N51 Park and Ride Bus Facility

Moathill, Navan, Co. Meath

Screening for Environmental Impact Assessment

Doherty Environmental Consultants Ltd.

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Table of Contents

1.0 INTRODUCTION

Doherty Environmental Consultants (DEC) Ltd. have been commissioned by Meath County Council to undertake an Environmental Impact Assessment Screening Report for proposed N51 Park and Ride Bus Facility, Navan, Co. Meath (see Figure 1.1 for project location). The findings of the EIA Screening assessment for the proposed upgrade works (i.e. the project) are presented in this report.

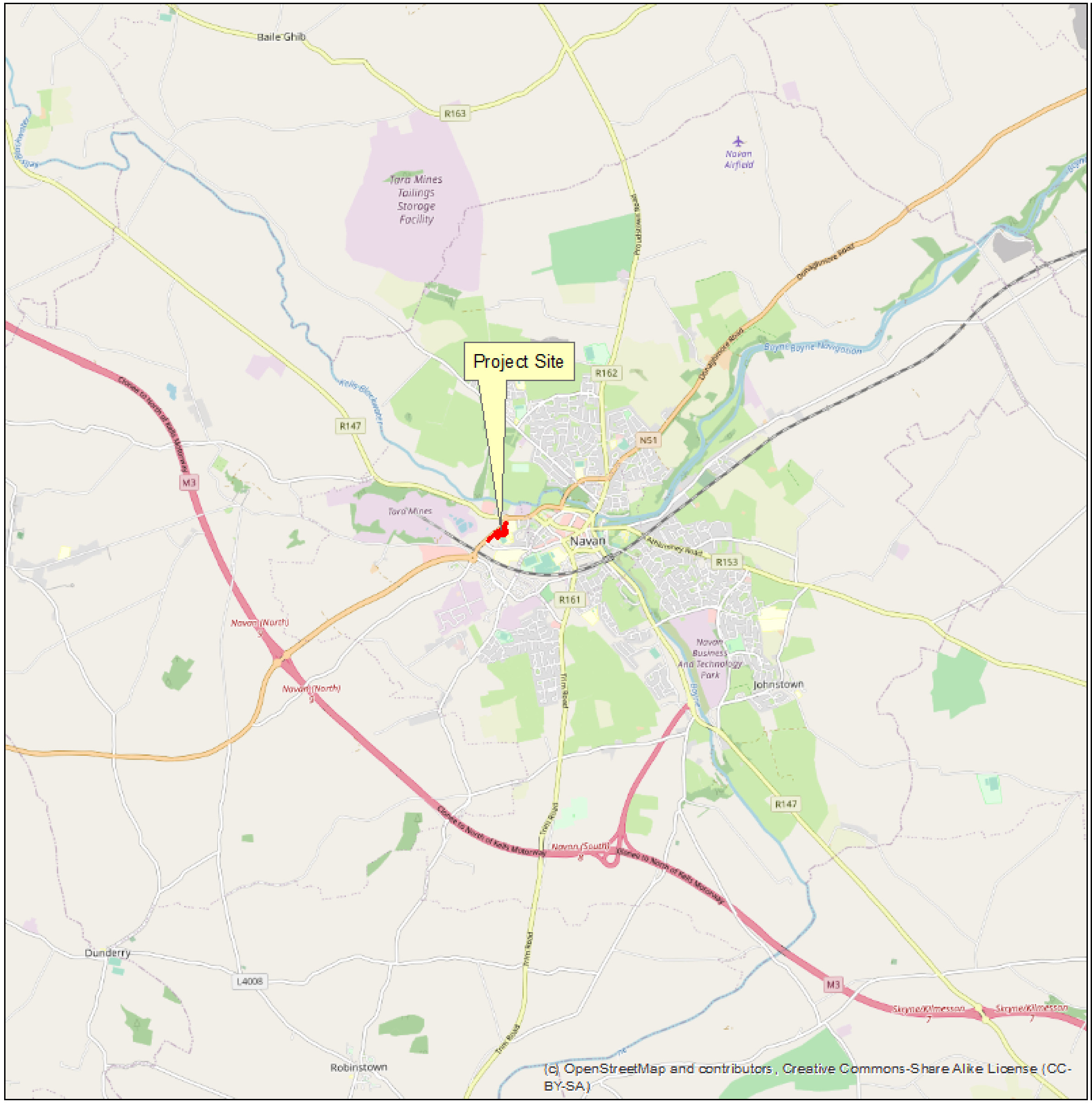
1.1.1 Requirement for an Assessment under Article 6 of the Habitats Directive

According to Regulation 42(1) of the European Communities (Birds and Natural Habitats) Regulations 2011 – 2015, the competent authority has a duty to:

- Determine whether the proposed Project is directly connected to or necessary for the management of one of more European Sites; and, if not;

- Determine if the Project, either individually or in combination with other plans or projects, would be likely to have a significant effect on the European Site(s) in view of best scientific knowledge and the Conservation Objectives of the site(s).

This Report contains a Screening for Environmental Impact Assessment and is intended to assess and address all issues regarding the construction and operation of the Project and to inform and allow the competent authority to comply with the Habitats Directive. Article 6(3) of the Habitats Directive defines the requirements for assessment of projects and plans for which likely significant effects on European Sites may arise. The European Communities (Birds and Natural Habitats) Regulations, 2011 – 2015 (the Habitats Regulations) transpose into Irish law Directive 2009/147/EC (the Birds Directive) and Council Directive 92/43/EEC (the Habitats Directive) lists habitats and species that are of international importance for conservation and require protection. The Habitats legislation requires competent authorities, to carry out a Screening for Environmental Impact Assessment of plans and projects that, alone or in combination with other plans or projects, would be likely to have significant effects on European Sites in view of best scientific knowledge and the Site's conservation objectives. This requirement is transposed into Irish Law by Part 5 of the Habitats Regulations and Part XAB of the Planning and Development Act, 2000 (as amended).



N51 Park & Ride

Figure 1.1

Site Location

Site Boundary

0 0.5 1 2 Km

N
W E
S

Drawn By	PD
Date	12/04/2020
Data Source	Bing


N51 Park & Ride
Figure 1.2
Aerial View
Site Boundary
0 0.0275 0.055 0.11 Km
N
W
E
S
Drawn By PD
Date 12/04/2020
Data Source Bing

1.2 PURPOSE OF THIS REPORT

This EIA screening report contains necessary information to enable the competent authority, in this case Meath County Council, to undertake an EIA screening determination as to whether an EIA is required for the proposed upgrade works. The findings of the EIA screening assessment are presented in this report and will inform the determination by Meath County Council for the proposed N51 Park and Ride Bus Facility (to be referred to throughout this report as "the project").

The purpose of this Report is to provide information to the competent authority to assist them in their determination as to whether or not the project is likely to have significant effects on the environment and, as such, requires an EIA to be carried out and an EIAR to be prepared. This Report provides an overview of the project (section 3), the existing baseline environment (section 4) and then examines the potential environmental impacts (Section 5) posed by the proposed project.

2.0 LEGISLATIVE CONTEXT

Directive 2011/92/EU as amended by Directive 2014/52/EU (the EIA Directive) sets out the requirements for environmental impact assessment ("**EIA**"), including screening for EIA. Projects listed in Annex I of the EIA Directive require a mandatory EIA while projects listed in Annex II require screening to determine whether an EIA is required. The proposed development does not require a mandatory EIA under the provisions of the EIA Directive as it is not a project listed in Annex I.

The prescribed classes of development and thresholds or criteria that trigger the need for an EIA are set out in Schedule 5 of the Planning and Development Regulations, 2001 (as amended). A review of the classes of development was carried out to determine whether the project falls into any of the development classes which require an EIA. Item No. 10 Infrastructure Projects of Schedule 5, Section 2 requires mandatory EIA for the construction of a car-park providing more than 400 spaces, other than a car-park provided as part of, and incidental to the primary purpose of, a development. As the project proposes to provide for 181 car park spaces and 4 no. bus parking spaces it does not fall into any of the classes described in Schedule 5 of the Planning and Development Regulations, 2001. The need for an

EIA has therefore not been triggered under the requirements of the Planning and Development Regulations, 2001, as amended.

The purpose of this EIA Screening Report is to assist Meath County Council in determining whether the proposed N51 Park and Ride Bus Facility works are likely to have significant effects on the environment.

According to European Commission Guidance (2017[1])

"Screening has to implement the Directive's overall aim, i.e. to determine if a Project listed in Annex II is likely to have significant effects on the environment and, therefore, be made subject to a requirement for Development Consent and an assessment, with regards to its effects on the environment. At the same time, Screening should ensure that an EIA is carried out only for those Projects for which it is thought that a significant impact on the environment is possible, thereby ensuring a more efficient use of both public and private resources. Hence, Screening has to strike the right balance between the above two objectives."

Recent guidelines from the Department of Housing, Planning and Local Government (2018) [2] in relation to screening state:

"3.1. Screening is the initial stage in the EIA process and determines whether or not specified public or private developments are likely to have significant effects on the environment and, as such, require EIA to be carried out prior to a decision on a development consent application being made. A screening determination is a matter of professional judgement, based on objective information relating to the proposed project and its receiving environment. Environmental effects can, in principle, be either positive or negative.

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[1] Environmental Impact Assessment of Projects Guidance on Screening (Directive 2011/92/EU as amended by 2014/52/EU). European Commission 2017. Page 23.

[2] Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment

3.2. Screening must consider the whole development. This includes likely significant effects arising from any demolition works, which must be carried out to facilitate the proposed development. In the case of transboundary developments, screening must consider the likely significant effects arising from the whole project both sides of the boundary. A screening determination that EIA is not required must not undermine the objective of the Directive that no project likely to have significant effects on the environment, within the meaning of the Directive, should be exempt from assessment."

Annex III of the EIA Directive (as amended)/Schedule 7 to the Planning and Development Regulations 2001, as amended, lists the criteria for determining whether a project should be subject to EIA.

Annex IIA of the EIA Directive (as amended)/Schedule 7A to the Planning and Development Regulations, 2001, as amended, set out the information to be provided for the purposes of EIA Screening. The information set out in Schedule 7A is grouped together under 3 main headings:

Annex IIA requirements	Relevant section of this screening report
A description of the proposed development, including in particular – a description of the physical characteristics of the whole proposed development and, where relevant, of demolition works, and a description of the location of the proposed development, with particular regard to the environmental sensitivity of geographical areas likely to be affected	Section 3 of this Report describes the characteristics of the project and provides an assessment against the criteria contained in Schedule 7A under this category heading
A description of the aspects of the environment likely to be significantly affected by the proposed development	Section 4 of this Report describes the aspects of the environment that may be affected by the proposed development
A description of any likely significant effects, to the extent of the information available on such effects, of the proposed development on the environment resulting from— (a) the expected residues and emissions and the production of waste, where relevant, and (b)	Section 5 of this Report describes the characteristics of the project and provides an assessment against the criteria contained in Schedule 7A under this category heading.

the use of natural resources, in particular soil, land, water and biodiversity	

During the assessment of the aspects of the environment likely to be significantly affected by the project and the description of any likely significant effects on the environment current Transport Infrastructure Ireland (TII) assessment guidelines have been relied upon to inform these assessments. While it is acknowledged that the project does not represent a national road scheme the various environmental assessment guideline published by TII represent best practice guidance for the assessment of road schemes in Ireland. As such these guidelines have been relied upon during the preparation of this Screening Report.

3.0 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

3.1 PROJECT OVERVIEW

The proposed N51 Park & Ride Bus Facility is located on and adjacent to the N51 Athboy Road which is a busy two-way single carriageway located c. 0.5km to the west of Navan Town Centre. The project will provide 4 Bus Stops on the eastern side of the N51 Adjacent to St. Patrick's Classical School and 181 parking spaces within the greenfield site located immediately to the east of the public road. The parking area will be accessed directly from the N51 using a new vehicular access at the southern end of the proposed site. The proposed development will provide public lighting, electric charging points for Electric Vehicles, bus shelters and associated footways/cycleways, drainage and boundary fencing.

3.2 BACKGROUND TO THE N51 PARK AND RIDE BUS FACILITY

The existing regional bus routes through Navan were assessed in 2015 by Meath County Council in consultation with Bus Eireann. During that consultation process, changes to the existing bus routes and timetables for Navan were proposed, including the provision of a proposed new regional bus service for the Navan area. The new bus service for Navan, which would operate with a high frequency (service every 20 minutes), is proposed to depart from and terminate in Navan.

Meath County Council are currently progressing the development of the Navan Town Scheme – Navan 2030 which includes as part of its proposals to:

- Relocate the existing bus stops from Market Square to Kennedy Road in line with the provision of a central, integrated, sustainable transport system

- Encourage greater use of sustainable modes of transport in Navan including walking, cycling, bus and taxi use and discourage reliance on private cars

- Improve access to sustainable transport modes and provide an integrated network of sustainable transport measures

Following the consideration of the proposed new service for Navan, the following objectives were also considered for the project:

- Ensure that buses are not 'standing' on Kennedy Road between periods of operation

- Provide a terminating location for buses outside of the town centre

As a result of the consultation process, and the ongoing wider investigation into transport needs in Navan, the potential for benefits associated with the provision of a park and ride bus facility were identified. A park and ride bus facility was considered not only to assist in meeting the above objectives, but also to meet the wider objectives of the town's transport needs.

3.3 DESCRIPTION OF WORKS

The proposed scheme will commence at a location 50 metres to the north of the existing vehicular entrance to St. Patrick's Classical School and extend to a location c. 10 metres north of the proposed junction between the N51 and R161 roads. It is noted that this junction is proposed to be upgraded and signalised as part of the construction works currently in progress for the new Moatlands residential development (Planning Application No. NA151301).

The proposed scheme will involve the widening of a section of the existing N51 over a length of 260m to provide for a new ghost island junction entrance to the proposed Park and Ride facility. In addition, the road widening will provide for a new Bus Stop with capacity for 4 No Coaches/Buses. The public footpath and cycleway immediately adjacent to the proposed road widening shall be realigned. The park and ride facility shall be a paved car park facility with

spaces for 181 vehicles including 6 disabled spaces and 18 spaces for parking and charging Electric Vehicles. A pedestrian access gate and an emergency vehicular shall be provided to St. Patrick's Classical School. A pathway shall be provided for pedestrians on the permitted of the car park and a shared space link shall be provided from the gate at St Patrick's Classical School to the public footpath and Cycleway. Cycle parking shall be provided adjacent to the Pedestrian access to St. Patrick's Classical School.

In general, the construction works will include earthworks, drainage, pavement works, utility works (ducting etc), traffic signage and road marking and temporary traffic management.

3.4 STORM WATER DRAINAGE

(i) Existing Storm Water Drainage:

Currently the Storm Water Drainage from the N51 carriageway drains into an existing underground storm water drainage network. The existing storm water drainage on the N51 consists of existing 225mm diameter Storm water pipes running along both verges of the N51 carriageway. There is no existing surface water pipelines traversing the site of the proposed park and ride facility.

(ii) Proposed Storm Water Drainage:

Within the site of the proposed car park, it is proposed to install 2 no. storm water soakaways/permeable detention tanks to deal with stormwater generated on the site. Runoff from the proposed hardstanding surface of the car park will be transferred to the proposed soakaways one of which shall be located at the lowest point on the site. The second soakaway to be located inside the site boundary line to the car park mid-way between the 2 no. proposed bus stops.

The storage capacities of the proposed soakaway tanks will be calculated as part of the overall drainage design. To ensure that there is no flooding in the 1 in 100 year rainfall event with a 20% allowance for climate change, capacity for attenuation within the proposed drainage system will be provided.

3.5 FOUL WATER DRAINAGE

There are no known existing Foul Sewers located within the extents of the proposed development.

3.6 WATERMAIN

There is an existing 180mm diameter HDPE watermain located in the verge of the northbound traffic lane of the N51 carriageway. There is no existing watermain infrastructure traversing the site of the proposed car park.

3.7 UTILITIES

There are no known or identifiable existing power supply sub-stations, overhead or underground services located within the extents of the proposed development.

As part of the proposed works new electrical connections will be required to be installed to supply the proposed electric car charging points, proposed public lighting network, the bus shelters and the Real Time Passenger Information (RTPI) signs. These will be routed through the public road to the proposed park and ride site subject to agreement with ESB Networks.

There are existing EIR underground fibre cables in-situ located in the verge of the N51 on the opposite side to proposed Park and Ride facility. The E-Net metropolitan Area Network (MAN) infrastructure is located on both sides of the N51 adjacent to the proposed facility.

There is no existing telecommunications infrastructure traversing the site.

Telecoms Connections may be provided to service the Real Time Passenger Information connection to the proposed facility.

3.8 SITE PERSONNEL DURING CONSTRUCTION

At its peak it is expected that there will be between 10 and 20 personnel on site full time during the construction of the Park and Ride Facility. The personnel will consist of general

operatives, skilled operatives and tradesmen, apprentice tradesmen, machine operators, truck drivers, engineers, technicians, surveyors and construction managers.

3.9 CONSTRUCTION COMPOUND

The construction compound will be restricted to the extents of the site within which the project is located and will be used for the storage of construction materials and plant during the course of the works.

3.10 DURATION OF CONSTRUCTION PHASE

It is estimated that the construction process will take up to 6 months to complete.

3.11 ASSESSMENT OF THE CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

An assessment of the characteristics of the Proposed Development as described above against the criteria outlined in Schedule 7 of the Planning and Development Regulations 2001 to 2018 are outlined in Table 3.1 below and conclusion and rationale is provided to determine whether these characteristics have the potential to result in likely significant effects to the environment.

Table 3.1: Characteristics of the Proposed Development

Screening Question	Response
1. Characteristics of projects The characteristics of projects must be considered, with particular regard to:	
(a) the size and design of the whole project	The project site is approximately 1.2 Ha in size, including the proposed works on the N51. All construction works will be largely restricted to the footprint of the project site and will be completed within a 5-month period. The construction phase will be guided by a

Screening Question	**Response**
1. Characteristics of projects The characteristics of projects must be considered, with particular regard to:	
	Construction and Environmental Management Plan (CEMP) which will be prepared in advance of the project to ensure the construction phase is completed in line with best practice and does not result in adverse effects to surrounding receptors. landscape design has been prepared for the project, which includes for the provision of boundary treatment. The project site is located on the urban fringe of Navan town.
(b) Cumulation with other existing and/or approved projects;	A search of the My Plan online planning applications website was completed to identify any other projects in the vicinity of the proposed park and ride, with which this proposal could combine to result in cumulative negative impacts to the River Boyne and River Blackwater SAC and SPA. Two recent projects have been identified (Planning References NA151301 and NA181543). Both projects are located opposite the proposed project on the west side of the N51. Both projects which are currently under construction, were subject to Screening for EIA during the assessment of the planning application by Meath County Council. The both screenings concluded that neither project had the potential, alone or in-combination with other projects, to result in negative impacts to the environment. Given the findings of these screening assessments and that the construction phase of the infrastructure for the other projects are near completion and will not overlap with the construction phase of the proposed park and ride, there will be no potential for the proposed project to combine with these other projects to result in cumulative negative impacts to the River Boyne and River Blackwater SAC and SPA.
(c) the nature of any associated demolition works	With the exception of the removal of an existing fenceline and the removal of existing road/footway surface and kerbing within the existing N51 roadway during construction, there are no demolition works required as part of the project. The activities associated with the removal of the existing footpath and fenceline will be small in scale and will not have the potential to result in significant negative impacts to the environment. In addition, best practice measures and

Screening Question	**Response**
1. Characteristics of projects The characteristics of projects must be considered, with particular regard to:	
	mitigation measures for the control of dust and noise, as outlined in this report, will be implemented during the removal of the existing footpath and fenceline.
(d) the use of natural resources, in particular land, soil, water and biodiversity;	Construction related activities will be largely restricted to the footprint of the project site. Soil that will be excavated within the project site will be reused for landscaping and filling. Where surplus soil material is generated, where possible, it will be reclassified as a by-product and exported to another site for re-use. Alternatively, where reuse is not possible the material shall be disposed of to a suitably licenced facility. Water required for the construction phase of the project will be taken from the existing public water supply. The biodiversity value of the project site has been evaluated during a survey of the site on the 21st January 2020. The project site is not subject to any statutory nature conservation designations such as SAC, SPA, NHA, pNHA. The River Boyne to the north of the project site is designated as the River Boyne and River Blackwater SAC and SPA. A section of the River Boyne and its riparian corridor approximately 5km to the east of the project site is also designated as an NHA. The boundary of this NHA is contiguous with the boundary of the River Boyne and River Blackwater SAC and SPA. No protected Annex I habitats occur within or adjacent to the project footprint. No evidence of the presence of breeding sites for protected fauna such as badger was identified within the project site during a field survey completed on the 21st January 2020. The grassland habitats occurring within the footprint of the project site are assessed to be of low ecological (Low Local Value – Rating E) as per the TII Ecological Site Evaluation Scheme. The scrub habitat occurring to the east of the project site is assessed as being of low local to high local value (Rating E to D). The scrub habitat forms the eastern boundary of the project site and this habitat will be largely retained and enhanced by the provision of a landscaping plan that will accompany the project. The loss of grassland to the footprint of the project will not represent a significant negative impact to the environment.

Screening Question	**Response**
1. Characteristics of projects The characteristics of projects must be considered, with particular regard to:	
	Natural resources in the form of hydrocarbons will be required for energy and electricity during the construction phase of the project. Other building raw materials will be required during the construction phase. However, the natural resources required will be typical of those required for the development and their provision will not have the potential to result in significant negative effects.
(e) the production of waste;	For the proposed road realignment works, bus bay construction works and footway/cycleway construction works, the construction phase will require the removal of existing bituminous paving materials, concrete kerblines and in-situ concrete footways. This material will be required to be removed off-site to an authorised recycling or disposal facility. All waste is to be disposed of at an authorised waste facility. Solid inert waste in the form of soil and stone along with other waste such as plastic wrapping and wood pallets will be produced during construction. Materials will be only ordered as required. Any wastes from the construction process will either be reused within the scheme, or recycled/disposed of at an authorised waste facility. The Contractor will be required to prepare a Construction and Demolition Waste Management Plan. Any waste produced as part of the Project will be dealt with in accordance with relevant waste management legislation and guidance and where possible materials shall be recovered for reuse or recycling. The operational phase is not anticipated to generate large volumes of waste. Normal Municipal waste may be generated by members of the public utilising the facility. This shall be collected in municipal bins and disposed of as part of the municipal waste collection and disposal.

Screening Question	**Response**
1. Characteristics of projects The characteristics of projects must be considered, with particular regard to:	
(f) pollution and nuisances;	The proposed N51 Park and Ride Bus Facility is located circa. 260 metres from the southern edge of the River Boyne and River Blackwater Special Area of Conservation (SAC) at the closest location to the project footprint. The main channel of the River Boyne is located approximately 290m from this location. During construction, polluting material has the potential to contaminate surface water runoff generated within the project site. However, given the absence of any surface water hydrological pathway between the project site and the River Boyne there will be no potential for such runoff to drain from the project site and discharge to the River Boyne. All surface water generated within the project site will be discharged to ground. Water discharging to ground will percolate through the subsoil layers where it will receive natural attenuation and assimilation prior to discharging to any groundwater base flows. This will ensure that any surface water generated within the project site will not have the potential to result in contamination of groundwater base flows. It addition to the above, standard practices that will aim to eliminate/minimise the potential for the generation of contaminated surface water runoff at the project site are outlined in Section 5 below. Other potential sources of pollution and nuisance as a result of the project include the generation of noise and vibration during the construction phase and operation phase; the generation of aerial emissions such as dust during the construction phase; and the generation of aerial emissions such as exhaust emissions during the operation phase. Section 5 of this Screening provides an assessment of the significance of potential pollution and nuisance sources associated with the project
(g) the risk of major accidents and/or disasters which are	Provided that all measures to be outlined in the CEMP, which will be based on best practice mitigation measures, for the project are

Screening Question	**Response**
1. Characteristics of projects The characteristics of projects must be considered, with particular regard to:	
relevant to the project concerned, including those caused by climate change, in accordance with scientific knowledge;	implemented and that all associated building and environmental regulations are adhered to it is predicted that the project will not have the potential to result in a major accident or disaster.
(h) the risks to human health (for example due to water contamination or air pollution).	An assessment of the risk to human health is provided in Section 5 of this screening report.

4.0 LOCATION OF THE PROPOSED DEVELOPMENT

4.1 NATURAL HERITAGE

The following habitats, as categorised in Fossit (2000) occur at and adjacent to the project site:

Improved agricultural grassland (GA1): this habitat dominates the land cover within the project site boundary. It is dominated by a range of commonly occurring grass species such as *Lolium perenne, Dactylus glomerata, Holcus lanatus, Alopecurus pratensis* and *Festuca rubra*. Herbs occurring include *Ranunculus repens, Rumex acetosa, Cerastium fontanum, Veronica chamaedrys, Trifolium repens* and *Taraxicum officinale*. This habitat is of low ecological value (Rating E as per the TII Ecological Evaluation Scheme).

Scrub habitat occurs to the east and southeast corner of the project site. The scrub forming the eastern boundary of this is dominated almost exclusively by spreading *Prunus spinosa*. Some Ulex europeaus also occurs. In the southeast corner the scrub habitat supports *Acer pseudoplatanus, Fraxinus excelsior* and *Sambuca nigra* with *Ulex europeaus* occurring in the understorey. The *Prunus spinosa* dominated scrub along the eastern boundary of the site is of low local (Rating E) ecological value while the scrub on the slopes in the southeast corner of the site is of high local (Rating D) ecological value.

Building and Artificial Surfaces (BL3): this habitat dominates the land cover adjacent to the project site and is comprised of the N51 road and road entrances to St. Patrick's School.

4.1.1 Fauna

The project site does not support any breeding sites or resting places for protected ground-dwelling mammals. Rabbit droppings and burrows were noted along the eastern boundary and in the southeastern corner of the site. The site is of low potential for supporting protected fauna. Commonly occurring bird species are likely to use the scrub habitat along the eastern and southeastern boundary of the project site.

4.2 COMMUNITY FACILITIES

Based on the "Draft Advice Notes for Preparing Environmental Impact Statements issued by the EPA" (EPA, 2017), the following types of sensitive receptors should be noted in particular during impact assessment:

- homes;
- hospitals;
- hotels and holiday accommodation; and
- schools and rehabilitation workshops.

The principal sensitive receptors within the environs of the study area include St. Patricks School, Navan Hospital, Beaufort Nursing Home, and existing and newly constructed residential properties to the southeast and northwest of the project area.

4.3 CULTURAL HERITAGE

The project site is located outside the zone of archaeological potential established around the medieval town of Navan and there are no recorded monuments located within the site. However, the project site is directly adjacent to Navan Mote, an Anglo-Norman motte or earthwork castle which is entered on the Record of Monuments and Places (RMP ME025-023) and the Record of Protected Structures (NT0 25-166 & NIAH 14008044), Archaeological excavations have been undertaken adjacent to the project site in advance of the N51 Navan Inner Relief Road. These uncovered significant archaeological sites including (amongst others) human remains (Excavation Licence 97E0101) and an extensive early medieval enclosed settlement (Excavation Licence 06E0274). Associated archaeological features may extend into the subject site. Geophysical survey has been undertaken within the project site (Detection Device Consent 19R0127) and recorded potential archaeological features in the form of two parallel potential east-west aligned ditches and numerous pit-like features. These may be associated with archaeological features recorded in previous excavations recorded at the NW of the site in advance of the N51 Navan Inner Relief Road.

The proposed development area is therefore identified as a site of high archaeological potential. It is likely that buried archaeological deposits survive within the subject site. However, the high potential is somewhat ameliorated by relatively low proposed ground disturbances. It is recommended that should development proceed at this location, it should be conditional on further archaeological assessment in order to better define the site's archaeological potential. Further assessment should take the form of licensed archaeological test trenching targeted on recorded geophysical anomalies and undertaken across an appropriate sample of the remainder of the site. The aim of proposed test excavation will be to identify the location, date, nature, extent and depth/level of any buried archaeological remains within the site. This information shall inform future strategies for the appropriate treatment of any buried archaeological remains.

4.4 NOISE

A review of the EPA Noise Maps shows that noise levels have not been estimated for the adjacent section of the N51. To the north of the project site, in the vicinity of the R147 daytime noise levels range between 65 to 69dB, while night-time noise levels range between 55 to 59dB.

4.5 AIR QUALITY

The project site is located within Air Quality Zone C Other cities and towns. A review of air quality maps on the EPA website have indicated that the air quality index for health at and adjacent to the Navan Fire Station was classified by the EPA as Good (date of reading = 3rd April 2020).

4.6 LAND, SOILS & GEOLOGY

The topography of the study area is characterised by a slight rise in elevations from c. 20m in the northwest corner of the site to c. 30m in the southeast. A sharper rise in topography occurs to the south east as the land rises at Moat Hill. Land use of this region is predominantly urban made ground. The quaternary, subsoils underlying the project site are gravels derived from limestone. The underlying bedrock is comprised of dark limestone and shale calp. Based on a review of the GSI aquifer vulnerability maps for the area, the site is located in an area of high

groundwater vulnerability with high permeable sand and gravels overlain by well-drained soil.

4.6.1 Geological Heritage Sites and Protected Habitats

The Boyne Valley geological heritage site (Code IGH7) is located approximately 1.5km to the east of the project site. in the close proximity to the study area. This site is considered a nationally important example of a glacially derived valley, with easily accessible features along both sides of the Boyne River. This site overlaps with the Boyne Woods NHA (01592) and the River Boyne SAC (02299).

4.6.2 Historic Landfills and Illegal Dumping

A review of EPA data on waste licence and unlicensed sites has confirmed that there are no known historic landfills or illegal landfills in the area of the study area.

4.6.3 Quarrying

There are no quarries in the close vicinity of the study area. The nearest quarry to the project site is approximately 7.3km to the west of the project site.

4.7 WATER

4.7.1 Hydrogeology

This section provides information on the hydrogeological environment. The project site is located within the Trim groundwater catchment. This groundwater catchment has been classified at good status. The hydrogeology occurring at the project site has been described by the GSI as being comprised of highly permeable subsoils consisting of sand and gravels overlain by well drained soils. The aquifer is classified as ‘Lm’ a mainly “locally important aquifer” which is ‘generally moderately productive’. Small areas of Rk (regionally important karstified aquifer dominated by diffuse flow), Li (locally important aquifer) and Pi (poor aquifer) occur within this groundwater body. The project site is located within an area where the underlying aquifer is classified as Lm.

4.7.2 Aquifer Vulnerability

The groundwater vulnerability at this is classified as high. The main discharge mechanism for the aquifer underlying the project site is via baseflow to the River Boyne.

Table 4.1: Aquifer Vulnerability Rating

Vulnerability Rating	Hydrogeological Conditions				
	Subsoil Permeability (Type) and Thickness			Unsaturated Zone	Karst Features
	High permeability (sand/gravel)	Moderate permeability (e.g. Sandy subsoil)	Low permeability (e.g. Clayey subsoil, clay, peat)	(Sand/gravel aquifers only)	(<30 m radius)
Extreme (E)	0 - 3.0m	0 - 3.0m	0 - 3.0m	0 - 3.0m	-
High (H)	>3.0m	3.0 - 10.0m	3.0 - 5.0m	>3.0m	N/A
Moderate (M)	N/A	>10.0m	5.0 - 10.0m	N/A	N/A
Low (L)	N/A	N/A	>10.0m	N/A	N/A

Notes: (1) N/A = not applicable.
(2) Precise permeability values cannot be given at present.
(3) Release point of contaminants is assumed to be 1-2 m below ground surface.

4.7.3 Water Framework Directive Groundwater Status

The Water Framework Directive (WFD) classification scheme for water quality includes two status classes: good and poor. The assignment of the status class depends on the above factors e.g. ecological and chemical status of the groundwater body.

The groundwater body in the Navan area has been assigned 'Good' status (EPA, 2018).

4.7.4 Water Supplies

There are no regional groundwater supplies or Drinking Water Protection Areas identified within this area. The nearest Drinking Water Protection Area is located in the vicinity of Trim, approximately 13km to the west, southwest of the project site.

The GSI Well Card Index is a record of wells drilled in Ireland. It is noted that this record is not comprehensive, as licensing of wells is not currently a requirement in Ireland. A review of the current index indicates that no springs and/or wells have been drilled on/near at the project site. The area is serviced by public mains therefore it is unlikely that many wells are currently

used for potable supply. The nearest identified well location to the project site is over 1.5km to the south.

4.7.5 Hydrology

The proposed road is located within the Eastern River Basin District (ERBD) in Hydrometric Area No. 07 of the Irish River Network. It is within the River Boyne catchment.

There are no watercourse occurring within or in the vicinity of the project site. The nearest watercourse is the main channel of the River Boyne located approximately 290m from the nearest point of the project's footprint.

4.7.6 Water quality

The nearest EPA water quality monitoring station along the River Boyne to the project site is located downstream of the N51 bridge. The latest water quality results reported from this monitoring stations are from 2012, when water quality was classified at moderate status (q-value 3-4). More recent water quality analysis of the River Boyne has been completed at the monitoring station at Slane River Bridge a short distance further downstream of the N51 bridge station. The results of this water quality monitoring, which was completed in 2018, classified water quality in the River Boyne as poor (Q-value 3).

4.7.7 Flooding

4.7.7.1 Fluvial Flooding

The project site is not located within a fluvial flood risk area.

4.7.7.2 Pluvial Flooding

Pluvial flooding is usually caused by intense rainfall that may only last a few hours. The resulting water follows natural valley lines, creating flow paths along roads and through and around developments and ponding in low spots, which often coincide with fluvial floodplains in low lying areas. Any areas at risk from fluvial flooding will almost certainly be at risk from pluvial flooding.

The proposed site is on a significant incline and thus is not subject to pluvial flooding. The CFRAM PFRA maps indicate that the project site would not be impacted by pluvial flooding.

4.8 LANDSCAPE

The project site is located in an area characterised by a lowland landscape. This landscape has been classified at moderate value and moderate sensitivity.

4.9 ASSESSMENT OF THE LOCATION OF THE PROPOSED DEVELOPMENT

A response to the screening criteria for the location of the proposed development is provided in Table 4.2 below.

Table 4.2: Location of the Proposed Development

Screening Criteria ***The environmental sensitivity of geographical areas likely to be affected by projects must be considered, with particular regard to:***	**Response**
(a) the existing and approved land use;	The project site is located within an area otherwise dominated by urban land use. The proposed development is in line with approved zoning land use for the project site. The existing land use of the field is a greenfield site and it is zoned as Community Infrastructure (zoning Objective G1) under the Navan Development Plan 2009 to 2015and the draft Meath County Development Plan 2020 to 2026 with circa. 10% of the proposed site zoned as High Amenity (Zoning Objective H1).
(b) the relative abundance, availability, quality and regenerative capacity of natural resources (including soil, land, water and biodiversity) in the area	The project site is currently representative of a part existing road and part greenfield site. The greenfield land cover within the project site is not sensitive in terms of natural resources. The overall design of the project has included a design that aims to

Screening Criteria ***The environmental sensitivity of geographical areas likely to be affected by projects must be considered, with particular regard to:***	**Response**
and its underground	blend the development into the existing urban fabric surrounding the project site. The proposed development will result in the loss of a small area of greenfield land and once established there will be no potential for the regeneration of biodiversity within the footprint of the site. However, given that the current ecological and biodiversity value of the site is low the loss of this area of greenfield land will not result in a significant negative impact to the environment. The project will be designed with permeable surfacing that will allow for the continued drainage of water to ground and the regeneration of the local groundwater body.
(c) the absorption capacity of the natural environment, paying particular attention to the following areas: (i) wetlands, riparian areas, river mouths; (ii) coastal zones and the marine environment; (iii) mountain and forest areas; (iv) nature reserves and parks; (v) areas classified or protected under national legislation; Natura 2000 areas designated by Member States pursuant to Directive 92/43/EEC and Directive 2009/147/EC;	The potential for the proposed development to significantly affect the absorption capacity of the environment, with respect to the parameters listed in Column 1 opposite are outlined below. (i) no works are proposed that will affect wetlands, riparian areas or river mouths. (ii) not applicable, the project is located at a remote distance from the coastal zone. (iii) not applicable, the project is located at a remote distance from mountainous and forested areas. (iv) not applicable, the project is located at a remote distance from any nature reserves and parks. (v) The Screening Report for Appropriate Assessment that accompanies the proposed development application has assessed the likely significant effects of the proposal on the conservation objectives of European Sites within a 15km buffer of the development and has concluded in a finding of no likely significant

Screening Criteria ***The environmental sensitivity of geographical areas likely to be affected by projects must be considered, with particular regard to:***	**Response**
	effects. In addition no NHAs or pNHAs are located in the vicinity of the project site. Where such sites do occur in the wider area surrounding the project site, they overlap with the boundaries of the River Boyne and River Blackwater SAC and as such the findings of the Screening Report for Appropriate Assessment are applicable to the projects potential or otherwise to interact with these nationally designed conservation areas. and there will be no potential for the project to interact with such areas.
(vi) areas in which there has already been a failure to meet the environmental quality standards, laid down in Union legislation and relevant to the project, or in which it is considered that there is such a failure;	(vi) Surface water quality along the River Boyne to the north of the project site is less than favourable, being identified at poor and moderate status at monitoring stations along the section of the river flowing through Navan. The project site is not connected to this watercourse and will not have the potential to undermine the status of this watercourse. The majority of the project site is located in an area not susceptible to elevated noise levels. Elevated daytime and night time noise levels occur along the R147 to the north of the project site. Air quality at the project site has been recorded as good in early April 2020. The Groundwater Body in the surrounding area has been assigned Good status.
(vii) densely populated areas;	The subject lands are located within the environs of Navan town. The surrounding area is representative of a densely populated area and the provision of the park and ride facility will provide enhanced access to public transport for locals in the area and for commuters living outside the town wishing to use public transport, thereby contributing to improved vehicle transport mobility and sustainable modes of movement.

Screening Criteria ***The environmental sensitivity of geographical areas likely to be affected by projects must be considered, with particular regard to:***	**Response**
(viii) landscapes and sites of historical, cultural or archaeological significance	The footprint of the proposed development is located within an area of known landscape value and sensitivity. The project site is located outside the zone of archaeological potential established around the medieval town of Navan and there are no recorded monuments located within the site. However, the project site is directly adjacent to Navan Mote, an Anglo-Norman motte or earthwork castle which is entered on the Record of Monuments and Places (RMP ME025-023) and the Record of Protected Structures (NT0 25-166 & NIAH 14008044), Archaeological excavations have been undertaken adjacent to the project site in advance of the N51 Navan Inner Relief Road. These uncovered significant archaeological sites including (amongst others) human remains (Excavation Licence 97E0101) and an extensive early medieval enclosed settlement (Excavation Licence 06E0274). Associated archaeological features may extend into the subject site. The proposed development area is therefore identified as a site of high archaeological potential.

5.0 CHARACTERISTICS OF POTENTIAL IMPACTS

The likely significant effects of the project on the environment have been considered and assessed by reference to the following factors

- Population and human health;
- Biodiversity
- Land, Soils & Geology
- Water
- Air & Climate
- Noise
- Landscape & Visual
- Cultural Heritage
- Material Assets
- Traffic

An assessment of the potential for the project to result in likely significant effects to each of these environmental factors is provided in Table 5.1 below.

Table 5.1: Characteristics of Potential Impacts on Environmental Factors

Environmental Topic	Potential Impact	Mitigation Measures	Residual Impacts
Populations & Human Health	Some short-term local effects from noise and air emissions of the construction phase are expected, however all construction activities will have to comply with TII standards and therefore no adverse health effects would be expected. Traffic travelling to and from the park and ride facility during the operational phase will generate emissions but mitigation will ensure that all emissions are below relevant TII standards. The implementation of these measures along with the overall reduction in traffic volumes in the vicinity of the project site and the wider area within and approaching Navan town centre will have the effect that fewer people will be exposed and to lower levels of emissions than is currently the case. All relevant best practice mitigation	Extensive mitigation for nuisance arising from noise and air emissions, particularly in the form of potential dust generation, arising during the construction phase is detailed under Noise and Air below in this table. While low levels of nuisance is possible over a limited period of time during the construction period this will be mitigated as outlined below, by the implementation of mitigation measures. During the operational phase traffic noise levels associated with the project will not result in a significant change to base line noise levels at any of the sensitive receptors, such as St. Patrick's School, the hospital, nursing home or residential dwelling surrounding the project site. During the operation phase the provision of the park and ride facilitate will have the potential to contribute to a reduction in vehicular movements within and surrounding the town of Navan and this reduction will in turn have the potential to result in overall positive impacts for air quality and human health.	As the project does not involve any additional traffic and will have the potential to result in a decrease in traffic volumes, the effect on human health proposed road is predicted to be positive.

Environmental Topic	Potential Impact	Mitigation Measures	Residual Impacts
	measures required for avoiding likely significant effects to populations and human health through potential effects to soils, water, noise, air, etc will be required to be implemented as part of a CEMP for the construction phase of the project. No operational impacts are identified for human beings.		
Biodiversity	As the habitats present relate to habitats of low to local value no significant negative impacts are identified for habitats within the project site at construction or operation in this regard.	No likely significant affects to biodiversity will occur as a result of the project. In addition, in order to manage the construction phase of the project the following measures will be implemented: Habitat disturbance during construction work will be confined strictly to within the direct land-take of the proposed scheme. Construction machinery will be restricted to site roads and the footprint of the proposed scheme.	As outlined in the baseline and impact assessment sections above no high-value habitat receptors have been identified within the project site and the loss of these habitats will represent at most a negligible residual impact. The project will present a negligible risk to fauna due to the dominance of artificial and well managed greenfield habitats that are subject to existing high levels of human

Environmental Topic	Potential Impact	Mitigation Measures	Residual Impacts
			activity.
Soil and Geology	The impact of the project for land, soils and geology will be of imperceptible significance. This is based on the fact that the project site is underlain by moderately fertile soils, and the absence of any area of geological heritage or economic reserve in the vicinity of the project site.	Given that the impacts will be imperceptible to land, soils and geology no mitigation measures are proposed for the project.	Impacts to land, soil and geology will be imperceptible and no likely significant impacts will occur.
Water	There are no existing watercourses running through the site. The proposed N51 Park and Ride Bus Facility is located circa. 290 metres from the southern edge of the River Boyne and River Blackwater SAC at its closest location to the footprint of the project site. Given the absence of any hydrological pathways linking the project site to the River Boyne and any other surface watercourse there will be no potential for the project to result in negative impacts to surface watercourses and their water quality and associated	Notwithstanding the absence of potential impacts to attributes of water and hydrology a number of measures will be implemented during the construction phase and operation phase of the project so that surface waters and related emissions can be managed and controlled. These measures are as follows: The project will be constructed and operated in compliance with design standards described in Section 3.4 above. These surface water management features are an intrinsic part of the design of the car park and represent a best practice approach to the construction and operation of car parking schemes. The design features incorporated into the project involve the application of techniques proven to manage surface waters	No impacts to surface waters will arise as a result of the project.

Environmental Topic	Potential Impact	Mitigation Measures	Residual Impacts
	instream habitats and fauna.	generated on car parking surfaces.	
Air Quality and climate	The greatest potential impact on air quality during the construction phase of the proposed project is from construction dust emissions and the potential for nuisance dust. Given that the proposed project is of a minor scale there will be limited potential for the project to result in the generation of significant levels of dust and the potential impact of dust to air quality and surrounding receptors, such as the school and residential properties and recreational areas, is considered to be of low significance. Nevertheless, in order to minimise dust emissions during construction, a series of mitigation measures will be implemented. Provided a dust minimisation plan that adopts the measures outlined in this report is prepared in line with Dust Guidance and is adhered to, the air quality impacts during the construction phase will not be significant.	A dust minimisation plan will be finalised and implemented for the construction phase of the project, as construction activities are likely to generate some dust emissions. In order to minimise dust emissions during construction the following measure will form part of that plan and will be implemented during the construction phase: Before entrance onto public roads, trucks will be adequately inspected to ensure no potential for dust emissions and cleaned as necessary. Adjacent public roads will be swept to remove mud and aggregate materials from their surface as necessary. Bowsers or suitable watering equipment will be available during periods of dry weather throughout the construction period. Vehicles travelling on site will have their speed restricted, both on un-surfaced and on hard surfaced areas, as site management dictates. During periods of very high winds (gales), activities likely to generate significant dust emissions shall be postponed until	With appropriate mitigation measures in place, residual impacts of the project on air quality for the long and short term will not result in any significant negative impacts to sensitive receptors and therefore there will be no likely significant effects.

Environmental Topic	Potential Impact	Mitigation Measures	Residual Impacts
	There is the potential for a number of greenhouse gas emissions to atmosphere during the construction of the development. Construction vehicles, generators etc., may give rise to CO_2 and N_2O emissions. However, the impact on the climate is considered to be imperceptible over the short term of the construction phase. The proposed scheme is predicted to result in minor increases in traffic locally associated with the travel to and from the park and ride site. The proposed scheme also has the potential to reduce the distance travelled by individual vehicles by allowing the transfer from private car to public transport. This will result in a reduction of traffic from the current road network within Navan town, which will result in reductions in emissions in these areas.	the gale has subsided. During working hours, dust control methods will be monitored as appropriate, depending on the prevailing meteorological conditions. Material handling systems and site stockpiling of materials will be designed and laid out to minimise exposure to wind. Water misting or sprays will be used as required if particularly dusty activities during dry or windy periods. The Contractor shall ensure that the following mitigation measures are implemented, and that dust impacts and nuisance are minimised; A complaints register will be kept on site detailing all telephone calls and letters of complaint received in connection with dust nuisance or air quality concerns, together with details of any remedial actions carried out; It is the responsibility of the contractor at all times to demonstrate full compliance with the dust control conditions herein; At all times, the procedures put in place will be strictly monitored and assessed. At all times these procedures will be strictly monitored and assessed. In the event of dust nuisance occurring outside the site boundary,	

Environmental Topic	Potential Impact	Mitigation Measures	Residual Impacts
		movements of materials likely to raise dust will be curtailed and satisfactory procedures, such as the covering of all dust-emanating materials, will be implemented to rectify the problem before the resumption of construction operations. With the implementation of these dust minimisation measures in addition to a construction management plan, fugitive emissions of dust from the site will be insignificant and will not pose a nuisance at nearby sensitive receptors. In order to reduce emissions associated with the predicted minor increase in traffic travelling to and from the site during the operation phase, a ghost island junction at the entrance to the site will be provided. This will allow for right turning traffic to queue to access the site without impeding other traffic. This will reduce the potential for the park and ride to generate congestion on the local road network and minimise the emissions from vehicles using the local road network. The project provides a proportion of parking on site for the use of Electric Vehicles thus assisting in the societal move from petrol and diesel fueled vehicles. Furthermore, the project will have the potential to contribute to a reduction in overall traffic in the current Navan town	

Environmental Topic	Potential Impact	Mitigation Measures	Residual Impacts
		road networks, thereby resulting in a reduction in vehicular emissions.	
Noise and Vibration	The construction phase will result in the generation of noise that, in the absence of suitable mitigation, could lead to elevated daytime noise at surrounding sensitive receptors. The receptors most likely to be at risk of elevated noise are the school to the east and northeast and the newly constructed residential dwellings to the west. While the impact of noise emissions to surrounding receptors will be of a low and short term significance during the construction phase, mitigation measures are provided to further minimise any potential for nuisance as a result of noise generated during the construction phase. The operation phase is not anticipated to have the potential to result in elevated noise levels at any sensitive receptors surrounding the project site.	The Contractor undertaking the construction of the works will be obliged to take specific noise abatement measures and comply with the recommendations of BS 5228-1:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites - Noise and the European Communities (Noise Emission by Equipment for Use Outdoors) Regulations, 2001. These measures will ensure that: No plant used on site will be permitted to cause an ongoing public nuisance due to noise. The best means practicable, including proper maintenance of plant, will be employed to minimise the noise produced by on site operations All vehicles and mechanical plant will be fitted with effective exhaust silencers and maintained in good working order for the duration of the contract Compressors will be attenuated models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use and all ancillary pneumatic	The application of the mitigation measures that have been specified for the control of noise generated by the project and their proper implementation will ensure that the project will not result in likely significant effects to surrounding receptors.

Environmental Topic	Potential Impact	Mitigation Measures	Residual Impacts
		tools shall be fitted with suitable silencers Machinery that is used intermittently will be shut down or throttled back to a minimum during periods when not in use Any plant, such as generators or pumps that is required to operate before 07:00hrs or after 19:00hrs will be surrounded by an acoustic enclosure or portable screen During the course of the construction programme, the contractor will be required to manage the works to comply with noise limits using methods outlined in BS 5228-1:2009+A1 2014 Part 1 – Noise BS and 5228 -1: 2009+A1 2014 Part 2 which include guidance on several aspects of construction site practices, which include, but are not limited to the measures discussed below. **Selection of Quiet Plant** The potential for any item of plant to generate noise will be assessed prior to the item being brought onto the site. The least noisy item of plant will be selected. Should a particular item of plant already on the site be found to generate high noise levels, the first action will be to identify whether or not said item can be replaced with a quieter alternative. For static plant such as compressors and generators used at work areas such as construction compounds etc., the units will be	

Environmental Topic	Potential Impact	Mitigation Measures	Residual Impacts
		supplied with manufacturers' proprietary acoustic enclosures where possible. The contractor will evaluate the choice of excavation, breaking or other working method taking into account various ground conditions and site constraints. Where possible, where alternative lower noise generating equipment that would economically achieve, in the given ground conditions, equivalent structural/ excavation/ breaking results, these will be selected to minimise potential disturbance. **General Comments on Noise Control at Source** 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 or the best practice use of equipment and materials handling to reduce noise. In practice, a balance may need to be struck between the use of all available techniques and the resulting costs of doing so. It is therefore proposed to adopt the concept of "Best Available Techniques" as defined in EC Directive 96/61. In this context "best" means "the most effective in achieving a high general level of protection of the environment as a whole". The expression "available techniques" means "those techniques developed on a scale which allows	

Environmental Topic	Potential Impact	Mitigation Measures	Residual Impacts
		implementation...., under economically and technically viable conditions, taking into consideration the costs and advantages, whether or not the techniques are used or produced within the State, as long as they are reasonable Thus, the concept of Best Available Techniques requires a degree of balance between the attainment of environmental benefits and the likely cost implications. In the identification of Best Available Techniques, regard will be had to a wide range of factors, however, emphasis will be given to "practical suitability" and the need "to reduce an emission and its impact on the environment as a whole". Proposed techniques will also be evaluated in light of their potential effect on occupational health and safety. The following outline guidance relates to practical noise control at source techniques which relate to specific site considerations: 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 or tools a number of noise control measures include fitting muffler or sound reducing equipment to the breaker 'tool'	

Environmental Topic	Potential Impact	Mitigation Measures	Residual Impacts
		and ensuring any leaks in the air lines are sealed. Erection of localised screens around breaker or drill bit when in operation in close proximity to noise sensitive boundaries are other suitable forms of noise reduction; 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, the contractor will ensure that best practice site noise control measures are implemented including ensuring that materials are not dropped from excessive heights; Where compressors, generators and pumps are located in areas in close proximity to noise sensitive properties/ areas and have potential to exceed noise criterion, these will be surrounded by acoustic lagging or enclosed within acoustic enclosures providing air ventilation; Resonance effects in panel work or cover plates can be reduced through stiffening or application of damping compounds; rattling and grinding noises can be controlled by fixing resilient materials in between the surfaces in contact; Demountable enclosures can also be used to screen operatives using hand tools and may be moved around site as	

Environmental Topic	Potential Impact	Mitigation Measures	Residual Impacts
		necessary, and; 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. **Screening** 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 other forms of noise control. The effectiveness of a noise screen will depend on the height and length of the screen, its mass, and its position relative to both the source and receiver. The length of the screen should in practice be at least five times the height, however, if shorter sections are necessary then the ends of the screen will be wrapped around the source. BS 5228 -1:2009+A1 2014 states that on level sites the screen should be placed as close as possible to either the source or the receiver. The construction of the barrier will be such that there are no gaps or openings at joints in the screen material. In most practical situations the effectiveness of the screen is limited by the sound transmission over the top of the barrier rather than the transmission through the barrier itself. In practice screens constructed of materials with a mass	

Environmental Topic	Potential Impact	Mitigation Measures	Residual Impacts
		per unit of surface area greater than 10 kg/m^2 will give adequate sound insulation performance. As an example, the use of a standard 2.4m high construction site hoarding will provide a sufficient level of noise screening once it is installed at a suitable position between the source and receiver. **Working Hours** Normal working times will be 07:00 to 19:00hrs Monday to Friday and 08:00 to 13:00hrs Saturday. Works other than the pumping out of excavations, security and emergency works will not be undertaken outside these working hours without the written permission of the Contracting Authority. This permission, if granted, can be withdrawn at any time should the working regulations be breached. Works other than the pumping out of excavations, security and emergency works will not be undertaken at night and on Sundays without the written permission of the Contracting Authority. Night is defined as 19:00 to 07:00hrs. When overtime and shift work is permitted, the hauling of spoil and delivery of materials outside normal working hours is prohibited and the noise limits specified for the project will	

Environmental Topic	Potential Impact	Mitigation Measures	Residual Impacts
		apply.	
Cultural Heritage	Groundworks may have a direct negative permanent impact on buried archaeological remains.	Further archaeological assessment (licensed archaeological test trenching) is recommended to better define the location, extent and depth of buried archaeological remains. Further mitigation measures to be put in place (in consultation with the National Monuments Service) following completion of test trenching. These may include preservation-in-situ and/or preservation-by-record (i.e. full archaeological excavation) of any recorded archaeological remains. Archaeological monitoring may also be required during the construction phase.	In the event that all archaeological remains within the subject site are fully excavated, there are no residual impacts anticipated. Should archaeological remains be preserved in-situ, these may affect future maintenance requirements.
Landscape & Visual	The project site is located in an area of moderate landscape value and sensitivity. The change in land surface as a result of the project will result in a small change at the local landscape levels and once established will not represent an obvious change to the	Landscaping will be provided along the north, south and eastern boundaries of the project site and this landscaping will	The residual impacts to landscape will be imperceptible and will not result in any significant effects to the environment.

Environmental Topic	Potential Impact	Mitigation Measures	Residual Impacts
	character of the surrounding landscape.		
Material Assets	The project will not result in the loss, fragmentation, severance or disruption of any material assets occurring in the surrounding area.	Given that no significant effects to material assets will arise as a result of the project no mitigation measures are required.	There will be no residual impacts to material assets.
Traffic	The proposed scheme is predicted to result in minor increases in traffic locally associated with the travel to and from the park and ride site. The proposed scheme also has the potential to reduce the distance travelled by individual vehicles by allowing the transfer from private car to public transport.	The provision of a ghost island junction at the entrance to the site provides for right turning traffic to queue to access the site without impeding other traffic.	There will be no residual impacts to traffic.

5.1 INTERACTIVE & CUMULATIVE EFFECTS

5.1.1 Interactive Effects

Interactive effects may arise from the interaction between various impacts within a project. Interactive effects occur when a receptor is impacted by multiple effects. Potential interactive effects on the environment include:

- Traffic will have the potential to interact with the following environmental factor:
  - population and human health as a result of noise and air emissions;
- Impacts to soils and geology and the potential to interact with the following environmental parameters:
  - Biodiversity due to the excavation of vegetation and the removal of trees and hedgerows.
  - Landscape and visual during the construction phase through excavations and the storage of spoil.
  - Archaeology during ground excavations; and
- Impacts to air quality will have the potential to interact with the following environmental parameters:
  - Population and human by presenting a risk of a decline in air quality at properties adjacent to the proposed route. This impact has been assessed and it is predicted that, under a worst case scenario impacts to air quality of sensitive receptors will be low and as such will not have the potential to result in significant negative impacts to the environment.
- Impacts to noise will have the potential to interact with the following environmental parameters:
  - Population and human health by presenting a risk to sensitive properties adjacent to the project route. This impact has been assessed and it is predicted that, with the implementation of mitigation measures there will be no potential for the project to result in significant negative impacts to the environment project population and human health.
  - Archaeology by generating vibration which could result in impacts to any unknown archaeological features that may occur along the route alignment.

The significance of any potential negative interactive effects are predicted to be slight and predominantly of a temporary nature. Mitigation measures as outlined above will provide effective management of the project and will eliminate the potential for interactive effects to result in likely significant effects on the environment.

6.0 CONCLUSION

The proposed N51 Park and Ride Bus Facility does not trigger the threshold for mandatory EIA/EIAR as set out in the 2001 Regulations (as Amended) and has been assessed as a sub-threshold EIA development. This EIA Screening Assessment has determined that the characteristics of the proposed development are considered not significant due to the scale and nature of the proposed development and its footprint, which is confined to an area of approximately 1.2ha, the characteristics and sensitivities of the receiving environment and design and mitigation measures that will be implemented as part of the construction phase and operation phase of the proposed development.

The European Guidance on EIA Screening provides a checklist to assist with the decision of whether an EIA is required based on the characteristics of a project and its environment. This screening checklist is presented in Table 6.1 below and have been informed by the various assessments that have been set out in Sections 2, 3 and 4 above.

Table 6.1: Screening Checklist

Questions to be Considered	Yes / No? Briefly describe	Is this likely to result in a significant effect? Yes/No/? – Why?
1. Will construction, operation or decommissioning of the Project involve actions which will cause physical changes in the locality (topography, land use, changes in waterbodies, etc.)?	Yes	No. The construction of the proposed development will involve a minor change in land cover within sections of its footprint. This will involve a small area of physical land cover change. The project has been designed to be in keeping with the surrounding landscape.
2. Will construction or operation of the Project use natural	Yes	No. The proposed development will require natural resources in the form of standard construction

resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?		materials. The quantities to be used as part of the proposed development will be small given the scale of the proposed development.
3. Will the Project involve use, storage, transport, handling or production of substances or materials which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health?	Yes	No. Standard construction materials for a proposed project will be used during construction, however it is unlikely that this would include any quantity of materials that could be harmful to human health or the environment. Best practice construction will be implemented during the construction phase and all such materials will be stored in secure locations and will be handled in accordance with accepted construction procedures.
4. Will the Project produce solid wastes during construction or operation or decommissioning?	Yes	No. Waste in the form of construction material wrappings and pallets etc. will be generated during the project. In addition, waste generated by site operative at the site canteen etc. will be generated. All solid waste will be managed in accordance with relevant waste legislation and all waste would be removed by the site by a licensed contractor and disposed of at licensed facilities. Efforts will be made to reuse as part of the project's construction phase wherever possible soil material generated during excavations at the project site. Where materials cannot be reused they will be transferred off site by a licensed contractor and disposed of at a licensed facility. The movement of a soil material from the project site will be subject to the control measures.
5. Will the Project release pollutants or any hazardous, toxic or noxious substances to air?	Yes	No. It is expected that dust and emissions from construction vehicles, plant and equipment may be released temporarily during construction. Mitigation measures as outlined in this Screening Report will be implemented to minimise emissions and prevent discharge. All emissions will be kept within standard air quality limits outlined in the relevant legislation.
6. Will the Project cause noise and vibration or release of light, heat energy or electromagnetic radiation?	Yes	No. It is expected that noise and vibration will occur during construction of the project. Mitigation measures have been outlined in this Screening Report to minimise the potential impact of noise and vibration. The project site is located within an urban environment with existing night time lighting. The

		project will not change the extent of night time lighting in the area.
7. Will the Project lead to risks of contamination of land or water from releases of pollutants onto the ground or into surface waters, groundwater, coastal wasters or the sea?	Yes	No. All potential polluting substances would be stored and managed appropriately by the contractor to reduce the risk of accidental spillages and/or discharges. All surface water generated at the project will be directed to soak away structures which control surface water and allow it to infiltrate into unsaturated ground. The operation phase of the project will not pose a risk of contamination of waters.
8. Will there be any risk of accidents during construction or operation of the Project which could affect human health or the environment?	Yes	No. Construction activities would be undertaken with due regard to occupational health and safety. The site manager would be responsible for the management of health and safety on site during construction.
9. Will the Project result in social changes, for example, in demography, traditional lifestyles, employment?	No	No. The project is not predicted to have the potential to result in social changes in demography, traditional lifestyles or employment.
10. Are there any other factors which should be considered such as consequential development which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality?	No	This Report undertook a review of the Meath County Council planning portal to identify other existing and approved projects within the wider surrounding area. Projects were identified and an assessment for cumulative effects has been completed. This assessment has found that the project will not have the potential to combine with these other projects to result in significant negative impacts to the environment.
11. Are there any areas on or around the location which are protected under international or national or local legislation for their ecological, landscape, cultural or other value, which could be affected by the project?	No	No protected natural areas such as European Sites or NHAs occur in the vicinity of the project site. The River Boyne and River Blackwater Special Protection Area (SPA) and Special Area of Conservation is located circa. 280m to the north of the project site. A Screening Report for Appropriate Assessment for the project has been completed and has found that the project is not likely, alone or in combination with other projects, to result in significant effects to this SAC. No cultural heritage receptors have been identified at or in the vicinity of the project site.

		The project site is not located within an area of moderate landscape value and will not result in any perceptible changes to the landscape and visual setting. The project will not have any potential to diminish the value of the landscape in the surrounding area.
12. Are there any other areas on or around the location which are important or sensitive for reasons of their ecology e.g. wetlands, watercourses or other waterbodies, the coastal zone, mountains, forests or woodlands, which could be affected by the project?	No	The habitats occurring within and in the vicinity of the project are dominated by artificial man-made structures or grassland and scrub habitats of low to local value. They are not representative of sensitive ecological receptors.
13. Are there any areas on or around the location which are used by protected, important or sensitive species of fauna or flora e.g. for breeding, nesting, foraging, resting, overwintering, migration, which could be affected by the project?	No	The project site and surrounding area does not support habitats that are relied upon by important or sensitive species of fauna or flora.
14. Are there any inland, coastal, marine or underground waters on or around the location which could be affected by the project?	Yes	No.
15. Are there any areas or features of high landscape or scenic value on or around the location which could be affected by the project?	No	No.
16. Are there any routes or facilities on or around the location which are used by the public for access to recreation or other facilities, which could be affected by the project?	Yes	No.
17. Are there any transport routes on or around the location which are susceptible to congestion or which cause environmental problems, which could be affected by the project?	Yes	No. The construction phase will be of a short-term duration and will involve a low number of construction vehicular movements that are not predicted to have the potential to result in significant traffic volumes that could lead to congestion. The provision of the project will have positive implications for traffic and transport congestion by

		improving traffic flows in the Navan road network.
18. Is the project in a location where it is likely to be highly visible to many people?	Yes	Yes. During the construction phase mitigation measures will be put in place to minimise the visual disturbance caused by the construction works. Once constructed the project will blend in with the surrounding built landscape.
19. Are there any areas or features of historic or cultural importance on or around the location which could be affected by the project?	No	No. .
20. Is the project located in a previously undeveloped area where there will be loss of greenfield land?	Yes	Yes. There will be a loss of a small area of improved agricultural grassland as a result project. This habitat is of low nature conservation value and its loss will represent a negligible impact.
21. Are there existing land uses on or around the location e.g. homes, gardens, other private property, industry, commerce, recreation, public open space, community facilities, agriculture, forestry, tourism, mining or quarrying which could be affected by the project?	Yes	No. As outlined in this Report the potential exists for disturbance and nuisance to properties occurring adjacent to the project site. Mitigation measures have been outlined in this Report and it is predicted that, with the implementation of these mitigation measures, potential for disturbance and nuisance to these properties will be minimised.
22. Are there any plans for future land uses on or around the location which could be affected by the project?	No	No.
23. Are there any areas on or around the location which are densely populated or built-up, which could be affected by the project?	Yes	No. The construction phase will be restricted to the project site and with the implementation of a best practice approach to the construction phase and all measures outlined in this Report there will be no potential for significant effects to the population occurring in the surrounding area.
24. Are there any areas on or around the location which are occupied by sensitive land uses e.g. hospitals, schools, places of worship, community facilities, which could be affected by the project?	Yes	St. Patrick's Classical School is located next to the project site. Navan Hospital is located a distance of circa. 160 metres from the boundary of the project site. Beaufort House Nursing Home is located a distance of circa. 150 metres from the boundary of the project site.

		Residential dwellings. The assessment of the project has found that project will have the potential to result in low impacts to these receptors and with the implementation of mitigation measures these sensitive locations will not be negatively impacted by the project.
25. Are there any areas on or around the location which contain important, high quality or scarce resources e.g. groundwater, surface waters, forestry, agriculture, fisheries, tourism, minerals, which could be affected by the project?	No	No.
26. Are there any areas on or around the location which are already subject to pollution or environmental damage e.g. where existing legal environmental standards are exceeded, which could be affected by the project?	No	No.
27. Is the project location susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions e.g. temperature inversions, fogs, severe winds, which could cause the project to present environmental problems?	Yes	No.

Given the scale and nature of the project and taking account of all available information, the overall probability of impacts on the receiving environment arising from the proposed development (during the construction or operational phases) is considered to be low, as summarised in Table 6.1 above.

No significant environmental impacts will occur once mitigation measures outlined in this Report are implemented. These mitigation measures are representative of standard industry environmental management that are implemented to minimise the impact of projects to the environment.

The information provided in this EIA Screening Report can be used by the competent authority, Meath County Council, to conclude and determine that an EIA is not required for the proposed upgrade works to the N51 Park and Ride Bus Facility, Moathill, Navan, Co. Meath as there will be no significant environmental effects.