Gort Public Realm Enhancement Scheme

Construction and Environmental Management Plan

Doc No: BDP-RP-001-CEMP
Issue: Planning
Rev: R00
Date: 11.10.24

BDP.

Contents

1.0 Introduction

BDP have prepared this Construction and Environmental Plan (CEMP) on behalf of Galway County Council (GCC) for proposed public realm improvements at Gort, Co. Galway. The proposed development will consist of the Town Centre Public Realm Enhancement works and improvements to the Canon Quinn Park outdoor amenity area. The public realm enhancement scheme proposes to deliver upgrades to the following streets: Market Square, Main Street, Bridge Street, Barrack Street, Georges Street, Crowe Street, Queen Street, Church Street, and Lowry's Lane. In conjunction with this, two brown field sites will be developed to provide ancillary long term parking to facilitate the relocation of town centre parking in the interest of creating a community focused public realm.

The CEMP provides a synopsis of the environmental management methodologies to be adopted at the pre-commencement and construction phases of the proposed works and incorporates mitigation measures.

Galway County Council are applying for Planning Permission and, should this be approved, all measures identified in this CEMP will be adhered to during the pre-commencement and construction phases of the proposed works.

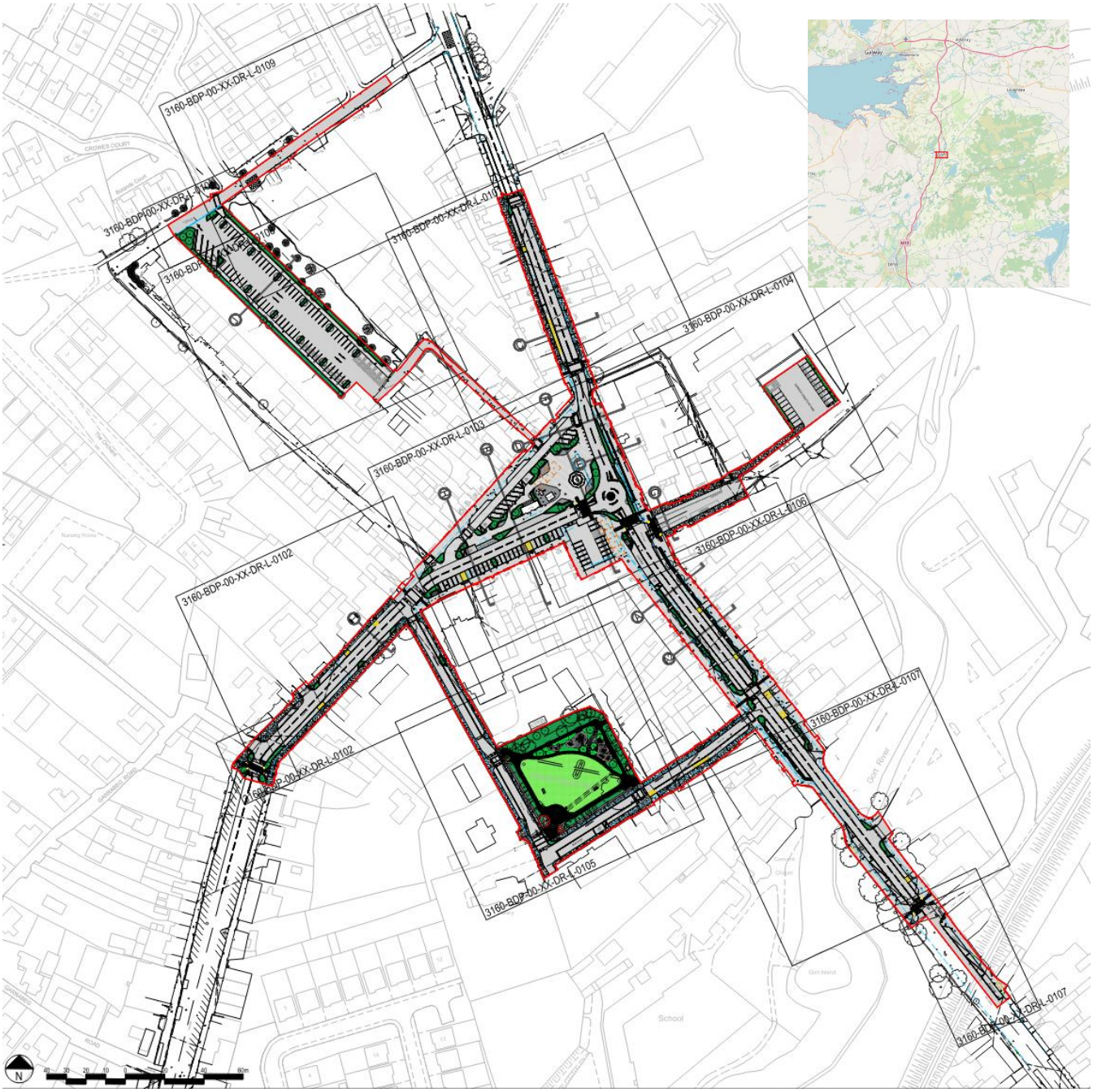
A main contractor is yet to be appointed for the proposed works. Once appointed, it will be the Main Contractor's responsibility to prepare and submit a detailed CEMP which will be a live document to be continuously updated.

2.0 Site Location

Gort is located approximately 32 kilometres south of Galway Gateway and 64 kilometres north from Limerick Gateway on the M18. Gort is also connected to the M6 Galway to Dublin Motorway via the N18 at Oranmore and via the N66 at Loughrea. A site location map is shown in Figure 1 below. The extent of the proposed enhancement works is focused on the Gort Town Centre, Canon Quinn Park, and the proposed ancillary car parks which are presently brown field sites.

The Cannahowna River (known locally as the Gort River) runs alongside the development area to the south east and passes below the Main Street/Georges Street bridge. The river is connected to the Coole-Garryland SAC as described in the accompanying ecological reports.

Figure 1 - Site Location Map



3.0 Description of Study Area

3.1 Town Centre

The study area is located directly in the centre of Gort Town with the historic Market Square as its focal point. The Market Square, Main Street, Church Street, Bridge Street and George's Street have traditionally been the functional heart of the town with the Market Square attracting large numbers of visitors in years gone by. The Market Square is no longer suitable for community activities as it has been converted into a car park which lies at the centre of a major traffic intersection and the main public spaces have become congested with traffic which has prompted the need for their regeneration.

3.2 Canon Quinn Park

Canon Quinn Park is located behind the church approximately 100m away from the Market Square and is accessed via Queens Street. Historically, it functioned as a community area where livestock, particularly sheep, could be corralled on market day. Today it is the principle outdoor amenity used by the people who live in the town. The proposed works here will make provision for much needed all age play facilities along with a performance space which would allow the community to make better use of this important amenity.

4.0 Proposed Development Description

Gort Town Centre Public Realm Enhancement Project on Market Square, Bridge Street, George Street, Crowe Street, Barrack Street, Queen Street, Church Street, and Canon Quinn Park shall include:

Redesigned paved areas along Market Square, Bridge Street, George Street, Crowe Street, Barrack Street, Queen Street and Church Street including new surface materials, installation of a new lighting scheme, hard and soft landscaping and street furniture (The proposed works are located within the Architectural Conservation Area, and in the vicinity of Recorded Protected Structures RPS No 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 436, 437, 438, 439, 440, 441, 442, 3445, 3451, 3452, 3453, 3459, 3464, 3467, 3468, 3469, 3471, 3472). The works shall comprise:

- Provision of an upgraded and expanded pedestrianised civic/public space in the Market Square.
- Provision of new pedestrian crossings.
- Installation of new road alignments including reduction in carriageway widths and traffic calming measures.
- Installation of new street furniture and cycle parking.
- Rationalised on-street car parking throughout the application area including the provision of new disabled and age friendly parking provision.
- The provision of 2 no. new public off-street car parks on Crowe Street and Barrack Street.
- Installation of new landscaping including street trees and planting.
- Upgrade works to the existing Canon Quinn Park including the installation of play equipment, seating, lighting and ancillary infrastructure.
- Installation of a new signage and way-finding scheme.
- Relocation of overhead cables to below ground corridors and the removal of redundant overhead cabling.
- Installation of upgraded surface water drainage infrastructure including provision of more nature based and sustainable urban drainage solutions (SUDS).
- The relocating of existing public bus-stop to Bridge Street/George Street and provision 1 no. new coach drop off area on Market Square.
- All other associated site and ancillary works at Market Square, Bridge Street, George Street, Crowe Street, Barrack Street, Queen Street, Church Street, and Canon Quinn Park.

Proposed layout drawings for the development are included in GORT TOWN CENTER - DRAWING REGISTER - 4 OCT 2024[TK1].

5.0 Construction Methodology

The Contractor shall establish and implement, during the execution and completion of the Works, an Environmental Operating Plan consistent with the NRA "Guidelines for the Creation, Implementation and Maintenance of an Environmental Operating Plan".

All construction operations shall be carried out in accordance with Technical Guidance (C648) (CIRIA 2006), Control of Water Pollution from Linear Construction Projects, Site Guide (C649) (CIRIA 2006), and the Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes (NRA, 2006).

The scope of the proposed construction works can be summarised as follows:

- Resurfacing of roads and realignment and development of ancillary car parking areas.
- Widening and realigning existing footpath areas including nature-based drainage and landscape planting.
- Works at the Canon Quinn Park including construction of multi-age play areas and outdoor performance space.

5.1 Resurfacing and Realignment of Roads and the Development of Ancillary Car Parks

The basic approach to any resurfacing or realignment works will follow the following principles, subject to any modifications proposed by Contractor's works method statements:

- The area where excavations will be carried out and areas of resurfacing will be surveyed, and all existing services will be identified.
- The area of resurfacing will be marked out using ranging rods or wooden posts.
- Existing road or tarmac surfaces to be removed will be grubbed up by appropriately sized excavator or hand tools.
- Brown field sites for proposed ancillary car parking will be cleared of vegetation and over-growth.
- Excavation depths will be down to a level to be proposed by Contractor for agreement with the Design Engineer.
- All plant operators and general operatives will be inducted and informed as to the location of any services.
- Sub-base aggregate material will be laid down and compacted. A geotextile woven membrane will be laid down if deemed necessary, and agreed with the Design Engineer.
- Any drainage infrastructure such as channel drains or ACO drains and SUDs proposals will be installed at this point.
- Kerbs or edgings where required will be installed. These will be set in the proposed bedding and surround materials and allowed to stabilise before application of the tarmac surface.
- The top layer of tarmacadam/asphalt is then added.
- The surface is then smoothed and compacted in line with the works specification.

5.2 Widening and Realigning of Existing Footpath Area

The basic approach to the footpath realignment works will follow the following principles, subject to any modifications proposed by Contractor's works method statements:

- Areas of the footpath that will be realigned or widened will be demarked.
- Existing concrete footpath and sections of tarmac carriageway will be taken up or planed off to allow for widening of footpaths..
- A layer of appropriate bedding material (depending on the type of surface finish specified for each zone) will be laid, compacted, and levelled to the appropriate thickness.
- The footpath surface finish will then be laid on top.

5.3 Proposed Works at Canon Quinn Park

The basic approach to the proposed works at Canon Quinn Park will follow the following principles, subject to any modifications proposed by Contractor's works method statements:

- Pre-commencement scrutiny of the site and existing site survey / record information for any hazards or existing services. These checks will be carried out by a competent person(s).
- An inventory of the waste types that will be generated by demolition and excavation works will be carried out.
- Demolition and excavation will be completed by trained personnel using appropriate equipment and tools and a mechanical excavator if required.
- The majority of the waste generated during the demolition and excavation will consist of small amounts of tarmac (from existing footpaths), vegetable matter and top soil. The tarmac will be segregated from all other waste components and sent to an authorised waste collector or to an authorised waste recovery facility. The soil will be stored for use elsewhere in the park.
- At commencement of construction the specified sub-base material for the site build up will be installed.
- The outdoor performance space tiered seating will be constructed using shuttered concrete with timber slats as seating.
- The various park and playground components will be brought on site.
- The park and playground components will be securely fastened in position.
- Prior to commissioning of the new park and playground components the appropriate safety checks will be carried out by competent personnel.

6.0 Construction Works Sequencing

The sequencing of construction stage works can be summarised as follows:

The works will be undertaken such that they incur as little disruption to the environment, local economy and to the community.

Works to the proposed ancillary car parks will be programmed to take place first to facilitate the relocation of the existing on-street parking both during construction and post project completion. At project initiation, the site of the ancillary car park on Crowe Street will be used as the site compound. The project works will be sequenced such that the Crowe Street site compound will be relocated to the completed Barrack Street ancillary car park to allow for the completion of the Crowe Street car park.

Works to the Market Square and to Canon Quinn Park will commence once the ancillary car parks have been completed. Finally, works to either side of Main Street and Bridge Street will be completed in sequence allowing traffic to continue to flow while works are ongoing. Queen street can also be used to divert traffic to relieve congestion during the construction stage.

The project programme is expected to extend to approximately 24 months.

Constraints will be imposed on the contractor to limit disruption and will include but are not limited to:

- Maintaining minimum carriageway width of 3.5m in all temporary traffic management proposals put forward.
- Designating zones for deliveries for each work phase noting that many of the adjoining streets are quite narrow.
- Accommodating deliveries to local businesses.
- Always maintaining pedestrian and vehicular access to all premises.
- Ensuring adequate lighting of the scheme is achieved at all times, especially during switchover to the new public lighting network.
- Providing suitable barriers and signage to areas that are closed off for works while being in compliance at all times with the latest edition of the Traffic Signs Manual.
- Arranging all deliveries to take place during the working hours.
- Parking non-construction vehicles outside the LMA? and adjacent streets that are otherwise used by shoppers.
- Ensuring all working zones at any times do not exceed 100 linear metres in length. More than one zone may be worked in at any time (maximum 3) provided they are not directly opposite or adjacent to one another.
- Ensuring all site and construction vehicles move in the direction of the carriageway flow at all times.

7.0 Hours of Working

It is expected that construction works will occur during normal working hours:

- 08:00 to 18:00 from Monday to Friday;
- 08:00 to 13:00 on Saturdays;
- No works will be undertaken on Sunday;
- Public holidays will be observed unless otherwise agreed with the local authority.
- Deliveries will also be scheduled to avoid peak times, i.e., avoiding rush hours and school drop off/pick up times.
- Deviation from these times will only be allowed in exceptional circumstances where written approval has been received from the local authority and when other relevant third parties i.e., nearby homeowners have been notified and have agreed to works taking place during such time periods.

8.0 Environmental Management

8.1 Protecting Water Quality

The Cannahowna River (known locally as the Gort River) runs alongside the development area to the southeast and passes below the Main Street/Georges Street bridge. The river is connected to the Coole-Garryland SAC as described in the accompanying ecological reports.

Presently, within the project area, there are four surface water drains which discharge into the Gort river. A 450mm diameter concrete pipe runs along the northern edge of the Market Square in a westerly direction terminating at the river bank, the second drain is a 375mm concrete pipe which runs southwards down Main Street entering the river on the western side of the Gort River bridge, the third and fourth are 375mm diameter concrete pipes which run parallel to each other northwards down Bridge Street entering the river on the eastern and western side of the bridge.

Presently, the majority of surface water runoff is untreated. The water is collected in roadside gulleys along the carriageway and is then discharged directed into the river.

Prior to the commencement of any construction activities, where deemed necessary, mitigation measures described in this document and the ecological reports will be put in place to ensure that no silt laden water runoff generated at the site will flow to nearby watercourses thus ensuring the protection of surface water during the works. This will involve confirming the location of all existing services and delineating between drainage systems. Surface waters will be managed to ensure the prevention of run off from areas where excavation takes place such that no silt laden water enters the existing storm water network. Stockpiled material will be located away from any drains or watercourses, covered with polyethylene sheet and if deemed necessary will be surrounded by silt fencing where there is a risk of run-off during prolonged periods of rainfall.

Particular emphasis will also be placed on the prevention of hazardous materials from entering the surface water management system as well as spill or leaks of fuel oils. An Emergency Response Plan will be put in place for dealing with spillages which may result in adverse environmental effects.

8.2 Pollution Prevention Control Measures

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

Site setup:

- Any areas where it is proposed to carry out works will be clearly marked and delineated and, where feasible, secured with fencing.
- Access routes will be clearly marked. Access during construction to any working area will be restricted to land within the outlined works areas.
- Traffic diversions and sections of roadways/footpaths may be required to be used during the course of the construction phase.

Pollution Prevention:

- Any requirement for temporary fills or stockpiles will be damped down or covered with polyethylene sheeting as required to avoid sediment release associated with heavy rainfall.
- Excavated spoil will be stockpiled and contained entirely within the confines of the proposed works areas and a minimum of 100m from nearby watercourses. Silt fencing will also be utilised around these stockpiles, if necessary.
- In the unlikely event of encountering groundwaters during excavation, the excavation will be de-watered using a pump equipped with a silt bag on the outlet, if necessary, to capture any silty material prior to subsequent natural percolation to ground. The discharge area around the silt bags will have a layer of embedded silt fencing installed.
- All diesel or petrol pumps required onsite will be operated within bunded units.

- Ground disturbance will be kept to a minimum and water from excavations will be filtered. Silt fences will be installed at the site if deemed necessary. Exposed surfaces will be re-vegetated as soon as possible following construction.
- Earthworks and excavations will not be carried out during periods of heavy rainfall.

8.3 Cement Based Products Control Measures

Cement based products will be required over the course of the works. Due to the nature of the proposed works, significant volumes of cement are not anticipated to be required. Where cement is required, this will be delivered to the work areas by concrete trucks. The complete washing out of concrete trucks will not be permitted at the works area. Suppliers will be directed back to their own facility to complete the washout process.

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

- Limited batching of wet-cement products will occur on site, within the compound areas which will be equipped with the above mentioned pollution control measures.
- Ready-mixed supply of wet concrete products and where possible, emplacement of pre-cast elements, will take place. Where possible pre-cast elements for concrete works will be used.
- No washing out of any plant used in concrete transport or concreting operations will be allowed.
- No discharge of cement contaminated waters to the construction phase drainage system or directly to any artificial drain or watercourse will be allowed.
- Use weather forecasting to plan dry days for pouring concrete.
- Ensure pour site is free of standing water and plastic covers will be ready in case of sudden rainfall event.

8.4 Refuelling, Fuel and Hazardous Materials Storage

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

- Minimal refuelling or maintenance of construction vehicles or plant will take place on site. Off-site refuelling will occur at a controlled fuelling station.
- On-site refuelling will take place by direct refuelling from the delivery truck or from fuel stored within a bunded fuel tank. Mobile measures such as drip trays and fuel absorbent mats will be used during all refuelling operations.
- Storage/refuelling will be located in and carried out in a designated area of the works area, located a suitable distance from excavation works. This area will be underlain by concrete hard standing or another impermeable surface, and tanks will be inspected for leaks regularly. Spill kits will be supplied at these stations and staff will be trained in their use and in spill control. Drainage from these areas will be diverted for collection and not discharged into waterbodies without treatment and other best management practices.
- Fuels, lubricants, and hydraulic fluids for equipment used, will be carefully handled to avoid spillage, properly secured against unauthorised access or vandalism, and provided with spill containment.
- Vehicles will never be left unattended during refuelling. Only dedicated trained and competent personnel will carry out refuelling operations and plant refuelling procedures shall be detailed in the contractor's method statements.
- All site plant will be inspected at the beginning of each day prior to use. Defective plant shall not be used until the defect is satisfactorily fixed. All major repair and maintenance operations will take place off site.
- Spill control measures will be adhered to.

8.5 Dust Control

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

Proposed means to control dust include:

- Any site roads with the potential to give rise to dust will be regularly watered, as required, during dry and/or windy conditions.

- The designated public roads outside the site and along the main transport routes to the site will be regularly inspected by Site Management for cleanliness and cleaned as necessary.
- Material handling systems and material storage areas will be designed and laid out to minimise exposure to wind.
- Water misting or bowsers will operate on-site if required to mitigate dust in dry weather conditions.
- The transport of soils or other material, which has significant potential to generate dust, will be undertaken in tarpaulin-covered vehicles where necessary.
- All construction related traffic will have speed restrictions on un-surfaced roads to 15 kph.
- Daily inspection of construction sites to examine dust measures and their effectiveness.[TK2]

8.6 Noise and Vibration Control

The operation of plant and machinery, including construction vehicles, is a source of potential noise impacts. Noise levels shall be kept below those levels specified in the National Roads Authority – "Guidelines for the Treatment of Noise and Vibration in National Roads Schemes" or such further limits as imposed by the relevant Planning Authority. The Proposed Development shall comply with BS 5228 "Noise Control on Construction and open sites Part 1: Code of practice for basic information and procedures for noise control." During the works, any plant introduced to the site will not be excessively noisy. Exhaust and silencer systems on plant will be maintained in a satisfactory condition and operating correctly at all times. Defective silencers will be immediately replaced.

Proposed measures to control noise include:

- Construction equipment for use outdoors shall comply with the European Communities Regulations– Noise Emission by Equipment for Use Outdoors – SI 241 - 2006.
- Diesel generators will be enclosed in sound proofed containers to minimise the potential for noise impacts.
- Plant and machinery with low inherent potential for generation of noise and/or vibration will be selected. All construction plant and equipment to be used on-site will be modern equipment and will comply with the European Communities (Construction Plant and Equipment) (Permissible Noise Levels) Regulations;
- Plant with the potential of generating noise or vibration will be placed as far away from sensitive properties as permitted by site constraints.
- Regular maintenance of plant will be carried out in order to minimise noise emissions.
- All vehicles and mechanical plant will be fitted with effective exhaust silencers and maintained in good working order for the duration of the works;
- Compressors will be of the "sound reduced" models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use and all ancillary pneumatic tools shall be fitted with suitable silencers;
- Machines which are used intermittently will be shut down during those periods when they are not in use;

9.0 Traffic Management Proposals

A traffic management plan will be developed by the appointed contractor and agreed with the local authority prior to the commencement of works.

The proposed traffic management measures to be adopted during the construction works are summarised below. Please note that this is not an exhaustive list, and it will be updated accordingly by the appointed contractor in consultation with the local authority:

- Warning signs / advanced warning signs will be installed at appropriate locations in advance of the construction access locations.
- Construction and delivery vehicles will be instructed to use only the approved and agreed means of access; and movement of construction vehicles will be restricted to these designated routes.
- Appropriate vehicles will be used to minimise environmental impacts from transporting construction material, for example the use of dust covers on HGVs carrying dust producing material.
- Speed limits of construction vehicles to be managed by appropriate signage, to promote low vehicular speeds.
- Parking of site vehicles will be managed and will not be permitted on public road, unless proposed within a designated area that is subject to traffic management measures.
- A road sweeper will be employed to clean the public roads of any residual debris that may be deposited on the public roads leading away from the construction works, if deemed necessary.
- Safe and secure pedestrian facilities are to be provided where construction works obscure any existing pedestrian footways. Alternative pedestrian facilities will be provided in these instances, supported by physical barriers to segregate traffic and pedestrian movements, and to be identified by appropriate signage. Pedestrian facilities will cater for vulnerable users including mobility impaired persons.

10.0 Construction Management Waste Plan

The generation of waste as a result of construction related activity will provide the majority of on-site wastes which will need to be managed as follows:

- On-site segregation of materials will be carried out where possible to maximise off-site reuse or recycling potential.
- Skips and haulage trucks will be temporarily stored close to the work areas to facilitate storage prior to moving off-site.
- Suitably sized skips will be provided adjacent to the construction site and compound for general construction wastes and wood/metal/plastic as appropriate. Smaller wheelie bins will be provided for recyclable cardboard and paper waste generated in the site offices and food waste from the canteen.
- A leak proof container will be made available for storage of contaminated spill kit absorbents.
- All non-hazardous and hazardous waste materials will be collected from the site by appropriately permitted waste contractors in accordance with the requirements of the Waste Management (Collection Permit) Regulations 2007 as amended.
- Waste will be taken to suitably permitted or licensed waste facilities for recovery or disposal as appropriate.
- Hard copies of waste collection permits and waste facility licenses/permits for all the appointed
- Waste hauliers and facilities will be held by the main contractor on site and records of each waste movement off-site will be maintained.
- Authorised persons in Galway County Council will be provided access to inspect and review all waste records at any time.
- The Project Environmental Manager will have responsibility for waste management and will ensure maximum segregation of waste materials on-site.
- The Project Environmental Manager will ensure signage is erected on skips to show what waste types can be placed therein and will maintain waste records.

11.0 Environmental Management Implementation Plan

11.1 Environmental Manager

The appointed main contractor will be required to employ an Environmental Manager on site who will also fulfil the role of Waste Manager. Due to the scale of activity proposed, this role can be adopted by a Site Manager/Foreman as part of their duties. In general, this Environmental Manager will maintain responsibility for monitoring the works and Contractors/Sub-contractors from an environmental perspective. The Environmental Manager will act as the regulatory interface on environmental matters by reporting directly to the client and liaising with the local authority and other statutory bodies as required. The Site Environmental Manager will report to the Site Supervisor/Construction Manager.

The duties of the appointed Environmental Manager are summarised as follows:

- Maintain and update as required the Construction Phase CEMP and supporting environmental documentation and review/approval of contractor method statements.
- Undertake inspections and reviews to ensure the works are carried out in compliance with the CEMP.
- Monitor the implementation of the CEMP, particularly all proposed/required Environmental Monitoring.
- Generate environmental reports as required to show environmental data trends and incidents and ensure environmental records are maintained throughout the construction period.
- Advise site management/contractor/sub-contractors on:
- Prevention of environmental pollution and improvement to existing working methods.
- Changes in legislation and legal requirements affecting the environment.
- Suitability and use of plant, equipment, and materials to prevent pollution.
- Environmentally sound methods of working and systems to identify environmental hazards.
- Ensure proper mitigation measures are initiated and adhered to during the construction phase.
- Liaise with Project Team and present the findings of site audits/inspections that are completed.
- Ensure adequate arrangements are in place for site personnel to identify potential environmental incidents.
- Ensure that details of environmental incidents are communicated in a timely manner to the relevant regulatory authorities, initially by phone and followed up as soon as is practicable by email.
- Support the investigation of incidents of significant, potential, or actual environmental damage, and ensure corrective actions are carried out, recommend means to prevent recurrence and communicate incident findings to relevant parties.
- Identify environmental training requirements and arrange relevant training for all levels of site-based staff/workers.
- Fulfil the role of Waste Manager and implement the objectives of the Waste Management Plan.

12.0 Environmental Emergency Response Procedure

12.1 Spill Control Measures

Where possible, refuelling of vehicles and equipment will not be carried out on site to minimise the potential for spills or leaks to occur. However, some fuel, lubricants and hydraulic fluids will need to be stored on site during construction works for equipment such as excavators and generators.

Fuelling and lubrication of equipment will only be carried out in a designated area of the site away from any existing manholes or gulleys. At present, it is proposed that fuel and lubricants will be stored adjacent to the materials compound. Fuels and oils will be contained within a bunded structure with capacity for 110% of the storage capacity of the largest container/tank.

Every effort will be made to prevent an environmental incident during the construction and operational phase of the proposed works. The following steps provide the procedure to be followed in the event of an Oil/Fuel spillage:

- Stop the source of the spill and raise the alarm to alert people working in the vicinity of any potential dangers.
- If applicable, eliminate any sources of ignition in the immediate vicinity of the incident.
- Contain the spill using the spill control materials, track mats or other material as required. Do not spread or flush away the spill.
- If possible, cover or bund off any vulnerable areas where appropriate such as drains or sensitive habitats.
- If possible, clean up as much as possible using the spill control materials.
- Contain any used spill control material and dispose of used materials appropriately using a fully licensed waste contractor with the appropriate permits so that further contamination is limited.
- Notify the Environmental Manager immediately giving information on the location, type, and extent of the spill so that they can take appropriate action.
- The Environmental Manager will inspect the site and will assist by providing any advice possible to ensure the necessary measures are in place to contain and clean up the spill and prevent further spillage from occurring.
- The Construction Manager will notify the appropriate regulatory body such as the relevant planning authority and Environmental Protection Agency (EPA) etc. if deemed necessary.
- Environmental Incidents are not limited to just fuel spillages. Therefore, any environmental incident must be investigated in accordance with the following steps.
- The Environmental Manager must be immediately notified.
- If necessary, the Environmental Manager will inform the appropriate regulatory authority. The appropriate regulatory authority will depend on the nature of the incident.
- The details of the incident will be recorded on an Environmental Incident Form which will provide information such as the cause, extent, actions, and remedial measures that were used following the incident. The form will also include any recommendations made to avoid reoccurrence of the incident.

A record of all environmental incidents will be kept on file by the Environmental Manager and the Main Contractor. These records will be made available to the relevant authorities and the EPA if required.

The Environmental Manager will be responsible for any corrective actions required as a result of the incident e.g., an investigative report, formulation of alternative construction methods or environmental sampling, and will advise the Main Contractor as appropriate.

13.0 Contacting the Emergency Services

13.1 Emergency Communications Procedures

In the event of requiring the assistance of the emergency services the following steps should be taken:

- The emergency services will be contacted by dialling 999/112
- The location of the emergency and details will be given.
- The emergency will be reported to the site manager.
- Trained first aiders will attend the incident.
- The site manager will maintain contact with the emergency services.

All staff members will know the address and location of the site as it may be necessary to liaise with the emergency services on the ground in terms of locating the site.

Further details will be set out in the Construction Health and Safety Plan.

University Hospital Galway Phone No.: 091 524 222.

14.0 Mitigation Measures (Refer to Minogue Associates Ecological Report)

The following measures relate to biodiversity, flora and fauna, water resources and cultural heritage. They are derived from the Bat Survey report (Eire Ecology, 2024) Natura Impact Statement and SuDS strategy, all of which are prepared in support of this planning application. The mitigation measures outlined in the following sections aim to ensure that all potential negative impacts associated with the project are avoided or minimised to an imperceptible level.

14.1 Best Practice Construction Approach

All construction works, relating to the activities and construction sequence outlined in Section 2 above, will be undertaken in accordance with the following:

- Inland Fisheries Ireland's Requirements for the Protection of Fisheries Habitat during Construction and Development Works.
- GE-ENV-01104 The Management of Invasive Alien Plant Species on National Roads – Standard (TII)
- GE-ENV-01105 The Management of Invasive Alien Plant Species on National Roads – Technical Guidance (TII)
- CIRIA (Construction Industry Research and Information Association) Guidance Documents
    - Control of water pollution from construction sites (C532)
    - Control of water pollution from linear construction projects: Technical Guidance (C648)
    - Control of water pollution from linear construction projects: Site Guide (C649)
    - Environmental Good Practice on Site (C692)
    - Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes
    - Guidelines for the Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads
    - Guidelines for the Protection and Preservation of Trees, Hedgerows and Scrub Prior to, during and Post Construction of National Road Schemes.

14.2 Measures to Minimise Impacts to Water Resources

All wastewater generated during the construction phase will be directed to the Irish Water sewer network and then to the existing Irish Water Wastewater Treatment Plant (WWTP). Given the nature of the public realm works no additional wastewater requirements are part of the project and no operational requirements exist.

14.3 Management of Surface Water

The construction management of the site will take account of the recommendations of the CIRIA guides

- Control of Water Pollution from Construction Sites (2001) and Control of Water Pollution from Linear Construction Projects (2006) and
- Inland Fisheries Ireland's (IFI's) Requirements for the Protection of Fisheries Habitat during Construction and Development Works.

The provision of these design features will ensure that surface water emitted from the project site during the construction phase is adequately treated. The SuDS strategy as outlined in the ecological reports will attenuate estimated 80% of surface water within the plan area. Given the existing conditions which currently provide for surface water runoff to roadside gulleys and discharge without attenuation to the Gort River, this will improve the existing baseline conditions and will eliminate any risk of polluted surface water being discharged from the project site during operation.

14.4 Measures to Minimise Impacts on Habitat

To control dust emissions during construction works, standard mitigation measures shall include:

- spraying of exposed earthwork activities and site haul roads during dry and/or windy conditions; provision of wheel washes at exit points; control of vehicle speeds and speed restrictions (20 km/h on any un-surfaced site road);
- covering of haulage vehicles and sweeping of hard surface roads.

These procedures will be strictly monitored and assessed on a daily basis. Dust screens will be implemented at locations where works will take place within 100m of sensitive ecological receptors (i.e. Gort River) during the construction phase.

14.5 Measures to Minimise the Impact of Invasive Species

It is confirmed that no non-native invasive species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 were recorded within the proposed development site however records exist on the NBDC database. Mitigation measures to ensure no accidental introduction or spread of invasive species in light of the ongoing construction activity in and around the development site are outlined below:

- In the event that additional topsoil and quarried stone is required on the site, it will be sourced from a stock that has been screened for the presence of any invasive species and where it is confirmed that none are present.
- All machinery will be thoroughly cleaned and disinfected prior to arrival and departure from the site (through pre-agreed Biosecurity Protocols) to prevent the spread of invasive species. This process will be detailed in the contractor's method statement.
- These will be developed in line with:
    - TII: The Management of Invasive Alien Plant Species on National Roads – Standard (2020)
    - NRA (2008). Guidelines for the Management of Waste from National Road Construction Project.
    - Biosecurity protocols available for aquatic and riparian species available on the Control of Aquatic Invasive Species and Restoration of Natural Communities in Ireland (CAISIE) www.caisie.ie.

14.6 Mitigation Measures for Breeding Birds during Construction

Removal of vegetation (e.g. scrub and grassland) should be avoided, between the 1st of March and the 31st of August, to avoid direct impacts on nesting birds. Where the construction programme does not allow this seasonal restriction to be observed, then these areas will be inspected by a suitably qualified ecologist for the presence of breeding birds prior to clearance. Areas found not to contain nests will be cleared within three days of the nest survey. Where the vegetation is not cleared within three days of checks, a repeat check will be required. Should nesting birds be encountered during surveys, the removal of vegetation will be required to be delayed until after the nesting has finished.

14.7 Mitigation Measures for Bats including Lesser Horseshoe Bats

The following is taken from the Bat Survey report prepared by Eire Ecology (2024):

Loss of roosting habitat: Tree felling should ideally be undertaken in the period September to late October/early November, however can also be conducted from later January until the end of February. Outside of these time an Ecological Clerk of Works will need to first verify if impacts will occur.

Loss of foraging and commuting habitat: Cannon Quinn Park: BMP design report proposes a planting regime within the park including the use of native trees such as Sweet cherry, Strawberry tree, crab apple and hawthorn. Numerous all Ireland Pollinator plan species have been chosen for new flowerbeds here. These should substantially increase the invertebrate diversity and abundance in the park resulting in an improvement in the biodiversity value of this section.

Car Park by County Council building (off street parking proposal): While several trees within the proposed car park will be felled, the proposed development will see additional tree planting and raingarden species thus overall impacts in this respect will be limited.

No Lesser Horseshoe Bats were recorded or observed in these areas, with records being confined to the Gort River.

Disturbance: Where lighting is unavoidable during construction, low intensity lighting and motion sensors will be used to limit illumination. Exterior lighting, during construction, will be designed to minimize light spillage, thus reducing the effects on areas outside the proposed development, and consequently on bats, i.e: lighting will be directed away from mature trees/treelines around the periphery of the site boundary and woodland areas to minimise disturbance to bats. Directional accessories will be used to direct light away from these features, eg; through the use of light shields (Stone, 2013). The luminaries will be of the type that prevent upward spillage of light and minimise horizontal spillage away from the intended lands.

Operation: Dark Zone: it is essential that Gort River ecological corridor is restored by a change in lighting along the bridge. A lighting plan including a lux diagram has been produced by BDP. An extract from the diagram showing the proposed lights by the bridge is shown below.

Three pairs of lights will be installed on the bridge fitted at a height of 0.35m to prevent any lights shining on the river. While these lightbars have a temperature of 3000k they will sit below the top of the existing wall which will ensure they do not saturate the natural environment below. The streetlight (84D) alongside its southern neighbour (83D), identified as having some impact on the river will be replaced with a 6m pole with a directional light with a colour temp of 2,200k.

At the proposed Barrack Street Car Park (62G to 65G), bat friendly lighting will be installed using a colour variant lacking the blue light component particularly attractive to invertebrates. Lights here will have a 2,200k colour and a reduced height of 6m. No bat roosts were found within the ruins so the main purpose is to reduce light saturation of close by important dark zones.

Currently the Canon Quinn park has low bat favourability. In order to make the park more usable by bats 6m poles are proposed here with a colour component to f2200K (66A to 77A). this should allow Pipistrelle bats and Leisler's bat easier access. The spotlight shining on the park will be removed. It is expected these measures will result in a marked increase in bat activity here.

The proposed car park by the County Council building is not a viable habitat for LSH given a lack of connectivity to SAC habitats. Mitigation measures proposed for this section including installing reduced height lamp posts (6m); (96G to 108G) using a light without a blue component (2200k). The most frequently occurring bats found here, Soprano and Common pipistrelle and Leisler's bats are all capable of flying above this height. Lights along Lowry's Lane will be positioned at a height of 3m and have a colour temp of 2200k thus allowing Pipistrelles and Leisler's to continue to use this area.

14.8 Ecological Clerk of Works

An appropriately qualified Environmental/Ecological Clerk of Works (ECoW) will be employed for the duration of the Construction contract. The ECoW must be a member of the Chartered Institute of Ecology and Environmental Management (CIEEM) or equivalent body.

The ecologist performing the ECoW role will attend the site on a weekly basis to check that all works are being completed to the appropriate standards. This will form a key element in the delivery of the environmental protection measures as listed above at project stage.