15.0 INTERACTIONS, CUMULATIVE AND COMBINED EFFECTS

15.1 INTRODUCTION

This chapter of the EIAR describes interactions/inter-relationships between environmental effects, and cumulative effects of the proposed development in combination with other relevant committed development in the area of the lands located at the site.

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.

Cumulative effects are defined as the addition of many minor or significant effects, including 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 and therefore must be included in the EIA process.

A review has been carried out to identify where other proposed and committed development in proximity to the proposed development may result in an accumulation of effects on particular receptors.

The overall objective of the assessment in this chapter is to identify, through a review of these issues, whether additional mitigation is required that would not otherwise have been identified in the individual study areas for these interacting or cumulative effects.

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

15.2 PROJECT DESCRIPTION

A full project description is provided in Chapter 3.0 (Project Description). A project description summary is provided below:

The Proposed Development is the establishment and operation of a soil recovery facility within a 17.08 hectare site at Kilmartin, Co. Wicklow (approximately 4 km north-east of Ashford) (hereafter referred to as ‘the Site’). The soil recovery facility will import up to 2,160,000 tonnes of inert waste, primarily clean soils and stones from construction and development sites. Clean soil and stone will be used to progressively infill a steep-sided natural valley within the Site and raise ground levels to approximately 57mOD, tying in with the surrounding landscape. The infill area covers approximately 14 hectares.

The soil recovery facility will accept up to 100 loads per day on average (maximum 150 in exceptional circumstances) with a projected operational lifespan of up to 10 years depending on market conditions within the construction sector, followed by one year for final restoration and aftercare of the lands.

The Proposed Development will require the following structures be installed and maintained for the operational life of the Soil Recovery Facility: office and welfare facilities, six parking bays for private vehicles, weighbridge and associated weighbridge cabin, one wheel wash and one spray-system wheel wash, two waste inspection bays and one bunded waste quarantine area, hardstanding area (for vehicle movement and storage), surface water drainage infrastructure from hard standing and discharge to ground (including two interceptors and two soakaways), an internal

access road, internal haul roads (constructed from recycled aggregates where available), security features including security gates and fencing, and power supply. These structures will be removed from the Site at the end of life point of the soil recovery facility.

Approval will be sought for a connection to the ESB Network for the site office and welfare facilities. Diesel generators will be used to power mobile lighting, if required. Temporary lighting, if required, will be cowled to prevent light spillage.

The temporary relocation of ESB poles within the fill area will be required. This will be subject to prior agreement with ESB.

Wastewater from office and welfare facilities will be managed by a third-party provider, with no connection to foul water mains.

All truck deliveries will access the Site via the N11/M11 and Coynes Cross Road, with internal queuing space provided within the Site and no parking on public roads.

The existing land entrance located on R772 will be upgraded and will be retained following the completion of the development.

A groundwater abstraction borehole will be installed to supply water for wheel washes, dust suppression, and welfare facilities, and will be retained for monitoring after restoration.

Restoration will return the Site to grassland and hedgerow habitat, similar to its pre-development state. Approximately 140 m of fence and hedgerow opposite the entrance will be temporarily removed to improve sightlines during the life of the soil recovery facility and this will be subsequently reinstated. Native species will be used in hedgerow planting. The restored land will revert to agricultural management.

Permission is sought from An Coimisiún Pleanála for a period of up to 10 years, with an additional year for restoration. The Proposed Development will require a waste licence[1] from the Environmental Protection Agency (EPA) and aligns with national and regional policy objectives to provide adequate licensed soil recovery capacity for the Dublin and Wicklow regions.

15.2.1 PRE-CONSULTATION

A non-statutory consultation process was carried out with prescribed bodies and other parties over the period from 25 May- 26 June 2023 to seek comments and observations about the Proposed Development. This process is fully documented in the Pre-Consultation Report accompanying the SID application submission and a summary is provided in Section 1.8 (Chapter 1.0: Introduction) of this EIAR. Pre-consultation opinions/comments received have been considered in the preparation of this EIAR chapter, where relevant.

15.3 METHODOLOGY

This assessment uses a common framework of assessment criteria and terminology which is based on the 'Guidelines on the information to be contained in environmental impact assessment reports', published by the Environmental Protection Agency (EPA) (EPA 2022). These guidelines were

[1] The proposed development will be carried out in accordance with a waste licence from the EPA or in accordance with by-product regulations, Article 27 of the European Communities (Waste Directive) Regulations 2011 (see Section 3.5 in Chapter 3.0: Project Description of this EIAR for further detail).

drafted by the EPA with a view to facilitating compliance with the EIA Directive (Directive 2011/92/EU, as amended by Directive 2014/52/EU). 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 2.0: Scope and Methodology of this EIAR.

For the assessment of interacting effects, a summary has been provided in Section 15.4 identifying, through expert judgment, the specific topics within the EIAR where the effects potentially interact/inter-relate with each other.

For the assessment of cumulative effects (see Section 15.5), the selection of relevant development schemes has included substantive schemes that have planning permission or are under construction within 2 km of the Proposed Development and between November 2020 and December 2025. These selected schemes have been identified as it is considered that they are of sufficient size, scale and distance from the Proposed Development to be assessed for potential cumulative effects.

15.4 INTERACTIONS

Interacting topics are considered in the relevant technical assessment chapters and a high-level summary is provided below.

15.4.1 POPULATION AND HUMAN HEALTH

There is potential for interacting effects between population and human health and land and soil, water, air quality, noise, cultural heritage, traffic and transport, visual, and material assets.

Potential effects to the human environment from the 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 activity at the Proposed Development have the potential to impact or cause disruption to local services or utilities.

Impacts to cultural heritage within and/or surrounding the development can result in a loss of amenity and/or sense of place to communities.

These interactions have been considered in the relevant chapters of this EIAR: Chapter 5.0 – Population and Human Health, Chapter 7.0 – Land, Geology and Soils, Chapter 8.0 – Water, Chapter 9.0 – Air Quality and Climate, Chapter 10.0 – Noise and Vibration, Chapter 11.0 – Cultural

Heritage, Chapter 12.0 – Traffic and Transport, Chapter 13.0 – Landscape and Visual, and Chapter 14.0 – Material Assets.

15.4.2 ECOLOGY AND BIODIVERSITY

There is potential for interacting effects between ecology and biodiversity, land and soil, 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. The restoration plan for the Proposed Development seeks to restore the site to conditions similar to those at the baseline through re-planting of hedgerow/trees, restoring stripped and stockpiled topsoil (i.e. retaining and reinstating local seedbank), and provision of ecological enhancement features.

These interactions have been considered in the relevant chapters of this EIAR: Chapter 6.0 – Ecology and Biodiversity, Chapter 7.0 – Land, Geology and Soils, Chapter 8.0 – Water, Chapter 9.0 – Air Quality and Climate, Chapter 10.0 – Noise and Vibration, and Chapter 13.0 – Landscape and Visual.

15.4.3 LAND, GEOLOGY AND SOILS

There is potential for interacting effects between land, geology and soils, and population and human health, water, cultural heritage, and landscape and visual.

Stripping of topsoil may cause changes in the underlying water environment and has potential to damage undiscovered cultural heritage features. The importation of clean soil and stone to site will change the baseline surface water drainage regime onsite. Importation and emplacement of contaminated fill material at the Site could introduce contamination to surrounding lands and groundwater. Emplacement of fill will generate dust.

These interactions have been considered in the EIAR in Chapter 5.0 – Population and Human Health, Chapter 7.0 – Land, Geology and Soils, Chapter 8.0 – Water, Chapter 9.0 – Air Quality and Climate, Chapter 11.0 – Cultural Heritage.

15.4.4 CULTRAL HERITAGE

There is potential for interacting effects between heritage assets and air quality, noise, and visual for the reasons discussed for the human environment and visual in the population and human health section above.

These interactions have been considered in the EIAR in Chapter 9.0 – Air Quality and Climate, Chapter 10.0 – Noise and Vibration, Chapter 11.0 – Cultural Heritage, and Chapter 13.0 – Landscape and Visual.

15.4.5 LANDSCAPE AND VISUAL

There is potential for interacting effects between landscape and visual, and ecology, traffic, heritage, and population and human health for the reasons discussed for the human environment and visual in the population and human health section above.

These interactions have been considered in the EIAR in Chapter 5.0 – Population and Human Health, Chapter 6.0 – Ecology and Biodiversity, Chapter 11.0 – Cultural Heritage, and 12.0 – Traffic and Transport.

15.4.6 TRAFFIC AND TRANSPORT

There is potential for interacting effects between traffic and transport, and population and human health, air quality, noise and vibration, and material assets.

During the works phase use of trucks to import fill materials (primarily clean soil and stone) will generate increased traffic in the vicinity of the Site. Trucks may generate dust and/or track mud onto roads. Trucks will generate engine noise and exhaust emissions.

These interactions have been considered in the EIAR in Chapter 5.0 – Population and Human Health, Chapter 9.0 – Air Quality and Climate, Chapter 10.0 – Noise and Vibration, and Chapter 14 – Material Assets.

15.4.7 MATERIAL ASSETS

There is potential for interacting effects between material assets, and population and human health, water, and traffic and transport.

During works phase trucks and staff vehicles will require assess to the Site via public roads and has the potential to impact to road network in the vicinity of the Site and effect road users. The use of hardstanding to marshal trucks and vehicles within the Site will change the surface water regime in some areas of the Site and surface water runoff has the potential to impact the local road network and effect road users if not managed.

These interactions have been considered in the EIAR in Chapter 5.0 – Population and Human Health, Chapter 8.0 – Water, Chapter 12.0 – Traffic and Transport, Chapter 14 – Material Assets.

15.4.8 ‘DO-NOTHING’ SCENARIO

If the Proposed Development does not proceed, then the above interacting or inter-relating environmental effects will not occur.

The assessment of interactions described above has assessed whether there is any potential for significant effects occurring between the different environmental topics as a result of the Proposed Development that may not have been identified within the respective individual chapters. No additional interacting effects have been identified.

15.5 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. 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).

Table 15-1 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.

Where a potential cumulative effect has been identified, explanatory text has been provided in the sections below and the level of predicted cumulative effect assessed using the effects scale as described in Chapter 2.0, Scope and Methodology, which is based on the EPA 2022 Guidelines.

The N11/M11 Scheme

The boundary of the proposed N11/M11 Junction 4 to Junction 14 Road Improvement Scheme (also known as 'The N11/M11 Scheme') is located adjacent to the southwest section of the Site. Phase 2 (option selection) for the N11/M11 Scheme has been completed, and the WCC-led project team are seeking funding to progress the scheme in the next phase of the National Development Plan (2026-2030). Should funding be received the next project phases would be Phase 3 (Design and Environmental Evaluation) and Phase 4 (Statutory Processes), it is considered unlikely that significant advances to the project will be made within the next 4 years[2].

The proposed N11/M11 Scheme has been scoped out of this assessment on the basis that the project has limited potential for spatial overlap, and no potential for temporal overlap in the short-to medium term.

It is noted that an interim traffic alleviation scheme called the 'N11/M11 Bus Priority Interim Scheme' that is proceeding between Loughlinstown Roundabout to Junction 5 and Junction 9 (Glenview). That project has been scoped of this assessment as there is no spatial overlap with the proposed Kilmartin project.

[2] An online consultation meeting was held with the WCC Project Liaison Officer for the N11/M11 Scheme, WCC Transportation & Roads Infrastructure, and National Roads Office, and WSP/PMCE traffic and transport experts on 11 October 2023 to discuss both projects and the potential for cumulative impacts. This is documented in the Pre-Consultation Report provided within the wider strategic development application pack.

Table 15-1 - Third party projects

Reference	Location	Description	Status / Decision Date
2460287 (Patrick Bourke)	ca. 1,450 m to S of site. Killoughter, Ashford, Co. Wicklow	Construction of a 354 sq. m. agricultural shed together with all associated ancillary works.	Conditional 30/08/2024
2386:(Autism Initiatives Ireland)	ca. 550 m to NW of site. Cois Dara, Ballyvolan Lower.	Proposed conversion of existing garage to a single bedroom service unit ancillary to existing care facility and associated works.	Conditional 21/09/2023
21956 (IIB (Invent, Innovate, Build) Ltd.)	ca. 1,650 m SSW of site. Kellystown, Ashford	The proposed development includes: 1. Construction of a 3-storey security building (Block G, 185 sqm) and a single-storey security hut (7 sqm). 2. Amendments to PA.Reg.Ref. 17/163 and ABP.Ref.301391 for the permitted film studios, including: • Relocation of Blocks. • Internal road changes, including a roundabout. • Roof light installation and height raising. • Block A: external access corridors/skywalks and internal changes, increasing floorspace from 9,914 sqm to 10,280 sqm. • Minor corridor relocations for Blocks B, C & F, and reduction of floorspace. • Drainage layout updated to reflect changes (site c.27.8 ha)	Conditional 21/01/2022
201001 (Paula and John Lunn)	ca. 760 m NW of Site.	(A) Remove the existing timber decking/terrace, to the south/southwest (side), ca.108 sq. m. in area. (B) Construction of a new extension, 76.7 sq. m. in area, to the	Conditional 03/12/2020

		south/southwest (side) comprising circulation area, kitchen, dining area and lounge on ground floor.	
231:(Kilnorth Holdings Ltd)	ca. 1,600 m to NW of site. Northlands Farm, Kiltymon, Newtownmountkennedy.	Development of a Solar PV Panel Array consisting of up to 30,000m^2 (3 Hectares) of solar panels on ground mounted steel frames on an 8,399-hectare site, electricity control room, power inverter unit, underground cable ducts, security fence, CCTV masts, Solar Lighting and all associated works.	Conditional 12/07/2023
22862: (Chris Fox)	ca. 660 m to N of site. Ballyvolan Cottage, Ballyvolan.	Removal of existing septic tank, installation of wastewater treatment unit, soil polishing filter to current standards and associate works	Conditional 23/09/2022
21373:(Peadar & John Shortt)	ca. 970m SE of Site. Killoughter Farm, Newcastle.	Construction of a new 230 square metre farm building and hard standing, for agricultural use as a sheep shed, together with all necessary ancillary works, drainage and fencing	Conditional 19/05/2021

15.5.1 POPULATION AND HUMAN HEALTH

It is not anticipated that any effects identified in Chapter 5.0 (Population and Human Health) could lead to significant cumulative effects on population and human health receptors. All potential effects are considered to be sufficiently mitigation through design or good practice during the proposed Kilmartin Project's operational phase and restoration phase. Assuming the other permitted / under construction developments identified in Table 15-1 will incorporate adequate design and widely adopted good practice mitigation, it is considered that there will be no predictable cumulative effects (i.e. effects are considered to be unlikely) on local populations, local businesses and workers during the operational and restoration phases.

The potential effects on local human health arising in relation to noise, water and air quality, material assets, and traffic and transport are discussed in the sections below.

15.5.2 ECOLOGY AND BIODIVERSITY

Considering the nature, scale and locations of the third-party projects it is considered that there is no potential for cumulative/combined effects regarding adverse effects to ecological corridors in the local area. Therefore, the potential effects of cumulative impacts have been scoped out of this assessment.

As surface water impacts from the third-party projects are deemed unlikely (assuming they are subject to best practice controls), cumulative impacts are also deemed unlikely, with any effects considered imperceptible at most, and are therefore considered to be **not significant**.

The Proposed Development's welfare facilities will be fully serviced, and no organic wastes will be imported to site. Therefore, the potential effects of cumulative impacts from nutrient loading on waterbodies have been scoped out of this assessment.

15.5.3 LAND, GEOLOGY AND SOILS

The third-party developments that have been included in for cumulative assessment (see Table 15-1) are, at the closest, located at least 550 m from the Site. The geology and land use in the wider area is the same, or similar to, that at the Proposed Development. Potential impacts and associated effects on land, geology and soils are typically restricted to within the footprint of a Proposed Development. Additionally, it is assumed that the other permitted / under construction developments are also designed to current standards and adopt widely used good practice mitigation with respect to pollution prevention. Therefore, it is considered likely that they will also result in negligible impacts to the land; leading to imperceptible-to-slight (and **not significant**) cumulative effects on land / soils / land use.

There could be the potential for many developments in an area to result in cumulative loss of agricultural land, but this has not been considered here because the Proposed Development returns the land to agricultural use and does not result in a loss.

The consideration of human health in this assessment of the Proposed Development only applies to site workers. It is assumed that these workers will not also be working on other developments at the same time, and that the potential sources of impact to human health from this and other proposed developments would be restricted to within the development boundaries. Therefore, it is considered that there will be no cumulative impacts and effects on human health.

15.5.4 WATER

The third-party developments that have been included in for cumulative assessment are, at the closest, located at least 550 m from the Site. None of the descriptions of the developments indicate that notable construction dewatering, large volume abstractions or large sub-surface features will be required that could cumulatively impact groundwater levels or flows, or surface water baseflow contributions, when considered in conjunction with the Proposed Development's abstraction or groundworks.

Construction and operational activities at other developments could lead to cumulative changes in groundwater quality (where the other development is located upgradient on the same aquifer) and/or to surface water quality (if drainage from other development sites connect into the same watercourses). Sources of impact to water quality from the third-party developments could include the installation and use of wastewater treatment facilities, disposal of agricultural drainage water, releases of suspended solids during construction, and/or accidental releases of other polluting substances during construction or operation.

The third-party developments are generally small (e.g. single dwelling or conversion developments) or restricted to largely above-ground installations for operations with little polluting potential. It is assumed that the other permitted / under construction developments are / will be designed to current standards and will adopt widely used good practice mitigation with respect to pollution prevention at all stages of their development. Therefore, it is considered likely that they will result in negligible or low impacts to the water environment; leading to no more than low cumulative impacts and imperceptible-to-slight (and **not significant**) cumulative effects.

15.5.5 AIR QUALITY AND CLIMATE

Research has shown that the greatest proportion of dust predominantly deposits within the first 100 m away from the source (The Environmental Effects of Dust from Surface Mineral Workings, Volume 1 DETR, HMSO 1995) as dust has a higher deposition velocity than finer particles (i.e. PM^{10} and $PM_{2.5}$). The finer particles of less than 10 microns aerodynamic diameter may remain airborne for longer and therefore travel larger distances, although a large proportion may still deposit within 200 m of the source.

The assessment undertaken has considered publicly available background monitoring data and incorporated this into the assessment, therefore the assessment includes a consideration for other Sites operating in the area.

There are five planning applications in the vicinity of the Site. Three relate to changes to existing properties (domestic and commercial), one to the construction of a new farm building and one to the development of solar panel arrays. The closest application relates to changes to an existing property and is approximately 550 m from the Site, therefore due to the distance, there is **no opportunity for significant cumulative impacts to arise**.

15.5.6 NOISE AND VIBRATION

The Proposed Development is limited in scale and is unlikely to operate at full capacity for much of the year. As such, this assessment considers that cumulative effects are unlikely and, should these occur, will be of short duration and **not significant**.

The noise impact assessment presented herein assumes that all noise sources will operate simultaneously, thereby capturing intra-project cumulative and combined effects.

15.5.7 CULTURAL HERITAGE

Due to the nature of the likely residual effects predicted, the potential for cumulative effects to occur is limited to direct impacts to the setting of heritage assets within the Study Area. Only two heritage assets within the study area, AR-10 and AR-12, have the potential to be impacted upon by other developments, resulting in a significant cumulative effect. The largest projects highlighted involving creation of a Solar Farm located on the opposite side of the N11 motorway will be low-lying in nature, so unlikely to visually impact upon the setting of the two heritage assets. Given the location and nature of the third party projects, and assuming other permitted / under construction developments are / will be designed to current standards, **no significant effects** are predicted to occur.

None of the other developments anticipated within 2 km of the Proposed Development (see Table 15-1) are likely to result in significant cumulative effects.

15.5.8 TRAFFIC AND TRANSPORT

As outlined in Section 12.7.5 of Chapter 12.0 (Traffic and Transport), a search of planned future developments which may have an impact on future traffic flows in the vicinity of the proposed development was undertaken, and a number of 3rd party projects which have received planning permission, but not yet commenced construction, were analysed with regards to their relevance to the consideration of cumulative impacts with respect to traffic and transportation. The review of these adjacent projects determined that these would not have an impact on the proposed facility in relation to traffic, due to their scale and/or location relative to the Site.

The cumulative effects from these Projects are therefore deemed imperceptible. Effects are therefore considered to be **not significant**.

15.5.9 LANDSCAPE AND VISUAL

It is considered that there will **not be** residual cumulative/combined landscape and visual effects beyond those described within potential effects, as the surrounding landscape is predominantly rural pasture and transport corridor.

15.5.10 MATERIAL ASSETS

Impacts on material assets identified have been mitigated by design or good management practice. It is considered that there will be **no significant** effects. Assuming the other permitted / under construction developments will be designed to current standards and incorporate widely adopted good practice mitigation, it is considered that there will be, at most, imperceptible cumulative effects during all development phases.

The Applicant will follow ESB guidance and seek any necessary permissions for the relocation of ESB electricity poles. The potential impacts from the relocation of ESB infrastructure on the local electrical supply network is considered to be of negligible magnitude resulting in short- to medium-term effects that are imperceptible and therefore considered to be **not significant**.

Considering the Site location and the scale and nature of the proposed Kilmartin Project there are no foreseeable potential impacts to infrastructure including local telecommunication networks, utilities networks, local water infrastructure, roads, or gas pipelines.

15.6 REFERENCES

EPA, (2022), 'Guidelines on the information to be contained in environmental impact assessment reports'. Epa.ie. Available at: https://www.epa.ie/publications/monitoring--assessment/assessment/EIAR_Guidelines_2022_Web.pdf (accessed November 2025).

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MacCabe Durney Barnes, (2022), 'Social Infrastructure Audit' (accompanying this application)

N11/M11 Junction 4 to Junction 14 Improvement Scheme website: https://n11m11.ie/home/ (accessed November 2025).

Wicklow County Council Online Planning https://www.wicklow.ie/Living/Services/Planning/Planning-Applications/Online-Planning (accessed November 2025).