Clyde Shanks

Chapter 9

Ecology

9. Ecology

Introduction

9.1 This Ecology Addendum submission provides a review and update of changes that have occurred to the site, the wider context (existing and future baseline) and the resultant EIA since the original ES (March 2014), the initial addendum ES (September 2014), the FEI submitted as part of the Statement of Case to the hearing before the Planning Appeals Commission (PAC) (August 2016), and subsequent ES addendums in March 2019, August 2019, October 2020 and September 2023.

9.2 The site has been subject to repeated suites of habitat and protected species survey work over an extended period from 2008 to 2024. This ongoing survey effort ensures that the results captured do not represent a snapshot of ecological activity at the site, but rather a stable and reliable baseline.

9.3 The information has been updated only where changes of relevance to the assessment have occurred. Otherwise, the original information still stands and has not been repeated. This being the case, this addendum should be read in conjunction with the wider ES documents listed above.

9.4 This addendum has been informed by ecological surveys undertaken in order to maintain an up to date understanding of the current site baseline.

Legislation, Policy, Guidance and Case Law

9.5 Due to the time which has elapsed since the previous addendum submission, a review of relevant legislation, policy and caselaw has been undertaken, and key updates are summarised below insofar as they relate to ecological assessment of any proposals or indicate the direction of travel of legislative and policy requirements.

The Environment (2021 Act) (Commencement and Saving Provision) Order (Northern Ireland) 2022

9.6 Whilst the majority of the provisions contained within The Environment Act 2021 are not applicable to Northern Ireland, those which are relevant are introduced through The Environment (2021 Act) (Commencement and Saving Provision) Order (Northern Ireland) 2022. Approved by the Northern Ireland Assembly on 22nd February 2022 this brought into force a range of environmental measures, including a new legal framework for environmental governance and accountability following the UK's departure from the European Union.

9.7 The key elements of this relate to duties imposed upon DAERA, such as the publication of an Environmental Improvement Plan. Elements relevant to development policy are also included, however, particularly the embedding of five environmental principles in domestic law through a policy statement to which NI departments and UK Government ministers making policy for NI must have 'due regard'. The five principles are:

- the principle that environmental protection should be integrated into the making of policies;

- the principle of preventative action to avert environmental damage;
- the precautionary principle, so far as relating to the environment;
- the principle that environmental damage should as a priority be rectified at source; and
- the polluter pays principle.

9.8 This legislation seeks to strengthen environmental protection, and ensure that assessment work is undertaken on a precautionary basis (mirroring the established position in respect of The Habitats Regulations).

EU Law (Revocation and Reform) Act 2023

9.9 As alluded to above, the exit of the UK from the EU raised the question of how adopted EU law would be handled. The EU Law (Revocation and Reform) Act 2023 comprises several elements, including revoking certain EU law, making provision in relation to the interpretation of retained EU law, and making provision relating to powers to modify retained EU law.

9.10 Of particular relevance to ecology are the changes enacted by this legislation in relation to The Habitats Regulations. As a formerly assimilated EU Law the Act removes the supremacy of EU law as part of domestic law from the start of 2024 onwards. The key provisions of this legislation are still enacted through The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995, and therefore the overall position remains as it was at the time of previous assessment work.

Priority Species

9.11 Another notable change since previous addendum submissions is the publication of an update to the Northern Ireland Priority Species list in March 2023. This update included all mammals, reptiles, fish and birds to be added to the list as well as some invertebrate groups. Further updates to the list are still expected, however DAERA indicates that these subsequent updates will cover only invertebrates, lichen, fungi, and stoneworts. The update already published added a number of species across a range of taxonomic groups including birds, vascular plants, invertebrates, algae and sponges. Of particular relevance to this site are those species which have been recorded during previous surveys. These include bats such as Common Pipistrelle, Natterer's Bat and Leisler's Bat, and birds including Meadow Pipit and Grey Wagtail.

9.12 Whilst an updated position since the previous assessment was undertaken, it is not considered that the updated priority species list alters the conclusions with regard to the relevant ecological receptors. All surveys have been carried out in accordance with DAERA and other relevant guidelines, ensuring that all notable, priority and protected species are recorded, and measures to contribute to the favourable conservation status of these priority species (as is required under the Wildlife and Natural Environment Act (Northern Ireland) 2011) are secured where relevant.

9.13 With regard to guidance, there has been no material change in that relevant to the evaluation and assessment of significant effects. The current guidance titled "Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine was

published in 2018 by the Chartered Institute of Ecology and Environmental Management (CIEEM).

Caselaw – C. G. Fry & Sons Ltd

9.14 The principal relevant addition to caselaw which has occurred since the September 2023 ES addendum is the Court of Appeal judgement in C.G.Fry & Son Ltd v SSLUHC [2024] EWCA Civ 730. This decision was handed down in June 2024. An appeal to the C.G. Fry decision was heard by the Supreme Court in February 2025 and a decision is awaited.

9.15 Whilst outline planning permission had been granted by Somerset Council for a residential-led scheme of 650 homes, the Local Planning Authority refused to discharge the conditions on the reserved matters in the absence of an Appropriate Assessment (particularly in respect of nutrient neutrality). As such, the appeal largely revolved around the interpretation and application of the Habitats Regulations, concluding that "appropriate assessment" could be applied at the discharge of conditions stage, as well as at the outline or reserved matters stage. The legislation was read as requiring such an assessment to be undertaken before an "implementing decision" is made, i.e., the decision by which the implementation of the whole development is authorised.

9.16 Referenced as part of the decision was the EU Law (Revocation and Reform) Act 2023 which is discussed above. Of note, in relation to the curtailing of the supremacy of EU law it was held that it was "*…unnecessary to rely on the doctrine of direct effect to resolve the issues of interpretation…"* and as such this legislative alteration is considered unlikely to impact future decisions.

Methodology

9.17 To ensure that the survey data underpinning all assessment work remains accurate and robust, updated surveys in respect of habitats and key faunal groups have been undertaken. As before, these followed the guidelines set by NIEA. The methodologies and results of these are set out in detail in Appendix 9.1 to this addendum and referenced where appropriate below. In addition, extra information including weather conditions, timings, and surveyors undertaking surveys have been provided in response to requests from NIEA in their consultation response dated 19 April 2024.

Baseline Conditions

9.18 A review of baseline conditions is described below with any changes since the last FEI submission detailed where appropriate.

Designated Sites

9.19 There have been no material changes in the location and extent of relevant statutory designated sites.

9.20 No non-statutory designated sites are present within the site, although several are located within the wider area as referenced within previous assessment and reporting. The extent and location of these designated sites is shown on Figure 9.2 of the original ES. There have been no material changes in the location and extent of these designated sites.

9.21 An updated Air Quality chapter and associated appendices have been prepared by AtkinsRéalis to respond to NIEA's consultation response of 19th April 2024 and to re-run modelling to reflect up-to-date meteorological data over the period 2019-2023. The results of this have been reviewed insofar as they relate to ecological receptors. In the majority of cases, particularly in respect of statutory designated sites, the process contributions for key emissions associated with the proposals do not represent a significant increase over the baseline situation and therefore the potential for significant adverse effects through this pathway can be ruled out.

9.22 In the case of a number of Sites of Local Nature Conservation Interest (SLNCI), however, higher levels of deposition have been identified. Specifically, the modelled nitrogen deposition at Squires Hill SLNCI is 0.09kg/ha/yr, equating to 1.9% of the critical load. Similarly, nitrogen deposition representing an increase in process contribution in excess of 1% is predicted for Cave Hill – Collinward SLNCI and Hyde Park Dam SLNCI. Furthermore, at a modelling point located at the centre of Squires Hill SLNCI the deposition rates of sulphur were calculated to be 0.007keq/ha/yr (or 1.5% of the critical load, although it should be noted that even with this change the operational phase scenario would be far below the critical load for the site). To contextualise these figures, further information must be considered.

9.23 Those SLNCIs designated for terrestrial habitat are already subject to deposition in excess of the critical loads for the key habitats. Specifically, whilst the critical load set for *Heath, grassland, scrub* (of relevance in the case of Squires Hill and parts of Cave Hill – Collinward) is in the range of 5 – 15kgN/ha/yr, areas of the site are subject to deposition in excess of 15kgN/ha/yr. Similarly, the critical load range for Hyde Park Dam is also set at 5 – 15kgN/ha/yr against a current load of 16.0kgN/ha/yr.

9.24 The dynamics of habitats subject to deposition in excess of their critical loads was investigated in the Natural England Commissioned Report NECR 210[1] (*Assessing the effects of small increments of atmospheric nitrogen deposition (above the critical load) on semi-natural habitats of conservation importance*). This collated evidence regarding habitats which are already subject to deposition in excess of the critical load, and found that these habitats can develop an effective tolerance to the effects of further deposition.

9.25 Specifically, this report sought to examine relevant vegetation survey data in order to understand the relationships that exist between the species composition and species richness of habitats and nitrogen deposition. Furthermore, the report aimed to determine the effect of incremental increases in nitrogen where critical loads are already exceeded. As part of the study, vegetation data were analysed from 226 sites containing five UK Priority habitats (including lowland heath

[1] https://publications.naturalengland.org.uk/publication/5354697970941952

which is of particular relevance here with heath being flagged as present within Squires Hill and Cave Hill Collinward, and fens which are a key component of Hyde Park Dam).

9.26 In the case of heathland habitat the report details how much additional nitrogen might lead to a loss of one species. Table 21 of that report identifies that for lowland heath which has a background of nitrogen deposition of 15kgN/ha/yr (as per table A-13 of the Air Quality Assessment), the increase in nitrogen deposition required to reduce measured species richness by 1 would be 1.3 kgN/ha/yr. This is several orders of magnitude greater than the process contribution identified in the updated Air Quality Assessment.

9.27 Similarly, in Section 7.5 the Natural England report discusses experimental evidence relating to the effects of increased nitrogen deposition on fen ecosystems. Crucially for open wetland ecosystems as are present at Hyde Park Dam (flows of water and nutrients are directional across the site and then discharge from it), sensitivity to additional atmospheric nitrogen deposition is considered to be low.

9.28 It should be noted that these impacts were considered in detail in the original ES Chapter, with paragraphs 9.226 – 9.228 addressing potential impacts on local non-statutory designated sites. The potential impacts were identified, with air quality being a key pathway by which adverse effects could occur. The results of the updated assessment are not directly comparable, as at the time of the original assessment critical load values for the SLNCIs were not available, however the emissions associated with the proposals have not changed. The original assessment identified that without mitigation there was the potential for minor adverse effects on Belfast Hills – Squires Hill SLNCI through dust deposition, acid deposition and nitrogen enrichment. The impact pathway of increased nitrogen deposition has also now been considered for Cave Hill – Collinward and Hyde Park Dam SLNCIs. Through the implementation of appropriate mitigation such as the adoption of a Construction Management Plan including air quality considerations, and the use of biofilters and scrubbers to remove ammonia from emissions, the residual impacts on the SLNCIs were assessed as being neutral or minor beneficial when compared to the existing mineral consent.

9.29 In view of the information set out above, it is not considered that the updated air quality modelling suggests any departure from the significance of the previous effects, indeed as highlighted in paragraph 14.93 of Chapter 14. Air Quality when the conclusions of the 2014 and updated assessments are compared in relation to ecological receptors the conclusions of the two assessments do not differ – it remains the position that the proposal would have a neutral (not significant) impact on local non-statutory designated sites through air quality pathways.

Habitats

9.30 The main habitat / vegetation types within the site have been established by a continuous series of site surveys undertaken over the period 2008 to 2024. Whilst NIEA confirmed in their 19 April 2024 response that no new surveys were required given the lack of changes to habitats on site, on a precautionary basis and to ensure that data underpinning the assessment work remain robust and up-to-date further habitat surveys have been completed, with the most recent of these

being undertaken on 12th September 2024. Full details of the results of this are set out in Appendix 9.1.

9.31 By way of summary during the September 2024 surveys no new habitat types were identified when compared to the extensive previous habitat survey results, however it was noted that the extent and quality of some habitats had changed during the interim period.

9.32 These changes in habitat are limited to the following:

- As set out previously, undisturbed areas of the quarry floor are subject to recolonisation by vegetation. The first species to become established in these areas include Coltsfoot, Ribwort Plantain, and Selfheal, whilst in areas where successionary pressures have had more time to act gorse scrub and willow trees are now growing. This process is particularly evident at the northeastern and northwestern extents of the quarry's previously unvegetated areas;
- Similar pressures have caused scrub to transition towards an assemblage and structure more closely resembling woodland, dominated in most areas by young Willow and Alder specimens with occasional Ash and Sycamore;
- In other areas, the previously recorded succession of pioneer scrub into dense stands of mixed and gorse-dominated scrub continues, particularly towards the northeastern corner of the site;
- The majority of buildings across the quarry have been removed, replacing built form with unvegetated, unsealed ground.

9.33 In general, the successional changes in habitats observed within the site have led to a decrease in species diversity and loss of species-rich habitats. Examples of this include areas of scrub encroachment which are, in the main, dominated by a single species, particularly either hawthorn or gorse, and which replace grassland habitats that are generally of greater diversity. These changes in habitats within the site represent a decrease (albeit minimal) to the site's ecological value, and do not have a material effect on, or alter the conclusions of, previous assessment work.

Updated drainage strategy

9.34 As part of the drainage strategy for the site, informed by a planning response from NIEA a separate foul system is to be provided with flows being treated by a single larger package treatment plant. This is to be located in the northern side of the site, directly to the east of the entry from Boghill Road.

9.35 These updates are not considered to materially alter the potential ecological impacts associated with this aspect of the proposals, and therefore the conclusion remains one of no significant ecological impacts anticipated in relation to the drainage strategy.

9.36 Chapter 7 of this ES Addendum explains the drainage strategy and pollution prevention mitigation to be employed within the site. This will ensure that the concerns raised by Marine Strategy team in NIEA's consultation response of 19 April 2024 relating to water quality matters associated with off-site but hydrologically connected bathing waters at Rea's Wood, Lough Neagh will be

mitigated by the proposed drainage and sewerage measures that will be delivered as part of the project.

Grid Connection Route Review

9.37 Whilst the proposed construction will largely take place within the centre of the site, associated works will be required, specifically in order to establish a route by which the site can be connected to the electrical grid. Three alternative routes were previously assessed in detail, connecting the site to an existing sub-station at Glengormley via the M2 overbridge, via underground cabling from Mallusk Road to Derry Road/Burney's Lane and to a new 33kv switchboard at Mallusk. These routes are set out in the Material Assets Chapter of the May 2019 ES Addendum (Chapter 13) and were the subject of walkover surveys reported in Chapter 5 Ecology of the May 2019 ES addendum

9.38 The three grid connection routes were subject to an updated walkover on 12th September 2024 to identify any changes in the previously reported baselines. As has been highlighted previously (paragraph 5.4 of the 2019 Ecology ES Addendum), the potential for effects on ecological receptors as a result of the grid connection works is negligible given that the majority of the routes are located within the footprint of existing development. Where semi-natural habitats are present within this corridor these are road verges which have been subject to ongoing management which has supressed the floral interest of this vegetation and maintained the same conditions as were recorded during the previous September 2019 walkover.

9.39 When assessing the potential for any adverse impacts as a result of the grid connection enabling works, it must also be noted that any loss of or disturbance to habitats would be temporary, with vegetation being restored post-construction. In view of the information set out above the potential impacts as a result of the proposed grid connection through any of the three potential routes would be negligible.

Boghill Road Survey Review

9.40 In addition to the quarry area where the majority of the development is proposed, alteration work will be undertaken along Boghill Road, and therefore this area has been included within the scope of surveys and assessment.

9.41 Initial descriptions of the habitats recorded in this part of the site are set out in the original March 2014 ES Chapter (paragraphs 9.127 – 9.159). Several updated walkovers of this area have been undertaken in subsequent years, with the most recent being completed in September 2024, and in each instance these have revealed that the habitats have not been subject to material change since the initial evaluation.

9.42 The road is flanked along the majority of its length by hedgerow and grass verges. These verges are dominated by a few fast-growing species such as Cock's-foot and False Oat-grass and appear to be subject to semi-regular maintenance cuts. Similarly, the hedgerow displays evidence of regular management, and primarily comprises hawthorn with occasional trees in areas. At the northeasternmost part of the site, where Boghill Road intersects with Hydepark

Road, the redline includes a small area of unmanaged vegetation. This is the area where the greatest change in botanical assemblages has occurred, however the transition has been from an area of ruderal species and dominant grasses such as Perennial Rye, to a parcel of land almost entirely covered with dense bramble scrub.

9.43 When designing the proposals habitat loss has been avoided wherever possible, however a number of conflicting constraints have dictated the final proposals along Boghill Road. Where habitat loss – particularly the removal of hedgerows associated with the widening of the road – is unavoidable, this will be offset through the creation of extensive new lengths of hedgerow bordering the widened carriageway. This will ensure that any adverse impacts as a result of hedgerow loss are only temporary in nature, and when considered in addition to the other new planting in these areas including trees, scrub and wildflower grassland the proposals will not only retain existing botanical diversity and connectivity, but deliver new ecological value in places. The original ES chapter considers the loss of the species-poor grassland verges to be insignificant in ecological terms (paragraph 9.250), whilst the loss of hedgerows represents a minor adverse impact (paragraph 9.261). Following the consideration of embedded mitigation measures including the planting of new hedgerows and the creation of new species-rich habitats the residual impacts are considered neutral.

9.44 As with other areas of the site, this parcel of land has been thoroughly surveyed and the ecological baseline is well-understood. Habitat loss has been avoided in the first instance, and where this has not been possible compensation is put forward to mitigate and offset losses. Given the lack of change since previous assessment work the conclusions remains that this element of the work will not lead to any significant adverse impacts.

Assessment of Effects

9.45 Faunal surveys have been undertaken across the site over a period or more than 15 years, with this providing a robust understanding the site's ecological baseline, and hence allowing for reliable assessment of potential effects on ecological receptors. For the sake of clarity these are summarised in turn below.

9.46 **Habitats.** As set out in more detail in Appendix 9.1, whilst successionary pressures have led to minor changes in botanical assemblages, the habitats within the site have not been subject to material changes since previous assessment work.

9.47 The original ES chapter considers each habitat in turn. Impacts on those habitats of low ecological distinctiveness are considered to be not significant (e.g. improved grassland and rush pasture (paragraphs 9.245 – 9.247), species-poor semi-improved grassland (9.248 – 9.248), grassland verge (9.250), wet flush (9.263) and buildings and hardstanding (9.272)). Whilst in the absence of mitigation there is the potential for adverse impacts on habitats of relatively greater ecological value in the context of the site, through the application of mitigation including protective measures during construction, the implementation of biodiversity-focused management strategies for habitats such as the ponds and woodland, and the planting of new species-rich habitats, the residual impacts on these habitats is assessed as neutral or beneficial (e.g. acid

grassland (9.236 – 9.240), marshy grassland and neutral grassland (9.241 – 9.244), semi-natural broadleaved woodland (9.251 – 9.253), dwarf scrub/heath (9.254 – 9.257), scattered/dense scrub (9.258 – 9.259), hedgerows (9.260 – 9.262), ponds and seasonal pools (9.264 – 9.268) and stream (9.269 – 9.271)).

9.48 As set out above, the site has been resurveyed regularly since this assessment, with the most recent of these surveys being carried out in September 2024. Whilst there have been minor changes in species composition as referenced above, these surveys have confirmed that there have been no material changes to the habitats present within the site, and therefore the existing findings are supported, namely that there would be no adverse residual impacts on any habitats, and moreover that the effects of the proposals would – in all instances – be neutral or beneficial.

9.49 **Bats**. The activity surveys undertaken to inform the original ES chapter recorded that the overall level of bat activity across the application site was low, with the majority of the registrations being for Common Pipistrelle, Soprano Pipistrelle and Leisler's Bat with occasional recording of Myotis species and Brown Long-eared Bats. Furthermore, whilst the abandoned farm barn in the northwest of the application site was identified as having the potential to support roosting bats this is to be retained, and the buildings within the application site which were to be removed were identified as not bearing features suitable to support roosting bats. As such, impacts on roosting bats were considered to be of no significance (paragraph 9.286), whilst impacts on foraging and commuting bats were considered to be minor adverse prior to mitigation. Following the implementation of a sensitive lighting regime, timing or works on the quarry wall to fall outside the hibernation season (or be preceded by a check by a suitably qualified ecologist), and the creation of new roost features as well as supplementary planting to increase foraging opportunities, impacts on bats were considered to be minor beneficial (paragraph 9.289).

9.50 The most recent suite of updated bat activity surveys (as set out in detail in Appendix 9.1) recorded a similar level of activity and assemblage of bats, with surveys between June and September 2023 recording registrations for Leisler's Bat, Common Pipistrelle and Soprano Pipistrelle, with occasional recordings of Myotis species, Nathusius' Pipistrelle, and Brown Long-eared Bats. Those buildings identified to be of negligible suitability for roosting bats have been removed since the initial assessment, whilst the stone barn (B1) was reassessed and emergence surveys did not record bats roosting within this structure. In view of the lack of change in the usage of the site by bats since the time of the original assessment the mitigation and enhancement measures originally proposed are considered to remain appropriate, and it is considered that the residual impacts of the proposals would be minor beneficial.

9.51 In the consultation response dated 19 April 2024, NIEA note the previous (2021) suite of bat surveys, including a full-site roost assessment, emergence surveys, activity surveys and the deployment of static detectors. The mitigation including habitat management measures and the creation of hedgerow is described, and no objection is raised in regard to the acceptability of these measures.

9.52 **Otter.** Evidence of Otter was identified in close proximity to the site (along the River Flush) prior to the completion of the original ES Chapter. In view of this it was considered that Otter use this

watercourse for foraging and commuting. The proposals were considered to have the potential to adversely impact Otters through disturbance during construction and potential pollution events. Through the completion of a pre-commencement check, and the design of bridges including features preserving connectivity for Otters (e.g. ledges), the residual impacts on this species were considered to be reduced to neutral.

9.53 Surveys have subsequently been undertaken to update the understanding of the site usage in respect of this species, with the most recent of these being in August 2021. A single Otter spraint was recorded. It was located approximately 20m north of the road bridge on top of a prominent rock within the stream. No other evidence of Otters was identified during the survey. As such Otters are considered to still make use of these watercourses for foraging and navigation, however no changes have occurred which would require altering the package of mitigation to be provided. In view of the most recent survey results the impacts of the proposals on Otters are considered to be neutral.

9.54 **Birds.** Focused bird surveys were first undertaken in 2008/2009, with further wintering bird surveys undertaken in 2011/2012, and suites of breeding bird surveys completed in 2013, 2016, 2020 and 2021. These recorded a number of bird species making use of the site, with those of greatest conservation significance including Peregrine, Ringed Plover and Cuckoo. Further species were also observed breeding within the site including Starling, Raven and Swallow. Informed by these results, the original ES chapter considered that the site offered suitable nesting and foraging opportunities for a range of birds, and with potential threats including disturbance, damage to nests and loss of breeding habitat there was considered to be the potential for moderate adverse impacts. Through the implementation of safeguarding for nesting birds, pre-commencement checks of the quarry wall, provision of new planting and the establishment of an appropriate management regime, residual impacts were considered to be minor beneficial (paragraph 9.310).

9.55 The updated walkovers have confirmed that the suitability of the site to support the species previously identified has not been subject to significant change, and NED confirmed in their 19 April 2024 consultation response that they are content with the extensive information gathered over several surveys and years in respect of birds. The response also confirms that should enabling/construction work take place during the nesting bird season (March to August inclusive) a check of the quarry face immediately prior to the commencement of any construction work for nesting activity by Peregrines and other species, and a check of the quarry floor for the presence of territorial Ringed Plover will be appropriate to ensure that impacts on nesting birds are avoided. Finally the response clarifies that should a buffer zone be required, a radius of 25m for Ringed Plover will be used.

9.56 In view of the above, the mitigation proposed is considered proportionate and appropriate, and the residual impacts of the proposals are considered to be minor beneficial.

9.57 **Smooth Newt.** A number of ponds were recorded across the site during initial surveys, along with the identification of suitable terrestrial habitat in the surrounding areas. Furthermore, Smooth Newts were identified in natural refugia during targeted surveys in 2012. Informed by this, the

original ES chapter considers impacts on Smooth Newts, identifying the potential for adverse impacts through construction activities, pollution of waterbodies and the trapping of individuals by engineered interceptors such as kerbs or drains post-construction. Through the implementation of mitigation measures such as the use of drift fencing and pitfall trapping, the creation of a sensitive habitat management strategy to increase opportunities offered for this species, and the inclusion of features such as dropped kerbs within road designs to ensure newts are not trapped during the operations phase, the residual impacts on this species were considered to be minor beneficial (paragraph 9.318).

9.58 Updated surveys in respect of this species have been undertaken in subsequent years, with the most recent targeted survey for Smooth Newts being in 2021. Of the thirteen waterbodies present eight were identified to support populations of Smooth Newt, with a peak count of 15 individuals recorded during the final survey of pond P7. In view of these results, the mitigation originally put forward in respect of Smooth Newts is still considered appropriate, and it is considered that the residual impacts of the proposals remain minor beneficial.

9.59 In their April 2024 consultation response NIEA note the results of the latest Smooth Newt survey, and the mitigation which has previously been proposed in respect of this group. No objections are raised in relation to the suitability of this.

9.60 **Reptiles.** Consideration was afforded to reptiles (Common Lizard) as part of the original ES chapter, with a targeted suite of reptile surveys undertaken between August and October 2012. These surveys did not record any reptiles, and further a desk study of records held by CEDaR did not identify any local observation of reptiles.

9.61 Whilst no observations of reptiles by subsequent survey have been made, habitat suitable to support this is present on site and so an updated suite of reptile surveys was undertaken in 2022. This once again did not record any reptiles present within the site. As the site contains habitat suitable for Common Lizard, however, NED stated that they require submission of suitable mitigation measures for any lizards that may be present on site.

9.62 It should be noted that the proposed development within the site is to be focused around the existing unvegetated quarry areas which are of negligible value to this group. Where any vegetation suitable for reptiles is to be removed a sensitive clearance strategy should be implemented. This would comprise a two-stage directional cut, with an initial cut undertaken to a height of no less that 150mm under the supervision of an Ecological Clerk of Works. The ecologist would then undertake a fingertip search of any remaining vegetation to ensure reptiles are not present, following which a second cut down to ground level would be completed. Both of these cuts would be undertaken in a directional manner so as to encourage dispersal of reptiles away from cutting activity and into suitable retained vegetation in the wider area.

9.63 Where vegetation is to be retained, management will seek to deliver areas of tussocky grassland and a scalloped edge to scrub parcels, with this providing a quantitative and qualitative enhancement in habitat suitability for this group should they later colonise the site.

9.64 Whilst reptiles are still considered to be absent from the site, the mitigation measures set out above will ensure that harm to reptiles is avoided during the construction phase, and that should this group colonise the site the proposals would have a minor beneficial effect.

9.65 **Invertebrates.** The surveys undertaken in support of the original ES chapter identified the potential for the site to support invertebrates of high conservation significance. Specifically, Devil's-bit Scabious was identified, with this being a species known to support Marsh Fritillary. In addition, targeted surveys recorded Marsh Fritillary larvae in 2012 and 2013. Invertebrate surveys recorded that the majority of the other species present within the quarry and surrounding vegetation were generalist and ubiquitous species. As part of subsequent update surveys (the most recent of which was undertaken in September 2024), the suitability of the site to support invertebrates has been reassessed, and no changes have occurred which would alter the site's suitability for this group. In addition, the desk study identified that a number of Northern Ireland Priority Species are known to be present in the wider area. As a result of the loss of habitat, the proposals were assessed as having the potential to lead to a minor adverse effect on invertebrates prior to mitigation. Through habitat retention, and the implementation of a beneficial management regime, residual impacts on this group were considered to be minor beneficial (paragraph 9.329).

9.66 As set out above, whilst there have been minor changes to habitat composition as a result of successionary pressures, the botanical baseline of the site remains comparable to that recorded at the time of the initial surveys and therefore the opportunities offered to invertebrates are considered to remain unchanged. In view of this, the mitigation measures remain appropriate, and the residual impacts are considered minor beneficial.

9.67 **Badgers.** The principal change to the assessment of effects since the previous submissions is the identification of badger activity. Whilst not present on site at the time of the initial assessment (and therefore screened out of the original ES chapter), activity in the form of sett digging and an observation of an individual during a bat survey have been recorded.

9.68 A single sett was first identified during the habitat survey in 2021. The sett is located within the scrub in the north of the application site and comprises a single entrance. As such, it is considered to be an outlier sett. At the time of the 2021 survey the entrance was clear however no other evidence of the presence of Badgers (such as latrines, snagged hairs or evidence of foraging) was observed. During the June 2021 bat activity survey a Badger was observed towards the eastern side of the site. An updated walkover in 2023 recorded this sett entrance as inactive, and the walkover in 2024 recorded the area being heavily overgrown with scrub which along with the absence of mammal tracks indicates that the sett has been abandoned.

9.69 Whilst the most recent surveys have recorded the sett entrance to be inactive, given the presence of badgers within the site and the wider area a series of precautionary mitigation measures should be implemented in order to ensure the welfare of any individuals present.

9.70 Protective fencing will be installed in order to highlight the sensitive location of the sett during the construction phase and to buffer it from potential disturbance. Furthermore, all contractors

working on site will be briefed regarding the presence of Badgers and of the types of activities that would not be permissible in proximity of the sett.

9.71 Any trenches or deep pits that are to be left open overnight will be provided with a means of escape should a Badger enter. This could simply be in the form of a roughened plank of wood placed in the trench as a ramp to the surface. This is particularly important if the trench fills with water.

9.72 Any trenches/pits will be inspected each morning to ensure no Badgers have become trapped overnight. Should a Badger get stuck in a trench it will likely attempt to dig itself into the side of the trench, by forming a temporary sett. Should a trapped Badger be encountered, the project ecologists should be contacted immediately for further advice.

9.73 The storage of topsoil or other 'soft' building materials within the application site will be given careful consideration. Badgers will readily adopt such mounds as setts, which would then be afforded the same protection as established setts. To avoid the adoption of any mounds, they would be subject to appropriate inspections or consideration given to fencing them with Badger proof fencing.

9.74 During the development, the storage of any chemicals required for the building construction will be strictly controlled to ensure there can be no contact from any Badger activity and contained in such a way that they cannot be accessed or knocked over by any roaming Badgers.

9.75 The bolster planting of new native shrub buffer around the sett, along with hedgerow and wildflower grassland planting as part of the development proposals would maintain and enhance foraging and connectivity opportunities for Badgers. Berry / fruit bearing species included within the planting scheme will provide seasonal foraging resources.

9.76 In view of the measures set out above it is considered that any residual impacts associated with the proposals will be minor beneficial in the long-term.

Appropriate Assessment

9.77 Several previous assessments have been undertaken in respect of The Habitats Regulations, with the most recent of these being in October 2020 (as an update to the 2019 HRA). These have provided the information required for the competent authority to discharge their duties under the Regulations, specifically in terms of assessing the potential for likely significant effects on European designated sites to occur as a result of the proposals.

9.78 In view of the time which has elapsed since the previous assessment, and the updated work by other disciplines, a re-assessment has been undertaken. The full report is included at Appendix 9.2, and whilst detailed evaluation in respect of air quality impacts and mitigation for potential water quality impacts was required, by way of summary adverse impacts on the integrity of all European sites could be ruled out.

Letter of Objection filed by No-Arc21

9.79 A letter was submitted to the Department for Infrastructure on 5th June 2024, stating the objection of No-Arc21 to the proposals on a number of grounds including traffic, emissions, impacts on the natural environment, visual impact and more. Those details of relevance to nature conservation and biodiversity are discussed below.

9.80 The first element raised is that the surveys undertaken to inform the assessment work are out of date.

9.81 Firstly it must be reiterated that ecological survey have been ongoing within this site for many years, with detailed botanical surveys recording the site's floristic characteristics, high-level assessments identifying the potential for the site to support key faunal groups, and informed by this targeted work being undertaken in respect of protected or notable species.

9.82 This ongoing survey work has ensured that rather than a snapshot of the site's ecological value, a robust and ongoing understanding of the floral and faunal interest within the site has been gained, with this informing detailed assessment work at every stage.

9.83 Secondly, as has been highlighted in this document and its supporting appendices recent suites of surveys have been undertaken in respect of key faunal groups. Updated Otter, amphibian and breeding bird surveys were undertaken in 2021, reptile surveys were undertaken in 2022, bat activity and emergence surveys were undertaken in 2023, and updated habitat surveys were undertaken in 2021, 2023 and 2024. In addition, the walkover undertaken in 2024 included a further assessment of the grid connection routes last reviewed in 2019 as well as an assessment of whether any material changes to the site's suitability for protected species had occurred. This full-site evaluation confirmed that the surveys undertaken across recent years represent an appropriate and thorough suite, and that there had been no changes which would lead to the need for further survey work or alter the finding of the current assessment.

9.84 The assessment of impacts on wildlife and habitats is also questioned, with it being stated that the effects of the proposals on habitats such as hedgerows have not been considered.

9.85 On the contrary, however, as set out in detail in Section 5.4 above each habitat and faunal group was subject to individual consideration as part of the ES chapter, revisions to this were made as required during the update work in subsequent years, and consideration is afforded to the full range of relevant ecological receptors as part of this Addendum. Hedgerows, which are specifically raised in this letter, are addressed in the original ES chapter at paragraphs 9.260 – 9.262. As with all other key ecological receptors, this assessment identified potential threats, and mitigation was put forward in order that an overall betterment can be delivered. Given that the updated botanical surveys work has confirmed that the condition and species composition of these hedgerows has not changed materially since this initial assessment, the mitigation proposed (namely avoidance of loss where possible, replacement of hedgerow on a like-for-like basis where loss is unavoidable, and the implementation of a sympathetic management regime) is considered to remain appropriate, and the residual effects on this habitat are considered to be neutral.

Summary

9.86 The site has been subject to detailed surveys since 2008, with the results of these initial surveys set out in the 2014 ES Chapter, followed by updates to this assessment submitted in the Statement of Case for the hearing before the before the PAC (August 2016), and in the ES addendum in March 2019. Alongside this, supplementary information has been submitted in the form of further ES addenda in October 2020 and September 2023.

9.87 The site surveys undertaken between 2021 and 2024 confirm that there has been no material change in the habitats present. Where new records of protected species such as badgers have been made, mitigation has been put forward to address this and ensure that individuals are protected and opportunities are maintained and increased in the long term. Where NIEA have requested additional information in relation to specific surveys this has been provided above.

9.88 On the basis of the evidence set out above, considered in combination with any relevant updates to legislation, policy or guidance, the original ES conclusions discussed in detail in Section 5.4 above regarding residual impacts are considered to remain valid and robust for the purposes of determining the application, and where new elements are present residual impacts are beneficial such that the overall conclusion remains one of no significant adverse impacts.

Clyde Shanks

Appendix 9.1

Habitats Regulations Assessment

HIGHTOWN QUARRY,
BALLYUTOAG,
NORTHERN IRELAND

Information to enable Appropriate Assessment of the impacts on European designated sites pursuant to regulation 43 of the Conservation (Natural Habitats etc.) Regulations (Northern Ireland) 1995

January 2025
5597.IHRA.2025.vf

CONTENTS

FIGURES

ANNEXES

1. INTRODUCTION

1.1. Background

1.1.1. Ecology Solutions has been instructed by Clyde Shanks Ltd [on behalf of arc-21] to assess the implications of the proposed development at Hightown Quarry, Ballyutoag, Northern Ireland (hereafter referred to as the '**Site**') on any nearby designated European Sites. Full assessment in this regard has been undertaken previously with the most recent HRA submission being in March 2019. In view of the time which has elapsed since this last assessment, and the updates prepared by other disciplines, a further update to the appropriate assessment is required.

1.1.2. Consideration is necessary given the site's location, with a number of European designated sites in the surrounding area. Specifically, consideration is required for Belfast Lough Special Protection Area (SPA)/Ramsar, Belfast Lough Open Water SPA, Lough Neagh and Lough Beg SPA/Ramsar, and any underpinning Areas of Special Scientific Interest (ASSI). Belfast Lough SPA/Ramsar is located approximately 5.5km east of the Site (see Plan ECO1). Lough Neagh and Lough Beg SPA/Ramsar are located approximately 15.5km northwest and 19.2km southwest of the Site at their closest point. For simplicity, when considering the designated sites located within Belfast Lough which includes Belfast Lough SPA/Ramsar and Belfast Lough Open Water SPA these are hereafter referred to collectively as 'Belfast Lough Designated Sites'. The Site and these ecological designations are shown graphically at Figure 1 of this document.

1.1.3. A planning application for the proposed development of the Site was lodged by arc-21 with the Department of the Environment on 27th March 2014 (ref: T/2014/0114/F) for the following description of development:

> *"Proposed development of a Residual Waste Treatment Facility incorporating a Mechanical and Biological Treatment (MBT) facility, an Energy from Waste (EfW) Thermal Treatment facility, an Incinerator Bottom Ash (IBA) Treatment facility, a Refuse Derived Fuel (RDF) Bale Storage building, an Administration/Visitor Centre and related infrastructure including widening of the Boghill Road from its junction with Hydepark Road to west of the existing access road into Hightown Quarry site and other ancillary works" (the "***Proposed Development***").*

1.1.4. Ecological surveys in relation to the Proposed Development undertaken at the Site have been conducted by various consultants from 2008 up until 2024. Relevant reports, plans and information regarding these surveys can be found within the associated documents including the Environmental Statement (March 2014), initial Addendum to Environmental Statement (September 2014), further environmental information submitted as part of the applicant's Statement of Case to the Planning Appeals Commission (PAC) (August 2016) and subsequent ES addendum dated August 2019, October 2020, December 2020 and September 2023.

1.1.5. Ecology Solutions previously prepared an assessment of the implications of the Proposed Development on the nearby designated

European Sites in [October 2020] (the "**Previous Assessment**"). This assessment included a review of all the relevant information available at the time as part of the assessment.

1.1.6. Since this time further detailed information has been produced with regard to the drainage scheme for the proposals in the form of an updated Drainage Assessment produced by ARUP (see Chapter 3 and related appendices). Due to the hydrological connectivity of the application site to Lough Neagh and Lough Beg SPA/Ramsar it is considered necessary to reassess the proposals in light of the recently produced Drainage Assessment.

1.1.7. The initial assessment work anticipated that the competent authority (Shared Environmental Services) may either (1) conclude that the proposed development did not have any significant effect on the nearby designated European Sites (i.e. "screen out" the project from the need for appropriate assessment) or, alternatively (2) conclude that the proposed development was likely to have a significant effect on the nearby designated European Sites *in the absence of any mitigation measures* but, with such mitigation measures in place, it is satisfied that the proposed development would not adversely affect the integrity of the nearby designated European Sites. The Previous Assessment concluded that in light of the decision in *People over Wind* it was not anticipated that the competent authority would "screen out" the proposed development from appropriate assessment. Instead, the Previous Assessment anticipated that the competent authority would carry out appropriate assessment pursuant to regulation 43(1) and, as such, provided the information required to enable the competent authority to carry out an appropriate assessment of the implications of the proposed development on the nearby designated European Sites' conservation objectives. By way of summary this updated assessment adopts the same approach.

1.1.8. The potential impacts of the Proposed Development on the nearby designated European Sites are considered within this assessment. The assessment concludes that, in view of the conservation objectives of the nearby designated European Sites, the Proposed Development would not adversely affect the integrity of the nearby designated European Sites.

1.1.9. Where the term "European Site" is used within this report, it has the meaning given by regulation 9 of the Conservation (Natural Habitats, etc) Regulations (Northern Ireland) 1995 (the "**Habitats Regulations**"). The relevant European Sites considered by this report are outlined at paragraph 1.1.1 above.

1.2. Purpose of this Report

1.2.1. Consideration has been afforded to the potential for air quality impacts resulting from the Proposed Development to have a significant effect on the Belfast Lough Designated Sites. Furthermore, hydrological connectivity between the Site and Lough Neagh has been identified and consideration has been given to the potential likelihood for effects to arise from the proposals on Lough Neagh and Lough Beg SPA/Ramsar site.

1.2.2. This report assesses the potential effects of the Proposed Development on the nearby designated European Sites in order to enable the competent authority to carry out an appropriate assessment pursuant to regulation 43(1) of the Habitats Regulations. Regulation 43(1) of the Habitats Regulations is described and considered further in Section 2 below. This report also considers the test set out within regulation 43 (6) of the Habitats Regulations, which states that a competent authority may agree to a relevant plan or project only if, in light of the conclusions of the appropriate assessment it has carried out, it has ascertained that the plan or project will not adversely affect the integrity of a European Site in Northern Ireland.

1.2.3. As part of the assessment contained within this report, professional judgement has been applied in some instances in order to interpret information. Ecology Solutions professional ecologists are members of the Chartered Institute of Ecology and Environmental Management (CIEEM) and are qualified to make such judgements where appropriate.

1.2.4. This report carries out an assessment of the likely significant effects of the Proposed Development on the nearby designated European Sites as a whole, both alone and in combination with other plans / projects.

1.2.5. Around the time of the Previous Assessment, a new proposed marine SPA was put forward for ratification by the UK and European authorities. The site is known as the Proposed East Coast (Northern Ireland) Marine SPA. The key reasons for designation and the conservation objectives are set out at Section 4.6 and at Annex 3 to this document. Consultation periods have been held, and whilst formal designation has not yet been completed, the proposed SPA remains relevant for decision-makers (as has been demonstrated by recent cases including the *Islandmagee Energy Ltd* decision).

1.2.6. The Previous Assessment concluded that given the distance between the application site and the proposed SPA, and the fact that the proposed SPA adjoins and overlaps those SPAs which have been considered in detail within that assessment, no new pathways could be identified which could lead to a likely significant effect. As with the majority of the grid connection route, it was scoped out from further consideration. This assessment concurs with that approach, concluding that sufficient confidence can be provided regarding the absence of likely significant effects through the consideration of existing SPAs.

1.2.7. For clarity, the grid connection route insofar as it falls within the red line (as shown on Figure 2 of this document) was previously considered, primarily as a result of potential pathways being identified where the access and grid route passes along Boghill Road and over the tributary which leads to the Flush River. From this point the grid connection travels either within the carriageway of existing roads or on the adjacent verges. As no pathways could be identified that would be likely to give rise to significant effects on international sites, it has therefore been scoped out from further consideration.

1.2.8. It is the opinion of Ecology Solutions, following appropriate and detailed assessment, that the Proposed Development would not adversely affect the integrity of any European site in Northern Ireland, either alone or in combination with other plans or projects. Therefore, it is considered that the test set out within regulation 43(6) is satisfied and the competent authority may, after carrying out an appropriate assessment, lawfully grant consent for the Proposed Development.

1.3. Site Characteristics

1.3.1. The Site is located to the northwest of the City of Belfast. The Site is bordered by minor roads Boghill and Flush Road to the far north and southwest, respectively. Mixed use agricultural land lies to the south-east and north-west.

1.3.2. The Site itself is primarily quarry floor comprising predominantly bare ground, recolonising scree and compacted areas. Areas of grassland interspersed with scattered scrub are present, with the areas being rank and tussocky in places. Varying types of grassland from neutral to species-poor semi-improved and improved are present across the site. Grassland verge habitat is present alongside Boghill Road. A small parcel of semi-natural broadleaved woodland is located to the northeast of the main quarry area. Small areas of dwarf scrub and heath are present around the periphery of the quarry and there are a number of hedgerows present. In addition to semi-mature and mature specimens occurring within the hedgerow and dense scrub habitats, a number of trees are present along the northern side of Boghill Road. A small area of Bracken is present in the eastern part of the Site. A number of waterbodies are present across the Site and the Flush River and its tributary traverse beneath Boghill Road in the far north. Finally, a building and a number of areas of hardstanding associated with the quarry and transport routes are present.

1.3.3. The boundary of the Site is illustrated at Figure 2 of this document.

1.3.4. The quarry site has been operational since 1965. Planning permission was formally granted by the Department of the Environment (Northern Ireland) for the existing operations in July 1999 with operational planning consent for mobile crushing issued in July 2001.

2. LEGISLATIVE AND PLANNING POLICY BACKGROUND

Legislation and relevant case law

2.1. The hydrological connectivity of the Site (via The Flush River) to the nearby designated European sites, namely Lough Neagh and Lough Beg SPA/Ramsar and the potential for air quality impacts to arise at Belfast Lough Designated Sites means that the Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna (the Habitats Directive) is relevant in this instance. This Directive is transposed in Northern Ireland (NI) legislation through the Habitats Regulations.

2.2. The relevant Directive and corresponding NI legislation is discussed below.

Habitats and Birds Directives

2.3. Under the Habitats Directive, member states are required to take special measures to maintain the distribution and abundance of certain priority habitats and species (listed in Annexes I and II of the Habitats Directive). In particular each Member State is required to designate the most suitable sites as a Special Area of Conservation ('**SAC**'). All such SACs will form part of the Natura 2000 network under article 3(1) of the Habitats Directive.

2.4. Article 2(3) sets out that member states have a duty, in exercising their obligations under the Habitats Directive to:

> ".. take account of economic, social and cultural requirements and local characteristics."

2.5. Under the Council Directive 2009/147/EEC (previously 79/409/EEC) on the Conservation of Wild Birds (the Birds Directive), member states are required to take special measures to conserve the habitats of certain rare species of birds (listed in Annex I of the Birds Directive) and regularly occurring migratory birds. In particular each Member State is required to classify the most suitable areas of such habitats as Special Protection Areas (**SPA**s). This is designed to protect wild birds, and to provide sufficient diversity of habitats for all species so as to maintain populations at an ecologically sound level. All Birds Directive SPAs will also be part of the Natura 2000 network under article 3(1) of the Habitats Directive.

2.6. Thus, there is an obligation under the Habitats Directive and the Birds Directive for member states to designate sites before turning to measures for their protection.

2.7. The protection afforded to SPAs is delivered through Article 6 of the Habitats Directive. Article 6(2) requires member states to take appropriate steps to avoid the deterioration of natural habitats and disturbance of species for which the sites have been designated, in so far as the disturbance could be significant in relation to the objectives of the Directive. Article 6(3) requires that a plan or project not directly connected with the management of the site, but likely to have a significant effect upon it, either individually or in combination with other plans or projects, must be subject to an appropriate assessment of its implications on the site, in view of the sites conservation objectives.

2.8. Having undertaken an appropriate assessment, the competent authority may agree to a plan or project where it can be concluded that it will not adversely affect the integrity of the site. In light of a negative assessment on the implications for the integrity of the site, article 6(4) provides that the plan or project may still proceed where it can be demonstrated that there are no alternatives and there are imperative reasons of over-riding public interest as to why it must proceed. In the event that a plan or project is to proceed on the basis of imperative reasons of over-riding public interest, by direction of article 6(4), compensatory measures must be put in place to ensure that the overall coherence of the Natura 2000 network is protected.

The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995

2.9. The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995, commonly referred to as the Habitats Regulations, transpose the requirements of the Habitats Directive into NI legislation. The Habitats Regulations aim to protect a network of sites in NI that have rare or important habitats and species in order to safeguard biodiversity.

2.10. Under the Habitats Regulations, Competent Authorities have a duty to ensure that all the activities they regulate have no adverse effect on the integrity of any of the Natura 2000 sites. Regulation 43 of the Habitats Regulations requires that:

> ***"43(1) A competent authority before deciding to undertake, or give any consent, permission or other authorisation for a plan or project, which: -***
>
> ***(a) is likely to have a significant effect on a European site in Northern Ireland or a European offshore marine site (either alone or in combination with other plans or projects), and***
> ***(b) is not directly connected with or necessary for the management of the site,***
>
> ***shall make an appropriate assessment of the implications for the site in view of that site's conservation objectives.***
>
> ***…***
>
> ***43(6) In light of the conclusions of the assessment, and subject to regulation 44, the authority shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the European site in Northern Ireland or the European offshore marine site (as the case may be).***
>
> ***…***
>
> ***43(7) In considering whether a plan or project will adversely affect the integrity of the site concerned, the authority shall have regard to the manner in which it is proposed to be carried out or to any conditions or restrictions subject to which it proposed that the consent, permission or other authorisation should be given.***
>
> ***…"***

2.11. Regulation 43 of the Habitats Regulations therefore sets out a two-stage process. The first test is to determine whether the plan / project is likely to have a significant effect on the European site, the second test (if applicable)

is to determine whether the plan / project will affect the integrity of the European site.

2.12. Some key concepts of the Habitats Directive and Habitats Regulations have been clarified through case law as set out below.

Waddenzee Judgement [Case C-127/02]

2.13. In the 'Waddenzee' case the European Court of Justice considered the trigger for 'Appropriate Assessment'. It decided that an appropriate assessment is required for a plan or project where there is a probability or a risk that it will have a significant effect on the SPA. The Judgement states at paragraph 3(a) that:

> ***"…any plan or project not directly connected with or necessary to the management of the site is to be subject to an appropriate assessment of its implications for the site in view of the site's conservation objectives if it cannot be excluded, on the basis of objective information, that it will have a significant effect on that site, either individually or in combination with other plans or projects."***

2.14. Hence the need for an appropriate assessment should be determined on a precautionary basis.

2.15. The Judgement gives clarity that the test of 'likely significant effect' should also be undertaken in view of the European site's conservation objectives. It is stated at paragraph 3(b) that:

> ***"…where a plan or project not directly connected with or necessary to the management of a site is likely to undermine the site's conservation objectives, it must be considered likely to have a significant effect on that site..."***

2.16. Paragraph 4 of the Judgement emphasises the requirement for the appropriate assessment to rely on objective scientific information:

> ***"…an appropriate assessment…implies that, prior to its approval, all the aspects of the plan or project which can, by themselves or in combination with other plans or projects, affect the site's conservation objectives must be identified in the light of the best scientific knowledge in the field. The competent national authorities, taking account of the appropriate assessment of the implications…for the site concerned in the light of the site's conservation objectives, are to authorise such an activity only if they have made certain that it will not adversely affect the integrity of that site. That is the case where no reasonable scientific doubt remains as to the absence of such effects."***

Sweetman Case [Case C- C-258/11]

2.17. Further guidance in relation to the consideration of impacts in the light of the Habitats Regulations is provided in the Sweetman case. The case as set out by the Advocate General considered in detail the test for likely significant effect in paragraphs 50 and 51*:*

> ***"50. The test which that expert assessment must determine is whether the plan or project in question has 'an adverse effect on the integrity of the site', since that is the basis on which the competent national***

> ***authorities must reach their decision. The threshold at this (the second) stage is noticeably higher than that laid down at the first stage. That is because the question (to use more simple terminology) is not 'should we bother to check' (the question at the first stage) but rather 'what will happen to the site if this plan or project goes ahead; and is that consistent with "maintaining or restoring the favourable conservation status" of the habitat or species concerned'…***
>
> ***51. It is plain, however, that the threshold laid down at this stage of Article 6(3) may not be set too high, since the assessment must be undertaken having rigorous regard to the precautionary principle. That principle applies where there is uncertainty as to the existence or extent of risks. The competent national authorities may grant authorisation to a plan or project only if they are convinced that it will not adversely affect the integrity of the site concerned. If doubt remains as to the absence of adverse effects, they must refuse authorisation."***

2.18. The Court of Justice of the European Union (CJEU) agreed with the Advocate General's conclusions, and held*:*

> ***"40. Authorisation for a plan or project, as referred to in Article 6(3) of the Habitats Directive, may therefore be given only on condition that the competent authorities – once all aspects of the plan or project have been identified which can, by themselves or in combination with other plans or projects, affect the conservation objectives of the site concerned, and in the light of the best scientific knowledge in the field – are certain that the plan or project will not have lasting adverse effects on the integrity of that site. That is so where no reasonable scientific doubt remains as to the absence of such effects..."***

2.19. Hence a plan or project may be authorised only if no reasonable scientific doubt remains as to the absence of adverse effects on the integrity of the relevant site. Reasonable scientific doubt will exist if the evidence is not sufficiently conclusive, or if there are gaps in the information*.*

People over Wind (Sweetman II) [Case C-323/17]

2.19.1. The CJEU judgment referred to in Section 1 of this document concerned a Preliminary Ruling in Case C-323/17. A request for a preliminary ruling was made to the CJEU concerning the interpretation of article 6(3) of the Habitats Directive. The request was made in relation to proceedings brought by 'People Over Wind', and Mr Peter Sweetman against Coillte Teoranta. The ruling is as follows:

> *"Article 6(3) of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora must be interpreted as meaning that, in order to determine whether it is necessary to carry out, subsequently, an appropriate assessment of the implications, for a site concerned, of a plan or project, it is not appropriate, at the screening stage, to take account of the measures intended to avoid or reduce the harmful effects of the plan or project on that site."*

2.19.2. The new ruling from the CJEU, departs from previous domestic jurisprudence, where it had previously been deemed acceptable to include consideration of any mitigation / avoidance measures, which

formed an integral part of the plan or project, in considering the first stage of assessment and screening for likely significant effects on a European site (or Ramsar site).

2.19.3. In view of this ruling from the CJEU, in addressing the test at Regulation 43(1) of the Habitats Regulations, it is necessary to undertake the screening assessment in the absence of any consideration of avoidance or mitigation measures.

ESB Wind Developments (Sweetman III) [Case C−164/17]

2.19.4. In this case a request for a preliminary ruling was made to the CJEU concerning the interpretation of articles 6(3) and 6(4) of the Habitats Directive. The request was made in relation to proceedings brought by Mr Peter Sweetman and Edel Grace against the decision of An Bord Pleanála (National Planning Appeals Board, Ireland) concerning the latter's decision to grant ESB Wind Developments Ltd and Coillte permission for a wind farm project within a SPA. The ruling was handed down on 25th July 2018.

2.19.5. This ruling distinguishes between, for the purpose of the application of articles 6(3) and 6(4) of the Habitats Directive, 'mitigation' that consists of measures intended to avoid or reduce harm to the protected site, and measures intended to compensate for any harm (compensatory measures). It is stated:

> *"Article 6 of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora must be interpreted as meaning that, where it is intended to carry out a project on a site designated for the protection and conservation of certain species, of which the area suitable for providing for the needs of a protected species fluctuates over time, and the temporary or permanent effect of that project will be that some parts of the site will no longer be able to provide a suitable habitat for the species in question, the fact that the project includes measures to ensure that, after an appropriate assessment of the implications of the project has been carried out and throughout the lifetime of the project, the part of the site that is in fact likely to provide a suitable habitat will not be reduced and indeed may be enhanced may not be taken into account for the purpose of the assessment that must be carried out in accordance with Article 6(3) of the directive to ensure that the project in question will not adversely affect the integrity of the site concerned; that fact falls to be considered, if need be, under Article 6(4) of the directive."*

2.19.6. The ruling clarifies (in the context of the specifics of that project) what constitutes mitigation and what should correctly be termed compensation. It confirms that mitigation should be taken into account when carrying out appropriate assessment pursuant to article 6(3) but that measures designed to compensate for any harm rather than prevent it, cannot be considered as part of the process of carrying out appropriate assessment.

Holohan Judgment [Case C-461/17]

2.20. In the case of Holohan v. An Bord Pleanála the CJEU considered the appropriate assessment procedure to be adopted when considering potential impacts on a European Site. In considering this case, the CJEU ruled, amongst other matters:

a) *An appropriate assessment must catalogue the entirety of the habitat types and species for which a site is protected.*

b) *It must also identify and examine the implications of the proposed project for the species present on that site and for which that site has not been listed. Additionally, it must identify and examine the implications for habitat types and species outside the boundaries of the protected site, provided that those implications are liable to affect the site's conservation objectives.*

c) *Where the competent authority rejects findings of a scientific expert that additional information must be obtained, the appropriate assessment must include an explicit and detailed statement of reasons capable of dispelling all reasonable scientific doubt concerning the effects on the protected site.*

2.21. This assessment document is fully compliant with the relevant parts of the Holohan Judgment. The qualifying interest features are referred to wherever appropriate (described in detail at paragraphs 4.1 to 4.6 of this assessment report). The relevant information, as submitted to Europe relating to such matters, is included at Annex 2 and referenced where appropriate. Consideration has been given to implications for habitats and species located outside of the SPA / SAC, with reference to the site's Conservation Objectives and the possibility that an adverse effect on the integrity of the site could arise.

The Dutch Nitrogen Cases [C-293/17 and C-294/17]

2.22. On 7th November 2018 the Judgment of the CJEU was handed down pursuant to a reference for a Preliminary Ruling relating to the application of Article 6 of the Habitats Directive in joined cases C-293/17 and C-294/17.

2.23. The cases concerned authorisation schemes for agricultural activities which cause nitrogen deposition on Natura 2000 (European) sites in the Netherlands.

2.24. Key parts of the ruling (insofar as they are relevant to this assessment) are discussed below.

2.25. In line with preceding case law (Waddenzee and Sweetman, discussed above) the need for scientific rigour and firm conclusions as to the absence of effects are a pre-requisite for authorisation of a plan / project. Ruling 3 in the case states:

"Article 6(3) of Directive 92/43 must be interpreted as not precluding national programmatic legislation which allows the competent authorities to authorise projects on the basis of an 'appropriate assessment' within the meaning of that provision, carried out in advance and in which a specific overall amount of nitrogen deposition has been deemed compatible with that legislation's objectives of protection. That is so, however, only in so far as a thorough and in-depth examination of the scientific soundness of that assessment makes it possible to ensure that there is no reasonable scientific doubt as to the absence of adverse effects of each plan or project on the integrity of the site concerned, which it is for the national court to ascertain."

[*emphasis added*]

2.26. Ruling 4 in the case states:

"Article 6(3) of Directive 92/43 must be interpreted as not precluding national programmatic legislation, such as that at issue in the main proceedings, exempting certain projects which do not exceed a certain threshold value or a certain limit value in terms of nitrogen deposition from the requirement for individual approval, if the national court is satisfied that the 'appropriate assessment' within the meaning of that provision, carried out in advance, meets the criterion that there is no reasonable scientific doubt as to the lack of adverse effects of those plans or projects on the integrity of the sites concerned."

[*emphasis added*]

2.27. Ruling 5 in the case states:

"Article 6(3) of Directive 92/43 must be interpreted as precluding national programmatic legislation, such as that at issue in the main proceedings, which allows a certain category of projects, in the present case the application of fertilisers on the surface of land or below its surface and the grazing of cattle, to be implemented without being subject to a permit requirement and, accordingly, to an individualised appropriate assessment of its implications for the sites concerned, unless the objective circumstances make it possible to rule out with certainty any possibility that those projects, individually or in combination with other projects, may significantly affect those sites, which it is for the referring court to ascertain."

[*emphasis added*]

2.28. Ruling 6 in the case confirms that any measures which are relied upon to mitigate or avoid adverse effects on the integrity of the European site in question, must be certain at the time of assessment. It is stated:

"Article 6(3) of Directive 92/43 must be interpreted as meaning that an 'appropriate assessment' within the meaning of that provision may not take into account the existence of 'conservation measures' within the meaning of paragraph 1 of that article, 'preventive measures' within the meaning of paragraph 2 of that article, measures specifically adopted for a programme such as that at issue in the main proceedings or 'autonomous' measures, in so far as those measures are not part of that

programme, if the expected benefits of those measures are not certain at the time of that assessment."

[*emphasis added*]

The A5 Judgement

2.29. The A5 judgement[1] handed down by Mr Justice Stephens provides guidance in relation to the application of the Habitats Regulations/Directive on two main counts. The first being the requirement to demonstrate the efficacy of mitigation. The second being the fact that a clear difference exists between what is required of a screening assessment and what is required of an Appropriate Assessment.

2.30. At paragraph 89 Mr Justice Stephens considers the Judgment of Mr Justice Sullivan in relation to the Dilly Lane case (as referred to above). He states;

> *"[89] In R (on the application of Hart District Council) v Secretary of State for the Communities and Local Government the competent authority was not the developer. In that case Sullivan J stated:*
>
> *'If the competent authority does not agree with the proponents' view as to the likely efficacy of the proposed mitigation measures, or is left in some doubt as to the efficacy, then it will require an appropriate assessment because it will not have been able to exclude the risk of a significant effect on the basis of objective information (see Waddenzee above)."*

2.31. He goes on:

> *"I consider that is the test to be applied by the competent authority, namely if it is left in some doubt as to the efficacy of the mitigation measures. In this case the Department is both the competent authority and the developer but that does not relieve the Department of its obligation to have an appropriate assessment if it is left in some doubt as to the efficacy of the mitigation measures."*

2.32. Thus the Judgment is clear that the efficacy of the mitigation must be demonstrable if the Competent Authority are to hold at the first stage of the legal tests being applied (namely at Regulation 43(1), and not move to undertake an Appropriate Assessment.

2.33. Paragraph 91 gives direction as to what is required of a screening assessment and what is required of an Appropriate Assessment. It is stated:

> *"[91] A screening opinion is different from an appropriate assessment which involves detailed consideration. The screening opinion does not require all considerations to be mentioned."*

Wealden v SSCLG [2017] ('the Wealden Judgment 2017')

2.34. Specifically, in relation to air quality impacts on designated sites (most notably in relation to Nitrogen deposition), until relatively recently, Natural England's advice regarding the screening threshold for a likely significant effect was as

[1] [2013] NIQB 30

follows. Where either, the resulting deposition / concentration equates to 'less than 1% of the relevant benchmark', or the predicted AADT value is less than 1000, a likely significant effect can be screened out for the project when it is considered both alone and in combination with other plans or projects.

2.35. However, relevant guidance has changed in the light of the High Court judgment in Wealden v SSCLG [2017] ('the Wealden Judgment 2017').

2.36. The Wealden Judgment confirms that the use of the project / plan level 1000 AADT threshold (equivalent to 1% of the critical level/load for receiving habitat) as the only means of addressing in-combination effects was not appropriate, particularly where other AADT values are known and importantly which, when added together, breach the threshold. The 1000 AADT (and 1%) thresholds themselves were not questioned in terms of their use for assessment purposes.

2.37. The Judgment clarified that whilst the 1000 AADT (and 1% of the critical load / level) threshold is appropriate for use in screening assessments when applying the tests of the Habitats Regulations, a true in combination assessment must be undertaken, in view of all relevant AADT data.

Guidance and other Relevant Documents

2.38. Guidance on the interpretation of key terms and concepts contained within the European and NI legislation of relevance to European designated sites is provided through several documents issued by the European Commission and national organisations such as the Joint Nature Conservation Committee (JNCC) and Department of Environment. This guidance is discussed below.

Natura Standard Data Forms

2.39. A standard reporting format has been developed for Natura 2000 sites (SACs and Special Protection Areas – SPAs) to ensure that the relevant site selection information is reported and stored in a consistent manner which can be easily made available.

2.40. A standard reporting form for SPAs and SACs was developed by the European Commission and published in 1996. The form is used for all sites designated or proposed to be designated as SPAs and SACs under the Habitats and Birds Directives, with the information to be stored on a central database.

2.41. Article 4 of the Habitats Directive provides the legal basis for providing the data. Article 4 states that information shall include a map of the site, its name, location, extent and the data resulting from application of the criteria specified in Annex III and that this shall be provided in a format established by the Commission.

2.42. Whilst it is the relevant country agency (i.e. Northern Ireland Environment Agency (NIEA)) that is responsible for designating a site, it is the JNCC who are responsible for collating the lists of European and international designated sites, together with relevant supporting information. The Nature 2000 Data Forms for SPAs and SACs are therefore made available by the JNCC.

2.43. Within the explanatory notes for Natura Standard Data Forms (European Commission 1996) the following "main objectives" of the Natura data form / database are given:

> ***1. "to provide the necessary information to enable the Commission, in partnership with the Member States, to co-ordinate measures to create a coherent NATURA 2000 network and to evaluate its effectiveness for the conservation of Annex I habitats and for the habitats of species listed in Annex II of Council Directive 92/43/EEC as well as the habitats of Annex I bird species and other migratory bird species covered by Council Directive 79/409/EEC."***
>
> ***2. "to provide information which will assist the Commission in other decision-making capacities to ensure that the NATURA 2000 network is fully considered in other policy areas and sectors of the Commission's activities in particular regional, agricultural, energy, transport and tourism policies."***
>
> ***3. "to assist the Commission and the relevant committees in choosing actions for funding under LIFE and other financial instruments where data relevant to the conservation of sites, such as ownership and management practice, are likely to facilitate the decision-making process."***
>
> ***4. "to provide a useful forum for the exchange and sharing of information on habitats and species of Community interest to the benefit of all Member States."***

Managing Natura 2000 Sites (European Communities 2000)

2.44. The document entitled "Managing Natura 2000 Sites the provisions of article 6 of the Habitats Directive 92/43/CEE", published by the European Commission in 2000, provides guidelines to the Member States on the interpretation of certain key concepts used in article 6 of the Habitats Directive. It should be noted that the section relating to Article 6(4) has subsequently been replaced through the publication of a further guidance document by the European Commission in 2007 entitled "Guidance document on Article 6(4) of the 'Habitats Directive', which is considered below under the relevant heading.

2.45. This document states at section 2.3.3 that conservation measures must correspond to the ecological requirements of the habitats and species present for which the site is designated and that these requirements "involve all the ecological needs necessary to ensure their favourable conservation status".

2.46. At section 3.5 the guidance states, in relation to deterioration and disturbance of habitats or species:

> ***"Deterioration or disturbance is assessed against the conservation status of species and habitats concerned. At a site level, the maintenance of the favourable conservation status has to be evaluated against the initial conditions provided in the Natura 2000 standard data forms when the site was proposed for selection or designation, according to the contribution of the site to the ecological coherence of the network. This notion should be interpreted in a dynamic way according to the evolution of the conservation status of the habitat or the species."***

2.47. Section 4.4.1 sets out that in determining what may constitute a likely 'significant' effect one should take into account the conservation objectives for the site and other relevant baseline information. In the second paragraph of this section of the document it is stated:

> ***"In this regard, the conservation objectives of a site as well as prior or baseline information about it can be very important in more precisely identifying conservation sensitivities."***

2.48. Section 4.5.3 of the document sets out the duty of member states to provide certain specific information in support of the inclusion of a site within the Natura 2000 network. This information is to be provided in a format specified by the European Commission (the Natura 2000 Standard Data Form).

2.49. A link is drawn between the Standard Data Form and the formation of the site's conservation objectives within the text box at the end of section 4.5.3 of the guidance where it is stated:

> ***"The information provided according to the standard data form established by the Commission forms the basis for a Member State's establishment of the site's conservation objectives."***

2.50. With regard to an assessment of the effects of a plan / project on the integrity of a site, the 'integrity of the site' is defined at section 4.6.3 as:

> ***"… the coherence of the site's ecological structure and function, across the whole area, or the habitats, complex of habitats and / or populations of species for which the site is or will be classified."***

2.51. The guidance is clear, within the text box at the foot of page 39, that an assessment as to the implications of the plan / project on the integrity of the site should be limited to an assessment against the site's conservation objectives:

> ***"The integrity of the site involves its ecological functions. The decision as to whether it is adversely affected should focus on and be limited to the site's conservation objectives."***

2.52. Section 5 of the document deals with article 6(4) of the Habitats Directive. Note that this section has been expanded upon and replaced by further guidance issued by the European Commission entitled "Guidance document on Article 6(4) of the Habitats Directive 92/43/EEC" (2007). This document is dealt with below at paragraphs 2.73 – 2.77.

Managing Natura 2000 Sites – The provisions of Article 6 of the habitats Directive 92/43/EEC

2.53. In January 2019 the European Commission published updated guidance in relation to managing Natura 2000 sites, following initial guidance published in 2000 (see above).

2.54. The primary purpose of the revision was to incorporate relevant rulings of the Court of Justice of the European Union (EU) which have been issued since the initial guidance was published in 2000. It also integrates, into a single document, other relevant European Commission notes / guidance

documents. Those key rulings (of the Court of Justice of the EU) and other relevant European Commission notes / guidance are discussed above in this report. The revised guidance provides clarifications of key concepts to Member State, authorities and stakeholders involved in the management of Natura 2000 sites (e.g. SPAs and SACs).

Assessment of Plans and Projects Significantly Affecting Natura 2000 sites- Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC (European Commission 2001)

2.55. This document, published by the European Commission in 2001, gives guidance on carrying out and reviewing those assessments required under article 6(3) and (4) of the Habitats Directive. It is provided as supplementary guidance and does not over-ride or replace any of that set out within Managing Natura 2000 (European Commission 2000) which as stated at page 6 of the document, "is the starting point for the interpretation of the key terms and phrases contained in the Habitats Directive". The guidance provided is not mandatory and it is clearly set out that its use is "optional and flexible" and that it is for "Member States to determine the procedural requirements deriving from the directive".

2.56. The guidance sets out the key stages in following the tests contained within the Habitats Directive. Pertinent to this application, stages one and two are relevant. Stage one is the screening stage assessing the likelihood of a plan / project resulting in a significant effect upon the European site. The second comprises the appropriate assessment.

2.57. Section 3.2.4 is concerned with Appropriate Assessment and specifically, the assessment against the conservation objectives of the European Site. Box 9 provides a list of five example conservation objectives for differing broad habitat types. One such example, that for a coastal site, taken from Box 9 is provided below:

> ***"to maintain the status of the European features of this coastal site in favourable condition, allowing for natural change. Features include coastal shingle vegetation and lagoons (within a candidate special area of conservation (SAC), which is also a SPA)."***

Common Standards Monitoring (JNCC February 2004)

2.58. Common Standards Monitoring (CSM) is a means by which condition objectives for habitats, species, or other features of designated sites (e.g. SSSIs and SPAs) are set based on key attributes of the features.

2.59. The JNCC and the country Conservation Agencies (e.g. Northern Ireland Environment Agency) developed guidance on the setting and assessing of condition objectives, as required under the Birds and Habitats Directives and set out a framework for this in 1999. This framework is provided in the form of CSM guidance which comprises a suite of documents including an "Introduction to the Guidance Manual on Common Standards Monitoring" and several species / habitat specific documents. The Introduction to the Guidance Manual covers various relevant concepts and terms. It also provides a background to the setting of conservation objectives and sets out the desired approach to setting targets, monitoring, management and reporting on conservation measures in designated sites.

2.60. The Introduction to CSM Guidance and CSM guidance for individual site attributes set out specific criteria regarding the identification of interest features, targets and methods of assessment. There is in-built flexibility and allowances for 'judgements to be made' when assessing, for example, favourable condition.

2.61. It is understood that NIEA applies the CSM approach to European designated sites through an assessment of the ASSI condition. This is undertaken on a cycle of approximately 6 years. The assessment does not relate to the Conservation Objectives of the European site but provides a tool for tailoring future management of the ASSI such that favourable condition of the interest features can be maintained or restored as appropriate.

Conservation Objectives

2.62. Whilst Regulation 43 of the Habitats Regulations is explicit in setting out that any assessment of the implications of the plan/project on a European designated site should be undertaken in view of the site's "conservation objectives", the term 'conservation objective' is not explicitly defined within the Regulations. The term "conservation objectives" appears at Article 6(3) of the Habitats Directive which sets out the process of assessment for a plan or project which may be likely to have an effect on a designated site, however the term itself is not defined.

2.63. To understand what is meant by the term "conservation objective" it is necessary to look at the Habitats Directive in light of relevant European and other guidance. That guidance is not always consistent or clear about the use of the term "conservation objectives". For the purposes of this assessment, reference is made to the formal "conservation objectives" mentioned in Article 6(3) and Regulation 43 as "Conservation Objectives".

2.64. The term "conservation" is defined within the Habitats Directive at Article 1(a):

> *"conservation means a series of measures required to maintain or restore the natural habitats and the populations of species of wild fauna and flora at a favourable status as defined in (e) and (i)".*

2.65. The term "conservation status of a natural habitat" is defined within the Habitats Directive at Article 1(e):

> *"conservation status of a natural habitat means the sum of the influences acting on a natural habitat and its typical species that may affect its long-term natural distribution, structure and functions as well as the long-term survival of its typical species within the territory referred to in Article 2."*

2.66. The term "conservation status of a species" is defined within the Habitats Directive at Article 1(i):

> *"conservation status of a species means the sum of the influences acting on the species concerned that may affect the long-term distribution and abundance of its populations within the territory referred to in Article 2:*

The conservation status will be taken as 'favourable' when:

- *Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and*
- *The natural range of the species is neither being reduced nor is it likely to be reduced for the foreseeable future, and*
- *There is and will probably continue to be a sufficiently large habitat to maintain its populations on a long-term basis."*

2.67. Article 3 of the Habitats Directive sets out that Member States have a duty to designate (in accordance with Article 4 of the Directive) special areas of conservation and that where necessary Member States shall endeavor to improve the ecological coherence of Natura 2000.

2.68. Article 4(1) of the Habitats Directive states that Member States must provide a list of sites, indicating which Annex I habitats and species occurring on Annex II are present. This Article also clarifies the type of information that must be submitted for each listed site (map, name, location, extent and the results of the application of qualification criteria listed at Annex III of the Directive). This information provides the basis of the Natura 2000 Data Form discussed elsewhere within this document. Article 4(4) states:

"Once a site of Community importance has been adopted in accordance with the procedure laid down in paragraph 2, the Member State concerned shall designate that site as a special area of conservation as soon as possible within six years at most, establishing priorities in the light of the importance of the sites for the maintenance or restoration, at a favourable conservation status, of a natural habitat type in Annex 1 or a species in Annex 2 and for the coherence of Natura 2000, and in the light of the threats of degradation or destruction to which those sites are exposed."

2.69. The formal Conservation Objectives for SPAs and SACs in Northern Ireland are published by NIEA, an agency within the Department of Agriculture, Environment and Rural Affairs (“DAERA”). Those Conservation Objectives applicable to the designated sites being considered as part of this assessment are included as annexes to this sHRA.

2.70. Full regard has been had to the significant weight to be applied to the formal Conservation Objectives when considering a plan or project and applying the tests of the Habitats Regulations. Regard has also been had to other relevant information including that available from the JNCC.

Planning Policy Statement 2

2.71. Planning Policy Statement 2 (PPS2) requires Local Planning Authorities to fully consider the effect of planning decisions on biodiversity and geological conservation and ensure that appropriate weight is attached to statutory nature conservation designations, protected species and biodiversity and geological interests within the wider environment. It attaches particular importance to designated sites, such as Ramsar sites, Special Protection Areas (SPAs), SACs, Areas of Special Scientific Interest (ASSIs), National Nature Reserves (NNRs), Marine Nature Reserves (MNRs), Local Nature

Reserves (LNRs), Sites of Local Nature Conservation Importance (SLNCI) and Wildlife Refuges.

2.72. A hierarchical approach to protection is adopted and PPS2 provides guidance as to the level of protection which is afforded to each of these designated sites, which varies according to their international, national or local status.

Guidance document on Article 6(4) of the 'Habitats Directive' (European Commission 2007)

2.73. This document, published by the European Commission in 2007, is intended to provide clarification on key terms / concepts as referred to within "Managing Natura 2000 Sites" and replaces the section on article 6(4) within that earlier document.

2.74. The Guidance document covers, in particular, the concepts of Alternative Solutions, Imperative Reasons of Overriding Public Interest, Compensation Measures, Overall coherence and the Opinion of the Commission.

2.75. With regard to ensuring the quality of an appropriate assessment, and to define exactly what needs to be compensated, it is stated at section 1.3 that:

> ***"Assessment procedures of plans or projects likely to affect Natura 2000 sites should guarantee full consideration of all elements contributing to the site integrity and to the overall coherence of the network, both in the definition of the baseline conditions and in the stages leading to identification of potential impacts, mitigation measures and residual impacts. These determine what has to be compensated, both in quality and quantity."***

2.76. The need to use information contained within the Natura Standard Data Form, in tandem with the sites conservation objectives when undertaking an appropriate assessment is specifically referred to (under the second hyphenated point at section 1.3 on page 5).

2.77. Section 1.3.2 gives guidance on the application of article 6(4) in respect of reasons of overriding public importance and section 1.4.1 gives guidance on the application of article 6(4) in respect of compensatory measures.

3. SITE LOCATIONS AND BACKGROUND

3.1. For completeness, the closest European / International designated site to the Site itself are the Belfast Lough Designated Sites that lie approximately 5.5km east of the Site.

3.2. Despite the distances involved, given the nature of the development proposals, it is considered that there is potential for the development to significantly affect the Lough Neagh & Lough Beg SPA/Ramsar site. As such this designated site has to be further included in this assessment.

3.3. All other such designated sites have been screened out of requiring assessment.

3.4. **Relationship between the Belfast Lough Designated Sites and the Application Site**

3.4.1. The locations of the Belfast Lough Designated Site and Lough Neagh & Lough Beg SPA/Ramsar site with respect to the Site are shown on Figure 1.

4. CONSERVATION STATUS OF THE DESIGNATED SITES

4.1. Belfast Lough SPA

4.1.1. Belfast Lough SPA is a large intertidal area located at the mouth of the River Lagan. The inner lough consists of mudflats, shell banks and lagoons whilst the outer lough mainly comprises rocky shores and sandy bays.

4.1.2. The Natura 2000 Standard Data Form states that Belfast Lough SPA qualifies as a SPA under Article 4.1 of the EC Directive on Wild Birds (2009/147/EEC, previously 79/409/EEC) (the 'Birds Directive') on account of regularly supporting Common Tern *Sterna hirundo* and Arctic Tern *Sterna paradisaea* during the breeding season and over-wintering Bar-tailed Godwit *Limosa lapponica*. In addition, the site also qualifies under Article 4.2 of Birds Directive on account of supporting over-wintering populations of Common Redshank *Tringa tetanus* and Black-tailed Godwit *Limosa limosa islandica*.

4.1.3. The Conservation Objectives for the SPA states that the selection features are for Redshank and Great Crested Grebe as well as habitat extent and roost site locations.

4.1.4. The Natura 2000 Standard Data Form for the SPA is included at Annex 1.

4.2. Belfast Lough Open Water SPA

4.2.1. Belfast Lough Open Water SPA comprise open water and sea inlets.

4.2.2. The SPA qualifies under Article 4.2 of Birds Directive on account of supporting over-wintering populations of Great Crested Grebe.

4.2.3. The Conservation Objectives for the SPA states that the selection features are for Great Crested Grebe as well as habitat extent and roost/loafing sites.

4.2.4. The Natura 2000 Standard Data Form for the SPA is included at Annex 1.

4.3. Belfast Lough Ramsar

4.3.1. Belfast Lough Ramsar site qualifies under criterion 6 of the Ramsar Convention[2] on account of the peak counts in spring/autumn (passage populations) of Redshank, which are of international importance.

4.3.2. In addition, Black-tailed Godwit *Limosa limosa* is cited as a species for future consideration under the criterion 6 qualification, again on account of the spring/autumn (passage) population.

4.3.3. Other notable bird species occurring at levels of national importance include: Great Crested Grebe, Great Cormorant *Phalacrocorax carbo*, Common Eider *Somateria mollissima*, Eurasian Oystercatcher

[2] Convention on Wetlands of International Importance Especially as Wildfowl Habitat 1971

Haematopus ostralegus, Ruff *Philomachus pugnax*, Red-throated Diver *Gavia stellata*, Common Shelduck *Tadorna tadorna*, Greater Scaup *Aythya marila*, Common Goldeneye *Bucephala clangula*, Red-breasted Merganser *Mergus serrator*, Ringed Plover *Charadrius hiaticula*, Red Knot *Calidris canutus islandica*, Ruddy Turnstone *Arenaria interpres* and Mew Gull *Larus canus*.

4.3.4. The boundary of this Ramsar site is entirely equivalent with the Belfast Lough SPA boundary and hence supports the same habitats as previously described.

4.3.5. A copy of the Ramsar Information Sheet is included at Annex 2.

4.4. Lough Neagh and Lough Beg SPA

4.4.1. The SPA is designated under Article 4.1 of the Birds Directive for supporting breeding populations of Common Tern *Sterna hirundo* (6% of the all-Ireland breeding population) and significant over-wintering populations of Bewick's Swan *Cygnus columbianus bewickii* (5.4% of the all-Ireland population) and Whooper Swan *Cygnus cygnus* (10% of the all-Ireland population) and under article 4.2 of the Birds Directive for its internationally important assemblage of Bewick's Swan, Whooper Swan, Pochard *Aythya farina*, Tufted Duck *Aythya fuligula* and Goldeneye.

4.5. Lough Neagh and Lough Beg Ramsar

4.5.1. Lough Neagh and Lough Beg qualifies as a Ramsar site as it represents the largest freshwater lake in the UK (i.e. Criterion 1 of the Ramsar Convention), supports over 40 rare or local vascular plants (Criterion 2), regularly supports substantial numbers of groups of waterfowl (Criterion 3), supports nationally important numbers of breeding birds (Criterion 4), regularly supporting over 20,000 internationally and nationally important waterfowl in winter (Criterion 5), supports wintering Bewick's swan and Whooper swan as well as breeding populations of Common Tern (Criterion 6) and supporting a population of Pollan *Coregonus autumnalis* (Criterion 7).

4.6. Proposed East Coast (Northern Ireland) Marine SPA

4.6.1. This proposed SPA is a large area of coastal and near shore marine habitat, stretching from Carnlough in the north to Ardglass in the south. This includes the marine areas associated with Larne Lough, Belfast Lough, Copeland Islands and Ard Peninsular to Cloghan Head. The landward boundary is defined as the mean low watermark. This proposed SPA adjoins existing SPAs including Belfast Lough SPA and subsumes Belfast Lough Open Water SPA. It sits at approximately 5.5km east of the site.

4.6.2. The site's citation states that it qualifies as an SPA under Article 4.1 of the Birds Directive due to the presence of over wintering Red-throated Diver *Gavia stellate* as well as supporting populations of Sandwich Turn *Thalasseus sandvicensis*, Common Turn *Sterna hirundo* and Arctic Turn *Sterna paradisaea*. In addition the site also qualifies under Article 4.2 of the Birds Directive on account of supporting over wintering

populations of Great Crested Grebe *Podiceps cristatus,* breeding Manx Shearwater *Puffinus puffinus* and non-breeding Eider *Somateria mollissima.* The conservation objectives are included in Annex 3.

4.7. Conservation Objectives

4.7.1. The Habitats Regulations require an appropriate assessment to be undertaken "in view of the site's nature conservation objectives". Conservation objectives are a statement of the measures required to maintain at, or restore to, favourable conservation status the natural habitats and / or the populations of species of wild fauna and flora for which the site has been selected. The conservation status of a species is defined as favourable when the population, range and natural habitats of the species are stable or increasing. Similarly, the conservation status of a habitat is favourable when the range, structure and function, and typical species thereof, are stable or increasing.

4.7.2. The Conservation Objectives for the SPAs are included at Annex 3.

4.8. Areas of Special Scientific Interest

4.8.1. Components of Belfast Lough (Outer Belfast Lough and Inner Belfast Lough) are also designated as Area of Special Scientific Interest (ASSI).

4.8.2. Outer Belfast Lough ASSI is designated for its important numbers of overwintering population of Great Crested Grebe and nationally important wintering populations of Redshank, Turnstone, Oystercatcher and Ringed Plover.

4.8.3. Inner Belfast Lough ASSI is designated for its important feeding/roosting sites for significant numbers of over-wintering waders and wildfowl, of particular note being Redshank and Oystercatcher and offshore feeding populations of Goldeneye and Scaup *Aythya marila*.

4.8.4. Lough Neagh is also designated as an ASSI. It is designated for its large numbers of migratory waterbirds. It supports internationally important populations of a number of wetland and wading birds that are significant in an all-Ireland context.

4.8.5. The citations for the ASSIs are included at Annex 4.

5. ASSESSMENT OF THE IMPLICATIONS OF THE PROPOSED DEVELOPMENT FOR THE SPA's CONSERVATION OBJECTIVES

5.1. Section 2 of this document sets out the legislation, guidance and case law of relevance to an assessment of the implications of a plan / project on a European Site. Having regard to this legislation and supporting guidance it is clear that the assessment is a two-stage process, the first being the 'likely significant effect' stage, the second being the 'integrity test'.

5.2. It is clear that the Conservation Objectives of the European Site are the most important consideration in determining whether the plan / project will have an adverse effect on the site, including any effects on its integrity. Indeed, some guidance indicates that it is only the Conservation Objectives against which the plan / project should be tested in line with the Habitats Directive / Regulations. However, other European guidance implies that additional information is relevant.

5.3. It is evident that there is a clear hierarchical approach to assessing effects on European Sites in line with the Habitats Directive / Regulations. The primary test is that against the Conservation Objectives with other considerations following these. Such other considerations would include:

- Other features of interest associated with the site; and
- Other relevant baseline information for the site.

5.4. In line with the above, whilst the qualifying interest features of the site and other baseline information have informed this assessment, the greatest weight has been placed upon the formal conservation objectives for the European Site, as set out by NIEA.

5.5. This section includes a description of the likely significant effects arising from the Proposed Development at the Site on the Belfast Lough Designated Sites and Lough Neagh and Lough Beg SPA/Ramsar site. The likely effects are assessed within this section in order to address the test under regulation 43(1) of the Habitats Regulations, which requires a competent authority to carry out an appropriate assessment of the implications of a plan/project for the relevant European Site in view of that site's conservation objectives. The assessment of likely significant effects of the Proposed Development is undertaken at this stage "alone" (i.e. not "in combination").

5.6. In undertaking this assessment, consideration has been given to the best available scientific knowledge. An appropriate assessment can therefore be undertaken consistent with the *Waddenzee* Judgement, which requires the use of the best scientific knowledge to inform a decision where no reasonable scientific doubt remains as to the presence and / or absence of effects that would adversely affect the integrity of the designated site (see Section 2 above).

Potential Impacts on the Belfast Lough Designated Sites and Lough Neagh & Lough Beg in the absence of Mitigation

5.7. Consideration of potential impacts arising from both construction and operation of the Proposed Development has been undertaken in respect of nearby statutory designated sites.

5.8. The proposals are for a residual waste treatment facility to include a mechanical and biological treatment facility, an energy from waste thermal treatment facility, an incinerator bottom ash treatment facility, a refuse derived fuel bale storage building, an administration/visitor centre and related infrastructure including widening of the Boghill Road from its junction with Hydepark Road to west of the existing access road into Hightown Quarry site and other ancillary works.

5.9. All works to be carried out pursuant to the Proposed Development are within the Site boundary. There would therefore be no 'land take' associated with the Proposed Development.

5.10. A Habitats Regulations Assessment (HRA) and associated Appropriate Assessment (AA) has been undertaken by the Department of the Environment for Northern Ireland to ascertain whether the Belfast Metropolitan Area Plan (BMAP) (within which the Site falls) would have a likely significant effect on any European Sites and adversely affect the integrity of any European Site.

5.11. As part of this process an AA has been undertaken for Lough Neagh and Lough Beg SPA/Ramsar. Several aspects of BMAP were identified to likely give rise to significant effects including that:

"Development activities associated with other Development Plans within the catchment of the Lough Neagh / Bann system may contribute to water quality impacts within Lough Neagh and Lough Beg SPA / Ramsar."

5.12. The Flush River and its tributary pass through the Site and eventually flow (via the Ballymartin Water and Six Mile Cross watercourses) into Lough Neagh at Antrim. Consideration has therefore been given to the potential for the Proposed Development to impact water quality on Lough Neagh and Lough Beg SPA/Ramsar.

5.13. Increased levels of nutrients (e.g. phosphorous and nitrogen) entering habitats can affect the productivity and structure of habitats, lower oxygen levels and cause algal blooms.

5.14. The BMAP HRA also states in relation to Belfast Lough SPA/Ramsar and Belfast Lough Open Water SPA that:

"Aerial pollution and associated atmospheric deposition of nitrogen and sulphur compounds arising from the BMAP area have the potential to lead to eutrophication and soil acidification."

5.15. Similarly, as with hydrological impacts, aerial deposition can potentially result in impacts to supporting habitats with knock on effects throughout the wider ecological system.

5.16. In light of the above, potential pathways for significant effects are considered to be limited to the following:

- **Hydrological impacts**, including sedimentation, contamination and eutrophication during the construction and operational phases of the Proposed Development; and
- **Air Quality impacts**, including acid and nitrogen deposition during the operational and construction phases of the Proposed Development.

5.17. For clarity, the Proposed Development will not result in any significant increases in light or noise levels during the operational phase and there would be no additional pressures from human presence during the operational phase which could give rise to disturbance impacts.

Hydrological impacts

Vulnerability

5.18. Aquatic / riparian habitats and supported flora and fauna are sensitive to toxic contamination, sedimentation, scouring (erosion) and changes to the rivers flow regime, with the later three affecting the structure of the habitats present. Toxic contamination has the potential to kill off benthic and other invertebrates, fish and plant species. Via the uptake of toxins by these groups, knock on effects on organisms further up the food chain (e.g. predatory birds) are also possible.

5.19. Deposition has the potential to give rise to the suppression of vegetation where plants are prevented from photosynthesising efficiently. In addition, the nutrient levels of soil can be altered. These effects can lead to changes in the vegetation community present. Such effects are predominantly associated with long term exposure.

5.20. Sedimentation (settling of fine particulates) smothers aquatic vegetation. Each of these factors are detrimental to aquatic plants, reducing / preventing photosynthesis. A reduction in aquatic plant life has adverse effects on a wide variety of faunal species / groups due to interdependencies.

Assessment of Impacts

5.21. Specific consideration has been given to likely significant effects derived via the Flush River and its tributary which pass through the Site and eventually flow (via the Ballymartin Water and Six Mile Cross watercourses) into Lough Neagh. There are a number of pathways (as discussed in more detail in Chapter 7: The Water Environment and Chapter 8: Land Quality of the Environment Statement 2014 and subsequent ES addendum submissions of March 2019, August 2019 and September 2023) which could lead to pollution of the Flush River and its tributaries.

5.22. Potential impacts during the construction phase could arise through the direct deposition of chemicals (e.g. fuel leak) or materials / soil into the river system which links with Lough Neagh and polluted or nutrient rich surface water run-off entering the river system. Potential sedimentation effects on Lough Neagh

could occur where silts / particulates are washed through the river system into Lough Neagh.

5.23. In addition, the existing land use of the Site is solely as a quarry with mineral extraction undertaken on site. Due to certain activities on the quarry floor and the hydrology of the Site, an existing level of pollutants from the Site will likely enter the River Flush and its tributaries. This is an existing pathway highlighted within the BMAP HRA as impacting on the Lough Neagh due to the increases in pollutants within habitats supporting qualifying species. The Proposed Development will result in the cessation of these practices and will provide the opportunity to safeguard habitats from continued/further pollution as well as remediation of parts of the Site that contain pollutants.

5.24. Potential impacts during the operational phase are considered to be limited to pollution from industrial or sewage effluent entering the river system and draining in Lough Neagh.

5.25. The BMAP HRA determined that avoidance measures are required to address the issues of water quality arising from BMAP. The avoidance strategy is twofold. Firstly, it places reliance on the existing, and proposed upgrading of, wastewater treatment works (WWTW) being sufficient to accommodate all development within their catchments that are proposed in BMAP through the plan period. Secondly, it places reliance on the existing regulatory and legislative regime that currently controls the discharges into the catchment areas within BMAP.

5.26. As such, mitigation measures (i.e. the reliance on the existing, and proposed upgrading of, WWTW) are necessary to avoid hydrological impacts occurring on Lough Neagh and Lough Beg SPA/Ramsar. On this basis, it is considered that in the absence of these mitigation measures the Proposed Development may have a likely significant effect on Lough Neagh both alone or in combination.

5.27. Therefore, it cannot be concluded that likely significant effects on Lough Neagh and Lough Beg SPA/Ramsar can be "screened out" from appropriate assessment in relation to the Proposed Development. In light of this, specific mitigation measures in respect of Lough Neagh/Beg needs to be delivered.

5.28. As detailed within Chapter 3 of this ES addendum (Water Environment) the Proposed Development separates the foul sewage system from the storm and includes a dedicated on-site package treatment plant and separate outfall headwall to accommodate discharge of treated effluent to a watercourse to the north of the site.. That responds directly to a consultation response from NIEA Water Management Unit and their request to separate foul and storm networks. The chapter also sets out a range of other measures regarding the control of the water environment which will ensure compliance with relevant legislation and policy. Chapter 3 confirms that the predicted impacts and suggested mitigation from the original 2014 Environmental Statement remain valid. A revised Drainage Assessment has also been produced (Chapter 3 and related appendices) that identifies the extent of potential flooding from a number of sources and demonstrates how overland flows and surface runoff are considered within the design. The Drainage Assessment also considers Pollution Prevention Guidelines.

5.29. In order to provide 'certainty' (in line with the Waddenzee Judgment and the Sweetman case) to the Competent Authority that the Proposed Development will not adversely affect the integrity of the nearby designated European Sites, in light of the conservation objectives of those sites, measures aimed at mitigating / avoiding hydrological impacts on the SPAs / Ramsar site have been detailed. These are discussed in detail further below in Section 6.

5.30. No hydrological connectivity has been identified between the Site and any other European Designated site.

Air Quality Impacts

Vulnerability

5.31. Nitrogen deposition (i.e. nutrient enrichment derived from nitrogen oxides and ammonia) during operation of the Proposed Development could lead to potential loss of designating migratory bird species and habitats within the SPA/Ramsar designations.

Assessing Impacts

5.32. Consideration has also been given to likely effects on the nearby European Sites during the construction of the Proposed Development (i.e. from dust). The assessment of these effects has been informed by the Air Quality assessments undertaken as part of the Environmental Impact Assessment for the Proposed Development (see Chapter 14 of the original ES (March 2014), Appendix 18 of the further environmental information submission (2016), Air Quality addendum (March 2019) and the updated Air Quality assessment within Chapter 14 of this ES addendum) which consider potential impacts from a range of sources including dust deposition, atmospheric emissions, nitrogen and sulphur deposition and acidification.

5.33. The latest Air Quality addendum produced in 2024 responds to a consultation request from NIEA Industrial Pollution and Radiochemical Inspectorate (IPRI) which requested the modelling to be updated and re-run to reflect recent meteorological data.

5.34. Chapter 14 confirms that the key findings in the original ES of March 2014 remain valid and are not affected by factors relevant to the assessment of air quality which have been identified to have changed since 2014. As such, no significant changes have been identified within the Air Quality addendum 2024 regarding impacts in relation to the Belfast Designated sites.

5.35. As the vast majority of dust generated during construction activities is known to fall out very close to source and given the distances and physical separation of the designated sites from the Site, impacts from construction activities are considered to be nugatory and hence these impacts are not considered any further in this assessment.

5.36. It is considered that due to the distance from Belfast Lough SPA/Ramsar and Belfast Lough Open Water SPA and the Site, likely significant effects may arise from atmospheric emissions associated with the operation of the Proposed Development.

5.37. In considering the potential impacts derived from acid and nitrogen deposition, consultation of the online UK Air Pollution Information System (APIS) database[3] was undertaken in order to source critical (and current) loads for the SPA designations. These critical loads represent the threshold level for the atmospheric concentration of a pollutant where harmful direct effects can be shown on a habitat or species according to current knowledge. In relation to Belfast Lough SPA, only a critical load for nitrogen deposition applies as the designating species Redshank and supporting habitats are not considered to be sensitive to acidification. No critical load information is available for Belfast Lough Ramsar and Belfast Lough Open Water SPA, this is considered to be on the basis that their designating bird species (over-wintering populations of Great Crested Grebe – Belfast Lough Open Water SPA; Black-tailed Godwit (in addition to Redshank) – Belfast Lough Ramsar) are also not considered to be sensitive to acid and nitrogen deposition[4]. As such, the critical and current loads are also considered to apply to Belfast Lough Ramsar and Belfast Lough Open Water SPA.

5.38. Dispersion modelling within the Air Quality assessment (Chapter 14 of the Environment Statement 2014) has shown that the operation of the Proposed Development would result in a 0.06% increase in nitrogen deposition (enrichment) (expressed as % of the respective critical load). The same % contribution is also modelled for the Belfast Lough Open Water SPA and this is also considered to apply to the Belfast Lough Ramsar, with these designated sites being largely contiguous to the boundary of the Belfast Lough SPA. The updated Air Quality assessment (Chapter 14 and related appendices) modelling has updated this modelling based on more recent atmospheric data, finding that the increase in nitrogen deposition associated with the proposals (a process contribution of 0.01kg/ha/y) equates to 0.1% of the relevant critical load. The minor increase since the previous assessment is a result of revisions to critical loads and baseline pollutant concentrations. The increase in both nitrogen and sulphur derived acid deposition is not considered here as the designating species and their habitats are not considered to be acid sensitive.

5.39. In the absence of mitigation, the minor increase (0.1%) in nitrogen deposition (enrichment) within the Belfast Lough SPA/Ramsar and Belfast Lough Open Water SPA would be well within the critical load and hence is considered to be nugatory. In fact, nitrogen enrichment could lead to an increase in the invertebrate food supply for Redshank as well as other birds of interest. As already mentioned above, the designating species and their habitats are not sensitive to both nitrogen and sulphur derived acid deposition and therefore impacts from combined acid deposition would also be nugatory. No mitigation is therefore required in respect to Belfast Lough SPA/Ramsar and Belfast Lough Open Water SPA.

5.40. In terms of Lough Neagh and Lough Beg, given its distance from the Proposed Development (15km) and the direction of the prevailing wind (south to southwest) any acid and nitrogen deposition during the operational phase is likely to be at such minimal levels that any effects causing eutrophication[5]

[3] *http://www.apis.ac.uk/search-pollutant-impacts*
[4] It is considered that the open water habitat is capable of withstanding such impacts given influxes from the marine/tidal environment which would likely render any impacts as insignificant.
[5] Lough Neagh is one of the most eutrophic lakes in the world due to the high phosphorus inputs which led to serious algae blooms in the late 1960s and 1970s. This was addressed through the application of phosphorus reduction processed at sewage treatment works, but subsequent enrichment has been due to increasing phosphorous and nitrate loads from agricultural practices.

derived through nitrogen/nutrient deposition of aquatic habitats and any resulting indirect impacts on designating species would be nugatory. Indeed, the air quality impact assessment contained in Chapter 14 of the Environmental Statement (2014) screened out this designated site as a sensitive receptor given it is located over 10km from the Site.

Consideration of impacts on the underpinning ASSIs

5.41. It is considered that in undertaking this detailed assessment of the Proposed Development, no adverse impacts on the qualifying features of the ASSI would arise. The assessment in relation to likely significant effects on Belfast Lough Designated Sites would be equally relevant to the underpinning ASSIs. No additional mitigation is considered necessary.

6. MITIGATION / AVOIDANCE MEASURES AND IN COMBINATION TEST

6.1. In the absence of mitigation, the minor increase (0.1%) in nitrogen deposition (enrichment) within the Belfast Lough SPA/Ramsar and Belfast Lough Open Water SPA would be well within the critical load and hence is considered to be nugatory. In fact, nitrogen enrichment could lead to an increase in the invertebrate food supply for Redshank as well as other birds of interest. As already mentioned above, the designating species and their habitats are not sensitive to both nitrogen and sulphur derived acid deposition and therefore impacts from combined acid deposition would also be nugatory. No mitigation is therefore required in respect to Belfast Lough SPA/Ramsar and Belfast Lough Open Water SPA.

6.2. It is considered that, overall, the potential hydrological impacts during both construction and operation present a small risk in terms of an impact on the Lough Neagh and Lough Beg SPA/Ramsar. On this basis specific avoidance / mitigation measures are required within the scheme in order to prevent any pathways for pollution entering the Flush River and its tributary (and potentially Lough Neagh and Lough Beg SPA/Ramsar downstream). These mitigation measures are discussed in detail in Chapters 7: The Water Environment and 8: Land Quality of the original ES (2014) and subsequent updates within the FEI submission, March 2019 Addendum, August 2019 Addendum (Drainage Assessment) and September 2024 Addendum however a summary is provided below:

i. During construction it is proposed that existing ponds P5, P6, P7, P8, P9 and P10 will continue to operate under their existing role as part of the current mineral extraction consent for drainage attenuation and settlement purposes before discharge into the Flush River. Additional sediment traps will be utilised where appropriate. The proposed drainage attenuation feature will also be utilised for construction drainage attenuation as it will be provided upfront;

ii. Provision of a Construction Management Plan (CMP) incorporating an Environment Management Plan (EMP) to control all potential environmental risks, as discussed in tables 7.11 and 7.12 of Chapter 7 of the Environment Statement (2014) with all works to be undertaken in line with best practice and appropriate guidelines, e.g. Pollution Prevention Guidelines 5 (Works in, Near, or Liable to Affect Watercourses);

iii. Controlled operation of the Proposed Development in terms of water quality and drainage will be governed by Discharge Consents and PPC Licence conditions to the satisfaction of NIEA with overall operation set out in an Environmental Management System (EMS);

iv. Sustainable Drainage Systems (SuDS) incorporated into the surface water drainage system equipped with measures to remove pollutants during operation of the Proposed Development which would include silt traps before water enters the proposed attenuation feature. The attenuation feature would then be connected to existing drainage attenuation ponds P9 and P10 to provide further attenuation (Rivers Agency will limit the discharge to

the Flush River tributary) with the remaining existing ponds (P5, P6, P7 and P8) to cease in their current drainage attenuation role;

v. Construction of the new bridges would be undertaken in a sensitive manner and involve constructing the new structure outside of the footprint of the existing bridge and then demolishing the existing bridge thereby reducing any pollution of the watercourse. Sediment control measures would be employed where required; and

vi. No pollutants, including sediments will be allowed to enter the watercourses during construction operations. Provision of a series of trapped gullies and oil interceptors will be provided along Boghill Road to prevent any sediments/pollutants entering the watercourses during the operation of the Proposed Development.

6.3. The only update of note relates to foul and storm water treatment with these being separated to address NIEA's specific request in their consultation dated 19 April 2024. Foul sewage from the site will be treated in a package treatment plant before being discharged to an existing watercourse. This provides a further degree of safety in ensuring that water containing potentially deleterious pollutants is not allowed to reach the watercourse network, and from there any designated sites.

6.4. Following the mitigation above in respect of the Flush River and its tributary, potential impacts arising from pollution during construction and operation on Lough Neagh and Lough Beg SPA/Ramsar situated downstream is considered to be nugatory.

6.5. It is considered that, having adopted a precautionary stance, the provision of mitigation / avoidance measures as described above, would avoid any likely significant effect on Belfast Lough Designated Sites and any adverse effect on the integrity of the Lough Neagh and Lough Beg SPA/Ramsar site when the project is considered alone. Having undertaken an assessment of all possible effects on the SPAs as a result of the Proposed Development, in view of the European sites' Conservation Objectives, it is considered that the plan / project would not have an adverse effect on the integrity of the SPAs / Ramsar sites. At worst, the plan / project would give rise to effects which would be classed as nugatory.

Specific consideration of the In-Combination Test

6.6. To provide certainty that an adverse effect on the integrity of the nearby designated European Sites will be avoided or mitigated, the mitigation/avoidance measures described above are proposed. As there would be no significant residual adverse effects on the Belfast Lough Designated Sites and/or Lough Neagh and Lough Beg SPA/Ramsar site when the plan / project is considered alone any in-combination effects would not be possible.

6.7. As set out within section 2 above, the Habitats Regulations will not permit any plan or project to come forward which has any adverse impact on the integrity of a European site unless certain stringent tests are met. It is therefore <u>not likely</u> that another plan / project would come forward without appropriate and proportionate mitigation or avoidance measures to offset any perceived deleterious effects on a European designated site. In granting a

legally compliant permission / consent for a plan or project, any necessary mitigation / avoidance measures, at an appropriate and proportionate scale must be secured.

6.8. The Proposed Development includes measures that provide certainty that any detrimental impacts on the Belfast Lough Designated Sites and Lough Neagh and Lough Beg SPA/Ramsar are fully mitigated / avoided when considered alone and the project is not likely to result in a significant effect on the SPAs / Ramsar. Any perceived effects which may result from other plans or projects must be fully mitigated through the relevant proposals.

6.9. On the basis that all relevant development proposals (plans / projects) must provide appropriate mitigation / avoidance measures, it is therefore concluded that there would not be any potential for adverse effects on the integrity of the Belfast Lough Designated Sites and Lough Neagh and Lough Beg SPA/Ramsar as a result of the Proposed Development in combination with other plans or projects.

Summary Conclusion

6.10. Having considered all of the potential significant effects that could arise from the Proposed Development, in light of the avoidance and mitigation measures set out within this section 6, Ecology Solutions conclude that the proposals would not have an adverse effect on the integrity of the SPAs / Ramsar sites when the Proposed Development is considered either alone or in combination with other plans or projects.

6.11. No additional adverse impacts have been identified in relation to the underpinning ASSIs and no additional mitigation would be required.

7. SUMMARY AND CONCLUSIONS

7.1. Ecology Solutions has undertaken a detailed assessment of the implications of the Proposed Development on the Belfast Lough Designated Sites and Lough Neagh and Lough Beg SPA/Ramsar in view of the European site's conservation objectives.

7.2. The findings of this work are set out within this Information to enable a Habitats Regulations Assessment document, such that the Competent Authority, in exercising its duties under the Habitats Regulations, has all the necessary information before it when considering the application.

7.3. Assessment under Regulation 43 of the Habitats Regulations is required in this instance, since the Site has hydrological connectivity to the Lough Neagh & Lough Beg SPA/Ramsar. Consideration has also been given (where relevant) to any additional impacts which could arise in relation to the underpinning ASSIs.

7.4. All potential pathways for significant effects to arise on any nearby SPAs/Ramsar sites as a result of the Proposed Development have been fully examined. On the basis of the assessment it is considered that no adverse effect on the integrity of the Belfast Lough Designated Sites and Lough Neagh and Lough Beg SPA/Ramsar will arise. To provide certainty to the Competent Authority that no adverse effect on the integrity of these sites will arise, mitigation / avoidance measures, have been proposed where necessary. This assessment has been undertaken with due regard to relevant legislation, case law, planning decisions and guidance related to the Proposed Development.

7.5. Having considered all of the potential significant effects that could arise from the Proposed Development, Ecology Solutions conclude that, prior to the consideration of mitigation / avoidance measures, the proposals would not give rise to a significant effect in relation to the Belfast Lough Designated Sites, when the Proposed Development is considered either alone or in combination with other plans or projects. In consideration of Lough Neagh and Lough Beg SPA/Ramsar, Ecology Solutions conclude that, prior to consideration of mitigation / avoidance measures, the proposals may give rise to a significant effect on the designated sites but that, if the mitigation/avoidance measures set out within section 6 are implemented, there would be no residual significant effect.

7.6. Ecology Solutions therefore conclude that, with the implementation of mitigation/avoidance measures, the proposals would not give rise to an adverse effect on the integrity of the Lough Neagh and Lough Beg SPA/Ramsar site, when the Proposed Development is considered either alone or in combination with other plans or projects.

7.7. As the project alone or in combination would not give rise to an adverse effect on the integrity of the SPAs / Ramsar site (in view of the SPAs conservation objectives and the qualifying interest features associated with the SPAs and Ramsar site), the Proposed Development would be acceptable subject to securing the mitigation and avoidance measures proposed. It is therefore considered that the Competent Authority can legally and safely grant consent for the Proposed Development.