

Proposed Large Scale Residential
Development at Rathgowan, Mullingar,
Co. Westmeath
Applicant: Marina Quarter Ltd.

RECEIVED: 24/08/2023

Volume II

Main Statement

CHAPTER 17

Summary of Mitigation Measures & Monitoring



RECEIVED: 24/08/2023

Table of Contents

17 Schedule of Mitigation Measures 17-2

17.1 Introduction 17-2

17.1.1 Mitigation 17-2

17.1.2 Monitoring 17-2

Table of Tables

Table 17.1 Mitigation and Monitoring Table 17-3

17 Schedule of Mitigation Measures

RECEIVED: 24/08/2023

17.1 Introduction

This chapter includes the full schedule of mitigation measures and monitoring where proposed.

17.1.1 Mitigation

The draft EPA Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EPA, 2017) identifies that there are 4 established strategies for the mitigation of effects; avoidance, prevention, reduction and offsetting.

Mitigation by Avoidance: Avoidance usually refers to strategic issues, such as site selection, site configuration or selection of process technology. This may be the fastest, cheapest and most effective form of effect mitigation. In some cases mitigation by avoidance may also be considered as part of the “consideration of alternatives”.

Mitigation by Prevention: This usually refers to technical measures. Where a potential exists for unacceptable significant effects to occur (such as noise or emissions) then measures are put in place to limit the source of effects to a permissible and acceptable level.

Mitigation by Reduction: This is a very common strategy for dealing with effects which cannot be avoided. It tends to concentrate on the emissions and effects and seeks to limit the exposure of the receptor. This is regarded as a less sustainable, though still effective, approach, implemented through reducing the effect and/or reducing exposure to the effects.

Mitigation by Remedy/Offsetting: This is a strategy used for dealing with adverse effects which cannot be prevented or reduced. Remedy is compensating for or counteracting adverse effects. Examples include increased planting of specific trees/shrubs to replace unavoidable loss of vegetation, or provision of a new amenity area to compensate for the unavoidable loss of access to the grounds of an old house. Examples of Offsetting include reinstating buildings, walls or features, or the introduction of tunnels to enable wildlife to access other comparable habitats.

17.1.2 Monitoring

Some disciplines have proposed monitoring following their assessment of impacts and implementation of proposed mitigation measures. Monitoring will take place after consent is granted in order to demonstrate that the project in practice conforms to the predictions made during the EIA process. Monitoring provides assurance that proposed systems are operating as intended. This allows adjustments of operations to be made to ensure continued compliance with consent conditions such as emission limit values, conditions of operation, performance criteria/ indicators and detection of unexpected mitigation failures.

The EPA Guidelines also state that *“It is particularly important that the developer understands their commitment to mitigation measures that are proposed in an EIS. These are enforceable undertakings that will have to be put in place and sustained when the project is implemented”*.

The following mitigation and monitoring measures have been proposed by the specialist consultants during preparation of the EIAR, and approved by Glenveagh Homes Ltd.

RECEIVED: 24/08/2023

Table 17.1 Mitigation and Monitoring Table

Potential Impact	Construction	Operation
EIAR Chapter 2 Project Description		
Potential impacts during construction	Chapter 2 describes the project and includes construction stage controls and mitigation measures. These are also set out in the Preliminary Construction and Environmental Management Plan (CEMP), and include those measures set out below. It will be a requirement that all personnel will understand and implement the CEMP.	None Proposed
EIAR Chapter 3: Alternatives Considered		
Potential impacts have been mitigated by design, as set out in Chapter 2 and Chapter 3.	Alternatives may be described at six levels: do-nothing alternative, alternative locations, alternative layouts, alternative design, alternative processes and alternative mitigation measures. The consideration of the main alternatives in respect of the development of the subject land was undertaken by the Design Team.	All potential mitigation measures relating to alternative layout and design have been incorporated in the final agreed design of the project, and therefore there is no requirement to provide operational mitigation measures.
EIAR Chapter 4: Population and Human Health		
Potential impacts have been mitigated by design, as set out in Chapter 2 and Chapter 3.	<p>Health and Safety measures:</p> <ul style="list-style-type: none"> ▪ Securing the Site Boundary and erecting of fencing or hoarding/signage as required ▪ Minimizing the disruption of services through adequate engagement with utility and service providers ▪ Restriction of construction working hours and traffic access ▪ Site access and egress ▪ Preparation of an Emergency and Evacuation Plan ▪ Maintenance of Public Roads ▪ Communication with Local Authorities and Neighbours 	No mitigation measures are required.
Monitoring	No specific monitoring is proposed.	No specific monitoring is proposed.

Potential Impact	Construction	Operation
EIAR Chapter 5: Land, Soils, and Geology		
Potential Impacts	<p>The mitigation measures as outlined below, will ensure that there will be no significant impact on the receiving land, soil and geology.</p> <p>A preliminary Construction Environmental Management Plan (CEMP) has been prepared by Tobin Consulting Engineers (Tobin Consulting Engineers, 2023a). Following appointment, the contractor will be required to implement the measures set out CEMP and maintain environmental monitoring records for the duration of the project which shall be made available to representatives from Westmeath County Council for inspection on request. The CEMP is considered as a 'Live Document' and will be updated accordingly throughout the project as required.</p> <p>Mitigation works will be adopted as part of the construction works for the proposed development. The measure will address the main activities of potential impact which include:</p> <ul style="list-style-type: none"> ▪ Control and Management of water and surface runoff; ▪ Control of Management of works nears water courses; ▪ Control of Management of materials from off-site sources; ▪ Appropriate fuel and Chemical handling, transport and storage; and ▪ Management of accidental release of contaminants at the subject site. <p>A Construction Demolition & Operational Waste Management Plan (CDWOMP) has been prepared by Tobins Consulting Engineers for the Proposed Development (Tobins Consulting Engineers, 2023b). The purpose of the CDWOMP is to ensure that waste storage and movement within the development takes place in a matter which compiles with relevant legislation and has a minimum impact on the nearby existing commercial and residential areas.</p> <p>The CDWOMP (Tobin Consulting Engineers, 2023b) includes estimated quantities of construction waste which will be produced</p>	<p>There is no requirement for mitigation measures for the Operational Phase taking account of the design measures for the proposed development.</p>

RECEIVED: 21/08/2023

Potential Impact	Construction	Operation
	<p>during the Construction of the Proposed Development. The CEMP (Tobin Consulting Engineers, 2023a) and CDOWMP (Tobin Consulting Engineers, 2023b) will take cognisance of measures outlined in the EIAR.</p> <p>Import of Aggregates</p> <p>As outlined in the CEMP (Tobin Consulting Engineers, 2023a), all fill and aggregates will be sourced from reputable, approved suppliers. As a minimum, all suppliers will be required to:</p> <ul style="list-style-type: none"> ▪ Provide aggregate compliance certificates/declarations of conformity for the classes of material specified for the proposed development. ▪ Provide proof of an acceptable environmental management status; and ▪ Provide proof of the regulatory and legal compliance status of the company. <p>Contract and procurement will ensure that all imported aggregates required for the Proposed Development will be sourced from reputable suppliers operating in a sustainable manner and in accordance with industry conformity/compliance standards and statutory obligations. The importation of aggregates shall be subject to management and control procedures which shall include testing for contaminants, invasive species and other anthropogenic inclusions and assessment of the suitability for use in accordance with engineering and environmental specifications for the Proposed Development. Therefore, any unsuitable material will be identified prior to unloading / placement onsite.</p> <p>Airborne Dust Generation</p> <p>Excavated soils will be carefully managed and maintained in order to minimise potential impact on soil quality and soil structure. Handling of soils will be undertaken in accordance with documented procedures that will be set out in order to protect ground and minimise airborne dust. The normal measures required to prevent airborne dust emissions and associated nuisance arising from site work will be in place including measures to prevent</p>	<p style="color: red; text-align: right; font-size: 24px; transform: rotate(-15deg);">RECEIVED: 24/08/2023</p>

Potential Impact	Construction	Operation
	<p>uncovered soil drying out leading to wind pick up of dust and mud being spread onto the local road network and adjoining properties. This will require additional wetting at the point of dust release, dampening down during dry weather and wheel cleaning for any vehicles leaving the site. Potential impacts and avoidance and mitigation measures associated with generation of dust are addressed in Chapter 7 of this EIAR.</p> <p>As outlined in the CEMP (Tobin Consulting Engineers, 2023a), excavated material will be removed as soon as possible minimising the potential for stockpiles to created windblown dust. Daily inspections by the main contractor will be carried out to identify potential sources of dust generated along with implementation measures to remove caused which are found.</p> <p>Impacts of dust from the use of excavators, HGVs and vibrating rollers are considered to be temporary in duration and not considered to give rise to significant air quality impacts following the implementation of the following measures as set out in the CEMP:</p> <ul style="list-style-type: none"> ▪ All machinery will be suitably maintained to ensure that emissions of engine-generated pollutants shall be kept to a minimum in accordance with Measures Against the Emission of Gaseous and Particulate Pollutants from Internal Combustion Engines to be Installed in Non-Road Mobile Machinery (2002/88/EC) and Emissions of Pollutants from Diesel Engines (2005/21/EC); ▪ Vehicles will not be left unnecessarily idling on the site and trucks removing demolition waste from the site will turn off engines during loading. ▪ Pre-start checks on all machinery will be conducted daily prior to commencement of activities. ▪ Low emission fuels will be used insofar as possible; and ▪ Mains power will be used for small plant and equipment, where possible, in preference to generators. 	<p style="color: red; text-align: right; font-size: 1.2em; font-weight: bold;">RECEIVED: 24/08/2023</p>

Potential Impact	Construction	Operation
	<p>Reuse of Soil</p> <p>Soil and subsoil materials to be reused within the Proposed Development (i.e., for landscaping on site) will be subject assessment of the suitability of for use in accordance with engineering and environmental specification for the Proposed Development.</p> <p>Management and Control of Soils and Stockpiles</p> <p>The re-use of suitable cut material on-site for the Proposed Development (i.e., landscaping, raising levels or engineering fill) will be undertaken in accordance with the engineered design of the Proposed Development. Surplus or unsuitable soils will be removed offsite.</p> <p>Segregation and storage of soils for re-use onsite or removal off-site and waste for disposal off-site will be segregated and temporary stored on-site pending removal or for reuse on-site in accordance with the CEMP (Tobin Consulting Engineers, 2023a).</p> <p>As detailed in the CEMP (Tobin Consulting Engineers, 2023a), temporary storage of soil and stockpiles 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 30m of the open water where sufficient working areas are available within the site boundary, which is in line with Inland Fisheries Ireland guidelines.</p> <p>The surplus material, not suitable for reuse onsite, will be segregated, and stockpiled appropriately for removal offsite. For any excavated material identified for removal offsite, while assessment and approval of acceptance at a destination re-use, recovery site or waste facility is pending, excavated soil for recovery/disposal shall be stockpiled as follows:</p> <ul style="list-style-type: none"> ▪ A suitable temporary storage area shall be identified and designated; ▪ All stockpiles shall be assigned a stockpile number; 	<p style="color: red; text-align: right; font-size: 24px; transform: rotate(-15deg);">RECEIVED: 24/08/2023</p>

Potential Impact	Construction	Operation
	<ul style="list-style-type: none"> ▪ Material identified for reuse on site, off site and waste materials will be individually segregated; and all segregation, storage and stockpiling locations will be clearly delineated on the site drawings; ▪ Tarpaulins or polythene sheets will be used to cover stockpiles of material during heavy rainfall to avoid sediment release; ▪ Material identified for reuse on site, off site and waste materials will be individually segregated; ▪ Regular watering will take place to ensure the moisture content is high enough to increase the stability of the soil and thus suppress dust; and ▪ Stockpiles will be a minimum of 10m from drains. <p>Export of Resource (soil) and Waste</p> <p>All surplus materials and any waste will be removed off-site in accordance with the requirements outlined in the CDWOMP (Tobin Consulting Engineers, 2023b) and will be managed in accordance with all legal obligations. It will be the contractor's responsibility to either; obtain a waste collection permit or, to engage specialist waste service contractors who will possess the requisite authorisations, for the collection and movement of waste off-site.</p> <p>The re-use of soil and rock offsite will be undertaken in accordance with all statutory requirements and obligations including where appropriate re-use as by-product in accordance with Article 27 of the European Communities (Waste Directive) Regulations 2011 (SI No. 126 of 2011) as amended.</p> <p>Any surplus material not suitable for re-use as a by-product and other waste materials arising from the Construction Phase will be removed offsite by an authorised contractor and sent to the appropriately authorised (licensed/permitted) receiving waste facilities. As only authorised facilities will be used, the potential impacts at any authorised receiving</p>	<p style="color: red; text-align: right; font-size: 1.2em; font-weight: bold;">RECEIVED: 24/08/2023</p>

Potential Impact	Construction	Operation
	<p>facility sites will have been adequately assessed and mitigated as part of the statutory consent procedures.</p> <p>Any waste soils will be transported under a valid waste collection permit issued under the Waste Management (Collection Permit) Regulations 2007, as amended and will be delivered to an appropriately authorised waste management facility.</p> <p>Materials and waste will be documented prior to leaving the site. All information will be entered into a waste management register kept on the site.</p> <p>Vehicles transporting material with potential for dust emissions to an off-site location shall be enclosed or covered with a tarpaulin at all times to restrict the escape of dust.</p> <p>Public roads outside the site, in particular the R394, shall be regularly inspected for cleanliness and cleaned as necessary. The main contractor will carry out road sweeping operations, employing a suction sweeper or similar appropriate method, to remove any project related dirt and/or material deposited on the road by construction/ delivery vehicles. A wheel-wash system will be set up in the event there is a risk of debris deposited on the road as outlined in the CEMP (Tobin Consulting Engineers, 2023a).</p> <p>Concrete Works</p> <p>The cementitious grout and other concrete works during the Construction Phase, will avoid any contamination of ground through the use of appropriate design and methods implemented by the Contractor and in accordance with the CEMP (Tobin Consulting Engineers, 2023a) and relevant industry standards.</p> <p>All ready-mixed concrete will be delivered to the site by truck. Concrete mixer trucks will not be permitted to wash out on-site with the exception of cleaning the chute into a container which will</p>	<p style="color: red; text-align: right; font-size: 24px; transform: rotate(-15deg);">RECEIVED: 24/08/2023</p>

Potential Impact	Construction	Operation
	<p>then be emptied into a skip for appropriate compliant removal offsite.</p> <p>A suitable risk assessment for wet concreting shall be completed prior to works being carried out.</p> <p>Handling of Fuels, Chemicals and Materials</p> <p>Fuelling and lubrication of equipment will be carried out in a designated areas of the site away from any existing manholes or gullies. Fuelling and lubrication of equipment will only be carried out in a designated area of the site away from any existing manholes or gullies. At present, it is proposed that fuel and lubricants will be stored adjacent to the office compound.</p> <p>Bunds will have regard to Environmental Protection Agency guidelines 'Amendment to IPC Guidance Note on Storage and Transfer of Materials for Scheduled Activities' (EPA, 2013c). All tank and drum storage areas will, as a minimum, be bunded to a volume not less than the greater of the following:</p> <ul style="list-style-type: none"> ▪ 110% of the capacity of the largest tank or drum within the bunded area; or ▪ 25% of the total volume of substance that could be stored within the bunded area. <p>This bunded area will be roofed appropriately to exclude rainwater. Mobile fuel bowsers may be used for refuelling heavy equipment. Bowsers used will be double skinned and spill kit/drip tray equipment will be used during refuelling which will take place away from any nearby drains or watercourses and from any surface water drainage gully's (Tobin Consulting Engineers, 2023a).</p> <p>The main contractor will maintain an emergency response action plan and emergency procedures will be developed by the appointed contractor in advance of any works commencing. Construction staff will be familiar with the emergency response plan.</p> <p>As outlined in the CEMP (Tobin Consulting Engineers, 2023a), spill kits will be made available onsite and identified with signage for use in the event of an environmental spill or leak. A spill kit will be kept in close proximity to</p>	<p style="color: red; text-align: right; font-size: 2em; transform: rotate(-15deg);">RECEIVED: 24/08/2023</p>

Potential Impact	Construction	Operation
	<p>the fuel storage area for use in the event of any incident during refuelling or maintenance works. Heavy machinery used on the site will also be equipped with its own spill kit.</p> <p>Emergency Procedures</p> <p>In the event of an environmental incident, the appointed Project Environmental Manager will be notified immediately, and absorbent materials used to prevent the spread of the spill/leak. The contaminated materials will be transferred to leak-proof storage containers and any contaminated soils or gravels excavated and removed off-site. A record of the incident will be kept, and Westmeath County Council will be notified.</p> <p>Remedial action will be immediately implemented to address any potential impacts in accordance with industry standards and legislative requirements.</p> <ul style="list-style-type: none"> ▪ Any required emergency vehicle or equipment maintenance work will take place in a designated impermeable area within the site; ▪ Emergency response procedures will be put in place, in the unlikely event of spillages of fuels or lubricants; ▪ Spill kits including oil absorbent material will be provided so that any spillage of fuels, lubricants or hydraulic oils will be immediately contained; ▪ In the event of a leak or spill from equipment in the instance of a mechanical breakdown during operation, any contaminated soil will be removed from the site and compliantly disposed off-site. Residual soil will be tested to validate that all potentially contaminated material has been removed. This procedure will be undertaken in accordance with industry best practice procedures and standards; ▪ All construction works staff will be familiar with emergency procedures for in the event of accidental fuel spillages; and 	<p style="color: red; text-align: right; font-size: 1.2em; font-weight: bold; transform: rotate(-15deg);">RECEIVED: 24/08/2023</p>

Potential Impact	Construction	Operation
	<ul style="list-style-type: none"> ▪ All construction works staff on-site will be fully trained on the use of equipment. <p>This procedure will be undertaken in accordance with industry best practice procedures and standards. These measures will ensure that there is minimal risk to the receiving land, soil and geological environment associated with the Construction Phase of the Proposed Development.</p> <p>Welfare Facilities</p> <p>Welfare facilities have the potential, if not managed appropriately, to release organic and other contaminants to ground or surface water courses. Portaloos will be provided in the compound initially, with a dedicated toilet block installed later. All waste from welfare facilities will be managed in accordance with the relevant statutory obligations by tankering of waste offsite by an appropriately authorised contractor.</p>	<p style="color: red; text-align: right; font-size: 1.2em; transform: rotate(-15deg);">RECEIVED: 24/08/2023</p>
Monitoring	<p>During the Construction Phase of the Proposed Development the following monitoring measures will be considered:</p> <ul style="list-style-type: none"> ▪ Routine monitoring and inspections during refuelling, concrete works to ensure no impacts and compliance with avoidance, remedial and mitigation measures; ▪ Inspections and monitoring will be undertaken during excavations and other groundworks to ensure that measure that are protective of water quality are fully implemented and effective; ▪ Materials management and waste audits will be carried out at regular intervals to monitor the following: <ul style="list-style-type: none"> ○ Management of soils on-site and for removal offsite. ○ Record keeping. ○ Traceability of all materials, surplus soil and other waste removed from the site; and <p>Ensure records are maintained of material acceptance at the end destination</p>	<p>Ongoing regular operation monitoring of the SUDs measure will be undertaken throughout the lifetime of the operational phase of the Proposed Development. The management and maintenance requirements for the each of the SUDs are developed in line with the CIRIA SUDs Manual</p>

Potential Impact	Construction	Operation
EIAR Chapter 6: Hydrology and Hydrogeology		
<p>Potential Impacts</p>	<p>A preliminary Construction Environmental Management Plan (CEMP) has been prepared by Tobin Consulting Engineers (Tobin Consulting Engineers, 2023a). Following appointment, the contractor will be required to implement the measures set out CEMP and maintain environmental monitoring records for the duration of the project which shall be made available to representatives from Westmeath County Council for inspection on request. The CEMP is considered as a 'Live Document' and will be updated accordingly throughout the project as required.</p> <p>Mitigation works will be adopted as part of the construction works for the Proposed Development. The measure will address the main activities of potential impact which include:</p> <ul style="list-style-type: none"> ▪ Control and Management of water and surface runoff; ▪ Control of Management of works nears water courses; ▪ Control of Management of materials from off-site sources; ▪ Appropriate fuel and Chemical handling, transport and storage; and ▪ Management of accidental release of contaminants at the subject site. <p>The construction works will be managed in accordance with all statutory obligations and regulations and with standard international best practice. Good construction management practices will minimise the risk of pollution from construction activities at the subject site including but not limited to:</p> <ul style="list-style-type: none"> ▪ Construction Industry Research and Information Association (CIRIA), 2001. Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors. ▪ CIRIA, 2015. Environmental Good Practice on Site (C741); ▪ Enterprise Ireland Oil Storage Guidelines (BPGCS005); 	<p>It is considered that the design of the Proposed Development is in line with the objectives of the Water Framework Directive (2000/60/EC as amended) (WFD) to prevent or limit any potential impact on water quality of the receiving environment.</p> <p>Ongoing regular operational monitoring and maintenance of drainage and the SuDS measures will be incorporated into the overall management strategy for the Proposed Development. This will ensure that there are no impacts on water quality and quantity (flow regime) during the operational phase of the Proposed Development.</p> <p>With regard to the Proposed discharge of treated operational surface water from the Proposed Development the land drains eventually discharging to the Brosna River waterbody, the potential for surface water generated at the Proposed Development to cause significant effects to downstream sensitivities during the operational phase would be considered negligible due in part to the SuDS measures and petrol interceptor incorporated in the overall design.</p>

RECEIVED: 24/08/2023

Potential Impact	Construction	Operation
	<ul style="list-style-type: none"> ▪ Environmental Protection Agency (EPA), 2013. IPC Guidance Note on Storage and Transfer of Materials for Scheduled Activities; ▪ CIRIA, 2007. The SuDS Manual (C697); ▪ UK Environment Agency, 2004. UK Pollution Prevention Guidelines (PPG); ▪ CIRIA, 2006. Control of Water Pollution from Linear Construction Projects: Technical Guidance (C648); and ▪ Inland Fisheries Ireland (2016). Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters <p>Control and Management of Water and Surface Runoff</p> <p>There will be no direct discharge to groundwater or surface water during the construction phase of the Proposed Development.</p> <p>All run-off from the subject site or any areas of exposed soil will be managed as required with temporary pumping and following appropriate treatment as required. Dewatering to lower groundwater levels is not anticipated. However, where surface water runoff must be pumped from excavations, water will be managed in accordance with best practice standards (i.e., CIRIA C750), the CEMP and regulatory consents to minimise the potential impact on the local groundwater flow regime within the soil and bedrock.</p> <p>Unauthorised discharge of water (groundwater / surface water runoff) to ground, drains or watercourses will not be permitted. works. The appointed Contractor will ensure that the discharge of water to ground, drains or watercourses will be in accordance with the necessary discharge licences issued by UE under Section 16 of the Local Government (Water Pollution) Acts and Regulations for any water discharges to sewer or from Westmeath County Council under Section 4 of the Local Government (Water Pollution) Act 1977, as</p>	<p style="color: red; text-align: right; font-size: 1.2em; font-weight: bold;">RECEIVED: 24/08/2023</p>

Potential Impact	Construction	Operation
	<p>amended in 1990 for discharges to surface water.</p> <p>A buffer zone of 30m will be maintained between onsite drains of open water located on the site and any stockpiles of loose materials pending re-use onsite. Silt fences will be erected at the toe of stockpiles to prevent run-off. The silt fences will be monitored daily by the main contractor and silt will be removed from required.</p> <p>A regular review of weather forecast will take place, insofar as possible, ground excavation works will be scheduled during period of dry weather to minimise potential for silt laden run-off.</p> <p>Handling of Fuels and Hazardous Materials</p> <p>Fuelling and lubrication of equipment will be carried out in a designated areas of the site away from any existing manholes or gullies. Fuelling and lubrication of equipment will only be carried out in a designated area of the site away from any existing manholes or gullies. At present, it is proposed that fuel and lubricants will be stored adjacent to the office compound.</p> <p>Bunds will have regard to Environmental Protection Agency guidelines 'Amendment to IPC Guidance Note on Storage and Transfer of Materials for Scheduled Activities' (EPA, 2013c). All tank and drum storage areas will, as a minimum, be bunded to a volume not less than the greater of the following:</p> <ul style="list-style-type: none"> ▪ 110% of the capacity of the largest tank or drum within the bunded area; or ▪ 25% of the total volume of substance that could be stored within the bunded area. <p>This bunded area will be roofed appropriately to exclude rainwater. Mobile fuel bowsers may be used for refuelling heavy equipment. Bowsers used will be double skinned and spill kit/drip tray equipment will be used during refuelling which will take place away from any nearby drains or watercourses and from any surface water drainage gully's (Tobin Consulting Engineers, 2023a).</p>	<p style="color: red; text-align: right; font-size: 2em; transform: rotate(-15deg);">RECEIVED: 24/08/2023</p>

Potential Impact	Construction	Operation
	<p>The main contractor will maintain an emergency response action plan and emergency procedures will be developed by the appointed contractor in advance of any works commencing. Construction staff will be familiar with the emergency response plan.</p> <p>As outlined in the CEMP (Tobin Consulting Engineers, 2023a), spill kits will be made available onsite and identified with signage for use in the event of an environmental spill or leak. A spill kit will be kept in close proximity to the fuel storage area for use in the event of any incident during refuelling or maintenance works. Heavy machinery used on the site will also be equipped with its own spill kit.</p> <p>Concrete Works</p> <p>The cementitious grout and other concrete works during the Construction Phase, will avoid any contamination of ground through the use of appropriate design and methods implemented by the Contractor and in accordance with the CEMP (Tobin Consulting Engineers, 2023a) and relevant industry standards.</p> <p>All ready-mixed concrete will be delivered to the site by truck. Concrete mixer trucks will not be permitted to wash out on-site with the exception of cleaning the chute into a container which will then be emptied into a skip for appropriate compliant removal offsite.</p> <p>A suitable risk assessment for wet concreting shall be completed prior to works being carried out.</p> <p>Emergency Procedures</p> <p>In the event of an environmental incident, the appointed Project Environmental Manager will be notified immediately, and absorbent materials used to prevent the spread of the spill/leak. The contaminated materials will be transferred to leak-proof storage containers and any contaminated soils or gravels excavated and removed off-site. A record of the incident will be kept, and Westmeath County Council will be notified.</p> <p>Remedial action will be immediately implemented to address any potential impacts</p>	<p style="color: red; text-align: right; font-size: 1.2em; font-weight: bold;">RECEIVED: 24/08/2023</p>

Potential Impact	Construction	Operation
	<p>in accordance with industry standards and legislative requirements.</p> <ul style="list-style-type: none"> ▪ Any required emergency vehicle or equipment maintenance work will take place in a designated impermeable area within the site; ▪ Emergency response procedures will be put in place, in the unlikely event of spillages of fuels or lubricants; ▪ Spill kits including oil absorbent material will be provided so that any spillage of fuels, lubricants or hydraulic oils will be immediately contained; ▪ In the event of a leak or spill from equipment in the instance of a mechanical breakdown during operation, any contaminated soil will be removed from the site and compliantly disposed off-site. Residual soil will be tested to validate that all potentially contaminated material has been removed. This procedure will be undertaken in accordance with industry best practice procedures and standards; ▪ All construction works staff will be familiar with emergency procedures for in the event of accidental fuel spillages; and ▪ All construction works staff on-site will be fully trained on the use of equipment. <p>This procedure will be undertaken in accordance with industry best practice procedures and standards. These measures will ensure that there is minimal risk to the receiving hydrology and Hydrogeology environment associated with the Construction Phase of the Proposed Development.</p> <p>Welfare Facilities</p> <p>Welfare facilities have the potential, if not managed appropriately, to release organic and other contaminants to ground or surface water courses. Portaloos will be provided in the compound initially, with a dedicated toilet block installed later. All waste from welfare facilities will be managed in accordance with the relevant statutory obligations by tankering of</p>	<p style="color: red; text-align: right; font-size: 24px; transform: rotate(-15deg);">RECEIVED: 24/08/2023</p>

Potential Impact	Construction	Operation
	waste offsite by an appropriately authorised contractor	
Monitoring	<p>During the construction phase of the Proposed Development the following monitoring measures will be considered:</p> <ul style="list-style-type: none"> Inspections will be undertaken during excavations and other groundworks to ensure that measures that are protective of water quality are fully implemented and effective. Discharges to surface water / foul sewers will be monitored where required in accordance with statutory consents (i.e., discharge licence). Routine monitoring and inspections during refuelling, concrete works to ensure no impacts and compliance with avoidance, remedial and mitigation measures. 	<p>Ongoing regular operational monitoring and maintenance of drainage and the SuDS measures will be undertaken throughout the lifetime of the operational phase of the Proposed Development.</p>
EIAR Chapter 7: Air Quality		
Potential Impacts	<ul style="list-style-type: none"> The Principal Contractor or equivalent must monitor the contractors' performance to ensure that the proposed mitigation measures are implemented and that dust impacts and nuisance are minimised; During working hours, dust control methods will be monitored as appropriate, depending on the prevailing meteorological conditions; <p>Operating Vehicles/Machinery and Sustainable Travel</p> <p>Ensure all vehicles switch off engines when stationary - no idling vehicles.</p> <p>Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.</p> <p>Impose and signpost a maximum-speed-limit of 20 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).</p> <p>Produce a Construction Logistics Plan to manage the sustainable</p>	No site-specific mitigation measures are required.

RECEIVED: 27/08/2023

Potential Impact	Construction	Operation
	<p>Preparing and Maintaining the Site</p> <ul style="list-style-type: none"> ▪ 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. ▪ Fully enclose specific operations where there is a high potential for dust production, and the site is active for an extensive period. ▪ Avoid site runoff of water or mud. ▪ Keep site fencing, barriers and scaffolding clean using wet methods. ▪ Remove materials that have a 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. <p>Operations</p> <ul style="list-style-type: none"> ▪ 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. <p>Waste Management</p> <p>Avoid bonfires and the burning of waste materials.</p>	<p style="color: red; text-align: right; font-size: 2em; transform: rotate(-15deg);">RECEIVED: 24/08/2023</p>

Potential Impact	Construction	Operation
	<p>Measures Specific to Earthworks</p> <ul style="list-style-type: none"> ▪ 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. <p>Measures Specific to Construction</p> <ul style="list-style-type: none"> ▪ 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. ▪ 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 powder materials ensure bags are sealed after use and stored appropriately to prevent dust. <p>Measures Specific to Trackout</p> <ul style="list-style-type: none"> ▪ Site roads (particularly unpaved) can be a significant source of fugitive dust from construction sites if control measures are not in place. The most effective means of suppressing dust emissions from unpaved roads is to apply speed restrictions. Studies show that these measures can have a control efficiency ranging from 25 to 80% (UK ODPM, 2002). ▪ A speed restriction of 20 km/hr will be applied as an effective control measure for dust for on-site vehicles. ▪ Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the 	<p style="color: red; transform: rotate(-15deg); font-weight: bold;">RECEIVED: 24/08/2023</p>

Potential Impact	Construction	Operation
	<p>site. This may require the sweeper being continuously in use. If sweeping using a road sweeper is not possible due to the nature of the surrounding area then a suitable smaller scale street cleaning vacuum will be used.</p> <ul style="list-style-type: none"> ▪ Avoid dry sweeping of large areas. ▪ Ensure vehicles entering and leaving sites are covered to prevent 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 log book. ▪ 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 permits. ▪ Access gates to be located at least 10 m from receptors where possible. 	<p style="color: red; text-align: right; font-size: 24px; transform: rotate(-15deg);">RECEIVED: 24/08/2023</p>

EIAR Chapter 8: Climate

<p>Potential Impact</p>	<p>Embodied carbon of materials and construction activities will be the primary source of climate impacts during the construction phase. During the construction phase the following best practice measures shall be implemented on site to prevent significant GHG emissions and reduce impacts to climate:</p> <ul style="list-style-type: none"> ▪ 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. ▪ Waste materials will be re-used on site where possible and where re-use is not 	<p>A number of measures have been incorporated into the design of the development in order to mitigate against the impacts of future climate change. For example, adequate attenuation and drainage have been incorporated into the design of the development to avoid potential flooding impacts as a result of increased rainfall events in future years.</p> <p>A number of incorporated design mitigation measures that have been incorporated into the design of the development to reduce the impact on climate wherever possible. The development will be in compliance with the requirements of the Near Zero Energy Building (NZEB) Standards and will achieve a Building Energy Rating (BER) in line with the NZEB requirements. Renewable</p>
-------------------------	---	--

Potential Impact	Construction	Operation
	<p>possible on-site they will be sent off-site for recycling, re-use or recovery.</p> <ul style="list-style-type: none"> Sourcing materials locally where possible to reduce transport related CO2 emissions. 	<p>technologies will be implemented for the energy or heating requirements of the units to meet the RER of the NZEB requirements. Durable building material will be selected to prevent the need for frequent replacement or maintenance thereby reducing the embodied footprint of the development. These identified measures will aid in reducing the impact to climate during the operational phase of the proposed development in line with the goals of the Climate Change Action Plan.</p>

EIAR Chapter 9: Noise and Vibration

Potential Impact	<p>In this instance the assessment within this document has found that construction noise is expected to be below the level where a significant impact is likely to occur. Notwithstanding this, the contractor will be required to ensure that all best practice noise and vibration control methods will be used to minimise noise and vibration levels.</p> <p>With regard to construction activities, best practice operational and control measures for noise and vibration from construction sites are found within BS 5228 (2009 +A1 2014) <i>Code of Practice for Noise and Vibration Control on Construction and Open Sites Parts 1 and 2</i>.</p> <p>BS5228 includes guidance on several aspects of construction site practices, including, but not limited to:</p> <ul style="list-style-type: none"> selection of quiet plant; control of noise sources; screening (boundary, and or localised plant screening); hours of work; liaison with the public, and; monitoring <p>Noise at Source</p> <p>BS5228 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</p>	<p>Traffic</p> <p>Noise mitigation measures with respect to the impact of traffic from the development are not deemed necessary.</p> <p>Building Services Plant</p> <p>With consideration at the detailed design stage the selection and location of plant items will ensure that noise emissions to sensitive receivers both external and within the development itself will be within the relevant criteria, therefore no further mitigation is required.</p> <p>Inward Impact</p> <p>At detailed design stage, glazing and vent specifications will ensure suitable internal noise levels</p>
------------------	---	---

Potential Impact	Construction	Operation
	<p>or application of damping compounds; rattling and grinding noises can often be controlled by fixing resilient materials in between the surfaces in contact.</p> <p>states that “as far as reasonably practicable sources of significant noise should be enclosed”. In applying this guidance, constraints such as mobility, ventilation, access and safety must be taken into account. Items suitable for enclosure include pumps and generators.</p> <p>BS5228 makes a number of recommendations in relation to “use and siting of equipment”. These are all directly relevant and hence are reproduced below. These recommendations will be adopted on site.</p> <p>“Plant should always be used in accordance with manufacturers’ instructions. Care should be taken to site equipment away from noise-sensitive areas. Where possible, loading and unloading should also be carried out away from such areas.</p> <p>Machines such as cranes that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum. Machines should not be left running unnecessarily, as this can be noisy and waste energy.</p> <p>Plant known to emit noise strongly in one direction should, when possible, be orientated so that the noise is directed away from noise-sensitive areas. Attendant operators of the plant can also benefit from this acoustical phenomenon by sheltering, when possible, in the area with reduced noise levels.</p> <p>Acoustic covers to engines should be kept closed when the engines are in use and idling. The use of compressors that have effective acoustic enclosures and are designed to operate when their access panels are closed is recommended.</p> <p>Materials should be lowered whenever practicable and should not be dropped. The surfaces on to which the materials are being moved could be covered by resilient material.”</p> <p>Other forms of noise control at source relevant to the development works are set out below:</p>	<p style="color: red; text-align: right; font-size: 1.2em; font-weight: bold;">RECEIVED: 24/08/2023</p>

Potential Impact	Construction	Operation
	<ul style="list-style-type: none"> ▪ For mobile plant items such as cranes, dump trucks, excavators and loaders, the installation of an acoustic exhaust and or maintaining enclosure panels closed during operation can reduce noise levels by up to 10dB. Mobile plant will be switched off when not in use and not left idling. ▪ For percussive tools such as pneumatic concrete breakers and tools a number of noise control measures include fitting muffler or sound reducing equipment to the breaker 'tool' and ensure any leaks in the air lines are sealed. Erect 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. ▪ Demountable enclosures can also be used to screen operatives using hand tools/ breakers and will be moved around site as necessary. ▪ 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. <p>Screening</p> <p>Typically 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. The effectiveness of a noise screen will depend on the height and length of the screen and its position relative to both the source and receiver. Screening may be a useful form of noise control when works are taking place at basement and ground level to screen noise levels at ground floor adjacent buildings.</p> <p>In addition, careful planning of the site layout will also be considered. The use of localised mobile (mobile hoarding screens and / or</p>	<p style="text-align: right; color: red; font-size: 1.2em; transform: rotate(-15deg);">RECEIVED: 24/08/2023</p>

Potential Impact	Construction	Operation
	<p>acoustic quilts) to items of plant with the potential to generate high levels of noise are an effective noise control measure. These options will be considered when percussive works are taking place in close proximity to the nearest sensitive perimeter buildings.</p> <p>In particular, screening offering a reduction in noise levels of 10 dB will be required along the boundaries with the Ashfield housing area.</p> <p>Liaison with Public</p> <p>A designated noise liaison will be appointed to site during construction works. All noise complaints will be logged and followed up in a prompt fashion by the liaison officer. In addition, prior to particularly noisy construction activity, the liaison officer will inform residents at the nearest noise sensitive locations of the time and expected duration of the noisy works.</p> <p>Hours of Work</p> <p>Construction works will be undertaken within the times below, taken from the Construction Environmental Management Plan:</p> <p>Monday to Friday: 07:00 to 18:00hrs Saturday: 08:00 to 14:00hrs Sunday and Public Holidays: No work on site.</p> <p>However, it may be necessary for some construction operations to be undertaken outside these times, for example; connections to public service systems or utilities. Such works will be agreed in advance with Westmeath County Council.</p> <p>Building Services Plant</p> <p>Selection of quiet plant is recommended in relation to sites with static plant such as compressors and generators. It is recommended that these units be supplied with manufacturers' proprietary acoustic enclosures where possible. The potential for any item of plant to generate noise will be assessed prior to the item being brought onto the site. To facilitate this, each item of plant equipment will be required to comply with the EC Directive on Outdoor Noise Emissions 2000/14/EC. The least noisy item will be selected wherever possible.</p>	<p style="color: red; text-align: right; font-size: 1.2em; font-weight: bold;">RECEIVED: 24/08/2023</p>

Potential Impact	Construction	Operation
EIAR Chapter 10: Landscape and Visual Impact		
Potential Impact	<p>Design Stage:</p> <p>Provide a green link between the adjacent zoned Open Space and Parkland parcels, north and south of the site. This link shall be min. 10m in width and consist of mixed native species.</p> <p>Retain category “B2” trees within the northeast hedgerow, as a visual filter to the Open Space lands.</p> <p>Retain the Ash trees to the centre of the site that are in excess of 15m height, as a visual backdrop to numerous views.</p> <p>Retain the trees along the western boundary adjacent to the Rathgowan House laneway, as they also impact character on adjacent lands.</p> <p>Provide a solid buffer to the existing residences at the south end of the site.</p> <p>To minimise visual impact, roofing material to any structures to be non-reflective with a dark colour tone.</p> <p>Construction Stage</p> <p>Trees to be retained should be fenced off at the commencement of construction to the specified Root Protection Area (RPA) to avoid inadvertent felling or use of the ground under canopies for construction purposes.</p> <p>The attenuation zone adjacent to the R394 should be constructed early in the development and planted 6 months prior to its use as stormwater attenuation, to ensure soil settlement and vegetation establishment.</p> <p>Salvaged topsoil should not be stored more than 6 months if kept in piles more than 1m high. Rotate stockpiling to fit this time period, to ensure healthy aerated soil for use in the completed development.</p>	None Proposed
EIAR Chapter 11: Material Assets Waste		
Potential Impacts	<p>Waste</p> <p>The Contractor will be required to follow all guidelines in the PCEMP and CDOWMP (Tobin Consulting Engineers Ltd., July 2023), subject to approval by Westmeath County Council for the duration of the Construction Phase of the Proposed Development. This PCEMP and CDOWMP will contain the necessary measures for amelioration and remediation during the</p>	<p>Waste</p> <p>As outlined in the CDOWMP (Tobin Consulting Engineers Ltd., July 2023) for the Proposed Development, it is intended to ensure that the highest possible levels of waste reduction, waste reuse and waste recycling are achieved for the Proposed Development. Specifically, the CDOWMP will aim to achieve waste prevention,</p>

RECEIVED: 24/08/2023

Potential Impact	Construction	Operation
	<p>Construction Phase of the Proposed Development</p>	<p>maximum recycling, and recovery of waste with a focus on diversion of waste from landfill wherever possible. The Management Company will be responsible for the provision of a leaflet to all new tenants encouraging good waste segregation and pictorial information detailing the waste streams that can be placed in each bin. In addition to this, clauses that support waste segregation targets will be included in relevant legal documentation e.g., tenancy agreements where possible. The CDOWMP also states that the facilities management company must employ suitably permitted or licenced contractors to undertake off-site management of their waste in accordance with all legal requirements. This includes the requirement that a waste contractor handle, transport and reuse / recover / recycle / dispose of waste in a manner that ensures that no adverse environmental impacts occur as a result of any of these activities</p>
	<p>Wastewater</p> <p>Specific avoidance, remedial and mitigation measures to be taken during the Construction and Operational Phase with respect to foul water and wastewater are detailed within Chapter 7 Hydrology and Hydrogeology, of this EIAR. All works will be carried out in accordance with the PCEMP/CDOWMP (Tobin Consulting Engineers Ltd., July 2023) prepared for the Proposed Development and the Irish Water Code of Practice for Water Infrastructure (July 2020) and the Irish Water Code of Practice for Wastewater Infrastructure (July 2020). Laying of watermains/wastewater sewers and testing of pipelines and infrastructure will be in accordance with Irish Water standard details</p>	<p>Wastewater</p> <p>It is proposed that wastewater generated from the Proposed Development will discharge to an existing 225mm Ø Irish Water foul sewer which runs within the site along the southern boundary. A new manhole will be constructed on the existing sewer at the point of connection. Approximately two-thirds of the site will drain under gravity to this location. A factor of 6 times the dry weather flow was used to determine the relevant pipe requirements, with loading rates for the development in accordance with the Code of Practice for Wastewater Infrastructure (IW-CDS-5030-03) - Wastewater Flow Rates for Design (Tobin Consulting Engineers, April 2023). All flow velocities within the proposed gravity foul drainage network fall within the limits of 0.75 and 2.5m/sec as set out in Irish Water Code of Practice for Wastewater Infrastructure</p>

Potential Impact	Construction	Operation
EIAR Chapter 12: Material Assets: Traffic and Transport		
<p>Potential Impact</p>	<p>The Construction Environmental Management Plan (CEMP) includes proposed mitigation measures to minimise the impact of constructed related traffic on the modelled roads network. The construction stage of the proposed development will be complete in three phases as described in CEMP and the project is scheduled to begin construction in 2024 with an estimated duration of 83 weeks. It is envisaged that working hours will be 08:00 am to 19:00 pm Monday to Friday (08:00 am to 14:00 pm for Saturday) for construction personnel through each phase of the development. Generally, construction workers will travel to site before the measured peak hour of 08:00 to 09:00, to be on site for a 08:00 start-time. It is envisaged that a very limited number of construction employees are likely to travel to the site during peak hours.</p> <p>It is anticipated that heavy goods vehicles, HGV's, will be restricted to movements on the local road network during the off-peak periods. It is estimated that truck movements and general deliveries would arrive/leave at a steady rate during working hours. It is envisaged that during the busiest period onsite, namely the groundworks element of the works, an estimated 8 no. HGV's will deliver to the site daily for the duration of this work element. HGV deliveries are envisaged at other periods during the construction phase, but these are expected to be at a lower frequency. An estimated total of 610 HGV trips are envisaged throughout the course of the construction phase of the works.</p> <p>A number of mitigation measures are proposed during the construction phase to minimise the impact, the measures are as follows:</p> <ul style="list-style-type: none"> ▪ A detailed haulage plan will be put in place to ensure minimal impact on the surrounding road network. Spoil removal from site will be kept to a minimum with a detailed site survey completed to ascertain where spoil can be distributed on the site. ▪ All deliveries and removals will be subject to stringent site rules governing the loading / off-loading times, location 	<p>Mitigation measures proposed during the operational stage are as follows:</p> <ul style="list-style-type: none"> ▪ Provision of "YIELD" road markings at the roundabout access in accordance the Traffic Signs Manual (TII, 2019). ▪ Suitable Lighting of all junctions with lighting columns being positioned at the back of the footways. ▪ The connection of the proposed development footpaths to the existing footpath network on the R394. This will allow connectivity to the existing infrastructure. ▪ The provision of bicycle stands and dedicated cycle routes through the development to encourage cycling. ▪ Charging points for electric vehicles are being provided. ▪ A Mobility Management Plan has been included as part of the Traffic and Transport Assessment, submitted as part of this application. This outlines the mobility strategy for the proposed development and includes measures for guiding the delivery and management of coordinated mobility management initiatives by the scheme promotor.

RECEIVED: 24/08/2023

Potential Impact	Construction	Operation
	<p>of loading / off loading, covering of loads and cleaning of vehicles exiting the site, etc.</p> <ul style="list-style-type: none"> ▪ Delivery loads to and from the site and management of large deliveries on site to occur outside of peak periods. ▪ No vehicle will be allowed to stop or park on the access road to the proposed development site. ▪ Ample parking will be provided within the site to cater for the staff and visitors during the construction phases of the proposed development. ▪ Construction traffic will be managed and scheduled to ensure no queueing occurs on either the internal road system or the main approach roads. The provision of an on-site vehicle staging area will facilitate waiting vehicles. ▪ Routine sweeping/cleaning of the road and footpaths in front of the site; and ▪ No uncontrolled runoff to the public road from dewatering/pumping carried out during construction activity. <p>There will be on-going monitoring of the impact of construction traffic on the wider roads network to ensure prompt action is taken in the event of an issue arising</p>	<p style="color: red; text-align: right; font-size: 1.2em; font-weight: bold;">RECEIVED: 24/08/2023</p>
EIAR Chapter 13: Material Assets: Service Infrastructure & Utilities		
Potential Impact	<p>Wastewater contamination of groundwater and surface water:</p> <ul style="list-style-type: none"> ▪ Significance of impact without mitigation: Under the normal operation of the wastewater system, the impact on surface water or groundwater quality is imperceptible. ▪ Significance of impact with mitigation: None required 	<p>Domestic waste dispersal:</p> <ul style="list-style-type: none"> ▪ Significance of impact without mitigation: Ongoing and moderate to severe. ▪ Significance of impact with mitigation: Management, containment and handling of domestic waste will be undertaken strictly in accordance with the Operational Environmental Management Plan. The impact is thereby mitigated slight to imperceptible levels
	<p>Increased risk of pluvial flooding:</p> <ul style="list-style-type: none"> ▪ Significance of impact without mitigation: Short term but potentially severe. 	<p>Electrical faults:</p> <ul style="list-style-type: none"> ▪ Significance of impact without mitigation: Temporary but moderate to severe.

Potential Impact	Construction	Operation
	<ul style="list-style-type: none"> ▪ Significance of impact with mitigation: The risk of pluvial flooding is minimised by the drainage network set-up, controlled discharge rate as per the greenfield runoff-rate, gullies strategically located and the use of the retention pond for surface water storage. Designed run-off equates to that of the calculated greenfields value. The impact, therefore, is slight to imperceptible 	<ul style="list-style-type: none"> ▪ Significance of impact with mitigation: Stringent quality controls govern the design, materials fabrication and installation of this infrastructure. Causes of faults are therefore significantly limited to extraneous factors. The risk is therefore low, while the impact is moderate to high, but this is limited to the case of faults being caused by, and coinciding with, severe storm events
	<p>Hydrocarbon pollution:</p> <ul style="list-style-type: none"> ▪ Significance of impact without mitigation: Ongoing and moderate to severe. ▪ Significance of impact with mitigation: The risk of hydrocarbons and pollutants entering the natural watercourse is eliminated by the introduction of a petrol/oil interceptor prior to discharging to the attenuation tank and pond/bioswale. The impact is therefore classed as imperceptible 	
	<p>Excavation-related silt migration:</p> <ul style="list-style-type: none"> ▪ Significance of impact without mitigation: Short term and slight ▪ Significance of impact with mitigation: Management of surface water runoff and subsequent treatment prior to release off-site will be undertaken during construction work. Prior to the commencement of earthwork silt fencing will be placed down-gradient of the construction areas where drains or drainage pathways are present. These will be embedded into the local soils to ensure all site water is captured and filtered. Earthworks will take place during periods of low rainfall to reduce run-off and potential siltation of watercourses. The impact is thereby mitigated slight to imperceptible levels 	

Potential Impact	Construction	Operation
	<p>Construction waste dispersal:</p> <ul style="list-style-type: none"> ▪ Significance of impact without mitigation: Temporary but moderate to severe. ▪ Significance of impact with mitigation: Management, containment and handling of construction waste will be undertaken during construction work strictly in accordance with the Construction Environmental Management Plan. In the case of backfill material, a waste sampling strategy is to be employed by the Contractor to ensure all backfill material is inert. The impact is thereby mitigated slight to imperceptible levels 	<p>RECEIVED: 24/08/2023</p>
	<p>Electrical faults:</p> <ul style="list-style-type: none"> ▪ Significance of impact without mitigation: Temporary but moderate to severe. ▪ Significance of impact with mitigation: Stringent quality controls govern the design, materials fabrication and installation of this infrastructure. Causes of faults are therefore significantly limited to extraneous factors. The risk is therefore low, while the impact is moderate to high in the case of faults being caused by and coinciding with severe storm events 	
	<p>Dust/Noise experienced by neighbours:</p> <ul style="list-style-type: none"> ▪ Significance of impact without mitigation: Temporary and moderate. Significance of impact with mitigation: Site management will include numerous safe-working and environmental-welfare procedures (including dust-suppression) which will be monitored and enforced by various mechanisms. Construction noise will be periodic, generated only for the minimum period required and only during working hours 	

Potential Impact	Construction	Operation
EIAR Chapter 14: Biodiversity		
<p>Potential Impact</p>	<p>Protection of Habitats</p> <p>Trees that are proposed to be retained on Site (as per the tree protection plan accompanying this application, Drg. No. M-TS-001) will be protected for the duration of the Construction Phase by protective fencing, signage and/or ground protection prior to any materials or machinery being brought on Site and prior to any development or soil stripping taking place. Areas that are designated for new planting will be protected where possible. Barriers will be fit for the purpose of excluding construction activity. In most cases barriers will consist of a scaffold framework comprising a vertical and horizontal framework, well braced to resist impacts. To ensure the protective barriers are respected, clear concise signage will be affixed to the barrier in an unrestricted easily viewer location. The protective barriers will remain in place in an undisturbed condition and only removed on completion of all construction activity. Any breach of the protective fencing will be reported to the consulting arborist.</p> <p>During the course of the Construction Phase the integrity of the protective fencing must be respected and remain in place at all times. No building materials or soil heaps will be stored within this area. Should essential works need to take place within the root protection area, the project arborist must be informed in advance and any necessary mitigation measures will be put in place. The protective fencing will remain in situ for the duration of the project and will only be removed upon completion of all works. Construction will only commence once the protective barriers and/or ground protection have been erected.</p> <p>Further information on Tree Protection measures can be found in the Arboricultural Impact Assessment accompanying this application (Arbo Care, 2023).</p> <p>Invasive Species</p> <p>No species of plant listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations, 2011 were recorded at the Site during surveys. As such, no significant risk of impacts relating to the</p>	<p>Wildlife Friendly Lighting</p> <p>To minimise disturbance to bats in the immediate vicinity of the Site, the lighting and layout of the Proposed Development has been designed to minimise light spill. This will be achieved by ensuring that the design to minimise light spill. This will be achieved by ensuring that the design of lighting accords with guidelines presented in the Bat Conservation Trust & Institute of Lighting Engineers 'Bats and Lighting in the UK - Bats and Built Environment Series', the Bat Conservation Trust 'Artificial Lighting and Wildlife Interim Guidance' and the Bat Conservation Trust 'Statement on the impact and design of artificial light on bats'.</p> <p>Bat-friendly lighting measures have been incorporated into the Proposed Development design and associated lighting plan. Dark buffer zones can be effectively used to separate important habitats or features from lighting by forming a dark perimeter around them (ILP, 2018). Buffer zones rely on ensuring light levels within a certain distance of features do not exceed certain defined limits, generally 1 lux or less. The buffer zone can be further subdivided into zones of increasing illuminance limit radiating away from the feature.</p> <p>It is noted that the Site is currently well illuminated due to the adjacent street and residential lighting, however the inclusion of wildlife friendly lighting measures in the Proposed Development design will have a considerable input in mitigating the potential impact of additional night-time lighting on local bats. Based on the above guidance documents, the lighting scheme for the Proposed Development, as confirmed by Morley Walsh has incorporated the following measures:</p> <ul style="list-style-type: none"> ▪ Luminaires will have zero upward light ratio, to minimize light pollution, energy waste and impact on wildlife.

RECEIVED: 21/08/2023

Potential Impact	Construction	Operation
	<p>spread of invasive plant species exists at the Site. Nevertheless, efforts should be made to remove the non-native plants on Site and minimise any risk of spread off-Site. The distribution of the non-native species recorded on Site (snowberry) is not significant and its removal will not be an issue.</p> <p>Transport Infrastructure Ireland (2020) guidance 'The Management of Invasive Alien Plant Species on National Roads – Technical Guidance' will be consulted with regards the treatment, removal and disposal of invasive flora at the Site.</p> <p>The following measures will be adhered to, to avoid the introduction or dissemination of invasive species to and from the Site of the Proposed Development:</p> <ul style="list-style-type: none"> ▪ Validation that all machinery / vehicles are free of Invasive Alien Plant Species (IAPS) prior to their first introduction to Site. ▪ Certification from the suppliers that all imported soils and other fill/landscaping materials are free of IAPS. ▪ A regular schedule of Site inspections across the IAPS growing season, for the duration of the construction works. ▪ Validation that all machinery / vehicles are free of IAPS, prior to leaving the Site. ▪ Appropriate and effective Site biosecurity hygiene. <p>Surface and ground water protection measures</p> <p>The Proposed Development includes a detailed drainage plan that is assessed in full In Chapter 6 – Hydrology & Hydrogeology of this EIAR. This drainage plan and all associated measures have been taken into account in this Biodiversity Chapter but are not included in full (to avoid repetition). The drainage design for the Proposed Development will minimise surface water runoff arising at the Site, to adequately control and manage surface water runoff from the Site containing suspended solids and to ensure that the hydrological function of the waterbodies in the vicinity of the</p>	<p>RECEIVED: 24/08/2023</p> <ul style="list-style-type: none"> ▪ Lighting will be directional on to the roadways and footways only with minimal spillage onto the adjoining habitats. ▪ LED luminaries are utilised where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability. ▪ Narrow spectrum bulbs will be used to lower the range of species affected by lighting. Light sources that emit minimal ultra-violet light and avoid the white and blue wavelengths of the light spectrum will be utilised to avoid attracting lots of insects. Lighting regimes that attract lots of insects result in a reduction of insects in other areas like parks and gardens that bats may utilise for foraging. ▪ Motion sensor and timer activated lighting will be in place at the Site to ensure minimal light spill occurs during the hours of darkness. ▪ Planting will provide areas of darkness suitable for bats to feed and commute. ▪ Reflective surfaces will not be placed under lights. <p>Protection and enhancement of habitats</p> <p>The landscaped sections of the Proposed Development will be managed in a way so as to mitigate the loss of the existing hedgerows and treelines as much as is possible. In this way new hedgerows and treelines will be maximised in the ecological value they provide at the Site, with habitat connectivity ensured along the margins of the Proposed Development. This connectivity is vital for wildlife such as birds, bats, mammals, and insect pollinators in a human landscape such as that which will be provided by the Proposed Development. Additionally, by managing hedgerows and treelines in a more natural way, they will provide more in terms of biodiversity; through increased plant diversity, increase provision of food resources and higher</p>

Potential Impact	Construction	Operation
	<p>Site are not affected by the Proposed Development.</p> <p>There are no drainage ditches or watercourses within or immediately adjacent to the Proposed Development Site however the public surface water network lies adjacent to the Site along the C-Link Road. This public surface water network eventually discharges to the River Brosna north east of the Site. As such, standard best practice surface water management measures will be implemented on Site to ensure surface water runoff from the Site containing suspended solids does not reach the public surface water network along the C-Link Road or impact the local underlying groundwater body.</p> <p>A number of pollution-prevention measures for the Construction Phase of the Proposed Development are described in the outline Construction Environmental Management Plan (CEMP) accompanying this application under a separate cover. All measures outlined in the CEMP are established measures that are widely used in construction projects, and there is a high degree of confidence in their success. The contractor will be required to employ an Environmental Manager to assist with preparing a detailed CEMP and its implementation.</p> <p>The following pollution prevention measures will be implemented on Site to protect surface water and ground water in the vicinity of the Proposed Development:</p> <ul style="list-style-type: none"> ▪ The main compound on Site will include a bunded area for the storage of pollutants, with additional areas for stockpiling of materials. ▪ There will be no cement washout on Site except for washout of chutes, the washings of which will be collected into an appropriate container for compliant off-Site management. ▪ Where cast-in-place concrete is required, all work will be carried out in the dry. ▪ All plant machinery required on Site will be serviced before being mobilised to Site. ▪ Refuelling of plant during the Construction Phase will only be carried 	<p>quality shelter to wildlife inhabiting and commuting through the area.</p> <p>This low intervention approach may not be suitable for the more landscaped areas of the Site, which may need to be maintained to a higher degree for health and safety or aesthetic reasons. However, a high quantity of native species is included in the landscape design in these locations to maximise the biodiversity value of these internal landscaped parts of the Site.</p> <p>For the hedgerows running along the margins of the Site, the following management approach is proposed to maximise their biodiversity value and offset the loss of existing hedgerows and treelines at the Site:</p> <ul style="list-style-type: none"> ▪ Hedgerows will be maintained with a natural meadow strip of 1-2m at their base wherever possible. Hedges with plenty of naturally occurring flowers and grasses at the base support will provide higher quality habitat for local wildlife using the hedges. ▪ The 1-2m strip at the base of the hedgerow will be cut on a reduced mowing regime to encourage wildflower growth and maximise the value of the hedgerow for pollinators. A two-cut management approach is ideal for suppressing coarse grasses and encouraging wildflowers. Cut the hedgerow basal strip once during February and March (this is before most verge plants flower and it will not disturb ground-nesting birds). Cut the verge once again during September and October (this slightly later cutting date allows plants that were cut earlier in the year time to grow and set seed). ▪ N.B. Raising the cutter bar on the back cut will lower the risk to amphibians, reptiles and small mammals. ▪ Hedgerows, where possible, should be allowed to reach at least

Potential Impact	Construction	Operation
	<p>out at designated refuelling stations located on Site. Each station will be fully equipped for spill response and a specially trained and dedicated Environmental and Emergency Spill Response team will be appointed before the commencement of works on Site. The plant refuelling procedures will be detailed in the contractor's method statement.</p> <ul style="list-style-type: none"> ▪ Spill kits will be made available in each item of plant required on Site. ▪ A regular review of the weather forecast for extremely heavy rainfall will be conducted, and a contingency plan will be prepared for before and after such events to minimise any potential nuisances. As the risk of the break-out of silt laden run-off is higher during these weather conditions, no work will be carried out during such periods where possible. ▪ Only emergency breakdown maintenance will be carried out on Site. Drip trays and spill kits will be available on Site to ensure that any spills from vehicles are contained and removed off Site. ▪ All personnel working on Site will be trained in pollution incident control response. ▪ Any other diesel fuel or hydraulic oils stored on Site will be stored in bunded storage tanks. The bunded area will have a volume of at least 110% of the volume of the stored materials as per best practice guidelines (Enterprise Ireland, BPGCD005). ▪ All associated waste from portaloos and/or containerised toilets and welfare units will be removed from the Site by a licenced waste disposal contractor. ▪ Where there is a requirement to collect and treat surface water within the Site during the Construction Phase, run-off from the working Site or any areas of exposed soil will be channelled and intercepted at regular intervals via 	<p>2.5m in height, and should be trimmed in an A-shape; maintaining a wider base to compliment the natural meadow strip at their base.</p> <ul style="list-style-type: none"> ▪ Where hedgerow trimming needs to occur delay trimming as late as possible – until January and February as the surviving berry crop will provide valuable food for wildlife. The earlier this is cut; the less food will be available to help birds and other wildlife survive through the winter. Any hedgerow cutting should be done outside of the nesting season and due consideration of the Wildlife Act 1976 (as amended) needs to be taken. ▪ Where possible, cut these outer boundary hedgerows on a minimum 3-year cycle (cutting annually stops the hedgerow flowering and fruiting), and cut in rotation rather than all at once - this will ensure some areas of hedgerow will always flower (blackthorn in March, hawthorn in May). ▪ Where they occur naturally, bramble and ivy should be allowed grow in hedgerows, as they provide key nectar and pollen sources in summer and autumn. <p><u>Methods to Avoid</u></p> <ul style="list-style-type: none"> ▪ Hedgerows will not be over-managed. Tightly cut hedges mean there are fewer flowers and berries, thus reducing available habitats, feeding sources and suitable nesting sites. ▪ Hedgerows will not be cut between March 1st and August 31st inclusive. It is both prohibited (except under certain exemptions) and very damaging for birds as this is the period they will have vulnerable nests containing eggs and young birds.

Potential Impact	Construction	Operation
	<p>perimeter swales. The swales will be installed at low points around the construction areas. If required, water will be pumped from the swales into sediment bags with overflows directed to land rather than to the public surface water sewer.</p> <ul style="list-style-type: none"> ▪ Discharge to land will be via a silt bag which will filter any remaining sediment from the pumped water. The entire discharge from the silt bag will be enclosed by a perimeter of double silt fencing. ▪ No pumped construction water will be discharged directly to the public surface water network along the C-Link Road. <p>Protection of Fauna</p> <p><i>Site Lighting</i></p> <p>Site lighting may be required during the Construction Phase, to protect bats and other nocturnal fauna from excess night-time lighting, the following luminaire specifications, taken from the latest guidance (ILP, 2018) will be adhered to during the Construction Phase:</p> <ul style="list-style-type: none"> ▪ Retained trees will not incur an increase in the current lux level due to Construction Phase lighting. ▪ All luminaires will lack UV/IR elements to reduce impact. ▪ LED luminaires will be used due to the fact that they are highly directional, lower intensity, good colour rendition and dimming capability. ▪ A warm white spectrum (<2700 Kelvins) will be used to reduce the blue light component of the LED spectrum. ▪ Column heights will be carefully considered to minimise light spill, the shortest column height allowed will be used. ▪ Only luminaires with an upward light ration of 0% and with good optical control will be used. ▪ Luminaires will be mounted on the horizontal i.e., no upward tilt. ▪ External security lighting will be set on motion-sensors and short timers. 	<p>Do not use pesticide/ herbicide sprays or fertilisers near hedgerows, scrub or areas of wildflower meadows as they can have an extremely negative effect on the variety of plants and animals that live there.</p> <p>Bird and Bat Box Scheme</p> <p>It is recommended that 10 no bird boxes will be installed as part of the landscape plan, the placement of the bird boxes will be overseen by an appropriately qualified ecologist. The boxes will be durable and will be firm and secure to their supports, and only placed on trees that are robust and large enough to support the bird box. There are various standard bird box options and at least two of each of the following box types will be installed:</p> <ul style="list-style-type: none"> ▪ 'Hole type' bird box (32mm hole). ▪ 'Hole type' bird box (32mm hole) ▪ Eco Starling Nest Box ▪ 'Hole type' bird box (28 mm hole) <p>Hole type bird boxes should be positioned 2-4m off the ground, with good-visibility, a clear flight line and away from the prevailing wind direction. Unless the areas are very sheltered, bird boxes should be fixed facing between north and south-east to avoid the hot sun and the wettest winds. Bird box placement will be directed by an ecologist and amended as appropriate.</p> <p>It is recommended that 10 Schwegler bat boxes will be erected on suitably large trees along the Site boundaries to provide future roosting opportunities. The guidance of a suitably qualified ecologist will be sought in the selection of bat box type and placement; to avoid disturbance from lighting generated by the Proposed Development and maximise the likelihood of their uptake by local bats. Bat boxes will be placed over 4m high (if possible) onto mature trees, the trees in which they are placed will not be illuminated. A group of 3 bat boxes facing in different directions will provide a variety of micro-habitats.</p> <p>Hedgehog Highways</p>

Potential Impact	Construction	Operation
	<p><i>Small Mammals</i></p> <p>As best practice, all construction related waste on Site e.g., plastic sheeting, netting etc. will be kept in designated areas on Site and kept off ground level to protect hedgehogs from entrapment and possible death. These measures will also act to mitigate potential negative impacts on any other small mammal species potentially utilising the Site.</p> <p>Trenches/ pits must be either covered at the end of each working day or include a means of escape for any animal falling in e.g., a plank or object placed in the corner of the excavation. Any temporarily exposed open pipe system will be capped in such a way as to prevent fauna gaining access as may happen when contractors are off Site.</p> <p><i>Vegetation Clearance</i></p> <p>Any clearance of vegetation will be carried out outside the main bird breeding season i.e., outside of the period of 1st of March to 31st of August, in compliance with the Wildlife Act 1976 (as amended). Should any vegetation removal be required during this period, the precise location within the hedgerow/trees will be checked for birds or nests by a suitably qualified Ecologist. If encountered, the precise location with the hedgerow/treeline and the species of bird present will be recorded. The area will be protected, and the Site manager will be informed of the presence of nesting birds and advised that no works can commence in this area until further notice. Appropriate protection measures will be implemented in consultation with the project ecologist and a timeline for further surveys will be agreed based on the bird species present.</p> <p>Table 14-13 (within chapter 14) provides guidance for when vegetation clearance is permissible. Information sources include the Herpetological Society of Ireland, British Hedgehog Preservation Society's <i>Hedgehogs and Development and the Wildlife (Amendment) Act, 2000</i>. The preferred period for vegetation clearance is within the months of late September and October. Vegetation will be removed in sections working in a consistent direction to prevent entrapment of protected fauna potentially present (e.g., hedgehog,</p>	<p>By creating a number of separate private dwellings and associated gardens at the Site, large areas of the Site ultimately become fragmented and potentially inaccessible to species such as hedgehogs, which like to roam each night in search of food (garden pests e.g., slugs). This can be mitigated by ensuring that the boundaries and barriers within and surrounding the Site i.e., garden fencing, railings and gates are permeable for hedgehogs (Figure 14.14). This can be done by:</p> <ul style="list-style-type: none"> ▪ The use of fence panels with 13 x 13 cm holes at ground level (hedgehog holes). ▪ Leaving a sufficient gap beneath gates. ▪ Leaving brick spaces at the base of brick walls. <p>A variety of fence suppliers' stock specific hedgehog-friendly fencing options, which can be easily incorporated at little to no additional costs. These simple measures will provide habitat connectivity at the Site for small mammals and reduce the impact of the land-use change on these species. Including details of hedgehog-friendly features in the new homeowner's welcome pack will raise awareness and prevent homeowners from reversing these features, for instance blocking fence holes.</p>

Potential Impact	Construction	Operation
	<p>pygmy shrew). Where this seasonal restriction cannot be observed, a check for active roosts, nests and small mammals will be carried out immediately prior to any Site clearance by an appropriately qualified ecologist/ ornithologist and repeated as required to ensure compliance with legislative requirements.</p> <p>Reduction of noise and dust related impacts</p> <p>Short-term increases in disturbance levels as a direct result of human activity and through increased generation of noise during the Construction Phase can have a range of impacts depending upon the sensitivity of the ecological receptor, the nature and duration of the disturbance and its timing.</p> <p>Noise generated during the Construction Phase of the Proposed Development could cause temporary disturbance to a number of faunal species in the vicinity of the Site of the Proposed Development. The following best practise measures will be put in place to ensure the minimisation of potential impacts on fauna as a result of the Proposed Development. Limiting the hours during which Site activities likely to create high levels of noise are permitted.</p> <ul style="list-style-type: none"> ▪ Establishing channels of communication between the contractor/developer, local authority and residents. ▪ Appointing a Site representative responsible for matters relating to noise. ▪ Selection of plant with low inherent potential for generating noise. ▪ Siting of plant as far away from sensitive receptors as permitted by Site constraints. ▪ Avoidance of unnecessary revving of engines and switch off plant items when not required. ▪ Keep plant machinery and vehicles adequately maintained and serviced. ▪ Proper balancing of plant items with rotating parts. ▪ Keep internal routes well maintained and avoid steep gradients. ▪ Minimise drop heights for materials or ensure a resilient material underlies. 	<p style="color: red; text-align: right; font-size: 1.2em; font-weight: bold;">RECEIVED: 24/08/2023</p>

Potential Impact	Construction	Operation
	<ul style="list-style-type: none"> ▪ Use of alternative reversing alarm systems on plant machinery. ▪ Monitoring typical levels of noise during critical periods and at sensitive locations. <p>These measures will ensure that any noise disturbance to nesting birds or any other fauna species in the vicinity of the Site of the Proposed Development will be reduced to a minimum.</p> <p>Reduction of Dust Related Impacts</p> <p>The following general dust control measures will be followed for the duration of the Construction Phase and will ensure no significant dust related impacts occur on nearby sensitive receptors including local faunal species:</p> <ul style="list-style-type: none"> ▪ Haulage vehicles transporting gravel and other similar materials to Site will be covered by a tarpaulin or similar. ▪ Bowsers will be available during periods of dry weather throughout the construction period. ▪ During dry and windy periods, and when there is a likelihood of dust nuisance, a bower will operate to ensure moisture content is high enough to increase the stability of the soil thereby reducing the amount of dust. ▪ Stockpiles will be stored in sheltered areas of the Site, covered, and watered regularly or as needed if exposed during dry weather. ▪ Gravel will be used at Site exit points to remove caked-on dirt from tyre tracks. ▪ Equipment will be washed at the end of each workday. ▪ If practical, wheel-washing facilities will be located at all exits from the Construction Site. ▪ Dust production as a result of Site activity will be minimised by regular cleaning of the Site access roads using vacuum road sweepers and washers. Access roads will be cleaned at least 0.5km on either side of the approach roads to the access points. 	<p style="color: red; text-align: right; font-size: 1.2em; font-weight: bold; transform: rotate(-15deg);">RECEIVED: 24/08/2023</p>

Potential Impact	Construction	Operation
	<ul style="list-style-type: none"> ▪ Public roads outside the Site shall be regularly inspected for cleanliness, as a minimum daily, and cleaned as necessary. A road sweeper will be made available to ensure that public roads are kept free of debris. ▪ The frequency of cleaning will be determined by the Site agent and is weather and activity dependent. ▪ The height of stockpiles will be kept to a minimum and slopes should be gentle to avoid windblown soil dust. ▪ The following will be dampened during dry weather: <ul style="list-style-type: none"> ○ Unpaved areas subject to traffic and wind ○ Stockpiles ○ Areas where there will be loading and unloading of dust-generating materials. 	<p style="color: red; text-align: right; font-size: 1.2em; font-weight: bold; transform: rotate(-15deg);">RECEIVED: 24/08/2023</p>

EIAR Chapter 15: Cultural Heritage and Archaeology

Potential Impact	<p>The pit feature identified during the 2020 programme of test trenching within the proposed development site will be subject to a full archaeological excavation in advance of construction phase works at its location (see Appendix 15.1). This mitigation measure will comply with a condition included in the previous grant of permission for a previous planning application within the proposed development site (WCC ref. 21/139) as well as the National Monuments Service's observations/recommendations in relation to that development (see Section 15.6.8). There are no structures of architectural heritage interest or other cultural heritage assets located within the proposed development site and no mitigation measures for these elements of the cultural heritage resource are required.</p>	<p>All required mitigation measures will be enacted during the construction phase and, therefore, no cultural heritage mitigation measures during the operational phase of the proposed development are predicted.</p>
------------------	--	--