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INTRODUCTION

Background

4.1 This chapter provides an Ecological Impact Assessment (EclA) on the likely significant impacts on designated sites, habitats and species arising from the proposed increase in the permitted intake rate of inert waste to an existing construction and demolition (C&D) waste recovery facility at the Central Quarry at Roadstone's Hunstown Quarry Complex in North County Dublin and the relocation of that facility (within 2 to 3 years) to a new location in the north-eastern part of the quarry complex.

Location and Setting

4.2 Huntstown Quarry is a large operational quarry that lies in the townlands of Kilshane, Huntstown, Johnstown, Grange and Cappogue approximately 6km west of Dublin Airport. The quarry complex comprises four main extraction areas (i.e. North Quarry, Central Quarry, South Quarry and West Quarry) within a total landholding of approximately 200 hectares (ha).

4.3 The application site, comprising both the existing and planned replacement C&D waste recovery facility, covers an area of 8.3 ha and straddles the townlands of Kilshane, Huntstown and Johnstown (refer to Figure 4-1). The application site encompasses an existing C&D waste recovery facility located at the Central Quarry (c.1.9 hectares), existing internal roads and an agricultural field under permanent pasture in the north-eastern part of the Huntstown Quarry Complex which is the proposed site for the new / replacement C&D waste recovery facility (c.5.2 ha).

4.4 The surrounding land-use is a mixture of urban and commercial development with associated infrastructure including the M50, Dublin Airport and agricultural land and is a landscape typical of a rural-urban fringe.

Purpose of the Ecological Impact Assessment

4.5 The EclA presented in this section of the Environmental Impact Statement can be considered as having three main purposes:

- to provide an objective and transparent assessment of the ecological effects of the development proposal;
- to permit objective and transparent determination of the consequences of the proposal in terms of national, regional and local policies relevant to nature conservation; and
- to demonstrate that the proposal will meet the legal requirements relating to habitats and species.

4.6 This EclA has been undertaken in accordance with guidelines published by the Chartered Institute of Ecology and Environmental Management (CIEEM)¹ 'the CIEEM EclA Guidelines', and with respect to the Environmental Protection Agency's (EPA) guidelines for carrying out Environmental Impact Statements² and follows a standard approach based upon the description of the existing

¹ CIEEM (2016). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal 2nd edition*. Chartered Institute of Ecology and Environmental Management, Winchester.

² Environmental Protection Agency (2002). *Guidelines on the Information to be Contained in Environmental Impact Statements*. Environmental Protection Agency, Johnstown Castle Estate, Co. Wexford.

³ Environmental Protection Agency (2003). *Advice Notes on Current Practice (in the Preparation of Environmental Impact Statements)*. Environmental Protection Agency, Johnstown Castle Estate, Co. Wexford.

baseline conditions within the application site; an evaluation of ecological features present within the application site; the identification of potential ecological effects from the proposed development; and an assessment of the likely significance of identified impacts on important ecological features.

- 4.7 Where a negative impact has been identified, suitable mitigation measures to prevent, reduce or offset the level of impact are provided. Any residual effects, following the implementation of mitigation and enhancement measures, are then identified and assessed with significant effects clearly described. It is not necessarily the purpose of an EclA to mitigate significant ecological effects, but to identify these effects such that they can be fully considered in the decision-making process. Where appropriate, this assessment also sets out the details of implementation measures for proposed mitigation and any requirements for ecological monitoring, maintenance or management.
- 4.8 The assessment considers the likelihood of any cumulative effects, i.e. those resulting from the proposed development and other plans or projects.

LEGISLATIVE AND PLANNING POLICY CONTEXT

- 4.9 This section summarises the key legislation and policies relevant to ecology and nature conservation.

Legislative Context

- 4.10 Relevant wildlife legislation underpinning the conservation of designated sites, habitats and species is summarised in Table 4-1 below:

Table 4-1: Relevant Legislation

Legislation	Description
The Wildlife Act 1976 and Wildlife (Amendment) Act 2000	The Wildlife Act is the primary legislation in Ireland which protects animals, birds, plants and their habitats. It also allows the designation of Natural Heritage Areas (NHA) and statutory Nature Reserves and the regulation of hunting and controls in wildlife trading.
The Flora (Protection) Order 2015	The Flora (Protection) Order 2015 provides statutory protection to a number of rare plant species in Ireland from being wilfully cut, picked uprooted or damaged or part of the plants removed.
European Communities (Birds and Natural Habitats) Regulations 2011 (as amended)	The European Communities (Birds and Natural Habitats) Regulations 2011 transpose into national law European Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive) and Directive 2009/147/EC on the Conservation of Wild Birds (The Birds Directive) that provides for the designation and protection of 'European sites' including Special Areas of Conservation (SAC) and Special Protection Area (SPA), the protection of 'European Protected Species', and the adaptation of planning and other controls for the protection of European Sites. The regulations introduce a review procedure for plans and projects likely to significantly affect a European site, and licensing requirements for developments that may affect a European protected species.

Planning Policies

National

- 4.11 Nationally, the Government's commitment to sustainable development is set out in a number of documents including the National Development Plan 2007-2013, the National Spatial Strategy 2002-2020 and Sustainable Development: A Strategy for Ireland 1997.

Regional

- 4.12 The Regional Planning Guidelines for the Greater Dublin Area (GDA) 2010-2022 set out the long-term spatial planning strategy for the GDA. The strategic policies relevant to ecology and nature conservation within these guidelines are summarised in Table 4-2 below.

Table 4-2: Regional Policies Relevant to Ecology and Nature Conservation

Legislation	Description
Natural Heritage -GIP2	To protect and conserve the natural environment, in particular nationally important and EU designated or candidate sites such as Special Protection Areas (SPA), Special Areas of Conservation (SAC) and proposed Natural Heritage Areas (NHAs), protected habitats and species, and habitats and species of local biodiversity value. This policy also includes new or extended ecological sites that are notified or designated in the lifetime of the Regional Planning Guidelines (RPGs). Appropriate measures to protect Natura 2000 sites should be identified at the initial stages of all planning processes and included as a material consideration in order to inform future development.
River Basins - GIP3	To ensure alignment between the core objectives of the Water Framework Directive, (including River Basin Management Plans and Programmes of Measures affecting the Greater Dublin Area) and other related plans such as County Development Plans and related Local Area Plans; Habitat and Species Protection Plans under the Habitats Directive, Water Services Investment Programme, Nitrates Action Programme; and Flood Management Plans.
Green Infrastructure – GIP6	To ensure the protection, enhancement and maintenance of the natural environment and recognize the health benefits as well as the economic, social, environmental and physical value of green spaces through the development and integration of Green Infrastructure (GI) planning and development in the planning process.

Local

- 4.13 Planning policy at the local level is provided by the Fingal Development Plan (FDP) 2011–2017. The FDP contains a number of policies relevant to ecology and nature conservation that are summarised in Table 4-3.

Table 4-3: Regional Policies Relevant to Ecology and Nature Conservation

Legislation	Description
AA1	Ensure that all plans and projects in the County which could, either individually or in-combination with other plans and projects, have a significant effect on a Natura 2000 site (or sites) will be subject to Appropriate Assessment Screening.
BD04	Ensure that all development proposals include measures to protect and enhance biodiversity.
BD08	Ensure that sufficient information is provided as part of development proposals to enable Appropriate Assessment Screening to be undertaken and to enable a fully informed assessment of impacts on biodiversity to be made.
BD09	Ensure that Natura Impact Statements and any other ecological impact assessments submitted in support of proposals for development are carried out by appropriately qualified professionals and that any necessary survey work takes place in an appropriate season.
BD10	Raise awareness in relation to invasive species and ensure, in so far as possible, that proposals for development do not lead to the spread of invasive species. In particular, ensure that invasive species do not form part of the landscape design proposals for proposed developments.
BD11	Protect inland fisheries within and adjacent to Fingal and take full account of Inland Fisheries Ireland Guidelines in this regard when undertaking, approving or authorizing development or works which may impact upon rivers, streams and watercourses and their associated habitats and species.
BD12	Strictly protect areas designated or proposed to be designated as Natura 2000 sites (also known as European sites), including any areas that may be proposed for designation or designated during the period of this Plan. These include SAC's designated pursuant to the Habitats Directive and SPAs designated pursuant to the Birds Directive, a number of which have also been designated under the Ramsar Convention.
BD13	Ensure Appropriate Assessment Screening and, where required, full Appropriate Assessment is carried out for any plan or project which, individually, or in combination with other plans and projects, is likely to have a significant direct or indirect impact on any Nature 2000 site or sites.
BD14	Ensure planning applications for proposed developments likely to have significant direct or indirect impacts on any Natura 2000 site or sites are accompanied by a Natura Impact Statement prepared in accordance with the Guidance issued by the Department of the Environment, Heritage and Local Government.

Legislation	Description
BD15	Protect the ecological integrity of proposed NHAs, NHAs, Statutory Nature Reserves, Refuges for Fauna and Annex I habitats.
BD16	Ensure that development does not have a significant adverse impact on proposed NHAs, NHAs, Statutory Nature Reserves, Refuges for Fauna, Annex I habitats, and on rare and threatened species including those protected by law and their habitats.
BD17	Ensure ecological impact assessment is carried out for any proposed development likely to have a significant impact on proposed NHAs, NHAs, Statutory Nature Reserves, Refuges for Fauna, Annex I habitats, and on rare and threatened species including those protected by law and their habitats. Ensure appropriate avoidance and mitigation measure are incorporated into development proposals as part of any ecological impact assessment.
BD20	Maintain and/or enhance the biodiversity of the nature development areas indicated on the Green Infrastructure maps.
BD21	Protect the ecological functions of the corridors indicated on the Development Plan Green Infrastructure maps.
BD22	Protect rivers, streams and other watercourses and maintain them in an open state capable of providing suitable habitat for fauna and flora, including fish.
BD23	Ensure that no development, including clearance and storage of materials, takes place within a minimum distance for 10 – 15m measure from each bank of any river, stream or watercourse in the County.
BD27	Protect existing woodlands, trees and hedgerows which are of amenity or biodiversity value and/or contribute to the landscape character and ensure that proper provision is made for their protection and management

Biodiversity Planning

- 4.14 Ireland's second National Biodiversity Plan (NBP)⁴ identifies actions towards understanding and protecting biodiversity in Ireland with the vision *"that biodiversity and ecosystems in Ireland are conserved and restored, delivering benefits essential for all sectors of society and that Ireland contributes to efforts to halt the loss of biodiversity and the degradation of ecosystems in the EU and globally"*.
- 4.15 To implement the NBP, a number of Local Biodiversity Action Plans have been produced including the Fingal Biodiversity Action Plan 2010-2015 that identifies a programme of actions to protect and enhance biodiversity at the local level and which has links into the Fingal Heritage Plan 2011-2017.

⁴ Department of Arts, Heritage and the Gaeltacht (2011). *Actions for Biodiversity 2011-2016 -Ireland's National Biodiversity Plan*.

METHODOLOGY

Area of Study

4.16 The area of study includes all the land within the red line application boundary for the proposed development at Huntstown Quarry, as well as important ecological sensitive features within the potential zone of influence of this site with the potential to be directly and indirectly affected by the proposed development.

Establishing the Ecological Baseline Conditions

4.17 Baseline ecological data were collated through a combination of desk-based study and field survey consistent with current standard methodologies and published good guidelines. The scope of the ecological field surveys was defined on the basis of known and the potential ecological interest within the application site and best practice⁵.

4.18 Table 4-4 provides a summary of the ecological scope of works and the methods used to establish the ecological baseline conditions within the study area

4.19 Over and above the scope of works in Table 4-4, it was deemed that no other specialist surveys were necessary in respect of the habitats present at the application site and their potential to support protected species

Table 4-4: Summary of Ecological Scope of Works and Methods Used

Study	Scope of Work	Study Area	Methodology
Desk-based study	Statutory and non-statutory designated sites	All sites within a 2km radius of the application site	Web-search and the National Parks and Wildlife Service (NPWS) interactive mapping facility (www.designatedareas.ie).
	Protected, rare and notable species	2km grid squares encompassing the application site (grid squares O14A and O14B).	Web-search including information held by the National Parks and Wildlife Service (NPWS) (www.npws.ie) and the National Biodiversity Data Centre (NBDC) (www.biodiversityireland.ie).

⁵ Institute of Environmental Assessment (1995). *Guidelines for Baseline Ecological Assessment*. Chapman and Hall (E & F N Spon), London.

Study	Scope of Work	Study Area	Methodology
Habitat Survey	To record and classify the habitat-types and appraise on the likely presence/absence of protected species	Application Site	<p>Site visits and walkover surveys by an ecologist from SLR on 2 June 2016 and 30th November 2016.</p> <p>Standard approach to the classification and mapping of habitats in accordance with Fossitt (2000)⁶ to Level 3 and target notes where applicable to describe any feature of particular ecological interest.</p> <p>Extension of Habitat Survey method to include an assessment of habitats for evidence of, or their potential to support protected, rare or notable species (including mammals, birds, reptiles, amphibians and invertebrates) and any other ecology that may require mitigation or an ecologically sensitive design in respect of the proposed development.</p>
Hedgerow Appraisal	To assess the conservation value of the hedgerows	Application site	<p>A detailed assessment of the hedgerows within and along the boundaries of the application site was undertaken by SLR during the Habitat Survey. Each hedgerow was assessed against the criteria for determining the 'significance' of hedgerows under the Hedgerow Appraisal System (HAS)⁷ based on ranking the hedgerows on a scale of 0 (low significance) to 4 (highly significant) in five categories of significance including: historical; species diversity; structure, construction and associated features; habitat connectivity and landscape</p>

Uncertainty of Data and Limitations

4.20 The lack of evidence of any one particular protected species does not necessarily preclude its presence at the site either at this current time or in the future. It is considered however, that the timing of the site visits were suitable for protected species and their habitat-based assessment, as most species would have been active during this time and provided evidence of their presence.

⁶ Fossitt, J. A. (2000). *A Guide to Habitats in Ireland*. Reprint 2007. The Heritage Council, Kilkenny, Ireland.

⁷ Foulkes, N., Fuller, J., Little, D., McCourt, S. and Murphy, P. (2013). *Hedgerow Appraisal System – Best Practise Guidance on Hedgerow Survey, Data Collation and Appraisal*. Woodlands of Ireland, Dublin.

Assessment Methodology

Evaluation of Ecological Features

- 4.21 CIEEM suggest that to ensure a consistency of approach, ecological features (designated sites, habitats and species) are valued in accordance with the geographical frame of reference. For the purpose of this assessment the geographical frame of reference defined by the Transport Infrastructure Ireland⁸ has been used, as detailed below:
- International;
 - National;
 - County;
 - Local (higher); and
 - Local (lower).
- 4.22 The above categories are then applied to the features identified in baseline surveys and desk-based studies. Some feature can already be recognised as having ecological value and, as such, they may be designated as statutory or non-statutory designated nature conservation sites. Other features may require an evaluation based upon their previously un-assessed biodiversity value. A summary of the criteria used in the evaluation of designated sites, habitats and species is provided in Table 4-5.

Table 4-5: Criteria for the Evaluation of Important Ecological Features

Evaluation	Criteria
International	<p>An internationally designated site or proposed site including Special Area of Conservation (SAC), Site of Community Importance (SCI) and Special Protection Area (SPA) and Ramsar site, or an area which has been determined meets the published selection criteria for such designations, irrespective of whether or not it has yet been notified.</p> <p>World Heritage Sites, where the ecological feature assessed is an intrinsic part of the natural heritage value that led to the designation.</p> <p>An intrinsic part of the core area of a designated Biosphere Reserve.</p> <p>Undesignated sites containing 'best examples' of Annex I habitats under the EU Habitats Directive.</p> <p>Major designated salmonid waters.</p> <p>A resident or regularly occurring population of an internationally important bird species listed in Annex I and/or referred to in Article 4(2) of the EU Birds Directive and/or a species of animal or plant listed in Annex II and/or IV of the EU Habitats Directive and which is threatened or rare in Ireland or of uncertain conservation status or of global conservation in the NBP.</p> <p>A resident or regularly occurring nationally significant population or of any internationally important species representing greater than 1% of its international population.</p>

⁸ NRA (2009). *Guidelines for Assessment of Ecological Impacts of National Road Schemes*. Revision 2. National Roads Authority, Dublin.

Evaluation	Criteria
National	<p>A nationally designated site or proposed as a National Heritage Area (NHA) or statutory Nature Reserve or Refuge for Fauna and Flora, or an area fulfilling the criteria for designations, irrespective of whether or not it has yet been notified.</p> <p>Undesignated sites containing good examples and viable areas of Annex I habitats under the EU Habitats Directive.</p> <p>A resident or regularly occurring population (>1% of the national population) of a nationally important species which is protected under the Wildlife Acts and or listed on a relevant Red Data list.</p>
County	<p>Areas identified as Areas of Special Amenity, subject to a Tree Preservation Order or Area of High Amenity where designated on the basis of their ecological value.</p> <p>Site containing area or areas of habitat types listed in Annex I of the EU Habitats Directive that do not fulfil the criteria for valuation of International or National importance.</p> <p>A resident or regularly occurring locally significant population (>1% of the county population) assessed of importance of a county important species and/or a species protected under the Wildlife Acts or listed in Annex I of the EU Birds Directive, Annex II and/or IV of the EU Habitats Directive or on a relevant Red Data list assessed to be important at County level.</p> <p>County important populations of species, or viable areas of semi-natural habitats or natural heritage features identified within the NBP and/or Local BAP.</p> <p>Sites containing semi-natural habitat types with high biodiversity in a county context and a high degree of naturalness, or populations of species that are uncommon within the county.</p> <p>Sites containing habitats and species that are rare or are undergoing a decline in quality or extent at a national level.</p>
Local (Higher)	<p>Locally important populations of priority species or habitats or natural heritage features identified in any Local BAP.</p> <p>A resident or regularly occurring locally significant population (>1% of the local population) and/or a species protected under the Wildlife Acts or listed in Annex I of the EU Birds Directive, Annex II and/or IV of the EU Habitats Directive or on a relevant Red Data list assessed to be important at the Local level.</p> <p>Sites containing semi-natural habitat types with high biodiversity in a local context and a high degree of naturalness, or populations of species that are uncommon in the locality.</p> <p>Sites or features containing common or lower value habitats, including naturalised species that are nevertheless essential in maintaining links and ecological corridors between features of higher ecological value.</p>
Local (Lower)	<p>Sites containing small areas of semi-natural habitat that are of some local importance for wildlife.</p>

Assessment of Impacts

4.23 The assessment of potential ecological impacts has been carried out using the guidelines published by the CIEEM and EPA and can be summarised as:

- the identification of the range of potential impacts that may arise from the proposed development;
- the consideration of the systems and processes in place to avoid, reduce and mitigate the possible effects of these impacts;

- the identification of opportunities for ecological enhancement within the development;
- an assessment of the residual impacts, following consideration for the implementation of avoidance, mitigation and enhancement measures; and
- where necessary the identification of compensation required to offset any residual effects.

4.24 Table 4-6 provides a summary of the criteria used to evaluate the residual impacts and assess the significance of any such impact.

Table 4-6: Key Considerations when Characterising Impacts

Description	Definition
Direction of impact	Positive (a change that improves the quality of the environment) or Negative (a change which reduces the quality of the environment)
Probability of occurring	Broadly defined on 4 levels: Certain (95% chance or higher), Probable (above 50% but below 95%), Unlikely (above 5% but less than 50%) and extremely unlikely (less than 5%).
Magnitude	Size, amount, intensity and volume of any impact on any particular feature including any severity of effect, based on EPA's guidance, as imperceptible, slight, moderate, significant and profound
Duration	Effects may be described, based on EPA's guidance, as short (1 to 7 year), medium (7 to 15 years) or long-term (15 to 60 years) and permanent or temporary in ecological terms (e.g. within the lifetime of the species affected)
Frequency and timing	The number of times an activity will occur and timing of an activity
Reversibility	Whether or not the effect can be reversed from spontaneous recovery or which may be counteracted by mitigation within a reasonable timescale

4.25 Impacts are defined as being negative or positive. The term significant is independent of the value of the receptor. A significant impact is defined as an impact on the integrity of a defined ecosystem and/or an action that undermines the conservation objectives (either specific or broad) of an important ecological feature.

4.26 Where a potential negative impact has been identified, mitigation, enhancement and/or compensatory measures have been formulated using best practice techniques and guidance to prevent, reduce or offset a significant effect. The degree of confidence in the likely success of mitigation or compensation, based upon published studies and the experience of the assessor, is also made and any uncertainties are clearly expressed.

4.27 The final part of the assessment is to determine the significance of the residual impacts of the proposed scheme from an ecological perspective and also describe the implications of the proposed development from a legal and policy perspective.

ECOLOGICAL BASELINE CONDITIONS

4.28 The section provides a general overview of the existing ecological baseline conditions at the application site and within its wider surrounding environment.

General Site Description

4.29 The application site comprises the worked out Central Quarry that now forms the site of an existing and permitted C&D waste recovery facility (Planning Reference F02A/0602) and an agricultural field under permanent pasture located in the north-eastern part of the quarry complex at Huntstown which is proposed as the site of the replacement facility.

4.30 The existing and proposed replacement facility sites are linked by an existing road network servicing various aspects of the existing quarry complex and associated infrastructure.

Designated Sites

4.31 The application site is not subject to any statutory or non-statutory nature conservation designations and there are no such sites within a 2km radius of the application site.

Habitats

4.32 The habitat types recorded within the application site based on the classification as defined by Fossitt (2000) are presented in Table 4-7 overleaf.

Table 4-7: Summary of Habitat Recorded within the Application Site

Level 1 Habitat Hierarchy	Level 2 Habitat Hierarchy	Level 3 Habitat Hierarchy	Area / Length
W - Woodland & Scrub	WD – Highly modified / non-native woodland	WD1 – (mixed) broadleaved woodland	0.85 ha
	WS – Scrub / transitional woodland	WS1 – Scrub	0.10 ha
	WL – Linear woodland / scrub	WL1 – Hedgerows	603 m
G - Grassland & Marsh	GA – Improved grassland	GA1 – Improved agricultural grassland	3.53 ha
F - Freshwater	FL – Lakes and ponds	FL8 – Other artificial lakes and ponds	0.11 ha
B - Cultivated and built land	BL - Buildings and artificial surfaces	BL3 – Buildings and artificial surfaces	1.64 ha
E - Exposed rock and disturbed ground	ED – Disturbed ground	ED2 – Spoil and bare ground	0.25 ha
		ED3 – Recolonising bare ground	0.15 ha
		ED4 – Active quarries and mines (including the sub-habitat ER2 – Exposed calcareous rock)	1.43 ha

- 4.33 Figure 4-1 shows the location and extent of the habitats recorded at the application site along with important habitats and other features identified immediately adjacent the application site. A summary description and ecological evaluation of each of the habitat and other key features is provided in Table 4-8.

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Table 4-8: Description and Evaluation of Habitats and Other Features

Habitat / Feature	Description	Location	Level of Value	Rationale
Woodland and Scrub				
WD1 – (Mixed) broadleaved woodland	WD1 – (Mixed) broadleaved woodland habitat comprises a small block of woodland plantation along the eastern edge of the agricultural field forming the site of the new proposed C&D waste recovery facility (TN1). The woodland comprises lines of trees and with open areas to form glades. The eastern half of the plantation is dominated by pedunculate oak (<i>Quercus robur</i>) whilst the western half ash (<i>Fraxinus excelsior</i>) is the dominant tree species. Other species present include sycamore (<i>Acer pseudoplatanus</i>), Douglas fir (<i>Pseudotsuga menziesii</i>), blackthorn (<i>Prunus spinosa</i>) and bramble (<i>Rubus fruticosus</i> agg.). The ground flora typically forms an extension of the GA1 – Improved agricultural grassland habit present in the adjacent agricultural field.	Site of new proposed facility	Local (lower)	Relatively young plantation woodlands of low conservation value at this current time but which provide some opportunities for a range of wildlife.
WL1 – Hedgerows	WL1 – Hedgerows are found along the northern, eastern and southern boundaries of the proposed new facility. The hedgerow running along the northern (TN3), eastern (TN2) and southern (TN4) boundaries of the site of the proposed new facility are dominated by hawthorn and blackthorn. Other species present include ash, dog-rose (<i>Rosa canina</i> agg.), elder and bramble but with some hazel (<i>Corylus avellana</i>) present in the hedgerow at TN4. The ground flora is typically dominated by ivy (<i>Hedera helix</i>). A summary of the hedgerow appraisal is presented at Appendix A.	Site of new proposed facility	Local (lower)	A habitat detailed within the Fingal Biodiversity Action Plan. A relatively common and widespread habitat in a national and local context but a resource that is in decline in Fingal due to development and lack of management. Hedgerows at TN4 assessed as being a heritage hedgerow for its historical significance, but which is of low ecological value as per all other hedgerows in the application site.

Habitat / Feature	Description	Location	Level of Value	Rationale
WS1 – Scrub and WS2 – Immature woodland	At the site of the proposed new facility WS1 - Scrub comprising of hawthorn (<i>Crataegus monogyna</i>) and bramble with some butterfly-bush (<i>Buddleja davidii</i>) is found extending along the base of a spoil mound and which forms an extension to the adjacent hedgerow at TN3 with further smaller isolated patches found on other parts of the spoil mound slopes.	Site of new proposed facility	Local (lower)	Typically common and widespread habitat of low conservation value but which provide some opportunities for wildlife in particular birds and invertebrates.
Grassland and Marsh				
GA1 – Improved agricultural grassland	<p>The site of the proposed new facility comprises a field of agriculturally improved grassland grazed by horses. The grassland sward comprises the grasses of crested dog's-tail (<i>Cynosurus cristatus</i>), cock's-foot (<i>Dactylis glomerata</i>), red fescue (<i>Festuca rubra</i> agg.), Yorkshire-fog (<i>Holcus lanatus</i>), perennial ryegrass (<i>Lolium perenne</i>) and annual meadow-grass (<i>Poa annua</i>). The herbaceous component of the sward includes lesser burdock (<i>Arctium minus</i>), daisy (<i>Bellis perennis</i>), creeping thistle (<i>Cirsium arvense</i>), spear thistle (<i>Cirsium vulgare</i>), ribwort plantain (<i>Plantago lanceolata</i>), greater plantain (<i>Plantago major</i>), selfheal (<i>Prunella vulgaris</i>), creeping buttercup (<i>Ranunculus repens</i>), common ragwort (<i>Senecio jacobaea</i>), dandelion (<i>Taraxacum officinale</i> agg.), white clover (<i>Trifolium repens</i>) and common nettle (<i>Urtica dioica</i>). Some localised bramble is also present.</p> <p>On the spoil mound in the northern part of the site some glaucous sedge (<i>Carex flacca</i>), black knapweed (<i>Centaurea nigra</i>), ground-ivy (<i>Glechoma hederacea</i>), common bird's-foot-trefoil (<i>Lotus corniculatus</i>) and creeping cinquefoil (<i>Potentilla reptans</i>) are also present. Also present on this mound is some hawthorn, blackthorn, dog-rose and gorse along with a solitary specimen of ash.</p>	Site of new proposed facility	Local (lower)	Typically common and widespread habitat of low ecological and conservation value

Habitat / Feature	Description	Location	Level of Value	Rationale
Freshwater				
FL8 – Other artificial lakes and ponds	<p>The <i>FL8 – Other artificial lakes and ponds</i> habitat within the application site includes a field pond located within the site of the new proposed facility (TN5). This small circular shallow pond supports no aquatic or emergent vegetation due to poaching by the horses and appears to drawdown periodically.</p> <p>A further small pond is located in the floor of the Central Quarry with some goat willow (<i>Salix caprea</i>) developed around its margins and also appears to be subject to periodically having complete drawdown.</p>	Site of new proposed facility	Local (lower)	<p>A habitat detailed within the Fingal Biodiversity Action Plan under wetlands that are relatively uncommon in Fingal.</p> <p>The field pond and the pond within the Central Quarry currently provide limited opportunities for wildlife and are of low ecological /conservation value.</p>
Exposed rock and disturbed ground				
ED2 – Spoil and bare ground / ED3 – Recolonising bare ground	<p><i>ED2 – Spoil and bare ground</i> and <i>ED3 – Recolonising bare ground</i> habitats were found in areas subject to on-going disturbance, or historically disturbed and which includes a strip of land to the west of the new proposed facility.</p> <p>The habitats are shown signs of succession in places to <i>GS2 – Dry meadows and grassy verges</i> habitat. Species include: dais, creeping thistle, spear thistle, teasel (<i>Dipsacus fullonum</i>), hogweed (<i>Heracleum sphondylium</i>), common bird's-foot-trefoil, ribwort plantain, creeping cinquefoil, selfheal, common ragwort and colt's-foot (<i>Tussilago farfara</i>). Grasses where present include: sweet vernal-grass (<i>Anthoxanthum odoratum</i>), false oat-grass (<i>Arrhenatherum elatius</i>), cock's-foot, red fescue and Yorkshire-fog.</p>	Site of new proposed facility	Local (lower)	Typically common and widespread of low conservation value but which provides some opportunities for a number of species, in particular invertebrates.
ED4 – Active quarries and mines (including the sub-habitat ER2 – Exposed calcareous rock)	<p>The primary habitat of the Central Quarry void is <i>ED4 – Active quarries and mines</i> that has bare rock walls supporting the sub-habitat <i>ER2 – Exposed calcareous rock</i>.</p> <p>A large part of the quarry floor has been covered by C&D waste material at various stages of processing.</p>	Central Quarry	Local (lower)	An anthropogenic habitat subject to high levels of disturbance with low botanical interest and offering very limited opportunities for fauna.

ECOLOGY 4

Habitat / Feature	Description	Location	Level of Value	Rationale
Cultivated and Built Land				
BL3 – Buildings and artificial surfaces	Buildings and artificial surfaces within the application site include: an office and weighbridge forming part of the overall infrastructure serving soil recovery facility in the North Quarry and existing roads and access routes.	Application site	Local (lower)	An anthropogenic habitat of negligible nature conservation and ecological value or interest.
Other Features				
GS1 – Dry calcareous and neutral grassland	<p>An area extending to the east of the Central Quarry, parts of which has had its topsoil stripped, dominated by GS1 – <i>Dry calcareous and neutral grassland</i> habitat but which forms part of complex mosaic of ED3 – <i>Recolonising bare ground</i>, WS1 – Scrub and ephemeral pools habitats.</p> <p>GS1 grassland communities show some affinities to the Habitats Directive Annex I listed habitat-type of 6211 - Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (important orchid sites) notable for the high densities of orchids including pyramidal orchid and common spotted-orchid. Historically blue fleabane (<i>Erigeron acer</i>) has been recorded growing on the bank of a drainage channel cut through this area.</p>	East of the Central Quarry at TN7	County	<p>A habitat detailed within the Fingal Biodiversity Action Plan under grasslands that is now rare in Fingal and County Dublin.</p> <p>Habitat with affinities to 6211 - Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (important orchid sites) as listed in Annex I of the EU Habitats Directive.</p>
Tributary of the Ballystrahan Stream	<p>A small watercourse that receives the discharge from the northern and central part of Huntstown Quarry that will include the proposed new C&D waste recovery facility.</p> <p>The watercourse has a mean channel width of 1.2m at normal water level and banks ranging from 1m to 1.5m in height and at side slope angles of 45°. Substrate consisted of a unconsolidated mud, silt and accumulations of leaf litter. The water depth at the time of the walkover survey ranged from 0.1m to 0.3m deep with negligible rate of flow.</p>	Immediately downstream of Huntstown Quarry discharge point at TN6	Local (lower)	A small watercourse that without the discharge from Huntstown Quarry would be nothing more than a small drainage ditch that provides very limited opportunities for riparian flora and fauna due to its physical nature and the heavy shading effect of the trees and shrubs growing on its banks.

Habitat / Feature	Description	Location	Level of Value	Rationale
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The channel was found to be devoid of any aquatic or marginal vegetation, due largely to the heavy shading effect of the dense canopy from plantation woodland in the quarry site and by hawthorn dominated hedgerows growing along the top of both banks outside the quarry site. The exception was some lesser pond sedge (*Carex acutiformis*), hard rush, watercress (*Rorippa nasturtium-aquaticum*) and celery-leaved buttercup (*Ranunculus sceleratus*) present at the discharge point.

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Species

- 4.34 Details of protected, rare and notable species records within a 2km radius of the application site (encompassing grid squares O14A and O14B) were obtained during the desk-based study and during the Habitat Survey, where general observations and searches were made for the presence, or potential presence of protected, rare and/or notable species for flora and fauna.
- 4.35 Table 4-9 provides a summary of species of importance and an evaluation of the site for these species.

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Table 4-9: Identification and Evaluation of Important Species

Species	Desk-based Study	Description of Use or Likely Use of the Application Site	Level of Value	Rationale
Flora				
Protected, rare and notable species	<p>NPWS holds records for four rare and protected species of flora within the 10km grid square (O14) encompassing the application area including: red hemp-nettle (<i>Galeopsis angustifolia</i>); meadow barley (<i>Hordeum secalinum</i>); hairy St John's-wort (<i>Hypericum hirsutum</i>) and hairy violet (<i>Viola hirta</i>). None of these records are recent or relate to the application site.</p> <p>No records for any protected or notable species of flora were returned by NBDC within the 2km search area.</p> <p>Historically blue fleabane (<i>Erigeron acer</i>) has been recorded at Huntstown Quarry in an area of calcareous and orchid rich grassland to the east of the Central Quarry, most recently by SLR in 2012.</p>	During the Habitat Survey no protected, rare or notable species of flora were recorded at, or immediately adjacent the application site.	N/A	All reasonable likelihood of absence
Non-native invasive species	<p>No non-native invasive species of flora, as listed under the either the Wildlife Act 1976, Wildlife (Amendment) Act 2000 or European Communities (Birds and Natural Habitats) Regulations 2011 were returned by NBDC within the 2km search area.</p>	<p>A small stand of Japanese knotweed (<i>Fallopia japonica</i>) is present adjacent the access road adjacent the site of the new proposed C&D waste recovery facility. This was treated with an appropriate herbicide application in summer 2015 and re-treated in 2016 in accordance with an existing Non-native Invasive Species Eradication Plan for the inert soil recovery facility operating in the North Quarry (Waste Licence Ref. No. W0277-01).</p> <p>No other non-native invasive species were recorded as present within the application site.</p>	N/A	Active management programme underway to actively treat and eradicate the known stands of Japanese knotweed.

Species	Desk-based Study	Description of Use or Likely Use of the Application Site	Level of Value	Rationale
Mammals				
Badger	NBDC returned a solitary record for badger (<i>Meles meles</i>) for grid square O14A	During the Habitat Survey no evidence of badger activity (i.e. tracks, latrines, snuffle holes or hairs) was found within, or immediately adjacent the application site.	N/A	Not present
Bat assemblage	NBDC returned no records for any bat species within the 2km search area.	All trees and features, within and immediately adjacent the application site, are assessed as providing negligible roosting opportunities for bats. The application site provides low quality habitat suitability for foraging and commuting bats.	Local (lower)	All bat species are fully protected under the Wildlife Act 1976 as amended by the Wildlife (Amendment) Act 2000 and the European Communities (Birds and Natural Habitats) Regulations 2011. Site provides negligible roosting opportunities for bats. The application site provides some foraging habitat for a range of bat species but generally this is of low quality. The application site is not likely to be important or critical to any particular species of bat, or to the maintenance of the local population status of any bat species.
Irish hare	NBDC returned a solitary record for Irish hare (<i>Lepus timidus hibernicus</i>) grid square O14A. Irish hares have been historically recorded in parts of the Huntstown Quarry complex.	During the Habitat Survey no individual Irish hares were recorded or any evidence found to indicate the presence of this species in the application site.	N/A	All reasonable likelihood of absence

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Species	Desk-based Study	Description of Use or Likely Use of the Application Site	Level of Value	Rationale
Other mammal species	NBDC returned records for rabbit (<i>Oryctolagus cuniculus</i>) and fox (<i>Vulpes vulpes</i>) within grid square O14A.	During the Habitat Survey evidence of rabbit and fox was recorded within the application site. Whilst the site has the potential to support a number of small mammals, no evidence was found to indicate the presence of any other protected species of mammal.	Local (lower)	Site providing some localised value to small mammals but is not likely to be critical in maintaining the local population status of any particular species.

Birds

Bird assemblage	NBDC returned records for 41 species of birds within the search area, of which only one species is listed under Annex I of the EU Birds Directive, namely peregrine falcon (<i>Falco peregrinus</i>).	The habitats present in the application site provide opportunities for a range of birds typically associated with quarries and farmland. A total of nine bird species were recorded during the Habitat Survey. Of the species recorded, none are listed under Annex I of the EU Birds Directive. No bird species recorded is red listed ⁹ and only one species is an amber listed ¹⁰ Birds of Conservation Concern in Ireland (BoCCI) ¹¹ . A full species list is of birds recorded during the Habitat Survey is provided at Appendix B.	Local (lower)	Protected under the Wildlife Act 1976 as amended by the Wildlife (Amendment) Act 2000. The application site provides opportunities for a range of typical common and widespread species on associated farmland but is not likely to be important or critical for any particular individual species or local populations of birds given the availability of alternative habitat in the wider surrounding area.
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⁹ Red list species are those that are Globally Threatened according to IUCN criteria; those whose population or range has declined rapidly in recent years; and those that have declined historically and not shown a substantial recovery.

¹⁰ Amber list species are those with an unfavourable conservation status in Europe; those whose population or range has declined moderately in recent years; those whose populations has declined historically but made a substantial recovery; rare breeders; and those with international important or localised populations.

¹¹ Colhoun, K. & Cummins, S. (2013). *Birds of Conservation Concern 2014-2019*. Irish Birds, 9: 523-544.

Species	Desk-based Study	Description of Use or Likely Use of the Application Site	Level of Value	Rationale
Reptiles				
Common lizard	There are no historical records for common lizard (<i>Zootoca vivipara</i>) at, or within 2km search area of the application site.	Although common lizard is a species that can be found in wide range of habitats the application site provides sub-optimum habitat for this species. No common lizards were observed during the Habitat Survey and it is considered that this species is not likely to be present at this site.	N/A	All reasonable likelihood of absence
Amphibians				
Common frog	NBDC returned no records for common frog (<i>Rana temporaria</i>) within the 2km search area. Historically common frog has been recorded as present and breeding throughout the Huntstown Quarry complex but not at the pond at TN5.	The field pond at TN5 and the pond in the Central Quarry are assessed as providing average quality breeding habitat and poor surrounding terrestrial habitat for common frog. Due to the ephemeral nature of these ponds and high levels of disturbance to the field pond by horses and to the pond in the Central Quarry, it is considered highly unlikely that common frog would use these ponds for breeding purposes.	N/A	All reasonable likelihood of absence
Smooth Newt	NBDC returned no records for smooth newt (<i>Lissotriton vulgaris</i>) within the 2km search area. Historically smooth newts have been recorded as present and breeding at Huntstown Quarry but not at the pond at TN5.	The field pond at TN5 and the pond in the Central Quarry are assessed as providing poor quality breeding habitat and surrounding terrestrial habitat for smooth newt and it is considered not likely that this species is present in these locations.	N/A	All reasonable likelihood of absence

Species	Desk-based Study	Description of Use or Likely Use of the Application Site	Level of Value	Rationale
Invertebrates				
Invertebrates	NBDC did not return any records for any protected, rare or notable species of invertebrates within the 2km search area.	During the Habitat Survey no rare or notable species of invertebrate were observed within the application. Whilst no site is without invertebrate interest, it is considered unlikely, given the habitat types, that the application site would support any protected invertebrate species.	Local (lower)	The site provides potential habitat for a wide range of invertebrates but is unlikely to be important or critical to any particular species or taxonomic group given the availability of alternative habitat in the wider surrounding area.
Other Important Species				
Other species not identified above	NBDC did not return any records for any other important species within the 2km search area.	During the Habitat Survey, no other protected, rare or notable species were recorded. Though the application site may support low numbers of common and widespread species it is considered highly unlikely that any other specially protected species would be present based on the habitats present.	N/A	All reasonable likelihood of absence

Summary of Ecological Features for Impact Assessment

- 4.36 In accordance with CIEEM guidelines only ecological features considered to be important should be carried forward to any detailed assessment. It is not necessary to carry out a detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable.
- 4.37 Transport Infrastructure Ireland (TII) guidelines indicate that where receptors have been evaluated at a value of 'Local (lower)' no further assessment is deemed necessary as the impact on these receptors is not likely to be of significance. However, where protected species are present and there is a potential for a breach in wildlife legislation then these species are considered as important ecological features regardless at what level they have been evaluated.
- 4.38 Based on the above, the identified important ecological features with the potential to be affected by proposed increase in the permitted intake of waste at the existing construction and demolition (C&D) waste recovery facility at the Central Quarry and the relocation of this facility in the near-term (within 2-3 years) to a new location in the north-eastern part of the Huntstown Quarry complex, which are carried forward for further ecological impact assessment are detailed in Table 4-10.

Table 4-10: Identified Important Ecological Features

Key Features	Important Ecological Feature
Habitats and other features	GSI Dry calcareous and neutral grassland (TN7)
Species	Bird assemblage

ASSESSMENT OF IMPACTS AND MITIGATION

- 4.39 This section assesses the ecological impacts from the proposed increase in the permitted intake of waste at an existing C&D waste recovery facility at the Central Quarry and the relocation of this facility in the near-term to a new location in the north-eastern part of the Huntstown Quarry Complex on important ecological features identified from the preliminary desk-based study, baseline surveys and evaluation of the ecological features. Both qualitative and quantitative information has been used to identify likely significant ecological impacts, including the positive, negative, direct, indirect and the cumulative environmental impacts.
- 4.40 To assess the impact of the proposed scheme it is essential that any and all impacts that could arise are identified and characterised. The impacts that require consideration in the EclA are based upon knowledge of the development and of the important ecological features. This can only be undertaken with a thorough understanding of ecological processes and how flora and fauna react to the range of impacts that could occur.

Proposed Development

- 4.41 A detailed description of the development is presented in Chapter 2 of the EIS, but in summary the scheme basically involves:
- a proposed increase in the permitted intake of construction and demolition waste from a maximum of 24,950 tonnes per annum at the present time to a maximum of 95,000 tonnes per annum in future years;
 - no further importation of C&D waste to the existing waste recovery facility in the Central Quarry and processing / off-site dispatch of any C&D waste stockpiled there in the near-term (2-3 years);
 - relocation of C&D waste recovery activities to a dedicated new long-term recovery facility on a 5.2 hectare site in the north-eastern corner of the Huntstown Quarry Complex and
 - construction of a hardstanding area, waste processing shed, surface water management infrastructure and upgraded internal access road at the new waste recovery facility.

Identification and Characterisation of Potential Impacts

- 4.42 The sources of potential impacts arising from the proposed increase in the permitted intake of waste at an existing C&D waste recovery facility at the Central Quarry and the relocation of this facility in the near-term (within 2-3 years) to a new site in the north-eastern part of the Huntstown Quarry Complex and the relevant important ecological features which are likely, or have the potential to be directly or indirectly affected from any particular impact source based on the potential zone of influence of the development, in the absence of mitigation, are outlined in Table 4-11.
- 4.43 On cessation of C&D waste recovery activity at the Central Quarry, any remaining stockpiles of unprocessed C&D waste will be processed and gradually sold / exported off-site as recycled secondary aggregate. No formal restoration works will be undertaken given the planned and consented commencement of further quarry development at this location in the near future. These quarrying works are subject to a separate, previously consented restoration plan (Planning Ref. FW12A/0022).
- 4.44 On cessation of C&D waste recovery activity at the proposed new relocated facility, any remaining stockpiles of unprocessed C&D waste will be processed and in a similar way, will be gradually sold as recycled secondary aggregate. All infrastructure associated with the facility will be removed and it is envisaged that the site will then be restored back to agricultural grassland. However, as this is likely to form part of the wider restoration of the quarry site, post quarrying operations it is considered not necessary to include the restoration within this assessment.

Table 4-11: Sources of Potential Operational Phase Impacts

Impact Source	Nature of Impact	Important Ecological Feature Potentially Affected
Operational Phase		
<p>Habitat loss, damage and fragmentation</p>	<p>Habitat loss involves the direct destruction or physical take-up of vegetation, or the removal of other structures with conservation interest. Habitat loss may also occur indirectly as a result of a change in land-use or water management, for instance the drying-up of ponds or through induced successional events leading to a change in habitat type.</p> <p>Habitat fragmentation is concerned with spatial processes, such as negative edge effects (e.g. colonisation by 'aggressive' species or successional changes) and dispersal problems that can become increasingly severe as habitat lost and remaining habitat is divided into smaller units.</p> <p>Fragmented habitats are likely to be more vulnerable to external factors that may have a negative effect upon them; e.g. disturbance, and may be less resilient to change (including climate and management change) than connected habitats because colonising species may be unable to reach the habitat to re-colonise in the event of species loss.</p> <p>Habitat loss can have a direct impact on individual populations and assemblages of species result in the direct loss of individuals or populations of animal species, or indirectly by increasing levels of stress placed upon populations of some species through negative edge effects (e.g. predation pressure) and dispersal problems that can become increasingly severe as habitat lost and remaining habitat is divided into smaller units.</p> <p>The zone of influence of the proposed development is assessed to be restricted to the application site and immediate adjacent areas only.</p>	<p>GS1 – Dry calcareous and neutral grassland Breeding birds</p>

Impact Source	Nature of Impact	Important Ecological Feature Potentially Affected
Disturbance from human activity, noise and vibration	<p>Increases in disturbance, including noise and visual disturbance, from human activity can have a range of impacts depending upon the sensitivity of the ecological receptor, the nature and duration of the disturbance and its timing. The response of individual species to increased levels of human disturbance will depend upon a number of factors including the sensitivity, reproductive status, previous exposure to human disturbance, behaviour during the event, species tolerance to disturbance, location in relation to the source, availability of alternative nearby habitat, and environmental factors (i.e. topography, vegetation and atmospheric conditions which can influence noise levels). The level of disturbance will also be dependent upon existing ambient noise levels and maximum noise levels.</p> <p>It is generally accepted that for noise, certain species or groups of species can be impacted upon up to a distance of up to 300m from its source for high level and discontinuous disturbance, with these distances reducing for low level and/or continuous disturbance levels.</p> <p>The zone of influence of the proposed development is assessed to be up to a 300m radius of the application site.</p>	Bird assemblage
Dust deposition	<p>The importation and processing of C&D waste, storage of processed aggregate material and traffic movements have the potential to generate dust.</p> <p>Literature suggests that the most sensitive species area to be affected by dust deposition at levels above 1000 mg/m²/day¹² which is five times greater than the level at which most dust deposition may start to cause a perceptible nuisance to humans.</p> <p>Fugitive dust from quarry sites is typically deposited within 100-200m of the source; the greatest proportion of which, comprising larger particles (greater than 30 microns) is deposited within 100m¹³. Where large amounts of dust are deposited on vegetation over a long time-scale (a full growing season for example) there may be some adverse effects upon plants restricting photosynthesis, respiration and transpiration. Furthermore it can lead to phytotoxic gaseous pollutants penetrating the plants.</p>	GS1 – Dry calcareous and neutral grassland

¹² Farmer, A.M. (1993). *The Effects of Dust on Vegetation – A Review*. Environmental Pollution Vol.79, Issue 1, Pages 63-75.

¹³ Department of the Environment (1995). *The Environmental Effects of Dust from Surface Mineral Workings. Volume 1: Summary Report & Best Practice Guides*. HMSO.

Impact Source	Nature of Impact	Important Ecological Feature Potentially Affected
	<p>The overall effect would be a decline in plant productivity, which may then have indirect effects on the quality of the surrounding habitats and associated fauna. The amounts of dust deposited and its effects are also dependent upon weather conditions as in wet weather less dust will be generated and that which has been deposited upon foliage is likely to be washed off.</p> <p>The zone of influence of the proposed development will be up to a 200m radius of the application site.</p>	

Assessment of Effects and Mitigation Measures

4.45 Table 4-12 details the assessment of predicted effects on the identified and relevant important ecological features from the proposed development and mitigation measures to prevent, reduce or offset any potential effects.

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Table 4-12: Assessment of Effects on Identified Important Ecological Features and Mitigation Recommendations

Impact	Assessment of Effects	Significance of Impact Before and After Mitigation (Residual Impact)
GS1 – Dry calcareous and neutral grassland		
Habitat loss, damage and fragmentation	<p>Assessment of Effects: The proposed increase in the permitted intake of waste at an existing C&D waste recovery facility will not result in the direct or indirect loss, damage or fragmentation of the <i>GS1 – Dry calcareous and neutral grassland</i> lying outside and to the east of the Central Quarry.</p>	Not significant
	<p>Mitigation: No specific ecological mitigation is required as impact is assessed as not significant.</p>	N/A
Dust deposition	<p>Assessment of Effects: The proposed increase in the permitted rate of C&D waste intake / processing at the existing C&D waste recovery facility is not predicted to generate dust that would be at levels where there would be any measureable impact on the species composition and structure of the <i>GS1 – Dry calcareous and neutral grassland</i> habitat to east of the Central Quarry void.</p>	Not significant
	<p>Mitigation: No specific ecological mitigation is required over and above any measures required to comply with the likely conditional limits of any planning approval.</p>	N/A
Bird Assemblage		
Habitat loss, damage and fragmentation	<p>Assessment of Effects: In the absence of mitigation, there would be potential adverse impact upon the assemblage of birds identified as being of Local (lower) value through the loss of potential breeding habitat from the proposed development of the new C&D waste recovery facility. However, based on the relatively species-poor assemblage of birds recorded and the numbers likely to use the site it is considered that any impact would be imperceptible on the population status of any particular species within the overall Huntstown Quarry complex.</p>	Imperceptible impact at Local (lower) level
	<p>Mitigation: Mitigation is required to ensure compliance with Wildlife Act 1976 as amended by the Wildlife (Amendment) Act 2000 prohibiting: their killing, injuring or taking; the damage, destruction or taking of nests in use or being built; and the taking or destruction of eggs.</p>	Not significant

Impact	Assessment of Effects	Significance of Impact Before and After Mitigation (Residual Impact)
	<p>To avoid destruction of any such nests, all trees/shrubs in the development footprint for the proposed development of the new C&D facility will be removed outside the breeding season (i.e. removal permitted from September through to February inclusive). All cut material will be immediately removed from site and appropriately recovered or disposed of to ensure this does not provide suitable breeding bird habitat.</p>	
<p>Disturbance from human activity, noise and vibration</p>	<p>Assessment of Effects: All birds species at Huntstown Quarry will be somewhat habituated to a certain degree of disturbance from existing quarrying operations, operation of the C&D waste recovery facility at the Central Quarry and other infrastructure and associated activities present at Huntstown Quarry. The proposed development is not anticipated to significantly increase the overall levels of disturbance over and above existing levels where there would be any measureable effects on the local bird assemblage.</p>	<p>Not significant</p>
	<p>Mitigation: No specific ecological mitigation is required as impact is assessed as not significant.</p>	<p>N/A</p>

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Cumulative Impacts

- 4.46 Although there is likely to be an increase in soil waste recovery activity at the adjoining North Quarry in coming years and a potential development of an Anaerobic Digestion plant adjacent the main access road leading to the quarry complex, neither of these developments, either alone or in conjunction with the proposed development would be likely to result in any significant cumulative impacts on the ecology of the local area at this current time. It is, therefore, considered that no significant cumulative ecological impacts would occur.

ECOLOGICAL ENHANCEMENT AND COMPENSATION

- 4.47 Due to the size and nature of the development and through consideration of the mitigation incorporated into the scheme, it is concluded that all reasonable and practicable steps have been taken to avoid significant adverse effects upon ecological important features and to minimise the residual impacts arising from the proposed increase in the permitted intake of waste at an existing C&D waste recovery facility at the Central Quarry and the relocation of this facility (within 2 to 3 year) to a new site in the north-eastern part of the Huntstown Quarry complex.
- 4.48 Therefore no further recommendations for ecological enhancement and/or compensation are deemed necessary as part of the development proposals or to ensure the compliance with wildlife legislation.

ECOLOGICAL MONITORING

- 4.49 No ecological monitoring is deemed necessary as part of the proposed increase in the permitted intake of waste at an existing C&D waste recovery facility at the Central Quarry and the relocation of this facility in the near-term to a new site in the north-eastern part of the Huntstown Quarry complex.

LEGAL AND POLICY IMPLICATIONS

- 4.50 This section summarises the significance of impacts in the context of statutory legislation and planning policy.

Legal Implications

- 4.51 The proposed scheme has no implications for any statutory designated nature conservation sites.
- 4.52 The only statutory protected species with relevance to the proposed increase in the permitted intake of waste at an existing C&D waste recovery facility at the Central Quarry and the relocation of this facility to a new site in the north-eastern part of the Huntstown Quarry complex are breeding birds. However, provided that appropriate mitigation strategies are properly implemented and all appropriate licences obtained where necessary, it will be possible for the development to occur without the risk of breaching current wildlife legislation.

Policy Implications

- 4.53 Provided that all appropriate mitigation measures to prevent, reduce or offset an impact are implemented, it is considered that the proposed increase in the permitted intake of waste at an existing C&D waste recovery facility at the Central Quarry and the relocation of this facility to a new site in the north-eastern part of the Huntstown Quarry complex will comply with the requirements of current national and local planning policies relating to ecology and nature conservation.

CONCLUSIONS

- 4.54 SLR Consulting Ireland conducted an Ecological Impact Assessment to inform the wider Environmental Impact Assessment process and production of an Environmental Impact Statement to accompany the waste licence and planning applications by Roadstone Limited for the proposed increase in the permitted intake of waste at an existing C&D waste recovery facility at the Central Quarry and the relocation of this facility in the near-term (within 2-3 years) to a new site in the north-eastern part of the Huntstown Quarry, Finglas, Dublin.
- 4.55 The application site covers a total area of 8.3 ha of land within the townlands of Kilshane, Huntstown and Johnstown in North County Dublin (refer to Figure 4-1). The application site encompasses the existing C&D waste recovery facility located at the Central Quarry (1.9 ha); existing internal roads and an agricultural field under permanent pasture in the north-eastern part of Huntstown Quarry proposed as the site of a new, replacement C&D waste recovery facility (5.2 ha).
- 4.56 The application site is not subject to any statutory or non-statutory designation and no such sites will be directly or indirectly impacted upon from the proposed development within the Huntstown Quarry Complex.
- 4.57 The continuance of use of the existing quarry will not have any effects on any important ecological habitats and/or species.
- 4.58 Provided appropriate mitigation measures are implemented for the protection of breeding birds there are no legal implications for any protected species.
- 4.59 No formal restoration works will be undertaken given the planned and consented commencement of further quarry development at this location in the near future.
- 4.60 On cessation of C&D waste recovery activity at the proposed new relocated facility, any remaining stockpiles of unprocessed C&D waste will be processed and in a similar way, will be gradually sold as recycled secondary aggregate. All infrastructure associated with the facility will be removed and it is envisaged that the site will then be restored back to agricultural grassland.
- 4.61 A summary matrix of predicted impacts from the proposed increase in the permitted intake of waste at an existing C&D waste recovery facility at the Central Quarry and the relocation of this facility to a new site in the north-eastern part of the Huntstown Quarry is provided in Table 4-13.

Table 4-13: Summary Matrix of Predicted Impacts

Value	Potential Impact	Direction	Probability	Magnitude	Duration	Frequency	Reversibility	Mitigation Measures	Residual Impact	Probability
Bird assemblage										
Local (lower)	Direct loss of potential breeding habitat	Negative	Certain	Imperceptible	Permanent	Once	Reversible	Removal of all suitable ground nesting habitat outside the breeding season (i.e. removal permitted from September through to February).	Not significant	Probable

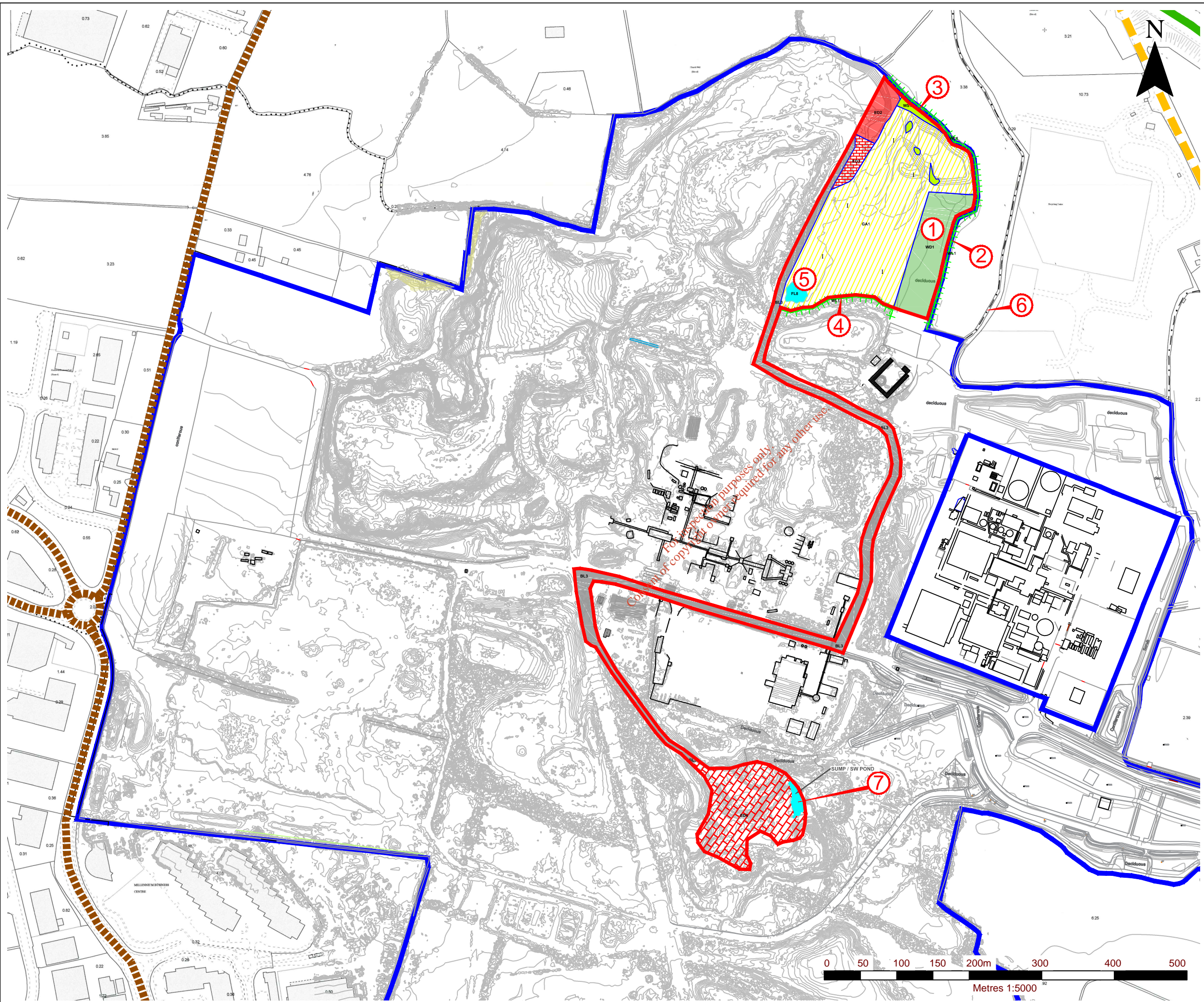
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FIGURES

Figure 4-1
Habitat Plan

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0180.00166.0.FIG_4-1.Habitat Plan.R1.dwg



NOTES

- EXTRACT FROM 1:2,500 ORDNANCE SURVEY DIGITAL SHEET NO'S. 3062-A, 3062-B, 3062-C, 3062-D, 3063-A, 3063-C, 3130-A & 3130-B .
- ORDNANCE SURVEY IRELAND LICENCE NO. SU 0000716 (C) ORDNANCE SURVEY & GOVERNMENT OF IRELAND

LEGEND

	ROADSTONE LIMITED LAND INTEREST (c. 200.3 ha)
	APPLICATION AREA (c. 8.27 ha)
	WD1 - (MIXED) BROADLEAVED WOODLAND
	WS1- SCRUB
	WL1- HEDGEROWS
	GA1 - GRASSLAND
	FL8 - OTHER ARTIFICIAL LAKES AND PONDS
	BL3 - BUILDINGS AND ARTIFICIAL SURFACES
	ED2 - SPOIL AND BARE GROUND
	ED3 - RECOLONISING BARE GROUND
	ED4 - ACTIVE QUARRIES AND MINES
	TARGET NOTE

SLR global environmental solutions

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ROADSTONE LIMITED
ENVIRONMENTAL IMPACT STATEMENT

C&D WASTE RECOVERY FACILITY
HUNTSTOWN QUARRY, FINGLAS, DUBLIN 11

HABITAT PLAN

FIGURE 4-1

Scale 1:5,000 @ A3 Date DECEMBER 2016

APPENDICES

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**APPENDIX 4-A
HEDGEROW APPRAISAL**

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HEDGEROW APPRAISAL

Ref	Historical (a)	Species Diversity per 30m Section (b)	Structure, Construction & Associated Features (c)	Habitat Connectivity (d)	Landscape (e)	Overall Assessed Significance
TN2	Score = 1 Internal field boundary	Score = 0 Hawthorn, blackthorn and elder	Score = 0 None	Score = 2 Multiple links with other hedgerows	Score = 0	Low
TN3	Score = 0 Recently established	Score = 1 Hawthorn, blackthorn, ash and dog-rose	Score = 0 None	Score = 2 Multiple links with other hedgerows	Score = 0	Low
TN4	Score = 4 Townland boundary	Score = 1 Hawthorn, blackthorn, ash, hazel and elder	Score = 3 Section of former bank >1m and drain	Score = 2 Multiple links with other hedgerows	Score = 0	High (a = 4)

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APPENDIX 4-B
SUMMARY OF BIRDS RECORDED DURING THE HABITAT SURVEY

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APPENDIX 4-B

Bird Species Recorded at the Application Site during the Habitat Survey

Scientific Name	Common Name	EU Birds Directive	Red List	Amber List
<i>Columba palumbus</i>	Woodpigeon	-	-	-
<i>Corvus cornix</i>	Hooded Crow	-	-	-
<i>Corvus monedula</i>	Jackdaw	-	-	-
<i>Covus frugilegus</i>	Rook	-	-	-
<i>Erithacus rubecula</i>	Robin	-	-	✓
<i>Parus major</i>	Great Tit	-	-	-
<i>Prunella modularis</i>	Dunnock	-	-	-
<i>Troglodytes troglodytes</i>	Wren	-	-	-
<i>Turdus merula</i>	Blackbird	-	-	-

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