site services.
- Where new services are required, the Contractor will apply to the relevant provider for a connection permit where appropriate and will adhere to their requirements to ensure safety of installation.
- The locations of the telecommunications network infrastructure relative to the proposed works will be confirmed as part of the Detailed Design Phase to mitigate the risk of damage to the telecoms infrastructure before construction starts. Prior to excavation the Contractor will carry out additional site investigation, including slit trenches, in order to determine the exact location of the telecommunications networks in close proximity to the works area. This will ensure that the underground telecommunications network will not be damaged during the construction phase.

Mitigation measures proposed in relation to the drainage and water infrastructure include the following:

- A site-specific Construction and Environmental Management Plan (CEMP) will be developed and implemented during the construction phase. Site inductions will include reference to the procedures and best practice as outlined in the CEMP.
- Surface water runoff from areas stripped of topsoil and surface water collected in excavations will be directed to on-site settlement ponds where measures will be implemented to capture and treat sediment laden runoff prior to discharge of surface water at a controlled rate.
- Weather conditions and seasonal weather variations will be taken into account when planning stripping of topsoil and excavations, with an objective of minimizing soil erosion and silt run-off. Short term weather forecasts will also be taken into account.

- In order to mitigate against spillages contaminating the surrounding surface water and hydrogeological environments, all oils, fuels, paints and other chemicals shall be stored in a secure bunded hardstand area in the construction compound. Refuelling and servicing of construction machinery will take place in a designated hardstand area which will be remote from any surface water inlets and outlets (where it is not possible to carry out such activities off site). Hydrocarbon spill kits will be available and to hand for refuelling crews in the event of any spills.
- Concrete batching will take place off site and wash out of concrete chutes will take place at designated locations in the site and the washout of truck drums will take place after back at the batching plant to minimise pollution release within the subject site.
- Discharge from any vehicle wheel wash areas will be directed to on-site settlement ponds for treatment prior to discharge to the local environment.
- Groundwater pumped from excavations is to be directed to on-site settlement ponds for treatment prior to discharge to the local environment.
- The construction compound will include adequate staff welfare facilities including foul drainage and potable water supply. Foul drainage discharge from the construction compound will be tinkered off site to a licensed facility until a connection to the public foul drainage network has been established.
- The construction compound's potable water supply shall be located where it is protected from contamination by any construction activities or materials.

The following monitoring measures will be put in place during construction:

- All works shall be carried out in accordance with ESB Code of Practice for Electrical Infrastructure. Laying of cables and testing of same will be in accordance with ESB standard details. The works shall be inspected on an ongoing basis during construction by both the applicant's engineers and ESB site Engineer. Applicable testing shall be carried out prior to connection to the electrical Grid. ESB metering will be provided to all units.
- All works shall be carried out in accordance with the relevant telecoms providers code of Practice.
- Laying of ducts and cables and testing of same will be in accordance with their standard details. The works shall be inspected on an ongoing basis during construction by both the

applicant's engineers and relevant telecommunication provider. Applicable testing shall be carried out prior to connection to the network.

- No new natural gas supply is proposed for the development. Diversion of existing natural gas on the site will be carried out by GNI the utility provider
- Proposed monitoring in relation to the water and hydrogeological environment are as follows:
 - Inspection and maintenance of fuel / oil separators.
 - Inspection and maintenance of the internal road network for wear and tear that could cause silt release.
 - Inspection and maintenance of attenuation and Hydrobrake infrastructure

9 BIODIVERSITY

The following mitigation measures are to be implemented during the construction phase:

- Measures shall be implemented to capture and treat sediment laden surface water runoff within additional sediment retention ponds where waters are not directed to the Phases 1 and 2 permitted attenuation ponds.
- Surface water runoff from areas stripped of topsoil and rainwater collected in excavations shall be directed to on-site settlement ponds/settlement tanks where measures will be implemented to capture and treat sediment laden runoff prior to discharge of surface water at a controlled rate.
- Groundwater pumped from excavations is to be directed to on-site settlement ponds/distilling tanks.
- Discharge from any vehicle wheel wash areas is to be directed to on-site settlement ponds/distilling tanks.
- On-site settlement ponds are to include geotextile liners and riprapped inlets and outlets to prevent scour and erosion.
- Surface water discharge points during the construction phase are to be agreed with Fingal County Council's Environment Section prior to commencing works on site.
- Weather conditions and seasonal weather variations shall also be taken account of when planning stripping of topsoil and excavations, with an objective of minimizing soil erosion.
- All oils, fuels, paints and other chemicals will be stored in a secure bunded hardstand area.
- Refuelling and servicing of construction machinery shall take place in a designated hardstand area which is also remote from any surface water inlets (when not possible to carry out such activities off site).
- Discharge from any vehicle wheel wash areas is to be directed to on-site settlement ponds.
- A response procedure shall be put in place to deal with any accidental pollution events and spillage kits shall be available and construction staff will be familiar with the emergency procedures and use of the equipment.
- Concrete batching will take place off site, wash down and wash out of concrete trucks will take place off site and any excess concrete is not to be disposed on site.

- Pumped concrete will be monitored to ensure there is no accidental discharge.
- Mixer washings are not to be discharged into surface water drains.
- Noise and vibration during the construction phase will be controlled with reference to the best practice control measures within BS 5228 (2009 +A1 2014) Code of Practice for Noise and Vibration Control on Construction and Open Sites Parts 1 and 2. The contractor will ensure that all best practice noise and vibration control methods will be used as necessary in order to ensure impacts to nearby residential noise sensitive locations are not significant. This will be particularly important during site preparation works and piling works.
- The best means practicable, including proper maintenance of plant, will be employed to minimise the noise produced by on site operations. All vehicles and mechanical plant will be fitted with effective exhaust silencers and maintained in good working order for the duration of the contract.
- Existing trees and woodlands to be retained and are shown in the Landscape Design Report prepared by Cunnane Stratton Reynolds (CSR) (included separately as part of this planning submission) and Arboricultural drawings and report prepared by John Morris Arboricultural Consultancy Limited (included separately as part of this planning submission). All tree protection measures as set out in the Arboricultural Impact Assessment & Method Statement will be implemented in full.
- The high value hedgerows/treelines and woodland will be retained and protected in so far as is feasible. This includes the woodland to the east of Priory Wood and the eastern half of the double hedge and ditch (Hedge 2) to the south-west of Priory Wood which will be retained, protected and incorporated into the landscaping of the proposed development. Hedges 1, 3 and 4 will be incorporated into the development, as will part of hedgerow 3.
- All of the retained hedgerows and woodland will be treated in accordance with British Standard *BS5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations*, with protective fencing being installed prior to commencement of development.
- All site clearance and landscaping works will comply with current legislative requirements and best practice. The clearance of any vegetation that may be suitable for use by nesting birds will be undertaken outside the bird nesting season (avoiding the period 1 March to

31 August). Should the construction programme require vegetation clearance between March and August, and this is unavoidable, bird nesting surveys will be undertaken by suitably qualified ecologists. If no active nests are recorded, vegetation clearance will take place within 24 hours. In the event that active nests are observed, an appropriately sized buffer zone (up to 5 m radius around the nest) will be maintained around the nest until such time as all the eggs have hatched and the birds have fledged – a period that may be three weeks from the date of the survey. Once it is confirmed that the birds have fledged and no further nests have been built or occupied, vegetation clearance may take place immediately.

- The planting proposed for the development will, wherever possible, comprise an appropriate mixture of native trees and shrubs, preferably of local provenance. The planting will also incorporate a range of species that will attract feeding invertebrates, including moths, butterflies and bees. It will take account of and implement the relevant objectives of the All-Ireland Pollinator Plan 2021-2025.
- Species listed on Schedule 3 of the Birds and Habitats Regulations, 2011-2015, such as Japanese knotweed and giant hogweed, have not been recorded on the site. Nevertheless, appropriate biosecurity measures will be implemented during the construction phase of the proposed development to ensure that no invasive species are introduced, either deliberately or inadvertently, to the site.
- The following recommendations from Inland Fisheries Ireland 'Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters' (2016) will be implemented as necessary:
 - No direct discharges be made to waters where there is potential for cement or residues in discharge.
 - The pH of any and all discharges made from and during construction works shall be in the range of 6.0 – 9.0 units and not alter the pH of any receiving fisheries waters by more than +/- 0.5 pH units.
 - The level of suspended solids in any discharges to fisheries waters as a consequence of construction works shall not exceed 25 mg/l, nor result in the deposition of silts on gravels or any element of the aquatic flora or fauna.

- There are no badger setts within the Ballymastone Phase 3 site area. Nevertheless, badgers are known to be present in the wider site and prior to the commencement of any construction works a pre-construction badger survey will be carried out by a suitably qualified badger specialist in order to establish the current status of the badger setts in the wider area. Should any setts be found, within the Phase 3 area, a badger specialist will prepare a construction phase badger management plan to be agreed with NPWS. Should it be necessary, all works relating to badgers and badger setts will be carried out in accordance with the NRA *Guidelines for the Treatment of Badgers Prior to the Construction of National Road Schemes* (n.d.).

Additionally, the following mitigation measures are proposed for the general protection of badgers:

- Day-to-day measures to ensure the welfare of badgers is maintained will be implemented as follows:
 - Good house-keeping measures will be maintained and no loose netting, fencing or other materials that could trap badgers will be left out on site;
 - Food waste will be secured so as not to attract badgers to the construction site at night;
 - Ramps will be included in any excavation deeper than 500mm to allow animals to escape if necessary.
- The tree protection fencing will be retained *in situ* for the duration of the construction phase and extensive new planting of tree and shrub species, including holly, blackthorn, hawthorn and other species, will take place – the planting of these species within the landscaped areas will benefit the badgers in the wider area and will also provide pollinator-friendly habitat. This will also serve to bolster the retained woodland habitat.
- There is a single confirmed bat roost (the Leisler's bat roost in the bat box in the woodland). This will be retained, and no bat roosts have been recorded at the proposed development site. It will not be necessary to apply for a derogation licence under Regulation 54 or 55 of the European Communities (Birds and Natural Habitats) Regulations 2011, as amended. Regardless, should and arboricultural measures be required (tree surgery) on this tree, these works must take place under licence, and in consultation with NPWS.

Nevertheless, as bats are highly mobile creatures, all mature trees shall be checked for bats by a bat specialist to identify trees with the highest potential prior to felling or major surgery. From this, trees with the highest roost potential as determined by the bat specialist shall be subjected to a higher level of examination that shall include thorough checking of all suitable crevices, cavities, ivy cover or loose bark. This will require access via a hoist to reach all suitable cavities and crevices. Should bats be noted during this evaluation, a derogation shall be required from NPWS.

- Increased artificial lighting has the potential to impact on bat feeding and commuting behaviour, as well as on badgers. The proposed lighting for the proposed development (prepared by ENX), has been designed in accordance with the following guidelines:
 - Bats and Lighting – Guidance Notes for Planners, Engineers, Architects and Developers (Bat Conservation Ireland, 2010)
 - Bats and Artificial Lighting at Night, Institute of Lighting Professionals, 2023
 - Guidance Notes for the Reduction of Obtrusive Light GN01-21 (Institute of Lighting Professionals, 2021)
 - Dark Sky Ireland's Environmentally Friendly Lighting Guide
 - Guidelines for consideration of bats in lighting projects (Eurobats Publication Series No 8, 2018)
- The proposed lighting will have the following characteristics:
 - A dark corridor will be maintained along the woodland adjoining Priory Wood. In particular, the occupied bat box (legally protected) will remain unlit.
 - The minimum level of lighting will be provided within the developed areas, within the lux level criteria required by Fingal County Council.
 - The light temperature of all fittings will comply with the specifications required by FCC.
 - No flood lighting will be provided within the proposed development and all light fittings will be LED and are designed to shine downwards and will avoid sky glow and light spill.

- Lighting will be directed onto the roadways and paths – and away from the retained hedgerows, woodland and open space network.

Proposed monitoring measures during the construction phase are summarised below:

- A suitably experienced Project Ecologist will be appointed for the duration of the construction phase and regular monitoring of all related works will take place to ensure the correct and full implementation of all mitigation measures. The Project Ecologist will ensure that all construction works take place in accordance with planning conditions, the project CEMP and the mitigation measures set out in the EIAR and the NIS.
- Vegetation clearance will only be permitted outside the bird-nesting season. Should vegetation clearance be required during the bird nesting season, and should this work be unavoidable, such clearance will take place only after the Project Ecologist has undertaken a survey to ensure that no active bird nests or recently fledged birds are present. Pre-construction surveys will be required to ensure that any necessary tree felling or works to buildings continue to have no impact on roosting bats.
- Monitoring of construction dust deposition along the site boundary to nearby sensitive receptors during the construction phase of the proposed development is recommended to ensure mitigation measures are working satisfactorily.
- Monitoring of all fuel / oil storage areas will also be undertaken to ensure that all related mitigation measures are being implemented effectively.

10 WASTE MANAGEMENT

A project specific RWMP has been prepared in line with the requirements of the requirements of the EPA 'Best Practice Guidelines for the Preparation of Resource and Waste Management Plans for Construction & Demolition Projects' (2021), and is included as Appendix 18.1 of the Environmental Impact Assessment Report (EIAR). The mitigation measures outlined in the RWMP will be implemented in full and form part of the mitigation strategy for the site. The mitigation measures presented in this RWMP will ensure effective waste management and minimisation, reuse, recycling, recovery and disposal of waste material generated during the excavation and construction phases of the proposed development.

- Prior to commencement, the appointed Contractor(s) will be required to refine / update the RWMP (Appendix 19.1 of the EIAR) in agreement with FCC, or submit an addendum to the RWMP to FCC, detailing specific measures to minimise waste generation and resource consumption, and provide details of the proposed waste contractors and destinations of each waste stream.
- The Contractor will be required to fully implement the RWMP throughout the duration of the proposed construction phase.
- A quantity of topsoil and sub soil will need to be excavated to facilitate the proposed development. Correct classification and segregation of the excavated material is required to ensure that any potentially contaminated materials are identified and handled in a way that will not impact negatively on workers as well as on water and soil environments, both on and off-site.

In addition, the following mitigation measures will be implemented:

- Building materials will be chosen with an aim to 'design out waste'.
- On-site segregation of waste materials will be carried out to increase opportunities for off-site reuse, recycling and recovery. The following waste types, at a minimum, will be segregated:
 1. Concrete rubble (including ceramics, tiles and bricks);
 2. Plasterboard;
 3. Metals;
 4. Glass; and

5. Timber.

- Leftover materials (e.g. timber off-cuts, broken concrete blocks / bricks) and any suitable construction materials shall be re-used on-site, where possible (alternatively, the waste will be sorted for recycling, recovery or disposal).
- All waste materials will be stored in skips or other suitable receptacles in designated areas of the site.
- Any hazardous wastes generated (such as chemicals, solvents, glues, fuels, oils) will also be segregated and will be stored in appropriate receptacles (in suitably bunded areas, where required).
- A Resource Manager will be appointed by the main Contractor(s) to ensure effective management of waste during the demolition, excavation and construction works.
- All construction staff will be provided with training regarding the waste management procedures.
- All waste leaving site will be reused, recycled or recovered, where possible, to avoid material designated for disposal.
- All waste leaving the site will be transported by suitably permitted contractors and taken to suitably registered, permitted or licenced facilities.
- All waste leaving the site will be recorded and copies of relevant documentation maintained.

Nearby sites requiring clean fill material will be contacted to investigate reuse opportunities for clean and inert material, if required. If any of the material is to be reused on another site as by-product (and not as a waste), this will be done in accordance with Regulation 27 (By-products), as amended, European Union (Waste Directive) Regulations 2011-2020. EPA approval will be obtained prior to moving material as a by-product.

These mitigation measures will ensure that the waste arising from the construction phase of the proposed development is dealt with in compliance with the provisions of the Waste Management Act 1996, as amended, associated Regulations and the Litter Pollution Act 1997 and the NWCPE. It will also ensure optimum levels of waste reduction, reuse, recycling and recovery are achieved and will promote more sustainable consumption of resources.

Proposed monitoring measures are summarised below:

The objective of setting targets for waste management is only achieved if the actual waste generation volumes are calculated and compared. This is particularly important during the excavation and construction phases where there is a potential for waste management to become secondary to progress and meeting construction schedule targets.

The management of waste during the construction phase shall be monitored to ensure compliance with relevant local authority requirements, and effective implementation of the RWMP, including maintenance of waste documentation.

The mitigation measures in the RWMP specify the need for a Resource Manager to be appointed who will have responsibility to monitor the actual waste volumes being generated and to ensure that contractors and sub-contractors are segregating waste as required. Where targets are not being met, the Resource Manager shall identify the reasons for targets not being achieved and work to resolve any issues. Recording of waste generation during the construction phase will enable better management of waste contractor requirements and identify trends. The data will be maintained to advise on future projects.

11 NOISE AND VIBRATION

Noise-related mitigation methods are described below and will be implemented for the project in accordance with best practice. These methods include:

Best practice noise and vibration control measures will be employed by the contractor during the construction phase in order to avoid significant impacts at the nearest sensitive buildings. The best practice measures set out in BS 5228 Parts 1 and 2 will be complied with. 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.

In relation to static plant such as compressors and generators, it is recommended that these units be supplied with manufacturers' proprietary acoustic enclosures. The potential for any item of plant to generate noise will be assessed prior to the item being brought onto the site. The least noisy item will be selected wherever possible. Should a particular item of plant already on the site be found to generate high noise levels, the first action will be to identify whether said item can be replaced with a quieter alternative.

If replacing a noisy item of plant is not a viable or practical option, consideration will be given to noise control at source. This refers to the modification of an item of plant or the application of improved sound reduction methods in consultation with the supplier. For example, resonance effects in panel work or cover plates can be reduced through stiffening or application of damping compounds; rattling and grinding noises can often be controlled by fixing resilient materials in between the surfaces in contact.

The following best practice migration measures will be considered:

- The site compound location has been considered and has been located away from the more heavily populated residential areas adjacent to the proposed development site.
- The use lifting bulky items, dropping and loading of materials within these areas will be restricted to normal working hours.

- For mobile plant items such as cranes, dump trucks, excavators and loaders, maintaining enclosure panels closed during operation can reduce noise levels over normal operation. Mobile plant will 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.
- For percussive tools such as pneumatic breakers, a number of noise control measures include fitting muffler or sound reducing equipment to the breaker tool and ensuring any leaks in the air lines are sealed.
- Erecting localised screens around breaker or drill bit when in operation in close proximity to noise sensitive boundaries.
- For concrete mixers, control measures will be employed during cleaning to ensure no impulsive hammering is undertaken at the mixer drum.
- For all materials handling, ensure that materials are not dropped from excessive heights, lining drops chutes and dump trucks with resilient materials.
- For compressors, generators and pumps, these can be surrounded by acoustic lagging or enclosed within acoustic enclosures providing air ventilation.
- All items of plant will 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.

Piling - Piling programmes will be arranged so as to control the amount of disturbance in noise and vibration sensitive areas at times that are considered of greatest sensitivity. If piling works are in progress on a site at the same time as other works of construction that themselves may generate significant noise and vibration, the working programme will be phased so as to prevent unacceptable disturbance at any time.

- Prior to construction the planner, developer, architect and engineer, as well as the local authority, will be made aware of the proposed method of working of the piling contractor. The piling contractor will in turn have evaluated any practicable and more acceptable alternatives that would economically achieve, in the given ground conditions, equivalent structural results.

- On typical piling sites the major sources of noise are essentially mobile, and the noise received at any control points will therefore vary from day to day as work proceeds. The duration of piling works is typically relatively short in relation to the length of construction work as a whole, and the amount of time spent working near to noise sensitive areas can represent only a part of the piling period.
- Noise reduction can be achieved by enclosing the driving system in an acoustic shroud. 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 or utilising an acoustic canopy to replace the normal engine cover. Impact noise when piling is being driven can be reduced by introducing a non-metallic dolly between the hammer and the driving helmet.
- Screening by barriers and hoardings is less effective than total enclosure but can be a useful adjunct to other noise control measures. For maximum benefit, screens should be close either to the source of noise (as with stationary plant) or to the listener. Removal of a direct line of sight between source and listener can be advantageous both physically and psychologically. In certain types of piling works there will be ancillary mechanical plant and equipment that may be stationary, in which case, care should be taken in location, having due regard also for access routes. When appropriate, screens or enclosures should be provided for such equipment

Screening is an effective method of reducing the noise level at a receiver location and can be used successfully as an additional measure to all other forms of noise control. Standard construction site hoarding (2.4 m in height) with a mass per unit of surface area greater than 7 kg/m² can provide adequate sound insulation.

A designated Community Liaison Officer (CLO) will be appointed to site during construction works. Any noise complaints will be logged and followed up in a prompt fashion by the CLO. In addition, prior to particularly noisy construction activity (e.g. piling), the CLO will inform the nearest noise sensitive locations of the time and expected duration of the noisy works.

The phasing programme will be arranged so as to control the amount of disturbance in noise and vibration sensitive areas at times that are considered of greatest sensitivity. If piling works are in progress on another site at the same time as other works of construction that themselves may generate significant noise and vibration, the working programme will be phased so as to ensure noise limits are not exceeded due to cumulative activities. This will be reviewed in relation to other

potential cumulative works occurring on adjacent construction site in close proximity to noise sensitive properties which have the potential to lead to significant construction noise impacts.

Noise Limits

Whilst no specific construction noise limits are set by FCC with respect to noise, a common approach across the Dublin Agglomeration refers to the use of BS 5228 2009 +A1 2014 *Code of practice for noise and vibration control on construction and open sites* Parts 1 and 2 with respect to the controlling noise and vibration impacts. In this instance, appropriate criteria relating to permissible construction noise levels are taken from Part one of the standard *Noise*.

This document suggests an absolute construction noise limits depending on the receiving environment. The documents states:

- "Noise from construction and demolition sites should not exceed the level at which conversations in the nearest building would be difficult with windows shut.... Noise levels between 07:00 and 19:00hrs, outside the nearest window of the occupied room closest to the site boundary should not exceed:
- 70dB in rural, suburban and urban areas away from main road traffic and industrial noise;
- 75dB in urban areas near main roads in heavy industrial areas.

The proposed general construction hours are 07:00 to 18:00 hrs, Monday to Friday and 08:00 to 14:00 hrs on Saturdays. No working will be allowed on Sundays and Public Holidays. Taking into account the document outlined above (BS 5228-1:2009+A1:2014) and making reference to the baseline noise environment monitored around the development site the Category A threshold from the ABC methodology is applied to all noise sensitive locations surrounding the site. The following threshold therefore applies for the proposed working hours;

- Monday to Friday - 07:00 to 18:00 hrs – 65 dB LAeq,12hr
- Saturdays – 08:00 to 14:00 hrs – 65 dB LAeq,6hr

Vibration Limits

Guidance relevant to acceptable vibration within buildings during construction works is contained in the following documents:

- British Standard BS 7385: 1993: Evaluation and measurement for vibration in buildings Part 2: Guide to damage levels from ground borne vibration, and;

- British Standard BS 5228: 2009: Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration.

BS 7385 states that there should typically be no cosmetic damage if transient vibration does not exceed 15mm/s at low frequencies rising to 20mm/s at 15Hz and 50mm/s at 40Hz and above. These guidelines relate to relatively modern buildings and should be reduced to 50% or less for more critical buildings.

BS 5228 recommends that, for soundly constructed residential property and similar structures that are generally in good repair, a threshold for minor or cosmetic (i.e. non-structural) damage should be taken as a peak component particle velocity (in frequency range of predominant pulse) of 15mm/s at 4Hz increasing to 20mm/s at 15Hz and 50mm/s at 40Hz and above. The standard also notes that below 12.5 mm/s PPV the risk of damage tends to zero. It is therefore common, on a cautious basis to use this lower value. Where continuous vibration is such as to give rise to dynamic magnification due to resonance, the guide values may need to be reduced by up to 50%.

Both standards note that important buildings that are difficult to repair might require special consideration on a case by case basis but building of historical importance should not (unless it is structurally unsound) be assumed to be more sensitive. If a building is in a very unstable state, then it will tend to be more vulnerable to the possibility of damage arising from vibration or any other groundborne disturbance. Taking the above into consideration the vibration criteria in Table 9.2 is recommended as the maximum allowable vibration.

Allowable vibration (in terms of peak particle velocity) at the closest part of sensitive property to the source of vibration, at a frequency of:-		
Less than 15Hz	15 to 40Hz	40Hz and above
12 mm/s	20 mm/s	50 mm/s

Table 1: Maximum Allowable Vibration Criteria during Construction Phase

12 AIR QUALITY

The proposed development has been assessed as having a high risk of dust soiling impacts and a low risk of dust related human health impacts during the construction phase as a result of demolition, earthworks, construction and trackout activities. Therefore, the following dust mitigation measures shall be implemented during the construction phase of the proposed development. These measures are appropriate for sites with a high risk of dust impacts and aim to ensure that no significant nuisance occurs at nearby sensitive receptors. The mitigation measures draw on best practice guidance from Ireland (DCC, 2018; DLRCC, 2022), the UK (IAQM, 2024; BRE, 2003; The Scottish Office, 1996; UK ODPM, 2002) and the USA (USEPA, 1997). These measures will be incorporated into the Construction Environmental Management Plan (CEMP) prepared for the site. The measures are divided into different categories for different activities.

Communications

- Develop and implement a stakeholder communications plan that includes community engagement before works commence on site. Community engagement includes explaining the nature and duration of the works to local residents and businesses.
- The name and contact details of a person to contact regarding air quality and dust issues shall be displayed on the site boundary, this notice board should also include head/regional office contact details.
- Display the head or regional office contact information
- Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The level of detail will depend on the risk and should include as a minimum the highly recommended measures in the IAQM Guidance. The desirable measures should be included as appropriate for the site. In London additional measures may be required to ensure compliance with the Mayor of London's guidance. The DMP may include monitoring of dust deposition, dust flux, real-time PM10 continuous monitoring and/or visual inspections.

Site Management

- Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
- Make the complaints log available to the local authority when asked.

- Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the log book.
- Hold regular liaison meetings with other high risk construction sites within 500m of the site boundary, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised. It is important to understand the interactions of the off-site transport/deliveries which might be using the same strategic road network routes.

Preparing and Maintaining the Site

- Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.
- Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.
- Avoid site runoff of water or mud.
- Keep site fencing, barriers and scaffolding clean using wet methods.
- Remove materials that have potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below.
- Cover, seed or fence stockpiles to prevent wind whipping.
- Fully enclose sites or specific operations where there is a high potential for dust production and the site is active for an extensive period.

Operating Vehicles/Machinery and Sustainable Travel

- Ensure all vehicles switch off engines when stationary - no idling vehicles.
- Avoid the use of diesel- or petrol-powered generators and use mains electricity or battery powered equipment where practicable.
- Impose and signpost a maximum-speed-limit of 15 kph haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate).
- Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials.

- Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing)

Operations

- Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.
- Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.
- Use enclosed chutes and conveyors and covered skips.
- Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.
- Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.

Waste Management

- Avoid bonfires and burning of waste materials

Measures Specific to Earthworks

- Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.
- Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable.
- Only remove the cover in small areas during work and not all at once.
- During dry and windy periods, and when there is a likelihood of dust nuisance, a bowser will operate to ensure moisture content is high enough to increase the stability of the soil and thus suppress dust.

Measures Specific to Construction

- Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.

- Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.
- For smaller supplies of fine power materials, ensure bags are sealed after use and stored appropriately to prevent dust.
- Avoid scabbling (roughening of concrete surfaces) if possible.
- Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.

Measures specific to Trackout

- A speed restriction of 15 kph will be applied as an effective control measure for dust for on-site vehicles.
- Avoid dry sweeping of large areas.
- Ensure vehicles entering and leaving sites are covered to prevent the escape of materials during transport.
- Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.
- Record all inspections of haul routes and any subsequent action in a site logbook.
- Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.
- Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).
- Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permit.
- Access gates to be located at least 10 m from receptors where possible

The following monitoring measures are proposed to ensure the dust mitigation measures are working satisfactorily:

- Undertake daily on-site and off-site inspections, where receptors (including roads) are nearby, to monitor dust, record inspection results in the site inspection log. This should

include regular dust soiling checks of surfaces such as street furniture, cars and windowsills within 100 m of site boundary, with cleaning to be provided if necessary.

- Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.
- Monitoring of construction dust deposition along the site boundary to nearby sensitive receptors during the construction phase of the proposed development is recommended to ensure mitigation measures are working satisfactorily. This can be carried out using the Bergerhoff method in accordance with the requirements of the German Standard VDI 2119. The Bergerhoff Gauge consists of a collecting vessel and a stand with a protecting gauge. The collecting vessel is secured to the stand with the opening of the collecting vessel located approximately 2m above ground level. The TA Luft limit value is 350 mg/m²/day during the monitoring period of 30 days (+/- 2 days). Monitoring shall ensure that the dust mitigation measures are working satisfactorily as construction works progress.

13 CLIMATE

During the construction phase the following best practice measures shall be implemented on site to reduce the embodied carbon of the works and reduce impacts to climate:

- Appointing a suitably competent contractor who will undertake a pre-construction audit detailing resource recovery best practice and identify materials/building components that can be reused/recycled;
- Prevention of on-site or delivery vehicles from leaving engines idling, even over short periods;
- Ensure all plant and machinery are well maintained and inspected regularly;
- Minimising waste of materials due to poor timing or over ordering on site will aid to minimise the embodied carbon footprint of the site;
- Material choices and quantities will be reviewed during detailed design, to identify and implement lower embodied carbon options where feasible.
- Sourcing materials locally where possible to reduce transport related CO₂ emissions; and

The project developer, Glenveagh Properties, has committed to achieving Net Zero by 2050 across its whole business. Therefore, the proposed development will be built with carbon reduction and sustainability in mind and will include reductions of embodied emissions during the construction phase. Glenveagh Properties have published a Net Zero Transition Plan and Annual Reports which detail a commitment to achieving Net Zero by 2050.

These measures are supported by Glenveagh Properties PLC's Net Zero Transition Plan 2023, published in March 2023, which identifies the sources of Glenveagh Properties PLC's emissions and proposes measures to reduce these. A commitment to achieve a 55% reduction in Scope 3 (construction methods) emissions intensity (tCO₂e per 100 m² of complete floor area) by 2031 (using 2021 as the baseline year) will involve supplier engagement to make informed procurement decisions, engaging with subcontractors to support their transition to less carbon intensive fuels (diesel and gas oil is currently the norm) and investing in innovation of designing and building homes to reduce their associated embodied carbon. A reduction target of 46.2% by 2031 is also set in the plan for Scope 1 and 2 emissions (company operations). All targets have been validated by the Science Based Targets initiative (SBTi).

The Science Based Targets initiative (SBTi) is a corporate climate action organisation, incorporated as a charity, which develops standards, tools and guidance enabling companies to set GHG emissions reductions targets in line with net-zero by 2050 at the latest. Science-based targets show companies and financial institutions how much and how quickly they need to reduce their GHG emissions to prevent the worst effects of climate change (SBTi, 2024a). Glenveagh Properties PLC is one of the over 4,000 companies and financial institutions who have had their emission reduction targets validated by the SBTi (Glenveagh's targets can be searched in the SBTi's target dashboard (SBTi, 2024b)).

Glenveagh Properties PLC's Full Year 2024 Results, published in March 2025, identified that Scope 3 emissions are 7% below the 2021 baseline, measured on an intensity basis (tCO₂e per 100m²). This is primarily due to the focus on the energy efficiency of the residential units. Scope 1 and 2 emissions decreased by 47% compared to 2021 baseline, which can be attributed to the first full year HVO (hydrotreated vegetable oil) was used across all sites as a replacement to diesel.

In terms of impact on the proposed development due to climate change, during construction the Contractor will be required to mitigate against the effects of extreme rainfall/flooding through site risk assessments and method statements. The Contractor will also be required to mitigate against the effects of extreme wind/storms, temperature extremes through site risk assessments and method statements. All materials used during construction will be accompanied by certified datasheets which will set out the limiting operating temperatures. Temperatures can affect the performance of some materials, and this will require consideration during construction. During construction, the Contractor will be required to mitigate against the effects of fog, lighting and hail through site risk assessments and method statements.

Throughout detailed design and construction phase, guidance documents to inform with design detail decisions shall be reviewed, e.g. the EU Commission Technical Guidance on Adapting Buildings to Climate Change (European Commission, 2021a), LETI emergency design guide (LETI, 2020), and the latest IPCC report.

Monitoring and reporting of the embodied carbon in the construction phase will be conducted. The aim of monitoring will be to seek further ways to minimise climate impacts. Monitoring will include contractual obligations, in line with the most recent Climate Action Plan and sectoral targets, for the successful tenderer to ensure that the proposed development stays in line with updated aims. Commitments to monitor GHG emissions during the construction phase will also be secured through the final Construction Environmental Management Plan (CEMP). Monitoring

will include embodied carbon of construction materials, water usage, power and fuel usage, and waste generation (including reuse and recycling rates). Where monitoring shows that the proposed development is not meeting its targets, further mitigation will be put in place.

Monitoring should also include reviewing potential for extreme weather events which may cause damage during construction. Contractors' Environmental Management System (EMS) will include measures to address risks during such events i.e. flooding

14 LANDSCAPE AND VISUAL

The remedial measures proposed revolve around the implementation of appropriate site management procedures – such as the control of site lighting, storage of materials, placement of compounds, delivery of materials, car parking, etc. Visual impact during the construction phase will be mitigated somewhat through appropriate site management measures and work practices to ensure the site is kept tidy, dust is kept to a minimum, and that public areas are kept free from building material and site rubbish.

Site hoarding will be appropriately scaled, finished and maintained for the period of construction of each section of the works as appropriate. To reduce the potential negative impacts during the construction phase, good site management and housekeeping practices will be adhered to. The visual impact of the site compound and scaffolding visible during the construction phase are of a temporary nature only and therefore require no remedial action other than as stated above.

Existing trees and woodlands to be retained are shown in the Landscape Strategy Report prepared by CSR (included under separate cover as part of this planning application) and Arboricultural Impact Assessment & Method Statement and associated drawings prepared by John Morris Arboricultural Consultancy (included under separate cover as part of this planning application). Existing trees to be retained are particularly sensitive to negative impacts during the construction phase if proper protection measures are not adhered to. With regard to the protection of the retained trees on site during proposed construction works, reference should be made to 'BS5837: Trees in relation Design, Demolition and Construction – Recommendations' (BSI, 2012). Tree protection details have been included in the Arboricultural Impact Assessment & Method Statement and associated drawings (included under separate cover as part of this planning application).

Reducing the footprint of all construction works wherever feasible and ensuring the remainder of the land is retained as green field will also limit any adverse effects during the construction phase.

Visual impact of construction works - Follow appropriate site management procedures, including control of site lighting, storage of materials, placement of compounds, delivery of materials, car parking, etc.

Landscape character - Maintain the character of the site by installing proposed planting in accordance with the proposed landscape plans by CSR Landscape Architects, included separately as part of this planning application.

Existing vegetation - To protect trees to be retained, fell adjacent trees to be removed and grind out stumps in accordance with BS5837:2012. Tree / hedgerow protection works to be carried out in accordance with Arboricultural Impact Assessment & Method Statement and associated drawings prepared by John Morris Arboricultural Consultancy (included under separate cover as part of this planning application).

Proposed monitoring measures are summarised below:

- Landscape and visual mitigation measures will be monitored during the construction stage. This will include siting of the construction compound; protection of trees / hedgerows to be retained; stripping and storage of topsoil; reinstatement of landscape / soil areas; and completion of landscape works.
- Tree and hedgerow removal will be monitored by project arborist throughout the construction phase. Their oversight will ensure that only approved vegetation is removed, best practice methods are followed, and retained features are protected. The planting works will be undertaken in the next available planting season after completion of the main civil engineering and building work.

15 ARCHAEOLOGY & CULTURAL HERITAGE

The following mitigation measures will be put in place to minimise the impacts on Archaeology and Cultural Heritage:

All ground disturbance works across the remainder of the development site will be monitored by a suitably qualified archaeologist. In the event that archaeological material is recorded during monitoring, further discussion/consultation with the DHLGH will be sought in order to ascertain the appropriate treatment (i.e. preservation by record/preservation *in situ*) of any additional archaeological remains. the National Monuments Service of DHLGH in consultation with the NMI and notification of works.

Should the DHLGH recommend preservation by record/full archaeological excavation, this work will be undertaken under the appropriate licence. The DHLGH may recommend preservation *in situ*, should avoidance of any newly discovered archaeological remains be possible.

The following monitoring measures will be put in place to minimise the impacts on Archaeology and Cultural Heritage:

- Construction groundworks will be monitored by a suitably qualified archaeologist as per the above-listed mitigation. Any future licensed archaeological works will require an application process including approval of proposed methodologies by the National Monuments Service of DHLGH in consultation with the NMI and notification of works.

16 SITE COMPOUND FACILITIES AND PARKING

The Exact location of the site compound is to be agreed prior to the commencement of works by the Contractor.

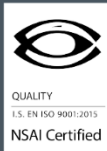
The location of the construction compound is likely to be relocated during the course of the works, in line with the phasing of the development.

- The construction compounds will include adequate welfare facilities such as washrooms, drying rooms, canteen and first aid room as well as foul drainage and potable water supply.
- Foul drainage from the construction compounds will be discharged to temporary holding tank(s) the contents of which will periodically be tankered off site to a licensed facility until a connection to the public foul drainage network has been established.
- The construction compound's potable water supply shall be protected from contamination by any construction activities or materials.
- The construction compounds will be enclosed by a security fence.
- Access to the compounds will be security controlled and all site visitors will be required to sign in on arrival and sign out on departure.
- Permeable hardstanding area's will be provided for staff car parking.
- Separate permeable hardstanding area's will be provided for construction machinery and plant.
- The construction compounds will include designated construction material recycling areas.
- A series of way finding signage will be provided to direct staff, visitors and deliveries as required.
- All construction materials, debris, temporary hardstands etc. in the vicinity of the site compounds will be removed off-site on completion of the works.
- Low level lighting will be provided for both construction compounds and motion detectors will be used where appropriate for lighting to ensure the impact on fauna is minimised.

Preliminary site compound locations shown in Figure 3 below



Figure 3: Site Compound Location



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