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RETFORD CIRCULAR ECONOMY PROJECT

PLANNING STATEMENT

Date: February 2023
Ref: 16001

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FIGURES

Revision	Description	Originated	Checked	Reviewed	Authorised	Date
1	Draft	NC/CT	CT	CT	CT	February 2023
DWD Job Number: 16001						

EXECUTIVE SUMMARY

1.1 Lound Hive Limited ('the Applicant', 'Hive'), part of Hive Aggregates and the Hive Energy Group, is seeking planning permission to allow for the extraction of pulverised fuel ash ('PFA') from former ash disposal lagoons located north of Retford, along with associated development. The proposals are referred to collectively as the 'Proposed Development' and also 'the Retford Circular Economy Project'.

1.2 The primary purpose of this Planning Statement is to set out the planning case for the Proposed Development, including with reference to local and national planning policy and engagement with Nottinghamshire County Council ('NCC'). This statement should be read in conjunction with all other documents that comprise the planning application submission.

1.3 PFA of all qualities can be used in a range of construction activities. It is classed as a recycled or secondary aggregate, the use of which is supported in principle by planning policy at national and local level. The highest quality PFA, such as that offered by the Proposed Development, can be used as a replacement for Portland Cement, amongst other things, which brings with it the potential for considerable carbon savings which represents the primary aim of the Proposed Development. It is estimated that the Proposed Development could save up to 5 million tonnes of carbon over its lifetime, making a significant contribution to the UK Government's legally binding net zero emission commitments by 2050.

1.4 Recent modelling by the UK Government predicted significant shortage of PFA due to the closure of coal power stations, which had historically formed the supply base. These supply shortages have been fully realised in the UK and other parts of Europe in recent years, where supply is far below underlying demand. The Proposed Development forms a viable alternative and would address the acknowledged need for PFA in a suitable location with good access to regional building product markets.

1.5 Hive has carried out a comprehensive and meaningful pre-application consultation exercise in respect of the Proposed Development, primarily focused on the local community, key local stakeholders and NCC. An Environmental Impact Assessment ('EIA') Scoping request was also submitted to NCC. Hive has listened to the views expressed and has made a number of significant changes and additions to the Proposed Development to address relevant concerns.

1.6 The Proposed Development complies with planning policy, and pursuant to the EIA carried out, the majority of impacts would not be significant and would be temporary, with a number of permanent and beneficial environmental and socioeconomic effects likely.

1.7 These factors, when combined with the significant need for PFA and the significance of the resulting substantial carbon savings, mean that the planning balance (in the context of the tests under Section 38(6) Planning and Compulsory Purchase Act 2004) weighs heavily in favour of the Proposed Development.

1.0 INTRODUCTION

Overview

1.1 This Planning Statement has been prepared in support of an application for full planning permission submitted to Nottinghamshire County Council ('NCC') in its capacity as minerals planning authority under the provisions of the Town and Country Planning Act 1990 (as amended) on behalf of Lound Hive Limited ('Hive,' the 'Applicant').

1.2 The application seeks planning permission for the extraction of pulverised fuel ash ('PFA') from former ash disposal lagoons located near Lound, Retford, Nottinghamshire (DN22 8SG) (the 'Site') and their progressive restoration, along with associated development. The proposals are hereafter collectively referred to as the 'Proposed Development'.

1.3 The Proposed Development is also referred to as the 'Retford Circular Economy Project'.

1.4 PFA of all qualities can be used in a range of applications, such as road construction, embankments, general fills, grouting, cement and breeze blocks. It is classed as a recycled or secondary aggregate, the use of which is supported in principle by planning policy at national and local level.

1.5 The highest quality PFA, such as that proven to be available as part of the Proposed Development following ground investigations, can be used as a replacement for Portland Cement, amongst other things. This brings with it the potential for considerable carbon savings and is the primary aim of the Proposed Development. It is estimated that the Proposed Development could save up to 5 million tonnes of carbon over its lifetime, making a significant contribution to the UK Government's legally binding net zero emission commitments by 2050.

1.6 Customers in the building products industry have historically taken 'fresh' PFA directly from source at operational coal-fired power plants. However, in November 2016, the UK Government announced its intention to close all unabated coal-fired power plants by 2025. Comparable actions have been announced, or are being discussed, in other European countries, including Germany and the Netherlands. Recent modelling by the UK Government predicted a significant shortage of PFA due to the closure of coal power stations, which had historically formed the supply base. These supply shortages have been fully realised in the UK and other parts of Europe in recent years, where supply is far below underlying demand.

1.7 The Proposed Development forms a viable alternative and would address the acknowledged need for PFA in a suitable location with good access to regional building product markets. It would

operate for up to around 25 years (including around 22 years of extraction), during which time a phased approach to the restoration and enhancements would also be delivered.

Lound Hive Limited

1.8 Lound Hive Limited, the Applicant, is a special purpose vehicle, set up for the Retford Circular Economy Project, including for submission of the planning application. The Applicant forms part of Hive Aggregates, itself part of the Hive Energy Group.

1.9 Founded in 2010, The Hive Energy Group has become established as one of the largest and most experienced UK solar developers, responsible for installing in excess of 300 MW of generating capacity across the country. The Hive Energy Group has since expanded to invest in and develop circular economy projects that will support climate change mitigation and recycling, amongst other things.

1.10 Within the Hive Energy Group, Hive Aggregates has been established to make beneficial use of industrial by-products and waste to create sustainable building products. This includes the Proposed Development, where it is proposed to recycle PFA waste into a sustainable cement replacement and potentially other building products.

Pre-Application Consultation

1.11 The Applicant has carried out a comprehensive and meaningful pre-application consultation exercise in respect of the Proposed Development, primarily focused on the local community but also including consultation with NCC, Bassetlaw District Council ('BDC') and other key consultees. An online webinar and in person consultation events were held on October 4th and 6th 2022 respectively where an initial version of the development proposals were presented followed by a 'question and answers' session. Both events were well attended with 134 members attending the in-person events, including members of Sutton Cum Lound Parish Council and Lound Parish Council.

1.12 The Applicant also agreed, upon request, to attend an open public meeting of Lound Parish Council at Lound Village Hall on 25 October 2022 in order to present information and answer questions directly from their members and the general public.

1.13 During the consultation period, the Applicant received a range of relevant feedback which has been reviewed and influenced the design of the Proposed Development. Feedback has included, amongst other things:

- Impact of traffic associated with the Proposed Development on local roads and settlements;

- Impact of the Proposed Development on local ecology and wildlife; and
- The visual impact of the Proposed Development on the landscape.

1.14 These changes, or clarifications, to the Proposed Development include, but are not limited to:

- The removal of the Temporary Optimisation Site ('TOS'), resulting in a commitment that operational traffic would use the former Bellmoor Industrial Estate access onto the A638;
- Retention of former lagoon embankments until extraction behind them has been completed, to provide screening of extractive activities; and
- No importation of waste to restore the Site.

1.15 A Statement of Community Involvement has been submitted alongside this document as part of the planning application and sets out in more detail the feedback received and how the Applicant has considered it.

Environmental Impact Assessment

1.16 The Proposed Development falls within Schedule 1 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (the 'EIA Regulations'), under the description set out in regulation 19 which states 'Quarries and open-cast mining where the surface of the site exceeds 25 hectares' and therefore an EIA is required.

1.17 The planning application is accompanied by an Environmental Statement ('ES') prepared by Arcus Consultancy Services Ltd. ('Arcus'), part of the ERM Group. The ES sets out the results of the Environmental Impacts Assessment ('EIA') prepared in accordance with the EIA Regulations. The ES is based on the Scoping Opinion issued by NCC on 4 November 2022.

Planning Application Submission

1.18 The application submission comprises the following documents:

- Application Cover Letter;
- Application Form and Certificates;
- Planning Statement (this document);
- Statement of Community Involvement ('SCI');
- Plans and drawings (please refer to Table 1.1 for full list; including four drawings that are both ES Volume 2 (Figures and standalone drawings);

- ES Volume 1 (Main Report);
- ES Volume 2 (Figures).
- ES Volume 3 (Appendices), including:
    - Nottinghamshire Rapid Health Impact Assessment Matrix (Appendix 3.2),
    - Outline Construction Environmental Management Plan (Appendix 5.3),
    - Ecology Survey reports,
    - Biodiversity Net Gain Assessment (Appendix 8.4),
    - Arboricultural Survey (Appendix 7.8),
    - Outline Restoration Strategy (Appendix 8.5),
    - Flood Risk Assessment (Appendix 9.2),
    - Drainage Management Plan (Appendix 9.3),
    - Transport Statement (Appendix 14.1), and
    - Agricultural Land Classification Report (Appendix 10.2 and 10.3).
- ES Volume 4 (Non-Technical Summary)

Table 1.1: Application Plans and Drawings

Drawing reference	Drawing number (short reference)	Drawing title	Scale
Contextual Plans			
4092-REP-072	ES Figure 1.1	Site Location Plan	1:10,000
4092-REP-042	ES Figure 1.2	Site Location Plan (Aerial)	1:15,000
4092-REP-043	ES Figure 1.3	Site Area Plan	1:10,000
4092-DR-LAN-101	ES Figure 7.12	Indicative Landscape Restoration Masterplan	1:2,500
4092_DR_P_0004	N/A	Outline Dewatering and Drainage Management Strategy (Extraction Area)	1:8,000
4092_DR_P_0005	N/A	Outline Dewatering and Drainage Management Strategy (Main Processing Site)	1:1,250
4092_DR_P_0006	N/A	Swept Path Analysis A638 / Site Access Junction Powder Tanker Assessment	1:500
4092_DR_P_0008	N/A	Existing Site Access	1:500
Technical Plans and Drawings			
403.000007.00001.12.001.0	001	Outline Site Layout	1:10,000

Drawing reference	Drawing number (short reference)	Drawing title	Scale
403.000007.00001.12.002.0	002	Main Processing Plant Site Layout	1:500
403.000007.00001.12.003.0	003	Optimisation Stage Site Layout	1:500
403.000007.00001.12.004.0	004	Office / Welfare Accommodation Elevations	1:100
403.000007.00001.12.005.0	005	Materials Storage Building Elevations	1:200
403.000007.00001.12.006.0	006	Silos Elevations	1:100
403.000007.00001.12.007A.0	007A	Drying Module - External View Elevations	1:100
403.000007.00001.12.007B.0	007B	Drying Module- Internal View Elevations	1:100
403.000007.00001.12.008.0	008	CHP Unit Elevations	1:100
403.000007.00001.12.009.0	009	Main Processing Plant Site Cross-Section	1:250
403.000007.00001.12.010.0	010	Gas Tanks & Vapourisers Elevations	1:50
403.000007.00001.12.011.0	011	Weighbridge Elevations	1:50
403.000007.00001.12.012.0	012	Wheel Wash Elevations	1:50
403.000007.00001.12.013.0	013	Gas Main Kiosk Elevations	1:20
403.000007.00001.12.014.0	014	Temporary Processing Area Plan	1:2,500 / 1:500 / 1:200
403.000007.00001.12.015.0	015	Conveyor - Crossing Plan & Typical Details	1:1,000 / 1:100 / 1:20
403.000007.00001.12.016.0	016	Mobile Screen Details Plan	Not to Scale
403.000007.00001.12.017.0	017	PFA Lagoons Interpreted	1:7,500
403.000007.00001.12.018.0	018	Cross Sections	1:4,000
403.000007.00001.12.019.0	019	Typical Sections for Temporary Haul Road & Boundary Treatments	1:50 / 1:20
Phasing Plans			
403.000007.00001.12.020-030.0	020	Stage 1 Site Establishment & HR Phase 1 Excavation	1:6,000
403.000007.00001.12.020-030.0	021	Stage 2 HR P1 Excavation, Processing 2 & Settlement / Soakaway Ponds	1:6,000
403.000007.00001.12.020-030.0	022	Stage 3 HR Phase 1 Restoration & HR Phase 2 Excavation	1:6,000

Drawing reference	Drawing number (short reference)	Drawing title	Scale
403.000007.00001.12.020-030.0	023	Stage 4 HR Phase 2 Excavation & LR Phase 3 Excavation	1:6,000
403.000007.00001.12.020-030.0	024	Stage 5 LR Phase 3 Restoration & LR Phase 4 Excavation	1:6,000
403.000007.00001.12.020-030.0	025	Stage 6 LR Phase 4 Restoration & LR Phase 5 Excavation	1:6,000
403.000007.00001.12.020-030.0	026	Stage 7 LR Phase 5 Restoration & HR Phase 3 Excavation	1:6,000
403.000007.00001.12.020-030.0	027	Stage 8 HR Phase 3 Restoration & HR Phase 4 Excavation	1:6,000
403.000007.00001.12.020-030.0	028	Stage 9 HR Phase 4 Restoration & HR Phase 5 Excavation	1:6,000
403.000007.00001.12.020-030.0	029	Stage 10 HR Phase 5 Restoration & HR Phase 6 Excavation	1:6,000
403.000007.00001.12.020-030.0	030	Stage 11 HR Phase 6 & LR Phases 1-2 Restoration	1:6,000

1.19 The application has been submitted to Nottinghamshire County Council and is accompanied by the necessary fee of £78,000.

The Purpose and Structure of this Document

1.20 The primary purpose of this Planning Statement is to demonstrate how the Applicant has taken account of relevant planning policy and the extent to which the Proposed Development is compliant with the Statutory Development Plan.

1.21 In doing so, this Planning Statement draws upon and cross-refers, where relevant, to the other documents that form part of the planning application submission.

Structure

1.22 The document is structured as follows:

Table 1.2: Document Structure

Section	Title	Overview
Section 2	Need	Sets out the significant need that exists for PFA.
Section 3	The Site and Surrounding Area	Describes the Site and its key features, the planning history of relevance that relates to it, any local planning designations and allocations that apply, and the Applicant's site selection process.
Section 4	The Proposed Development	Provides an overview of the Proposed Development, construction and operational phase activities.
Section 5	Planning policy context	Sets out the legislative and policy framework for the determination of the planning application.
Section 6	Assessment of the Proposed Development	Provides an assessment of the Proposed Development against relevant policy at national and local level.
Section 7	Summary and conclusions	Sets out the conclusions in terms of the overall acceptability of the Proposed Development.

2.0 NEED

Introduction

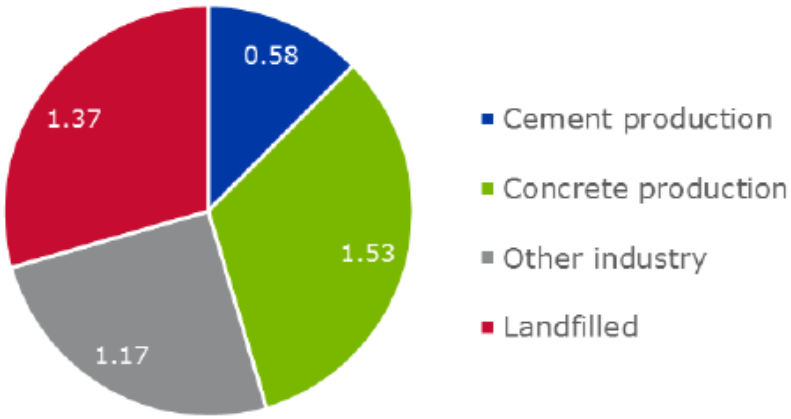
2.1 This section provides an introduction to PFA and the need for it. The figures and information quoted are based on research by the UK Government, set out in Department of Business, Energy and Industrial Strategy ('BEIS') Research Paper No. 19 (2017), and research by the UK Quality Ash Association ('UKQAA').

Use

2.2 PFA is the ash generated by the burning of coal in coal-fired power stations. The material has certain qualities that mean it can be utilised as a building product, including as a cement replacement due to its pozzolanic qualities; and other applications, such as a in the manufacture of blocks.

2.3 The use of PFA as a building product has been established in the UK since the 1950s, although in the USA its use goes back further. Figure 2.1 indicates the different applications of PFA in the UK in 2015.

Figure 2.1Applications of PFA in the UK in 2015 by volume (million tonnes)



Source: BEIS Research Paper No.19 (2017)

2.4 The key drivers for the use of PFA include:

- PFA is classed as a sustainable/recycled aggregate: the use of which is supported in the NPPF;
- Reduction of carbon emissions: PFA can significantly reduce carbon emissions when it reduces the amount of clinker in cement and concrete (note: clinker is a stony residue produced by cement raw materials (e.g. limestone) and is the main ingredient in Portland Cement; the latter is made by grinding clinker);

- Reduction in the use of virgin material: when using PFA in cement and other products, the use of virgin raw materials (such as limestone, sand and clay) is reduced;
- Reduction of costs: as a substitute for clinker, PFA reduces the costs of cement on the basis that it is on average less expensive than clinker; and
- Increased quality: PFA in concrete contributes to the properties of the hardness of it through hydraulic and pozzolanic activity.

Cement and concrete replacement

2.5 Cement is a binder that hardens when water is added. It is mixed with aggregates to form concrete. Cement and concrete are a fundamental part of today's world and vital to the global construction sector.

2.6 Making traditional Portland Cement is the most carbon-intensive part of concrete production. The production process involves kilning raw materials at high temperatures, requiring a large amount of energy. It is estimated that this process can produce up to one tonne of carbon for every tonne of Portland Cement made.

2.7 Versatile and long-lasting, concrete buildings and structures are in many ways ideal for climate-resilient construction. However, the problem is that concrete has a colossal carbon footprint in that around 8% of global emissions caused by humans come from the cement industry alone. To put this into perspective, if the cement industry were a country, it would be the third largest carbon emitter in the world with up to 2.8 billion tonnes, surpassed only by China and the US.

2.8 Worldwide, around 30 billion tonnes of concrete are used each year. On a per capita basis, that is 3 times as much as 40 years ago — and the demand for concrete is growing more steeply than that for steel or wood. Concrete is the most consumed substance on the planet, after only water. The UK alone uses around 15 million tonnes of cement every year.

2.9 PFA can act as a direct replacement for traditional Portland Cement. The material can save up to around one tonne of carbon for every tonne used, because it has already been through a thermal process in the power station furnace when it was produced and therefore does not require kilning, unlike Portland Cement. This allows PFA to save a colossal amount of carbon.

2.10 PFA has historically replaced Portland Cement at up to around 40% in concrete mixes; however, there are new products entering the market that are pushing this significantly higher and others that remove the need for Portland Cement altogether.

Supply

2.11 There has historically been an oversupply of PFA in the UK, with more produced by coal-fired power stations than could be used by the building products industry. Large quantities have therefore historically been sent to disposal sites and stored as a waste material.

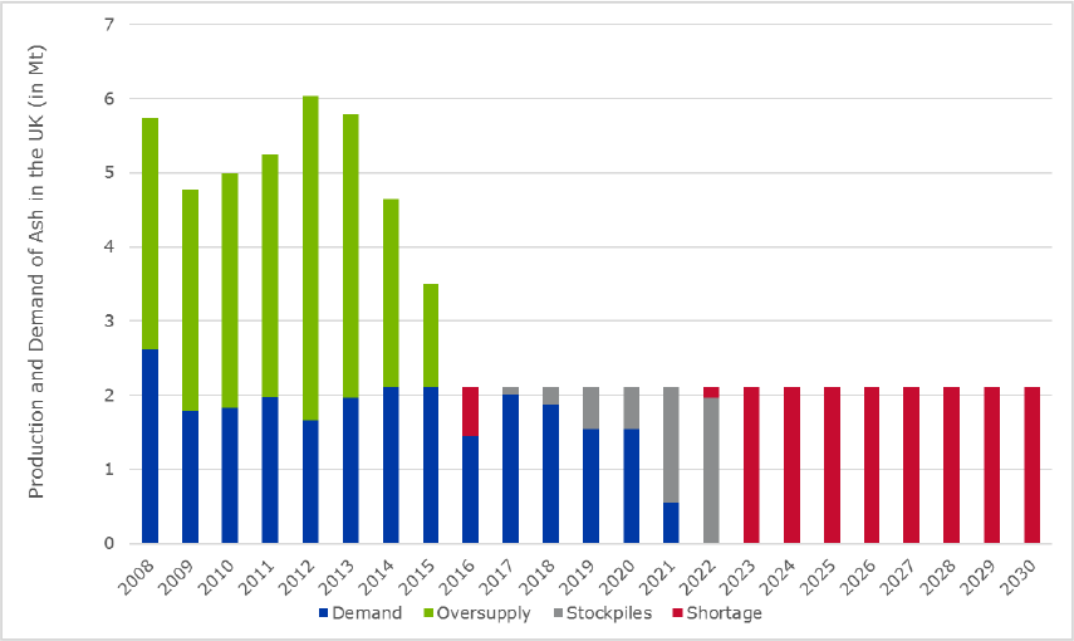
2.12 In 2015, approximately 3.28 million tonnes per year of PFA was used by the building products industry, with the remainder going to disposal sites.

2.13 The supply of PFA is currently in a state of change, because customers in the building products industry have historically taken fresh PFA directly from source at operational coal-fired power plants (from collection silos). However, in November 2016, the UK Government announced its intention to close all unabated coal-fired power plants by 2025 with comparable actions announced, or being discussed, in other European countries, including Germany and the Netherlands. This remains on track in the context of the current Energy Security Strategy.

2.14 Coal-fired power generation in the UK is also facing problems due to the introduction of more renewable energy sources. This can be seen in the sharp decrease in coal consumption over the past decade. It is not likely that this trend will be reversed, as more renewable resources are incorporated to meet demand on the electricity grid.

2.15 The closure of coal-fired power stations has greatly reduced the availability of PFA in the UK. As previously stated, recently modelling by the UK Government predicted significant supply shortages, which have been realised in recent time, with supply significantly below underlying demand.

Figure 2.2: Modelled PFA supply and demand



Source: BEIS Research Paper No.19 (2017)

Solution

2.16 Domestically produced, fresh PFA needs to be replaced if domestic material is to continue its significant role as a building product in the UK. As an alternative, the import of PFA from abroad is possible; however, decreasing availability in Europe and high transport costs (particularly when considering imports from outside Europe, e.g. China) are prohibitive and have a significant carbon footprint as a result of shipping emissions etc.

2.17 As an alternative, there is potential to recover a significant amount of PFA from disposal sites, such as those located at the Site.

2.18 According to the UKQAA there is at least 50 million tonnes of PFA available from disposal sites, which could be recovered. Modelling by the UK Government suggests that if PFA from disposal sites was to cover national demand up to 2030, then a total of 44% (22 million tonnes) of the reserve would need to be recovered and used.

2.19 These figures suggest that the Proposed Development, if approved, would make a substantial contribution towards meeting the national demand for PFA.

Issues

2.20 The Applicant acknowledges that there are potential planning issues with the extraction of PFA from disposal sites, including:

- the potential for impacts on local communities and the environment; and
- conflict with former disposal sites which have already been restored.

2.21 When considering these issues relative to the Proposed Development, it is notable that the scheme includes a phased restoration plan to improve the land beyond the existing condition.

2.22 Furthermore, the ES that forms part of the planning application concludes that the vast majority of effects as a result of the Proposed Development would be not significant, and section 6 of this report concludes that, as a result of need and other factors, the planning balance is weighed heavily in favour of the Proposed Development.

3.0 THE SITE AND SURROUNDING AREA

3.1 This section describes the location and key features of the the Site and the surrounding area, identifies any relevant planning and environmental designations, and describes the Site's planning history.

Site description

3.2 The Site is an irregular shape and covers an area of approximately 113.55 hectares ('ha'). It is located within the northern part of the County of Nottinghamshire, north of the market town of Retford, east of Sutton Cum Lound village and south of Lound village. The Site is therefore located within the administrative areas of Nottinghamshire County Council ('NCC') and Bassetlaw District Council ('BDC'). The location of the Proposed Development is outlined in red on the Site Location Plan (4092-REP-0721)2).

3.3 This part of the county and much of the surrounding area is predominantly rural typified by agricultural uses, with much of the Site used for grazing. That said, the area has an extensive history of sand and gravel extraction; the Site itself was previously quarried for sand and gravel (known as Bellmoor Quarry), after which the resulting void was converted to form raised PFA disposal lagoons to take many millions of tonnes of the material via pipeline from Cottom Power Station. The Site was previously the largest PFA disposal operation in the County of Nottinghamshire and has shaped the current topography of the land.

3.4 The Site is characterised by three connected areas are illustrated on the 'Site Area Plan' (4092-REP-043):

- Area A is the PFA extraction area (the 'Main Operational Area');
- Area B connects the PFA extraction area and main processing site (the 'Link Conveyor and Haul Road');
- Area C is the main processing site for the PFA (the 'Main Processing Site').

Area A

3.5 Area A extends to 105.84 ha and comprises six former PFA disposal lagoons to the south of Lound Low Road. Lagoons 1 to 3 along the western section of Area A are referred to as the 'High-Rise' lagoons (17 – 19 m AOD) and Lagoons 4 to 6) forming the eastern section of Area A are referred to as 'Low-Rise' lagoons (7.5 – 11 m AOD). The location of the lagoons is shown on 'PFA Lagoons Interpreted' (Drawing 017) submitted as part of the application.

3.6 The High-Rise lagoons are composed of a sandstone base with around 6m high embankments made mainly from a sandstone and gravel to contain the deposited PFA. The Low-Rise lagoons are similarly structured, but with much gentler/lower sandstone embankments. A thin layer of soil/sand has been placed over the deposited PFA and now all the lagoons have been restored with grassland which is used for grazing. Cross-sections of the lagoons are illustrated on 'Cross Sections' (Drawing 018) submitted as part of the planning application.

3.7 The High-Rise and Low-Rise lagoons have been given separate numbers in relation to the phasing of PFA extraction. This is discussed in Section 4 of this document.

Area B

3.8 Area B extends to approximately 5.20 ha and comprises a thin strip of land to the south of Lagoon 1 and west of an existing woodland area that spans across three horizontally arranged agricultural fields and a small section of the woodland itself. The fields are generally flat with hedgerows separating the field margins and currently in arable use.

Area C

3.9 Area C extends to approximately 2.5 ha and forms the southern most section of the Site. It comprises land within the existing Bellmoor Industrial Estate (formerly the Bellmoor Quarry plant site). Current occupiers within the industrial estate include construction materials storage, manufacturers and training. Area C also includes an access road that is shared with other users of the industrial estate and the Nottinghamshire Wildlife Trust (NWT) Idle Valley Nature Reserve visitor centre car park.

Traffic and Transport

3.10 Access to the Site is taken from an existing vehicular access which measures approximately 400m and extends south to the A638 North Road; historically used by and constructed for the Bellmoor Quarry. The access road is a single lane carriageway in each direction, which tapers out as it forms a priority T-junction with the A638.

3.11 The junction provides unobstructed views onto the A638 for all vehicles in each direction. The A638 contains a dedicated right turn pocket which allows vehicles to perform a right turn without disrupting northbound traffic flow. The northern end of the access road is secured by a gate before entering a mini roundabout with separate accesses to each user, a public footpath (Footpath 2) passes across the road at this location. The access road and junction are currently used by Heavy Goods Vehicles (HGVs) associated with the existing industrial activity at the Bellmoor Industrial Estate and are considered suitable for these uses.

3.12 NWT's Idle Valley Nature Reserve visitor centre entrance joins the access road and is used by visiting members of the public as well as NWT operational vehicles and some vehicles associated with North Nottinghamshire College.

3.13 There are several Public Rights of Way (PRoW) in the wildlife reserve to the east, and to the west of the Site. Lound Low Road to the north west is a byway open to all traffic ('B.O.A.T.') which consists of a wide unbound track. Footpath 1 forms a connection between these two networks, running along the western boundary of the High-Rise lagoons alongside Bellmoor Lake and then bisects the Site towards the Idle Valley Nature Reserve visitor centre. Bridleway 4 connects the village with Bellmoor Farm, but does not extend southwards.

Surrounding uses and area

3.14 The surrounding area comprises mainly agricultural and industrial uses. The Site, at its northernmost point, is bound by Lound Low Road. Lound Low Road becomes a highway at its western end which connects the village of Sutton-cum-Lound with Lound. At its eastern end Lound Low Road connects to Chainbridge Lane, also a B.O.A.T and where a large pre-cast concrete works is located.

3.15 The Idle Valley Nature Reserve (IVNR), a network of managed wildlife land covering 375 ha from Neatholme Pit to Bellmoor Lake, runs along the entire eastern boundary of the Site. Much of the Idle Valley Nature Reserve is designated as the Sutton and Lound Gravel Pits Site of Special Scientific Interest (SSSI). 2t is made up of a mosaic of lakes formed by flooded former gravel pits to the north of the Site. As it passes the Site's eastern boundary it becomes woodland and wetland habitats. The River Idle watercourse follows the shape of the Nature Reserve to the east. The southern section of the nature reserve, adjacent to the Site access road, comprises Bellmoor Lake and woodland.

3.16 Further east there is an operational solar farm within Tiln Farm 1.5km to the east with additional solar arrays approved in the adjacent fields.

3.17 To the west the Site, Sutton Lake and residential properties associated with Bellmoor Farm are adjacent to Lagoons 1, 2 and 3 with Sutton Cum Lound village approximately 1.3km to the west. The east coast mainline railway passes by at a slightly raised level at around 300 m at its nearest point.

3.18 To the south east of the Site is the Idle Valley Nature Reserve Visitor Centre and Bellmoor Lake. Further south the urban edge of Retford and a sewage treatment works is located.

Planning and environmental designations

3.19 A review of NCC's Minerals and Waste Local Plan shows that the Site has the following designations:

- Sand and Gravel mineral safeguarding and consultation area (Policy DM13);
- Airfield safeguarding area for Gamston (Retford) Airport (Policy DM10); and
- Sutton and Lound Gravel Pits SSSI, covering a very small section of embankment within the Site (under 0.5% of the SSSI).

3.20 A review of BDC's online planning map includes the following designations:

- Area at risk of flooding;
- A Local wildlife site;
- River Idle watercourse;
- Lound Conservation Area is 550m to the north;
- Grade 1 Listed Building St Bartholomews Church in Lound is location 860m to the north; and
- Grade 2 Listed Gate Piers and gates to Sutton Manor Grounds located 760m to the north.

Flood Risk

3.21 The Environment Agency's flood maps identify that the north east corner of Area A lies within Flood Zone 2 (medium probability of flooding) and a small part of the access in Area C lies in Flood Zones 2 and 3.

Planning History:

3.22 The Site has an extensive planning history of industrial scale mineral extraction pre-dating NCC's record keeping of town planning applications.

3.23 The earliest recorded permission is dated 1947 for sand and gravel extraction and subsequent permission in 1952 and 1957, and that in 1962 the Central Electricity Generating Board were granted planning permission to restore exhausted gravel workings at Bellmoor quarry using PFA waste.

3.24 Planning permission reference (N/47/131) for sand and gravel extraction to the north east towards Chainbridge Lane, including the northern tip of the Site. Condition 4 requires backfilling either with fly ash (i.e. PFA) 'as per the heads of agreement between the applicants and the Central Electricity Generating Board dated 8th October 1962 'or other such materials as may be agreed by the LPA'.

3.25 The High-Rise lagoons were created between the 1970s and 1990s until the PFA pipeline system from Cottam Power Station failed and was not reinstated. NCC's records from this time are archived. It is understood that restoration of the Low-Rise areas also continued for some time in the 1990s, as undertaken between Powergen and Tarmac. A Minerals review under the Environment Act may have incorporated much of the area south of Chainbridge Lane into one permission at that time. There was also a minerals permission granted in 2004 and concerned a small area known as the pill box area, now restored and lying within the nature reserve.

3.26 A search of BDC and NCC's online planning application registers identified further historic planning information (see Table 3.1).

Table 3.1: Planning History

ADDRESS	REF.	DESCRIPTION	DECISION
Sutton Grange Lound Low Road Sutton Cum Lound Retford Nottinghamshire DN22 8SB	20/01559/FUL	Installation of an Additional Tank for the Storage of Liquid Fertiliser	Granted 26 Feb 2021
Anaerobic Digestion Plant Land West Of Sutton Grange Lound Low Road Sutton Cum Lound Nottinghamshire	19/00587/VOC	Vary Condition 4 (Landscaping Scheme) of P.A. 13/00782/FUL to Omit the Proposed Planting to the North of the AD Facility - Retrospective (part) Application For Erection of A 1.2 MW Anaerobic Digester For The Production of Renewable Energy, Amendments to Approved Scheme 47/11/0001	Granted 22 Jul 2019
Land For Solar Farm Use Lound Low Road Sutton Cum Lound Nottinghamshire	17/01585/SCR	EIA Scoping opinion for: Land For Solar Farm Use Lound Low Road Sutton Cum Lound Nottinghamshire	Not EIA Development
Bellmoor Farm Lound Low Road Sutton Cum Lound Nottinghamshire DN22 8SD	22/01698/FUL (resubmission of 17/00931/FUL)	Erection of 4 Holiday Lodges, Fish Welfare/Reception/Equipment Store, Driveway and Car Parking Area	Not yet determined.
Land At Bellmoor Grassland Sutton Cum Lound Retford	13/01126/FUL	Installation of 4.88MW Solar Farm and Associated Infrastructure	Granted 11 Dec 2013 (never implemented)
Land West Of Sutton Grange Lound Low Road Sutton Cum Lound Nottinghamshire	13/00782/FUL	Retrospective (part) Application For Erection of A 1.2 MW Anaerobic Digester For The Production of Renewable Energy, Amendments to Approved Scheme 47/11/00019.	Granted 10 Oct 2013

ADDRESS	REF.	DESCRIPTION	DECISION
Land West Of Sutton Grange Lound Low Road Sutton Cum Lound Nottinghamshire	47/11/00019	Construction of a 1.2 mw anaerobic digester for the production of renewable energy	Granted 10 May 2012
Land Rear Of 26 Town Street, Sutton Cum Lound, Retford, Notts	47/11/00011	Outline application for a detached dwelling	Granted 25 Oct 2011
Tarmac Ltd, Bellmoor Quarry, Great North Road, Sutton Cum Lound, Retford, Notts	47/10/00009	Extension of existing offices and car parking, retention of existing storage/amenity buildings, creation of additional areas of hardstanding and use of land as a highways contracting vehicle and plant operating facility	Granted 19 Jul 2010
Land At Bellmoor Quarry, North Road, Retford	47/05/00010	Erect extension to existing single storey office block and associated car parking	Not approved 2 Sep 2005
Lound Quarry, Chainbridge Lane, Lound, Retford, Nottinghamshire	29/02/00012	Extension of sand and gravel extraction and retention of existing processing plant and ancillary facilities	Granted 9 Feb 2004
UK Coal Ltd, Lound, Mattersey and Everton, Retford, Nottinghamshire	31/02/00024	Seismic survey to map geological structure of reserves for Harworth colliery	No objection
Land At, Lound, Retford, Nottinghamshire	29/98/00013	Discharge of condition 63 (no related information to identify the original application this condition relates to was available on the register.)	Granted 5 Oct 1998
Sutton and Lound Quarry, Chainbridge Lane, Lound, Nottinghamshire	29/97/00002	Approve conditions relating to sand and gravel workings	Granted 2 Aug 1997
Sutton Grange,, Lound Low Road, Sutton, Retford, Nottinghamshire	47/94/00003	Erect bungalow and construct new access	Granted 13 May 1994
Sutton Grange,, Lound Low Road, Sutton, Retford, Nottinghamshire	47/93/00005	Erect new dwelling to be occupied by an agricultural worker	Granted 16 Dec 1993
Land At Bellmoor Quarry, Sutton Cum Lound, Retford, Nottinghamshire	47/80/00007	Reclaim disused gravel workings	Not available. Assumed to be 1980.

4.0 THE PROPOSED DEVLOPMENT

4.1 This section provides a description of the Proposed Development, including its key components and how it would operate.

Overview of the Proposed Development

4.2 The Proposed Development comprises the extraction, processing and export of PFA contained in former disposal lagoons at the Site. Associated with this would be earthworks, dewatering and soil storage, ponds and excavations, hard surfacing, buildings and structures, plant, conveyors, utility connections, roadways, parking, drainage, and progressive restoration (including planting and habitat creation).

4.3 The Site comprises Area A, Area B and Area B, as described in the previous section of this report. Extracted PFA would be transported from Area A to Area C, over Area B, and processed ready for export. It is intended that Area C would be used as a temporary optimisation site during the initial phases of the Proposed Development.

4.4 In total, extraction is expected to take around 22 years at a rate of approximately 300,000 tonnes per annum.

Overview of phasing

4.5 The proposed working scheme has 11 phases as shown in Table 4.1 below (indicative). The table shows indicative extraction volumes per phases and the approximate duration of these phases in years and months. Further details on the activities which would be completed during each phase are shown in Table 4.2 below (also indicative).

Table 4.1: Phase sequencing

Key – HR- High Rise/LR - Low Rise/P - Phase

FINAL PHASE SEQUENCE	TOTAL PFA (T)	YEARS (@300KTPA)	MONTHS
HR P1	916,000	3.1	37
LR P1	87,000	0.3	3
LR P2	116,000	0.4	5
HR P2	584,000	1.9	23
LR P3	208,000	0.7	8
LR P4	344,000	1.1	14
LR P5	254,000	0.8	10
HR P3	583,000	1.9	23
HR P4	1,323,000	4.4	53

FINAL PHASE SEQUENCE	TOTAL PFA (T)	YEARS (@300KTPA)	MONTHS
HR P5	1,109,000	3.7	44
HR P6	933,000	3.1	37

4.6 The indicative phasing of the Proposed Development is as illustrated in Drawings 020-030, Site Phasing Plans. It is anticipated that more detail phasing plans would be secured by planning condition, which may reserve detail relating to the sub-division and/or reordering of extraction phases.

4.7 Table 4.2 below shows the indicative work scheme.

Table 4.2 Indicative working scheme

PHASE	YEAR	SIZE	DESCRIPTION
Processing Area 1 Establishment	1	0.5 ha	Establish processing area at around 13 m AOD by digging into embankment of HR Phase 1. Soils are placed into a soil store in the conveyor corridor to the west. Sandstone from the embankment is stored to the west of HR P1.
HR Phase 1	1	8.2 ha	Strip soil and put into store. Extract PFA. There is around 600k tonnes of PFA above water table here, meaning that this area could be exploited over the early years (1-3) of production while the filter ponds, soakaway, main conveyor and haul road are being built. Note that the PFA below water table can only be extracted around Year 3 when the filter ponds and soakaway are established, if dewatering is required/proposed. PFA transported to the Main Processing Site in the early years (1-2) by an interim conveyor and/or by vehicle. The area is to be restored around Year 4 by using the embankments to fill the void and replacing stored soils.
Processing Area 2 Establishment	2	0.5 ha	Establish processing area at around 8.5 m AOD by digging into embankment of HR Phase 2. This would also include incline for haul road and conveyor. Extracted sandstone and soils are stored to the north east. At same time build next section main conveyor and haul road to Main Processing Site.
LR Phase 1 – Soakaway Ponds	3	4.0 ha	Strip soil and store around periphery of area or at soil store for later use in restoration. Extract PFA and create around five ponds of sufficient depth. The pond embankments are created using sandstone dug from base or elsewhere within the Site. This is carried out whilst the remaining above water table PFA is extracted from HR Phase 1 in Year 3.

PHASE	YEAR	SIZE	DESCRIPTION
LP Phase 2 – Filter Ponds	3	3.5 ha	Strip soil and store around periphery of area for later use in restoration or at soil store. Extract PFA and dig down into sandstone bedrock to create around five ponds of sufficient depth. The pond embankments are created using sandstone dug from base or elsewhere within the Site. This is carried out whilst the remaining dry PFA is extracted from HR Phase 1 in Year 3.
HR Phase 2	5	7.5 ha	Strip soil and store at the soil and overburden store. Extract PFA. Retain lagoon embankments throughout extraction. Use embankments, and stored soil and sandstone to fill void and restore.
LR Phase 3	8	7.0 ha	Strip soil and use to finalise restoration of HR Phase 2. Extract PFA. The phase in then restored to a waterbody and grassland using available material.
LR Phase 4	9	7.0 ha	Strip soil and use to finalise restoration of LR Phase 3. Extract PFA. The phase in then restored to a waterbody and grassland using available material.
LR Phase 5	10	7.0 ha	Strip soil and use to finalise restoration of LR Phase 4. Extract PFA. The phase in then restored to a waterbody and grassland using available material.
HR Phase 3	11	7.5 ha	Strip soil and use to finalise restoration of LR Phase 5. Extract PFA. The void is then filled using lagoon embankments.
HR Phase 4	14	7.5 ha	Strip soil and use to finalise restoration of HR Phase 3. Extract PFA. The void is then filled using lagoon embankments. Processing Area 2 is decommissioned. The next phase would use a new processing site.
Processing Area 3 Establishment	16	0.5 ha	Processing Area 3 is established at around 15 m AOD by digging a flat surface into the embankment between HR Phase 5 and 6. The resulting soils and overburden are used in the restoration of HR Phase 4.
HR Phase 5	17	7.5 ha	Strip soil and use to finalise restoration of HR Phase 4 Extract PFA. The void is then filled using lagoon embankments to the east and west. The lagoon embankment between HR Phase 5 and HR Phase 6 is retained because it holds the haul road and conveyor and is needed for the restoration of HR Phase 6.
HR Phase 6	20	7.5	Strip soil and use to restore HR Phase 5. Extract PFA.

PHASE	YEAR	SIZE	DESCRIPTION
			The void is then filled using lagoon embankments, including the northern embankment bordering HR Phase 5. Processing Area 3 is decommissioned. Phase is restored using soils from storage around periphery of soakaway and filter ponds or elsewhere Soils may be imported for this phase or other if necessary.
Restore LR Phase 1 – Soakaway Ponds & LP Phase 2 – Filter Ponds	22	n/a	These areas required to be operational until the end of extraction to deal with drainage. Following completion of extraction they can be restored to waterbodies. This should be a simple process of recontouring and landscaping the filter ponds and soakaway into more aesthetically pleasing water bodies.

4.8 The Site would be progressively restored as per the sequence shown in the Site Phasing Plans (refs. 403.000007.00001.12.020-030.0) and/or in accordance with any planning conditions to the habitats shown in ES Figure 7.12 Indicative Landscape Restoration Masterplan (4092-DR-LAN-101).

Construction Activities

Temporary Construction Compounds

4.9 A temporary construction compound ('TCC') would be required for the installation of the infrastructure that is to be located in Area C. This would be located on existing hardstanding at the Site.

4.10 Temporary cabins, to be used for site offices and welfare facilities are proposed. Welfare facilities would be installed as required by the Construction (Design and Management) Regulations 2015. It is proposed that power would be provided by connection to the local electricity network and/or a new combined heat and power plant, with backup/an alternative provided by a diesel generator(s) bunded to 110% diesel capacity. Water for the welfare facilities would be provide by existing utility connections at Area C.

4.11 Similar TCCs may also be provided in Area B and Area A, as necessary.

4.12 If not located on existing hardstanding, any area to be used for a TCC would be stripped of topsoil to expose a suitable formation which would be stored for future re-instatement. A geosynthetic material base or similar would then be laid followed by a layer of suitable material then a further geosynthetic material laid prior to the top surface of blended fines.

4.13 TCCs would be required primarily in the first 6-12 months of the Proposed Development, to establish the main infrastructure required at the Site. However, the Applicant would need to

progressively phase the provision of some infrastructure in accordance with the Site Phasing Plans (drawings 020-030). Furthermore, the Applicant is proposing to initially operate a smaller scale optimisation plant in Area C before scaling up to full production (further detail provided later in this chapter). It would therefore be necessary to provide TCCs and carry out construction activities periodically over the lifetime of the Proposed Development to facilitate this.

4.14 Following completion of each construction phase any compounds would be removed and the area restored as necessary.

Site Signage

4.15 During construction, the Site would have suitable signage to protect the health and safety of workers, contractors and the general public. It is envisaged that there would be a sign giving the operator's name, the name of the Proposed Development and an emergency contact telephone number.

4.16 Once operational, there would be further signage, providing information about the Proposed Development, potential hazards, the operator's name, the location grid reference and the emergency telephone number. The final location and design of the signage would be defined prior to the Proposed Development becoming operational.

Construction Timescale and Duration

4.17 It is anticipated that initial construction activities at Area C would require approximately 6-12 months, which would then be followed by periodic stages construction to scale up to full production capacity.

Construction Activities

4.18 Construction activities would include, but are not limited to, the following:

- Delivery and installation of extraction and processing plant;
- Erection of buildings and other structures;
- Connection of utilities;
- Site drainage works;
- Laying of foundations, hardstanding and haul roads;
- Importation of all necessary construction materials, including engineering clay or similar for capping, void lining and drainage works, and soil for restoration, as necessary;
- Earthworks and soil movements; and

- Any other necessary engineering and electrical works.

4.19 Further construction works to allow the extraction, processing and export of PFA in Area A and Area B would be on a rolling basis in accordance with the extraction phases (see Table 4.1 and Table 4.2). These works include the provision of the Processing Areas (1-3), the haul road and conveyor in Area B, sections of haul road and conveyor in Area A, settlement and soakaway ponds, and all other infrastructure shown in the Site Phasing Plans (Drawings 020-030) and as described in this chapter.

4.20 The activities comprise those that are necessary to construct and operate the Proposed Development over its lifetime.

4.21 Construction activities would be confined to the hours of 07:00 to 19:00 on weekdays and 07:00 to 13:00 on Saturdays, with no working on Sundays or Bank Holidays. In some circumstances (for example concrete pouring), it may be necessary to work outside of these hours and, in these circumstances, permission would be sought from NCC. It is anticipated that this mechanism is secured by a condition attached to any grant of planning permission.

4.22 Construction laydown areas for materials and the TCC(s) would be located within the boundary of the Site.

4.23 At normal times during construction there is anticipated to be no more than around 10 two-way HGV trips per average day (20 in total). There may be more when any concrete pouring is required.

Construction Method Statements and outline Construction Environment Management Plan

4.24 The construction activities would be controlled via a series of detailed Construction Method Statements ('CMS') which would be prepared prior to construction by a Principal Contractor appointed by the Applicant, with overall responsibility for environmental management on the construction site. While these method statements can only be finalised at detailed design, it is possible to indicate the outline of the methods that will be used, particularly in relation to environmental management. For example, an outline Construction Environmental Management Plan ('OCEMP') has been prepared to support the application and can be found in Appendix 5.3 of the ES (Volume 3).

4.25 The services of specialist advisors would be retained as appropriate, such as an ecologist, to be called on as required to advise on specific environmental issues. The appointed Contractor working with specialist advisors will ensure construction activities are carried out in accordance with the mitigation measures outlined in the ES.

4.26 Prior to construction, the OCEMP would be updated collating all measures required during construction to avoid and minimise environmental harm including guidance and best practice.

4.27 To ensure that the mitigation and management measures assessed within the ES are carried out, construction personnel and contractors would be required to adhere to the CEMP which would form an overarching document for all construction site management requirements.

4.28 Contractors would also be required to adhere to the following to minimise environmental effects of the construction process:

- Conditions required under the Consent and deemed planning permission;
- Requirements of statutory consultees, including the EA and Natural England; and
- All relevant statutory requirements and published guidelines that reflect 'good practice'.

4.29 The Applicant would require that all contractors follow the requirements of ISO14001 - 'Environmental Management Systems - Specification and Guidance for Use'.

4.30 The CEMP would be agreed with the relevant statutory bodies including the EA, Natural England and NCC prior to commencement of construction, and performance against the CEMP would be monitored by the Applicant's Construction Project Manager throughout the construction period.

Construction Movements

4.31 Various vehicle types would be required during the construction stage of the Proposed Development; of these, the majority would be standard road vehicles of similar type to those using local roads on a daily basis. The assumptions around vehicle types for the EIA are set out in Chapter 14 of the ES.

Waste, Residues and Emissions

4.32 During construction, waste and pollution management measures would be implemented as set out within the OCEMP. As such, it is expected that minimal amounts of waste and associated residues would be generated.

4.33 Construction lighting may be required to illuminate working areas when daylight levels are low. It is proposed that all lighting would be angled downwards and within the Site, and a detailed lighting plan may be secured by planning condition. Noise effects during construction are considered in ES Chapter 12 (Volume 1).

Operational Activities

4.34 Once operational, the Proposed Development would comprise the following main elements:

- Extraction;
- Screening and Shredding;
- Processing; and
- Export by road.

4.35 There would be ancillary operations and infrastructure associated with all of the above.

Part 1: Extraction

4.36 Mobile excavators and/or motor scrapers (or similar) would be used to extract the PFA from the ground. Tipper trucks or similar would then transport extracted PFA to the relevant Processing Area (1-3 as shown in drawings 020-030, dependent on extraction phase), where the PFA would be temporarily stockpiled before screening and shredding.

4.37 The Processing Areas would move as extraction progresses through the Site, with three separate areas provided over the lifetime of the Proposed Development. Each Processing Area would be dug into the lagoon bank to provide for stability, each comprising a concrete pad or hardstanding. Each pad would cover an area of approximately 6,000 m^2.

4.38 Soil would be removed from each phase prior to the extraction and stored appropriately within the Site for later re-use during restoration, or it would be immediately applied to part of the Site undergoing restoration. Topsoil would be stored and managed effectively within the Site for later re-use during the restoration. This would be in accordance with the Defra Soil Strategy for England and Construction Code of Practice for the Sustainable Use of Soils on Construction Sites

Part 2: Screening and Shredding

4.39 Mobile screening and shredding plant would be used to pre-process the PFA at the Processing Areas to the required grade by separating out lumps of material into smaller particles. Oversized material would be processed by the screens until the required grade is achieved. The oversized material, if unable to be effectively screened, would be used beneficially in restoration of the Site to achieve the desired landform. For more compacted material, a shredder (forming part of the screen) would be required prior to screening.

Part 3: Processing

4.40 It is proposed that PFA would be transported from Area A to the Main Processing Site (Area C) by covered conveyor during normal operations. During the optimisation period at the start of operations (a 6–24-month period) it is proposed that PFA would be transported from Processing

Area 1 using tipper trucks. There would also be the option to utilise vehicles to transport PFA from the Processing Areas at times when the conveyor is not available, e.g. during maintenance periods.

4.41 The key components of the Main Processing Site would include the following:

- Material storage buildings;
- Conveyors, including a gantry over the site access road;
- Drying modules (up to 10x individual modules), cyclones and storage silos;
- Internal access roads and hardstanding;
- Offices, canteen and laboratories – in a co-located area of single storey cabins;
- Combined heat and power (CHP) plant – providing power and heat for the drying plant and other components, along with possibly a connection to the local electricity distribution network;
- Gas tanks and delivery infrastructure, and/or a gas main connection;
- Staff car park;
- Yard and storage area; and
- Wheel wash and weighbridge.

4.42 The PFA would first be placed in the material storage building where it would be stockpiled, run through a further shredder and screen, as necessary, and periodically turned by an excavator (or similar) to further reduce moisture content. There may also be fans blowing air over the material and a heated floor, to further reduce moisture content.

4.43 Once moisture is shed to the required level (around 20%), the PFA would be loaded into a hopper by a mobile excavator or conveyor (within the building). The PFA would then be fed into a covered conveyor, which would feed into the drying plant (comprising up to 10x individual modules, potentially added in stages over the lifetime of the Proposed Development), which applies an innovative kinetic system that uses air to dry the PFA rather than significant amounts of heat.

4.44 The drying system includes six key stages, as follows:

1. **Feed system** - PFA is screw fed from the covered conveyor into the feed section on top of the drying module via a hopper;
2. **Blower** – an industrial blower is then used to blow PFA particles into the system;

3. **Heat Exchanger** – used to create an average temperature throughout the system of 85 degrees centigrade drawn from the CHP plant, which is the optimal condition to hold moisture which is sheared from PFA particles later in the process;

4. **Drying Cartridges** – the PFA is blown down pipes and through drying cartridges, which use air to shear moisture from the PFA particles;

5. **Cyclones** - these recover circa 97% of the dried material, delivering it on to the finished product storage silos; and

6. **Filter** – air, moisture and fines pass on to the filter; fines are dropped out for recovery and storage; air and moisture go to atmosphere, or the moisture is condensed.

4.45 The system comprises a low temperature, low pressure process, using around 75% less energy to remove the same amount of moisture as a conventional thermal drier would and consequently generating around 75% less carbon emissions to atmosphere as a result.

4.46 Temporary optimisation works would initially commence in Area C prior to the full processing infrastructure being implemented, with only a single drying module and reduced infrastructure in operation. The optimisation would be undertaken for a period of up to 24 months, but more likely 6 months.

Part 4: Export to Road

4.47 PFA would be loaded into 30 tonne articulated powder tankers/sheeted wagons (hereafter referred to as 'HGVs') that would be filled using a closed pipework from the silos or straight from the enclosed material storage building. The HGVs would pass over a weighbridge on arrival and before departure from the Site and, if necessary, on departure a wheel wash and/or jet wash would be utilised to clean vehicles.

4.48 The washing of every vehicle is not likely to be required as other measures would be implemented to prevent HGVs becoming dirty, such as maintenance of clean road surfaces within the access areas. HGVs would not be allowed to leave the Site if they are found to be overweight or, on inspection, would distribute dirt/debris on the public highway. All vehicles would be covered/enclosed to prevent material falling onto the public highway or other areas.

4.49 The Main Processing Site (Area C) benefits from an existing highway access onto the A638, which previously served Bellmoor Quarry. A designated route(s) for HGVs to reach the strategic road network (the A1) would be used, whereby during normal operation, all HGVs travelling from Area C would use the route north or south along the A638.

4.50 It is estimated that the export of PFA would generate around 37 HGV trips per day (37 in / 37 out). There would also be a requirement for other HGVs to access the Site, including for maintenance, import of engineering and other materials (e.g. clay), gas tanker deliveries etc. It anticipated that there would be up to 4 HGVs trips per hour (4 in / 4 out) in total.

Operational Staff and Hours of Operation

4.51 It is estimated that the Proposed Development would generate up to around 20-30 permanent jobs. The Proposed Development would include site offices and welfare facilities for operational staff.

4.52 The operating hours for extraction and HGV exports would be limited to the following:

- 07:00 and 19:00 Monday to Friday; and
- 07:00 to 13:00 Saturday, and
- No extraction activities or imports are proposed for Sundays or Bank Holidays.

4.53 The drying plant would operate 24 hours per day to allow for efficient running of the plant items and to process enough PFA to meet the operational tonnage of around 300,000 tonnes per annum and hence avoid impacting on the overall number of years of operation of the Proposed Development. This operation would be enclosed, limited to the material storage building, drying plant and silos.

4.54 There would be no HGV deliveries or exports under normal operations, and Area A and Area B of the Site would be closed outside of main operating hours. Staffing levels would likely be reduced and limited to drying plant operation and maintenance, and security functions outside of the main operating hours.

Management and Mitigation Measures

4.55 The Proposed Development includes numerous management and mitigation measures. Table 4.3 below sets out the various measures and, if necessary, when they are to be implemented.

Table 4.3: Management and Mitigation Measures

Measure	Description and comments	When implemented?
Wheel wash.	The Main Processing Site would include a wheel wash that would be utilised to prevent the tracking of materials onto the public highway. The facility would have sufficient capacity to deal with the	Provided from the commencement of operations.

Measure	Description and comments	When implemented?
	maximum number of HGVs required to operate the Site. The location is shown in the Main Processing Site Plan (Drawing ref. 002) and Wheel Wash Elevations (Drawing ref. 012).	
Jet wash.	An additional mobile jet wash facility to supplement the wheel wash would be provided as necessary. This would be used in the unlikely scenario that the wheel wash does not completely remove all debris.	Provided to supplement the wheel wash as necessary.
Dust management, including dampening down of surfaces during dry and/or windy weather.	Standard measures would be utilised, including water bowsers (tractor-mounted and/or stationary). It should also be noted that the PFA that is to be extracted from the Site is saturated because it has been in the ground for many years. The Applicant has carried out a detailed drilling exercise to sample and test PFA from across the Site, including dozens of boreholes. This has confirmed that the PFA has an in-situ moisture content of 18% to 47%, or an average of 31% across the Site. It is therefore considered to have limited potential for dust generation when it comes out of the ground. To further manage dust generation the Site would be worked in phases with limited exposed areas, and all conveyor belts would be covered. The only area where the Applicant would intentionally seek to dry the PFA is at the Main Processing Site, where operations would be fully enclosed, including a storage building under negative pressure, enclosed drying plant with dust collection system, enclosed silos, and product taken away using enclosed powder tankers and/or sheeted wagons.	Provided from the commencement of operations.
White noise reversing alarms for all extraction plant on site.	All extraction plant used on site would be fitted with white noise reversing alarms (as opposed to beeping alarms) for noise mitigation purposes.	Provided from the commencement of extractive operations.
No conveyor sirens close to residential properties.	Where the conveyor belt is located close to residential properties, no start-up or shut-down sirens would be utilised.	Provided for relevant parts of the site conveyor when constructed.

Measure	Description and comments	When implemented?
Lagoons embankments retained until extraction in each phase is complete.	In the High-Rise area the lagoon embankments would be retained in each phase until extraction behind them has been completed, to provide a visual and noise screen.	Provided from the commencement of extraction in each phase.
Plant and equipment at Processing Areas to operate behind earth bunds or acoustic screens.	It is proposed that each Processing Area (1-3) is provided with an earth bund or acoustic screen, as necessary.	Provided prior to operations at each Processing Area.
Site drainage and water management.	See the 'Site drainage and water management' sub-section later in this chapter.	Provided from the start of operations as per the Site Phasing Plans.
Soils to be managed and stored in accordance with best practice for future use in restoration.	Soils present within the Site that are removed during the extraction operations would be managed and stored in accordance with best practice, as stated earlier in this chapter.	Provided from the commencement of operations.
Footpath crossing.	The two public right of ways that runs through the Site (NT Sutton FP1 and NT Sutton FP2) would be kept open throughout construction and operation, other than a short period (around 1 week) where they would be temporarily closed in order to construct a suitable crossing of the haul road and conveyor.	Provided from construction of the relevant section of haul road and conveyor.

Site Drainage and Water Management

4.56 The Proposed Development would include a comprehensive system to appropriately manage water, including groundwater, surface water, process water and foul water.

Groundwater system

4.57 There would be an appropriate groundwater management system to manage any water that is encountered when dewatering and extracting PFA from below the water table, where pumping may be necessary to work the material. Any water would be drained/pumped to settlement ponds and then to soakaway ponds, or alternate operations during the early years of the Proposed

Development. These are shown in the Site Phasing Plans (Drawings 020-030) and would be established before any dewatering takes place.

4.58 Further information on the process and system is set out in Chapters 5 and 9 of the ES and the Drainage Management Plan contained in Appendix 9.3 of the ES (Volume 3) thereof. It is envisaged that further detail would be secured by suitable planning condition.

Surface water system

4.59 The system would manage surface water from the Main Processing Site and Processing Areas and any other areas where it is necessary to manage surface water.

4.60 The Main Processing Site would benefit from a drainage system that links into the sewer/soakaway/water course (or similar), part of which already exists. Any water that is discharged would need to be appropriately treated (e.g., filtered/trapped/cleaned) using standard measures, such as interceptors and/or a settlement pond(s) at the Main Processing Site.

4.61 It is envisaged that Processing Area 1 would initially be linked into the Main Processing Site by a pipe broadly following the haul road, to be later connected to the settlement and soakaway ponds. Processing Areas 2 and 3 would be connected to the settlement ponds.

Process water

4.62 The drying plant may need to condense water vapour taken from the extracted PFA. This would be managed by the drainage system at the Main Processing Site, possibly with the use of further interceptors.

4.63 The alternative is that, if demonstrated that the vapour meets relevant standards, it could be sent to atmosphere.

Foul water

4.64 Foul water from the offices and welfare facilities would be sent to an existing septic tank at the Bellmoor industrial Estate.

Site Restoration

4.65 The extraction phase of the Proposed Development and associated infrastructure would require around 22-25 years, although longer is possible if, for example, there are unforeseen delays in extraction. The Proposed Development comprises a series of phases whereby restoration follows extraction activities.

4.66 Restoration activities include earthworks and soil movements to achieve any approved restoration landform, and seeding and planting to achieve the necessary habitats. The earthworks would require the same plant as used to extract PFA, with activities often happening concurrently.

4.67 The restoration scheme is biodiversity led and the indicative concept is shown in Appendix 8.5 of the ES (Volume 3) and detailed within the landscape and ecology chapters of this ES, Chapters 7 and 8 respectively.

4.68 The restoration scheme would include reinstatement of some of the existing farming activities, including grazing of the Site and habitat management using sheep. The proposed habitats include wet grassland, species-rich grassland, reed beds, woodland, and water bodies. It is anticipated that there would be a significant improvement on the current habitats at the Site.

4.69 The Applicant is committed to delivering Biodiversity Net Gain (10%). The initial run of the metric has been applied to the restoration concept showing a figure of 12.66% is achievable thereby giving a high level of confidence that policy compliant Biodiversity Net Gain is deliverable. The Applicant is likewise committed to an aftercare period of up to 30 years.

4.70 It is envisaged that significantly more detail of the proposed restoration would be secured by planning conditions that require the phased submission of detailed plans for each phase.

Conditions

4.71 The details included with this planning application are based on a sound understanding of the Site from landowner engagement, ground investigations, agricultural land classification survey, comprehensive ecological surveys over an extended period, landscape and visual impact assessment, and other investigations.

4.72 The Applicant also has a good level of information as to the proposed technologies, methods and mitigations from engaging with potential suppliers. The planning application package is considered compliant with the validation requirements of the minerals planning authority, and has been prepared cognisant of advice and consultation feedback received prior to the submission of the application, for which the Applicant is grateful.

4.73 For a project of this nature it is inevitable, and desirable, that effective use is made of planning conditions. Over the Proposed Development's lifetime it is possible that the understanding of the Site will continue to improve, and the technologies and mitigations commercially available may evolve. We respectfully request that the planning authority seeks input from DWD and the Applicant to devise robust and appropriate conditions that meet the six planning tests.

5.0 PLANNING POLICY CONTEXT

5.1 This section provides a brief overview of the relevant planning policy and guidance at the local and national level. The Proposed Development has been influenced by these policies and is assessed against them at Section 6 of this document.

5.2 The planning application would be determined in accordance with section 70(2) of the Town and Country Planning Act 1990 (as amended), which states that in dealing with applications, local planning authorities shall have regard to the provisions of the statutory development plan and to other material considerations.

Statutory Development Plan

5.3 The Site is located within the administrative boundaries of Bassetlaw District Council and Nottinghamshire County Council and will be determined by the minerals planning authority. The statutory development plan is comprised of the following documents.

- Nottinghamshire: Minerals Local Plan (2021)
- Nottinghamshire Waste Local Plan (2002)
- Nottinghamshire Waste Core Strategy
- Bassetlaw District Local Development Framework (LDF): Core Strategy and Development Management Policies DPD (2011)
- Sutton Cum Lound: Neighbourhood Plan 2016-2031.

5.1 Importantly, the Proposed Development, whilst relating to a waste disposal site, is not a waste management proposal in itself. Nevertheless, some waste management planning policies are potentially relevant (material considerations) and have been considered in preparing the planning application. The relevant policies are set out later in this section.

5.2 In addition, BDC submitted the draft new Bassetlaw Local Plan 2020-2038: to the Secretary of State on 18 July 2022 for independent examination. Furthermore, NCC, along with Nottingham City Council consulted on a draft new Waste Local Plan in February 2022. The Plan will provide the future planning strategy for waste management in Nottinghamshire and Nottingham. Although both documents are not yet adopted they are material considerations and the relevant policies have been considered in the latter part of this chapter.

5.3 The policies from the Statutory Development Plan considered to be of most relevance are as follows.

Nottinghamshire Minerals Local Plan (2021-2036)

5.4 The Nottinghamshire Minerals Local Plan (NMLP) sets out the vision, objectives and planning policies for mineral development across the County covering the period to 2036. A key aim of the NMLP is for minerals to be used as efficiently as possible. This is developed into Strategic Objective SO1 which seeks to improve the efficient use of primary mineral resources partly through increasing the use of alternatives from secondary aggregate sources.

5.5 Policy SP1 Minerals Provision sates:

1. The strategy for the supply of minerals in Nottinghamshire is as follows:

a) Identify suitable land for mineral extraction to maintain a steady and adequate supply of minerals during the plan period;

b) Support the extension of existing sites, where economically, socially and environmentally acceptable;

c) Allow for development on non-allocated sites where a need can be demonstrated; and

d) Ensure the provision of minerals in the plan remains in-line with wider economic trends through regular monitoring.

2. All proposals for mineral development must demonstrate that they have prioritised the avoidance of adverse social, economic and environmental impacts of the proposed development.

5.6 Policy SP2 – Biodiversity-Led Restoration states:

"1. Restoration schemes that seek to maximise biodiversity gains and achieve a net gain in biodiversity, in accordance with the targets and opportunities identified within the Nottinghamshire Local Biodiversity Action Plan, will be supported.

2. Where appropriate, schemes will be expected to demonstrate how restoration will contribute to the delivery of Water Framework Directive objectives.

3. Restoration schemes for allocated sites should be in line with the relevant Site Allocation Development Briefs contained within Appendix 2."

5.7 Policy SP3 – Climate Change states:

"1. All minerals development, including site preparation, operational practices and restoration proposals should minimise impacts on the causes of climate change for the lifetime of the development by being located, designed and operated to help reduce greenhouse gas emissions, and move towards a low-carbon economy.

2. Where applicable, development should assist in the reduction of vulnerability and provide resilience to the impacts of climate change by

a) Avoiding areas of vulnerability to climate change and flood risk. Where avoidance is not possible, impacts should be fully mitigated;

b) Developing restoration schemes which will contribute to addressing future climate change adaptation, including through biodiversity and habitat creation, carbon storage and flood alleviation.)"

5.8 Policy SP4 – Sustainable Transport

1. All mineral proposals should seek to maximise the use of sustainable forms of transport, including barge, rail and pipeline, within both the operational and restoration phases, where practical and economic.

2. Where it can be demonstrated that there is no viable alternative to road transport, all new mineral working, including extensions to existing sites, and mineral related development should be located as follows:

- *a) within close proximity to existing or proposed markets to minimise transport movement; and*
- *b) within close proximity to the County's main highway network and existing transport routes in order to avoid residential areas, minor roads, and minimise the impact of road transportation.*

5.9 Policy SP5 – The Built, Historic and Natural Environment

"All mineral development proposals will be required to deliver a high standard of environmental protection and enhancement to ensure that there are no unacceptable impacts on the built, historic and natural environment. The consideration of impacts will include effects on:

- Nature conservation (designated and non-designated sites/species);

- Sites of geological interest;

- Heritage assets (designated and non-designated) and their setting and other cultural assets;

- Landscape and townscape character;

- Best and most versatile agricultural land and soils;

- Air quality;

- Water quality and supply;

- Flood risk;

- Highways;

- Infrastructure;

- Community amenity."

5.10 Policy MP5 Secondary and Recycled Aggregates states that

"Development proposals which will increase the supply of secondary and/or recycled aggregates will be supported where it can be demonstrated that there are no significant environmental, transport or other unacceptable impacts."

5.11 Policy DM1: Protecting Local Amenity states that proposals for minerals development will be supported where it can be demonstrated that any adverse impacts on amenity are avoided or adequately mitigated to an acceptable level. Impacts to be considered include visual, noise, dust, mud, air emissions, lighting, transport and land stability.

5.12 Policy DM2 Water Resources and Flood Risk states:

Water resources

1. Proposals for minerals development will be supported where it can be demonstrated that there are no unacceptable impacts on surface water quality and flows or groundwater quality and levels at or in the vicinity of the site.

2. Where opportunities exist, measures should be included to improve overall water quality.

3. Water resources, where required, should be used as efficiently as possible.

Flooding

4. Proposals for minerals development will be supported where it can be demonstrated that there will be no unacceptable impact on:

a) Flood flows and storage capacity at the proposed site or in the vicinity of the site;

b) *The integrity or function of flood defences or structures acting as flood defences;*

c) *Local land drainage systems.*

5. Where the opportunity exists, restoration proposals should seek to incorporate flood risk reduction measures e.g. flood plain storage and reconnection, flood defence structures, and land management practices to benefit local communities

6.Minerals development should include Sustainable Drainage Systems (SuDS) to manage surface water drainage unless it can be shown that it is impracticable to do so.

5.13 Policy DM3: Agricultural Land and Soil Quality states:

Agricultural land

1. Proposals for minerals development located on the best and most versatile

agricultural land (grades 1, 2 and 3a) will be supported where it can be

demonstrated that:

a. *Proposals will not affect the long-term agricultural potential of the land or soils; or*

b. *There is no available alternative and the need for development outweighs the adverse impact upon agricultural land quality.*

2. Where alternative options are limited to varying grades of best and most versatile land, the development should be located within the lowest grade.

Soil quality

3. Measures will be taken to ensure that soil quality will be adequately protected and maintained throughout the life of the development and, in particular, during stripping, storage, management and final placement of soils, subsoils and overburden arising's as a result of site operations.

5.14 Policy DM4: Protection and Enhancement of Biodiversity and Geodiversity states:

1. Proposals for minerals development will be supported where it can be demonstrated that:

a) *They will not adversely affect the integrity of a European site (either alone or in combination with other plans or projects, including as a result of changes to air or water quality, hydrology, noise, light and dust), unless there are no alternative solutions, imperative reasons of overriding public interest and necessary compensatory measures can be secured in accordance with the requirements of the Conservation of Habitats and Species Regulations 2017;*

b) *They are not likely to give rise to an adverse effect on a Site of Special Scientific Interest, except where the need for and benefits of the development clearly outweigh the importance of the site and where no suitable alternative exists;*

c) *They are not likely to give rise to the loss or deterioration of Local Sites (Local Wildlife Sites or Local Geological Sites) except where the need for and benefits of the development in that location outweigh the impacts;*

d) *They would not result in the loss of populations of a priority species or areas of priority habitat except where the need for and benefits of the development in that location outweigh the impacts.*

e) *Development that would result in the loss or deterioration of irreplaceable habitats will only be permitted where there are wholly exceptional reasons and a suitable compensation strategy exists.*

2. Where impacts on designated sites or priority habitats or species cannot be avoided, then:

a) *In the case of European sites, mitigation must be secured which will ensure that there would be no adverse effect on the integrity of the site(s). Where mitigation is not possible and the applicant relies upon imperative reasons of overriding public interest, the Council will need to be satisfied that any necessary compensatory measures can be secured.*

b) *In all other cases, adequate mitigation relative to the scale of the impact and the importance of the resource must be put in place, with compensation measures secured as a last resort.*

3. Nottinghamshire's biodiversity and geological resources will be enhanced by ensuring that minerals development:

a) *Retains, protects, restores and enhances features of biodiversity or geological interest, and provides for appropriate management of these features, and in doing so contributes to targets within the Nottinghamshire Local Biodiversity Action Plan and provides net gains for biodiversity;*

b) *Makes provision for habitat adaptation and species migration, allowing species to respond to the impacts of climate change; and*

c) *Maintains and enhances ecological networks, both within the County and beyond, through the protection and creation of priority habitats and corridors, and linkages and stepping stones between such areas.*

5.15 Policy DM5: Landscape Character states

1. *Proposals for minerals development will be supported where it can be demonstrated that it will not adversely impact on the character and distinctiveness of the landscape.*
2. *Development that would have an unacceptable impact on the landscape interest will only be permitted where there is no available alternative, the need for development outweighs the landscape interest and adequate mitigation can be provided;*
3. *Landscaping, planting and restoration proposals should take account of the relevant landscape character policy area as set out in the Landscape Character Assessments covering Nottinghamshire.*

5.16 Policy DM6: Historic Environment states

1. *Proposals for minerals development will be supported where it can be demonstrated that there will not be any harm to the significance of a designated, or non-designated heritage asset of archaeological interest equivalent to a scheduled monument, and/or its setting.*
2. *Proposals likely to cause harm to a designated or non-designated heritage asset, as above, will only be permitted where it can be demonstrated that there are public benefits which outweigh the level of harm or loss, relative to the importance of the heritage asset affected.*
3. *Proposals that would directly or indirectly affect non-designated heritage assets will be assessed according to the scale of any harm or loss and the significance of the heritage asset.*
4. *Proposals for minerals development on a site of archaeological importance must ensure that satisfactory mitigation measures are incorporated, including the preservation in situ or the excavation and recording of any affected archaeological remains.*
5. *Where relevant, the enhancement of the historic environment, including individual heritage assets or historic landscapes, will be encouraged.*
6. *No development shall take place within the archaeological resource area at South Muskham.*

5.17 Policy DM7: Public Access states

1. *Proposals for minerals development will be supported where it can be demonstrated this will not have an unacceptable impact on the existing rights of way network and its users.*
2. *Where this is not practicable, satisfactory proposals for temporary or permanent diversions, which are of at least an equivalent interest or quality, must be provided.*
3. *Improvements and enhancements to the rights of way network will be sought and, where possible, public access to restored minerals workings will be increased.*

5.18 Policy DM8: Cumulative Impact states

Proposals for minerals development will be supported where it can be demonstrated that there are no unacceptable cumulative impacts on the environment or on the amenity of a local community.

5.19 Policy DM9: Highways Safety and Vehicle Movements / Routeing states

Proposals for minerals development will be supported where it can be demonstrated that:

a) The highway network including any necessary improvements can satisfactorily and safely accommodate the vehicle movements, including peaks in vehicle movements, likely to be generated;

b) The vehicle movements likely to be generated would not cause an unacceptable impact on the environment and/or disturbance to local amenity;

c) Where appropriate, adequate vehicle routeing schemes have been put in place to minimise the impact of traffic on local communities;

d) Measures have been put in place to prevent material such as mud contaminating public highways.

5.20 DM10 Aviation Safeguarding states

Proposals for minerals development within the following Airfield Safeguarding Areas will be supported where the applicant can demonstrate that the proposed extraction, restoration and after use will not result in any unacceptable adverse impacts on aviation safety:

b) Gamston (Retford) Airport;

5.21 Policy DM12: Restoration, aftercare and after-use states:

1. *Proposals for minerals development must include an appropriate scheme for the restoration, aftercare and long term after use to enable long term enhancement of the environment.*

Restoration

2. *Restoration of minerals development should be in keeping with the character and setting of the local area and should contribute to the delivery of local objectives for habitats, biodiversity, landscape, historic environment or community use where appropriate.*
3. *As a minimum, restoration plans should include:*
    a. *An overall concept plan with sufficient detail to demonstrate that the scheme is feasible in both technical and economic terms and is consistent with the County Council's biodiversity-led restoration strategy; and*
    b. *Illustrative details of contouring, landscaping, phasing and any other relevant information as appropriate.*
4. *Mineral extraction proposals which rely on the importation of waste for restoration must:*
    a. *Include satisfactory evidence that the waste will be available over an appropriate timescale in the types and quantities assumed;*
    b. *Provide optimum restoration solution; and*
    c. *Provide evidence that it is not practical to re-use or recycle the waste*

Aftercare

5. *Restoration proposals will be subject to a minimum five-year period of aftercare. Where proposals or elements of proposals, such as features of biodiversity interest, require a longer period of management the proposal will only be permitted if it includes details of the period of extended aftercare and how this will be achieved.*

After-use

6. *Where proposals for the after use includes habitat creation, applicants will be required to demonstrate how the proposals contribute to the delivery of Local Biodiversity Action Plan*

targets and have regard to the biodiversity-led restoration approach and the opportunities identified in the National Character Area profile.

7. *All proposals will be required to make provision for the retention or replacement of soils, as appropriate, and for any necessary drainage, access, hedges and fences.*
8. *The after-use will be required to have regard to the wider context of the site, in terms of the character of the surrounding landscape and historic environment and existing land uses in the area.*
9. *Where opportunities arise, after-use proposals should provide benefits to the local and wider community.*

5.22 Policy DM16: Associated Industrial Development states:

Proposals for associated industrial development on or adjacent to mineral extraction sites will be required to demonstrate that they are clearly related to and linked to the life of the site.

Bassetlaw District Local Development Framework: Core Strategy and Development Management Policies DPD (2011)

5.23 The BDC LDF sets out the vision, objectives and spatial strategy along with place specific and detailed development management policies over a period to 2028. It contains, nine settlement specific core strategy policies, of which Policy CS8 applies to rural settlements including Sutton Cum Lound. With regards to economic development, the policy states:

"Proposals that deliver rural employment opportunities, of a scale and type appropriate to the settlement and surrounding land uses, will be supported in line with other material considerations and planning policy requirements… See also Policies DM1, DM2 and DM7"

5.24 In addition to Policy CS8, development management policies DM1 to DM3 deal with development impact in in the rural areas outside of the defined development boundaries which applies to this site.

5.25 Policy DM1: 'Economic Development in the open countryside' states that:

"This policy applies to any area outside a Development Boundary (which includes those settlements covered by policy CS9).

"A. General Principles

Proposals for standalone economic development (e.g. tourist attractions; equine enterprises; rural business) in rural areas will be supported where they can demonstrate that:

i. *any necessary built facilities will be provided by the re-use of existing buildings or, where the re-use of existing buildings is not feasible, new buildings are located and designed to minimise their impact upon the character and appearance of the countryside;*

ii. *the development requires the specific location proposed and there are no other suitable sites in, or close to, settlements covered by policies CS2-CS8 or on brownfield land;*

iii. *they are viable as a long-term business;*

iv. *the scale, design and form of the proposal, in terms of both buildings and operation, will be appropriate for its location and setting and be compatible with surrounding land uses;*

v. *where the proposal includes a retail use, it is demonstrated that this will not have an adverse impact on the vitality or viability of local centres; rural service centres; and shops and services in surrounding villages; and*

vi. *they will not create significant or exacerbate existing environmental or highway safety problems."*

5.26 Policy DM3 'General Development in the countryside' deals with the re use of previously developed land in rural areas and states

"Proposals for the re-use of previously developed land outside Development Boundaries will be supported, other than where the site has naturally regenerated to the extent that it is of biodiversity value (see Policy DM9), where they result in:

i. the redevelopment of the site for the existing permitted use (other than where this is clearly no longer appropriate in the context of e.g. nearby residential amenity or wider sustainability issues); or

ii. the redevelopment of the site for a use requiring a rural location; or

iii. the redevelopment of the site for affordable housing or community services and facilities (where this is in line with the Spatial Strategy policies); or

iv. the restoration or natural regeneration of the site either in line with the Council's Green Infrastructure aims or to become a functional part of the open countryside (e.g. sustainable wetlands); and

v. development that will not create significant or exacerbate existing environmental or highway safety problems.

Where the redevelopment of a site for the existing permitted use is clearly no longer appropriate, consideration will be given to other uses in line with the approach set out in the Spatial Strategy policies and where explicit community support is demonstrated."

5.27 Policy DM4 sets outs Bassetlaw's policies in relation to design and states that:

"All major development proposals will need to demonstrate that they:

i. make clear functional and physical links with the existing settlement and surrounding area and have not been designed as 'standalone' additions. Where physical links cannot be made (e.g. for reasons of third party land ownership) provision must be made such that they can be provided in future should the opportunity arise;

ii. complement and enhance the character of the built, historic and natural environment;

iii. are of a scale appropriate to the existing settlement and surrounding area and in line with the levels of proposed growth for that settlement as set out in policies CS1-CS9; and

iv. provide a qualitative improvement to the existing range of houses, services, facilities, open space and economic development opportunities.

5.28 Policy DM9 Green Infrastructure; Biodiversity & Geodiversity; Landscape; Open Space And Sports Facilities states:

A. Green Infrastructure

Development proposals will be expected to support the Council's strategic approach to the delivery, protection and enhancement of multi-functional Green Infrastructure, to be achieved through the establishment of a network of green corridors and assets (please refer to the Council's Green Infrastructure work for a full list of Green Corridors and Nodes within, and running beyond, the District) at local, sub-regional and regional levels. Particular support will be given to proposals that will further the development of:

- *The Idle Valley Project;*
- *The Trent Vale Partnership;*
- *Sherwood Forest Regional Park.*

Development proposals will be expected to demonstrate, in line with the Council's Green Infrastructure work, that:

i. they protect and enhance green infrastructure assets affected by the development and take opportunities to improve linkages between green corridors;

ii. where they overlap with or will affect existing green infrastructure nodes or corridors, such assets are protected and enhanced to improve public access and use;

iii. where opportunities exist, development proposals provide improvements to the green infrastructure network that benefit biodiversity through the incorporation of retained habitats and by the creation of new areas of habitat; and

iv. they provide robust delivery mechanisms for, and means of ensuring the long-term management of, green infrastructure.

Development that will result in the loss of existing green infrastructure may be supported where replacement provision is made that is considered to be of equal or greater value than that which will be lost. Where new development may have an adverse impact on green infrastructure, alternative scheme designs that minimise impact must be presented to the Council for consideration before the use of mitigation measures (e.g. off-site or through financial contributions for improvements elsewhere) is considered.

5.29 In relation to Biodiversity and Geodiversity, Policy DM9 states:

Development proposals will be expected to take opportunities to restore or enhance habitats and species' populations and to demonstrate that they will not adversely affect or result in the loss of features of recognised importance, including:

i. Protected trees and hedgerows;

ii. Ancient woodlands;

iii. Sites of Special Scientific Interest (SSSI);

iv. Regionally Important Geodiversity Sites;

v. Local Wildlife Sites (Sites of Importance for Nature Conservation (SINC));

vi. Local and UK Biodiversity Action Plan Habitats (including Open Mosaic Habitats on Previously Developed Land); and

vii. Protected Species.

Development that will result in the loss of such features may be supported where replacement provision is made that is considered to be of equal or greater value than that which will be lost and which is likely to result in a net gain in biodiversity. Where new development may have an adverse impact on such features, alternative scheme designs that minimise impact must be presented to the Council for consideration before the use of mitigation measures is considered. Where sufficient mitigation measures cannot be delivered, compensation measures must be provided as a last resort.

5.30 With regards to Landscape character the policy states

New development proposals in and adjoining the countryside will be expected to be designed so as to be sensitive to their landscape setting. They will be expected to enhance the distinctive qualities of the landscape character policy zone in which they would be situated, as identified in the Bassetlaw Landscape Character Assessment. Proposals will be expected to respond to the local recommendations made in the Assessment by conserving, restoring, reinforcing or creating landscape forms and features accordingly.

5.31 Policy DM12 sets out the District Council's policies for Flood Risk, Sewerage and Drainage. Part B, Sewerage and Drainage states the following

Proposals for new development (…) will only be supported where it is demonstrated to the Council's satisfaction that the proposed development will not exacerbate existing land drainage and sewerage problems in these areas.

All new development (other than minor extensions) will be required to incorporate Sustainable Drainage Systems (SuDS) and provide details of adoption, ongoing maintenance and management. Proposals will be required to provide reasoned justification for not using SuDS techniques, where ground conditions and other key factors show them to be technically feasible.

Preference will be given to systems that contribute to the conservation and enhancement of biodiversity and green infrastructure in the District.

5.32 Policy DM13 Sustainable Transport, states:

A. General Principles

Development proposals will be expected to:

i. Minimise the need to travel by private car;

ii. Provide linkages, or develop new, footways, cycle paths and bridleways giving access, to key local facilities (especially town centres); and

iii. *Provide appropriate facilities to support access to high-quality public transport.*

Optimisation of the highway network and highway capacity improvements should only be considered once the above criteria have been addressed.

C. Parking Standards

Non-residential parking should be provided in line with the 6Cs Highway Design Guide adopted by Nottinghamshire County Council on 1 April 2009.

A reduction in parking provision will be considered where it is demonstrated that this will not impact adversely on the surrounding area (notably in relation to an increase in on-street parking) and is in the interest of sustainable development, especially in terms of encouraging the use of walking, cycling and/or public transport.

Sutton Cum Lound: Neighbourhood Plan: Final Version (2021)

5.33 The Sutton Cum Lound Neighbourhood Plan, revised in 2021, sets out the planning policies for the whole parish of Sutton which encompasses the Proposed Development site.

5.34 Policy 8 deals with improving Green Infrastructure and states:

1. *Development proposals that deliver improvements to the green infrastructure network will be encouraged. Particular support will be given to proposals to improve green infrastructure that:*
    a. *are compatible with the local recommendations made in the Bassetlaw Landscape Character Assessment and do not result in loss of or harm to features of identified ecological value; and*
    b. *are for the purpose of improving non-vehicular routes; and*
    c. *would not harm local habitats.*
2. *All development will be expected to demonstrate how it protects and, where possible, enhances existing public rights of way affected by development and shows the opportunities taken to improve linkages between the site and existing routes and, where the site is on the edge of the settlement, between the village edge and the open countryside.*
3. *Opportunities to improve green infrastructure assets as part of a development proposal will be supported.*

Other material considerations

National Planning Policy

5.35 The National Planning policy Framework ('NPPF') was adopted in March 2012 and was most recently updated in July 2021. It sets out the Government's planning policies for England and how these are to be applied.

5.36 Paragraph 110 states that in assessing applications for development, it should be ensured that

"b) safe and suitable access to the site can be achieved for all users"

5.37 Paragraph 111 states:

"Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe."

5.38 And Paragraph 112 states that within this context, applications for development should:

"d) allow for the efficient delivery of goods, and access by service and emergency vehicles;"

5.39 Chapter 12 contains the NPPF planning policy in relation to good design. Paragraph 126 explains that the creation of high quality, beautiful and sustainable buildings and places is fundamental to what the planning and development process should achieve. Good design is a key aspect of sustainable development.

5.40 Paragraph 159 of the NPPF outlines that inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future).

5.41 Paragraph 161 notes that all plans should apply a sequential, risk- based approach to the location of development- taking into account the current and future impacts of climate change- so as to avoid, where possible, flood risk to people and property. The paragraph details that the sequential test should be applied, and if necessary, the exception test. Paragraph 158 explains that the aim of the sequential test is to steer new development to areas with the lowest risk of flooding.

5.42 Chapter 15 contains policies in relation to the conservation and enhancement of the natural environment. Paragraph 174 states: Planning policies and decisions should contribute to and enhance the natural and local environment by:

"a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development

plan); b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;

c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;

d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans;…"

5.43 Paragraph 180 states that when determining planning applications local authorities should apply the following principle

"b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;"

5.44 Paragraph 183 states:

"Planning policies and decisions should ensure that: a) a site is suitable for its proposed use taking account of ground conditions and any risks arising from land instability and contamination. This includes risks arising from natural hazards or former activities such as mining, and any proposals for mitigation including land remediation (as well as potential impacts on the natural environment arising from that remediation); (…)

d) adequate site investigation information, prepared by a competent person, is available to inform these assessments."

5.45 Paragraph 194 in relation to proposals affecting heritage assets states:

"In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes, or has the potential to include, heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation."

5.46 Chapter 17 'Facilitating the sustainable use of minerals', paragraph 209 states that it is essential that there is a sufficient supply of minerals to provide the infrastructure, buildings, energy and goods that the country needs.

5.47 Paragraph 210 part b) states that ,"Planning policies should so far as practicable, take account of the contribution that substitute or secondary and recycled materials and minerals waste would make to the supply of materials, before considering extraction of primary materials, whilst aiming to source minerals supplies indigenously". Secondary aggregates being defined as "aggregates from industrial wastes such as glass (cullet), incinerator bottom ash, coal derived fly ash, railway ballast, fine ceramic waste (pitcher), and scrap tyres; and industrial and minerals by-products, notably waste from china clay, coal and slate extraction and spent foundry sand. These can also include hydraulically bound materials."

5.48 Paragraph 211 states:

"When determining planning applications, great weight should be given to the benefits of mineral extraction, including to the economy. In considering proposals for mineral extraction, minerals planning authorities should:

a) as far as is practical, provide for the maintenance of landbanks of non-energy minerals from outside National Parks, the Broads, Areas of Outstanding Natural Beauty and World Heritage Sites, scheduled monuments and conservation areas;

b) ensure that there are no unacceptable adverse impacts on the natural and historic environment, human health or aviation safety, and take into account the cumulative effect of multiple impacts from individual sites and/or from a number of sites in a locality;

c) ensure that any unavoidable noise, dust and particle emissions and any blasting vibrations are controlled, mitigated or removed at source, and establish appropriate noise limits for extraction in proximity to noise sensitive properties;

d) not grant planning permission for peat extraction from new or extended sites; e) provide for restoration and aftercare at the earliest opportunity, to be carried out to high environmental standards, through the application of appropriate conditions. Bonds or other financial guarantees to underpin planning conditions should only be sought in exceptional circumstances;"

5.49 The policies contained within the NPPF are expanded upon and supported by national Planning Practice Guidance ('NPPG'), which was first published in March 2014 and periodically updated since.

5.50 The NPPG most relevant to the proposed development includes:

- Climate Change;
- Environmental Impact Assessment;
- Flood risk and coastal change;
- Historic Environment;
- Minerals;
- Natural Environment;
- Noise;
- Open Space, sports and recreation facilities, public rights of way and local green space;
- Waste;
- Water supply, wastewater and water quality

National Planning Policy for Waste

5.51 The National Planning Policy for Waste, published in October 2014, contains the Government's detailed waste planning policies and is a material consideration in the determination of planning applications that all waste planning authorities should have regard to.

5.52 The Government's approach to waste management is underpinned by waste hierarchy which places prevention reuse and recycling and recovery, sequentially, as the most desirable outcomes waste with disposal as an undesired outcome.

5.53 While the Proposed Development does not represent waste development, the general principles regarding the waste hierarchy have applicability to the reuse of PFA. Paragraph 8 states that new non waste development should maximise opportunities for the reuse and recovery of waste during construction and operation.

Other

5.54 In June 2019 the Government raised the UK's ambition on tackling climate change by legislating for a net-zero greenhouse gas emissions target for the whole economy by 2050.

UK Net Zero Strategy

5.55 The British Government published the 'Net Zero Strategy: Build Back Greener' in October 2021 which sets out the approach for reducing emissions and supporting the transition to a low carbon economy in order to achieve the UK Government's legally binding net zero emission commitments by 2050. A key component of the strategy is to encourage the adoption of circular economy practices whereby resources utilisation and productivity is maximised. This includes schemes for end of life recycling of goods and materials, for reuse as lower carbon inputs for new products. The Net Zero Strategy identifies the Resources and Waste Strategy (2018) as a key document to support the transition to a circular economy.

Resources and waste strategy for England

5.56 The Resources and Waste Strategy 'Our Waste, Our Resources: A Strategy For England' (RWS) was published in 2018 and acts as a guide for future Government policy in relation to resource management. Its core goal is to double resource productivity and eliminate avoidable waste by 2050, in doing so it seeks to minimise the damage, waste causes to the natural environment. Chapter 3 focuses on measures to improve resource recovery from waste. Section 3.2.4 clearly sets out the Government's support for businesses operators and consumers involved in the process of converting end of life materials into commercially viable products. Chapter 6 sets out the indicators used to measure progress on the RWS, this includes reduction in raw materials consumed, carbon emissions saved, and landfill diverted.

25 Year Environment Plan

5.57 The UK Government published the 'A Green Future: Our 25 Year Plan to Improve the Environment' in 2018 which seeks to deliver measurable improvements to the UK's natural environment. The content of Section 4 – 'increasing resource efficiency and reducing waste' is drawn from the RWS showing that resource management and protecting the environment is treated holistically at a national level.

Clean Growth Strategy

5.58 The Clean Growth Strategy published in 2017 sets out the Government's proposals for achieving economic growth while simultaneously reducing emissions and pollutants that result from economic activity. Chapter 4 identifies economic sectors where clean growth can be achieved. Within this section the UK Government commits to encouraging resource efficiency, preventing waste and supporting innovation and processes for reusing and recycling waste. By providing specific case studies of good practice across the UK, the Strategy acknowledges the reduction in emissions and economic benefits provided by waste recovery in the product supply chain.

Nottinghamshire Planning and Health Framework

5.59 The Nottinghamshire Spatial Planning and Health Framework 2019-2022 ('the NHSPHF') is supported by the Joint Health and Wellbeing Strategy for Nottinghamshire 2018-2022 and supports its vision for healthy and sustainable places. It provides guidance on addressing the impact of a proposal on the health and wellbeing of the population and sets out good practice to ensure health requirements are met across Nottinghamshire. The NHSPHF sets out a Checklist for Planning and Health - the Nottinghamshire Rapid Health Impact Assessment Matrix ('The Matrix') which focuses on several factors that contribute to health and quality of life including Air Quality, Access to open space and nature, Minimising the use of resources and Climate Change. The NHSPHF recommends that the Matrix is used when considering the health impacts of planning applications.

Skidmore Review: Mission Zero Independent Review of Net Zero

5.60 The UK Government published 'Mission Zero an independent review of Net Zero' In January 2023. The report asks how the UK can deliver on its Net Zero commitments and how this presents an opportunity for UK businesses and economic growth. Part 1 provides a holistic overview of the review. Achieving Net Zero is a global issue that will affect most sectors of the UK's economy. It will usher in significant change and this presents significant opportunity for the UK. The UK Government anticipates that this investment to achieve Net Zero will primarily come from the private sector and that swift and immediate action is needed to capitalise on the existing appetite for this. The review makes clear that working towards net Zero is the right course of action and the benefits will outweigh the costs. The report is framed from an economic perspective however it is acknowledged that the economic imperative of achieving Net Zero will bring wider societal benefits.

5.61 Part 2 outlines what action is needed to effectively deliver Net Zero in the form of six 'pillars'. Pillar Three 'Net Zero and the Economy' contains actions for specific economic sectors. Section 3.6.2 'Manufacturing' states that Industrial emissions, which include manufacturing, such as concrete

production and refining, are a major source of greenhouse gas emissions, producing 17% (MtCO2e) of the UK's total greenhouse gas emissions. The Industrial Decarbonisation Strategy set out ambitions for the industry to reduce carbon emissions by at least 67% in 2035 and by at least 90% by 2050. Abatement opportunities in manufacturing are driven through greater energy and resource efficiency and/or the adoption of decarbonisation technology. Within the context of decarbonisation technology, Mission Zero places great emphasis on the small but vital role Carbon Capture removal technology will play however it is acknowledged (in this Section and Section 2.7.3) that there are concerns over how this would work in dispersed sites, illustrated by an example of five cement production sites in the Peak District, which output around 2MT of greenhouse gas emissions annually but are remote from planned Carbon Capture transport or storage infrastructure.

5.62 Section 3.6.4 focuses on the Construction Industry, another high emitting sector which contributes approximately 43% of UK emissions (from both buildings and infrastructure), through operational emissions but also embodied emissions associated the production of energy-intensive products and materials, such as concrete that are widely used within the industry, such as concrete. More sustainable product selection and improving manufacturing processes to reduce energy consumption and eliminate waste will therefore be crucial to delivering Net Zero. This section notes that the use of new, sustainable building materials presents opportunities for greater resource efficiency. Although shortages of low carbon building material were seen as a short term barrier to delivery. As part of their recommendations for this industry, the Review asks the Government to develop a public procurement plan for low-carbon construction and the use of low-carbon materials, by the end of 2023.

5.63 Section 3.6.5 focuses on the Circular Economy and advocates for a more ambitious approach to managing waste and encouraging re-use and recycling. The review notes that this could decrease emissions and provide significant economic opportunity. It states 'UK policy on this issue has been too slow and is failing to grasp these opportunities.' Paragraph 599 of the report notes the emergence of reuse and recycling of critical minerals and expects this trend to accelerate in the coming decades. It is also noted that an ambitious circular economy is likely to offer geographically dispersed employment across a range of different occupations – in particular, reuse and open loop recycling activities are likely to be the least concentrated, requiring activity at local and regional levels. This Section notes that there are strategic advantages to the UK having the capability to reuse and recycle materials where supply is limited such as providing resilience against global markets and competition.

Resilience for the Future: The United Kingdom's Critical Mineral Strategy

5.64 The Critical Minerals Strategy recognises the importance that minerals have to the UK Economy and how the consumption of minerals could change because of international climate change ambitions and associated energy transition strategies. The strategy seeks to ensure the long term stability of supply for critical and other important minerals including a transition towards a more circular economy through increasing mineral recovery, recycling and innovation which would help to alleviate pressure on primary supplies (i.e. from mining) and strengthen domestic supply.

Industrial Decarbonisation Strategy

5.65 The Industrial Decarbonisation Strategy published in 2021 sets out how the UK Government will support the industrial sector to reduce its emissions by 66% in 2035 and by at least 90% by 2050.

5.66 Part 2 of the Strategy examines how industrial processes will be transformed to achieve the Strategy's goal. A fundamental aspect of this is improving resource efficiency through reuse, recycling and substitution. Action 5.5 within this section intends to support increased resource efficiency and material substitution within industry, by driving the transition towards a circular economy model and increasing reuse, repair and remanufacturing. This section notes that resource efficiency and material substitution measures could save 9 MtCO2e per annum in industry within the UK by 2050 including a reduction in emissions of 3MtCO2e relating to UK consumption. One measure with the most potential to reduce emission is using more construction materials with low embodied carbon.

5.67 Furthermore, the Strategy advocates industrial symbiosis whereby secondary materials from a given industrial process (which PFA is an example of) are used as inputs in a different industrial process (for example, PFA in concrete manufacture).

Emerging Policy

Bassetlaw Local Plan 2020-2037: Publication Version: August 2021

5.68 Bassetlaw District Council submitted the Bassetlaw Local Plan 2020-2037: Publication Version, Publication Version Addendum and Publication Version Second Addendum to the Secretary of State on 18 July 2022 for independent examination. The draft Plan is undergoing its Examination in Public by a panel of Inspectors appointed by the Secretary of State. In accordance with paragraph 48 of the National Planning Policy Framework (NPPF) the policies in this plan may be afforded weight in decision making.

5.69 Policy ST35 sets out the high quality design principles for all developments. This includes:

c) *where appropriate, positively preserves, enhances and integrates landscape and townscape features, and natural and heritage assets;*

d) *respects the local context and complements the landform, layout, building orientation, scale, height, massing, type, materials, details and landscaping of the surrounding areas;*

j) *incorporates and/or links to a well-defined green/blue infrastructure network of well-managed and maintained public and open spaces;*

m) *incorporates high quality landscape design and maximises opportunities for greening, particularly where a development site adjoins the countryside;*

n) *is sustainable in design and construction, and utilises modern construction methods and durable materials, where practicable;*

o) *minimises energy consumption by maximising opportunities for passive solar energy and integrating renewable and low carbon technologies where practicable in accordance with Policy ST50;*

p) *mitigates flood risk and water run-off utilising the drainage hierarchy in accordance with Policy ST52, and integrates water management appropriate to place;*

q) *ensures an appropriate level of well-integrated, convenient and visually attractive areas for motor vehicle and cycle parking that accords with the most up-to-date Nottinghamshire Parking Standards5; and provides for external storage including waste disposal;*

5.70 Policy ST37 Landscape Character states that:

2. *Proposals in an edge of settlement location will be expected to create a positive interface between the urban and rural environments. This should be demonstrated through compliance with Part 1 of this Policy, and by giving appropriate consideration to layout, density, scale, massing and form of development in accordance with Policy ST35.*

5.71 Policy ST39 Green and Blue Infrastructure states:

1. *The connectivity, quality, multifunctionality, biodiversity and amenity value of the green and blue infrastructure network will be enhanced, extended and managed through:*

    a. *protecting and enhancing the landscape character and the distinctiveness of Green Gaps, Registered Parks and Gardens and ornamental parklands, registered Common Lands and Village Greens, and Local Green Spaces;*

b. *protecting, enhancing and restoring watercourses, ponds, lakes and water dependent habitats where appropriate;*

c. *providing for biodiversity net gain, including reconnecting vulnerable and priority habitats (see policy ST41);*

d. *protecting and enhancing ancient and mature woodland and hedgerows, and providing for tree planting to secure recreational benefits and/or to aid carbon offsetting;*

e. *making appropriate provision for new green/blue infrastructure in new development including open space, allotments, playing fields and outdoor sports facilities, and natural and semi natural greenspace and bluespace; and/or incorporating and where practicable facilitating the improvement of existing provision through the design of development;*

f. *applying climate change mitigation and adaptation measures through new development, including flood risk and watercourse management;*

g. *linking walking and cycling routes, bridleways and public rights of way to and through development, where appropriate;*

2. *The function, setting, and biodiversity, landscape, access and recreational value of the following main and minor green corridors, as identified on the Policies Map will be protected and enhanced:*

    a. *Main green corridors*

        i. *River Idle*

    c. *All proposals wholly or partly within the minimum buffer zone of a main green corridor (30m width), or a minor green corridor (15m width) should be supported by an Ecological Impact Assessment and landscape statement. This should confirm the extent of the buffer zone in that location and demonstrate how the design and layout of the scheme will positively respond to its green/blue infrastructure location.*

3. *All new green and blue infrastructure should be accompanied by appropriate management and maintenance arrangements.*

5.72 Policy ST40 in relation to Biodiversity and Geodiversity states:

1. *The Council will seek to protect and enhance the biodiversity and geodiversity of Bassetlaw, including:*

   National Designations

   a. *a proposal (either individually or in combination with other developments) that may either directly or indirectly adversely impact a Site of Special Scientific Interest (SSSI), National Nature Reserve (NNR) or ancient woodland and their buffer zones will be refused, other than in wholly exceptional circumstances where it can be demonstrated that the benefits of the development in the location proposed clearly outweigh any harm to the special interest features of the asset. In such circumstances measures should be identified through an Ecological Impact Assessment to mitigate the adverse effects resulting from the development.*

   Local Designations and Locally Important Ecological Features

   b. *proposals having a direct or indirect adverse effect on a Local Nature Reserve, Local Wildlife Site or Local Geological Site and their buffer zones or other biodiversity/geodiversity asset, will only be supported where there are no reasonable alternatives; and the case for development clearly outweighs the need to safeguard the ecological, recreational and/or educational value of the site.*

2. *In all cases, where the principle of development is considered appropriate the mitigation hierarchy must be applied so that:*

   a. *firstly harm is avoided wherever possible; then*

   b. *appropriate mitigation is provided to ensure no net loss or a net gain of priority habitat and local populations of priority species;*

   c. *as a last resort, compensation is delivered to offset any residual damage to biodiversity;*

   d. *they protect, restore, enhance and provide appropriate buffers around wildlife and geological features at a local and wider landscape-scale to deliver robust ecological networks, to help deliver priorities in the draft Nottinghamshire Biodiversity Opportunity Model for Bassetlaw and Idle Valley 201814;*

   e. *they establish additional ecological links to the Nature Recovery Network.*

   Biodiversity Net Gain

3. *All new development should make provision for at least 10% net biodiversity gain on site, or where it can be demonstrated that for design reasons this is not practicable, off site through an equivalent financial contribution.*

4. *A commuted sum equivalent to 30 years maintenance will be sought to manage the biodiversity assets in the long term.*

5.73 Policy 41 in relation to Trees, woodlands and hedgerows states:

1. *The Council will protect existing trees, woodland and hedgerows and secure additional planting that increases canopy cover in the interests of biodiversity, amenity and climate change adaptation by:*

    a. *retaining, protecting and improving woodland and trees subject to Tree Preservation Orders (TPOs), trees within conservation areas, and 'important' hedgerows as defined by the Hedgerows Regulations 1997;*

    b. *making Tree Preservation Orders;*

    c. *giving consideration to trees and hedgerows both on individual merit as well as their contribution to amenity and interaction as part of a group within the broader landscape setting;*

    d. *resisting the loss or deterioration of ancient woodland and ancient or veteran trees unless there are wholly exceptional reasons and a suitable compensation strategy exists;*

    e. *seeking contributions to the national tree planting target to contribute to net zero emissions in accordance with Policy ST50.*

2. *Where development would adversely affect trees or hedgerows the application must be accompanied by:*

    a. *an accurate tree survey and arboriculture assessment, undertaken by an experienced arboriculturist, of all existing trees and hedgerows on site in accordance with BS5837 (Trees in relation to design, demolition and construction – Recommendations) 201217;*

    b. *details of protective measures to be put in place during the development to ensure the health and safety of each specimen and hedgerow to be retained;*

c. *an avoidance and mitigation strategy to include replacement planting for specimens of at least equal amenity and ecological value of a local provenance; and*

d. *a detailed management plan providing details of maintenance arrangements for 10 years.*

5.74 Policy ST42 Historic Environment states:

1. *The historic environment will be conserved and enhanced, sensitively managed, enjoyed and celebrated for its contribution to sustainable communities. Proposals will be supported where they:*

    a. *give great weight to the conservation and re-use of heritage assets (designated and non-designated) and their settings, including for appropriate temporary use, based on their significance in accordance with national policy1;*

    b. *make a positive contribution to the character and local distinctiveness of the historic environment, including through the use of innovative design;*

    c. *positively conserve or enhance a historic designed landscape;*

    d. *maintain, conserve, sustain or return to beneficial use designated or non designated assets;*

    e. *capitalise in an appropriate and sensitive manner the regeneration, tourism and energy efficiency potential of heritage assets; positively secure the conservation and re-use of 'at risk' heritage assets;*

    f. *improve access and enjoyment of the historic environment where appropriate, particularly where they retain, create or facilitate public access to heritage assets to increase understanding of their significance.*

2. *Applicants will be required to submit evidence in line with best practice and relevant national guidance, examining the significance of any heritage assets affected through a Heritage Statement, including any contribution made by their setting. The level of detail should be proportionate to the asset's significance, and the results submitted to the Nottinghamshire Historic Environment Record. In some circumstances, further survey, analysis and/or recording will be made a condition of consent.*

5.75 Policy 48 in relation to protecting amenity states:

1. *Proposals for development should be designed and constructed to avoid and minimise impacts on the amenity of existing and future users, individually and cumulatively, within the development and close to it. As such, proposals will be expected to:*
    a. *not have a significant adverse effect on the living conditions of existing and new residents and future occupiers of the proposed development through loss of privacy, excessive overshadowing or overbearing impact; and*
    b. *not generate a level of activity, noise, light, air quality, odour, vibration or other pollution which cannot be mitigated to an appropriate standard.*
2. *Proposals for development adjacent to, or in the locality of, existing 'bad neighbour' uses such as waste sites, incinerators, chemical production, heavy industry and businesses with out of normal hour (9-5) operations, will need to demonstrate that:*
    a. *the ongoing use of the neighbouring site is not compromised; and*
    b. *the amenity of future occupiers of the new development can be achieved in accordance with Part 1 of this policy with the ongoing normal use of the neighbouring site;*
3. *Where the development of a new bad neighbour business or change of use could have a significant adverse effect on residential amenity, appropriate mitigation will be required before the development can be occupied.*

Policy ST50 Reducing Carbon Emissions, Climate Change Mitigation and Adaptation states:

1. *All proposals, including the change of use of existing buildings and spaces, should seek to reduce carbon and energy impacts in their design and construction in accordance with Policy ST35. Proposals should incorporate measures that address issues of climate change mitigation through:*
    a. *ensuring no adverse impact on local air quality;*
    b. *directing development towards locations that minimise the need to travel and maximise the ability to make trips by sustainable modes of transport;*
    c. *incorporating passive and energy efficient materials and/or technologies where appropriate;*

d. *requiring compliance with relevant national building standards such as meeting BREEAM very good-excellent standards;*

e. *promoting the retrofitting of existing buildings, including incorporating measures to reduce energy consumption;*

f. *providing for electric vehicle charging capability and charging infrastructure in new development, and/or providing infrastructure that supports car-free living, particularly in town centres;*

g. *ensuring that major development makes an appropriate financial contribution to the Bassetlaw carbon offsetting fund;*

h. *making best use of available opportunities to reduce the impact of climate change on biodiversity and the natural environment by providing space for habitats and species to move through the landscape and for the operation of natural processes;*

i. *minimising the use of natural resources over the development's lifetime, such as minerals and consumable products, by reuse or recycling of materials in construction, and by making the best use of existing buildings and infrastructure;*

2. *All new development should be designed to improve resilience to the anticipated effects of climate change. Proposals should incorporate measures that address issues of adaptation to climate change through:*

a. *designing layouts so that the orientation of buildings and spaces take the opportunity to maximise solar gain;*

b. *using appropriate materials that enable buildings to ventilate efficiently by day and night;*

c. *adapting surface materials and drainage design to reduce the risk of flooding to land, property and people as a result of more extreme rainfall in accordance with Policy ST52;*

d. *promoting water efficiency by residential development meeting the tighter Building Regulations optional requirement of 110 litres per person/per day;*

e. *using integrated water management systems to manage runoff and provide a non-potable water supply;*

f. *providing green/blue infrastructure, and where possible, retaining existing trees and woodlands to reduce the 'urban heating effect' during warmer summers; and*

g. *using urban greening methods within the design of new buildings.*

5.76 Policy ST52 Flood Risk and Drainage states:

1. *All proposals are required to consider and, where necessary, mitigate the impacts of the proposed development on flood risk, on-site and off-site, commensurate with the scale and impact of the development. Proposals, including change of use applications, must be accompanied by a Flood Risk Assessment (where appropriate), which demonstrates that the development, including the access and egress, will be safe for its lifetime, without increasing or exacerbating flood risk elsewhere and where possible will reduce flood risk overall.*

2. *Where relevant, proposals must demonstrate that they pass the Sequential Test and if necessary the Exceptions Test in Flood Zones 2 and 3 and ensure that where land is required to manage flood risk, it is safeguarded from development.*

Surface Water Flood Risk

3. *All development (where appropriate) should incorporate sustainable drainage systems (SuDS) in line with national standards. These should:*

    a. *be informed by the Lead Local Flood Authority, sewerage company and relevant drainage board;*

    b. *have appropriate minimum operational standards;*

    c. *be managed in line with the Government's water strategy20;*

    d. *have maintenance arrangements in place to ensure an acceptable standard of operation and management for the development's lifetime;*

    e. *prevent surface water discharge into the sewerage system;*

    f. *maximise environmental gain through: enhancing the green/blue infrastructure network, including urban greening measures, contributing to biodiversity net gain where possible, and, securing amenity benefits along with flood storage volumes;*

    g. *seek to reduce runoff rates in areas at risk from surface water flooding, and that any surface water is directed to sustainable outfalls.*

Policy ST53 Protecting Water Quality and Management

1. *In line with the objectives of the Water Framework Directive17, the quantity and quality of surface and groundwater bodies will be protected and where possible enhanced in accordance with the Humber River Basin Management Plan21. Development adjacent to, over or in, a main river or ordinary watercourse will be supported where proposals consider opportunities to improve the river environment and water quality by:*
    a. *actively contributing to enhancing the status of the waterbody through positive actions or ongoing projects;*
    b. *naturalising watercourse channels;*
    c. *improving the biodiversity and ecological connectivity of watercourses;*
    d. *safeguarding and enlarging river buffers with appropriate habitat in accordance with Policy ST39; and*
    e. *mitigating diffuse agricultural and urban pollution.*
2. *Proposals within a Source Protection Zone will need to demonstrate that any risk to the Sherwood Sandstone Principle Aquifer and its groundwater resources and groundwater quality will be protected throughout the construction and operational phase of development.*
3. *All proposals must ensure that appropriate infrastructure for water supply, sewerage and sewage treatment, is available or can be made available at the right time to meet the needs of the development. Proposals should:*
    a. *utilise the following drainage hierarchy:*
        i. *connection to a public sewer; then*
        ii. *package sewage treatment plant (which can be offered to the Sewerage Undertaker for adoption); then*
        iii. *septic tank, which will only be considered if it can be clearly demonstrated by the applicant that discharging into a public sewer is not feasible.*
    b. *ensure that development that discharges water into a watercourse incorporates appropriate water pollution control measures;*

c. *ensure that drainage design take into account an appropriate climate change allowance as agreed with the relevant authority(s);*

d. *ensure that infiltration based SuDS incorporate appropriate water pollution control measures;*

e. *consider use of water recycling, rainwater and storm water harvesting, wherever feasible, to reduce demand on mains water supply.*

5.77 Policy ST54 Transport Infrastructure states:

2. *Proposals for new development which have significant transport implications that either arise from the development proposed or cumulatively with other development proposals will need to submit a Transport Assessment or a Transport Statement, and where relevant a Travel Plan alongside an application. These documents will need to take into account Nottinghamshire County Council guidance and national Planning Practice, and where appropriate, the scope should be agreed with National Highways.*

3. *Appropriate provision for works and/or contributions may be required towards providing 1a-i of this policy to provide an adequate level of accessibility by all modes of transport and to mitigate the impacts of development upon the transport network. Consideration should be given to the cumulative impact of relevant development both in Bassetlaw and within neighbouring authorities, and how this links to planned infrastructure improvements. This should take into account the most recent Infrastructure Delivery Plan and Local Plan Transport Assessments, which, where relevant, will inform the scoping of the Transport Assessment and Travel Plan.*

4. *Where relevant, evidence obtained from a site-specific Transport Assessment or Transport Statement will inform the number and phasing of homes to be permitted on proposed development sites and will be established (and potentially conditioned) through the planning application process, in consultation with the highway authority.*

5.78 Policy ST58 Provision and Delivery of Infrastructure sates:

1. *The Council will work with neighbouring Local Authorities and infrastructure partners to ensure that the spatial strategy is supported by the timely, and where appropriate phased, provision of necessary physical, social and green/blue infrastructure and where appropriate its maintenance.*

2. *Proposals that form all or part of a site allocation must be accompanied by a masterplan for the site proportionate to the scale and nature of the allocation. The masterplan will be expected to:*

    a. *set out how development will contribute to the delivery of the objectives of the Local Plan and the site allocation;*

    b. *where relevant, demonstrate that the proposal will not prejudice the future development of other parts of the site and adjoining land, or otherwise compromise the delivery of the site allocation and outcomes sought for the area;*

    c. *contain a delivery strategy, and where relevant, a phasing plan, that identifies how the development will be implemented and managed over its lifetime, and should address any relevant matters to be resolved; such as, land assembly and preparation, infrastructure requirements and likely need for developer contributions, where appropriate.*

    d. *identify where relevant the number/floorspace and phasing of homes and/or employment development to be permitted and the infrastructure delivery linked with the level and type of development proposed. Proposals should ensure that:*

        i. *infrastructure needs and delivery timescales have the support of the relevant infrastructure partner(s), informed by relevant assessments and other relevant policies in this Plan;*

        ii. *the infrastructure required to support each phase should address the specific site constraints, potential impacts of each phase and harness the site opportunities, evidenced by the site's delivery strategy to deliver the relevant infrastructure set out in the most up to date Infrastructure Delivery Plan.*

3. *Developers must consider the infrastructure requirements needed to support and serve the proposed development. For residential development of 10 dwellings or more, or a site of 0.5ha or more, and/or non residential schemes of 1000sqm or more, where additional infrastructure capacity is deemed to be necessary, mitigation must be agreed with the relevant infrastructure partner(s). Such measures may include, though not exclusively:*

    a. *on site provision of new infrastructure (which may include building works and/or the provision of land);*

b. *off-site capacity and/or safety improvement works of infrastructure;*

c. *financial contributions towards new or expanded infrastructure;*

4. *Infrastructure will be sought by means of planning conditions attached to a planning permission, and/or developer contributions and/or through the Bassetlaw Community Infrastructure Levy charge or other mechanisms.*

5. *Where necessary, developers may be required to make a proportionate contribution on a retrospective basis towards such infrastructure as may have been forward-funded from other sources where the provision of that infrastructure is necessary to facilitate and/or mitigate the impacts of their development (including the cumulative impacts of planned development).*

6. *Where on-going maintenance and management of infrastructure is required, a management plan will be required to ensure the quality of the provision remains in the long term. This will be agreed through a S106 agreement or any other suitable mechanism;*

7. *In exceptional circumstances, where the developer contends the developer contributions sought, including that for affordable housing, would make a proposal unviable the Council will require an open book viability assessment in support of the proposal.*

8. *The Council will consider use of a review mechanism in a S106 agreement to secure developer contributions in the following circumstances:*

a. *for an approved scheme with a non-policy compliant offer;*

b. *for phased, larger scale developments;*

c. *c) for developments that have abnormal costs.*

6.0 ASSESSMENT OF THE PROPOSED DEVELOPMENT

Introduction

6.1 This section provides an assessment of the Proposed Development, in order to consider its compliance with planning policy and other material considerations. The key assessment topics are as follows:

- Principle of Development;
- Climate Change;
- Local Amenity and Recreation;
- SSSI and Ecological Protection;
- Transport;
- Water Environment and Flooding;
- Ground Conditions;
- Soils and Soil handling;
- Historic Environment;
- Design;
- Landscape and Visual; and
- Restoration

Principle of Development

6.2 Planning Policy at all levels is, in principle, supportive of the use of PFA. The NPPF defines coal derived fly ash as a mineral resource of local and national importance as well as a secondary aggregate. NPPF paragraph 210 requires planning policies to take account of the contribution that secondary and recycled materials and minerals waste would make to the supply of materials. NPPF Paragraph 210 is translated into the NMLP as Strategic Objective SO1 which seeks to improve the efficient use of primary mineral resources, in part through increasing the use of alternatives from secondary aggregate sources, such as PFA. The NMLP recognises minerals are a finite resource and can only be worked where they are found. It is therefore essential that the best use is made of available resources in Nottinghamshire in order to secure their long term conservation. Policy SP1 therefore states that suitable land for mineral extraction will be identified to maintain a steady and

adequate supply of minerals during the plan period, allow for development on non-allocated sites where a need can be demonstrated; and ensure the provision of minerals in the plan remains in-line with wider economic trends through regular monitoring. Policy MP5 supports development proposals which will increase the supply of secondary aggregates where it can be demonstrated that there are no significant environmental, transport or other unacceptable impacts.

6.3 The general support given to the use of PFA is because it is viewed as a more sustainable alternative to primary aggregates. PFA has widely accepted uses in the construction industry, including as an alternative to primary aggregates materials, such as sand and limestone. Using PFA as an aggregate reduces the need for virgin/raw materials, such as limestone, sand and clay, to be extracted or allows existing sand and limestone supplies to be used more prudently in accordance with NPPF paragraph 209 and NMLP Objective SO1. In the case of the Proposed Development, it is intended that the PFA would be used as a direct replacement for Portland Cement in concrete manufacture. Extraction and production of Portland Cement results in greenhouse gas ('GHG') emissions as a by-product of the chemical conversion process (including kilning) and also associated with burning fossil fuels to meet the immense heat requirement to break down limestone.

6.4 As previously stated, PFA can act as a direct replacement for traditional Portland Cement. The material can save up to around one tonne of carbon for every tonne used, because it has already been through a thermal process in the power station furnace when it was produced and therefore does not require kilning, unlike Portland Cement. This allows PFA to save a considerable amount of carbon. PFA has historically replaced Portland Cement at up to around 40% in concrete mixes; however, there are new products entering the market with a higher proportion of PFA and others that remove the need for Portland Cement altogether.

6.5 The aforementioned policies establish that there is support for the general use of PFA. It is also necessary to consider the principle of PFA extraction at the Site. The Proposed Development would extract PFA, an industrial by-product, for use as an input into future industrial process and the construction industry. The Proposed Development is therefore emblematic of a move towards a more circular economy. The specific benefits of the Proposed Development are the following:

- A large deposit of PFA (circa 6.5 million tonnes) is available for extraction from the lagoons within the Site. This would represent up to 13% of the national resource of PFA when considering the figures set out in the BEIS Research Paper No. 19. The Proposed Development could therefore make a significant contribution towards the supply of PFA in accordance with NPPF paragraph 209 and Policies SP1and MP5 of the NMLP. Modelling within the BEIS report

forecasts that there would be a supply shortage of PFA from 2023, which has been realised and is compounded by the Government's announcement to close unabated coal fired power stations. The Proposed Development would provide a much need needed domestic supply of PFA demonstrating further compliance with NPPF paragraph 209 and Policies SP1and MP5.

- PFA sourced from the Site is proposed to be used in predominantly cementitious applications as a replacement for Portland Cement (a minimum of 95% of PFA on site, but up to 100%); although, it can also be used in non-cementitious applications (block manufacture and grouting for ground stabilisation). Both applications confer significant carbon savings and sustainability benefits. The Proposed Development would have potential to save up to circa 5 million tonnes of carbon over its lifetime compared to an equivalent amount of conventional Portland Cement. For comparison, the Proposed Development has potential to release substantially fewer GHGs over its entire lifetime than the production of an equal annual quantum of Portland Cement would in only a single year.
- The Proposed Development would make a positive contribution towards industrial decarbonisation targets. The recent Skidmore Review and Industrial Decarbonisation Strategy specifically identify the construction and in particular concrete industry as a significant contributor towards UK GHG emissions for which few solutions exist beyond low resource optimisation and greater use of low carbon building materials. The recent Skidmore Review identifies the shortage of low carbon building materials as a barrier to realising decarbonisation, which the Proposed Development and others like it would help to address.
- The Proposed Development would deliver economic benefits resulting from 20 direct jobs created and 15-16 indirect employment roles. There could also be hospitality businesses in the wider area are likely during the construction and operational phases of the Proposed Development, as construction workers/employees are likely to spend a proportion of their salaries in local shops, hospitality venues (including public houses) and on local accommodation if required.
- Lastly, the Proposed Development would benefit from existing highway access at the former Bellmoor Quarry.

6.6 With regards to the principle of development in this location, the Proposed Development is situated outside of a defined settlement boundary and therefore within the open countryside. Bassetlaw CS and DPD Policy DM1 states that proposals for standalone economic development in rural areas will be supported where it can be demonstrated that

i. any necessary built facilities will be provided by the re-use of existing buildings or, where the re-use of existing buildings is not feasible, new buildings are located and designed to minimise their impact upon the character and appearance of the countryside;

ii. the development requires the specific location proposed and there are no other suitable sites in, or close to, settlements covered by policies CS2-CS8 or on brownfield land;

iii. they are viable as a long-term business.

6.7 Policy DM3 and DM16 of the NMLP also contain policies relevant to development in the open countryside.

6.8 With regards to Policy DM1 part I and DM16, the Main Processing Site is proposed within Area C, the existing Bellmoor Industrial Estate. This previously developed land would accommodate almost all proposed fixed structures, including site office and storage building etc. This location is currently in industrial use and benefits from an existing fit for purpose highway access. The location was considered more suitable than Lound Low Road and, given its proximity, is linked to the Site and compliant with Policy DM16 of the NMLP. The extraction area (Area A) includes some new structures in the open countryside, namely the Processing Areas, soil/overburden stores and conveyors. These structures would move around the Site over the lifetime of the Proposed Development and would not have a lasting impact on the countryside. The proposals are therefore compliant with Policy DM1 part i.

6.9 With regards to Policy DM 1 part 2 and Policy DM16, the Proposed Development can only occur where PFA lagoons are located and therefore this specific location is required. With regards to part 3 of this policy, Section 2 of this report identifies that there could be a significant supply shortage in the UK which is unlikely to change unless new supplies of PFA are accessible/identified. The Proposed Development would support a more circular economy and decarbonise the construction industry. The recent Skidmore Review underlines the economic imperative of achieving Net Zero and it is likely that this will become more important to achieve this by 2050. Moreover, the Proposed Development would be operational for around 22-25 years. Given these factors the Proposed Development can demonstrate that it would be a long term viable business.

6.10 The predominant existing land use is agricultural. As set out under 'Soils and Soil Handling' and 'Restoration' below, existing agricultural land quality is generally poor and only suitable for grazing. The Applicant is committed to reinstating broadly the same quantum of agricultural use as existing, whist being biodiversity led, and with improved soils and habitats. The progressive restoration also means that this reinstatement would take place in a timely fashion. The restoration proposals in ES

Figure 7.12 'Indicative Landscape Restoration Masterplan' have been devised collaboratively with the farming enterprises currently operating at the Site. Accordingly it is considered that agricultural interests are appropriately considered, and permanent benefits in relation to soils and grazing would result from the restoration proposals.

6.11 Planning policy makes clear that as with most forms of mineral extraction support for the use of PFA is contingent on appropriate consideration of the scheme's impacts on the environment, transport network and local amenity. The Proposed Development is supported by an ES which demonstrates that the majority of environmental effects are not significant once the biodiversity led restoration is complete. The remaining sections of this document examine individual environmental disciplines and demonstrates that the environmental impacts of the Proposed Development are acceptable with reference to the relevant planning policy.

6.12 On the basis of the above it is considered that the principle of the Proposed Development at the Site is supported by the relevant planning policy.

Climate Change

6.13 The NPPF has an overarching environmental object to adapt to mitigate and adapt to climate change, including moving to a low carbon economy. Paragraph 154 states that new development should be planned in ways that can help to reduce greenhouse gas emissions, such as through its location, orientation and design. Strategic Objective 3 of the NMLP seeks to minimise and mitigate the impact of mineral developments on climate change and support the transition towards a low carbon economy by encouraging efficient ways of working and this is reflected in Policy SP3 of the NMLP.

6.14 The Proposed Development is fundamentally designed to reduce industrial GHG emissions to address the causes of climate change. The key drivers of PFA use are environmental. The Proposed Development seeks to extract PFA for intended use as a direct replacement for Portland Cement in concrete production. Extraction and production of Portland Cement results in GHG emissions as a by-product of the chemical conversion process whereby calcium carbonate (CaCO3) is converted to lime (CaO). Emissions are also associated with fossil fuel consumption required to generate heat from the processing as well as from vehicles and machinery used to extract, process, and transport the limestone. Using PFA means that the component minerals of Portland Cement do not need to be extracted or processed. The Applicant acknowledges that PFA extraction and production, as envisaged by the Proposed Development, still produces some GHG emissions; however, these are substantially less than traditional Portland Cement. Consequently, the embodied carbon within

concrete containing PFA is much less than concrete made purely with Portland Cement. It is on the basis of supplying a lower carbon alternative to Portland Cement that the Proposed Development has been designed to minimise the impacts of climate change and move towards a low carbon economy in accordance with the Strategic Objectives of the NMLP and overarching aims of the NPPF.

6.15 Chapter 15 of the ES, 'Climate Change' (Volume 1) evaluates the effects of the Proposed Development on Climate Change. The Chapter contains an assessment of whole life Carbon Dioxide emissions from the Proposed Development during the construction and operation phase. Operational emissions amount to 95.6% of lifetime emissions whereas the construction phase accounts for 4.4%. During the construction phase total carbon emissions are estimated to be 7,992 tonnes associated with construction of the processing areas and emissions from transportation of materials to the Site. During the operational phase, total carbon emissions are estimated to be 172,241 tonnes equivalent to 8,651 tonnes per year. The highest emitting operation activities were assessed as being the transportation of materials which includes the export of PFA, natural gas consumption associated with the use of gas-fired CHP plant used to provide heat to the on-site PFA drying process and GHG emissions from non road mobile machinery such as excavators, tipper vehicles and loaders. The total lifetime GHG emissions are calculated as 180,233 tonnes CO2e for the Proposed Development. The assessment notes that the Proposed Development's gross emissions are a small component of local (0.19 %) and national carbon budgets (0.002% operational and 0.002% construction).

6.16 It should be noted that the Proposed Development incorporates design measures such as low energy drying plant. This innovative technology would offer a natural gas saving of around 75-80% compared to conventional high temperature drying systems. This equates to a further saving of around 8,000 tonnes per annum of carbon towards the Proposed Development's lifetime GHG emissions and overall climate change contribution in accordance with NPPF paragraph 154 and part 1 of Policy SP3 of the NMLP.

6.17 The GHG assessment also includes a comparative assessment of the lifetime GHG emissions for the extraction and production of an equivalent volume of Portland Cement. The assessment estimates that the Proposed Development would have potential to save up to circa 5 million tonnes of carbon over its lifetime compared to use of conventional Portland Cement. The assessment shows that the Proposed Development has potential to release substantially fewer GHGs over its entire lifetime than the production of an equal annual quantum of Portland Cement would in only a single year.

The assessment substantiates the Proposed Development's objectives and concludes that it is predicted to result in a significant beneficial reduction in GHG emissions over its lifetime and is therefore compliant with the relevant NPPF and NMLP policies.

6.18 ES Chapter 15 also includes an assessment of the resilience of the Proposed Development to climate change. The assessment considers the risk that climate hazards including fluvial, surface water flooding and extreme weather events. The assessment concludes that the Proposed Development is resilient to likely climatic changes within its lifetime and the effects are not significant. It is therefore considered that the Proposed Development is resilient to the impacts of climate change and compliant with Policy SP3 of the NMLP.

Local Amenity and Recreation

6.19 Policy DM1 of the DMLP relating to Protecting Local Amenity states that proposals for minerals development will be supported where it can be demonstrated that any adverse impacts on amenity are avoided or adequately mitigated to an acceptable level. Impacts to be considered include visual, noise, dust, mud, air emissions, and transport.

6.20 NMLP Policy DM7 regarding Public Access states *that 'proposals for minerals development will be supported where it can be demonstrated this will not have an unacceptable impact on the existing rights of way network and its users'* and *that 'where this is not practicable, satisfactory proposals for temporary or permanent diversions, which are of at least an equivalent interest or quality, must be provided'*. It further states that *'improvements and enhancements to the rights of way network will be sought and, where possible, public access to restored minerals workings will be increased'*.

6.21 The Sutton Cum Lound Neighbourhood Plan, revised in 2021, at Policy 8 'Green Infrastructure' states that *'all development will be expected to demonstrate how it protects and, where possible, enhances existing public rights of way affected by development and shows the opportunities taken to improve linkages between the site and existing routes and, where the site is on the edge of the settlement, between the village edge and the open countryside'*.

6.22 In relation to visual effects and lighting, key measures include the retention of embankments during extractive activities, advance planting, and a progressive restoration strategy, providing effective mitigation at all stages. The LVIA reported on in Chapter 7 of the ES recognises that there will be temporary adverse effects, including some of significance, on receptors at Lound Low Road and other receptors along the northern boundary. Specified working hours and low impact lighting

using directional lighting, retention of vegetation where possible, and retention of embankments provide deliverable and reasonable mitigation to these receptors.

6.23 The restoration strategy has been assessed in the LVIA as having a beneficial effect on the landscape character of the Idle Lowlands. Moreover, the restoration has been designed in full regard to consultation comments from the NWT, to complement the adjacent SSSI and therefore have regard for the wider context of the Site. The restoration proposal therefore safeguards local amenity and complies with NMLP Policy DM1 and Policy 8 of the Sutton Cum Lound neighbourhood plan.

6.24 In relation to noise, a range of measures have been applied as part of good minerals design to locate noisier activities away from the majority of receptors, utilise covered conveyors, and a fully enclosed processing building providing attenuation at source.

6.25 Limited residual significant noise effects are predicted on the closest noise sensitive receptors. These significant effects would be short-term and/or temporary in nature and would be reduced through the implementation of the mitigation measures as set out in ES Chapter 12. During construction, there would be a temporary significant effect on part of the Sutton and Lound Gravel Pits SSSI (ecological receptor). Following mitigation measures through the implementation of the CEMP the residual effect would be reduced to Moderate. During operation, there would be a significant effect for a short duration upon receptors along the northern boundary as a result of embankment removal during restoration, which would be short-term temporary (likely a few weeks in duration). Mitigation options are limited; however, a number of additional measures would be applied which reduces impacts to moderate adverse.

6.26 In view of the substantial land area and PFA resource comprised in the Proposed Development, the range of deliverable and reasonable mitigations applied, and the limited number of receptors that would experience residual significant impacts, it is considered that the Proposed Development complies with NMLP Policy DM1 in respect of noise.

6.27 In relation to transport, a capacity assessment for the proposed site access (A638 Road / Bellmoor Industrial Estate Access) has been undertaken at the request of NCC officers. The assessment found that junction would continue to operate safely when the Proposed Development is operational. ES Chapter 14 also assessed impacts on driver delay, severance, pedestrian delay, and highway safety concluding that they would be would be negligible.

6.28 These findings, and more generally the moderate levels of operational traffic arising, and the adequate provision of parking and circulation within the Main Processing Site (Area C) for both operational and staff vehicles, demonstrate that the Proposed Development complies with the

relevant planning policy and would not cause amenity impacts in the local area, including to users of the adjacent NWT visitor centre which shares the purpose-built access to the A638.

6.29 In relation to mud, the Construction Traffic Management Plan, to be secured via condition, would secure measures including:

- Sheeting of HGVs to avoid dirt on the roads;
- Wheel wash on the Main Processing Site and mobile jetwash. This would ensure debris from the Main Processing Site is not deposited on the haulage road by traffic;
- Visual inspection of all HGVs before they leave the Site to ensure the exterior of the vehicle is in a clean condition prior to leaving the Site with jet wash facility available; and
- Contact name and number of site manager for members of the public to contact should there be any issues relating to operational traffic.

6.30 In relation to air quality and dust, no significant effects are predicted on the local air quality as a result of the construction and operation of the Proposed Development with the implementation of the mitigation measures set out in ES Chapter 13 (Volume 1).

6.31 The air pollutant concentration modelling has identified that there would be negligible increases in nitrogen dioxide and particulate matter concentrations at ecological and existing sensitive receptors as a result of traffic from the Site. However, there are no sensitive receptor locations where the Air Quality Objectives would be exceeded during construction and extraction.

6.32 Dust control measures have been embedded into the design of the Proposed Development and include measures such as: pre-processing areas located >250 m from any residential receptors; no stockpiles of PFA to remain at the end of each working day; enclosed material storage building, kept under negative pressure with extraction system fitted with filters; all processing plant fully enclosed, with the exhaust from the dryers passing through filters prior to release to atmosphere; water availability at all times on site with a dust suppression system utilising a tractor and bowser for all internal roads, stockpiles and surfaces, where practicable; graded and vegetated at the earliest opportunity. All measures are detailed in the DMP.

6.33 It is therefore considered that the Proposed Development complies with NMLP Policy DM1 in respect of air quality and dust.

6.34 In relation to recreation, the Proposed Development would incorporate a safe crossing of the conveyor and adjoining haul road for a short section of Footpath 1 between the two High-Rise

extraction areas. This is shown in drawing 015 – Conveyor Crossing Plan and Typical Details and includes shallow gradient ramps. A temporary closure (for a few weeks only) would be sought to allow for construction of the safe crossing of the conveyor and haul road. This, along with the retention of embankments during extractive activities and due to the extensive planting proposals and reduced land levels at restoration stage, mean that the quality, directness, and interest of Footpath 1 would be preserved during and after operations.

6.35 Users of the wider Public Right of Way network including Lound Low Road B.O.A.T. and Bridleway 4 would also experience indirect benefits from the improved views across the local area from the removal of the current incongruous raised land form and the boundary habitat creation as part of the restoration strategy.

6.36 Footpath 2, which crosses the existing shared access to Bellmoor Industrial Estate (Area C), would not experience severance from the proposed HGV and operational traffic. It is anticipated that there would be up to 4 HGVs trips per hour (4 in / 4 out) in total, along with limited traffic from smaller vehicles.

6.37 Accordingly the Proposed Development conforms with NMLP Policy DM7 and the recreation elements of Policy 8 of the Sutton Cum Lound Neighbourhood Plan.

6.38 In relation to health a completed 'Checklist for Planning and Health - the Nottinghamshire Rapid Health Impact Assessment Matrix' is provided in Appendix 3.2 of the ES (Volume 3) and reports on the measures taken to avoid and ameliorate potential wellbeing and health impacts. The checklist applies to all forms of development including occupied residential developments, and therefore some elements are not appropriate to this form of development.

SSSI and ecological protection

6.39 Policy DM4 of the NMLP sets out the relevant policies for the Protection and Enhancement of Biodiversity and Geodiversity including to SSSIs, LWSs and habitat resources.

6.40 Policy DM9 of the Bassetlaw CS DPD sets out similar policies in relation to avoidance of impacts on designated ecological sites.

6.41 Paragraphs 174 and 180 of the NPPF contain policies relevant to Ecology.

6.42 Chapter 8 of the Environmental Statement (ES) 'Ecology and Ornithology' evaluates the effects of the Proposed Development on important ecological features (IEFs).

6.43 A very small part of the SSSI falls within the Site boundary and therefore the Proposed Development would result in the direct loss of habitat within the SSSI. The area totals approximately 1.47 ha in size (<0.5 % of the SSSI land area), and is primarily plantation broadleaved woodland located on a lagoon embankment.

6.44 The area of habitat is a continuation of that elsewhere around the Site boundary and different to that within the adjacent parcel of the SSSI. The loss of this small area of habitat is necessary to facilitate the permanent restoration of the Site, by creating a more naturalistic landform and materials to in-fill excavations.

6.45 The SSSI features are entirely or primarily associated with wetland habitats and therefore the low value habitats to be removed do not directly support these features. Accordingly, there would be no adverse effects on the SSSI features from direct habitat loss.

6.46 The Outline Restoration Strategy, along with the advance planting proposals to the north of the Site, would compensate for the direct loss of habitat within the SSSI boundary resulting in a negligible effect.

6.47 In planning terms therefore, it is considered that this limited removal of habitat unrelated to the SSSI features is acceptable. It is noted that SSSI works consent would be needed separately before any habitat removal were to take place.

6.48 It is also necessary to consider the potential for indirect effects on the SSSI. Displacement of water bird habitat cause by the loss of flooded land as a result of the Proposed Development would be temporary, low magnitude, and not a significant adverse effect. Activity associated with extraction would be a source of potential aural and/or visual disturbance to features of the SSSI. Airborne dust emissions and pollution run-off into watercourses would be mitigated through good practice measures secured under the outline CEMP to manage dust/air pollution ensuring no adverse effects on the SSSI or SSSI features.

6.49 With regards to Policy DM4 of the NMLP, the Proposed Development, with the application of mitigation measures identified in Chapter 8 of the ES, including the Proposed Restoration Strategy, would not result in an adverse effect on the Sutton and Lound Gravel Pits SSSI. The Proposed development is therefore compliant with Policy DM4 and Policy DM9 of the Bassetlaw CS DPD.

Local Wildlife Sites

6.50 Policy DM4 also seeks the protection of Local Wildlife Sites (LWS). Part of the Sutton and Lound LWS falls within the Site boundary. Due to the similarity in features and interests with the SSSI and the LWS, the two were assessed together and the mitigation and effects equally apply.

6.51 A further seven LWS were identified within 5km of the Site and assessed. There would not be habitat loss or change to any of the LWS and the main effect to LWS is considered to be from dust, pollution and air quality impacts. Mitigation and best practice measures proposed within the outline CEMP to manage dust/air pollution would ensure no adverse effects on LWS. The assessment within Chapter 8 of the ES concludes that the residual effect on LWS would be negligible and therefore the Proposed Development complies with Policy DM4 part c of the NMLP.

Habitats

6.52 Table 8.14 within Chapter 8 of the ES (Volume 1) indicates that the Proposed Development would initially result in the loss of a number of habitats; although, by far the most common habitat within the Site is low-quality grazing land, of which the ecological value is low.

6.53 The habitats and protected and notable species within the extraction area (Area A) do not pose a notable constraint to development as the scope and timing of the proposed restoration is sufficient to entirely enhance the biodiversity impacts and deliver significant gains in biodiversity in line with planning policy and wildlife legislation. This is demonstrated by the submitted Restoration Strategy which provides for Nottinghamshire BAP habitats including ditches, reedbeds, wet grassland and open water and is capable of delivering an estimated 12.66% increase in Biodiversity. The Applicant will commit to delivery of at least 10% net gain.

6.54 With regards to Policy DM4 of the NMLP it is considered that the benefits associated with the Restoration Strategy outweigh the limited adverse effects caused by habitat loss and the Proposed Development complies with relevant policy.

Trees

6.55 Policy 41 of the emerging Bassetlaw Local Plan relates to trees.

6.56 The Proposed Development would require the removal of some trees across the Site. Some of the perimeter hedge and tree planting would be removed during the initial construction of the haul road and associated infrastructure and during the phased extraction. The Applicant has sought to retain trees where possible, including a large number of trees around the Low-Rise area. The ES is supported by an Arboricultural Survey which is contained in Appendix 7.8 of the ES (ES Volume 3).

6.57 A total of 78 items of woody vegetation, comprised of 30 individual trees and 48 tree groups or hedges were surveyed across the Site. The survey notes that tree cover within the Site consists of mainly large low value woodland types. Moreover, no areas of ancient woodland or veteran trees on the Site were identified.

6.58 As part of the proposed Restoration Strategy a total area comprising approximately 12.14ha of woodland and scattered trees is proposed to offset losses, which would result in a beneficial effect. The NMLP notes that priority habitat in the Idle Valley is reedbed and wet grassland, which the Restoration Strategy has focused on. The Restoration Strategy also proposes to deliver hedgerow enhancements through gapping up existing sections as well as significant stretches of new hedgerow.

6.59 The Proposed Development would offset woodland and hedgerows losses caused and deliver enhancements as part of a phased restoration and is therefore compliant with Emerging Policy ST41 and other relevant policies.

Transport

6.60 Policy SP4 of the NMLP relates to maximising the use of sustainable transport and Policy DM9 addressed vehicle routing and highway safety.

6.61 Paragraph 110 of the NPPF states that in assessing applications for development, it should be ensured that b) safe and suitable access to the site can be achieved for all users. BDC CS DPD Policy DM1 also requires standalone economic development in the open countryside to demonstrate that it will not exacerbate existing environmental or highway safety problems.

6.62 In terms of Sustainable Transport, the Site is not located in the vicinity of existing railways or navigable waterways infrastructure which have the potential for the use in the transportation of materials including PFA. There is an existing railway line 1km to the west of the Site however at the present time it is not know with certainty where the end users (i.e. customers) for the PFA would be located or if suitable infrastructure would be available at the end user location. In addition, current extraction volumes do not support the investment required to facilitate new rail infrastructure. It is therefore not possible to consider alternatives to road transport at this time.

6.63 An assessment of the likely transport impacts of the Proposed Development is contained in Chapter 14 of the ES 'Traffic and Transport' (Volume 1). The assessment is based on a scenario where all PFA is exported by road. The assessment has been informed by productive engagement with NCC in its capacity as highways authority, as well as the local community. To mitigate the impact of

traffic on local roads, the temporary optimisation site has been relocated to the existing Bellmoor Industrial Estate in Area C; meaning that proposals to use Chainbridge Lane in associated with the element of the Proposed Development have also been removed from the scheme. All vehicular traffic would therefore access and egress the site via the A638 in order to avoid Chainbridge Lane, Lound Low Road and the villages of Sutton-cum-Lound and Lound. This approach aligns with Policy SP4 Part 2b of the NMLP.

6.64 Nonetheless, the assessment in Chapter 14 considers the current baseline traffic and the additional traffic that would be generated by the Proposed Development during the construction and operational phase to consider the impact on, amongst other things, highway safety, capacity and amenity. The chapter is supported by a Transport Assessment ('TA') presented within Appendix 14.1 (ES Volume 3).

6.65 The assessment concludes that the A638 benefits from sufficient residual capacity including during peak hours to accommodate the traffic generated by the Proposed Development during the construction and operation phase.

6.66 Notwithstanding the above, a number of impact avoidance, mitigation and monitoring measures have been identified to minimise the impact of the Development on the surrounding road network.

- A Construction Traffic Management Plan (CTMP) would be prepared to outline the obligations of the contractor in order to ensure the safety of those working on the Development site. The CTMP would also outline construction vehicle routing. The proposed route is indicated on Figure 4 of Appendix A of the Transport Statement (Volume 3) and is listed below:
  - Traffic is assumed to exit the A1(M) Junction 34 (Blyth Interchange) onto the A614 northbound;
  - Continue on the A614 northbound and at its junction with the A638, turn right onto the A638 southbound;
  - Continue on the A638 southbound for approximately 11 km towards the Site access junction; and
  - Turn left into the Site.
- limiting delivery hours to 07:00 – 19:00 Monday to Friday and 07:00 – 13:00 Saturday;
- sheeting of HGVs to avoid dirt on the roads;

- Wheel wash on the Main Processing Site and mobile jetwash. This would ensure debris from the Main Processing Site is not deposited on the haulage road by traffic;
- visual inspection of all HGVs before they leave the Site to ensure the exterior of the vehicle is in a clean condition prior to leaving the Site with jet wash facility available; and
- contact name and number of site manager for members of the public to contact should there be any issues relating to operational traffic.

6.67 At the request of NCC Highway Officers, a capacity assessment for the proposed site access (A638 Road / Bellmoor Industrial Estate Access) has been undertaken in order to determine the level of impact during operation of the Proposed Development. The assessment found that the junction would continue to operate safely when the Proposed Development is operational.

6.68 ES Chapter 14 also assessed impacts on driver delay, severance, pedestrian delay, and highway safety concluding that they would be negligible.

6.69 On the basis of the assessment set out above, it is considered that the Proposed Development complies with relevant planning policy, as there would not be an unacceptable impact when considering traffic and transport.

Water Environment and Flooding

Water Environment

6.70 Policy DM2 of the NMLP and ST39 of the emerging Bassetlaw Local Plan are relevant to the protection of the Water Environment.

6.71 Chapter 9 of the ES(Volume 1) evaluates the effects of the Proposed Development on the water environment, specifically hydrology, hydrogeology, and flood risk within and surrounding the Site. The assessment identifies potential effects on designated sites related to water during the construction and operation phase and describes a number of inherent mitigation and avoidance measures embedded into the design of the Proposed Development.

6.72 ES Chapter 9 describes the site drainage design for groundwater, surface water, process water and foul water proposed across the Site. A Drainage Management Plan ('DMP') has been produced and submitted alongside this application. The PDMP contains robust management measures for groundwater, surface water and process water in order to protect the water quality of receptors. The Site's drainage is illustrated on Drawing 4092_DR_P_0004. With regards to groundwater drainage in the excavation area it notes that the Site is located in a catchment that is currently closed to consumptive abstraction. If de-watering is required to extract the PFA, the drainage has

been designed so that the water would be returned to ground via settlement ponds and soakaway to ensure the abstraction is non consumptive. In the event that an abstraction licence is not granted then, as an alternative to dewatering, material below the water table would be wet worked.

6.73 In addition, a Water Environment Management Plan (WEMP) contained in Appendix 9.1 of the ES (Volume 3) sets out measures to avoid or mitigate potential pollution for all phases of the Proposed Development, and also includes an Incident Plan to be followed should a pollution event occur. This plan would be produced following consultation and agreement with EA and all appropriate personnel working on the construction site would be trained in its use. The measures include, but are not limited to:

- Topsoil would be separated from underlying PFA prior to being stockpiled and subsequently placed on top of excavation to allow reseeding;
- Discharge of water and dewatering would be subject to obtaining the relevant permits; and
- Potentially contaminating chemicals would be stored appropriately in designated areas within the construction compound onsite to prevent any accidental spills;

6.74 As a result of these measures the assessment concludes that the significance of effects related to potential hydrogeological related risks as a result of the Proposed Development are not likely to be minor adverse and not significant. Furthermore, the assessment notes that there are also no predicted significant impacts to surface and ground water from the restoration of the sites.

6.75 It is therefore considered that Proposed Development would not result in unacceptable impacts on water resources and is therefore compliant with Policy SP2 of the NMLP.

6.76 Chapter 10 of the ES 'Ground Conditions and Contamination' assesses the effects of operational activity of the Proposed Development. The assessment notes that surface water sensitivity is considered to be high by virtue of the nearby ecological designations and the hydrologically connected statutory designated sites. In addition, there are eight active surface water abstractions within 2km of the Site, and whilst they are not for sensitive potable uses, demonstrate the importance of the surface water as resource in a regional context. The assessment indicates that operational activities would be subject to EA permit requirements and controls, would be subject to monitoring and risk assessment as set out in the DMP, and pollution control from site activities would also be implemented in accordance with other supporting documents such as the OCEMP/WCEMP. The resultant effect is assessed as being minor adverse.

6.77 On this basis, the Proposed Development is compliant with emerging Policy ST39 and other relevant policy.

Flood Risk

6.78 Paragraph 159 and 161 of the NPPF and DM2 of the NMLP are relevant to Flood Risk.

6.79 The EA Flood Map for Planning shows that the western section of the Site is located within Flood Zone 1, while the eastern section is in Flood Zone 2. There is an area of Flood Zone 3a associated with the existing access road to the Bellmoor Industrial Estate off the A638 Road, in the south of the Site. A Flood Risk Assessment ('FRA') has been prepared in accordance with the NPPF to accompany the planning application (see Appendix 9.2, ES Volume 3)

6.80 The FRA concludes that the Proposed Development would remain safe from flooding during its lifetime and would not increase flood risk elsewhere. This is on the basis that, in summary:

- The Proposed Development is classed as Less Vulnerable, and all working areas are located in Flood Zone 1;
- The lagoon embankments, where necessary, would be retained above modelled fluvial flood levels to ensure the Site remains protected from flooding; and
- Measures to manage surface water runoff from haul roads and the excavation areas are contained in the Drainage Management Plan

6.81 This FRA demonstrates that the Site is not at risk up to, and including, the 1 % AEP event plus 20 % climate change and the 0.1 % AEP event. As such, the Sequential and Exception tests are passed i.e. the Site is located in the lowest zone of flood risk, as per EA Flood Risk and Coastal Change Guidance.

6.82 It is therefore considered that the Proposed Development complies with Policy DM2 of the NMLP and NPPF policies on flooding.

Ground Conditions

6.83 NPPF paragraph 183 states that planning policies and decisions should ensure that a site is suitable for its proposed use taking account of ground conditions and any risks arising from land instability and contamination. This includes risks arising from natural hazards or former activities.

6.84 Chapter 10 of the ES (Volume 1) evaluates the effects of the Proposed Development on ground conditions and contamination. The assessment considers the effects of PFA related contamination. Airborne PFA dust exposure is also assessed in Chapter 10 of the ES and considered in the Local

Amenity and Recreation section of this document. The assessment also assessed ground stability hazard risks from the Site and adjoining area and concluded that the risk was low and not significant.

6.85 Construction activities include disturbance of the ground during earthworks and installation of foundations with associated potential for dust generation and the potential to encounter PFA if it is close to the surface. The length of time of direct exposure would be limited to the duration of site works in which construction workers are directly involved. Moreover, all on site personnel would be subject to mandatory health and safety requirements such as being provided with protective equipment (PPE) and respiratory protective equipment (RPE) to prevent direct contact with PFA.

6.86 Consideration was also given to potential for contamination to property. Although no piling or other foundation is proposed, there would need to be some below ground infrastructure that services these areas, and in particular a clean potable water supply for welfare purposes. Whilst the potential for chemical attack on buildings and structures is low risk, it would need to be ensured that pathways are not opened up or created for potential contamination to migrate, exposure potential receptors or that potable water supply is not placed in contaminated ground that could be present.

6.87 During the construction phase, waste and pollution management measures would be implemented as set out within the OCEMP/WCEMP. As such, it is expected that potential for environmental pollution through leaks, spillages or other operational activities would be controlled and mitigated. Moreover, construction activities would be controlled via the detailed CMS(s) and in accordance with the OCEMP.

6.88 The extraction of PFA would be subject to the greatest amount and duration of intrusive works. As with the construction phase, the effect of PFA exposure for on-site workers was considered however it was noted that there would be greater risks associated with long term exposure. On site workers would similarly be subject to mandatory health and safety requirements such as being provided with protective equipment (PPE) and respiratory protective equipment (RPE) to prevent direct contact. Any works on the Site would be subject to work controlled under EA regulatory permit requirements, which would include the protection of site workers . It is therefore considered that with such controls in place that exposure risks would be suitably mitigated.

6.89 It is not anticipated that there will be any ‘other’ buried wastes within the PFA, however a watching brief/suitable training would be implemented to identify such material so that it can be dealt with

should it be uncovered. As such, mitigation measures would be put in place to monitor and control airborne exposure risks, and would include the wetting of the material (with a water bowser(s) or similar), as necessary, as it is worked and extracted.

6.90 The extraction of PFA would remove it from Site and is considered to have potentially beneficial effects for ground conditions in Area A. Following restoration, Areas A would be returned to a part agriculture land use which may include potential farming uses and grazing livestock. Such land use would need to be managed by farmers / agricultural tenants who would either manage the land itself or occupy the restored Site to tend to livestock therefore reintroducing human health receptors. The restoration would be regulated under EA permit requirements and a Soil Management Plan (SMP) would be incorporated into the CEMP. It is therefore considered that controls would be in place to ensure that the topsoil used as a cover system across the Site would be of suitable thickness, quantity and quality to mitigate residual ground contamination.

6.91 The assessment concludes that no significant effects are predicted on ground conditions and contamination during the construction, operation or restoration phases of the Proposed Development. The Proposed Development would be subject to environmental controls throughout all phases and the Proposed Development would provide betterment from a contamination perspective, through removal of the PFA and protection of identified receptors. On this basis the Proposed Development is compliant with NPPF Paragraph 183.

Soils and Soil Handling

6.92 Policy DM3 Agricultural Land and Soil Quality of the NMLP relates to the protection and management of soils including on best most versatile (BMV) land.

6.93 The Site contains agricultural land in Areas A and B. A soil resources and agricultural survey was completed for Area A and Area B; contained in Appendix 10.2 And Appendix 10.3 of the Environmental Statement (ES Volume 3) respectively.

6.94 The survey results for Area A show that the land is predominantly Grade 4 (68%) with smaller areas of Grade 3a (3%) and 3b (8%) land located in the north east corner of the Site. During the extraction of PFA, soils would be stored in a top soil and overburden store which would move as the phased extraction progresses. The CEMP would include a Soil Management Plan covering methods for stripping, stockpiling and preserving soils during the extraction phase as well as methods for redistributing the soil during the restoration phase. The proposed restoration scheme includes a waterbody where the Grade 3a and 3b soils are located. It is therefore likely that these soils would

be redistributed to the proposed pasture/grassland. Given that Grade 3a and 3b soils comprise a small proportion of Area A and this area would be restored to a combination of habitat creation and pasture it is considered that the approach to agricultural land and soils here is acceptable.

6.95 The survey results for Area B shows that the land is predominantly Grade 3b (87%) and 3a (13%) land with the Grade 3a land located in the northern section of the site. During the extraction phase, Area B would comprise the field conveyor and haul road. Following the removal of the field conveyor and haul road, Area B would be reinstated back to agricultural land. Given the nature of development proposed in Area B it is considered that the Proposed Development would not adversely affect the land and it therefore complies with Policy DM3.

Historic Environment

6.96 Planning Policies in relation to proposals affecting heritage assets are set out in Paragraph 194 of the NPPF and Policy DM6 of the NMLP.

6.97 There are no designated heritage assets within the Site. The review of archaeological records revealed that there is evidence of use of the area relating to Prehistoric, Romano British or medieval activity.

6.98 During the construction phase the assessment indicates that effects on built heritage assets would be negligible as a result of the introduction of construction activity and the presence of construction plant. The assessment indicates that intrusive construction activity could have a significant effect on buried archaeological features although the potential for this to happen is low. The resultant effect was assessed as being minor and not significant.

6.99 During the operational phase there would be minor adverse effects on the Lound Conservation Area and some other above ground assets. However, it should be noted that any adverse effects on above ground built heritage assets are at distance, limited and temporary, and would not persist following completion of restoration.

6.100 The Proposed Development would result in the potential for a high magnitude of impact on archaeological remains of medium heritage significance resulting in a moderate negative significance of effect. Following mitigation this effect would be reduced to minor negative significance of effect. However, please note that these effects are worst-case and only possible if any archaeological assets are identified, the potential for which is considered low given that the Site has been subject to significant modern disturbance. Suitable mitigation has been proposed in the form of a watching brief, to be secured by a suitable planning condition.

6.101 Chapter 11 of the ES (Volume 1) demonstrates that the Proposed Development would not result in any unacceptable harm to designated built heritage assets and that harm to buried archaeological assets can be mitigated through proportionate measures. On this basis it is considered that the Proposed Development is compliant with Policy DM6 of the NMLP.

Design

6.102 Policy DM1 Section A, part v of the Bassetlaw CSDPD Section in relation to Economic Development in the Open Countryside states that:

vii. Proposals for standalone economic development (e.g. tourist attractions; equine enterprises; rural business) in rural areas will be supported where they can demonstrate that… the scale, design and form of the proposal, in terms of both buildings and operation, will be appropriate for its location and setting and be compatible with surrounding land uses;

6.103 Policy DM 4 part 2 of the Bassetlaw CSDPD in relation to 'Design' states that "All major development proposals will need to demonstrate that they complement and enhance the character of the built, historic and natural environment.

6.104 NPPF Paragraph states that Planning policies and decisions should ensure that developments:

a) will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development;

b) are visually attractive as a result of good architecture, layout and appropriate and effective landscaping;

c) are sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities);

6.105 NPPF Paragraph 132 also states that Design quality should be considered throughout the evolution and assessment of individual proposals. In accordance with NPPF Policy 132 the Applicant has proactively engaged with key stakeholders including members of the public, the Parish Council and County Council in order to incorporate feedback into the Scheme design.

6.106 Policy DM10 Aviation Safeguarding states that proposals for minerals development within Airfield Safeguarding Areas including Gamston (Retford) will be supported where the applicant can demonstrate that the proposed extraction, restoration and after use will not result in any

unacceptable adverse impacts on aviation safety. No tall or reflective structures or emission points are proposed that would give rise to concerns in relation to aviation safety.

6.107 There is no particular policy in the NMLP regarding design. Restoration design in relation to NMLP Policy DM12 is considered under 'Restoration' below.

6.108 The design of the Proposed Development is largely driven by the need to deliver a safe and optimal PFA extraction facility, but the Applicant has sought to incorporate good minerals design principles in order to respond to the Site's sensitivities. In particular:

- Safe crossing is provided for the existing Footpath 1 to ensure that this recreational route remains open (bar a few weeks during conveyor installation);
- Existing embankments would be retained to screen extractive activities, only subsequently removed to facilitate restoration in each phase;
- Embankments, where necessary, retained at suitable levels to mitigate flood risk; and
- Implementation of a progressive, biodiversity-led restoration scheme.

6.109 On this basis it is considered that the Proposed Development is compliant with Policy DM6 of the NMLP and other relevant policies.

Landscape and Visual

6.110 Policy DM5 of the NMLP and DM9 of the Bassetlaw CS DPDP are relevant to Landscape Character.

6.111 The NPPF also includes policy relating to the protection of valuable landscapes and visual amenity at Paragraph174.

6.112 Chapter 7 of the Environmental Statement (ES) 'Landscape and Visual Appraisal' (Volume 1) evaluates the effects of the Proposed Development on landscape character (as a resource in its own right) and the visual amenity of receptors.

6.113 The Site is located on the fringes of the Idle Lowlands Policy Zone 10 (IL10) of the Bassetlaw Landscape Character Assessment, which has an overall strategy of 'Conserve and Reinforce' with the following objectives:

- Conserve and reinforce hedgerows where these are gappy and in poor condition. Seek opportunities to restore the historic field pattern/boundaries where these have been lost.
- Seek opportunities to restore arable land to pasture.
- Enhance visual unity through further appropriate tree and woodland planting.

- Reinforce tree belts along roadsides and railway corridor as appropriate.
- Conserve the ecological diversity and setting of the designated SSSIs and SINCs and reinforce as appropriate.
- Conserve and reinforce historic field patterns, restoring hedgerow boundaries where necessary.

6.114 The Site itself is assessed as being of low to moderate landscape value. There is some woodland and hedgerow planting of ecological value which provides screening and serves as a skyline feature in views from Lound and Sutton Cum Lound; although the landform is not sensitive to the surrounding topography but does provide a vegetated embankment setting to the Idle Valley to the south. It is also worth noting that Paragraph 6.98 of the former Nottinghamshire Minerals Local Plan (2005) comments that restoration of the former quarry at the Site includes high-level lagoons, *"which visually have not proved to be a success",* recognising the high level of visual incongruence between the artificial lagoons and surrounding landscape.

6.115 The landscape assessment considers the introduction of movement, disturbance and construction noise into the area temporarily. Disturbance particularly from vehicle movements, vegetation removal, conveyor operation and processing activity associated with PFA extraction would vary in intensity as the extraction phases progress. It is noted that following the stripping of soil, the character of the Site would change from semirural to industrial. The resultant effect is a moderate to major adverse effect to the landscape character of the Site itself and landscape character, albeit temporary and reversible.

6.116 As extractive operations cease and machinery/plant is decommissioned, the landscape restoration envisages a return to a mixture of pastoral land, wetland habitat and tree planting. These features would provide an enhancement at the Site level and establish habitat connectivity to the wider landscape. It could also provide more sensitive landform gradients and potentially open up some long-distance views across the Site to the Idle Valley Nature Reserve to the south. The effects are beneficial at both the Site level and for the wider landscape setting.

6.117 The visual appraisal used predicted ZTV, site visits and analysis of 12 viewpoints to determine the potential effects of the Proposed Development on views and visual amenity experienced by a variety of visual receptors (people) within the study area. Key receptors groups included selected residential locations, recreational users along signposted routes and passing road users. Eight of these viewpoints would only experience significant visual effects when they are adjacent to the

short-term lagoon embankment removal following extraction. At Year 15-20 of the restoration as extractive operation ceases and early planting matures, the visual impacts of the Proposed development are assessed as being negligible to moderately beneficial.

6.118 In terms of the identified visual effects (identified above); the significant effects would occur when the lagoon embankment are removed in close proximity to the Site boundary (estimated to be a short-term 4-6 week period), in order to restore each phase following PFA extraction. Importantly, the embankments would only be removed after PFA extraction behind them is completed. The retention of the embankment in this way is purposeful, as they act as a significant visual screen during extraction and effectively limit visual impacts until they are removed as part of restoration activities.

6.119 It is clear that the temporary adverse landscape character and visual effects associated with extraction operations needs to be considered against the permanent lasting benefits that the proposed restoration scheme would deliver. With regards to NMLP Policy DM5 Part 1, the Proposed Development, once complete, would deliver demonstrable improvements to landscape character and visual amenity and should therefore be supported. Moreover, with regards to NMLP Policy DM5 Part 3 and Policy DM9 of the Bassetlaw CS DPD, the proposed restoration scheme directly addresses the objectives of Policy Zone IL10 by delivering a landscape scheme which would enhance and fortify perimeter hedgerows, provide additional woodland planting and deliver wetland habitat to compliment the adjacent SSSI, amongst many other benefits.

6.120 On this basis the Proposed Development is considered to comply with relevant landscape and visual policies.

Restoration

6.121 Policy SP3 and DM12 of the NMLP relates to Biodiversity-Led Restoration.

6.122 Policy DM9 of the Bassetlaw CS DPD and Policy 8 of the of the Sutton Cum Lound Neighbourhood Plan relates to Green Infrastructure; Biodiversity & Geodiversity; Landscape is also relevant.

6.123 Policy ST39 and ST40 of the draft Bassetlaw Local Plan includes policy on biodiversity Net Gain and is also relevant.

6.124 The Proposed Development would deliver comprehensive scheme of restoration that provides significantly improved biodiversity value through the provision of habitats that complement and connect to those in the neighbouring Idle Valley, including woodlands, wet grassland, reed beds, and water bodies.

6.125 An Outline Restoration Strategy has been prepared as part of the planning application and is provided in Appendix 8.5 of the ES (Volume 3). The phased approach to the delivery of restoration is shown on the Phasing Plan (Drawings 020-030) and the resulting restoration concept is indicatively shown on the Indicative Landscape Restoration Masterplan (ES Figure 7.12) (Volume 2) in accordance with Policy DM12 part 3b of the NMLP. It is anticipated that the overall design, detailed design, and management would be secured through an appropriately worded planning condition/legal agreement.

6.126 The restoration strategy describes the consultation which has taken place with key stakeholders, such as Natural England, NWT and NCC. This has helped to guide the type, amount and location of habitats. Table 4.1 of the Restoration Strategy explains what action was taken in response to the consultee's comments. The habitats to be provided are also described. The Applicant is committed to delivering Biodiversity Net Gain ('BNG') of at least 10%. The metric has been applied to the restoration concept showing a figure of 12.66% is achievable thereby giving a high level of confidence that policy compliant BNG is deliverable. Please refer to the Biodiversity Metric 3.1 in Appendix 8.4 of the ES (Volume 3).

6.127 With regards to Policy SP3 of the NMLP, the restoration strategy delivers a BNG in excess of the 10% with Nottinghamshire BAP habitats including ditches, reedbeds, wet grassland and open water forming a significant part of the strategy. This has been guided by consultation with NWT and is considered acceptable. On this basis the strategy is also compliant with NMLP Policy DM12 part 6.

6.128 With regards to NMLP Policy DM12, Section 6 of the restoration strategy explains the proposed approach to management. The restoration would be subject to a suitable aftercare period, in accordance with the Environment Act (including the as yet unpublished results of consultation) and would be agreed with NCC. An agreed Habitat Management Plan would be provided following planning approval pursuant to a planning condition. The aim of the management and monitoring would be to achieve and record habitat condition as required by the Biodiversity Metric Assessment Technical Note and maximise value of habitats for some target species and biodiversity aspirations.

6.129 The restoration strategy has been designed in collaboration with the landowner and includes pasture land for managed grazing. During extraction, soils would be stored in a soil/ overburden storage for reuse during the restoration. A ditch network would be created, with a gentle flow from north to south across the Site, and then to the northeast, where water would join the wider hydrological network. This approach would aid site drainage and support wetland habitats.

6.130 The proposed restoration scheme seeks to directly benefit the Idle Valley. The ecological assessment in ES Chapter 8 indicates that the restoration would have a beneficial effect on the NWT Nature Reserve and the LVIA in Chapter 7 indicates that restoration would have a beneficial effect on the landscape character of the Idle Valley. Furthermore, the proposed restoration would have a beneficial effect on breeding birds through habitat creation and aid the popularity of the Idle Valley as a visitor location. On this basis the proposed restoration complies with Policy DM9 and would also enhance water based habitats in accordance with Policy ST39 of the draft Bassetlaw Local Plan

6.131 With regards to Policy ST40 of the emerging Bassetlaw Local Plan and NPPF Paragraph 174, BNG of 10% is committed to by the Applicant, and is shown to be achievable, therefore the Proposed Development is policy compliant here.

6.132 The restoration proposals therefore satisfy the relevant policy tests, facilitate the creation of high quality managed habitats and mean that the Proposed Development would have lasting ecological and landscape benefits.

7.0 SUMMARY AND CONCLUSIONS

7.1 The Applicant is seeking planning permission to allow for the extraction, processing and export of PFA from former ash disposal lagoons at the Site, along with associated development.

7.2 PFA benefits from certain mineral qualities, including that is a pozzolan, which mean it can be utilised as a sustainable building product. The highest quality PFA, such as that offered by the Proposed Development, can be used as a replacement for Portland Cement amongst other things, which brings with it the potential for considerable carbon savings and is the primary aim of the Proposed Development. It is estimated that the Proposed Development could save up to 5 million tonnes of carbon over its lifetime, making a significant contribution to the UK Government's legally binding net zero emission commitments by 2050.The supply of PFA is currently fragile, well below underlying demand and increasingly reliant on imported material. The Proposed Development would provide a long-term viable supply of PFA to address the significant need for it. Moreover, against the looming backdrop of the UK Government's legally binding Net Zero commitments and ambitious industrial decarbonisation targets, great importance is placed on the prudent reuse of materials and transition towards a circular economy.

7.3 The use of PFA as an alternative to Portland Cement provides a real solution for decarbonising the notoriously carbon intensive cement and concrete industry. The need for sustainable alternatives is only expected to grow as 2050 approaches. It is reasonable to consider that all sources of PFA that are accessible and environmentally acceptable will need to be exploited to meet these needs.

7.4 The Proposed Development represents an important contribution to meeting these needs, in a location that has good road links and is made environmentally acceptable through the management, mitigation and enhancement measures described in this document and in the ES. These include, in particular, the direct fit for purpose access to the A638, the retention of lagoon embankments during extractive operations, a covered conveyor, suite of dust management measures, low energy drying technology, fully enclosed processes where necessary, a comprehensive drainage and dewatering concept, landscape planting, the retention and management of soils for subsequent reuse, and a progressive restoration scheme.

7.5 The Applicant has carried out a comprehensive and meaningful pre-application consultation exercise in respect of the Proposed Development, primarily focused on the local community, but also including consultation with NCC, NWT and other key consultees. The consultation with NCC included a formal request for pre-application advice, along with meetings and email

correspondence. The Applicant has listened to the views expressed by consultees and communities and has made a number of significant changes to the Proposed Development.

7.6 The extraction of PFA has significant wider environmental benefits in terms of greenhouse gas emissions and a reduction in the need to extract virgin materials from other locations. Moreover, the planning application contains a comprehensive biodiversity led restoration strategy which would provide locally important wetland habitats and deliver BNG of potentially 12.66%. The restoration strategy achieves this while also maintaining and balancing with agricultural land use.

7.7 The restoration strategy has been designed with full regard to NWT consultee comments at each stage of the pre application process in order to complement and enhance the adjacent Idle Valley Nature Reserve. This is considered a strong material consideration in favour of the Proposed Development.

7.8 The Proposed Development conforms with the Development Plan both in relation to the principle of development and criteria based policies. Permanent beneficial environmental effects in relation to habitats and greenhouse gas emissions will result from the Proposed Development, along with the removal of the current artificial and incongruous landforms that, as the 2005 Minerals Local Plan recognised, visually have not proved to be a success. Meaningful levels of employment for a 22-25 year period would be provided, including many roles that are capable of being met within the local area and which in turn would provide indirect spending locally.

7.9 In the context of the tests under Section 38(6) Planning and Compulsory Purchase Act 2004 it is considered that a number of material considerations weigh heavily in favour of granting planning permission for the Proposed Development, including compliance with the NPPF, and the limited and generally temporary residual impacts in the ES.

7.10 It is therefore respectfully requested that planning permission is granted.