

Environmental Impact Assessment Screening for the Proposed upgrade of Dock Road / Atlas Avenue.

Prepared, on behalf of Limerick County Council, by Rory Dalton, Independent Ecologist



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10/09/2020

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1. Introduction

Rory Dalton was appointed by Limerick County Council to undertake an Environment Impact Assessment Screening for the proposed upgrade of the Dock Road/Atlas Avenue junction and the Dock Road/Courtbrack Avenue junction as part of the Dock Road Improvement Scheme. The proposed site intended for upgrade is located in close proximity to Limerick City Centre, approximately 2 km and, is surrounded by industrial and commercial premises.

Proposed works shall include the redesigning of both junctions to improve the efficiency of the two junctions. In addition to this dedicated cycle lanes will be provided and pedestrian access improved as well as upgraded public lighting, tactile paving improved, removal of parking bays and widening of carraigways and foot ways. The proposed works are intended to deliver economic benefits through improved efficiency, as well as reduced accidents resulting from a safer junction arrangement. Furthermore they aim to encourage more sustainable modes of transport through increased cycle ways and provide safe conditions for vulnerable road users and conclusively providing a safer environment for all road users.

2. Legislative Context

EIA is a procedure required under the terms of European Union Directives 85/337/EEC and 97/11/EC on assessment of the effects of certain public and private projects on the environment. Article 2 of the Directives requires that *“Member States shall adopt all measures necessary to ensure that, before consent is given, projects likely to have significant effects on the environment by virtue, inter alia, of their nature, size or location are made subject to a requirement for development consent and an assessment with regard to their effects.”* Article 8 then requires that *“The results of consultations and information gathered pursuant to [the EIA procedure] must be taken into consideration in the development consent procedure”*

The requirements for screening are contained in Article 4 of Directive 97/11/EC. Article 4(1) requires that *“...projects listed in Annex I shall be made subject to an assessment...”*. EIA is therefore mandatory for the categories of projects listed in Annex I and Member States’ legislation must provide for this. The Annex I list defines about 21 categories of projects for which EIA is mandatory. Screening of these projects must lead to a “yes” decision that EIA is required. Article 4(2) requires that for *“...projects listed in Annex II, the Member States shall determine through (a) a case-by-case examination, or (b) thresholds and criteria set by the Member State”*

In this case, the project type is listed in Annex II and is being dealt with it in a case-by-case examination.

3. Brief Description of the Sites and Proposed works

3.1. Site Description and Location

The proposed site is approximately 2km from Limerick City Centre to the north-west side of the city. Limerick City is the fourth most populous city in Ireland and is one of the main economic regions in the country outside Dublin and Cork. This economic development is partly due to the presence of the University of Limerick, Limerick Institute of Technology, Shannon Airport in County Clare and the Shannon Development Scheme.

The site is surrounded by light industrial and commercial premises as well as university student accommodation and sports grounds. Limerick Greyhound Stadium and Greenpark Race Course are situated approximately 1km from the proposed site.

Both junctions lie on the N69 - a national secondary road that runs from Limerick to Tralee and services a number of towns along the route. The N69 also facilitates the movement of a high volume of heavy machinery largely bound for the Shannon Foynes Port which manages the operations of cargo facilities within the Shannon Estuary.

3.2. Proposed Works

The Dock Road/Atlas Avenue junction is only a distance of 75 meters from the Dock Road/Courtbrack Avenue junction and therefore the operation of one has a notable impact on the other. Their close proximity indicates that they will work more efficiently if redesigned as a single junction. Currently the signals that control the two junctions are not fully synchronised which in turn can reduce the effectiveness of the junctions resulting in traffic backing up from Atlas Avenue and consequently impacting the traffic entering the Dock Road from Courtbrack Avenue. Furthermore the inadequate design of the junctions results in dangerous access ability to adjoining sites, particularly one which contains an electrical retail unit which would be frequented regularly. Additionally there is poor access for cyclists and pedestrians within the area.

In response to these issues Limerick County Council propose to upgrade both junctions and accurately synchronise them for improved efficiency. Crossings will be incorporated into the signalisation of each junction to provide safer access for pedestrians. Tactile paving will also be improved and foot ways along Atlas Avenue widened. The boundary wall between Dock Road and 'The Orchards' residential estate will be removed and replaced with a similar wall at the outside edge of the proposed foot-way. Existing trees will be removed and/or cut-back as required for the construction of the foot-way and replacement wall. A line of trees will be planted on the south side of the replacement wall.

Cycle lanes will be provided along the Dock Road to ensure safer movement for cyclists through the junction. The three accesses to private sites on the northern side of the Dock Road will be relocated to the industrial estate road to the north of these sites in order to provide safer access. Parking bays along Courtbrack Avenue and Atlas Avenue will be removed in order for the carriageway on Atlas Avenue to be widened. The site of the existing Retail Unit adjoining Atlas Avenue will be acquired and the buildings thereon demolished to facilitate the widening of Atlas Avenue. Public lighting will be upgraded in the area.

4. EIA Screening Check-list

Questions to be considered	Yes/No Brief explanation	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 water-bodies, etc)?	Essentially no; there are areas that will be changed from tree-lines to pavement however these changes are minor and replacement trees are to be planted in a more suitable location. The rest of the re-surfacing and paving is to be carried out on concrete and tarmac surfaces.	No; any changes are essentially re-vamps of existing features
2. Will construction or operation of the Project use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?	Yes Construction phase: Materials (cement, tarmac, gravel stone) and energy (diesel) for construction. Operational Phase: Just street lighting, which exists already	No These resources are not in short supply.
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?	Construction phase - Yes: Cement, fuels and lubricants Operational phase - No	No A well planned and implemented CEMP utilizing best practices and standard operating procedure will be put in place.

Questions to be considered	Yes/No Brief explanation	Is this likely to result in a significant effect? Yes/No/? – Why?
4. Will the Project produce solid wastes during construction or operation?	Construction phase - Yes: Rubble will be produced Operational phase - No	No It may be used to fill areas under the paving, the rest will be managed by a licensed contractor
5. Will the Project release pollutants or any hazardous, toxic or noxious substances to air?	Construction phase - Yes: Exhaust fumes from the machinery will be slightly elevated from normal levels Operational phase - No: As normal, will in fact increase efficiency	No Exhaust fumes from the machinery will only be slightly elevated from normal levels
6. Will the Project cause noise and vibration or release of light, heat energy or electromagnetic radiation?	Construction phase - Yes: Machinery will cause noise and vibration. Operational phase - No No change from what exists already	No Noise and vibration will not be far above existing levels, and the machinery being used will be relatively small consisting of regular sized gravel trucks and delivery trucks, 3 or 5 tonne dumper, small to medium excavator etc.
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 waters or the sea?	Construction phase - Yes: There is the risk of suspended solids (dust from rubble, mud, cement) or fuel/lubricant spills Operational phase - No The proposed works include upgrade of the existing surface water management system and surface water run-off from these area on completion of works will continue to discharge to the existing surface water drainage network serving the Dock Road, Atlas Avenue and Courtbrack Avenue.	No Although the site is near a coastal/estuarine environment, the footprint of the works discharges into the existing surface water drainage network serving the Dock Road, Atlas Avenue and Courtbrack Avenue. Additionally a CEMP utilizing best practices and standard operating procedures will be in place during the construction phase.

Questions to be considered	Yes/No Brief explanation	Is this likely to result in a significant effect? Yes/No/? – Why?
8. Will there be any risk of accidents during construction or operation of the Project which could affect human health or the environment?	<p>Construction phase - Yes: As with any construction site there are risks involved for the workers and for the environment by way of accidents</p> <p>Operational phase - No</p>	<p>No All workers are aware of the dangers of working on a building site, they are used of working on sites and have completed their SafePass. Potential for accidents are further reduced by the CEMP; this applies to the safety of both the workers and the environment. Additionally the sections of the site which are being worked on will be fenced off to the public.</p>
9. Will the Project result in social changes, for example, in demography, traditional lifestyles, employment?	<p>Yes: There will be minor social changes - all of them positive. Safer cyclist and pedestrian access could increase footfall in the area while also providing peace of mind to existing nearby residents. It could also be a boost for business owners as improved road accessibility would encourage customer visits.</p>	<p>No Only positive changes as previously outlined</p>
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?	<p>No There are no consequential developments anticipated from this project. There are no anticipated cumulative impacts with planned activities in the locality. There are no cumulative impacts with existing activities in the locality</p>	<p>No No significant impact in this regard</p>

Questions to be considered	Yes/No Brief explanation	Is this likely to result in a significant effect? Yes/No/? – Why?
<p>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?</p>	<p>Yes There are two Natura 2000 sites close to the works area. These are River Shannon and River Fergus Estuaries SPA 004077 and Lower River Shannon SAC 002165. The boundary of these Natura 2000 sites is approximately 179 m north of the proposed works at the closest point.</p>	<p>No An Appropriate Assessment Screening has been carried out which addresses this issue. It found: “There is no risk of any effects on either the Lower River Shannon SAC 002165 and River Shannon and River Fergus Estuaries SPA 004077 as a result of the proposed works due to the small scale and nature of the works ... and the lack of any ecological or landscape connectivity.”</p>
<p>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?</p>	<p>No All important or sensitive habitats which could potentially be impacted by the project have been dealt with as part of the AA Screening</p>	
<p>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?</p>	<p>Yes The Shannon estuary and the River Fergus Estuary are two of the most important wintering grounds for birds in the country, they also host a variety of mammals, fish and plants within diverse habitats and trophic structures. The Lower River Shannon contains many Annexed habitats.</p>	<p>No As can be seen in the AA screening, the proposal does not have the capacity to cause significant impacts on the estuaries or Lower Shannon River.</p>

Questions to be considered	Yes/No Brief explanation	Is this likely to result in a significant effect? Yes/No/? – Why?
14. Are there any inland, coastal, marine or underground waters on or around the location which could be affected by the project?	Yes, The River Shannon and River Fergus Estuaries as well as the Lower River Shannon. Underground waters are sealed from effects by the existing hard surface.	No As can be seen in the AA screening, the proposal does not have the capacity to cause significant impacts on the estuary.
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. The area is quite industrial, and the junction itself would benefit greatly from a revamp.	
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 There are a number of facilities around the location used by the public. These include a student accommodation complex, a number of schools and third level institutes, a hotel as well as a sports grounds and the Limerick Greyhound Racing Stadium. Furthermore there a number of retail units and fast food restaurants.	No The proposal is designed to enhance the area by making it safer and more accessible for motorists and pedestrians alike.
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 A large volume of road users travel along this route and through this junction throughout the day	No The project will make the transport routes in the area more effective and safer for users. This will be achieved through added cycle lanes, widened footpaths and more efficient signaling. The proposed project will also remedy congestion issues at the junction that commonly sees traffic backed up from Atlas Avenue to Courtbrack Avenue.

Questions to be considered	Yes/No Brief explanation	Is this likely to result in a significant effect? Yes/No/? – Why?
18. Is the project in a location where it is likely to be highly visible to many people?	Yes A large volume of road users travel along this route and through this junction throughout the day	No The proposed development will be at-grade, meaning that the finished level will be at or close to existing ground level and there will be no significant embankments or cuttings such as would lead to significant visual Impact. The proposed development is not expected to have a significant visual impact.
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 There are no previously identified monuments located within, or in the immediate area of the subject development lands	No
20. Is the project located in a previously undeveloped area where there will be loss of greenfield land?	No All the land involved in the proposal has been previously sealed with concrete and tarmac, and will be utilised as before	No
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 There are a number of land uses around the location. These include a student accommodation complex, a number of schools and third level institutes, a hotel as well as a sports grounds and the Limerick Greyhound Racing Stadium. Furthermore there a number of retail units and fast food restaurants.	No All aforementioned land uses aim to benefit from the proposed works due to increased safety of junction for all road users as well as increased accessibility for cyclists and pedestrians.

Questions to be considered	Yes/No Brief explanation	Is this likely to result in a significant effect? Yes/No/? – Why?
22. Are there any plans for future land uses on or around the location which could be affected by the project?	Not at the time of this proposal	No The project aims to have a minimum effect on surrounding areas and it seems the works will potentially increase attractability of the area. Furthermore all development will be compatible with future development objectives.
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 There is a student accommodation complex, a number of schools and third level institutes, a hotel and some residential premises.	No The proposal is designed and intended to enhance the local land use and to positively impact the lives of locals
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 There are a number of primary, secondary schools and third level institutes all within 1 kilometer of the proposed project. There are also a number of churches.	No The proposal is designed and intended to enhance the local land use and to positively impact the lives of locals
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

Questions to be considered	Yes/No Brief explanation	Is this likely to result in a significant effect? Yes/No/? – Why?
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?	James McMahon Ltd is operating within the terms of an IPC licence (number P0329-01) Atlas Aluminium Ltd had an IPC licence (number P0436-01) which is no longer operative. The status is “Activity Stopped and/or Under Threshold” Source: EPA Website	No No additional pollution is envisaged from the proposed project, the increased traffic efficiency will reduce emissions in the area
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?	No The proposed development was the subject of a flood risk assessment in accordance with the Flood Risk Management Guidelines (FRMG) published by OPW.	No The proposed development will be at-grade, meaning that the finished level will be at or close to existing ground level. Therefore, the development will not displace coastal or fluvial floodplain storage such as would lead to an increase in flood risk elsewhere. The proposed development comprises the upgrade of existing urban junctions and so does not increase impermeable area. Therefore there will be no increase in surface water run-off such as would increase flood risk elsewhere. Existing flow patterns will not be affected. The proposed development is at-grade and so there will be no impact on flood risk from groundwater.

5. Annex III Screening Selection Criteria

Article 4(3) of Directive 97/11/EC requires that Competent Authorities must take into account the selection criteria set out in Annex III of the Directive when making screening decisions on a case-by-case basis and when setting thresholds and criteria for projects requiring EIA. The criteria are set out under three headings as follows:

1. Characteristics of Projects

The characteristics of projects must be considered having regard, in particular, to:

- the size of the project,
- the cumulation with other projects,
- the use of natural resources,
- the production of waste,
- pollution and nuisances,
- the risk of accidents, having regard in particular to substances or technologies used.

2. Location of Projects

The environmental sensitivity of geographical areas likely to be affected by projects must be considered, having regard, in particular, to:

- the existing land use,
- the relative abundance, quality and regenerative capacity of natural resources in the area,
- the absorption capacity of the natural environment, paying particular attention to the following areas:
 - wetlands;
 - coastal zones;
 - mountain and forest areas;
 - nature reserves and parks;
 - areas classified or protected under Member States' legislation;
 - special protection areas designated by Member States pursuant to Directive 79/409/EEC and 92/43/EEC;
 - areas in which the environmental quality standards laid down in Community legislation have already been exceeded;
 - densely populated areas;
 - landscapes of historical, cultural or archaeological significance.

3. Characteristics of the Potential Impact

The potential significant effects of projects must be considered in relation to criteria set out under 1 and 2 above, and having regard in particular to:

- the extent of the impact (geographical area and size of the affected population),
- the transfrontier nature of the impact,
- the magnitude and complexity of the impact,
- the probability of the impact,
- the duration, frequency and reversibility of the impact.

5.1. Characteristics of Project

5.1.1. The size of the project

The proposed development is over a small area and is centred at approximately Irish Transverse Grid (ITM) coordinates 556127, 656259 approximately 179 m south of the River Shannon in Limerick City. Development of cycle ways in the proposal are to be built upon existing man-made surfaces of concrete and tarmac with the expansion of footpaths and carriageways using similar materials.

The boundary wall between Dock Road and 'The Orchards' residential estate will be removed and replaced with a similar wall at the outside edge of the proposed foot-way. Existing trees will be removed / cut-back as required for the construction of the foot-way and replacement wall. A line of trees will be planted on the south side of the replacement wall to compensate.

5.1.2. The cumulation with other projects

Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location. Cumulative effects can occur where a proposed development results in individually insignificant impacts that, when considered in combination with impacts of other proposed or permitted plans and projects, can result in significant effects (CIEEM, 2018). This project is intended to streamline traffic issues, and increase safety for road users, and as such will have the overall effect of relieving some of the cumulative issues usually associated with urban development.

5.1.3. The use of natural resources

The major use of natural resources associated with the proposal is in the form of construction material. Stone/brick, gravel, tar, cement and water will constitute the main components of what will be used for the build. Fuel and lubricants will be used in the machinery. During the operational phase, the project will only be using lighting, which exists already in the area. None of these natural resources are in short supply and the amounts to be used in the proposal are small.

5.1.4. The production of waste

Waste production from the proposal will be limited to the construction phase. It will consist mainly of rubble and spoil from excavation and protective wrapping and packaging from elements such as lighting, signage, other deliveries, workers lunches etc. The production of waste is not likely to cause significant impacts.

5.1.5. Pollution and nuisances

In a project such as this there is the capacity for pollution, mainly through fuel or other on-site chemical being spilled either in-situ or becoming incident on a water body. There is also the capacity for suspended solids to become incident on a water body. The proposed works include upgrade of the existing surface water management system and surface water run-off from these area on completion of works will continue to discharge to the existing surface water drainage network serving the Dock Road, Atlas Avenue and Courtbrack Avenue. Measures to mitigate possible short term impact during the construction stage will be incorporated into the Environmental Operating Plan/Construction and Environmental Management Plan (EOP/CEMP). The work on the Dock Road will be carried out in a manner that ensures as little disruption to daily commuters as possible with the work complement in sections; this means the potential for pollution will be smaller as the amount of machinery and exposed land will be smaller.

There is a certain nuisance to business and daily life while works are going on, however this is a well intended proposal with improved road user safety as its main objective therefore is well supported and the nuisance short lived, therefore nuisance is not a significant issue.

There will be no additional pollution or nuisance generated during the operational phase.

In all, the potential for significant impacts arising from pollution and nuisance is low.

5.1.6. The risk of accidents

Risks of accidents from the operational phase of the works will be the same as any other groundwork/landscaping site. All workers are aware of the dangers of working on a building site, they are used of working on sites and have completed their SafePass. Potential for accidents are further reduced by the CEMP; this applies to the safety of both the workers and the environment. Additionally the sections of the site which are being worked on will be fenced off to the public.

Increased risk of accidents from the operational phase are not envisaged; to the contrary, the efficiency of the junction will be improved, possibly decreasing the risk of an accident. Also a more defined pedestrian area than what currently exists will be developed as well as adequate cycle lanes for cyclists hopefully increasing the safety of the area for all road users.

5.2. Location of Project

5.2.1. The existing land use

The existing land use of the proposal serves as two junctions allowing access to Atlas Avenue and Courtbrack Avenue as well as three accesses from the Dock Road to private sites between the aforementioned junctions. Two are to the same site, currently unused, which is classified for Light Industrial Use in the City Development Plan 2018; the third is to an adjoining site which contains an electrical retail unit.

Parking bays are situated on the Dock Road on the Atlas Avenue side however they are rarely utilized by road users and will be removed to allow for the widening of carriageways and foot-ways.

There are no indications that the current proposal will cause significant impacts to the existing land use but rather increase its accessibility and possibly deliver economic benefits through reduced accident costs that will result from a safer junction arrangement and pedestrian facilities.

5.2.2. The relative abundance, quality and regenerative capacity of natural resources in the area

The Shannon estuary is an important resource as an ecosystem, in terms of tourism, as a shipping route and as a potential source of renewable energy by way of harnessing tidal currents. Ecologically, the Shannon estuary is one of the most important wintering grounds for birds in the country, it also hosts a variety of mammals, fish and plants within diverse habitats and trophic structures. In terms for tourism, it makes up part of the wild atlantic way which itself is worth an estimated 2 billion euros per year to the Irish economy (Failte Ireland 2015). In terms of shipping, the area of the estuary which is navigable is over 500km² (SIFP Shannon Estuary). There is a large tidal range (5.4m) within the estuary causing strong currents which holds massive potential for renewable energy. This also causes a great degree of turbulence and suspended solids within the estuary, which means that life within this turbulent environment has a certain resilience and regenerative capacity. Given the scale difference between the proposal and the estuary, and taking into account the measures of the CEMP, it is not envisaged that the project will have an impact on the natural resources of the estuary.

Along with the River Fergus Estuary these are *“the most important coastal wetland site in the country and regularly supports in excess of 50,000 wintering waterfowl. It has internationally important populations of Calidris alpina, Limosa and Tringa totanus. A further 16 species have populations of national importance. The site is particularly significant for Calidris alpina (11% of national total), Pluvialis squatarola (7.5% of total), Vanellus vanellus (6.5% of total), Tringa totanus (6.1% of total) and Tadorna tadorna (6.0% of total). It has Cygnus cygnus, Pluvialis apricaria and Limosa lapponica in*

significant numbers. The site provides both feeding and roosting areas for the wintering birds and habitat quality for most of the estuarine habitats is good.”

*With regard to the Lower River Shannon SAC “the site contains many Annexed habitats, including the most extensive area of estuarine habitat in Ireland. A good range of Annexed species are also present, including the only known resident population of *Tursiops truncatus* in Ireland, all three Irish species of lamprey, and a good population of *Salmo salar*. A number of birds listed on the EU Birds Directive either winter or breed in the site. The site is internationally important for waterfowl with more than 50,000 individuals occurring in winter. Several species listed in the Irish Red Data Book are present, perhaps most notably the only known Irish populations of *Scirpus triqueter*.”*

As can be seen in the Appropriate Assessment Screening, it is not envisioned that the proposal will have an impact on the natural resources of the aforementioned protected sites

5.2.3. The absorption capacity of the natural environment

In terms of surface water, the absorption capacity of the proposed site is no different from that of the existing situation - essentially a hardstand surface.

5.3. Characteristics of the Potential Impact

In general, all potential impacts relate to the construction stage (during which a strict CEMP will be employed), potential impacts relating to the operational stage are generally positive. The Part 8 report includes the following commitments:

The proposed development will be constructed in accordance with a Construction Environmental Operating Plan complying with 'Guidelines for the Creation and Maintenance of an Environmental Operating Plan' (TII) and 'The Management of Waste from National Road Construction Projects' (TII)

5.3.1. Human Beings	
The extent of the impact (geographical area and size of the affected population)	Commuters using the Dock Road segment of the N69 travelling in or out of Limerick City will be impacted during the construction phase as well as commuters using the Atlas Avenue/Courtbrack Avenue Junctions.
The magnitude and complexity of the impact	The impact will consist of minor traffic nuisance, and potentially airborne dust from the building site. However in magnitude the impact is small with the outcome of the works providing a safer commuting experience for all road users.
The probability of the impact	Almost certain
The duration, frequency and reversibility of the impact	As long as the works will go on (estimated 1 month)
Requirement for EIA	No

5.3.2. Biodiversity and Water	
The extent of the impact (geographical area and size of the affected population)	The Shannon and River Fergus Estuaries are two of the most important wintering grounds for birds in the country, they also host a variety of mammals, fish and plants within diverse habitats and trophic structures. This is the most important coastal wetland site in the country and regularly supports in excess of 50,000 wintering waterfowl. It has internationally

	<p>important populations of <i>Calidris alpina</i>, <i>Limosa</i> and <i>Tringa totanus</i>. A further 16 species have populations of national importance.</p> <p>The Lower River Shannon SAC is large, long site approximately 14 km wide and 120 km long. The site contains many Annexed habitats, including the most extensive area of estuarine habitat in Ireland. A number of birds listed on the EU Birds Directive either winter or breed in the site. The site is internationally important for waterfowl with more than 50,000 individuals occurring in winter.</p> <p>There is a large tidal range (5.4m) within the estuary causing strong currents. This also causes a great degree of turbulence and suspended solids within the estuary, which means that life within this turbulent environment has a certain resilience and regenerative capacity. The area of the estuary is over 500km²; as such the absorption capacity of this environment is huge.</p>
<p>The magnitude and complexity of the impact</p>	<p>Surface water run-off from the proposed development will discharge to the existing surface water drainage network serving the existing junctions. Additionally, Class 1 discharge bypass separators will be installed on the existing network to provide first flush treatment to surface water run-off.</p> <p>The proposed development is therefore expected to have a slight beneficial impact on surface waters during its operational stage.</p> <p>Measures to mitigate possible short term impact during the construction stage will be incorporated into the Environmental Operating Plan/ Construction and Environmental Management Plan (EOP/CEMP).</p>
<p>The probability of the impact</p>	<p>Very low considering the implementation of a EOP/CEMP.</p>
<p>The duration, frequency and reversibility of the impact</p>	<p>The duration of any construction phase impact would probably be one quarter tidal cycle (ie a high tide to low tide or vice versa - strong currents and dilution rates would disperse the levels of pollution that</p>

	the proposal is capable of generating. The frequency of impact is most likely that it will not happen due to the CEMP
Requirement for EIA	No

5.3.3. Land, Soil, Air and Climate	
The extent of the impact (geographical area and size of the affected population)	Land use is essentially remaining as is within the footprint of the proposal. There may be a minor impact on air quality during the construction phase in the form of dust, however this will be limited. Climate - no
The magnitude and complexity of the impact	In terms of air quality, there may be some masonry-type dust generated during the course of the construction phase, along with potential minor increases in exhaust fumes from the building machinery and the traffic management plan. The magnitude of these impacts is very small. The proposed development will improve facilities for sustainable modes of transport and will increase the efficiency of the two junctions for vehicles. The proposed development is therefore expected to have a slight beneficial impact on air quality and climate during its operational stage. Measures to mitigate possible short term impact during the construction stage will be incorporated into the Environmental Operating Plan for the construction stage.
The probability of the impact	Dependant on parameters such as traffic levels and precipitation (dust)
The duration, frequency and reversibility of the impact	As long as the works will go on (estimated 1 month)
Requirement for EIA	No

5.3.4. Material Assets, Heritage and the Landscape

The extent of the impact (geographical area and size of the affected population)	There are no significant negative impacts to material assets or heritage There may be a slight impact to landscape during the construction phase. All impacts relative to these parameters are positive during the operational phase.
The magnitude and complexity of the impact	The area may, to some, look unsightly during the construction phase
The probability of the impact	Subjective
The duration, frequency and reversibility of the impact	As long as the works will go on (estimated 1 month)
Requirement for EIA	No

6. Conclusion

Having considered the proposal in line with the guidance referenced in the bibliography, there is no requirement for EIA. Having regard to the characteristics of the proposal, the location of the proposed works, and the scale of the proposed development, significant impacts on the environment are not anticipated. In general, all potential impacts, which are minor within the context of the area, relate to the construction stage (during which an EOP/ CEMP will be employed) Potential impacts relating to the operational stage are positive. The Part 8 report includes the following commitments:

The proposed development will be constructed in accordance with a Construction Environmental Operating Plan complying with 'Guidelines for the Creation and Maintenance of an Environmental Operating Plan' (TII) and 'The Management of Waste from National Road Construction Projects' (TII).

An Appropriate Assessment Screening report prepared in line with Article 6 of the Habitats Directive concluded there would be no significant impacts on any Natura 2000 sites.

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