



Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

Environmental Health Service
Local Health Office
Cork Road
Waterford

051 842955

Environmental Health Service Consultation Report

(as a Statutory Consultee under the Planning and Development Acts 2000 (as amended) & Regulations made thereunder)

Report to: An Bord Pleanála (the Board) under 177AE of the Planning and Development Act 2000 (as amended) 64 Marlborough St Dublin DO1 V902

Date: 19/01/2023

Type of consultation: EIAR

Planning Authority: An Bord Pleanála

Reference Number: KK/16/13403

EHIS Reference number: 2848

Applicant: Kilkenny County council

Location of development: N24 Carrick Road Improvement Scheme located near Mooncoin, Co. Kilkenny

AN BORD PLEANÁLA	
LDG-	<u>060733-23</u>
ABP-	<u>315197-22</u>
20 JAN 2023	
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Time: _____	By: <u>reg post</u>

Details of the application were circulated to HSE stakeholders on the 22/11/2022.

- Emergency Planning – David O’Sullivan
- Estates – Helen Maher/Stephen Murphy
- Director of National Health Protection – Eamonn O’Moore
- CHO – Kate Killeen White

This report only comments on Environmental Health impacts of the proposed development. We have made observations on the following specific areas:

Description of the Project:

The N24 is a National Primary Route located in County Waterford, County Kilkenny, County Tipperary and County Limerick, with an overall total length of approximately 116km. The proposed N24 Carrick Road Improvement Scheme located near Mooncoin, Co. Kilkenny is approximately 2.2km in length. The scheme involves both offline and online works, approximately 950m of the road scheme will run along the existing N24 and the remaining 1.25km of the scheme requires realignment. The scheme is surrounded predominantly by agricultural land.

Background, Project History & Context

In 2002, Kilkenny County Council completed a 9.3 kilometre improvement of the N24 between The Three Bridges (South Tipperary / Kilkenny County Boundary) and Clonmore Cross, immediately west of the N24 Carrick Road Improvement project extents. This wide single carriageway improvement bypassed the villages of Piltown and Fiddown. In 2006, a two plus one carriageway retrofit (Type 3 Dual Carriageway) was carried out along the full extent of the by-pass, as a pilot project trialling this type of cross-section. The N24 Carrick Road Improvement Scheme will interface with the by-pass and two plus one carriageway

Consideration of Alternatives:

Principle: The principle of the project is considered satisfactory.

Description: The description of the project is considered to be satisfactory.

Public Consultation:

As part of the N24 Carrick Road Improvement Scheme, a series of public information events took place to provide information on the scheme proposals. Public consultation was undertaken at two stages during the route selection process. Initially during November and December 2018, a public consultation was undertaken of the Route Corridor Options. A further public consultation was undertaken on the Preferred Route Corridor in July and August 2019.

Construction

The construction phase of the development creates the potential for temporary emissions which may have a negative impact on the environment and on the health of local residents.

The applicant should assess the impacts of construction works having particular regard to:

- Waste Management,
- Pest Control Management,
- Dust Impacts,
- Excessive Noise
- Emissions to Surface/Groundwater

All sensitive receptors in the vicinity of construction works should be identified and measures implemented to ensure they are protected.

Geology/hydrogeology

The national vulnerability mapping indicates that majority of the scheme area is classified as of 'low vulnerability', depicted in Figure 3-4. A part of the existing N24 in the north-western part of the site falls under 'moderate vulnerability'. The GSI states that "Vulnerability is a term used to represent the intrinsic geological and hydrogeological characteristics that determine the ease with which groundwater may be contaminated by human activities".

Areas of high to extreme vulnerability are identified northwest of Mooncoin and along the N24 route south of Turkstown possibly associated with shallow depth to bedrock. There are no designated Source Protection Areas (SPAs) within the general vicinity of the scheme. The nearest SPA is Piltown-Fiddown public water supply located approximately 7.5km to the northeast of the scheme.

A flood risk assessment for the proposed N24 Carrick Road Improvement Scheme, Co. Kilkenny has been undertaken in accordance with the methodology recommended in the FRM Guidelines. The following is the summary of the flood risk assessment:

- The River Suir flows in a south easterly direction and is located southwest of the proposed scheme. Historical flood data gathered from www.floodmaps.ie has indicated that the river flooded historically on-site and there is a history of flooding downstream of the site. Historic flooding along the N24 resulted from periods of heavy rainfall in low lying land with poor soakage. Detailed drainage design of the proposed scheme will alleviate any potential pluvial flooding risks at this location.
- The CFRAMS Maps indicate that the site is outside the extents of fluvial and coastal flooding. All infrastructure will be constructed where there is no risk of flooding. Therefore, the site lies within Flood Zone C.
- The type of development is defined as 'Less Vulnerable Development'. Using the sequential approach mechanism, it is assessed that a justification test is not required for the proposed development.

If groundwater is encountered during excavations, then mechanical pumps will be required to remove the groundwater from sumps. Sumps shall be carefully located and constructed to ensure that groundwater is efficiently removed from excavations and trenches.

There will be no impact to regional groundwater resources in the vicinity of the proposed scheme. Accordingly, subject to the implementation of mitigation measures as set out in Section 11.4, the proposed scheme will not result in significant adverse effects on surface water or groundwater quality, river flow rates or regional groundwater resources to their receiving environment, during the construction phase.

Climate

The construction phase of the proposed scheme will result in GHG emissions from various sources. TII carbon tool (v2, 2020) was used to account for the embodied carbon associated with the proposed scheme. The proposed road development will result in total construction phase emissions of 116.1 tonnes CO₂e over the 15-month construction period. This amounts to 0.0002% of Ireland's national GHG emissions in 2020 or 0.0003% of Ireland's 2030 target. Embodied CO₂ emissions are predicted to be significantly below Ireland's EU 2030 target. The predicted impact to climate during the construction phase is short-term, negative but overall, not significant.

The applicant should assess the vulnerability of the proposed development against the predicted impacts of a warming climate. The applicant should outline proactive adaptation measures to ensure the long term resilience of the proposed infrastructure to the impacts climate change.

Health

Directive 2014/52/EU has an increased requirement to assess potential significant impacts on Population and Human Health. In the experience of the EHS impacts on human health are generally inadequately assessed in EIA in Ireland. It is recommended that the wider determinants of health and wellbeing are considered. Guidance on determinants of health can be found at www.publichealth.ie

The proposed development should be explored for any opportunity to promote physical activity and any potential for health gain should be exploited. Green recreational space is proven to have positive impacts on health, both physical and mental.¹ The recent global pandemic has highlighted the importance of access to open green space for recreational purposes for the public. The provision of quality, usable, urban green space is of paramount importance for wellbeing. It is recommended that green planting is integrated at all opportunities throughout the public realm works to improve the quality of the built environment.

Biodiversity

The applicant should include measures for the ecological enhancement of the area have been incorporated into the design of the proposed all planting along the proposed development should use greenery that is appropriate to the local climatic conditions and that supports native flora and fauna. A pollinator plan should be implemented for the proposed road.

¹ Urban Green Space Interventions and Health – a review of impacts and effectiveness, WHO,2017

https://www.euro.who.int/_data/assets/pdf_file/0010/337690/FULL-REPORT-for-LLP.pdf

The new public realm should be required to incorporate green infrastructure, planting and landscaping into its design, not only to make it more attractive for users but to enhance the ecological value of the amenity and to increase the retention of surface water and improve flood mitigation.

Active Travel

It is national transport policy to seek a reduction in the growth of car travel and to increase the use of public transport, cycling and walking². Only 1 out of every 3 people in Ireland is active on a regular basis. Most people aged over 65 in Ireland are inactive. 4 out of 5 children in Ireland are still not getting enough exercise³. This inactivity creates serious risks to health and wellbeing.

It is imperative that safe and segregated facilities which promote walking and cycling are implemented in conjunction with the proposed Road. Safe access and connectivity to any pedestrian or cycle facilities located alongside the proposed development should be facilitated at every opportunity where possible within the landscape.

Sustainable Transport

Current transport trends in Ireland are unsustainable. Growth in car based travel is placing an increasing burden on society in the form of greenhouse gas emissions, energy consumption, traffic congestion, air pollution and long commuting times leading to increased sedentary behaviour. A key aim of the Government Strategy 'Smarter Travel – A Sustainable Future' is that *"Car drivers will be accommodated on other transport modes such as walking, cycling, public transport and car sharing"*.

The applicant should investigate and implement initiatives that promote and facilitate a model shift towards more sustainable forms of transport. The provision and location of park and ride facilities, bus stops, the integration of the rural transport scheme and the provision of segregated cycle and pedestrian routes which facilitate active transport should all be considered and assessed.

Air

The health impacts of exposure to emissions from traffic are well publicised and understood. <https://www.who.int/sustainable-development/transport/health-risks/air-pollution/en/>. Impacts to air quality and climate can occur during both the construction and operational phases of the proposed scheme. With regard to the construction stage the greatest potential for air quality impacts is from fugitive dust emissions impacting nearby sensitive receptors. Impacts to climate can occur as a result of vehicle and machinery emissions as well as embodied carbon in construction materials. In terms of the operational stage, air quality and climate impacts will predominantly occur as a result of the change in traffic flows or speeds along the proposed scheme. The local air quality modelling assessment concluded that levels of traffic-derived air pollutants resulting from the scheme will not exceed the ambient air quality standards either with or without the proposed

² <https://www.gov.ie/en/publication/8c8525-smarter-travel-a-sustainable-transport-future/>

³ <https://www2.hse.ie/wellbeing/why-being-active-helps-your-health.html>

scheme in place. Using the assessment criteria outlined in Transport Infrastructure Ireland's guidance document 'Guidelines for the Treatment of Air Quality during the Planning and Construction of National Road Schemes' (2011) the impact of the development in terms of NO₂ is long-term and imperceptible. A positive impact is predicted at the majority of receptors assessed as the proposed alignment is located further from the receptors compared with the existing alignment. However, any impacts are overall imperceptible due to the minor changes in pollutant concentrations.

The greatest potential impact on air quality during the construction phase of the proposed development is from construction dust emissions and the potential for nuisance dust and PM₁₀/PM_{2.5} emissions. Due to the size and nature of the scheme it can be categorised as minor, indicating that there are potential dust soiling effects within 25 m of the works areas (Table 8). While construction dust tends to be deposited within 350 m of a construction site, the majority of the deposition occurs within the first 50 m. There are a small number of sensitive receptors, predominantly residential properties in close proximity to the proposed scheme. In order to minimise dust emissions during construction, a series of mitigation measures have been prepared (see Section 6.1).

In order to minimise dust emissions during construction, a series of mitigation measures have been prepared. These follow recommendations and guidance contained in the Institute of Air Quality Management document 'Guidance on the Assessment of Dust from Demolition and Construction' (IAQM, 2014).

Vehicles delivering material with dust potential (soil, aggregates) shall be enclosed or covered with tarpaulin at all times to restrict the escape of dust.

Examples of routine operational measures are as follows to minimise nuisance:

- Minimise drop heights when handling dry or fine materials during windy weather materials.
- Minimise drop heights when handling wet material during low wind speeds, protection from wind where possible.
- Use of water sprays / tractor & bowser to moisten surfaces during dry weather.
- Minimise distances of onsite haul routes where possible.
- Restrict vehicle speeds through signage / staff training.
- Locate of haul routes away from sensitive receptors.
- Material stockpiling provided with adequate protection from the wind.
- Use of road sweeper to reduce the amount of available material for resuspension.

Noise

Noise levels associated with construction may be calculated in accordance with methodology set out in BS5228 2009 + A1 2014: Part 1. This standard sets out sound power levels for plant items normally encountered on construction sites, which in turn enables the prediction of noise levels at selected locations. It is often not possible, however, to conduct detailed prediction calculations for the construction phase of a project. This is due to the fact that the programme for construction works has not been established in detail. Under such circumstances, best practice involves the consideration of appropriate mitigation measures to ensure construction activities do not exceed the recommended noise criteria as set out in Table 3 in Section 3.2. Normal working times will be 07:00 to 19:00hrs Monday to Friday and 08:00 to 13:00hrs on 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.

A baseline noise survey was undertaken to measure existing traffic noise levels at the closest properties within the study area. The results of the baseline survey confirm that properties along the existing road network experience traffic noise levels above 60 dB Lden. Calculated Lden values at the attended survey locations ranged from 76 to 79 dB Lden. The measured Lden value at the unattended survey location was 67 dB Lden. Traffic noise from the existing N24 was the primary noise contributor. Road traffic noise levels were predicted at 25 properties within the study area using the projected traffic flows for the two assessment years. It was determined that mitigation is required to reduce traffic noise levels at one location, R018b. Noise mitigation in the form of a noise barrier along the road edge closest to this property has been proposed and modelled to reduce traffic noise levels to below the TII design goal of 60 dB Lden. With the proposed mitigation in place, it may be concluded that the project complies with the appropriate guidance in relation to noise, hence the associated impact is considered acceptable. The assessment has determined that, once operational, the noise impact associated with the new road alignment will result in a negligible to moderate negative impact during the long term period at some assessment locations. A number of locations experience a major positive noise impact as the proposed road scheme is at a greater distance than the existing road.

The World Health Organisation (WHO) has identified Environmental Noise as an increasing cause of ill health and detrimental effect on health and wellbeing⁴.

Kilkenny County Council should predict the impact of traffic noise from the proposed development and carry out an evaluation of the significance of this impact in line with the health based guidelines as outlined by the WHO.⁵

⁴ http://www.euro.who.int/data/assets/pdf_file/0008/136466/e94888.pdf

⁵ Current available evidence on the health effects from noise are outlined in 'Environmental Noise Guidelines for the European Union', published in 2018. http://www.euro.who.int/data/assets/pdf_file/0008/383921/noise-guidelines-eng.pdf?ua=1

With regard to road traffic noise the following was recommended by the Guideline Development Group (GDG):

“For average noise exposure, the GDG strongly recommends reducing noise levels produced by road traffic below 53 decibels (dB) Lden, as road traffic noise above this level is associated with adverse health effects.

For night noise exposure, the GDG strongly recommends reducing noise levels produced by road traffic during night time below 45 dB Lnight, as night-time road traffic noise above this level is associated with adverse effects on sleep.”

Cumulative impacts

Historical land-use beneath the proposed scheme is largely agricultural in nature and more recently includes the existing N24 road. The Ormonde Organics Limited (Portlaw), an EPA Industrial Emissions licensing (IEL) facility (Licence number W0287-01), and Messrs Pat Moloughney And Philip De Vere Hunt, an EPA licensed Integrated Pollution Control (IPC) facility (Licence number P0234-01 Licence Type Surrendered), are located approximately 1.5km northwest of the proposed scheme. There is also a Section 4 Discharges licensed facility approximately 4.5km northwest of the scheme. No other land uses associated with historic or recent potential sources of contamination, including waste facilities, or historic mines, are identified along the proposed scheme or its immediate vicinity.

The Environmental Health Service recommends that these measures above are included as conditions of planning permission (if granted); are implemented in full and are monitored to ensure the effectiveness of the mitigation. This is for the protection of public health.



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Environment/Climate Change, Network Support Unit (NSU)

*** All correspondence or any queries with regard to this report including acknowledgement of this report should be forwarded to Siobhan Murphy, Principal Environmental Health Officer, Environmental Health Service ,Local Health Office, Cork Road, Waterford, X91 VX09**