

3 Population and Human Health

3.1 Introduction

This chapter of the EIAR has been prepared by WSP Ireland Consulting Ltd (WSP) and describes the human environment and identifies and assesses potential impacts from the Proposed Project on the surrounding population and human health.

The Proposed Project is the restoration of a disused quarry by import of clean soil and stone from construction and demolition. The lands on which the Proposed Project occur (the 'Application site' or Site') are located in the townland of Coolsickin or Quinsborough, Co. Kildare.

The Application Site includes a disused quarry void and associated historical working areas. It also includes a private access road that connects the disused quarry to the public road network, and agricultural lands to the east of that road where it is proposed to locate the temporary facilities required to manage the importation of clean soil and stone required for the Proposed Project.

All lands within the Application Site are within the ownership of the Applicant, Bison Quarries Ltd (BQL).

This EIAR is submitted in support of an application under Section 37L of the Planning and Development Act 2000, as amended.

The following assessment was prepared by Rab Kassie-Sheeran (MSc, AssocMCIWM) and Rhian Llewellyn (MGeol, PhD, PIEMA). Rab is an environmental scientist and waste specialist with over 3 years' experience, and Rhian is a geologist and EIA specialist with over 9 years' experience.

This chapter should be read in conjunction with the following technical chapters of the EIAR: Lands, Soils and Geology (Chapter 5), Water (Chapter 6), Air Quality (Chapter 7), Noise and Vibration (Chapter 9), Cultural Heritage (Chapter 10) and Landscape and Visual (Chapter 11).

3.1.1 Technical Scope

The technical scope of this assessment is to consider the potential impacts and effects on the surrounding human environment that could result because of the Proposed Project (i.e. restoration of land). This assessment considers the potential sources of change resulting from Proposed Project activities detailed in the Chapter 2 (Project Description). It also sets out mitigation measures proposed to be undertaken, where relevant.

Effects of a development on the environment can impinge upon the surrounding human environment, directly and indirectly, positively and negatively. Direct effects may include such matters as safety, air and water quality, noise, landscape quality and road traffic. Indirect effects pertain to such matters as ecology and biodiversity, and cultural heritage.

These matters form discreet sections of this EIAR in their own right and corresponding mitigation measures are comprehensively provided in those sections.

3.1.2 Geographical and Temporal Scope

The geographical study area for the assessment covers the EIA boundary (identified in Figure 3-1) and with a study area of 500 m around the EIA boundary. In the context of this EIAR, the EIA boundary contains lands within the Application Site (also referred to as the 'Site'). The Site comprises lands which form the historical quarry area and associated working areas, and the access/private access road and proposed location of temporary facilities and the upgraded and realigned private access road and relocated and upgraded site entrance. The study area defined for the population and demographic trends is the Electoral Division (ED) of Quinsborough.

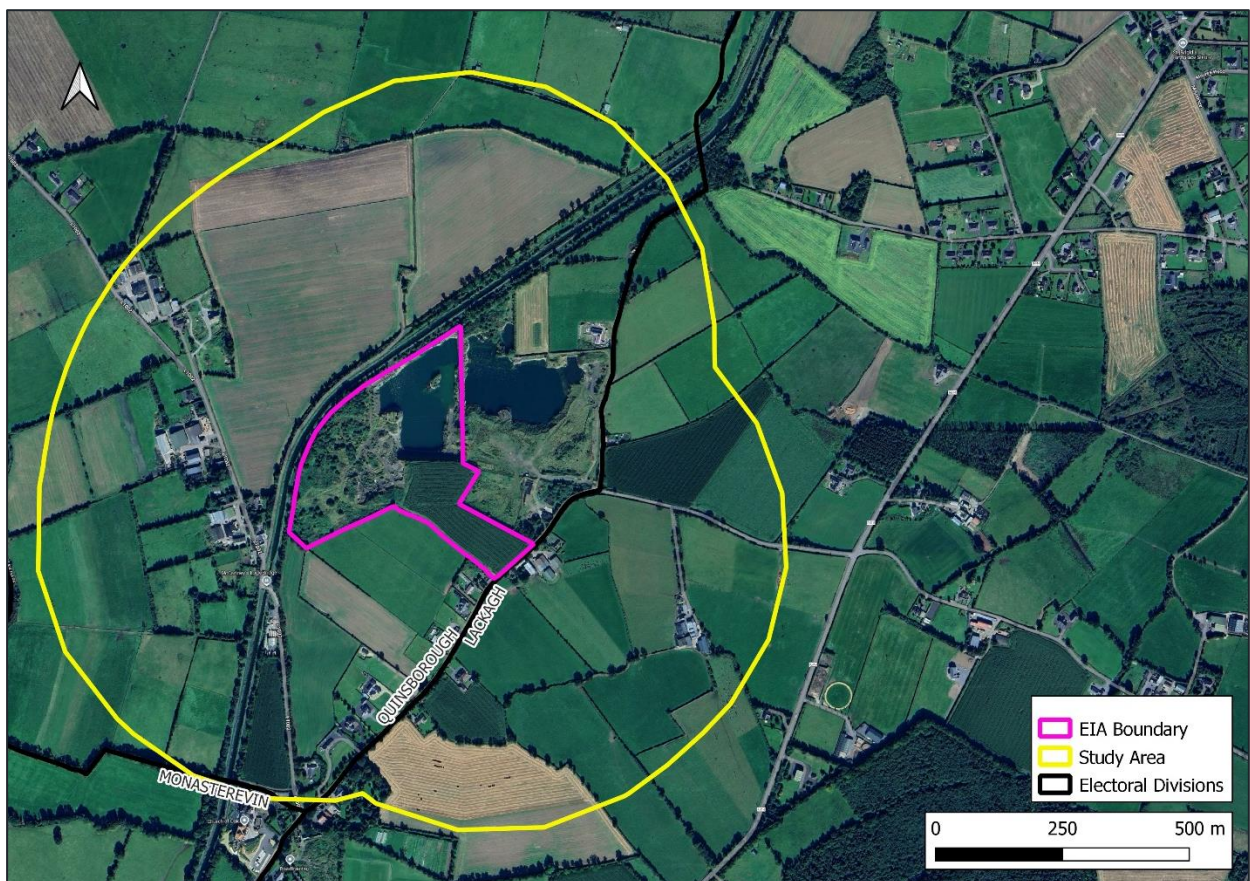


Figure 3-1 - The EIA Boundary and Study Area within the Quinsborough ED

The temporal scope of this assessment covers a 10-year construction phase (comprising enabling works and infilling activities) and a 3-year restoration phase (largely comprising aftercare and maintenance activities). The combined duration of these phases is predicted to 13 years. Detailed description of the Proposed project phasing is presented in Section 2.7 of Chapter 2 (Project Description).

3.1.3 Project Description Summary

The Proposed Project consists of the restoration of lands through the import of approximately 720,000 tonnes clean soil and stone as by-product (non-waste) from development sites to infill a disused historical quarry and raise ground levels to tie in with ground levels of surrounding land.

Restoration of the lands will be to agricultural grassland, an artificial waterbody, and a hedgerow habitat with the lands returned to their pre-extraction agricultural use.

The proposed duration of infilling is 10 years depending on market conditions for the anticipated acceptance of clean soil and stone, and a further 3 years for the completion of final restoration activities.

The Application Site is located in the townland of Coolsickin or Quinsborough, Co Kildare. The Application Site is accessed by a privately-owned access road connecting to a local road (L7049).

The following temporary facilities will be installed and maintained during the life of the Proposed Project:

- office and fully serviced welfare facilities;
- weighbridge and associated portacabin;
- closed-system wheel wash;
- 6 no. parking bays;
- 2 no. waste inspection bays and 1 no. bunded waste quarantine area;
- hardstanding area (vehicle movement and storage); and,
- surface water drainage infrastructure from hard standing and discharge to ground, including 2 no. interceptors and 2 no. soakaways.
- security features, including security gates and fencing.
- Power supply. It is intended that approval will be sought for a connection to the ESB Network for the office and fully serviced welfare facilities. Diesel generators will be used to power mobile lighting, if required.

The Proposed Project site entrance and private access road will be upgraded and realigned. These will be retained following to completion of the Proposed Project.

A full project description is provided in Chapter 2 of this EIAR.

3.2 Legislative and Policy Context

3.2.1 Legislation

- This assessment has been made with cognisance to relevant legislation, including but not limited to: European Union Directive 2011/92/EU as amended by Directive 2014/52/EU – these Directives required that certain private and public projects which are likely to have significant resultant environmental impacts are subject to a formalised Environmental Impact Assessment prior to their consent;

- European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (SI No. 296 of 2018) which amended the Planning and Development Act, 2000, and the Planning and Development Regulations, 2001. The 2014/52/EU Directive was transposed into Irish law through this Directive;
- The European Communities (Environmental Liability) Regulations 2008 (as amended) - These Regulations (SI 547/2008) transpose EU Directive 2004/35/CE on environmental liability with regard to the prevention and remedying of environmental damage. The purpose of these Regulations is to establish a framework of environmental liability based on the 'polluter-pays' principle, to prevent and remedy environmental damage. The Environmental Protection Agency (EPA) is designated as the competent authority for all aspects of these Regulations; and
- The Environmental Protection Agency Act 1992 and the Protection of the Environment Act 2003 – which detail the requirements associated with general pollution control and activities that come under integrated pollution prevention and control.

3.2.2 Relevant Policies and Plans

- The National Planning Framework (Project Ireland 2040) includes National Policy Objective 60 to “Conserve and enhance the rich qualities of natural and cultural heritage of Ireland in a manner appropriate to their significance”.
- The Kildare County Development Plan 2023-2029 was adopted on 9th December 2022. The key policies and objectives of this current plan are listed in Section 2.9.4. of the Project Description (Chapter 2).

3.2.3 Relevant Guidance

This assessment has been made with guidance from the ‘Guidelines on the information to be contained in environmental impact assessment reports’, published by the EPA in May 2022.

3.3 Assessment Methodology and Significance Criteria

3.3.1 Assessment Aims

Having regard to the EPA’s 2022 guidance; the characteristics and context of the lands the subject of this EIAR; and the nature of the Proposed Project, this EIAR chapter aims to identify the likely significant impacts that the Proposed Project may have on the ‘quality of life’ and these are discussed under the following headings:

- Populations;
- Employment;
- Amenity;
- Land Use and development patterns;
- Human health; and
- Health and safety.

3.3.2 Qualitative Assessment Method

As identified in Chapter 1 (Introduction) of this EIAR, a common framework of assessment criteria and terminology has been used based on the EPA's Guidelines on the Information to be Contained in EIARs (EPA, 2022). This common framework 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 sensitivity of communities and populations has been included and has been conservatively attributed a 'High' sensitivity. These descriptions for value (sensitivity) of receptors are provided in Table 3-1 and Table 3-2.

Table 3-1 - Environmental value (sensitivity) and descriptions.

Value (sensitivity) of receptor / resource	Typical description
High	High importance and rarity, national scale, and limited potential for substitution.
Medium	Medium or high importance and rarity, regional scale, limited potential for substitution.
Low	Low or medium importance and rarity, local scale.
Negligible	Very low importance and rarity, local scale.

Table 3-2 - Environmental value (sensitivity) and descriptions for assessment groups

Group	Receptor / resource	Designated value (sensitivity) of receptor / resource
Populations / Communities	All individuals located in a particular location (this can be local, regional or at a national scale), and groups of people living in the same place or having a particular characteristic in common.	High
Private Dwellings	Residential property	High
Community land and facilities, and other lands	Designated local green space / valued community facility.	High
	Undesignated local green space / non-essential community facility	Low
	Derelict or unoccupied buildings or lands.	Low

Group	Receptor / resource	Designated value (sensitivity) of receptor / resource
Local Businesses	Businesses where viability is likely to be permanently jeopardised by a short disruption or worsening of trading conditions.	High
	Businesses where profitability may be harmed by a short or medium-term disruption or worsening of trading conditions.	Medium
	Businesses that could continue to operate without substantial harm if affected by a disruption or worsening of trading conditions.	Low
	Businesses that could continue to operate relatively unharmed if affected by a disruption or worsening of trading conditions.	Negligible
Non-motorised users	All non-motorised users utilising roads and networks, including pedestrians, cyclists, horse-riding, etc.	High
Human health	Health receptor that would be likely or expected to be directly affected. Receptor is well placed to take advantage of beneficial impacts, and/or is not well placed to deal with any adverse impacts.	High
	Health receptor that would be likely to be indirectly affected. Average ability to maximise beneficial impacts or cope with adverse impacts.	Medium
	Health receptor that would be unlikely to be affected. Receptor is not well placed to take advantage of beneficial impacts, and/or is well placed to deal with any adverse impacts.	Low
	Health receptor that would be unlikely to be affected or effects would be temporary in nature, or which would be anticipated to have a slight or no effect on human health.	Negligible
Vehicle travellers	Public transport, motor vehicles	Low

A description of the significance categories used is provided in Table 3-3. Effects that are either Large or Profound are considered to be **Significant**, and effects that are Moderate, Slight or Imperceptible are considered to be **Not Significant**. How the level of effect is

determined, based on the environmental value and magnitude of impact, is explained in Section 1.8.2 of Chapter 1.

Table 3-3 - Significance categories and typical descriptions.

Significance Category	Typical Description
Profound	<p>An effect which obliterates sensitive characteristics.</p> <p>Only adverse effects are usually assigned this level of significance. These factors are key issues in the decision-making and consent process. These effects are generally, but not exclusively, associated with sites or features of international, national or regional importance which are likely to suffer a most damaging impact and loss of resource integrity. However, a major change in a site or feature of local importance may also be included in this significance category.</p>
Large	<p>An effect which, by its character, magnitude, duration or intensity alters a significant proportion of a sensitive aspect of the environment.</p> <p>These can be beneficial or adverse effects and are considered to be very important issues which are likely to be substantial in the decision-making process.</p>
Moderate	<p>An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.</p> <p>These are beneficial or adverse effects which may be important but are not likely to be central to decision-making or consent. The cumulative effects of these factors may influence consent or decision-making if they should lead to an increase in the overall adverse effect on a particular resource or receptor.</p>
Slight	<p>An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.</p> <p>These beneficial or adverse effects may be raised as local factors. They are unlikely to be critical in the decision-making process but are important in enhancing the subsequent design of the project.</p>
Imperceptible	<p>An effect capable of measurement but without significant consequences.</p> <p>No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error</p>

3.4 Baseline Conditions

3.4.1 Surrounding Environment

The Proposed Project is located in the west of County Kildare, northeast of the town of Monasterevin and within the administrative area of Kildare County Council. The Proposed Project is located within the townland of Coolsickin or Quinsborough and is located

approximately 2.7 km northwest of the M7 Naas to Limerick Road. The Proposed Project is located within Quinsborough ED, the boundary of which has been provided in Figure 3-2.

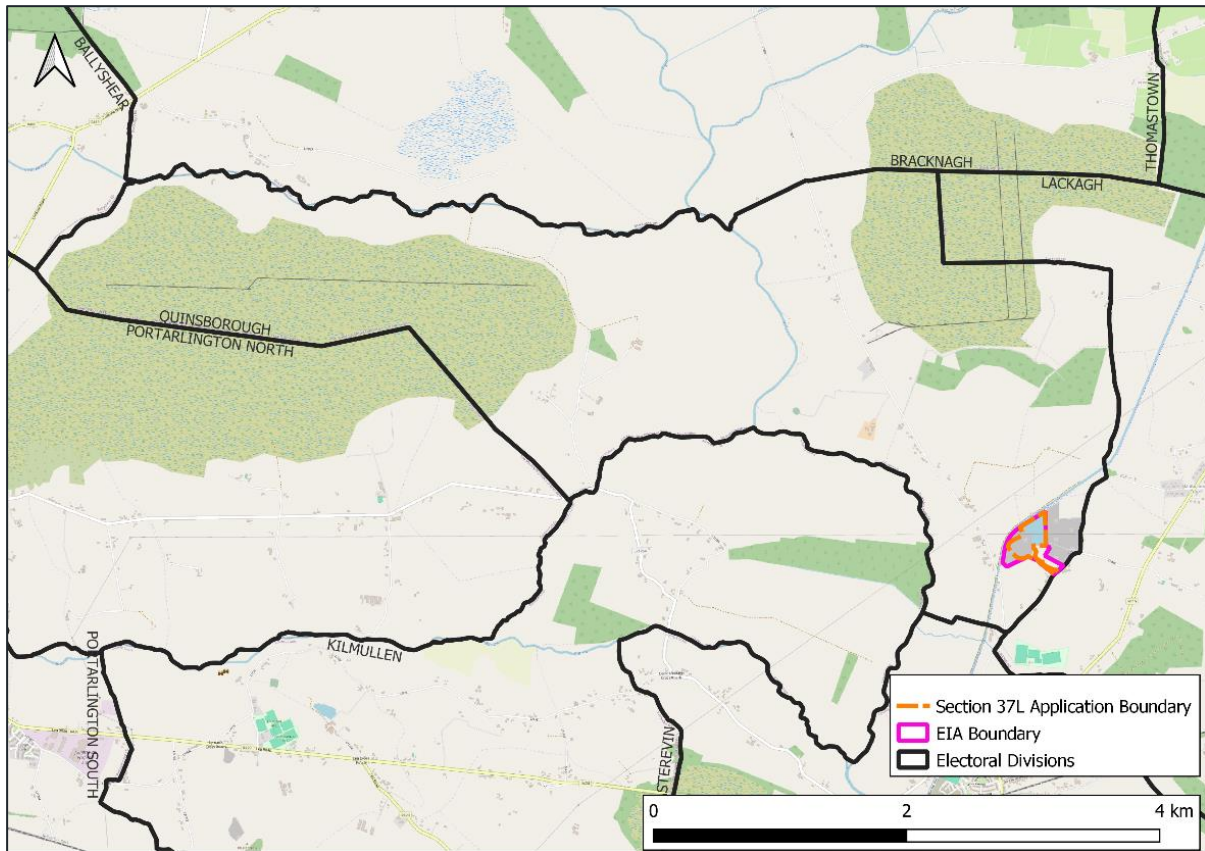


Figure 3-2 - Quinsborough ED Boundary

The lands surrounding the Proposed Project can be characterized as rural in nature, with land uses in the area being primarily agricultural and single-house residential. Dry cattle, dairying, sheep rearing, grazing of horses and forestry are the main activities in the area, with further arable activities to the south-west. Town and suburban development are non-existent in the immediate surrounds of the Proposed Project with the nearest town being Monasterevin (approximately 2.7 km to southwest of the Proposed Project).

The location of local residential receptors is presented in Figure 3-3. There are 28 receptors in total, 12 of the residential receptors are within the 250-500m buffer, and 16 receptors are within the 0-250m buffer from the EIA Boundary. Non-residential receptors within 500 m of the EIA boundary are predominantly agricultural businesses (e.g. farms).

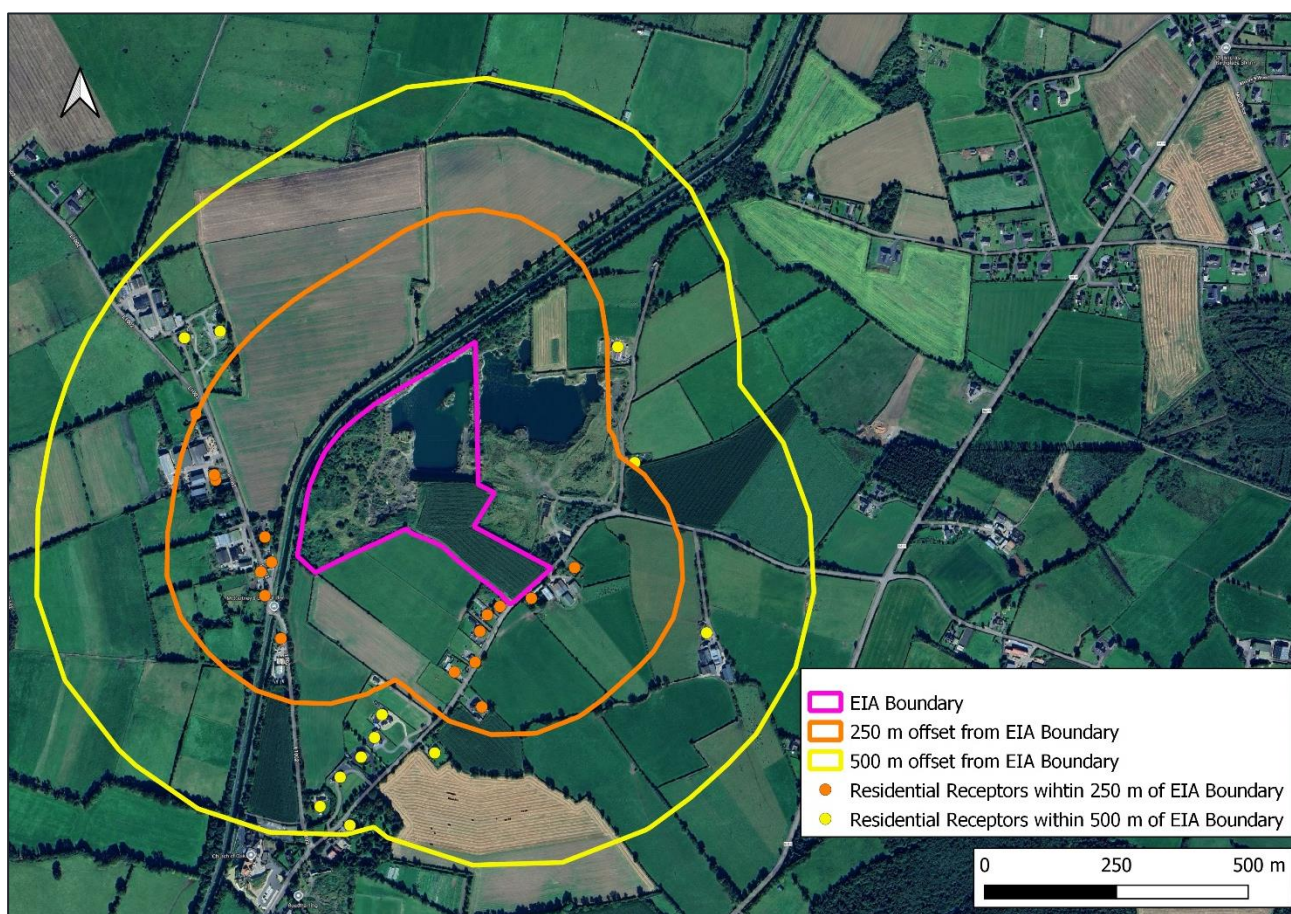


Figure 3-3 - Residential receptors

3.4.2 Population

The lands subject to this EIAR do not hold a resident population. 16 no. properties have been identified within 250 m of the Proposed Project, (which are not within the Applicant's overall land holding or within the EIA boundary). The lands do not currently hold a seasonal population in the form of workers at the Proposed Project. Future impacts to such have been described in Section 3.6.1. The Proposed Project is located within the ED of Quinsborough, (CSO Area Code AO87078001), which has an area of 14.5 km².

Table 3.4 summarises population statistics for the State, Leinster, Kildare and the Quinsborough Electoral Division (ED). The percentage population increase has been calculated between the census periods of 1996, 2002, 2006, 2011, 2016 and 2022.

Generally consistent increases in population were observed in the State, Leinster and Co. Kildare over the Census periods, with Co. Kildare having the largest growth from the period between 1996–2002. This was the largest increase proportionally, observed in any of the other areas as Table 3.4 and Table 3.5 show. County Kildare outpaced the increase in provincial and national records. However the lowest population increase between State, Province and County appears to take place between 2011 and 2016.

The population of Quinsborough ED increased over all of the census periods. Between 1996 and 2002 and 2002 and 2006 the population of Quinsborough ED increased by large proportions followed by a decline in growth from 2006 to 2011 and 2016 and 2022.

The higher rates of population increase seem to vary between the areas with no obvious consistency between the years of largest increase.

Table 3-4 - Populations recorded during the 1996 to 2022 census period, (Central Statistics Office).

Area	1996	2002	2006	2011	2016	2022
State	3,626,087	3,917,203	4,239,848	4,588,252	4,761, 865	5,149,139
Leinster	1,924,702	2,105,579	2,295,123	2,504,814	2,634,403	2,870,354
Co. Kildare	134,992	163,944	186,335	210,312	222,504	247,774
Quinsborough ED	99	115	137	145	160	166

Table 3-5 - Population dynamics (% change) from 1996 to 2022, (Central Statistics Office).

Area	1996 to 2002	2002 to 2006	2006 to 2011	2011 to 2016	2016 to 2022
State	8.0	8.2	8.2	3.8	8.1
Leinster	9.4	9.0	9.1	5.2	11.4
Co. Kildare	21.4	13.7	12.9	5.8	11.3
Quinsborough ED	16.2	19.1	5.8	10.3	3.8

A total of 28 no. existing third-party residential dwellings are found to be currently within 500 m of the EIA boundary, of these 16.no receptors are located within 250 m of the EIA boundary. The number of residences is based on a review of aerial photography during the assessment period, DCCAIE Eircode mapping and a local authority planning permission search.

Population Age Distribution

Table 3-6 shows the percentage population distribution by age for the State, Co Kildare and Quinsborough ED. The population age distribution percentages have been calculated for the available Census periods for the relevant population areas.

From a comparison of the increases in the age 0-14 and 30-44 demographics between 2011 and 2016 it is indicated that there was a decrease in younger person within the Quinsborough ED as persons who were in the 0-14 group in 2011 are now in the 15-29 group; further decreases are seen this age group by 2022. However, the 30-44 age range was relatively stable.

The size of the over 65 age group within the Quinsborough ED decreased marginally, less than with those groups in Kildare area and the State as a whole for the same period. Decreases in the proportional size of the 15-29 age group were also evident across the Quinsborough ED, Co. Kildare and the State for the same period.

Table 3-6 - Population Age Distribution, (Central Statistics Office)

Year	Area	% Aged	% Aged	% Aged	% Aged	% Aged
		0-14	15-29	30-44	45-64	65+
2022	State	19.7	18.3	21.9	25.1	15.1
2016	State	21.1	18.4	23.3	23.8	13.4
2011	State	21.3	20.5	23.7	22.7	11.7
2006	State	20.4	23.7	22.9	21.9	11.0
2002	State	21.1	24.4	22.1	21.2	11.1
1996	State	23.7	24.6	20.9	19.4	11.4
2022	Kildare	21.5	18.5	22.7	40	12
2016	Kildare	24.1	18	24.8	23.2	9.9
2011	Kildare	24.5	20.2	25.8	21.6	7.9
2006	Kildare	23.1	23.9	25.7	20.5	6.9
2002	Kildare	23.7	24.9	25.0	19.7	6.7
1996	Kildare	26.5	25.4	23.3	17.6	7.2
2022	Quinsborough ED	23.4	11.4	21.1	25.3	12.7
2016	Quinsborough ED	24.3	15.6	25.7	28.1	6.3
2011	Quinsborough ED	20	20	26.9	26.2	6.9

2006	Quinsborough ED	Not Available	Not Available	Not Available	Not Available	Not Available
2002	Quinsborough ED	Not Available	Not Available	Not Available	Not Available	Not Available
1996	Quinsborough ED	Not Available	Not Available	Not Available	Not Available	Not Available

Population Density

Table 3-7 shows population densities for the State, Leinster, Co. Kildare and Quinsborough ED. The population densities have been calculated between the Census periods of 1996, 2002, 2006, 2011, 2016 and 2022.

As expected from the increased populations, the population densities also increased in the State, province and county areas of the Census periods. Approximately corresponding increases were evident in Co Kildare and the State owing to the influence of steady development of Kildare in the past 30 years.

The population density of the Quinsborough ED is still much lower than that observed in the State, Province and Co. Kildare which reflects the wholly rural nature of the area as it is located with no major towns in its vicinity.

Table 3-7 - Population Density (persons per square kilometre) from 1996 to 2022, (Central Statistics Office)

Area	Size km ²	1996	2002	2006	2011	2016	2022
State	70,273	51.6	55.7	60.3	65.3	67.8	73.27
Leinster	19,800	97.2	106.3	115.9	126.3	133.1	145.0
Co Kildare	1,690	79.87	97.0	110.25	124.4	131.7	146.6
Quinsborough ED	14.5	6.8	7.9	9.4	10.0	11.0	11.4

Households

Table 3-8 displays the number of households and persons per household for the State, Co. Kildare and the Quinsborough ED. The statistics have been calculated for the available Census periods of 2011, 2016 and 2022.

It can be noted that the increases and decreases in the average size of households are relatively consistent for the Quinsborough ED, Kildare, and the State for the same periods.

Table 3-8 - Households from 2011 to 2022, (Central Statistics Office)

Area	2011			2016			2022		
	Household	People	Avg. No. Persons per Household	Household	People	Avg. No. Persons per Household	Household	People	Avg. No. Persons
State	1,654,208	4,510,409	2.7	1,654,208	1,702,289	2.7	1,841,152	5,046,681	2.7
Co Kildare	70,763	208,522	2.9	73,596	220,923	3.0	82,793	246,285	3.0
Quinsborough ED	43	146	3.4	52	157	3.0	55	172	3.1

3.4.3 Employment / Local Economies

Employment at the Site

There is no consolidated methodology or practice for assessing the impact on employment in EPA (2022) guidance. The impacts of the Proposed Project on employment have therefore been assessed qualitatively based on the number of jobs which the Proposed Project has created. It is predicted that the Proposed Project will provide direct and indirect employment. Direct jobs include the workforce employed by the Applicant directly at the Proposed Project. Indirect employment includes those created in the supply chain to provide input (e.g. fuels), specialist labour (e.g. contract drivers) and services (e.g. equipment maintenance) for the site and workforce.

Principal Status

Table 3-9 summarises the employment status of the persons aged 15 years or older in Co. Kildare and the Quinsborough ED. As can be deduced from Table 3-6 this age profile equates to 76.6% (2022), 75.7% (2016) and 80% (2011) of the total population in the Quinsborough ED and 78.5% (2022), 75.9% (2016) and 75.5% (2011) of the total population in Co Kildare.

Table 3-9 - Principal Status of Persons 15 years and older in Co Kildare and Quinsborough ED, in 2011, 2016 and 2022 (Central Statistics Office).

Status	Co Kildare	Co Kildare	Co Kildare	Quinsborough ED	Quinsborough ED	Quinsborough ED
	2011 (%)	2016 (%)	2022 (%)	2011 (%)	2016 (%)	2022 (%)
At work	54.0	56.8	59.1	61.2	67.8	68.6
Looking for first regular job	0.9	0.8	0.8	0	0.8	0
Unemployed having lost or given up previous job	10.9	6.5	3.8	6.9	3.3	1.7
Student	11.4	12.2	11.8	11.2	7.4	8.5
Looking after home/family	9.8	8.6	6.9	10.3	8.3	14.4
Retired	9.1	11.2	13.1	6.0	6.6	5.1
Unable to work due to permanent sickness or disability	3.8	3.7	3.9	4.3	4.1	0.8
Other	0.3	0.3	0.7	0	1.7	0.8

Employment Industry

Table 3-10, Table 3-11 and Table 3-12 show the percentage of persons aged 15 years or older per employment industry in the State, Co Kildare and the Quinsborough ED in 2022, 2016 and 2011 respectively.

Employment industries where the percentage of persons in Quinsborough ED are above the national average and that for Kildare include; ‘building and construction’ within which the quarry land use would fall. Agriculture, forestry and fishing are higher than the state and county averages. It can be seen that a decline in ED and to a lesser extent, county residents working in the manufacturing industry occurred between 2011 and 2022 compared to the national situation.

Table 3-10 - Percentage persons in work by industry, 2022, (Central Statistics Office)

Industry	State (%)	Kildare (%)	Quinsborough ED (%)
Agriculture, forestry and fishing	3.3	2.6	11.1
Building and construction	5.9	7.0	11.1
Manufacturing industries	11.4	11.8	6.2
Commerce and trade	24.5	26.9	18.5
Transport and communications	9.5	9.2	6.2
Public administration	5.6	6.4	4.9
Professional services	24.3	23.6	28.4
Other	15.6	12.5	13.6

Table 3-11 - Percentage persons in work by industry, 2016, (Central Statistics Office)

Industry	State (%)	Kildare (%)	Quinsborough ED (%)
Agriculture, forestry and fishing	4.4	3.3	12.2
Building and construction	5.1	6.1	6.1
Manufacturing industries	11.4	11.8	14.6
Commerce and trade	11.8	26.6	17.1
Transport and communications	8	8.6	3.7
Public administration	5.3	6.4	6.1

Industry	State (%)	Kildare (%)	Quinsborough ED (%)
Professional services	23.5	22.8	26.8
Other	17.8	14.3	13.4

Table 3-12 - Percentage persons in work by Industry, 2011, (Central Statistics Office)

Industry	State (%)	Kildare (%)	Quinsborough ED (%)
Agriculture, forestry and fishing	5.1	3.7	9.9
Building and construction	4.8	5.5	5.6
Manufacturing industries	11.6	12.4	16.9
Commerce and trade	25.2	27.0	15.5
Transport and communications	8.1	8.3	2.8
Public administration	6.3	7.8	14.1
Professional services	23.5	22.4	23.9
Other	15.3	12.9	11.3

Local Employment Centres

As previously described, the Proposed Project is situated relatively close to the town of Monasterevin, north of the M7 Motorway. The Proposed Project is unambiguously rural in its setting with Monasterevin approximately 2.7 km away. The area may be considered as moderately suitable for commuting to Dublin; Quinsborough ED is approximately 70km in distance from the city centre – taking slightly over one hour to drive in non-rush hour traffic.

Public transport routes and the M7 motorway provide linkages and strengthen the area's status as a commuter zone, though noting vehicular transport must be taken to a train stop. The train stop is Monasterevin station ca. 4-minute drive from the Proposed Project. This stop is served by Inter-city rail commuter Portlaoise to Heuston Station; therefore, the Proposed Project is considered well serviced by public transport. The ease of access also makes the area an ideal location for commuters with private cars.

There are no commercial premises identified between 250 m and 500 m of the EIA boundary. The number of these business premises are based on a field survey, a review of

aerial photography during the assessment period, DCCA Eircode mapping and a local authority planning permission search.

3.4.4 Amenity

The subject lands do not offer amenity opportunities for the public being a private commercial enterprise. Please refer to Chapter 10 Landscape & Visual assessment for an assessment of the effect of the land use and restoration plans on the landscape of the area.

The Grand Canal and associated pathway runs broadly parallel to the north of the Application Site/EIA boundary. This section of Grand Canal and associated pathway are part of the Barrow Line of the Grand Canal, the Barrow Blueway, and the Barrow Way National Waymarked Trail. McCartney's Lock Bridge is located on the canal at approximately 115m to the south of the site. (see Chapter 10 Cultural Heritage for details). There are no known heritage assets within the Site extents. There are 11 heritage assets within the 1km study area, consisting of:

- four archaeological heritage assets listed in the RMP;
- six architectural heritage assets listed within the NIAH; and
- one newly identified non-designated heritage asset.

Infrastructure to the benefit of a wider population in the form of an upgraded M7 has been in place since approximately 2004 and is described in Chapter 12 (Traffic).

Further from the Application Site: Moore's Lock is approximately 2.7 km southwest and Moore Abbey Woods is approximately 3.5 km south of the Proposed Project. Moore Abbey woods is a mixed woodland area of approximately 250 acres. The woods are also the site of a 5th century monastery that was founded by St. Evin and was re-founded in the 12th century as a Cistercian monastery. It was later granted to the son-in-law of a Lord chancellor of Ireland and became known as Moore Abbey Demesne.

Other amenity areas surrounding the Proposed Project include Ballykelly G.F.C, the nearest public amenity facility, at approximately 650m southwest of the Proposed Project and Barrett Park Soccer field which is approximately 1.7km southwest of the Proposed Project. Church of Oak Distillery is a nearby commercial enterprise at approximately 650m, southwest of the Proposed Project. There are a number of other amenities and tourist attractions in the area including an Aqueduct and Moore's Lock which is approximately 2.7km southwest of the Proposed Project.

Local clubs and amenity areas presented above are utilised by the wider Ballykelly and Monasterevin communities and not just limited to the local population of the Quinsborough, indeed these amenities are not located in this ED.

There are no known religious centres within 1 km of the Application Site.

3.4.5 Land Use and Development Patterns

The Proposed Project comprises lands which have been historically used for quarrying activities and are classified in Corine Landcover (EPA, 2018) as ‘Pastures’.

The lands surrounding the Site can be characterised as rural in nature, with land uses in the area being agricultural, forestry and single-house residential. The lands contiguous to the boundaries of the Proposed Project are in agricultural use, predominantly pasture lands and arable/cultivation land. A disused quarry void is located to the east of the Proposed Project. The boundaries of the EIA Boundary are comprised predominantly of hedgerows and scrub.

There are 28 no. scattered residential properties within the study area, primarily concentrated along the Local Road L7049.

There are no waste licenced or IE/IPC Licenced facilities within 1 km of the Proposed Project.

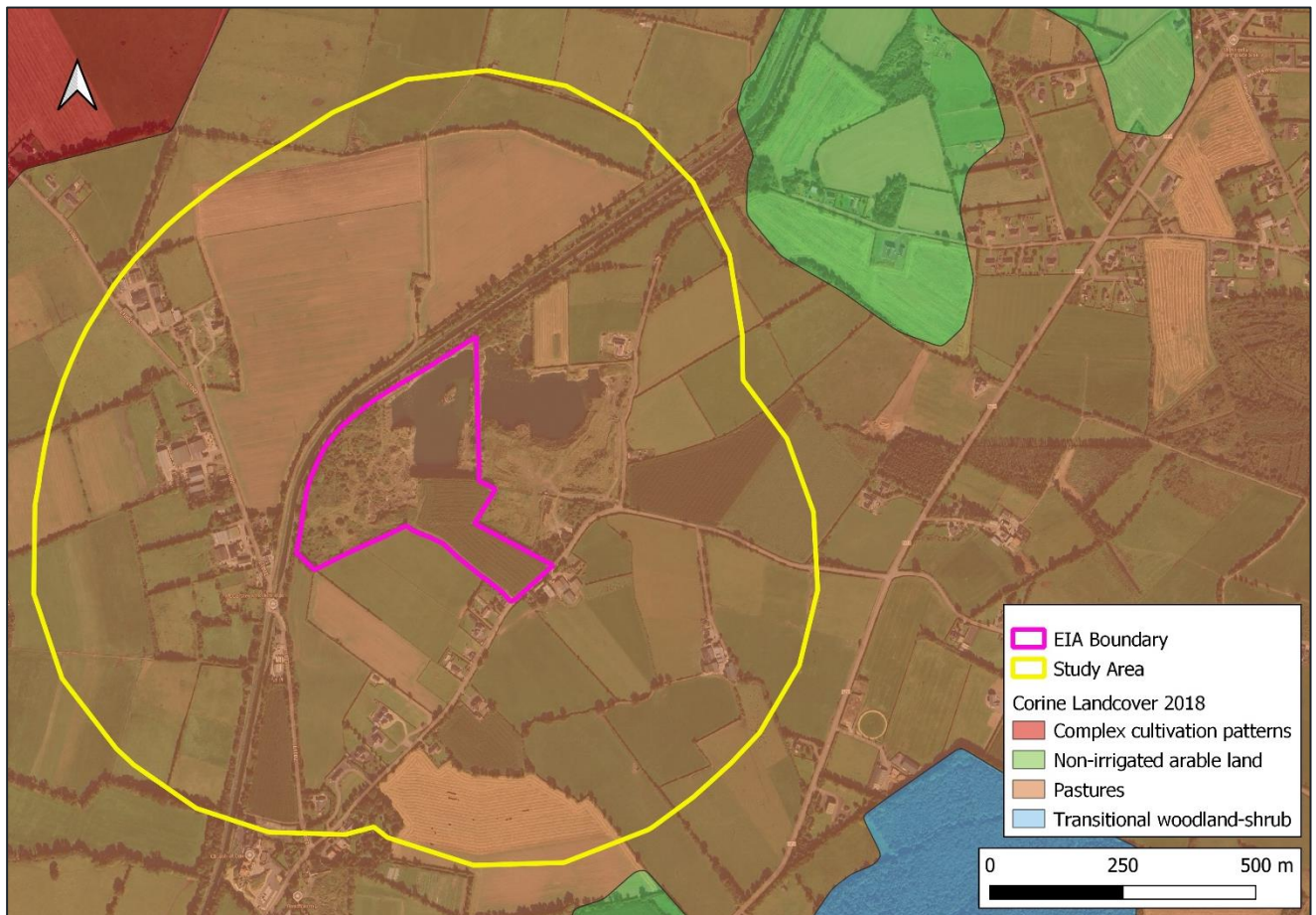


Figure 3-4 - Corine Landcover classification for the study area.

3.4.6 Human Health

Table 3-13 shows the general health of persons by percentage for the State, Kildare and the Quinsborough ED for the 2016 and 2022 census periods.

In the 2022 Census there was a greater percentage of persons in the Quinsborough ED (84.9 %) who classified themselves as being in ‘Good’ or ‘Very Good’ health in comparison with the average for the State (82.9%). However, Co Kildare (86%) displayed the most positive health outcomes. These results are slightly lower than 2016 results.

The percentage of persons who classified themselves as being in ‘Bad’ or ‘Very Bad’ health in the Quinsborough ED in 2022 (1.8%) was only minutely higher than that for the State (1.7%), or Co Kildare (1.5 %). These figures were almost on par for the Quinsborough ED (1.85%) State (1.6%), Co Kildare (1.4%) for the 2016 census period, (variance only ranging from 0.5 – 1 %) with both state and county having very slightly less ‘Bad’ or ‘Very Bad’ health status in 2016.

Table 3-13 - General Health percentage of the population, (Central Statistics Office)

General Health	2016 State (%)	2016 Co Kildare (%)	2016 Quinsborough ED (%)
Very good	59.4	63.1	64.4
Good	27.7	26.4	26.3
Fair	8.0	6.8	5.6
Bad	1.3	1.1	1.25
Very bad	0.3	0.3	0.6
Not stated	3.3	2.34	1.9
General Health	2022 State (%)	2022 Co Kildare (%)	2022 Quinsborough ED (%)
Very good	53.2	56.8	58.4
Good	29.7	29.2	26.5
Fair	8.6	7.7	6.6
Bad	1.4	1.2	1.2
Very bad	0.3	0.3	0.6
Not stated	6.7	4.7	6.6

3.4.7 Health and Safety

Bison Quarries Ltd are committed to health and safety at their operations. A Site Manager will be responsible for safety management at the Proposed Project. The Site Manager is

also responsible for the working environment, traffic management, emergency procedures, first-aid arrangements and safe systems of work.

The Proposed Project is required to meet conditions of statutes, in particular in relation to the relevant Health & Safety legislation (Safety, Health & Welfare at Work Act, 2005 as amended and its General Application Regulations 2007, The Safety, Health and Welfare at Work (Quarries) Regulations, 2008 (SI 28 of 2008) as amended) and subsequent Health and Safety Regulations and Quarries Regulations relating to safety health and safety, training, appropriate site management.

The operator will maintain a Health and Safety File, including a Safety Statement and associated risk assessments and facilitate site inspections by the Health and Safety Authority (HSA).

The Proposed Project will include security features such as fencing and security gate. Boundaries will be inspected at regular intervals over the life of the facility and the Site Manager will action repairs as appropriate.

The only vehicular entrance is the proposed relocated and upgraded entrance from the L7049 to the southeast of the Proposed Project. The Proposed Project will have an alarm system installed on the office, workshop and other enclosed buildings. The entrance to the Proposed Project is secured by a steel gate. Works will mainly take place during daylight hours and within the permitted hours of operation. During winter months, temporary mobile lighting will be provided, as required along access and haul roads; around the site entrance and facilities, and at the active working areas for health and safety reasons.

3.5 Do Nothing Scenario

In the absence of any development, the lands will continue to be consisting mainly of the disused quarry void which has filled with water. Therefore, the long-term land-use would continue to have no agricultural potential.

Job creation associated with the staffing required to operate the facility would not occur if the Proposed Project did not proceed.

3.6 Characteristics of the Proposed Project

A detailed Project Description has been provided within Chapter 2 of this EIAR.

Characteristics of this project that are relevant to the assessment of human health that relate to environmental nuisance (e.g. dust, noise) are addressed in the relevant wider EIAR technical chapters as set out in section 3.1.

Characteristics of this project that are relevant to the assessment of employment/local economies are:

- It is anticipated that the Proposed Project will employ direct staff to include a full-time operator and site manager and three additional staff during the construction phase.

Indirect employment sectors providing services to the Proposed Project will include (but not be limited to) waste management service providers, vehicle maintenance service providers, and fuel suppliers.

3.7 Potential Effects

3.7.1 Population

Given the scale and direct staffing requirements of the Proposed Project during its proposed 13-year duration, it is considered that there will be no likely significant effects on local population dynamics.

Therefore, it is predicated that the Proposed Project will have **no effect** on the population dynamics of the local community.

3.7.2 Employment

As stated previously, it is anticipated that the number of employees which the Proposed Project will directly employ over construction phase is estimated to be three along with a full-time operator and site manager. The Proposed Project will create indirect employment through the use of third-party providers of waste management services, equipment maintenance services, etc, during construction phase. Aftercare and maintenance carried out in the restoration phase will provide intermittent, short-term employment for landscaping contractors.

Given employment opportunities and working age population within the wider area (e.g. Monasterevin) it is considered that employees as sensitive receptors are of High sensitivity. Given the scale of employment (direct and indirect) the Proposed Project is considered to have a magnitude of effect on employment that is Negligible (Beneficial). Therefore, the predicted level of effect is Slight and is **Not Significant**.

3.7.3 Amenity (Including Tourism)

The Proposed Project has the potential to affect the amenity use of the Grand Canal and associated footpath (Barrow Line), and the Barrow Way Blueway, through environmental nuisance caused by dust and noise, traffic changes, and landscape and visual changes resulting from the Proposed Project.

These have been considered in the wider chapters of this EIAR¹ and, with the implementation of the mitigation and monitoring measures set out those chapters, there is predicted to be **No Significant** effects from the Proposed Project.

Given that any existing facilities and amenity hubs in the vicinity of the Proposed Project have developed and accounting for their distance from the site, it is unlikely that the

¹ Lands, Soils and Geology (Chapter 5), Water (Chapter 6), Air Quality (Chapter 7), Noise and Vibration (Chapter 9), Cultural Heritage (Chapter 10) and Landscape and Visual (Chapter 11).

activities at the Proposed Project will impact the tourist potential of the local area. Further information regarding landscape and visual impact and mitigation measures is included in Chapter 11 (Landscape and Visual) of this EIAR.

3.7.4 Land Use

The Proposed Project seeks to return historically quarried lands to their pre-extraction use of agriculture with the provision of ecological enhancement measures.

A key long-term benefit of the proposed restoration works will be the reinstatement of the disused quarry within the Application Site to grassland / hedgerow habitat, as well as the removal of potentially unsightly extractive voids from the landscape. These effects are considered to be permanent, minor and beneficial.

An assessment of landscape and visual impacts associated with the Proposed Project is presented in Chapter 11 (Landscape and Visual) of this EIAR.

3.7.5 Human Health

During construction phase there is the potential to effect human health through the following activities:

- the generation of dust and/or air borne particulates (e.g. during emplacement of fill (especially during dry periods), stockpiling of soils, and movement of HGVs and equipment);
- the generation of noise by the movement and operation of haulage HGVs and earthmoving plant and activities;
- the risk of importing potentially contaminated materials;
- the risk of accidental leakage or spillage of materials such as fuel / oil into the underlying soil / bedrock and ultimately to groundwater; and
- changes to groundwater connectivity in the subsurface due to infilling of the void.

The companion chapters of this EIAR define and assess the predicted impact of the Proposed Project and set out mitigation measures from the perspective of discreet environmental factors. These chapters determine that the assimilative capacities of those environmental factors are sufficient, with mitigation measures, to accommodate the Proposed Project without significant negative impacts and it is considered that the human health has been protected. However, for this assumption to be drawn, the mitigation measures set out in the chapters Soils and Geology (Chapter 5), Water (Chapter 6), Air Quality (Chapter 7), Noise and Vibration (Chapter 9); and Landscape and Visual (Chapter 11) and Traffic and Transport (Chapter 12) of the EIAR must be implemented. Companion chapters of this EIAR indicate that the level of effects to Human Health is no greater than Slight and therefore is **Not Significant**.

Following construction phase there is considered to be no likely significant temporary or permanent effects on human health.

3.7.6 Health and Safety

With appropriate health and safety measures, such as security fencing and a site manager and temporary lighting to be implemented during the construction phase, the predicted level of effect is Slight and is considered to be **Not Significant**.

3.8 Mitigation Measures and Monitoring

No specific measures to address impacts to the population and human health associated with the Proposed Project are proposed in addition to those set out in other chapters of this EIAR .

There is no monitoring required other than that identified in other chapters of this EIAR.

3.9 Residual Effects

The assessment concludes that the Proposed Project will not give rise to significant adverse effects to surrounding human environment. In all cases the residual effect is considered to be not greater than **Not Significant**.

3.10 Cumulative Effects

Given the nature, scale and location of the Proposed Project, and assuming other third-party project are developed using best practices it is predicted that there will be **no cumulative effects** with third-party projects within the study area.

3.11 Difficulties Encountered

No specific difficulties were encountered during the preparation of this assessment.

3.12 References

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