

15 INTERACTIONS, CUMULATIVE AND COMBINED EFFECTS

15.1 INTRODUCTION

This chapter of the Environmental Impact Assessment Report (EIAR) has been prepared by WSP Ireland Consulting Ltd (WSP) for the Shillelagh Quarries Limited (SQL) Section 37L planning application to An Bord Pleanála (ABP). The Section 37L application has been made for the quarrying activities (the Proposed Development) located in the townland of Hempstown Commons, Co. Kildare, (the Site), and is located within the administrative boundary of Kildare County Council (KCC).

This chapter of the EIAR describes interactions/inter-relationships between environmental effects in the area surrounding the Proposed Development, and also an overview of potential impacts of the Proposed Development in combination with other appropriate committed development in the region of the Site. Potential cumulative effects have also been considered in the respective discipline chapters of this EIAR.

15.2 TECHNICAL SCOPE

The EIA Directive (Directive 2011/92/EU, as amended by Directive 2014/52/EU, together the 'EIA Directive') requires that an environmental impact assessment identifies, describes and assesses in an appropriate manner the significant effects of a project and the significant interaction and in-combination effects of the project. This requires the careful consideration of environmental factors and pathways (direct and indirect) that can magnify effects through the interaction or accumulation of effects.

Environmental factors are inter-related to some degree, and these interactions can exist on many levels. This chapter summarises the primary interactions between the environmental topics and provides a matrix to coherently display them.

The overall objective of the assessment in this chapter is to identify whether mitigation measures are required that would not otherwise have been identified in the individual study areas for these interacting effects.

The overall EIAR Project Team contributed to the compilation of this chapter.

15.3 GEOGRAPHICAL AND TEMPORAL SCOPE

The assessment directly covers the physical extent of the EIA site boundary for the Site as shown in Figure 15-1. In the context of the EIAR, the Site boundary contains lands which form the existing quarry site, the lateral extension areas, and some areas which extend beyond the working areas, including the plant and processing area to the east of the main pit. The Section 37L (the Planning Application) boundary is shown on the drawing set which accompanies the planning application.

The temporal scope of this assessment covers the current quarrying activities on the Site and the extension of these permitted activities into the future, within the Section 37L application boundary. Given the phased nature of the extractive industry and the similarities between the construction and operational phases of the Proposed Development, these will be considered together in this chapter as the overall operational phase.

Under the current programme of the Proposed Development, the extraction phase will last for 12 years, which will provide for fluctuations in market demands for the aggregate extracted from the Site. The duration of the extraction phase is therefore classified as 'medium-term' by the EPA's 2022 'Guidelines on the information to be contained in environmental impact assessment reports'.

The restoration phase of the Proposed Development will follow the extraction phase and will be 2 years in duration, which is 'short-term' - those lasting from one to seven years (EPA, 2022).



Figure 15-1 - EIA Boundary shown on October 2024 aerial.

15.4 DEVELOPMENT DESCRIPTION

A full description of the proposed development is provided in Chapter 2 (Project Description) of this EIAR. A high-level summary of the proposed development is provided below.

The proposed development for further extraction of rock is to be within the existing void area with lateral extension of the void proposed in a north-easterly direction. The estimated total quantity of aggregate resource to be extracted in the life-of-quarry is c. 1,757,500 tonnes. A proposed 12 year life-of-quarry requirement is based on an average production rate of ca. 2,929 tonnes per week for rock. Dry processing of mechanically broken and blast rock onsite will comprise crushing and screening to produce aggregate materials for market.

SQL proposed to relocate the existing office container, wheel wash and water recycling tank, weighbridge to fully within the Application Site to provide space for realignment of the private access lane on SQL lands and to develop dedicated carparking facilities for the quarry operation on SQL owned lands.

The proposed car parking facilities will provide parking for HGVs and private vehicles, including guest parking.

SQL propose to decommission the existing abstraction borehole located off the access road to facilitate the road realignment on their own lands. SQL propose to undertake periodic extraction of groundwater from an abstraction borehole located on Stresslite Precast Ltd to provide water for SQL's closed-loop system wheelwash recycling tank and the mobile bowser.

There will be no direct discharge to surface or groundwater from the quarry operations. Collected waters from the base of the quarry void will continue to be pumped to the primary soakaway (which is connected to an overflow soakaway). It is proposed that the collect waters will pass through a bypass separator prior to discharge to the primary soakaway. It is proposed to extend the existing sump on the quarry floor to provide additional temporary holding capacity for collected waters, if required.

Following end-of-quarry life, a 2 year restoration period is proposed. This is detailed in a Restoration and Habitats Management Plan provided in appendix 2B of Chapter 2 (Project Description) of this EIAR.

15.5 METHODOLOGY

This assessment has been made with reference to the 'Guidelines on the information to be contained in environmental impact assessment reports', published by the EPA in May 2022 (EPA,2022 Guidelines). These guidelines were issued by the EPA to facilitate compliance with the EIA Directive.

The descriptive terminology used follows a 'matrix approach' to environmental assessment which is based on the characteristics of the impact (magnitude and nature) and the value (sensitivity) of the receptor. The terminology and method have been summarised in Chapter 1 (Introduction, Scope and Methodology) of this EIAR.

The methodology for assessment of cumulative and in combination effects is set out at the beginning of Section 15.7 for ease of reference to the reader.

15.6 INTERACTIONS

For the assessment of interacting effects, a matrix has been provided in Table 15-1 identifying through professional judgment the specific topics within the EIAR where the effects potentially interact/inter-relate with each other

Table 15-1 - SQL s.37L Environmental Interactions, (X = No Interaction; ✓ = Potential Interaction).

Interaction	Population & Human Health	Ecology and Biodiversity	Land, Soils & Geology	Water	Air Quality	Climate	Noise and Vibration	Cultural Heritage	Landscape & Visual	Traffic & Transport	Material Assets	Major Accidents & Disasters
Population & Human Health		X	X	✓	✓	X	✓	X	✓	✓	✓	✓
Ecology and Biodiversity.			✓	✓	✓	X	✓	X	✓	X	X	X
Land, Soils & Geology				✓	X	X	X	✓	✓	X	X	X
Water					X	X	X	X	X	X	X	X
Air Quality						X	X	✓	X	X	X	X
Climate							X	X	X	X	X	X
Noise and Vibration								X	X	X	X	X
Cultural Heritage									✓	X	X	X
Landscape & Visual										X	X	X
Traffic & Transport											X	X
Material Assets												X
Major Accidents & Disasters												

15.6.1 POPULATION AND HUMAN HEALTH

Continued quarrying activity at the Proposed Development has the potential to cause interacting effects between the surrounding population and human health had potential to interact with water, air quality, noise, Traffic and Transportation, landscape and visual, material assets, and major accidents and disasters.

Potential effects to the human environment from the continued Proposed Development activities include impacts on water which may have affect groundwater quality in local wells. Potential impacts to human health may arise from dust generating activities on the Site and increases in concentrations of airborne particles and nitrogen dioxide due to plant emissions. Impacts to human health from excess noise and vibration on site may have potential to result in direct effects to site workers and also annoyance and effects on mental health in the surrounding residential receptors.

Visual impact relates to the effect of a development on specific views and on the general visual amenity experienced by people. This deals with how the surroundings of individuals or groups of people may be specifically affected by changes in the content and character of views as a result of the change or loss of existing elements of the landscape and/or introduction of new elements. As such, visual impacts from the Proposed Development relate to the effect on views and on the general visual amenity experienced by people.

Material Assets in the vicinity of the Site comprise of built services and infrastructure including, roads and electricity infrastructure. Site activities from the continued activity at the Proposed Development have the potential to impact or cause disruption to local services or utilities.

Major accidents and disasters which have the potential to occur on site may impact employees on site and people in the site surrounds, including residential receptors.

These interactions have been considered in the relevant chapters of this EIAR: Chapter 3 Population and Human Health, Chapter 6 – Water, Chapter 7 – Air Quality, Chapter 9 – Noise and Vibration, Chapter 11 – Landscape and Visual, Chapter 12 – Traffic and Transportation, Chapter 13 – Material Assets, and Chapter 14 – Major Accidents and Disasters. Good environmental practice for site management have also been specified as appropriate in the respective chapters, where relevant.

In summary, these assessments have identified that such interacting effects with the human environment are **not significant**.

15.6.2 ECOLOGY AND BIODIVERSITY

There is potential for interacting effects between ecology and biodiversity and land, soils and geology, water, air quality, noise and vibration and landscape and visual.

Adverse impacts to the soil, water and air environment would have had the potential to deteriorate habitat quality both on and off-site.

Similar to human receptors, impacts from excess noise and vibration generated by the Proposed Development may result in stress to some species and effects on biodiversity and habitats surrounding the Site.

Elements of the Proposed Development will alter landscape features permanently. A relatively small proportion of habitat will be altered by the extension of the Proposed Development will be recolonising bare ground.

These interactions have been considered in the relevant chapters of this EIAR: Chapter 4 –Ecology and Biodiversity, Chapter 5 Land, Soils and Geology, Chapter 6 – Water, Chapter 7 – Air Quality, Chapter 9 – Noise and Vibration and Chapter 11 – Landscape and Visual.

In summary, these assessments have identified that such interacting effects with the surrounding ecology and biodiversity are **not significant**.

15.6.3 LAND, SOILS AND GEOLOGY

During the assessment period there was potential for interacting effects between soil and geology, water, cultural heritage, and landscape and visual.

Excavated materials have arisen as a result of the stripping of soils and the removal of gravel in the progression of the Development during the assessment period. The excavation of rock took place in the existing void at previously developed rock faces. Activities on the overall Site had the potential to cause changes in the underlying water environment and in the areas where soil was stripped had potential to damage undiscovered cultural heritage features.

The Site is located within a county geological site designated because of historically quarrying at the site and resultant bedrock exposures. Activities in the quarry have the potential to cause changes to exposed quarry faces, albeit changes would have been caused by continued extraction so bedrock exposure would have remained available. The proposed changes will alter the view of exposed rock faces on the section of the northeastern side of the quarry visible from the site entrance.

These interactions have been considered in the EIAR in Chapter 5 – Land, Soils and Geology, Chapter 6 – Water, Chapter 10 – Cultural Heritage, and Chapter 11 – Landscape and Visual.

In summary, these assessments have identified that the interacting effects with land, soils and geology and water and cultural heritage are **not significant**.

15.6.4 CULTURAL HERITAGE

The continued activity provides potential for interacting effects between cultural heritage and air quality, noise and vibration, and landscape and visual impact.

The proposed blasting of rock will generate vibration which has the potential to damage cultural heritage features in the surrounds of the Site. In addition, extraction activities which will generate dust could holistically affect the setting of cultural heritage assets within the wider study area. Also, alterations in the landscape and visual amenity of the wider Site may have the potential to impact the value of recorded monuments and also unrecorded features.

These interactions have been considered in Chapter 5 – Land, Soils and Geology, Chapter 7 – Air Quality, and Chapter 9 – Cultural Heritage. No potential vibration interaction with cultural heritage assets has been identified.

In summary, this assessment in the EIAR has identified the above interacting effects as not significant.

15.6.5 CONCLUSION

It has been concluded that there were no significant interactions between any of the various environmental topic areas as a result of previous operations within the Development lands, and surrounding study area.

15.7 CUMULATIVE AND COMBINED EFFECTS

This section of the EIAR describes the environmental effects of the Proposed Development in combination with other relevant committed development within 2 km of the Site during the past 5 years. Cumulative effects are defined as the addition of many non-significant or significant effects, including the effects of other projects, to create larger, more significant effects. Singular activities may have a non-significant effect in isolation, however when combined with other effects these can be collectively significant.

This assessment has been made with reference to the 'Guidelines on the information to be contained in environmental impact assessment reports' (EPA 2022).

Sources for the search of planning applications included:

- Planning Enquiry System – Kildare County Council;
- Planning Enquiry System – Wicklow County Council;
- Department of Housing, Local Government and Heritage EIA Portal;
- Kildare County Development Plan covering the period 2023-2029; and
- Wicklow County Development Plan covering the period 2022-2028.

Table 15-2 identifies the relevant schemes considered in this cumulative assessment. These schemes were selected based on their size, scale and proximity to the Proposed Development. Each development site has been considered by the EIA team's respective discipline leads and this section summarises the results of their expert opinion on the cumulative effects assessment.

Table 15-2 – Third party developments

Reference	Location	Description	Status / Decision date
22973: (Simon Phibbs)	Ca. 600 m southeast of site. Hempstown Commons, Blessington, Co. Kildare.	New detached bungalow type dwelling house, new vehicular recessed entrance off privately owned existing laneway, new on-site domestic wastewater treatment system, landscaping and all associated site development works on lands	Granted with conditions 18/11/2022

Reference	Location	Description	Status / Decision date
20145: (Thomas Phibbs)	Ca. 1 km southeast of site. Hempstown, Blessington, Co. Wicklow	Extend the appropriate period of a permission - 14/1536 - demolition of existing family home building of replacement private dwelling on footprint of existing family home with roof pitch to match that on existing dwelling together with all ancillary works	Granted without conditions 07/08/2020
22405: (Simon and Kate Dick)	Ca. 1.5 km southwest of site. Shango, Redbog, Rathmore	The removal of single storey conservatory to the rear, minor modifications to the internal layout and to the front and rear facades, construction of new single storey extensions to front and rear at ground floor level, provision of 2 No. new dormer windows to the rear at ground floor level, provision of 2 No. new dormer windows to the rear at attic level, all associated ancillary, landscaping and site development works.	Granted with conditions 26/07/22
211718: (Sarah O'Mahony)	Ca. 2 km southwest of the site. Wolfestown, Rathmore, Co. Kildare.	Alterations and extension to existing single storey dwelling. The application will include the following: Removal of existing corrugated shed building; Refurbishment of the existing single storey cottage to provide 3 No. bedrooms; Construction of a new single storey extension to provide new living room, bathroom, utility room and kitchen/dining/living space all to the rear of the existing cottage; Alterations to the	Granted with conditions 21/03/22

Reference	Location	Description	Status / Decision date
		existing vehicle entrance to provide a recessed vehicle entrance; Provision of a new wastewater treatment system, along with all associated site development and facilitating works including site landscaping	
20297 (John Trant and Elaine Doyle)	Ca. 2 km southwest of the site. Punchestown Lower, Rathmore, Naas, Co. Kildare.	Construction of a milking parlour, dairy, drafting and handling facilities, and waiting yard. Construction of an agricultural cubicle shed. Construction of silage pit. Construction of geomembrane lined slurry lagoon. Modifications of existing entrance to improve sightlines and installation of access passageway. Erection of an external milk storage tank, meal bin, water tank and all associated site works. Revised by Significant Further Information which consists of construction of a new agricultural entrance.	Granted with conditions 10/11/20
191035 (Nuala Boylan)	Ca. 1.5 km southwest of the site. Pipers Hall, Crosschapel, Co. Kildare.	Construction of a two-bedroom storey and a half dwelling, effluent treatment system, new site entrance and all associated site works.	Granted with conditions 02/04/2020
20276 (Anna Sargent and Emmet Ralph)	Ca. 2 km to the southwest of the site. Wolfestown, Rathmore, Naas, Co. Kildare.	A dormer bungalow, detached garage, recessed entrance, well, septic tank, percolation area and associated landscaping	Granted with conditions 17/09/20

Reference	Location	Description	Status / Decision date
22288 (Siobhan Eustace)	Ca. 1.7 km to the south of the site. Evergreen House, Crosschapel, Blessington, Co. Wicklow. W91 H3C2	Development of an existing 16.8 sqm single story conservatory extension to existing dwelling and an existing single storey 31.32 sqm detached garage to the rear of the existing dwelling and all associated site development works	Granted with conditions 14/06/2022
22680 (Declan Cullen)	Ca. 100 m to the north of the site. Slatequarries, Rathmore, Naas, Co. Kildare.	To construct a single storey bungalow type dwelling which will incorporate a family flat to be occupied by a man, who requires supervised independent living accommodation. A secondary sewage treatment system with percolation area. A bored well. All associated ancillary ground works. This site will be accessed from the public road via an existing driveway under an agreed right of way arrangement.	Granted with conditions 30/11/2022
2460445 (Patrick Slattery)	Ca. 900 m to the south of the site. Pipershall, Blessington, Co Kildare	For a detached dormer dwelling, detached domestic garage / car store, on site effluent treatment system & percolation area, surface water to soakaways, recessed entrance and all associated site works	Granted with conditions 18/09/2024
2460333 (Father Richard Behan)	Ca. 1.5 km to the south of the site. Parochial House, Crosschapel, Blessington, Co Kildare	For a new vehicular entrance and all associate site works	Granted with conditions 22/07/2024

Reference	Location	Description	Status / Decision date
191412 (David Cleaver-Darling)	Ca. 500 m to the southeast of the site. Hempstown, Blessington, Co. Kildare.	For construction of a dormer style dwelling with oakstown treatment plant and soil polishing filter along with a new entrance and all associated site works.	Granted with conditions 14/09/2020
201387 (Gerry Phibbs)	Ca. 600 m to the southeast of the site. Hempstown Commons, Blessington, Co. Kildare	A single storey dwelling and detached domestic garage, new effluent treatment system and soil percolation system, the construction of approximately 40 linear metres of an access lane from an existing private lane and all ancillary site works.	Granted with conditions 06/09/2021
22973 (Simon Phibbs)	Ca. 600 m to the southeast of the site. Hempstown Commons, Blessington, Co. Kildare.	A new detached bungalow type dwelling house, new vehicular recessed entrance off privately owned existing laneway, new on-site domestic wastewater treatment system, landscaping and all associated site development works on lands.	Granted with conditions 18/11/2022

15.7.1 POPULATION AND HUMAN HEALTH

Sand and gravel quarrying activities currently take place in an adjacent quarry to the north of the site. A precast manufacturer is located to the southeast of the site. It is considered that the Proposed Development will have beneficial impacts on both direct and indirect employment and economies surrounding the site.

Cumulative impacts of these surrounding quarrying activities and industrial activities in relation to water, air quality, and noise and vibration are considered in the respective chapters of this EIAR. With the maintenance of on-site mitigation measures there are considered to be no significant negative cumulative impacts to population and human health as a result of the Proposed Development.

The continuation of the existing operation in combination with the surrounding developments is not likely to have a significant impact on population trends, amenity public health or public safety within the surrounding area. There are no other industrial operations in the vicinity of the site that could generate a cumulative impact upon human beings.

Assuming other developments in the area have incorporated widely adopted good design, practice and mitigation measures it is considered that there will be no significant cumulative effects of the Proposed Development with other significant developments in the locality.

Effects from the Site in isolation have been considered to be, in all instances to be **Not Significant**.

15.7.2 ECOLOGY AND BIODIVERSITY

As well as considering the potential significant impacts from the proposed works at the Application Site in isolation, the assessment must also consider those effects in combination with those associated with other plans or projects. Whilst a project in isolation may not result in significant impacts, non-significant impacts from one project could act in combination with non-significant impacts of another project, resulting in significant impacts overall. In this context, an important distinction to make is whether a project in isolation may result in effects that are not significant, or whether they will not result in any effects at all.

Given that impacts on habitats, breeding birds, bats, badgers, reptiles (common lizard), terrestrial invertebrates, protected/notable small mammals, and invasive species have been considered locally significant for the Application Site in isolation, and compensation is already proposed, **cumulative assessment of impacts on IEFs have been scoped out**.

15.7.2.1 Groundwater

With the successful implementation of mitigation measures set out in Chapter 6 (Water) of this EIAR, no cumulative impacts on the local surface water or groundwater environments are anticipated. As such, cumulative effects from groundwater that could impact IEFs are scoped out from further assessment.

15.7.2.2 Noise and Vibration

Potential cumulative noise effects have been assessed as 'not significant' in Chapter 9 (Noise and Vibration) of this EIAR. Predicted levels at NSR1, NSR2 and NSR3 were more than 10 dB below the daytime target limit and below measured levels at the corresponding monitoring positions.

Measured noise levels from compliance monitoring and predicted levels indicate that noise from the quarry is not a significant contributor to overall noise levels. During noise monitoring, noise from road traffic and the stone cutters often dominated the noise environment at NSRs. As such, cumulative effects from noise that could indirectly IEFs are scoped out from further assessment.

There are no blasting activities being carried out at any existing industrial development within the study area. Cumulative vibration impacts on the local environment are considered 'negligible' due to blasting activities not taking place concurrently with the quarry operations due to the low frequency of blasting. Potentially cumulative vibration effects have therefore been assessed as 'not significant'. As such, cumulative effects from vibration that could impact IEFs are scoped out from further assessment.

15.7.2.3 Dust

With the successful implementation of mitigation measures set out in Chapter 7 (Air Quality) of this EIAR, and assuming that the nearby sources also employ appropriate and proportionate mitigation measures as good practice, it is expected that any cumulative impact would be sufficiently minimised and not result in a significant effect. As such, cumulative effects from dust that could indirectly impact IEFs are scoped out from further assessment.

15.7.3 LAND, SOILS AND GEOLOGY

As a result of the embedded and additional mitigation measures at the Site, it is considered that any impacts on soils and geology will not contribute to cumulative impacts associated with the various quarrying activities located in the vicinity of the Site. Such local activities include sites directly adjacent to the north of the Site, and others located over a number of kilometres to the southeast of the Site, which follow the large glacial deposits laid down during the Quaternary Period. Therefore **no cumulative effects are anticipated**.

15.7.4 WATER

With the successful implementation of mitigation measures and monitoring at the Site, **no cumulative impacts** on the local surface water or groundwater environments are anticipated. For example, monitoring of groundwater downgradient of the Site will help to confirm that the elevated arsenic concentrations in the soakaway ponds are not contributing to already naturally elevated levels in the Goldenhill River.

15.7.5 AIR QUALITY

The Proposed Development is an extension to the existing Shillelagh quarry. As the existing mineral reserves at Shillelagh quarry are exhausted within the previously permitted extraction void, quarrying activities will relocate to the Proposed Development, no increase in extraction / processing rates are proposed as part of the expansion. As a result, the boundary dust deposition monitoring undertaken on the site provides an inherent measure of cumulative dust levels as the samples collected will include airborne material generated due to the operation of the existing quarry as well as emissions from the adjacent Stresslite concrete casting plant to the southwest, nearby sources (within 800m) and (to a lesser extent) downwind sources of mineral dust and PM₁₀ (carried on the wind).

Based on established practice (the current operation of the existing quarry), the measures outlined in Section 7.8 (in EIAR Chapter 7) provide sufficient mitigation against significant effects. It is assumed that the nearby sources also employ appropriate and proportionate mitigation measures as good practice, and therefore it is expected that any cumulative impact would be sufficiently minimised and **not result in a significant effect**.

15.7.6 CLIMATE

There is potential for cumulative impacts on the climate and from climate hazards between the Proposed Development and the adjacent existing quarries to the north and west. However, these impacts are considered to be negligible in view of the scale of operations, predominantly rural nature of other surrounding land, and local topography. Therefore **no significant cumulative effects** are anticipated.

15.7.7 NOISE AND VIBRATION

15.7.7.1 Noise

Measured noise levels from compliance monitoring and predicted levels indicate that noise from the quarry is not a significant contributor to overall noise levels. During noise monitoring, noise from road traffic and the stone cutters often dominated the noise environment at NSRs. Predicted levels at NSR1, NSR2 and NSR3 were more than 10 dB below the daytime target limit and below measured levels at the corresponding monitoring positions.

Potentially cumulative noise effects have therefore been assessed as **not significant**.

15.7.7.2 Vibration

There are no blasting activities being carried out at any existing industrial development within the study area. Cumulative vibration impacts on the local environment are considered 'negligible' due to blasting activities not taking place concurrently due to the low frequency of blasting

Potentially cumulative vibration effects have therefore been assessed as **not significant**.

15.7.8 ARCHAEOLOGY AND CULTURAL HERITAGE

As there are no known archaeological, architectural or cultural heritage assets in the application site, the proposed development is considered to **not have any cumulative effects** on cultural heritage and archaeology.

15.7.9 LANDSCAPE AND VISUAL

Within the site, the proposed development may be summarised as the expansion of an existing quarry into an area of the site that is already characterised and defined by, as well as formed as a direct result of, that very quarry. In addition, the site is located along a much-quarried ridgeline that engenders a wider landscape character of centuries-old, much-worked extractive industries in the central study area. In this regard, the proposed development represents a familiar form of development within this landscape setting that is broadly in keeping with both the site and the receiving landscape context.

Overall, the proposed quarry extension slightly intensifies this form of land use in the immediate context of the existing quarry as well as the local area. Notwithstanding, the cumulative impacts on the physical landscape fabric of this area, the quarrying activities by their in-ground nature are not particularly apparent from within the surrounding landscape and this is still perceived as a rural landscape hosting occasional quarries rather than a quarry landscape. Thus, it will have a Negligible cumulative effect on landscape character, and a low cumulative effect on landscape fabric of the receiving environment. Potential cumulative effects have therefore been assessed as **not significant**.

15.7.10 TRAFFIC AND TRANSPORTATION

Traffic surveys undertaken at the Site Access/L6030 and N81/L6030 junctions record not only traffic flows through the wider network but also traffic generated locally by existing nearby businesses (Stresslite Precast etc.) - see daily traffic flows in Tables 12.1 & 12.2 in Chapter 12 of this EIAR. Traffic models included as part of this assessment (Appendix 12A of Chapter 12 of this EIAR) use these surveys to calculate "Base" flows and add the traffic exclusively generated by the proposed development to determine any increase. The "Base + Generated" figures indicate the cumulative flows through both junctions and has been assessed as **not significant**. Cumulative effects have therefore been considered in the assessment as part of background traffic measured and as part of the AADT for the assessment period. Potentially cumulative effects have therefore been assessed as **Not Significant**.

15.7.11 MATERIAL ASSETS

Most impacts that have been identified are mitigated by design or good practice. Impacts have been deemed in all instances to be 'Imperceptible' or not greater than '*Slight (adverse)*'.

Assuming other developments in the area will incorporate widely adopted good design, practice and mitigation measures it is considered that there will be no significant cumulative effects of the Proposed Development with other similar developments in the locality. Potential cumulative effects have therefore been assessed as **not significant**.

15.7.12 MAJOR ACCIDENTS AND DISASTERS

Assuming other developments in the area have incorporated widely adopted good design, practice and mitigation measures it is considered that there have been **no significant** cumulative effects of the Application Development with other similar developments in the locality.

15.8 CONCLUSIONS

No significant cumulative or combined effects have been identified.

15.9 REFERENCES

Department of Housing, Local Government and Heritage EIA Portal. Available at:
<https://www.housing.gov.ie/planning/environmental-assessment/environmental-impact-assessment-eia/eia-portal> Accessed 25th October 2024

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Kildare County Council Planning Enquiry System. Available at:
<https://webgeo.kildarecoco.ie/planningenquiry> Accessed 25th October 2024

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Wicklow County Council Planning Enquiry System. Available at:
<https://www.eplanning.ie/WicklowCC> Accessed 25th October 2024