Nottinghamshire County Council

SD11

Nottinghamshire Minerals Local Plan

Publication version

Sustainability Appraisal Report

May 2019

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Non-technical summary

Introduction

This report explains the process and outcomes of the Sustainability Appraisal (SA) of the Publication Version Nottinghamshire Minerals Local Plan (MLP) prepared by Nottinghamshire County Council.

We are required to carry out this SA process to assess the likely effects of the Minerals Local Plan, in line with national and international law. In the UK this includes looking at the likely social and economic, as well as environmental, effects. The SA process is therefore a way of ensuring that all plans and programmes which relate to spatial planning and land use are compatible with the aims of sustainable development.

The requirements of the European Directive on Strategic Environmental Assessment have been met by this SA.

There have been several stages to the SA leading up to this Publication Version document:

- SA Scoping Report (November 2017)
- Issues and Options SA Report (March 2018)
- Draft MLP Interim SA Report (July 2018).

Sustainability Appraisal Methodology

The Scoping Report provided the framework for carrying out the SA and set out the SA objectives and decision-making criteria used to help assess the likely effects of the Plan on the SA objectives.

Appraising the vision, strategic objectives and policies

The SA was undertaken in parallel with the development of the MLP's vision, strategic objectives and policies.

The Plan's vision, strategic objectives and policies were appraised using matrices in which the results were recorded. For the vision and policies a qualitative scale ranging from 'a very positive impact' (+++) to 'a very negative impact' (---) was used to assess the likely significant effects on the SA objectives and each matrix included a commentary explaining the reasoning behind each predicted significant effect and, where potential negative effects have been identified, mitigation to prevent, reduce or offset these has been suggested.

The potential cumulative effects of the policies on each SA objective were also assessed.

In the case of the MLP's strategic objectives, it was their compatibility with the SA objectives which was assessed.

Appraising the sites

Each site was assessed individually against each SA objective using an appraisal matrix. The likely significant effects were recorded using a numerical assessment key ranging from +3, where the proposal is likely to have a very positive impact on a SA objective, to -3, where it is likely to have a very negative impact. This numerical scoring was used to help comparisons between sites but was not intended to be definitive. A commentary was provided in each matrix explaining the reasoning behind each predicted effect, together with potential mitigation measures where negative effects were identified and these should be referred to rather than looking at the scores in isolation.

Where there was potential for cumulative effects of sites these were also assessed.

Appraisal results

Appraisal of the MLP Vision

The appraisal results at the Issues and Options stage revealed shortcomings in the vision. Consequently, revisions were made and re-appraisal found that there was then a positive or very positive impact on all the SA objectives. The completed appraisal matrix can be found in Table 3.1.

Appraisal of the MLP Strategic Objectives

There are eight strategic objectives which are central to achieving the delivery of the vision for the MLP, three of which were revised following consultation on the Draft Plan. Re-appraisal confirmed that there was no incompatibility between the strategic objectives and the SA objectives. The compatibility matrix can be found in Table 4.1.

Appraisal of the MLP Policies

There are 8 strategic policies, 12 minerals provision policies and 17 development management policies. The minerals provision policies include site allocations.

After the Draft Plan stage consultation changes were made to a number of the policies. Re-appraisal of those policies was carried out where it was considered that the changes could potentially substantially alter the Plan or give rise to significant effects. The assessment of re-appraisal requirements is shown in Appendix A.

A summary of the predicted significant effects of the final version of each policy is given in Table 5.1 of this report and the individual policy appraisal matrices are contained in Appendix B.

The cumulative effects of the policies on each of the SA objectives were also assessed and are shown in Table 5.2 of this report.

Assessment of 'No Minerals Local Plan' Scenario

The likely situation if no Minerals Local Plan existed was appraised and this showed that overall there would be significant adverse effects, especially on many of the environmental and the social objectives. There would also be slightly negative effects on the economic objectives. So, all three aspects of sustainability would be adversely affected by the lack of a Minerals Local Plan.

As the existing Minerals Local Plan becomes more out-of-date the adoption of a new, up-to-date Plan is increasingly important to provide a robust framework for decision-making.

Appraisal of the MLP Sites

A total of 25 sites were initially appraised: 20 sand and gravel sites, 3 Sherwood Sandstone sites, 1 brick clay site and 1 gypsum site.
Two additional sand and gravel sites were then put forward and some changes were made to 4 other sand and gravel sites, which resulted in further appraisal.

The approach taken to scoring for each SA objective was carefully considered and is explained in detail in Chapter 6 of this report. A range of factors were used to determine the scores against each objective within the context of the decision-making criteria (set out in Table 2.2) and wherever possible information that was measurable or could be categorised was used. No weighting was applied to any one objective over another as rather than considering either environmental sustainability *or* economic sustainability *or* social sustainability as the ideal, these should be regarded as the three mutually dependent dimensions of sustainable development and gains in all three should be sought simultaneously, as emphasised in the National Planning Policy Framework (NPPF).

There were two groups of sites, in the Newark and North Nottinghamshire areas which could potentially have cumulative effects and such effects were assessed as far as possible, bearing in mind that there are particular difficulties and uncertainties associated with predicting cumulative effects.

The sustainability appraisal findings informed the site selection process set out in the Draft Site Selection Methodology and Assessment Background Paper (July 2018) and Site Selection Methodology and Assessment Background Paper (May 2019), which has resulted in the allocation of sites in the Minerals Provision policies of the Publication Version Minerals Local Plan. The allocated sites are listed in Table 6.5, and shown on Plan 6.2, of this report.

Mitigation

Mitigation refers to measures which can prevent, reduce and offset significant negative sustainability effects identified in the sustainability appraisal. Mitigation measures at policy level are of a different type from those for sites.

The individual site matrices for both policies and sites suggest potential mitigation measures wherever a negative effect has been identified.

The implementation of many of the MLP policies will help to ensure avoidance or mitigation of potential adverse effects on many of the SA objectives.

Monitoring

Monitoring is an important and ongoing part of the overall SA process as it will identify significant effects from the adoption of the MLP. The indicators which will be used for

SA monitoring are set out in Table 8.1 and cover social, economic and environmental effects. The monitoring of the SA and the MLP itself should be closely linked.

Conclusions

Vision
Once it had been reworded in line with the SA's recommendations, the vision was found to have a positive or very positive impact on all the SA objectives.

Strategic Objectives
The strategic objectives were found to be compatible with the SA objectives.

Policies
All the policies had positive effects on at least some of the SA objectives.

Several of the development management policies had a slightly negative effect on SA objective 1 (ensuring adequate provision of minerals to meet demand) because they might impose constraints which could limit the choice of sites. However, some of these policies did allow for development in certain circumstances and where this was not the case rewording the policy to avoid a negative impact was not feasible without negating the purpose of the policy.

There was uncertainty about the effects of some policies on some SA objectives, particularly those on environmental issues, largely because the effects would be dependent on the locations of sites in relation to sensitive receptors. Site specific implications were considered separately in the detailed appraisals of proposed sites.

The assessment of cumulative effects did not identify any negative cumulative effects on any of the SA objectives.

Sites
The SA of sites identified significant predicted effects on most of the SA objectives. Based on the information available, sites have been shown to have significant positive effects on SA objectives 1 (adequate mineral provision), 3 (sustainable movement), 9 (efficient use of a land and resources) and 13 (wider economic development and local job opportunities). However, sites have also been shown to have significant negative effects on SA objectives 2 (biodiversity), 4 (historic environment), 5 (landscape), 6 (flood risk), 8 (agricultural land and soil), 11 (air quality), 12 (water quality) and 14 (human health and quality of life).

Some negative effects could be minimised to an acceptable level through mitigation measures, however the appraisal highlighted that some proposed sites have the potential for unavoidable significant negative sustainability effects which could continue into the long term. The scope for restoration is very often a key issue in terms of whether or not negative impacts will persist in the long term.

Twenty-two sand and gravel sites were assessed. It was found that those which scored most negatively in the operational period were Barton-in-Fabis (Mill Hill), Cromwell Triangle & Carlton River Meadows, Great North Road North, Flash Farm, Little Carlton and Barnby Moor (Hanson). In all cases the negative impact was much

reduced in the long-term, and Flash Farm scored the most positively out of all the sand and gravel sites in the long-term. The sand and gravel site which scored least negatively was Bawtry Road.

Out of the three Sherwood Sandstone sites assessed Scrooby Top North scored least negatively. Only one gypsum site and one brick clay site were assessed. All these sites had some significant positive and negative effects.

The potential cumulative effects of the two groups of allocated sites in close proximity to one another (in the North Nottinghamshire and Newark areas) were also assessed as part of the SA. It was found that the potential negative cumulative effects which were common to both groups of sites were on SA objectives 2 (protect and enhance biodiversity), 4 (protect the historic environment), 5 (protect and enhance landscape) and 14 (protect and improve human health and quality of life). The North Nottinghamshire group of sites also had potential negative cumulative effects on SA objectives 8 (protect high quality agricultural land) and 12 (protect and improve water quality). There was, however, some scope for mitigation in most cases.

Overall

The SA has been an integral part of the plan-making process through all its stages and has helped the decision-making process by appraising the likely social, environmental and economic effects of the Minerals Local Plan.

Next Steps

This SA Report forms part of the evidence base for the Minerals Local Plan. There will be a six-week period for making formal representations on the Publication Version Minerals Local Plan which is likely to commence on 30th August 2019. All the information on this consultation is available online via the County Council's website at www.nottinghamshire.gov.uk/minerals.

Following the consultation period, the Minerals Local Plan will be submitted for public examination to consider its soundness. If the independent inspector decides that the Minerals Local Plan is sound the County Council will adopt it and produce a post-adoption sustainability appraisal statement.

If the Minerals Local Plan is not found sound, the County Council would need to make further amendments and re-consult or may have to withdraw the Plan and start again. In either case further sustainability appraisal would be carried out.

1 Introduction

The Minerals Local Plan

1.1 Nottinghamshire County Council is preparing a new Minerals Local Plan (MLP) to replace the existing Plan. The first stage of this process was the publication of the Minerals Local Plan Issues and Options consultation document in November 2017. This set out the issues which the County Council considered required addressing in the preparation of the new MLP, and the possible options to deal with them. In order to assess which of the options would represent the most sustainable approach to dealing with each issue, a sustainability appraisal (SA) was carried out which was the subject of a separate 'Issues and Options' Sustainability Appraisal Report (March 2018) and informed the Draft MLP.

1.2 The Draft Plan set out a vision to address the minerals issues in the Plan area, the strategic objectives which are central to achieving the delivery of the vision and strategic policies, minerals provision policies (including site allocations) and development management policies to provide the planning policy framework against which all proposals for minerals development will be assessed. The Draft Plan was the subject of consultation between July and September 2018, when it was accompanied by an Interim Sustainability Report. SA has been an integral part of the development of the vision, strategic objectives and policies and all the potential sites for minerals development were also appraised, as set out in the Draft Plan Interim Sustainability Report (July 2018).

1.3 Following consultation on the Draft Plan, the Publication version of the Nottinghamshire Minerals Local Plan was produced. This involved further stages of sustainability appraisal with proposed changes to the vision, strategic objectives and policies being appraised, as well as appraisal of new potential sites and changes to potential sites which had been appraised previously.

Requirement for Strategic Environmental Assessment (SEA)

1.4 The EU Strategic Environmental Assessment (SEA) Directive (2001/42/EC) came into force in the UK on 20 July 2004 through the Environmental Assessment of Plans and Programmes Regulations 2004. This requires the assessment of the effects of certain plans and programmes on the environment which includes minerals local plans because of the likely significant effects they might have on the environment.

1.5 The Directive and Regulations state that the SEA must consider biodiversity, population, human health, flora and fauna, soil, water, air, climatic factors, material assets, cultural heritage, landscape and the interrelationship between these factors.

Requirement for Sustainability Appraisal

1.6 All local plans, including those for minerals, are required to complete a SA under S19 (5) of the Planning and Compulsory Purchase Act 2004. The purpose of the SA is to promote sustainable development through better integration of sustainability considerations in the preparation and adoption of plans. SA helps local planning authorities to ensure that sustainable development is considered in the preparation of their plans. The National Planning Policy Framework (2019) (NPPF) has at its heart a 'presumption in favour of sustainable development' which should apply to plan-making and decision-making.

Sustainability Appraisal process

1.7 Although the requirements to complete SEA and SA are distinct, the two processes are similar, with the main difference being that SEA focuses on environmental effects whereas SA involves not only environmental effects, but also social and economic impacts. Provided that a SA fully incorporates the requirements of the European Directive on SEA there is no need to carry out a separate SEA. This report therefore refers to both processes as SA for simplicity and the methodology used incorporates all of the requirements of SEA. Table 2.3 shows how the SEA requirements have been met by this Sustainability Appraisal.

2 Sustainability appraisal methodology

2.1 The is based on a five-stage approach as outlined in Table 2.1.

Table 2.1: Stages in the SA process

Stage A Setting the context and the SA objectives. Establishing the baseline and deciding on the scope.
Stage B Developing and refining alternatives. Assessing effects.
Stage C Preparing the Sustainability Appraisal Report.
Stage D Consultation on the Sustainability Appraisal Report (alongside the publication Local Plan).
Stage E Post-adoption reporting. Monitoring the implementation of the Local Plan and responding to adverse effects.

Stage A: The Scoping Report

2.2 Stage A of the process was completed with the production of the Sustainability Appraisal Scoping Report, published in November 2017, which provided the framework for carrying out the SA. It was widely consulted upon, including with the statutory consultees, which are the Environment Agency, Natural England and Historic England. Internal experts were consulted on issues such as landscape and biodiversity. All relevant plans, policies and programmes were reviewed to identify the relationships between the Minerals Local Plan (MLP) and publications on environmental, social and economic issues. The baseline characteristics of the Plan area, the key issues it faces and the SA objectives against which the MLP would be assessed were established.

2.3 The SA objectives and decision-making criteria which have been used to help assess the likely effects of the Plan on sustainability are set out in Table 2.2 below.

Table 2.2: SA objectives and decision-making criteria

Objective	Decision making criteria
1. Ensure that adequate provision is made to meet local and national mineral demand.	•Will the plan/proposal identify adequate resources to meet local and national requirements over the plan period? •Will it identify suitable areas of land to serve current/future markets?
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	• Will the plan/proposal have an adverse effect on internationally, nationally or locally important sites or legally protected species? •Will it affect habitats or species identified within the Nottinghamshire Local Biodiversity Action Plan (LBAP)? •Will it restore or create new habitat in line with LBAP priorities? •Will it support the retention/enhancement of the County's green infrastructure?
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	•Will the plan/proposal reduce overall transport distances for minerals? •Will it reduce road haulage of minerals? •Will it promote alternative forms of transport? •Will it reduce/increase road congestion? •Will it result in sites that are well related to the main highway network? •Will it require new transport infrastructure to be developed?

Objective	Decision making criteria
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	•Will the plan/proposal have an adverse impact upon heritage assets and/or their settings, including archaeological remains and historic buildings? Could any such harm be mitigated against? •Will it conserve and/or enhance heritage assets and the historic environment? •Will it respect, maintain and strengthen local character and distinctiveness? •Will it enhance or increase our understanding of the historic environment?
5. Protect and enhance the quality and character of our townscape and landscape.	•Will the plan/proposal have an adverse impact on local landscape character or areas of important townscape? •Will it have an adverse effect on the openness and visual amenity of the Green Belt? •Will it affect areas of public open space? •Will it lead to landscape/townscape improvements? •Will it result in development that is sympathetic to its surroundings in terms of design, layout and scale? •Will it contribute to the availability of local building materials to enable local distinctiveness to be retained in conservation projects and reflected in new development?
6. Minimise impact and risk of flooding.	•Will the plan/proposal increase the risk of flooding? •Will it help to alleviate flood risk or the impact of flooding? •Will it seek to avoid flood risk?

Objective	Decision making criteria
7. Minimise any possible impacts on, and increase adaptability to, climate change.	•Will the plan/proposal increase emissions of greenhouse gases from minerals development? •Will it reduce emissions of greenhouse gases? •Will it encourage the use of renewable energy sources? •Will it help to reduce our vulnerability to the impacts of climate change? •Will it help to increase the resilience of flora and fauna to climate change?
8. Protect high quality agricultural land and soil.	•Will the plan/proposal have an adverse impact on soil quality? •Will it result in the sustainable use of soils? •Will it lead to land contamination? •Will it lead to the irreversible loss of best and most versatile agricultural land?
9. Promote more efficient use of land and resources	•Will the plan/proposal promote the sustainable use of primary minerals? •Will it encourage the use of recycled and secondary aggregates? •Will it prevent the sterilisation of important mineral resources? •Will it make use of previously developed land? •Will it utilise existing infrastructure or minimise the need for additional infrastructure and land take?
10. Promote energy efficiency and maximise	•Will the plan/proposal minimise energy needs?

Objective	Decision making criteria
renewable energy opportunities from new or existing development.	•Will it contribute to renewable/low carbon energy targets?
11. Protect and improve local air quality.	•Will the plan/proposal have an adverse impact on local air quality through the creation of dust or emissions of pollutants from facilities and transport? •Will it adversely affect a designated Air Quality Management Area (AQMA)?
12. Protect and improve water quality and promote efficient use of water.	•Will the plan/proposal have an adverse impact upon water quality? •Will it increase demand for water? •Will it help to improve existing water quality? •Will it incorporate sustainable water management and/or drainage?
13. Support wider economic development and promote local job opportunities.	•Will the plan/proposal help to increase training and employment opportunities in Nottinghamshire? •Will it help to enable wider economic development?
14. Protect and improve human health and quality of life.	•Will the plan/proposal minimise adverse impacts of minerals activity on human health and quality of life and minimise levels of nuisance including dust, particulate emissions, noise (including traffic noise), vibration, visual amenity and light pollution? •Will it promote best practice in the operation and restoration of sites? •Will it help to enhance health and wellbeing through the provision of new or improved public open space/recreational space and access? •Will it lead to a loss of public open space/recreational space or reduction in public access?

Stages B and C

2.4 The Issues and Options Sustainability Appraisal Report and the Interim Sustainability Appraisal Report on the Draft Plan, referred to in paragraphs 1.1 and 1.2, comprise Stage B (developing and refining alternatives, and assessing effects) of the SA process. This report represents the completion of Stage C of the process.

2.5 Table 2.3 shows how the Scoping Report, the Issues and Options SA Report, the Draft Plan Interim Sustainability Appraisal Report and this report and the SA process in general have met the specific requirements of the SEA Directive.

Table 2.3: Compliance with the SEA Directive

Requirements of the SEA Directive (Article 5 (1))	**Where these are met in this SA process**
Preparation of an environmental report in which the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives taking into account the objectives and geographical scope of the plan or programme, are identified, described and evaluated.	Issues and Options SA Report, Draft Plan Interim SA Report and this SA Report.
(a) An outline of the content, main objectives of the plan or programme, and relationship with other relevant plans and programmes.	Scoping Report.
(b) The relevant aspects of the current state of the environment and the likely evolution thereof without the implementation of the plan or programme.	Scoping Report.
(c) The environmental characteristics of areas likely to be significantly affected.	Scoping Report.
(d) Any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC and 92/43/EEC.	Scoping Report.
(e) The environmental protection objectives established at international, Community or national level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation.	Scoping Report
(f) The key likely significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors.	Chapters 3, 4, 5 and 6 of the Draft Plan Interim SA Report. Chapters 3, 4, 5 and 6 and Appendices B, C and D of this Report.

(These effects should include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects).	
(g) The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme.	Chapters 5 and 6 of the Draft Plan Interim SA Report. Chapter 7 and Appendices B, C and D of this Report.
(h) An outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information.	Issues and Options SA Report. Chapters 2, 3, 4, 5 and 6 of the Draft Plan Interim SA Report Chapters 2, 3, 4, 5 and 6 and Appendices B, C and D of this Report.
(i) A description of measures envisaged concerning monitoring in accordance with Article 10.	Chapter 8 of this Report.
(j) A non-technical summary of the information provided under the above headings.	Non-technical summaries of the Issues and Options SA Report and this Report.

Appraising the vision, strategic objectives and policies

2.6 At the Draft Plan stage of the Minerals Local Plan the proposed vision, strategic objectives and policies were appraised using an objectives-led, matrix-based approach, together with a qualitative scale of likely effects or, in the case of the strategic objectives, scale of relationship. The appraisal matrices and assessment keys for the vision and strategic objectives are shown in full in Chapters 3 and 4 respectively of this report. The assessment key and a template of the matrix for the appraisal of policies are shown in Table 2.4, with the individual policy appraisal matrices being reproduced in full in Appendix B.

2.7 Each policy was assessed individually against each SA objective. The assessment involved discussion of the many complex issues and inter-relationships involved in sustainability. The decision-making criteria set out in Table 2.2 were taken into account. It should be recognised that inevitably, due to the nature of sustainability issues, qualitative and subjective elements, albeit based on professional judgement, were involved in the assessment of likely effects.

2.8 In considering the likely significant effects of policies on the SA objectives discussion included the issues of short and long term impacts and whether they would be temporary or permanent, as well as potential secondary (indirect) and cumulative impacts. Short term refers to the Plan period and long term to beyond the Plan period.

2.9 Each matrix includes a commentary explaining the reasoning behind each predicted significant effect and, where potential negative effects have been identified, mitigation to prevent, reduce or offset these has been suggested. A copy of the template used can be found in Table 2.4.

Table 2.4: Policy Appraisal Matrix

POLICY:

Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Short-term	**Long-term**		
1. Ensure that adequate provision is made to meet local and national minerals demand.				
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.				
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.				
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.				
5. Protect and enhance the quality and character of our townscape and landscape.				
6. Minimise impact and risk of flooding.				
7. Minimise any possible impacts on, and increase adaptability to, climate change.				
8. Protection of high-quality agricultural land and soil.				

9. Promote more efficient use of land and resources.				
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.				
11. Protect and improve local air quality.				
12. Protect and improve water quality and promote efficient use of water.				
13. Support wider economic development and promote local job opportunities				
14. Protect and improve human health and quality of life.				

Summary

Policy Appraisal Assessment Key

Symbol	Likely effect on the SA Objective
+++	The policy is likely to have a **very positive** impact
++	The policy is likely to have a **positive** impact
+	The policy is likely to have a **slightly positive** impact
0	**No significant effect / no clear link**
?	**Uncertain** or **insufficient information** on which to determine impact
-	The policy is likely to have a **slightly negative** impact

- -	The policy is likely to have a **negative** impact
- - -	The policy is likely to have a **very negative** impact
I	The policy could have a positive or a negative impact depending on **how it is implemented**

Short-term = the Plan period
Long-term = beyond the Plan period

Refining and reappraising the vision, strategic objectives and policies

2.10 The SA was undertaken as an iterative process in parallel with the development of the vision, strategic objectives and policies. Changes made were assessed and re-appraised as required. Details of this are set out in Chapters 3, 4 and 5 of this report. Amendments made following the Draft Plan consultation were re-appraised where it was considered that the changes could potentially substantially alter the Plan or give rise to significant effects. The assessment of re-appraisal requirements is shown in Appendix A of this report.

Assessing the cumulative effects of the policies on each objective

2.11 Cumulative effects can arise where several proposals each have insignificant effects but in combination have a significant effect due to spatial proximity or temporal overlap. Cumulative effects can be:
- Additive – the simple sum of all the effects;
- Neutralising – effects counteract each other to reduce the overall effect; or
- Synergistic – the effect of two or more effects acting together is greater than the simple sum of the effects.

2.12 Following the appraisal of policies, the cumulative effects of all of the policies on each SA objective were assessed. As an objectives-led, matrix-based approach had been followed, the identification of cumulative effects was facilitated by creating a table summarising the effects of the policies against the full set of SA objectives such that any objectives repeatedly subject to negative effects with the potential for a damaging cumulative impact could be identified. This process was repeated following the re-appraisal of policies required after the Draft Plan consultation and the updated table (Table 5.2) can be found in Chapter 5. Cumulative effects may vary according to different timescales and the appraisal matrix was also designed to provide the opportunity to record the temporal aspects of potential impacts, as explained in paragraph 2.8 above. Potential cumulative impacts for both the short and long term could therefore be assessed.

2.13 It should be recognised, however, that there are particular difficulties and uncertainties associated with predicting cumulative effects due to a number of factors, including variations in natural systems and their interactions, and due to lack of information, knowledge or scientific agreement about complex causal pathways and cause and effect relationships.

Appraising the sites

2.14 Each site was assessed individually against each SA objective using an appraisal matrix. A template of the matrix used can be found in Table 2.5. The site appraisal matrices for all the potential sites assessed are contained in the Draft Plan Interim SA Report. The site appraisal matrices for the sites allocated in the Publication Version Plan are provided in Appendix C, and the appraisal matrices for the unallocated sites can be found in Appendix D, of this report.

2.15 The predicted significant effects were recorded in accordance with the assessment key shown in Table 2.5. The assessment involved discussion of the many complex issues and inter-relationships involved in sustainability. The decision-making criteria set out in Table 2.2 were taken into account and the

rationale underpinning the scoring is explained in paragraphs 6.8 to 6.47 of this report. Numerical scoring was used to aid comparisons between sites but was not intended to be definitive. It should be recognised that inevitably, due to the nature of sustainability issues, qualitative and subjective elements, albeit based on professional judgement, were involved in the assessment of likely effects. The commentary explaining the reasoning behind each predicted effect and the potential mitigation should be referred to rather than looking at the scores in isolation.

2.16 In considering the likely effects of minerals development on the SA objectives discussion included the issues of short, medium and long term impacts and whether they would be temporary or permanent, as well as potential secondary (indirect) and cumulative impacts. It was initially considered that short term would refer to the operational period of extraction, medium term to the restoration period and long term to post-restoration. However, in terms of specifically noting effects it proved difficult to distinguish between short and medium term given that on many sites phased working would result in extraction taking place on some parts of the site and restoration on others over the same time period. The 'Operational period' column in the appraisal matrix therefore shows the likely effects during both extraction and restoration works, whilst the ‘Long-term’ column shows the likely effects post-restoration.

Table 2.5: Site Appraisal Matrix

SITE NAME: **MINERAL TYPE:** **NEW OR EXTENSION:** **SIZE:** **POTENTIAL CAPACITY:**				
Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Operational period	**Long -term**		
1. Ensure that adequate provision is made to meet local and national mineral demand.				
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.				
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.				
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.				
5. Protect and enhance the quality and character of our townscape and landscape.				
6. Minimise impact and risk of flooding.				
7. Minimise any possible impacts on, and increase adaptability to, climate change.				

8. Protection of high-quality agricultural land and soil.				
9. Promote more efficient use of land and resources.				
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.				
11. Protect and improve local air quality.				
12. Protect and improve water quality and promote efficient use of water.				
13. Support wider economic development and promote local job opportunities.				
14. Protect and improve human health and quality of life.				
Total				

Summary

Site Appraisal Assessment Key

Scale	Likely effect on the SA Objective
+3	The proposal is likely to have a **very positive** impact
+2	The proposal is likely to have a **positive** impact
+1	The proposal is likely to have a **slightly positive** impact
0	**No significant effect / no clear link**
?	**Uncertain** or **insufficient information** on which to determine impact
I	The proposal could have a positive or a negative impact depending on **how it is implemented**
-1	The proposal is likely to have a **slightly negative** impact
-2	The proposal is likely to have a **negative** impact
-3	The proposal is likely to have a **very negative** impact

Operational period = period of extraction and restoration works
Long-term = post-restoration

Assessing the cumulative effects of sites

2.17 Cumulative effects can arise where several developments each have insignificant effects but in combination have a significant effect due to spatial proximity or temporal overlap. Cumulative effects can be:
- Additive – the simple sum of all the effects;
- Neutralising – effects counteract each other to reduce the overall effect; or
- Synergistic – the effect of two or more effects acting together is greater than the simple sum of the effects.

2.18 There are two groups of sites in two geographical areas of the County where two or more sites allocated in the Publication version of the Nottinghamshire Local Plan are in close proximity to each other and there is potential for minerals development to have negative cumulative effects on identified receptors. These were assessed for potential cumulative effects, taking into account any existing permitted sites in close proximity to these allocated sites and the operational timescales of all the sites involved. The details of this assessment are set out in Chapter 6 of this report.

2.19 It should be recognised, however, that there are particular difficulties and uncertainties associated with predicting cumulative effects due to a number of factors, including variations in natural systems and their interactions, and due to lack of information, knowledge or scientific agreement about complex causal pathways and cause and effect relationships.

Stages D and E

2.20 Stages D (consultation) and E (post-adoption reporting and monitoring) of the SA process, as set out in Table 2.1, will take place from the publication of the Publication Version Minerals Local Plan and this Sustainability Appraisal Report onwards, as described in Chapter 10 of this report.

Other Appraisals

Habitats Regulation Assessment (HRA)

2.21 Habitats Regulations Assessment is required under the European Directive 92/43/EEC on the "conservation of natural habitats and wild fauna and flora" for plans that may have an impact of European (Natura 2000) Sites. HRA is the assessment of the impacts of implementing a plan or policy on a Natura 2000 Site. Its purpose is to consider the impacts of a land-use plan against conservation objectives of the site and to ascertain whether it would adversely affect the integrity of the site. Where significant negative effects are identified, alternative options should be examined to avoid any potential damaging effects.

2.22 Three European sites were considered within the scope of this HRA: Birklands and Billaugh SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA. The test of likely significant effects identified no linking impact pathways between site allocations proposed in the Plan and these European sites. The potential for likely significant effects were therefore screened out at the first stage of HRA

and further appropriate assessment and/or mitigation were not required. One possible proposed European site, Sherwood ppSPA, is located approximately 800m east of the Bestwood II North site allocation which raises potential for likely significant effects on SPA bird populations. There is no legal obligation to conduct an appropriate assessment of the potential for adverse effects on the integrity of possible European sites. However, Natural England advises that local authorities take a 'risk-based approach', therefore the HRA makes recommendations for Bestwood II North in respect of mitigation, which is referred to in the SA matrix for this site.

Strategic Flood Risk Assessment (SFRA)

2.23 A Level 1 Strategic Flood Risk Assessment for the Nottinghamshire Minerals Local Plan has been undertaken by AECOM on behalf of the County Council. The purpose of this report was to assess and map the different levels and types of flood risk to inform the development of the Minerals Local Plan. In addition to the work carried out, all sites will require a site-specific Flood Risk Assessment at the planning application stage.

Strategic Transport Assessment (STA)

2.24 Consultation with the Highways Authority during the preparation of the Minerals Local Plan has indicated that each proposed site would not have significant impacts on the highway network if a relevant package of mitigation measures were implemented. However, a detailed strategic transport assessment has been completed to ensure that there are no unacceptable overall impacts on the highway network. This concludes that the highway impacts of new or extended mineral sites would be minimal and highlights appropriate mitigation measures, where relevant. In addition to these strategic findings, all sites will require a detailed transport assessment at the planning application stage.

Equality Impact Assessment (EqIA)

2.25 Assessment of the impact of the Minerals Local Plan in relation to equality has been undertaken during the Plan’s production. A final, comprehensive EqIA accompanies the Publication Version and its recommendations were incorporated into the Plan.

Health Impact Assessment (HIA)

2.26 A Health Impact Assessment has been carried out to ensure that the Minerals Local Plan does not have significant adverse impacts in the short or long term. It made recommendations that have been incorporated into the Publication Version.

3 Appraisal of the Vision

3.1 The Minerals Local Plan will be guided by an overall vision setting out how the minerals industry can continue to provide the raw materials that are needed in the most sustainable way. A proposed vision was set out in the Issues and Options consultation document and this was appraised against the 14 SA objectives (listed in Table 2.2), as set out in the Issues and Options Sustainability Report. At that stage the appraisal found that the vision failed to impart a sustainable overall approach to minerals development and it was recommended that the vision was revised to fully take into account the issues which are covered by the following SA objectives:

- 5. (protect and enhance the quality and character of our townscape and landscape)
- 6. (minimise impact and risk of flooding)
- 7. (minimise any possible impacts on, and increase adaptability to, climate change)
- 8. (protect high quality agricultural land and soil)
- 10. (promote energy efficiency and maximise renewable energy opportunities)
- 11.(protect and improve local air quality)
- 12. (protect and improve water quality and promote efficient use of water).

3.2 The vision was therefore re-drafted following the Issues and Options stage and the sustainability appraisal results of that amended vision are set out in the Draft Plan Interim SA Report.

3.3 A further amendment to the vision was made following consultation on the Draft Plan to include reference to restoration in ensuring that environmental harm and impacts on climate change are minimised. Re-appraisal found that, although this resulted in a minor change to the commentary on SA Objective 7, there was no change to the vision's effects on the SA objectives. The revised vision had a positive or very positive impact on all the SA objectives, as shown in Table 3.1.

Table 3.1: Appraisal of the revised Vision

VISION: "Over the plan period to 2036 minerals will continue to be used as efficiently as possible across Nottinghamshire. Minerals are a valuable natural resource and should be worked and used in a sustainable manner and where possible re-used to minimise waste. **Mineral development will be designed, located and operated and restored to ensure that environmental harm and impacts on climate change are minimised.** **Within geological constraints, mineral development will be concentrated in locations that offer the greatest level of accessibility to the major markets and growth areas and to sustainable transport nodes to encourage sustainable patterns and modes of movement.** **Nottinghamshire will continue to provide minerals to meet its share of local and national needs. Sites will be available to support the economic, social and environmental benefits of sustainable growth. Mineral reserves, and minerals related infrastructure will be identified and safeguarded against inappropriate development. Consumption will be minimised, by promoting the use of secondary and recycled minerals.** **Quarries will be designed, operated and managed in ways which help to reduce flood risk, particularly in the Trent Valley flood plain, manage surface water sustainably and maintain or enhance water quality.** **All mineral workings will contribute towards 'a greener Nottinghamshire' by ensuring that the County's diverse environmental assets are protected, maintained and enhanced through appropriate working, restoration and after-use and by ensuring that proposals have regard to Nottinghamshire's historic environment, townscape and landscape character, biodiversity, geodiversity, agricultural land quality and public rights of way. This will result in improvements to the environment, contribute to landscape-scale biodiversity delivery, including through the improvements to existing habitats, the creation of large areas of new priority habitat, and the re-connection of ecological networks, with sensitivity to surrounding land uses.** **The quality of life and health of those living, working in, or visiting Nottinghamshire will be protected."**

Sustainability Appraisal Objectives	Effect	Commentary
1. Ensure that adequate provision is made to meet local and national mineral demand.	++	The vision states that minerals provision will be made to meet Nottinghamshire's share of local and national needs, which will make a very positive contribution towards meeting demand.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	+	The vision seeks to ensure that proposals have regard to Nottinghamshire's biodiversity and geodiversity and that environmental assets are protected, maintained and enhanced through appropriate working, restoration and after-use.
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	+	The vision states that, within geological constraints, mineral development will be concentrated in locations with the greatest accessibility to major markets and growth areas and to sustainable transport nodes to encourage sustainable patterns and modes of movement.
4. Protect the quality of the historic environment above and below ground.	+	The vision seeks to ensure that proposals will have regard to Nottinghamshire's historic environment.
5. Protect and enhance the quality and character of our townscape and landscape.	+	The vision seeks to ensure that proposals will have regard to Nottinghamshire's townscape and landscape character.
6. Minimise impact and risk of flooding.	+	The vision states that quarries will be designed, operated and managed to help to reduce flood risk.
7. Minimise any possible impacts on and increase adaptability to climate change.	+	The vision states that mineral development will be designed, located, operated and restored to ensure that impacts on climate change are minimised.
8. Protection of high-quality agricultural land and soil.	+	The vision seeks to ensure that proposals will have regard to Nottinghamshire's agricultural land quality.
9. Promote more efficient use of land and resources.	++	The vision states that minerals are a valuable natural resource which should be worked and used in a sustainable manner and where possible re-used to minimise waste.

10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	+	The vision states that mineral development will be designed and operated to ensure that environmental harm is minimised.
11. Protect and improve local air quality.	+	This is not explicitly stated in the vision but it is considered that it is addressed in terms of the vision's statement that the quality of life and health of those living, working in and visiting Nottinghamshire will be protected.
12. Protect and improve water quality and promote efficient use of water.	+	The vision states that quarries will be designed, operated and managed so that surface water is managed in a sustainable way and water quality is maintained or enhanced.
13. Support wider economic development and promote local job opportunities.	+	Provision of minerals to meet Nottinghamshire's share of local and national needs will contribute to the support of the wider economy and the working of sites in order to do so will provide local job opportunities. The vision states that sites will be available to support the economic, social and environmental benefits of sustainable growth.
14. Protect and improve human health and quality of life.	+	The vision states that the quality of life and health of those living, working in and visiting Nottinghamshire will be protected.

Summary

- The vision was considered to have a positive or very positive impact on all the SA objectives.

Assessment Key

Symbol	Likely effect on the SA Objective
++	The vision is likely to have a **very positive** impact
+	The vision is likely to have a **positive** impact
0	**No significant effect / no clear link**
?	**Uncertain** or **insufficient information** on which to determine impact
-	The vision is likely to have a **negative** impact
- -	The vision is likely to have a **very negative** impact
I	The vision could have a positive or a negative impact depending on **how it is implemented**

4 Appraisal of the Strategic Objectives

4.1 The Minerals Local Plan sets out eight strategic objectives (SOs) which are central to achieving the delivery of the vision for the Plan. The compatibility of these strategic objectives with the 14 SA objectives (listed in Table 2.2) was evaluated to allow for identification of any tensions or conflicts between them, as shown in Table 4.4.

4.2 Following consultation on the Draft Plan amendments were made to MLP strategic objectives SO4 (safeguarding of mineral resources and associated minerals infrastructure), SO6 (protecting and enhancing natural assets) and SO7 (protecting and enhancing historic assets). Re-appraisal of their compatibility with the MLP strategic objectives was undertaken but this did not result in any changes to the compatibility scores.

4.3 No incompatibility was found between the strategic objectives of the Minerals Local Plan (MLP) and the SA objectives. There were several instances where there was no relationship between the MLP objectives and some of the SA objectives but this was to be expected given the broad range of issues covered.

4.4 There were five MLP strategic objectives where the relationship with one or more of the SA objectives was unknown or dependent on implementation:

- SO2 (providing an adequate supply of minerals) with SA objectives 2 -12 and 14. The relationship with all of these objectives was found to be dependent on how the supply of minerals is met (i.e. specific site and location impacts);
- SO5 (minimising impacts on communities) with SA objective 3 (promoting sustainable patterns of movement and the use of more sustainable modes of transport) as it would be dependent on whether the measures required to protect communities were consistent with sustainable patterns or modes of transport (i.e. the use of conveyors would be compatible, but the routeing of lorries to avoid communities, and in doing so taking a longer route, could be considered incompatible);
- SO6 (protecting and enhancing natural assets) with SA objective 1 (ensuring that adequate provision is made to meet local and national mineral demand) as minerals development by its very nature can have a negative impact on natural assets, but this need not be the case dependent on site location and operational considerations.
- SO7 (protecting and enhancing historic assets) with SA objective 1 (ensuring that adequate provision is made to meet local and national mineral demand) as whilst providing building stone is compatible with ensuring provision to meet demand, there is no clear relationship between protecting/recording archaeological remains and ensuring minerals provision.
- SO8 (protecting agricultural soils) with SA objective 1 (ensuring that adequate provision is made to meet local and national mineral demand) as it would be dependent on the chosen locations to meet this demand and the quality of the agricultural soils subsequently lost.

4.5 Every MLP strategic objective was compatible with a number of SA objectives. The MLP strategic objectives seek to support the economy (SO2) whilst encouraging the efficient use of resources (SO1 and SO4), addressing climate change issues (SO3), maximising biodiversity gain through restoration (objective 6) and minimising the impact on the environment and local communities (SO5, SO6, SO7 and SO8). Overall, therefore, the compatibility matrix showed that the MLP strategic objectives contribute positively to sustainability.

Table 4.1 Compatibility of the Publication Version Minerals Local Plan Strategic Objectives with the Sustainability Appraisal Objectives

MLP Strategic Objectives (title)	**Sustainability Appraisal Objectives**													
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
1. Improving the sustainability of minerals development	+	0	+	0	0	0	+	0	+	0	+	0	+	0
2. Providing an adequate supply of minerals	+	?	?	?	?	?	?	?	?	?	?	?	+	?
3. Addressing climate change	0	0	+	0	0	+	+	0	0	+	+	+	0	+
4. Safeguarding of mineral resources and associated minerals infrastructure	+	0	0	0	0	0	0	0	+	0	0	0	+	0
5. Minimising impacts on communities	0	0	?	0	+	+	0	0	0	0	+	+	0	+
6. Protecting and enhancing natural assets	?	+	0	0	+	0	+	0	0	0	0	0	0	+
7. Protecting and enhancing historic assets	?	0	0	+	+	0	0	0	0	0	0	0	0	+
8. Protecting agricultural soils	?	0	0	0	0	0	0	+	+	0	0	0	+	0

Assessment Key

Symbol	Relationship with the Sustainability Appraisal Objective
+	Compatible
0	Not related
?	Unknown or dependent on implementation
-	Incompatible

5 Appraisal of the Policies

5.1 The Draft Plan set out the draft policies which were intended to provide the framework required to guide the future development of minerals in the County. There were 8 strategic policies, 12 minerals provision policies and 17 development management policies. The minerals provision policies include site allocations. Each policy was assessed individually against each SA objective. The assessment involved discussion of the many complex issues and inter-relationships involved in sustainability. The decision-making criteria set out in Table 2.2 were taken into account. It should be recognised that inevitably, due to the nature of sustainability issues, qualitative and subjective elements, albeit based on professional judgement, were involved in the assessment of likely effects.

5.2 In considering the likely significant effects of policies on the SA objectives discussion included the issues of short and long term impacts and whether they would be temporary or permanent, as well as potential secondary (indirect) and cumulative impacts. In this context, short term refers to the Plan period and long term to beyond the Plan period.

5.3 Each matrix includes a commentary explaining the reasoning behind each predicted significant effect and, where potential negative effects have been identified, mitigation to prevent, reduce or offset these has been suggested. A template of the policy appraisal matrix, together with the assessment key, can be found in Table 2.4 of this report.

5.4 The detailed appraisal matrices for the Draft Plan policies can be found in Chapter 5 of the Draft Plan Interim SA Report. Following consultation on the Draft Plan changes were made to a number of the policies. These changes were assessed to determine whether re-appraisal was required. Re-appraisal was carried out where it was considered that the changes could potentially substantially alter the Plan or give rise to significant effects. The assessment of re-appraisal requirements is shown in Appendix A of this report.

5.5 The detailed appraisal matrices for the Publication Version policies are contained in Appendix B of this report. A summary of the predicted significant effects of each of the Publication Version policies is presented in Table 5.1 below. These are the policies which are intended to guide the future development of minerals in the County.

Table 5.1: Summary of policy appraisal findings

POLICY	SUSTAINABILITY APPRAISAL FINDINGS
SP1: MINERALS PROVISION (formerly SP2) 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) Give priority to 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.	• The policy makes an important contribution to the economic aspects of sustainability, having, in the short-term, a very positive effect on ensuring adequate minerals provision in the short-term and a positive effect in the short-term and slightly positive effect in the long-term on supporting wider economic development. • There is a negative effect of the policy in that it does not address the issue of climate change however no policy would be applied in isolation and the Plan does contain a strategic policy on climate change. • Its impact on most of the other SA objectives is uncertain as this would be dependent on the location of sites in relation to sensitive receptors and the details of operation or, in the case of sustainable transport issues, location in relation to transport routes and the end market for the mineral.
SP2: BIODIVERSITY-LED RESTORATION (formerly SP3)	• The policy has a very positive impact, in the long-term, on protecting and enhancing biodiversity because it prioritises biodiversity-led restoration and does not make any

1. Restoration schemes that seek to maximise biodiversity gains 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.	specific provision for non-biodiversity-led restoration schemes to be supported. • There are also slightly positive impacts, in the long-term, on protecting the historic environment and landscape, minimising flooding, increasing adaptability to climate change and quality of life as the policy as the policy states that restoration schemes for allocated sites should be in line with the relevant Site Allocation Development Briefs. • There is a slightly positive impact, in the long-term, on protecting and improving water quality as the policy requires restoration schemes to contribute to the delivery of the Water Framework Directive's objectives. • The impact on promoting more efficient use of land and resources is uncertain as it would be dependent on the details of restoration in any particular proposal. • There is no clear link with, or no significant effect on, the other SA objectives.
SP3: CLIMATE CHANGE (formerly SP4) 1. All minerals development, including site preparation, operational practices and restoration proposals should minimise their impact on the causes of climate change for the lifetime of the development. Where applicable development should assist in the reduction of vulnerability and provide resilience to the impacts of climate change by:	• This policy makes a very important contribution to sustainability as it seeks to ensure that the impact of minerals development on the causes of climate change is minimised and that future adaptability to climate change is addressed through restoration schemes. • The policy has a very positive, positive or slightly positive effect on many of the SA

a) Being located, designed and operated to help reduce greenhouse gas emissions, withstand unavoidable climate impacts and move towards a low-carbon economy; b) Avoiding areas of vulnerability to climate change and flood risk. Where avoidance is not possible, impacts should be fully mitigated; c) Developing restoration schemes which will contribute to addressing future climate change adaptation, including through biodiversity and habitat creation, carbon storage and flood alleviation.	objectives, largely in both the short- and long-term. For the remainder of the SA objectives there is no clear link.
POLICY SP4: SUSTAINABLE TRANSPORT (formerly SP5) 1. All mineral proposals should seek to maximise the use of sustainable forms of transport, including barge, rail and pipeline. 2. Where it can be demonstrated that there is no viable alternative to road transport, all new mineral working 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. 3. Proposals requiring the bulk transport of minerals, minerals waste/fill or materials/substances used for the extraction of minerals by road will be required to demonstrate that more sustainable forms of transport are not viable.	• The policy has a very positive impact on promoting sustainable patterns of movement and the use of more sustainable modes of transport during the Plan period but the long-term impact on this objective is uncertain. • Other slightly positive impacts are anticipated during the Plan period in respect of climate change, efficient use of land and resources, air quality and human health /quality of life. • The policy may have an impact on water quality, which could be positive or negative depending on the specific forms of alternative transport used.

SP5: THE BUILT, HISTORIC AND NATURAL ENVIRONMENT (formerly SP6) 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.	• There could be a slightly negative effect on adequate provision of minerals as the policy may impose constraints which could limit the choice of sites. • The policy has positive impacts during both the Plan period and in the long-term in relation to biodiversity and geodiversity, a positive effect during the Plan period and a slightly positive effect in the long-term for the historic environment and for human health/quality of life. There are also slightly positive effects in the short-term for protection of air and water quality. • The policy has a positive impact, in both the short- and long-term, in relation to landscape and townscape, flooding and high-quality agricultural land and soil.
SP6: THE NOTTINGHAMSHIRE GREEN BELT (formerly SP7) Proposals for mineral extraction and associated development will be supported where this maintains the openness of the Green Belt and the purposes of including land within it. Inappropriate development will not be approved except in very special circumstances. Very special circumstances will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm, is clearly outweighed by other considerations.	• The policy has a slightly positive impact on protecting landscape through seeking to protect the openness of the Green Belt. • There is no clear link with, or no significant effect on, any of the other SA objectives.

Site restoration proposals should seek to enhance the beneficial use of the Green Belt.	
SP7: MINERALS SAFEGUARDING, CONSULTATION AREAS AND ASSOCIATED MINERALS INFRASTRUCTURE (formerly SP8) **Safeguarding Areas** 1. Economically important mineral resources and associated minerals infrastructure will be safeguarded from needless sterilisation by non-minerals development through the designation of minerals safeguarding areas as identified on the Policies Map. 2. Non-minerals development within minerals safeguarding areas will have to demonstrate that mineral resources of economic importance will not be needlessly sterilised as a result of the development the development and that the development would not pose a serious hindrance to future extraction in the vicinity. 3. Where this cannot be demonstrated, and where there is a clear and demonstrable need for the non-minerals development, prior extraction will be sought where practicable. **Consultation Areas** 4. District and Borough Councils within Nottinghamshire will consult the County Council as Minerals Planning Authority on proposals for non-minerals development within the designated Mineral Consultation Area, as shown on the Policies Map.	• The policy has a very positive impact on ensuring adequate minerals provision and promoting more efficient use of land as it aims to ensure that economically important minerals resources are not sterilised. • The impact on supporting the wider economy is uncertain because there could be a restrictive impact on non-minerals development. • There is no clear link with any of the other SA objectives, which is to be expected given the specific nature of this policy.

The Minerals Planning Authority will resist inappropriate non-minerals development within the Minerals Consultation Areas.	
MP1: AGGREGATE PROVISION 1. To meet identified levels of demand for aggregate mineral over the plan period (2018-2036) the following provision will be made: - 32.30 million tonnes of Sand and Gravel - 7.03 million tonnes of Sherwood Sandstone - 0.09 million tonnes of crushed rock 2. The County Council will make provision for the maintenance of landbanks of at least 7 years for sand and gravel, 7 years for Sherwood Sandstone and 10 years for crushed rock, whilst maintaining a steady and adequate supply over the plan period. 3. Proposals for aggregate extraction outside those areas identified in policies MP2, MP3 and MP4 will be supported where a need can be demonstrated.	• The policy makes an important contribution to the economic aspects of sustainability as it makes specific provision for identified aggregate needs and has a very positive effect, in the short-term, on ensuring adequate provision and supporting economic development and a slightly positive effect, in the long-term, on the latter. • Its impact on most of the other SA objectives is uncertain as this would be dependent on the location of sites in relation to sensitive receptors and the details of operation and restoration or, in the case of sustainable transport issues, location in relation to transport routes and the end market for the mineral.
MP2: SAND AND GRAVEL PROVISION 1. An adequate supply of sand and gravel will be identified to meet expected demand over the plan period from: a) The extraction of remaining reserves at the following permitted quarries: (Million tonnes) MP2a Newington South 0.39mt MP2b Finningley 0.45mt MP2c Sturton Le Steeple 7.50mt	• The policy makes an important contribution to the economic aspects of sustainability as it makes specific provision for identified sand and gravel needs and has a very positive effect, in the short-term, on ensuring adequate provision and supporting economic development and a slightly positive effect, in the long-term, on the latter. • Its impact on most of the other SA objectives is uncertain as this would be dependent on the location of sites in relation to sensitive

MP2d Bawtry Road 0.60mt MP2e Cromwell 2.40mt MP2f Besthorpe 0.50mt MP2g Girton 3.56mt MP2h Langford Lowfields 4.95mt MP2i East Leake 2.34mt MP2j Scrooby South 0.62mt b) The following extensions to existing permitted quarries: MP2k Bawtry Road West 0.18mt MP2l Scrooby Thompson Land 0.06mt MP2m Scrooby North 0.56mt* (0.62mt) MP2n Langford Lowfields North 4.70mt* (8.00mt) MP2o Besthorpe East 3.30mt c) New sand and gravel quarries: MP2p Mill Hill nr Barton in Fabis 3.0mt** Note: The above sites are shown on the Policies Map Proposals to extract specialist grey sand reserves will be supported where a need can be demonstrated. Planning applications for site allocations should be made in accordance with the site development briefs set out in Appendix 2	receptors and the details of operation and restoration or, in the case of sustainable transport issues, location in relation to transport routes and the end market for the mineral.
MP3: SHERWOOD SANDSTONE PROVISION An adequate supply of Sherwood Sandstone will be identified to meet expected demand over the plan period from:	• The policy makes an important contribution to the economic aspects of sustainability as it makes specific provision for identified Sherwood Sandstone needs and has a very positive effect, in the short-term, on ensuring

a) The extraction of remaining reserves at the following permitted quarries: (Million tonnes) MP3a Burntstump 1.88mt MP3b Bestwood 2 2.74mt MP3c Scrooby Top 0.60mt b) The following extensions to existing quarries. MP3d Bestwood 2 North 0.75mt MP3e Scrooby Top North 1.68mt* (4.83mt) Note: The above sites are shown on the Policies Map Planning applications for site allocations should be made in accordance with the site development briefs set out in Appendix 2 * Available within the plan period (total estimated reserves in brackets).	adequate provision and supporting economic development and a slightly positive effect, in the long-term, on the latter. • Its impact on most of the other SA objectives is uncertain as this would be dependent on the location of sites in relation to sensitive receptors and the details of operation and restoration or, in the case of sustainable transport issues, location in relation to transport routes and the end market for the mineral.
MP4: CRUSHED ROCK (LIMESTONE) PROVISION An adequate supply of limestone will be identified to meet expected demand over the plan period from the extraction of remaining reserves at the following permitted site: (Million tonnes) MP4a Nether Langwith 3.34mt Note: The above site is shown on the Policies Map	• The policy makes an important contribution to the economic aspects of sustainability as it makes specific provision for identified limestone needs and has a very positive effect, in the short-term, on ensuring adequate provision. • There will also be a positive impact during the Plan period on supporting wider economic development and a slightly positive impact in the long-term as the indirect benefits of provision of this essential raw material will continue in the long-term.

	• Its impact on most of the other SA objectives is uncertain as this would be dependent on the location of sites in relation to sensitive receptors and the details of operation and restoration or, in the case of sustainable transport issues, location in relation to transport routes and the end market for the mineral.
MP5: SECONDARY AND RECYCLED AGGREGATES 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.	• This policy contributes to all aspects of sustainability with slightly positive, positive or very positive (particularly in the case of promoting more efficient use of land and resources) impacts on all the SA objectives, with the exception of objective 10 (energy efficiency/renewable energy), where there is no clear link.
MP6: BRICK CLAY PROVISION 1. An adequate supply of brick clay will be identified to meet expected demand over the plan period and enable a 25-year landbank per brick works to be maintained from: a) The extraction of remaining reserves at the following permitted sites: MP6a Kirton MP6b Dorket Head Note: The above sites are shown on the Policies Map	• The policy has a very positive impact on the adequate provision of minerals during the Plan period as it makes specific provision for identified brick clay needs. • There will also be a positive impact during the Plan period on supporting wider economic development and a slightly positive impact in the long-term as the indirect benefits of provision of this essential raw material will continue through its use in the construction industry. • The impact on most of the other SA objectives is uncertain as the impact would be dependent on the location of sites in

2. Proposals for clay extraction outside the sites identified above will be supported where it can be demonstrated that there are insufficient reserves available to meet the 25-year landbank requirement per site and that the identified sites are not deliverable. Planning applications for site allocations should be made in accordance with the site development briefs set out in Appendix 2	relation to sensitive receptors and the details of operation and restoration or, in the case of sustainable transport issues, location in relation to transport routes and the end market for the mineral.
MP7: GYPSUM PROVISION 1. An adequate supply of Gypsum will be identified to meet demand over the plan period from: a) The extraction of remaining reserves at the following permitted sites: MP7a Marblaegis Mine MP7b Bantycock Quarry b) The following extension to the existing Bantycock quarry: MP7c Bantycock Quarry South 8.5 million tonnes Note: The above sites are shown on the Policies Map 2. Proposals for gypsum extraction outside the permitted sites identified above will be supported where a need can be demonstrated. Planning applications for site allocations should be made in accordance with the site development briefs set out in Appendix 2	• The policy makes an important contribution to the economic aspects of sustainability as it makes specific provision for identified gypsum needs and has a very positive effect, in the short-term, on ensuring adequate provision. • There will also be a positive impact during the Plan period on supporting wider economic development and a slightly positive impact in the long-term as the indirect benefits of provision of this essential raw material will continue in the long-term. • Its impact on most of the other SA objectives is uncertain as this would be dependent on the location of sites in relation to sensitive receptors and the details of operation and restoration or, in the case of sustainable transport issues, location in relation to transport routes and the end market for the mineral.

MP8: SILICA SAND PROVISION 1. The extraction of remaining reserves at the following permitted sites will be utilised to contribute towards the provision of an adequate and steady supply of silica sand sufficient for at least ten years: MP8a Two Oaks Farm Note: The above sites are shown on the Policies Map 2. Proposals for silica sand extraction outside the sites identified above will be supported where a need can be demonstrated.	• The policy makes an important contribution to the economic aspects of sustainability as it makes specific provision for identified silica sand needs and has a very positive effect, in the short-term, on ensuring adequate provision. • There will also be a positive impact during the Plan period on supporting wider economic development and a slightly positive impact in the long-term as the indirect benefits of provision of this essential raw material will continue in the long-term. • Its impact on most of the other SA objectives is uncertain as this would be dependent on the location of sites in relation to sensitive receptors and the details of operation and restoration or, in the case of sustainable transport issues, location in relation to transport routes and the end market for the mineral.
MP9: INDUSTRIAL DOLOMITE PROVISION Proposals for industrial dolomite extraction will be supported where a need can be demonstrated.	• The policy makes a positive contribution to ensuring adequate provision of minerals during the Plan period. • There will also be a slightly positive impact during the Plan period on supporting wider economic development through the provision of essential raw materials. • Its impact on most of the other SA objectives is uncertain as this would be dependent on the location of sites in relation to sensitive receptors and the details of operation and

	restoration or, in the case of sustainable transport issues, location in relation to transport routes and the end market for the mineral.
MP10: BUILDING STONE PROVISION 1. The extraction of building stone at the following permitted site will be utilised to maintain future supply: MP10a Yellowstone Quarry 2. Proposals for the extraction of building stone outside the permitted site identified above will be supported where it can be demonstrated that extraction will be primarily for non-aggregate use. Note: The above site is shown on the Policies Map	• The policy makes an important contribution to the economic aspects of sustainability as it makes specific provision for anticipated local building stone requirements and has a very positive effect, in the short-term, on ensuring adequate provision. • There will also be a positive impact during the Plan period on supporting wider economic development and a slightly positive impact in the long-term as the indirect benefits of provision of building stone will continue in the long-term. • The policy also has a positive effect in relation to protecting the historic environment and protecting and enhancing townscape/landscape by ensuring that local building stone will be available. • There will also be a positive impact in terms of more efficient use of resources through local building stone being retained for non-aggregate use. • Its impact on most of the other SA objectives is uncertain as this would be dependent on the location of sites in relation to sensitive receptors and the details of operation and restoration or, in the case of sustainable transport issues, location in relation to

	transport routes and the end market for the mineral.
MP11: COAL 1. Permission for the extraction of coal will only be granted where: a) the proposal is environmentally acceptable, or can be made so by mitigation; or b) the proposal provides national, local or community benefits which clearly outweigh the likely adverse impacts. Along with the above the following will be taken into account: **Surface mined coal: Incidental mineral extraction** 2. Where proposals for surface mined coal are acceptable, proposals for the recovery and stockpiling of fireclays and other incidental minerals will be supported where this does not result in any unacceptable environmental or amenity impact. **Colliery Tipping** 3. Proposals for colliery tipping will be supported where: a) a need can be demonstrated; and b) the proposal is environmentally acceptable. **Reworking colliery spoil tips/lagoons** 4. Applications will be supported for the reworking of colliery spoil tips/lagoons where the environmental and economic benefits of the development, including addressing the likelihood of spontaneous combustion and substantial environmental improvement of the site,	• The policy contributes positively to the economic aspects of sustainability by allowing for the extraction of coal in certain circumstances. • There is also a positive effect in terms of the efficient use of resources through allowing incidental mineral extraction and the re-working of colliery spoil tips. • The impact on most of the other SA objectives could be positive or negative depending on how individual proposals are implemented. In order for the impact to be positive the policy would have to be re-worded to give more weight to environmental considerations.

outweigh the environmental or amenity impacts of the development or the loss of established landscape and wildlife features.	
MP12: OIL AND GAS 1. Exploration and appraisal of oil and gas will be supported, provided the site and equipment: a. Are not located in a protected area other than in exceptional circumstances where this does not compromise the reasons for the designation and the need for development can be demonstrated; and b. Are located where this will not have an unacceptable environmental impact. 2. The commercial production of oil and gas will be supported, provided the site and equipment: a. Are not located in a protected area other than in exceptional circumstances where this does not compromise the reasons for the designation and the need for development can be demonstrated; and b. Are located at the least sensitive location taking account of environmental, geological and technical factors. 3. Proposals at each stage must provide for the restoration and subsequent aftercare of the site, whether or not oil or gas is found.	• The policy has a positive effect on ensuring that adequate provision of oil and gas is made to meet demand. • The effect on most of the remaining SA objectives is slightly positive during the Plan period as the policy seeks to ensure that sites and equipment do not have an unacceptable environmental impact and are located in the least sensitive locations.
DM1: PROTECTING LOCAL AMENITY 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. The types of impacts that need to be considered include but are not restricted to:	• During the Plan period the policy has a slightly negative effect on the provision of minerals in that it imposes constraints which may limit the choice of sites, however there may be potential for mitigation of adverse effects which would make sites acceptable.

- Landscape and Visual impacts; - Noise; - Blast vibration; - Dust; - Mud - Air emissions; - Lighting; - Transport; - Stability of the land at and around the site, both above and below ground level. - Loss of designated open/green space	• There are slightly positive impacts on townscape/landscape, climate change and local air quality and a positive impact on human health/quality of life. • There is no clear link with any of the other SA objectives, which is to be expected given the specific nature of this policy.
DM2: WATER RESOURCES AND FLOOD RISK **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** 3. Proposals for minerals development will be supported where it can be demonstrated that there will be no unacceptable impact on:	• There could be a slightly negative effect on adequate provision of minerals as the policy may impose constraints which could limit the choice of sites. • However, the policy would have a slightly positive impact on biodiversity through protection of water resources and minimisation of flood risk, on the historic environment through minimisation of flood risk and on climate change as it would help towards adaptability to climate change through encouraging flood storage schemes and SuDS. • There would also be a very positive impact on protecting and improving water quality and promoting efficient use of water, and a positive impact on helping to protect human health and quality of life.

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. 3. 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. 4. 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.	• The policy would have a very positive impact on minimising the impact and risk of flooding.
DM3: AGRICULTURAL LAND AND SOIL QUALITY **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**	• The policy has a very positive impact on protecting high quality agricultural land and soil and a slightly positive effect on promoting efficient use of land and on supporting wider economic development. • There is no clear link with any of the other SA objectives, which is to be expected given the specific nature of this policy.

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.	
DM4: PROTECTION AND ENHANCEMENT OF BIODIVERSITY AND GEODIVERSITY 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; b) They are not likely to give rise to an adverse effect on a Site of Special Scientific Interest, except where the 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. 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.	• There could be a slightly negative effect on adequate provision of minerals as the policy may impose constraints which could limit the choice of sites. The policy does allow for minerals development in certain circumstances however, such that protection is commensurate with the status of the site, habitat or species involved. • The policy has very positive impact during the Plan period, and a positive effect in the long-term, on biodiversity and geodiversity which it aims to protect and enhance. • There is also a slightly positive impact, in both the short- and long-term, on climate change, and on quality of life to which biodiversity makes a contribution. • There is no clear link with the remaining SA objectives which is to be expected given the specific nature of this policy.

2. Where impacts on designated sites or priority habitats or species cannot be avoided, then adequate mitigation relative to the scale of the impact and 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; 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.	
DM5: LANDSCAPE CHARACTER 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;	• There could be a slightly negative effect on adequate provision of minerals as the policy may impose constraints which could limit the choice of sites. However, the policy does allow for development where there is no available alternative and 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.	• The policy has a positive impact in terms of seeking to protect landscape character and distinctiveness. • The protection of landscape has a slightly positive impact on the historic environment, quality of life and supporting wider economic development. • There is no clear link with the remaining SA objectives which is to be expected given the specific nature of this policy.
DM6: HISTORIC ENVIRONMENT 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.	• The policy is very positive in relation to protecting the historic environment, slightly positive in its effect on protecting and enhancing townscape/landscape in the short-term and positive in the long-term, and slightly positive in contributing to quality of life. • There is a slightly negative impact on the provision of minerals in that the policy does impose constraints which could limit the choice of sites, however the policy does allow for minerals development which affects heritage assets in certain circumstances. • There is no clear link with any of the other SA objectives, which is to be expected given the specific nature of this policy.

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.	
DM7: PUBLIC ACCESS 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.	• The policy has a positive impact on promoting sustainable transport and protecting and improving quality of life because it seeks to protect and enhance the public rights of way network. • There is no clear link with any of the other SA objectives, which is to be expected given the specific nature of this policy.
DM8: CUMULATIVE IMPACT 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.	• During the Plan period the policy has a slightly negative effect on ensuring adequate mineral provision as it may impose constraints which limit the choice of sites. • However, it has a slightly positive impact on the environmental aspects of sustainability and human health/quality of life, in both the short- and long-term, as it seeks to ensure that there will be no unacceptable cumulative impacts on the environment or local amenity.
DM9: HIGHWAYS SAFETY AND VEHICLE MOVEMENTS/ ROUTEING	• During the Plan period the policy has a slightly negative effect on ensuring adequate

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.	mineral provision as it may impose constraints which limit the choice of sites. • However, during the Plan period, it has a slightly positive impact on the environmental aspects of sustainability and a positive effect on human health/quality of life as it seeks to ensure that minerals transportation does not have an unacceptable impact on the environment or local amenity and that traffic impact on local communities is minimised.
DM10: AIRFIELD SAFEGUARDING 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: a) East Midlands Airport; b) Gamston (Retford) Airport; c) Netherthorpe Airfield; d) Nottingham City Airport; e) Robin Hood Airport Doncaster Sheffield; f) RAF Scampton MoD Aerodrome; g) RAF Syerston MoD Aerodrome; h) RAF Waddington MoD Aerodrome.	• The policy has a slightly positive impact on human health/quality of life as it seeks to ensure that minerals development is not a hazard to air traffic. • The effect on biodiversity is uncertain because it would be dependent on the details of proposed restoration. • There is no clear link with any of the other SA objectives, which is to be expected given the specific nature of this policy.

Any new airfield safeguarding area notified to the Council during the Plan period will also be safeguarded.	
DM11: PLANNING OBLIGATIONS The County Council will seek to negotiate planning obligations as measures for controlling mineral operations and to secure sustainable development objectives which cannot be achieved by the use of planning conditions.	• There is no clear link with ensuring adequate provision of minerals. • However, for all the other SA objectives there is a positive impact, both in the short- and long-term, because the policy aims to secure sustainable development objectives which would not otherwise be achieved.
DM12: RESTORATION, AFTER-CARE AND AFTER-USE 1. Proposals for minerals development must include an appropriate scheme for the restoration, after care 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.	• For some of the SA objectives the impact is uncertain because it would depend on the specific details of restoration. • The policy has a slightly positive effect in the long-term on the SA objectives for biodiversity, the historic environment, landscape and quality of life. • There is no clear link with the remaining SA objectives, which is to be expected given the nature of the policy.

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 the 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.	

DM13: INCIDENTAL MINERAL EXTRACTION 1. Planning applications for the extraction of minerals as a necessary element of other development proposals on the same site will be supported where it can be demonstrated that the scale and duration of the mineral extraction does not result in adverse environmental impacts and that it brings environmental and other benefits to the development it is incidental to. 2. Where planning permission is granted, conditions will be imposed to ensure that the site can be adequately restored to a satisfactory after-use should the main development be delayed or not implemented.	• The policy contributes positively to the economic aspects of sustainability as it would allow the extraction of minerals that might otherwise be lost. • The impact on promoting more efficient use of resources is also positive in that the policy would allow the extraction of minerals that might otherwise be lost. • The effects on the environmental and quality of life SA objectives are slightly positive as the policy seeks to ensure that minerals extraction does not have any adverse environmental impacts and brings environmental and other benefits to the development it is incidental to.
DM14: IRRIGATION LAGOONS Proposals for mineral extraction to create or extend irrigation lagoons will be supported where: a) There is satisfactory evidence that they will provide significant benefits to agricultural productivity; b) They can be worked without any unacceptable environmental impacts; c) The irrigation lagoon is landscaped and treated to maximise its potential for enhancing the landscape character and/or biodiversity. d) The irrigation lagoon is of a scale or degree that does not impact on the development of permitted or allocated mineral extraction sites.	• The policy contributes positively/slightly positively in the short-term to the economic aspects of sustainability as it would enable access to mineral resources that might not otherwise be exploited, and it contributes slightly positively in the long-term by ensuring that development of permitted or allocated mineral extraction sites is not adversely affected. • The impact on promoting more efficient use of land and resources is also positive in that the policy would provide for both mineral extraction and agricultural benefits from the same area of land. • Its impact on most of the other SA objectives is uncertain as this would be dependent on

	the location of sites in relation to sensitive receptors and on the details of operation and restoration or, in the case of sustainable transport issues, location in relation to transport routes and the end market for the mineral.
DM15: BORROW PITS Proposals for borrow pits will be supported where: a) They are adjacent to or close to the project/s they are intended to serve; b) They are time limited to the life of the project and material is to be used only for the specified project; c) They can be worked and reclaimed without any unacceptable environmental impacts; d) There are overriding environmental or other benefits compared to obtaining materials from alternative sources; e) Proposals provide for appropriate restoration measures which include full use of surplus spoil from the project.	• The policy is very positive in terms of sustainable transport issues as it allows for borrow pits which are typically located next to the construction sites where the excavated material is to be used. • There is a slightly positive impact on ensuring adequate provision of minerals as the policy allows for specific localised short-term demand to be met which may conserve Nottinghamshire's wider minerals resource. • The policy has a slightly positive effect on the environmental SA objectives as it seeks to ensure that borrow pits can be worked and reclaimed without any unacceptable environmental effects.
DM16: ASSOCIATED INDUSTRIAL DEVELOPMENT 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.	• The policy has a very positive impact during the Plan period on promoting sustainable patterns of movement and the use of more sustainable modes of transport. • There is a slightly positive impact on promoting local job opportunities. • The impact is uncertain for most of the other SA objectives as it would be dependent on

	the location of sites in relation to sensitive receptors and on the details of operation and restoration.
DM17: MINERAL EXPLORATION Proposals for mineral exploration will be permitted, subject to satisfactory environmental, amenity and restoration safeguards.	• The policy has a slightly positive effect on ensuring adequate provision of minerals because exploration plays a role in this as it is essential to prove the existence and extent of mineral resources. • In terms of the environmental and quality of life SA objectives there is a positive impact during the Plan period because the policy seeks to ensure satisfactory environmental, amenity and restoration safeguards. • There is no clear link or no significant effect on the other SA objectives.

Strategic policies

5.6 Policy SP1 ‘Sustainable Development’ which was included in the Draft Plan was removed from the Publication version of the MLP on the basis that it was merely duplicating national policy set out in the National Planning Policy Framework (2019). Consequently, there is no need for it to be included in the MLP. It is clarified in the text of the Plan that the presumption in favour of sustainable development, set out in national policy, will be reflected when considering development proposals.

5.7 Policies SP1 ‘Minerals Provision’ (formerly SP2) and SP2 ‘Biodiversity-led Restoration’ (formerly SP3) were re-appraised following amendments made after the Draft Plan consultation. There were no changes to the likely effects on the SA objectives.

5.8 Policy SP1 had positive effects on the economic aspects of sustainability, that is, SA objectives 1 (ensuring adequate provision of minerals to meet demand) and 13 (supporting wider economic development and promoting local job opportunities), but there was uncertainty in relation to many of the other SA objectives as the impacts would be dependent on the location of sites. It did have a negative effect on SA objective 7 in that it does not address the issue of climate change however no policy would be applied in isolation and the Plan also contains a strategic policy on climate change.

5.9 Policy SP2 had a very positive effect in the long-term, on SA objective 2 (protecting and enhancing biodiversity) as it prioritises biodiversity-led restoration. This policy also had slightly positive impacts, in the long-term, on many of the non-economic SA objectives where there would be benefits from this type of restoration.

5.10 SP3 (formerly SP4) ‘Climate Change’ makes a very important contribution to sustainability with a very positive, positive or slightly positive effect on many of the non-economic SA objectives, largely in both the short- and long-term.

5.11 Policy SP4 (formerly SP5) ‘Sustainable Transport’ and SP5 (formerly SP6) ‘The Built, Historic and Natural Environment’ were re-appraised following amendments made after the Draft Plan consultation. There were no changes to the likely effects on the SA objectives for SP4 which had a very positive impact on promoting sustainable patterns of movement and the use of more sustainable modes of transport (SA objective 3) during the Plan period the policy also had slightly positive impacts in respect of climate change (SA objective 7), efficient use of land and resources (SA objective 9), air quality (SA objective 11) and human health /quality of life (SA objective 14).

5.12 Policy SP5 was amended by the deletion of the clause which allowed for minerals development if there was an overriding need. Consequently, the policy would be more likely to impose constraints which would limit the choice of sites and the impact in the short-term on SA objective 1 (ensuring adequate provision of minerals to meet demand) is slightly negative rather than there being no clear

link. In terms of most of the non-economic SA objectives this policy had positive effects.

5.13 Policy SP6 (formerly SP7) 'The Nottinghamshire Green Belt' was re-appraised following amendments made after the Draft Plan consultation but there were no changes to the likely effects on the SA objectives. It had a slightly positive effect on SA objective 5 (protecting townscape and landscape) but had no clear links with the other SA objectives due to the specific focus of this policy.

5.14 There were minor wording changes to Policy SP7 (formerly SP8) 'Minerals Safeguarding, Consultation Areas and Associated Minerals Infrastructure' after the Draft Plan consultation which did not require re-appraisal. The policy had a very positive impact on ensuring adequate minerals provision (SA objective 1) and promoting more efficient use of land (SA objective 9) as it aims to ensure that economically important minerals resources are not sterilised. There was no clear link with most of the other SA objectives, due to the specific nature of the policy.

Minerals provision policies

5.15 Following the Draft Plan consultation, the sites included within policies MP2, MP3 and MP6 were amended and these policies were therefore re-appraised, however, as the policies would still ensure adequate provision of these minerals during the Plan period, there were no changes to the effects on any of the SA objectives.

5.16 All the minerals provision policies had positive effects on the economic aspects of sustainability but, for all except MP5, MP10, MP11 and MP12, the impact on most of the other SA objectives was uncertain as it would be dependent on the location of sites in relation to sensitive receptors and the details of operation and restoration or, in the case of sustainable transport issues, location in relation to transport routes and the end market for the mineral. Site specific implications were considered separately in the detailed appraisals of proposed sites.

5.17 Policy MP5 'Secondary and Recycled Aggregates' had very positive effects on SA objectives 1 (ensuring adequate provision of minerals to meet demand) and 9 (promoting efficient use of land and resources), as well as positive impacts on most of the other SA objectives as it seeks to ensure the supply of secondary/recycled aggregates without any significant environmental or other unacceptable impacts.

5.18 Policy MP10 'Building Stone Provision', in addition to its positive effects on SA objectives 1 (ensuring adequate provision of minerals to meet demand) and 13 (supporting wider economic development and promoting local job opportunities), had positive effects on SA objectives 4 (protecting the historic environment) and 5 (protecting and enhancing townscape and landscape) as ensuring adequate provision of local building stone during the Plan period would also contribute positively to protecting the historic environment, townscape and landscape. Also, as the policy seeks to ensure that local building stone is

retained for non-aggregate use, it has a positive effect on SA objective 9 (promoting more efficient use of resources).

5.19 Policy MP11 ‘Coal’ was assessed to have impacts on many of the SA objectives which could be either positive or negative depending on how the various elements of the policy would be implemented in terms of individual proposals. In order for the impact to be positive the policy would have to be re-worded to give more weight to environmental considerations, however the policy had been worded in accordance with national planning policy so no such changes were made. Policy MP11 did have positive impacts on SA objectives 1 (ensuring adequate provision of minerals to meet demand), 9 (promoting more efficient use of land and resources) and 13 (ensuring adequate provision of minerals to meet demand).

5.20 Policy MP12 ‘Oil and Gas’ was amended and re-appraised following the Draft Plan consultation stage. It was found that the effects on the SA objective 9 (promoting more efficient use of land and resources) had changed from positive in the short-term and slightly positive in the long-term to no clear link for either of these time periods because the policy no longer referred to the full development of the resource as it would be unreasonable to dictate that an applicant must develop the whole resource . The policy had a positive effect on ensuring that adequate provision of oil and gas is made to meet demand and a slightly positive effect on most of the remaining SA objectives during the Plan period as the policy seeks to ensure that sites and equipment do not have an unacceptable environmental impact and are located in the least sensitive locations.

Development management policies

5.21 Policies DM1, DM2, DM4, DM5, DM6, DM8 and DM9 had a slightly negative effect on SA objective 1 (ensuring adequate provision of minerals to meet demand) because they might impose constraints which could limit the choice of sites. However, some of these policies did allow for development in certain circumstances and where this was not the case rewording the policy to avoid a negative impact was not feasible without negating the purpose of the policy.

5.22 All the development management policies had positive impacts on some aspects of sustainability. Many of these policies had a narrow focus on a particular issue, for example, agricultural land and soil quality in the case of DM3, and therefore had positive impacts on whichever SA objectives related to that issue whilst having no clear links to many of the other SA objectives.

5.23 Policy DM11 ‘Planning Obligations’ had positive impacts on all the SA objectives, except SA objective 1(ensuring adequate provision of minerals to meet demand) with which it had no clear link, as the policy could result in sustainable development objectives being secured across a wide range of issues.

5.24 Policies DM1 ‘Protecting Local Amenity’, DM2 ‘Water Resources and Flood Risk’, DM3 ‘Agricultural Land and Soil Quality’, DM4 ‘Protection and

Enhancement of Biodiversity and Geodiversity', DM5 'Landscape Character', DM6 'Historic Environment', DM8 'Cumulative Impact', DM12 'Restoration, After-Use and After- Care' and DM14 'Irrigation Lagoons' were revised following the Draft Plan consultation and were re-appraised.

5.25 There were minor changes to Policy DM10 'Airfield Safeguarding' following the Draft Plan consultation but no re-appraisal was required.

5.26 The revised wording of Policies DM1, DM3, DM4, DM8, DM10, DM12 and DM14 did not result in any changes to their effects on the SA objectives.

5.27 The re-appraisal of Policy DM2 'Water Resources and Flood Risk' found that its effect on SA objective 12 (protecting and improving water quality and promoting its efficient use) improved from positive to very positive in the Plan period because the revised policy seeks to ensure that, wherever possible, measures are taken to improve water quality.

5.28 Re-appraisal found that the effect of Policy DM5 'Landscape Character' on SA objective 2 (protecting and enhancing biodiversity) changed from slightly negative in the short-term and slightly positive in the long-term to no clear link in either time period. It also found that the effect of the policy on SA objective 14 (protecting and improving human health and quality of life) changed, in both the short- and long-term, from positive to slightly positive. This was due to a reference to a Biodiversity Opportunity Mapping Study being deleted from the policy, however no policy should be read in isolation and biodiversity issues are covered by Policy DM4 'Protection and Enhancement of Biodiversity and Geodiversity'.

Summary of the Policy Appraisal Results

5.29 All the policies had positive effects on at least some of the SA objectives.

5.30 Several of the development management policies had a slightly negative effect on SA objective 1 (ensuring adequate provision of minerals to meet demand) because they might impose constraints which could limit the choice of sites. However, some of these policies did allow for development in certain circumstances and where this was not the case rewording the policy to avoid a negative impact was not feasible without negating the purpose of the policy.

5.31 There was uncertainty about the effects of some policies on some SA objectives, particularly those on environmental issues, largely because the effects would be dependent on the locations of sites in relation to sensitive receptors. Site specific implications were considered separately in the detailed appraisals of potential sites.

Cumulative Effects of Policies

5.32 Following the appraisal of individual policies against the SA objectives the cumulative effects of the policies as a whole on each SA objective were

assessed to predict the likely overall impact of the Draft Plan. The cumulative effects are shown in Table 5.2 below.

5.33 The assessment did not identify any negative cumulative effects on any of the SA objectives.

SA objective 1 - Ensure that adequate provision is made to meet local and national mineral demand.

5.34 There is likely to be a positive cumulative effect resulting from the combination of policy impacts during the Plan period whereas there is predominantly no clear link in the long term.

SA objective 2 - Protect and enhance biodiversity at all levels and safeguard features of geological interest.

5.35 Overall the cumulative effect is uncertain, both in the short and long term, due to the fact that impacts of many of the policies would depend on the location of sites in relation to habitats, species or geological features. However, proposals would have to be in accordance with policy SP2 on biodiversity-led restoration and policy DM4 on protection and enhancement of biodiversity and geodiversity.

SA objective 3 - Promote sustainable patterns of movement and the use of more sustainable modes of transport.

5.36 Overall the cumulative effect is uncertain, both in the short and long term, due to the fact that impacts of many of the policies would depend on the location of sites in relation to transport routes and the end market for the mineral. However proposals would have to be in accordance with policy SP4 on sustainable transport.

SA objective 4 - Protect the quality of the historic environment, heritage assets and their settings above and below ground.

5.37 There is likely to be a positive cumulative effect resulting from the combination of policy impacts in the short term as, in addition to those policies which specifically provide protection for heritage assets, a number of policies seek to ensure that there are no unacceptable impacts on the environment, which would include the historic environment. In the long term the cumulative effect is more uncertain, due to the fact that impacts of many of the policies would depend on the location of sites in relation to heritage assets and the details of restoration. However proposals would have to be in accordance with policy SP5 and DM6 which seek to ensure that historic assets are not adversely affected by development.

SA objective 5 - Protect and enhance the quality and character of our townscape and landscape.

5.38 Overall the cumulative effect is positive, both in the short and long term, as, in addition to those policies which specifically provide protection for landscape/townscape, a number of policies seek to ensure that there are no unacceptable impacts on the environment, which would include impacts on townscape/landscape. Proposals would, in any case, have to be in accordance

with policies SP5 and DM5 which seek to ensure that landscape and townscape character are not adversely affected.

SA objective 6 - Minimise impact and risk of flooding.

5.39 Overall the cumulative effect is uncertain, both in the short and long term, due to the fact that there could be site specific impacts of plant and equipment which would need to be taken into account, particularly in high flood risk areas. However proposals would have to be in accordance with policies SP5 and DM2 which seek to ensure that there will be no unacceptable impacts of development in relation to flooding.

SA objective 7 - Minimise any possible impacts on, and increase adaptability to, climate change.

5.40 Overall the cumulative effect is uncertain, both in the short and long term, due to the fact that impacts of many of the policies would depend on the details of operation and restoration at any site. However, proposals would have to be in accordance with policy SP3 on climate change.

SA objective 8 - Protection of high-quality agricultural land and soil.

5.41 Overall the cumulative effect is uncertain, both in the short and long term, due to the fact that impacts of many of the policies would depend on the location of any site in relation to high quality agricultural land and soil. However, proposals would have to be in accordance with policies SP5 and DM3 which aim to ensure that development does not have an adverse impact on best and most versatile agricultural land and soil unless there is no available alternative.

SA objective 9 - Promote more efficient use of land and resources.

5.42 Predominantly there is no clear link between the effects of the policies and this SA objective, although there are several policies which do have positive effects on this objective.

SA objective 10 - Promote energy efficiency and maximise renewable energy opportunities from new or existing development.

5.43 Predominantly there is no clear link between the effects of the policies and this SA objective, although there are two policies which do have positive effects on this objective.

SA objective 11 - Protect and improve local air quality.

5.44 There is likely to be a positive cumulative effect resulting from the combination of policy impacts in the short term as a number of policies seek to ensure that there are no unacceptable impacts on the environment, which would include impacts on local air quality. In the long term, predominantly there is no clear link between the effects of the policies and this SA objective. Proposals would, in any case, have to be in accordance with policies SP5 which aims to ensure that development does not have an adverse impact on air quality and DM1 which seeks to protect local amenity.

SA objective 12 - Protect and improve water quality and promote efficient use of water.

5.45 Predominantly there is no clear link between the effects of the policies and this SA objective. However, proposals would have to be in accordance with policies SP5 and DM2 which aim to ensure that development does not have an adverse impact on water quality.

SA objective 13 - Support wider economic development and promote local job opportunities.

5.46 There is likely to be a positive cumulative effect resulting from the combination of policy impacts in the short term because the provision of minerals is very important in supporting wider economic development as they provide essential raw materials in a number of industries and the extraction of minerals can create local job opportunities. In the long term, predominantly there is no clear link between the effects of the policies and this SA objective.

SA objective 14 - Protect and improve human health and quality of life.

5.47 There is likely to be a positive cumulative effect resulting from the combination of policy impacts in the short term as, in addition to those policies which specifically seek to protect local and community amenity, a number of policies seek to ensure that there are no unacceptable impacts on the environment, which has indirect benefits in terms of human health and quality of life. In the long term the overall cumulative effect is neutral as there are equal numbers of policies with positive and with uncertain effects, as some policies would be likely to result in benefits through restoration, but the impact of others would depend on the location of any site in relation to sensitive receptors. However, proposals would have to be in accordance with policy SP5 which aims to ensure that development does not have an adverse impact on community amenity and DM1 which seeks to protect local amenity.

Table 5.2: Cumulative effects of the Publication Plan policies on the Sustainability Appraisal objectives

SA Objective / Policy	1		2		3		4		5		6		7		8		9		10		11		12		13		14	
	ST	LT	ST	LT	ST	LT	ST	LT	ST	LT	ST	LT	ST	LT	ST	LT	ST	LT	ST	LT	ST	LT	ST	LT	ST	LT	ST	LT
SP1	+++	0	?	?	?	?	?	?	?	?	?	?	-	-	?	?	+	0	0	0	?	?	?	?	++	+	?	?
SP2	0	0	0	+++	0	0	0	+	0	+	0	+	0	+	0	0	?	?	0	0	0	0	0	+	0	0	0	+
SP3	0	0	+	++	++	0	+	+	0	0	+++	+++	+++	+++	0	0	0	0	++	0	++	0	0	0	0	0	++	+
SP4	0	0	0	0	+++	?	0	0	0	0	0	0	+	0	0	0	+	0	0	0	+	0	I	0	0	0	+	0
SP5	-	0	++	++	0	0	++	+	++	++	++	++	0	0	++	++	0	0	0	0	+	0	+	0	0	0	++	+
SP6	0	0	0	0	0	0	0	0	+	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SP7	+++	+++	0	0	0	0	0	0	0	0	0	0	0	0	0	0	+++	+++	0	0	0	0	0	0	?	?	0	0
MP1	+++	0	?	?	?	?	?	?	?	?	?	?	?	?	?	?	0	0	0	0	?	?	?	?	+++	+	?	?
MP2	+++	0	?	?	?	?	?	?	?	?	?	?	?	?	?	?	0	0	0	0	?	?	?	?	+++	+	?	?
MP3	+++	0	?	?	?	?	?	?	?	?	?	?	?	?	?	?	0	0	0	0	?	?	?	?	+++	+	?	?
MP4	+++	0	?	?	?	?	?	?	?	?	?	?	?	?	?	?	0	0	0	0	?	?	?	?	++	+	?	?
MP5	++	+++	+	0	?	?	+	0	+	0	+	0	+	0	+	0	+++	+++	0	0	+	0	+	0	+	+	+	0
MP6	+++	0	?	?	?	?	?	?	?	?	?	?	?	?	?	?	0	0	0	0	?	?	?	?	++	+	?	?
MP7	+++	0	?	?	?	?	?	?	?	?	?	?	?	?	?	?	0	0	0	0	?	?	?	?	++	+	?	?
MP8	+++	0	?	?	?	?	?	?	?	?	?	?	?	?	?	?	0	0	0	0	?	?	?	?	++	+	?	?
MP9	++	0	?	?	?	?	?	?	?	?	?	?	?	?	?	?	0	0	0	0	?	?	?	?	+	0	?	?
MP10	+++	0	?	?	?	?	++	++	++	++	?	?	?	?	?	?	++	+	0	0	?	?	?	?	++	+	?	?
MP11	++	0	I	I	?	?	I	I	I	I	I	I	?	?	I	I	++	0	0	0	I	I	I	I	++	0	I	I
MP12	++	0	+	0	?	?	+	0	+	0	+	0	?	?	+	0	0	0	0	0	+	0	+	0	+	0	+	0
DM1	-	0	0	0	0	0	0	0	+	+	0	0	+	+	0	0	0	0	0	0	+	0	0	0	0	0	++	++
DM2	-	0	+	0	0	0	+	0	0	0	+++	++	+	+	0	0	0	0	0	0	0	0	+++	0	0	0	++	+
DM3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	+++	+++	+	+	0	0	0	0	0	0	+	+	0	0
DM4	-	0	+++	++	0	0	0	0	0	0	0	0	+	+	0	0	0	0	0	0	0	0	0	0	0	0	+	+
DM5	-	0	0	0	0	0	+	+	++	++	0	0	0	0	0	0	0	0	0	0	0	0	0	0	+	+	+	+
DM6	-	0	0	0	0	0	+++	+++	+	++	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	+	+
DM7	0	0	0	0	++	++	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	++	++
DM8	-	0	+	+	0	0	+	+	+	+	+	+	0	0	+	+	0	0	0	0	+	+	+	+	?	?	+	+
DM9	-	0	+	0	0	0	+	0	+	0	+	0	0	0	+	0	0	0	0	0	+	0	+	0	0	0	++	0
DM10	0	0	?	?	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	+	+
DM11	0	0	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++
DM12	0	0	?	+	0	0	?	+	?	+	?	?	?	?	?	?	?	?	0	0	0	0	0	0	?	?	?	+
DM13	++	0	+	+	?	?	+	+	+	+	+	+	?	?	+	+	++	0	0	0	+	+	+	+	+	0	+	+
DM14	++	+	?	?	?	?	?	?	?	?	?	?	?	?	?	?	++	0	0	0	?	?	?	?	+	+	?	?
DM15	+	+	+	+	+++	0	+	+	+	+	+	+	?	?	+	+	0	0	0	0	+	+	+	+	0	0	?	?
DM16	0	0	?	?	+++	0	?	?	?	?	?	?	?	?	?	?	0	0	0	0	?	?	0	0	+	0	?	?
DM17	+	0	++	0	0	0	++	0	++	0	++	0	0	0	++	0	0	0	0	0	++	0	+	0	0	0	++	0

ST Short-term (the Plan period)
LT Long-term (beyond the Plan period)

Assessment Key

Symbol	Likely effect on the SA Objective
+++	The policy is likely to have a **very positive** impact
++	The policy is likely to have a **positive** impact
+	The policy is likely to have a **slightly positive** impact
0	**No significant effect / no clear link**
?	**Uncertain** or **insufficient information** on which to determine impact
-	The policy is likely to have a **slightly negative** impact
- -	The policy is likely to have a **negative** impact
- - -	The policy is likely to have a **very negative** impact
I	The policy could have a positive or a negative impact depending on **how it is implemented**

Assessment of 'No Minerals Local Plan' Scenario

5.48 The likely situation if the Minerals Local Plan were not to be adopted was appraised using the 14 SA objectives (listed in Table 2.2) and the appraisal matrix is shown in Table 5.3 below.

Table 5.3: 'No Minerals Local Plan' Scenario Appraisal Matrix

Sustainability Appraisal Objectives	Effect		Commentary
	Operational period	Long-term	
1. Ensure that adequate provision is made to meet local and national minerals demand.	–	–	There would not be any allocated sites which would mean a lack of certainty for the minerals industry. This could compromise the steady supply of minerals and the geographical spread of sites could be mismatched with the demand from different markets.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	– –	– –	Less protection for biodiversity/geological features. Less likelihood of biodiversity-led restoration and therefore loss of opportunities for provision of LBAP priority habitats and biodiversity gains.
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	–	0	Lack of control over location of sites in relation to main highway network and loss of opportunities to encourage use of more sustainable modes of transport.
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	– –	– –	Less protection for the historic environment. Less likelihood of enhancement of historic features as part of restoration schemes.
5. Protect and enhance the quality and character of our townscape and landscape.	– –	– –	Less protection for landscape/townscape. Less likelihood of landscape character being taken into account in restoration schemes.
6. Minimise impact and risk of flooding.	0	–	The approach which should be taken to flood risk is set out in national policy but there would be less likelihood of opportunities being taken to incorporate flood risk reduction measures in restoration schemes.
7. Minimise any possible impacts on and increase adaptability to climate change.	–	– –	Fewer opportunities to encourage development which helps to reduce greenhouse gas emissions and reduce vulnerability, and provide resilience, to the impacts of climate change. Less likelihood

			of restoration schemes which help towards addressing future climate change adaptation.
8. Protection of high-quality agricultural land and soil.	_ _	_ _	Less likelihood that best and most versatile agricultural land will be protected and that soil quality will be maintained.
9. Promote more efficient use of land and resources.	_	?	Without site allocation policies there is no control over whether sites are extensions or not or over site size (extensions and larger sites generally represent more efficient use of land.)
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	The Plan would have limited influence over the details of operation of sites (such as the use of energy efficient plant and machinery) so its absence would not have a significant effect.
11. Protect and improve local air quality.	_ _	0	Risk that adverse effects on local air quality would not be avoided or mitigated.
12. Protect and improve water quality and promote efficient use of water.	_ _	_ _	Risk that adverse effects on water resources would not be avoided and such effects, e.g. pollution of groundwater, could persist in the long-term.
13. Support wider economic development and promote local job opportunities.	_	0	This is dependent on minerals being worked, which is likely to occur irrespective of whether there is a Plan or not, but the lack of certainty for the minerals industry, due to there being no allocated sites, could result in a less steady supply of minerals which could adversely affect wider economic development.
14. Protect and improve human health and quality of life.	_ _	_ _	Risk that adverse effects on amenity would not be avoided or mitigated. Less likelihood of restoration schemes incorporating benefits which could contribute to human health and quality of life, such as flood management measures and improved rights of way.

Summary

- There would be a negative impact, both during the operational phase of sites and in the long-term, on biodiversity/geological features, the historic environment, landscape/townscape, agricultural land/soil, water quality and human health/quality of life as they would have less protection and opportunities for enhancements through restoration would be lost.

- Local air quality would be negatively affected during the operational phase with the risk that adverse effects would not be avoided or mitigated.
- The impact in relation to climate change would be slightly negative during the operational phase with fewer opportunities to encourage resilient development and negative in the long-term when opportunities for restoration schemes to incorporate climate change adaptation measures could be lost.
- In terms of the economic aspects of sustainability, the effect would be slightly negative for both the operational phase and in the long-term for ensuring adequate provision of minerals and slightly negative during the operational phase for supporting wider economic development due to the lack of allocated sites causing uncertainty for the minerals industry.
- With the lack of control over the location of sites and over site size and whether sites are extensions, there would be a negative impact, during the operational phase, on promoting sustainable movement patterns/modes of transport and more efficient use of land and resources. In the long-term there would be no significant effect on promoting sustainable movement patterns/modes of transport and it was uncertain what the impact would be on promoting more efficient use of land and resources.
- There would be no significant effect on promoting energy efficiency/ maximising renewable energy as the Plan's influence on this is limited.
- National policy would ensure that there would be no significant effect during the operational phase in respect of flooding, but there would be a slightly negative effect in the long-term with less likelihood of incorporation of flood risk reduction measures in restoration schemes.

Operational period = period of extraction and restoration works
Long-term = post-restoration

Assessment Key

Symbol	Likely effect on the SA Objective
+++	There is likely to be a **very positive** impact
++	There is likely to be a **positive** impact
+	There is likely to be a **slightly positive** impact
0	**No significant effect / no clear link**
?	**Uncertain** or **insufficient information** on which to determine impact
-	There is likely to be a **slightly negative** impact
- -	There is likely to be a **negative** impact
- - -	There is likely to be a **very negative** impact
I	There could be a positive or a negative impact

5.49 The appraisal of the likely situation if no Minerals Local Plan existed has demonstrated that overall there would be significant adverse effects. Not only would there be negative effects on many of the environmental objectives and on the social aspects of sustainability, but there would also be slightly negative effects on the economic objectives. All three dimensions of sustainability would therefore be adversely affected by the lack of a Minerals Local Plan.

5.50 As the existing Minerals Local Plan is becoming progressively out-of-date the adoption of a new, up-to-date Plan is increasingly important to provide a robust framework for decision-making.

6 Appraisal of the Potential Sites

6.1 The alternatives which can be considered for minerals extraction are limited by the fact that minerals can only be worked where they naturally occur. An initial call for sites resulted in a total of 25 sites requiring appraisal: 20 sand and gravel sites, 3 Sherwood Sandstone sites, 1 brick clay site and 1 gypsum site. Following the Draft Plan consultation 2 additional sand and gravel sites were put forward which required appraisal. The locations of all of these sites are shown in Plan 6.1, together with the locations of existing and previously worked minerals sites in Nottinghamshire. Plan 6.2 shows the locations of the sites which have been allocated in the Publication Version Minerals Local Plan (MLP).

6.2 Not only were two additional sites (Flash Farm and Little Carlton) put forward following the Draft Plan consultation, but also revised site areas and/or further information, were submitted for the following sites:

- Scrooby Thompson Land
- Barnby Moor (Hanson)
- Barnby Moor (Torworth)
- Cromwell.

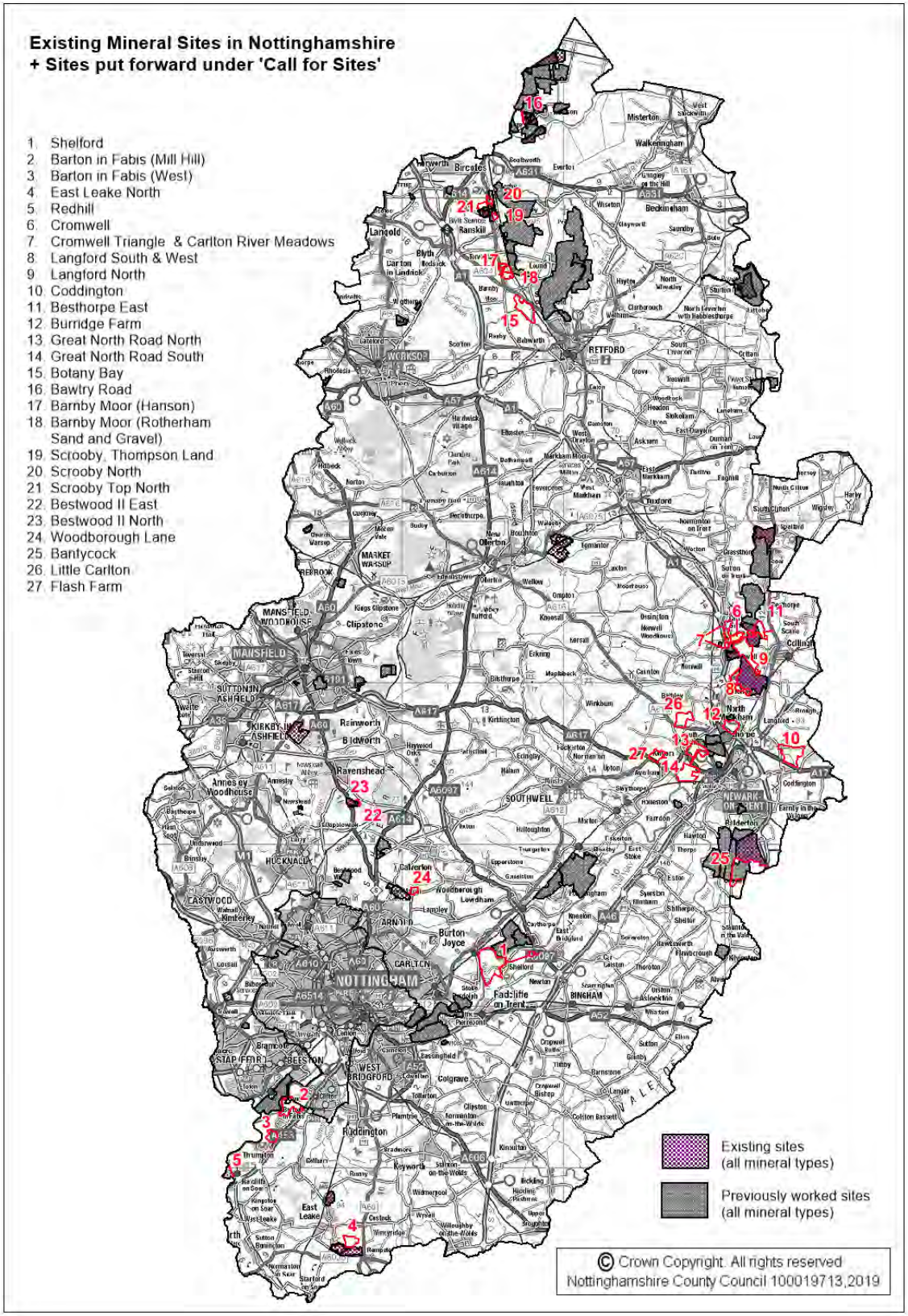
Sustainability appraisal was therefore carried out on the new sites and the amended sites, which had previously been appraised at the Draft Plan stage, were re-appraised on the basis of the revisions submitted.

6.3 Table 6.1 shows a list of all the sites which were appraised and Table 6.5 shows a list of the sites which have been allocated in the Publication Version Minerals Local Plan (MLP). The detailed individual site appraisal matrices can be found in Appendices C (sites allocated in the Publication Version MLP) and D (sites which were not allocated in the Publication Version MLP) of this report. The individual site location plans for these sites are contained in Appendices E (allocated sites) and D (unallocated sites) of this report.

Table 6.1: List of Sites Appraised

	Site Name
Sand and gravel	
Nottingham area	Shelford
	Barton in Fabis (Mill Hill)
	Barton in Fabis (West)
	East Leake North
	Redhill
Newark area	Cromwell
	Cromwell Triangle & Carlton River Meadows
	Langford South & West
	Langford North
	Coddington
	Besthorpe East
	Burridge Farm
	Great North Road North
	Great North Road South
	Flash Farm
	Little Carlton
Idle Valley area	Botany Bay
	Bawtry Road
	Barnby Moor (Hanson)
	Barnby Moor (Rotherham SG/Torworth)
	Scrooby, Thompson Land
	Scrooby North
Sherwood Sandstone	
	Scrooby Top North
	Bestwood II East
	Bestwood II North
Brick Clay	
	Woodborough Lane
Gypsum	
	Bantycock

Plan 6.1: Submitted Sites



Appraisal methodology

6.4 Assessment was based on information supplied by the minerals industry on anticipated operational and restoration details. Throughout the appraisal this information was considered in the light of comments from officers from specialist disciplines within the County Council and from a wide range of stakeholders. The areas of expertise from within the County Council included landscape, archaeology, historic buildings, nature conservation and highways. External stakeholders included the Environment Agency, Historic England, Natural England, Highways England and Nottinghamshire Wildlife Trust.

6.5 A numerical scoring system was used in the appraisal of potential sites. The range of scores is shown in Table 6. It should be noted that numerical scoring was used to aid comparisons between sites but was not intended to be definitive. It should be recognised that inevitably, due to the nature of sustainability issues, qualitative and subjective elements, albeit based on professional judgement, were involved in the assessment of likely effects. It is important to note that the commentary explaining the reasoning behind each predicted effect and the potential mitigation should also be referred to rather than looking at the scores in isolation.

Table 6.2: Assessment Key- Proposed Sites Appraisal

Scale	Likely effect on the SA Objective
+3	The proposal is likely to have a **very positive** impact
+2	The proposal is likely to have a **positive** impact
+1	The proposal is likely to have a **slightly positive** impact
0	**No significant effect / no clear link**
?	**Uncertain** or **insufficient information** on which to determine impact
I	The proposal could have a positive or a negative impact depending on **how it is implemented**
-1	The proposal is likely to have a **slightly negative** impact
-2	The proposal is likely to have a **negative** impact
-3	The proposal is likely to have a **very negative** impact

6.6 A range of factors was used to determine the scores against each objective within the context of the decision-making criteria (set out in Table 1) and wherever possible information that was measurable or could be categorised was used. Where the relevant information could not be measured or categorised a pragmatic approach was taken. All the relevant information available on the range of variables across all the sites assessed was considered and the most consistent means of scoring possible was applied.

6.7 The total scores for each site (shown in Table 6.2) comprise the sum of the individual scores for each objective for each timescale. No weighting was applied to any one objective over another as rather than considering either environmental sustainability or economic sustainability or social sustainability as the ideal, these should be regarded as the three mutually dependent

dimensions of sustainable development and gains in all three should be sought simultaneously, as emphasised in the NPPF.

6.8 The approach taken to scoring for each individual Sustainability Appraisal objective is outlined below.

6.9 *SA Objective 1: Ensure that adequate provision is made to meet local and national minerals demand.*
The scoring for the operational period was based on the estimated reserves/potential capacity of the site:

- Estimated reserves of less than 1 million tonnes would score +1(slightly positive);
- Estimated reserves of between 1 million and 4 million tonnes would score +2 (positive);
- Estimated reserves of more than 4 million tonnes would score +3 (very positive).

6.10 The long-term score for all sites was anticipated to be no significant effect (0) as the mineral production would occur during the operational period.

6.11 *SA Objective 2: Protect and enhance biodiversity at all levels and safeguard features of geological interest.*
The main factor which could be assessed for the operational period was the potential impact on designated nature conservation sites (or sites designated for their features of geological interest or on legally protected species if known to be present). In terms of designated sites there were two defining issues to be considered in this context:

- The level of significance of the potentially affected designated site, e.g. whether it is locally important such as a Local Wildlife Site (LWS) or Local Geological Site (LGS) (formerly referred to as Sites of Importance for Nature Conservation or SINCs), nationally important such as a Site of Special Scientific Interest (SSSI), or internationally important such as a Special Area of Conservation (SAC);
- The location of the potentially affected nature conservation site, e.g. whether it is within or outside the site boundaries.

6.12 So, for example, if there were LWSs outside, but within close proximity to, the site, a score of -1 (slightly negative) would be appropriate, whereas if there was a SAC within the site a score of -3 (very negative) would be given.

6.13 The score for the long-term would be dependent on the restoration proposals and to what extent, if any, these would restore or create new habitat in order to maximise Local Biodiversity Action Plan (LBAP) priority habitats for the area. So the greater the extent to which LBAP priority habitats would be restored or created, the more positive the score.

6.14 *SA Objective 3: Promote sustainable patterns of movement and the use of more sustainable modes of transport.*
The scoring for the operational period was based primarily on the form of transport to be used and whether the site was well-related to the main highway

network. A site which is well-related to the main highway network would score slightly positively (+1) whereas a site not well-related to the main highway network would score slightly negatively (-1) and if, in addition, it required new transport infrastructure to connect it to the highway network this would warrant a more negative score. A site may be well-related to the main highway network but if it was anticipated that a significant issue of increased congestion would arise from its operation then a negative score would be warranted.

6.15 If a significant proportion of the mineral were to be transported by modes of transport other than road, such as by barge or rail, this would warrant a more positive score (+2) and if all the mineral were to be transported by more sustainable modes the score would be +3 (very positive).

6.16 It was considered that attempting to score sites on the basis of transport distances for the minerals would be misleading as there is too great a degree of uncertainty involved, given that the mineral could be transported from any site to any market within an economic distance and that the locations of markets for any specific site are likely to change during the Plan period.

6.17 The issue of transportation of the extracted mineral would only be relevant during the operational period so the score for the long-term would be anticipated to be no significant effect (0), unless specified after-uses would generate traffic, in which case scoring would have be determined according to the individual site details.

6.18 *SA Objective 4: Protect the quality of the historic environment, heritage assets and their settings above and below ground.*
For the operational period various factors, and in what combination they pertain to the site, would have to be considered in allocating a score, including the level of archaeological potential and level of risk to the archaeological resource, presence of, and proximity to, conservation areas, listed buildings and scheduled monuments. The range and quality of heritage assets affected would need to be considered. For example, a very negative impact (-3) would result if the proposal involved the loss of a scheduled monument or other significant, high importance archaeological remains, whereas potential for an adverse impact on the setting of a conservation area or listed buildings which are not immediately adjacent to the site may warrant a slightly negative (-1) score. However, if mineral extraction were to enable a better understanding of the archaeological resource there would be scope for a positive score.

6.19 In the long-term the impact on the setting of conservation areas, listed buildings or scheduled monuments would be dependent on the nature of restoration and so could be positive or negative.

6.20 The permanent loss of heritage assets would be likely to warrant a negative score in the long-term with the degree of negativity determined by the importance of those assets, for example, the loss of a scheduled monument would warrant a score of -3 (very negative).

6.21 *SA Objective 5: Protect and enhance the quality and character of our townscape and landscape.*
Scoring was based on detailed assessments of each site carried out by landscape architects. For both the operational period and long-term (post-restoration) the landscape assessment considered overall landscape sensitivity (resulting from an evaluation of landscape value and landscape susceptibility) and overall visual sensitivity (resulting from an evaluation of visual value and visual susceptibility). On the basis of this the landscape assessment gave each site an overall score out of 100 for the operational period and for the post-restoration phase. The lowest possible score was 23, indicating a landscape which would be less adversely affected by minerals development and the highest possible score was 100, indicating a landscape which would be very detrimentally affected by minerals development. The scoring range was therefore 77 and the SA scoring was categorised accordingly:

Landscape Assessment score	**SA score**
23 - 48	-1
49 - 74	-2
75 - 100	-3

6.22 For sites in the Green Belt, during the operational period the openness and visual amenity of the Green Belt could potentially be adversely affected by minerals development, in particular the built infrastructure associated with it such as a processing plant. The details would not be known until application stage, however due to this potential for an adverse impact it was considered that a slightly negative score of -1 would be warranted and added to the landscape score, in instances where that score was -1 or -2. In these cases the additional negative scoring for Green Belt sites would serve to place an enhanced value on sites falling within the Green Belt, which would not be considered of equivalent value if located outside the Green Belt.

6.23 In the case of a landscape score already being -3 it was considered that, as this score was reserved for sites of the highest value, and the effect would already be scored as very negative, the site's location in the Green Belt would not represent an additional adverse impact. An additional -1 score in these cases would give undue weight to the sustainability appraisal objective on landscape over all the other sustainability appraisal objectives. In all cases a site's location within the Green Belt would be noted in the commentary.

6.24 *SA Objective 6: Minimise impact and risk of flooding.*
Scoring for the operational period was based on the Environment Agency's Flood Zones, as follows:

Flood Zone	**Operational period SA score**
Zone 1 (low probability)	-1
Zone 2 (medium probability)	-2
Zone 3 (high probability/functional floodplain)	-3

6.25 In the case of a site being located in more than one zone, the score would relate to the zone in which the majority of the site lies.

6.26 It was anticipated that, in the long-term, in Zones 1 and 2 it was unlikely that there would be any significant effect. In Zone 3 it was anticipated that it would not be possible to predict the impact in the long-term, given the complex nature of this issue, but it was considered that the nature of restoration could have a major influence on this, for example, wetlands could provide floodwater storage capacity. However, at this stage it would not be possible to predict whether the impact would be positive or negative (I).

6.27 *SA Objective 7: Minimise any possible impacts on, and increase adaptability to, climate change.*
It was anticipated that this would be very difficult to assess at site allocation level as the impact is not dependent on the specific location but rather on the details of the operation of the minerals extraction and, in the long-term, on the details of restoration. As such it would be likely that for all sites the effects would be uncertain.

6.28 *SA Objective 8: Protect high quality agricultural land and soil.*
The scoring was based on the Agricultural Land Classification with Grades 1, 2 and 3a being defined as best and most versatile agricultural land. The greater the potential for loss of best and most versatile agricultural land, the more negative the impact. For the operational period sites falling wholly within these grades would therefore be scored very negatively (-3) whereas sites with a mix of best and most versatile land and other categories would be scored as either negative (-2) or slightly negative (-1), depending on whether the majority or minority of the site was best and most versatile agricultural land. In cases where the land is described as Grade 3 with no information on the split between Grade 3a (best and most versatile) and Grade 3b (not high quality) then a precautionary approach would be taken and scoring would assume that the majority is Grade 3a.

6.29 In the long-term, a permanent loss of best and most versatile agricultural land would warrant the same score as for the operational period, whereas if restoration would be to agriculture, and to the same quality as existing, a positive score would be given, the level of which would be dependent on the proportion of best and most versatile land within the site and the extent of such restoration compared to the existing situation.

6.30 *SA Objective 9: Promote more efficient use of land and resources.*
Scoring for the operational period was based on whether the site is an extension, which could utilise the existing site's infrastructure, e.g. plant storage areas, internal haul roads, highway improvements, which could be considered to be more efficient use of land and resources. As such these sites were scored as slightly positive (+1).

6.31 It was anticipated that it would be difficult to determine a score in the long-term as it was likely to be uncertain whether the long-term land use would be any

more or less efficient than the existing land use. This was likely to be the case for all sites.

6.32 *SA Objective 10: Promote energy efficiency and maximise renewable energy opportunities from new or existing development.*
It was anticipated that this would be very difficult to assess at site allocation level as the impact is not dependent on the specific location but rather on the details of the operation of the site and as such it would be likely that for all sites the effects would be uncertain.

6.33 *SA Objective 11: Protect and improve local air quality.*
It was anticipated that the impact of dust from on-site operations affecting air quality in the vicinity during the operational period would be likely to be similarly negative for all sites and, given that it would be the norm for operators to use environmental protection measures to reduce dust, the effect would be most likely to be slightly negative (-1).

6.34 Emissions from the transport movements associated with minerals is of relevance to local air quality and information from the Strategic Transport Assessment was used to score sites on this basis. The estimated daily two-way HGV movements were scored as follows:

Number of daily HGV two-way movements	**Operational period SA score**
< 50	0
50 - 100	-1
>100	-2

6.35 It is recognised that this is a relatively simplistic method of assessing the impact of transport emissions on local air quality which does not take into account issues such as the percentage increase in traffic flows (including change in flows at different times of day), existing congestion, and duration of the operational period of the quarry. However, it provides a straightforward and consistent means of providing an indication of the possible scale of effect on local air quality of the HGV movements associated with quarrying across all the sites.

6.36 None of the designated Air Quality Management Areas in Nottinghamshire are directly affected by the location of proposed mineral extraction sites and whilst it is accepted that it is possible that minerals from the sites could be transported through these areas there was unlikely to be sufficient information on which to assess this.

6.37 In the long-term it was anticipated that there would be no significant effect (0) as operations would have ceased.

6.38 *SA Objective 12: Protect and improve water quality and promote efficient use of water.*
It was anticipated that it would be very difficult to assess efficiency of water usage at site allocation level as this is not dependent on the specific location but

rather on the details of the operation of the minerals extraction, however impact on water quality during the operational period could be assessed and scored as follows:

a. operations involving de-watering and discharge into watercourses would be scored as a slightly negative effect (-1); or
b. in accordance with site location in relation to Groundwater Source Protection Zones and aquifers.

6.39 Groundwater source catchments are divided into 3 source protection zones which relate to the risk of contamination from any activities which might cause pollution in the area:

c. Zone 1 – the inner zone, in which sites would be scored very negatively (-3)
d. Zone 2 – the outer zone, in which sites would be scored very negatively (-3)
e. Zone 3 – the total catchment, in which sites would be scored negatively (-2).

6.40 In the case of a site being located in more than one zone, the score would relate to the zone in which the majority of the site lies.

6.41 In the case of a site being located on an aquifer it would be scored negatively (-2).

6.42 It was anticipated that in the long-term, with the cessation of operations, all sites would be likely to be scored as having no significant effect (0).

6.43 *SA Objective 13: Support wider economic development and promote local job opportunities.*
For the operational period the main issue for scoring was to what extent wider economic development would be supported, e.g. through meeting the construction industry's demand for aggregate. Scoring was therefore related to the potential capacity of the site, so the greater the potential capacity the more positive the scoring would be. In this respect this Objective is linked to Objective 1 which is scored according to potential capacity, therefore it was anticipated that a site's score for this Objective would reflect the score given for Objective 1.

6.44 In terms of increasing local employment opportunities, generally speaking mineral extraction sites only directly employ a limited number of employees and specific figures were unlikely to be available so it would be difficult to base scoring on this element.

6.45 It was anticipated that usually the long-term effect would be insignificant (0) as the contribution to wider economic development would only take place whilst sites were operational and mineral was being supplied to the market. However, if job opportunities would result from a proposed after-use there could be scope for a slightly positive (+1) effect.

6.46 *SA Objective 14: Protect and improve human health and quality of life.*

For the operational period it was anticipated that the three issues which could be scored for this Objective would be:

f. the impact of noise, dust and traffic on any surrounding settlements, with an impact of this type being scored slightly negatively (-1);
g. visual impact, as determined by the Landscape Assessment, whereby if any residential properties have views affected the score would be slightly negative (-1);
h. significant disruption to a right of way (RoW) would warrant a slightly negative score (-1).

6.47 It was considered that scores for the long-term would depend on the details of restoration, with the possibility of positive scores should restoration include, e.g. greater public access to nature conservation or recreational areas, improvements to rights of way, or flood defences.

Site Appraisal Results

6.48 Table 6.3 below provides a summary of the site appraisal findings. Full details of the site appraisal findings are set out in the site appraisal matrices contained in Appendix C (for sites allocated in the Publication Version MLP) and Appendix D (unallocated sites). Individual site location plans for the allocated sites can be found in Appendix E and, for the unallocated sites can be found in Appendix F.

Table 6.3: Summary of Site Appraisal findings

SITE	SUSTAINABILITY APPRAISAL FINDINGS
Sand and gravel	
Shelford	• This site scores very positively in terms of its contribution to the economic aspects of sustainability. • The site scores positively in terms of sustainable patterns and modes of transport because a significant proportion of the mineral will be transported from the site by barge and the remainder will be taken by conveyor to a direct access onto the A6097. • The site scores very negatively with regard to impact and risk of flooding as it is largely within Flood Zone 3, however the precise nature of the impact would have to be ascertained through a detailed flood risk assessment. • There is a negative impact on the historic environment in the short and long-term with the site having high archaeological potential, including one of the few known 'pillow mound' sites in the County, and the likelihood of remains warranting preservation in situ. The long-term effect is unclear. • There is a slightly negative impact on biodiversity due to there being LWSs adjacent to the site, however the impact would be positive in the long-term with the implementation of a biodiversity-led restoration scheme. • The landscape assessment concluded that there would be a very negative impact both during the operational period and in the long-term, but also identified some scope for mitigation measures. • The loss of some high-quality agricultural land results in a negative impact both in the short and long-term. • The high number of HGV movements during the operational period could have a negative impact on local air quality. • During the operational period there could be a very negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic; rights of way would be disrupted and there would be an adverse effect on visual amenity, but there is some scope for mitigation. In the long-term improvement to RoWs and flood defences could have a positive effect.

Barton in Fabis (Mill Hill)	• This site scores positively in terms of its contribution to the economic aspects of sustainability. • There is a negative impact on biodiversity during the operational period with the impact in the long-term remaining slightly negative as although restoration would create LBAP priority habitats, there would be an overall reduction in LBAP habitat and the loss and degradation of a number of LWSs. • There is a negative impact on the historic environment during the operational period as the settings of designated heritage assets could be adversely affected and there is a very high potential for non-designated archaeology. • The landscape assessment concluded that there would be a very negative impact both during the operational period and in the long-term, but also identified some scope for mitigation measures. The site is also within the Green Belt and there is the potential for an adverse impact on its openness and visual amenity during the operational phase. • The site scores very negatively with regard to impact and risk of flooding as it is within Flood Zone 3, however the precise nature of the impact would have to be ascertained through a detailed flood risk assessment. • The loss of some high quality agricultural land would have a slightly negative impact during the operational period but restoration would include re-instatement of this. • The high number of HGV movements during the operational period could have a negative impact on local air quality. • During the operational period there could be a very negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic; rights of way would be disrupted and there would be an adverse effect on visual amenity, but there is some scope for mitigation.
Barton in Fabis (West)	• This site scores positively in terms of its contribution to the economic aspects of sustainability. • There is a slightly negative impact on biodiversity during the operational period as the site adjoins a LWS.

	• There is a negative impact on the historic environment during the operational period as the settings of designated heritage assets could be adversely affected and there is both known archaeology and high potential for additional archaeology. • The landscape assessment concluded that there would be a very negative impact during the operational period and a negative effect in the long-term, but identified some scope for mitigation measures during the former. • The site scores very negatively with regard to impact and risk of flooding as it is within Flood Zone 3, however the precise nature of the impact would have to be ascertained through a detailed flood risk assessment. • The loss of some high-quality agricultural land would have a negative impact during the operational period whilst the long-term impact depends on details of restoration. • HGV movements during the operational period could have a slightly negative impact on local air quality. • During the operational period there could be a negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic and there would be an adverse effect on visual amenity, but there is some scope for mitigation.
East Leake North	• This site scores slightly positively in terms of its contribution to the economic aspects of sustainability. • There is a slightly negative impact on biodiversity during the operational period as the site adjoins an LWS. The long-term impact could be positive or negative depending on the details of restoration. • There is a slightly negative impact on the historic environment during the operational period as the settings of designated heritage assets could be adversely affected. • The landscape assessment concluded that there would be a negative impact both during the operational period and in the long-term, but also identified some scope for mitigation measures. • The loss of some high-quality agricultural land results in a negative impact in the short-term, with the long-term impact being dependent on the details of restoration.

	• HGV movements during the operational period could have a slightly negative impact on local air quality. • During the operational period surrounding settlements could be slightly negatively affected by noise, dust and traffic, but there is scope for mitigation.
Redhill	• This site scores slightly positively in terms of its contribution to the economic aspects of sustainability. • There is a negative impact on biodiversity during the operational period. In the long-term some limited biodiversity benefits would result in a slightly positive effect. • There is a very negative impact on the historic environment during both the operational period and in the long-term as mineral extraction in this location would cause serious loss of significant, high importance archaeological remains. • The landscape assessment concluded that there would be a negative impact both during the operational period and in the long-term, with, in addition, a potential adverse impact on the openness of the Green Belt, but also identified some scope for mitigation measures. • The site scores very negatively with regard to impact and risk of flooding as it is within Flood Zone 3, however the precise nature of the impact would have to be ascertained through a detailed flood risk assessment. • During the operational period there could be a slightly negative effect on quality of life through the impact on rights of way, but there is some scope for mitigation. The potential to increase recreational opportunities in the long-term with the development of a marina results in a slightly positive effect.
Cromwell	• This site scores positively in terms of its contribution to the economic aspects of sustainability. • There is a slightly negative impact on biodiversity during the operational period due to adjacent LWSs. In the long-term the nature conservation elements included in the restoration scheme would result in a slightly positive impact but would not maximise biodiversity gain. • There is a negative impact on the historic environment during the operational period as a scheduled monument adjoins the site boundaries.

	• The landscape assessment concluded that there would be a negative impact both during the operational period and in the long-term, but also identified scope for mitigation measures. • The site scores very negatively with regard to impact and risk of flooding as it is within Flood Zone 3, however the precise nature of the impact would have to be ascertained through a detailed flood risk assessment. • The loss of some high-quality agricultural land would have a slightly negative impact during the operational period and it is unclear at his stage whether this would be re-instated. • The high number of HGV movements during the operational period could have a negative impact on local air quality. • During the operational period there could be a negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic and rights of way would be disrupted, but there is some scope for mitigation. In the long term enhanced public access opportunities could have a slightly positive impact.
Cromwell Triangle & Carlton River Meadows	• This site scores slightly positively in terms of its contribution to the economic aspects of sustainability. • There is a slightly negative impact on biodiversity during the operational period due to the close proximity of LWSs and uncertainty as to the long-term effect as no restoration details have been provided. • There is a very negative impact on the historic environment both during the operational period and in the long-term as part of a scheduled monument lies within the site boundaries. • The landscape assessment concluded that there would be a very negative impact both during the operational period and in the long-term, but also identified scope for mitigation measures. • The site scores very negatively with regard to impact and risk of flooding as it is within Flood Zone 3, however the precise nature of the impact would have to be ascertained through a detailed flood risk assessment.

	• The loss of some high-quality agricultural land would have a slightly negative impact during the operational period and it is unclear at his stage whether this would be re-instated.
Langford South & West	• This site scores positively in terms of its contribution to the economic aspects of sustainability. • Although there is a slightly negative impact on biodiversity during the operational period it is likely that the proposed restoration for nature conservation, linking in with the developing Langford Lowfields Reserve, would have a very positive impact. • There is a negative impact on the historic environment during the operational period as the settings of designated heritage assets could be adversely affected and the site has high archaeological potential. • The landscape assessment concluded that there would be a negative impact both during the operational period and in the long-term, but also identified some scope for mitigation measures. • The site scores very negatively with regard to impact and risk of flooding as it is within Flood Zone 3, however the precise nature of the impact would have to be ascertained through a flood risk assessment. • The loss of some high-quality agricultural land, which would not be restored, would have a slightly negative effect both in the short- and long-term. • The high number of HGV movements during the operational period could have a negative impact on local air quality. • During the operational period there could be a very negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic; rights of way would be disrupted and there could be an adverse effect on visual amenity for some residents, but there is some scope for mitigation and potential for long-term benefits.
Langford North	• This site scores very positively in terms of its contribution to the economic aspects of sustainability.

	• Although there is a negative impact on biodiversity during the operational period it is likely that the proposed restoration for nature conservation, linking in with the developing Langford Lowfields Reserve, would have a positive impact. • There is a negative impact on the historic environment during the operational period as the settings of designated heritage assets could be adversely affected and the site has high archaeological potential. • The landscape assessment concluded that there would be a negative impact both during the operational period and in the long-term, but also identified some scope for mitigation measures. • The site scores very negatively with regard to impact and risk of flooding as it is within Flood Zone 3, however the precise nature of the impact would have to be ascertained through a flood risk assessment. • The loss of some high-quality agricultural land, which would not be restored, would have a slightly negative effect both in the short- and long-term. • The high number of HGV movements during the operational period could have a negative impact on local air quality. • During the operational period there could be a very negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic; rights of way would be disrupted and there could be an adverse effect on visual amenity for some residents, but there is some scope for mitigation and potential for long-term benefits.
Coddington	• This site scores very positively in terms of its contribution to the economic aspects of sustainability. • There is a negative impact on biodiversity due to the potential for adverse impacts on adjacent LWSs and ancient woodland, whilst in the long-term the restoration scheme may deliver at least modest biodiversity benefits. • There is a slightly negative impact on the historic environment during the operational period as the setting of a conservation area could be adversely affected and the site may have potential for non-designated archaeology.

	• The landscape assessment concluded that there would be a negative impact both during the operational period and in the long-term, but also identified some scope for mitigation measures. • The site scores only slightly negatively with regard to impact and risk of flooding as the majority of it lies outside the high flood risk zone. • The loss of some high-quality agricultural land, which would not be restored, would have a negative effect both in the short- and long-term. • The high number of HGV movements during the operational period could have a negative impact on local air quality. • During the operational period there could be a negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic and there could be an adverse effect on visual amenity for some residents, but there is some scope for mitigation. In the long-term there is potential for a slightly positive impact.
Besthorpe East	• This site scores positively in terms of its contribution to the economic aspects of sustainability. • Although there is a slightly negative impact on biodiversity during the operational period it is likely that the proposed restoration for nature conservation, linking in with existing wetland nature reserve areas, would have a positive impact. • There is a negative impact on the historic environment during the operational period as the settings of designated heritage assets could be adversely affected and the site has high archaeological potential. • The landscape assessment concluded that there would be a negative impact both during the operational period and in the long-term, but also identified some scope for mitigation measures. • The site scores very negatively with regard to impact and risk of flooding as it is within Flood Zone 3, however the precise nature of the impact would have to be ascertained through a flood risk assessment. • The loss of some high-quality agricultural land, which would not be restored, would have a slightly negative effect both in the short- and long-term.

	• The number of HGV movements during the operational period could have a slightly negative impact on local air quality. • During the operational period there could be a negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic and rights of way would be disrupted, but there is some scope for mitigation and potential for long-term benefits. •
Burridge Farm	• This site scores positively in terms of its contribution to the economic aspects of sustainability. • Although there is a slightly negative impact on biodiversity during the operational period due to the proximity of LWSs, it is likely that the proposed restoration would deliver significant biodiversity benefits, thereby having a very positive impact. • The site scores positively in terms of sustainable patterns and modes of transport because the extracted mineral would be transported by barge along the River Trent for processing at Cromwell Quarry. • There is a negative impact on the historic environment during the operational period as the site adjoins a scheduled monument, has high archaeological potential and there is possibility of an adverse impact on the settings of a conservation area and listed buildings. • The site scores very negatively with regard to impact and risk of flooding as it is within Flood Zone 3, however the precise nature of the impact would have to be ascertained through a flood risk assessment. • The loss of some high-quality agricultural land, which would not be restored, would have a negative effect both in the short- and long-term. • The landscape assessment concluded that there would be a negative impact during the operational period and a slightly negative effect in the long-term, but also identified some scope for mitigation measures. • The number of HGV movements during the operational period could have a slightly negative impact on local air quality. • During the operational period there could be a slightly negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic, but there is some scope for mitigation and potential for long-term benefits.

Great North Road North	• This site scores positively in terms of its contribution to the economic aspects of sustainability. • Although there is a slightly negative impact on biodiversity during the operational period, it is likely that the proposed restoration would deliver at least modest biodiversity benefits, thereby having a positive impact. • There is a negative impact on the historic environment during the operational period as the settings of a number of designated heritage assets could be adversely affected. • The landscape assessment concluded that there would be a very negative impact during the operational period and negative effect in the long-term, but also identified some scope for mitigation measures. • The site scores very negatively with regard to impact and risk of flooding as it is within Flood Zone 3, however the precise nature of the impact would have to be ascertained through a flood risk assessment. • The loss of some high-quality agricultural land would have a negative effect in the short-term. • The number of HGV movements during the operational period could have a slightly negative impact on local air quality. • During the operational period there could be a very negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic; visual amenity would be adversely affected for some residents and there would be an impact on the Trent Valley Way long-distance footpath, but there is some scope for mitigation.
Great North Road South	• This site scores positively in terms of its contribution to the economic aspects of sustainability. • Although there is a slightly negative impact on biodiversity during the operational period, it is likely that the proposed restoration would deliver at least modest biodiversity benefits, thereby having a positive impact. • There is a negative impact on the historic environment during the operational period as the settings of a number of designated heritage assets could be adversely affected.

	• The landscape assessment concluded that there would be a very negative impact during the operational period and negative effect in the long-term, but also identified some scope for mitigation measures. • The site scores very negatively with regard to impact and risk of flooding as it is within Flood Zone 3, however the precise nature of the impact would have to be ascertained through a flood risk assessment. • The loss of some high-quality agricultural land would have a negative effect in the short-term. • The number of HGV movements during the operational period could have a slightly negative impact on local air quality. • During the operational period there could be a negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic and there would be an impact on the Trent Valley Way long-distance footpath, but there is some scope for mitigation.
Flash Farm	• This site scores positively in terms of its contribution to the economic aspects of sustainability. • Although there is a slightly negative impact on biodiversity during the operational period it is likely that the proposed restoration would have a positive impact. • The landscape assessment concluded that there would be a very negative impact during the operational period and a slightly negative impact in the long-term, but also identified some scope for mitigation measures. • The site scores very negatively with regard to impact and risk of flooding as a large part of the site is within Flood Zone 3, however the precise nature of the impact would have to be ascertained through a flood risk assessment. • The loss of high quality agricultural land results in a negative impact during the operational period, however the restoration proposals allow for reinstatement of high quality agricultural land. • The number of HGV movements during the operational period could have a very negative impact on local air quality.

	• During the operational period there could be a very negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic; visual amenity would be adversely affected for some residents and a right of way would be disrupted, but there is some scope for mitigation.
Little Carlton	• This site scores positively in terms of its contribution to the economic aspects of sustainability. • There is a very negative impact on the historic environment, both in the short- and long-term, as the South Muskham archaeological resource area adjoins, and a small part is within, the site; there are scheduled monuments in close proximity and there is very high potential for non-designated archaeology. • The landscape assessment concluded that there would be a very negative impact during the operational period and a negative impact in the long-term, but also identified some scope for mitigation measures. • The loss of high-quality agricultural land results in a very negative impact and it is unclear whether adequate mitigation would be possible. • The number of HGV movements during the operational period could have a slightly negative impact on local air quality. • During the operational period there could be a very negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic; visual amenity would be adversely affected for some residents and a right of way would be disrupted, but there is some scope for mitigation.
Botany Bay	• This site scores positively in terms of its contribution to the economic aspects of sustainability. • The impact on biodiversity would be slightly negative during the operational period due to the proximity of LWSs and a SSSI. In the long-term the elements of nature conservation proposals included in the restoration scheme would result in a slightly positive impact but would not maximise biodiversity gain.

	• There is a slightly negative impact on the historic environment during the operational period as the settings of a number of designated heritage assets could be adversely affected. • The landscape assessment concluded that there would be a very negative impact during the operational period and negative effect in the long-term, but also identified some scope for mitigation measures. • The loss of some high-quality agricultural land would have a slightly negative effect in the short-term. • The number of HGV movements during the operational period could have a slightly negative impact on local air quality. • The impact on water quality could be negative, as the site is situated on a primary aquifer which could be of concern from a groundwater perspective, but there is scope for mitigation. • During the operational period there could be a negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic and visual amenity would be adversely affected for some residents, but there is some scope for mitigation.
Bawtry Road	• This site scores slightly positively in terms of its contribution to the economic aspects of sustainability. • The impact on biodiversity would be slightly negative during the operational period due to the proximity of LWSs and a SSSI. In the long-term it is likely that the restoration scheme would result in a slightly positive impact but would not maximise biodiversity gain. • The landscape assessment concluded that there would be a slightly negative impact both during the operational period and in the long-term, but also identified some scope for mitigation through the restoration scheme. • The impact on water quality could be negative, as the site lies within Source Protection Zone 2 which could be of concern from a groundwater perspective, but there is scope for mitigation. • During the operational period there could be a slightly negative effect on quality of life for some local residents in terms of visual amenity.

Barnby Moor (Hanson)	• This site scores slightly positively in terms of its contribution to the economic aspects of sustainability. • The impact on biodiversity would be negative during the operational period as there is a LWS in close proximity to the site and there are two SSSIs in the vicinity. In the long-term the nature conservation elements included in the restoration scheme would result in a slightly positive impact but would not maximise biodiversity gain. • The landscape assessment concluded that there would be a negative impact both during the operational period and in the long-term, but also identified some scope for mitigation measures. • The site scores very negatively with regard to impact and risk of flooding as part of it is within Flood Zone 3, however the precise nature of the impact would have to be ascertained through a flood risk assessment. • The loss of some high-quality agricultural land results in a negative impact in the short-term. • The number of HGV movements during the operational period could have a slightly negative impact on local air quality. • The impact on water quality could be negative, as the site lies in Source Protection Zone 3 and on a primary aquifer, which is of concern from a groundwater perspective, but there is scope for mitigation. • During the operational period there could be a negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic and visual amenity would be adversely affected for some residents, but there is some scope for mitigation.
Barnby Moor (Torworth/Rotherham SG)	• This site scores positively in terms of its contribution to the economic aspects of sustainability. • The impact on biodiversity would be negative during the operational period as there is a LWS adjoining the site and there are two SSSIs in the vicinity. In the long-term the impact could be positive or negative depending on whether restoration is biodiversity-led or not.

	• The landscape assessment concluded that there would be a negative impact both during the operational period and in the long-term, but also identified some scope for mitigation measures. • The site scores very negatively with regard to impact and risk of flooding as part of it is within Flood Zone 3, however the precise nature of the impact would have to be ascertained through a flood risk assessment. • The loss of some high-quality agricultural land results in a negative impact in both the short- and long-term. • The impact on water quality could be negative, as the site lies in Source Protection Zone 3 and on a primary aquifer, which is of concern from a groundwater perspective, but there is scope for mitigation. • During the operational period there could be a negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic and visual amenity would be adversely affected for some residents, but there is some scope for mitigation.
Scrooby, Thompson Land	• This site scores slightly positively in terms of its contribution to the economic aspects of sustainability. • The impact on biodiversity would be slightly negative during the operational period as there are several LWSs and an SSSI in close proximity to the site. In the long-term the nature conservation elements included in the restoration scheme would result in a slightly positive impact but would not maximise biodiversity gain. • The landscape assessment concluded that there would be a negative impact during the operational period and a slightly negative impact in the long-term, but also identified some scope for mitigation measures. • The loss of some high-quality agricultural land results in a negative impact in both the short- and long-term. • The impact on water quality could be negative, as the site lies on a primary aquifer, but there is scope for mitigation. • During the operational period there could be a negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic

	and visual amenity would be adversely affected for some residents, but there is some scope for mitigation and potential for slightly positive benefits in the long-term through public access to recreational opportunities.
Scrooby North	• This site scores slightly positively in terms of its contribution to the economic aspects of sustainability. • The impact on biodiversity would be slightly negative during the operational period as one LWS adjoins the site boundary and there are several LWSs, GeoSINC and an SSSI in the vicinity. The effect in the long-term is uncertain as no restoration details were provided. • The landscape assessment concluded that there would be a negative impact during the operational period and a slightly negative impact in the long-term, but also identified some scope for mitigation measures. • The loss of some high-quality agricultural land results in a negative impact in the short-term, with the long-term effect being uncertain due to the absence of restoration details. • The impact on water quality could be negative, as the site lies on a primary aquifer which could be a concern from a groundwater perspective, but there is scope for mitigation. • During the operational period there could be a slightly negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic, but there is some scope for mitigation.
Sherwood Sandstone	
Scrooby Top North	• This site scores very positively in terms of its contribution to the economic aspects of sustainability. • The impact on biodiversity would be negative during the operational period as the site abuts, and could potentially harm, a SSSI, and is in close proximity to LWSs. In the long-term the nature conservation element indicated in the restoration proposals would result in a slightly positive impact but would not maximise biodiversity gain. • There is a negative impact on the historic environment during the operational period as the settings of designated heritage assets could be adversely affected and the site has high archaeological potential.

	• The landscape assessment concluded that there would be a negative impact during the operational period and a slightly negative impact in the long-term, but also identified some scope for mitigation measures. • The loss of some high-quality agricultural land results in a negative impact in the short-term, with the long-term effect being uncertain as it is not clear whether any reinstatement of agricultural land would match the existing quality. • The impact on water quality could be negative, as the site lies in Source Protection Zone 3 and on a primary aquifer which could be a concern from a groundwater perspective, but there is scope for mitigation. • During the operational period there could be a slightly negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic, but there is some scope for mitigation.
Bestwood II East	• This site scores positively in terms of its contribution to the economic aspects of sustainability. • The impact on biodiversity would be very negative during the operational period because the site is entirely located within an LWS and lies between two parts of the Sherwood Forest Important Bird Area, upon which any future Special Protection Area (SPA) designation may be based. The overall impact in the long-term would be neutral. • The landscape assessment concluded that there would be a very negative impact both during the operational period and in the long-term, but also identified some scope for mitigation measures. It should be noted that the site is also in the Green Belt. • The number of HGV movements during the operational period could have a slightly negative impact on local air quality. • The impact on water quality could be negative, as the site lies in Source Protection Zone 3 and on a primary aquifer which could be a concern from a groundwater perspective, but there is scope for mitigation. • During the operational period there could be a negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic, and there would be a detrimental impact on visual amenity for some residents, but there is some scope for mitigation.

Bestwood II North	• This site scores slightly positively in terms of its contribution to the economic aspects of sustainability. • The impact on biodiversity would be very negative during the operational period because the site is entirely located within an LWS and lies between two parts of the Sherwood Forest Important Bird Area, upon which any future Special Protection Area (SPA) designation may be based. The impact in the long-term is uncertain as it is not clear whether restoration proposals will outweigh the existing nature conservation value of the site. • The landscape assessment concluded that there would be a negative impact both during the operational period and in the long-term, but also identified some scope for mitigation measures. The site is also in the Green Belt, which, together with the landscape score, results in a very negative impact during the operational period. • The number of HGV movements during the operational period could have a slightly negative impact on local air quality. • The impact on water quality could be negative, as the site lies in Source Protection Zone 3 and on a primary aquifer which could be a concern from a groundwater perspective, but there is scope for mitigation. • During the operational period there could be a negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic, and there would be a detrimental impact on visual amenity for some residents, but there is some scope for mitigation.
Clay	
Woodborough Lane	• This site scores very positively in terms of its contribution to the economic aspects of sustainability. • The site is located in close proximity to a brickworks which would be the destination for the extracted clay resulting in a positive impact in terms of sustainable patterns of movement. • The landscape assessment concluded that there would be a negative impact both during the operational period and in the long-term, but also identified some scope for mitigation measures. The site is also in the Green Belt, which, together with the landscape score, results in a very negative impact during the operational period.

	• Loss of some high-quality agricultural land would have a negative impact in both the short- and long-term. • The impact on water quality could be negative, as the site lies on an aquifer which could be a concern from a groundwater perspective, but there is scope for mitigation. • During the operational period there could be a negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic, and there could be a detrimental impact on visual amenity for some residents, but there is some scope for mitigation.
Gypsum	
Bantycock	• This site scores very positively in terms of its contribution to the economic aspects of sustainability. • There would be a negative impact on biodiversity during the operational period because the entirety of one LWS and part of another fall within the site. In the long-term there could be a slightly positive impact with modest biodiversity benefits resulting from the restoration scheme. • There is a slightly negative impact on the historic environment during the operational period, but there may be potential for mitigation upon restoration. • The landscape assessment concluded that there would be a negative impact both during the operational period and in the long-term, but also identified some scope for mitigation measures. • The loss of some high-quality agricultural land results in a negative impact in the short-term, with the long-term effect being uncertain as it is not clear whether the reinstatement of agricultural land would match the existing quality. • The high number of HGV movements during the operational period could have a negative impact on local air quality. • The impact on water quality could be negative, as the site lies on an aquifer which could be a concern from a groundwater perspective, but there is scope for mitigation. • During the operational period there could be a negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and

	traffic, and there could be a detrimental impact on visual amenity for some residents, but there is some scope for mitigation.

Overview of site appraisal scores

6.49 An overview of the scores for all the sites which were appraised is shown in Table 6.4. This can be used to aid comparisons between sites and provides an indication of how, whilst all sites score negatively for the operational period (period of extraction and restoration works), some score positively in the long-term (post-restoration) reflecting the potential for mitigation through the outcomes of appropriate restoration schemes. However, it should be borne in mind that that the commentary explaining the reasoning behind each predicted effect and the potential mitigation, which are set out in the individual site appraisal matrices, should also be referred to rather than looking at the scores in isolation.

Table 6.4: Overview of the Site Appraisal Scores

SITE	SCORES	
	Operational period	**Long-term**
Sand and gravel		
Shelford	**-10**	**-1**
Barton in Fabis (Mill Hill)	**-13**	**-3**
Barton in Fabis (West)	**-11**	**-2**
East Leake North	**-7**	**-2**
Redhill	**-11**	**-2**
Cromwell	**-11**	**0**
Cromwell Triangle & Carlton River Meadows	**-13**	**-6**
Langford South & West	**-10**	**+2**
Langford North	**-9**	**+1**
Coddington	**-7**	**-2**
Besthorpe East	**-8**	**+2**
Burridge Farm	**-8**	**+2**
Great North Road North	**-13**	**0**
Great North Road South	**-12**	**0**
Flash Farm	**-13**	**+3**
Little Carlton	**-13**	**- 4**
Botany Bay	**-8**	**-1**
Bawtry Road	**-4**	**0**
Barnby Moor (Hanson)	**-13**	**-1**
Barnby Moor (Torworth/Rotherham SG)	**-10**	**-4**
Scrooby, Thompson Land	**-8**	**-1**
Scrooby North	**-7**	**-1**
Sherwood Sandstone		
Scrooby Top North	**-5**	**0**
Bestwood II East	**-7**	**-3**
Bestwood II North	**-9**	**-2**
Clay		
Woodborough Lane	**-3**	**-3**
Gypsum		
Bantycock	**-7**	**-1**

Summary of the Site Appraisal Results

Sand and gravel

6.50 All twenty-two sand and gravel sites scored positively to varying degrees in the operational period against SA objectives 1 (ensuring adequate minerals provision) and 13 (supporting economic development). The effects on these objectives were slightly positive, positive or very positive depending on the potential capacity of the site. Many of the sites also scored slightly positively during the operational period against SA objective 3 (sustainable transport), as their locations were well-related to the main highway network, and against SA objective 9 (efficient use of land and resources) if they were extensions rather than completely new sites.

6.51 However, significant negative effects were also predicted for all of the sites. It is inevitable that mineral extraction sites, due to their nature, generally cause negative effects to a range of sustainability objectives, particularly during the operational period. These negative effects most commonly arose against SA objectives 2 (biodiversity), 4 (historic environment), 5 (landscape), 6 (flooding), 8 (agricultural land), 11 (air quality), 12 (water quality) and 14 (human health and quality of life).

6.52 In the long-term the total score was slightly positive for five sites (Langford South & West, Langford North, Besthorpe East, Burridge Farm and Flash Farm) and for the other sites the scale of negative effects was much reduced compared to the operational period.

6.53 The sand and gravel sites which scored most negatively in the operational period were Barton-in-Fabis (Mill Hill), Cromwell Triangle & Carlton River Meadows, Great North Road North, Flash Farm, Little Carlton and Barnby Moor (Hanson). In all cases the negative impact was much reduced in the long-term, but less so for Cromwell Triangle & Carlton River Meadows than the others, and Flash Farm scored the most positively out of all the sand and gravel sites in the long-term. All six sites had negative effects, both during the operational period and in the long term, on SA objective 5 (landscape). Cromwell Triangle & Carlton River Meadows and Little Carlton also had a very negative impact on SA objective 4 (historic environment), both during the operational period and in the long term, due to impacts on scheduled monuments, and in the case of the latter, also on South Muskham archaeological resource area. SA objectives 6 (flooding), 8 (agricultural land), 11 (air quality) and 14 (human health and quality of life) were also negatively impacted upon by all six sites, particularly during the operational period.

6.54 The sand and gravel site which scored least negatively was Bawtry Road. This site did not have any very negative impacts and had only one negative impact, which was on SA objective 12 (water quality) during the operational period, due to its location in a groundwater source protection zone. Impacts during the operational period on SA objectives 2 (biodiversity) and 5 (landscape), 6 (flooding), 11 (air quality) and 14 (human health and quality of life) were only

slightly negative. In the long-term this site had one slightly positive impact, on SA objective 2 (biodiversity) and one slightly negative impact, on SA objective 5 (landscape).

Sherwood Sandstone

6.55 Scrooby Top North scored least negatively out of the three Sherwood Sandstone sites. The two Bestwood sites had similar scores to each other.

6.56 All the Sherwood Sandstone sites scored positively to varying degrees against SA objectives 1 (ensuring adequate minerals provision) and 13 (supporting economic development), depending on the potential capacity of the site.

6.57 However, significant negative effects were also predicted for all of the sites against SA objectives 2 (biodiversity), 4 (historic environment), 5 (landscape), 6 (flooding), 11 (air quality), 12 (water quality) and 14 (human health and quality of life). Negative effects on water quality were due to the fact that the Sherwood Sandstone sites are located on a primary aquifer and in groundwater source protection zone.

Gypsum

6.58 There was only one gypsum site, Bantycock, which scored very positively against SA objectives 1 (ensuring adequate minerals provision) and 13 (supporting economic development), as well as positively against SA objective 3 (sustainable transport) and slightly positively for SA objective 9 (efficient use of land and resources), during the operational period.

6.59 It did, however, have a very negative impact on SA objective 11 (air quality) due to the high number of HGV movements associated with exporting the mineral from the site. There were also negative effects on SA objectives 2 (biodiversity), 5 (landscape), 8 (agricultural land), 12 (water quality) and 14 (human health and quality of life); and slightly negative effects on SA objectives 4 (historic environment), 6 (flooding).

Brick Clay

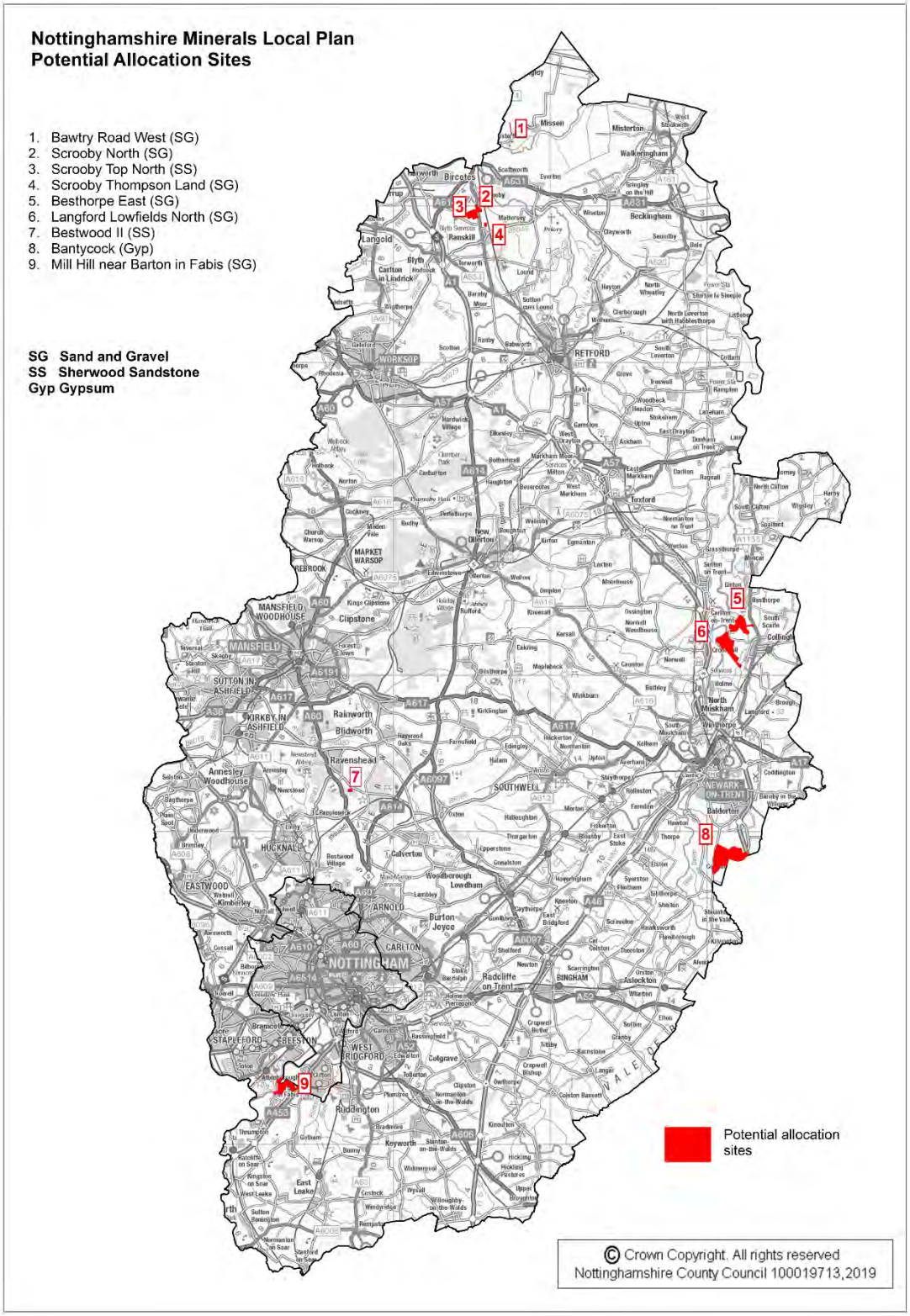
6.60 There was only one clay site, Woodborough Lane, which scored very positively against SA objectives 1 (ensuring adequate minerals provision) and 13 (supporting economic development), as well as slightly positively against SA objective 3 (sustainable transport) and 9 (efficient use of land and resources), during the operational period.

6.61 It did, however, have a very negative impact on SA objective 5 (landscape) during the operational period and a negative impact in the long-term. There was also a negative impact on agricultural land both during the operational period and in the long term; a negative impact on SA objectives 12 (water quality) and 14 (human health and quality of life) during the operational period and a slightly negative effect on SA objectives 4 (historic environment), 6 (flooding) and 11 (air quality) during the operational period.

Table 6.5: List of Sites Allocated in the Publication Version MLP

	Site Name
Sand and gravel	
Nottingham area	
	Barton in Fabis (Mill Hill)
Newark area	
	Langford North
	Besthorpe East
Idle Valley area	
	Bawtry Road
	Scrooby, Thompson Land
	Scrooby North
Sherwood Sandstone	
	Scrooby Top North
	Bestwood II North
Gypsum	
	Bantycock

Plan 6.2: Sites allocated n the Publication Version MLP



Potential Cumulative Effects

6.62 It should be noted that there are particular difficulties and uncertainties associated with predicting cumulative effects due to a number of factors, including variations in natural systems and their interactions, and due to lack of information, knowledge or scientific agreement about complex causal pathways and cause and effect relationships.

6.63 There are two groups of sites in two geographical areas of the County where two or more sites allocated in the Publication Version of the Minerals Local Plan are in close proximity to each other and there is potential for minerals development to have negative cumulative effects on identified receptors.

North Nottinghamshire
Sites – Scrooby North (sand and gravel), Scrooby Thompson Land (sand and gravel) and Scrooby Top North (Sherwood Sandstone)

6.64 Scrooby Thompson Land would be worked in 2020 and 2021. Scrooby North and Scrooby Top North would both be worked from 2023 until beyond the Plan period (which is to 2036).

6.65 Two existing permitted sites are also in close proximity to these allocated sites. Scrooby Top Quarry is currently being worked with an expected end date of 2022, although the processing plant would remain to serve the allocated sites. Scrooby Quarry (South) also has an expected life until the end of 2022. These sites therefore need to be taken into account in terms of potential cumulative impacts.

6.66 The locations of the existing and potential sites are shown on the map below.

6.67 There is a cluster of LWSs and a geological SSSI in close proximity to these sites so indirect effects such as dust, noise and changes in hydrology and hydrogeology could have a cumulative negative impact on them. Restoration proposals do not maximise the biodiversity gain which could be achieved, but there is potential for mitigation if alternative restoration schemes aimed at maximising LBAP priority habitats for the area were to be carried out.

6.68 The archaeological potential is medium to high across the area covered by these sites therefore there is potential for a negative cumulative impact, however provided mitigation measures are undertaken, including adequate provision for preservation, excavation or recording there would also be scope for the archaeological resource over a wider area to be better understood.

6.69 A negative cumulative effect would result from loss of landscape character whilst Scrooby North and Scrooby Top North were being worked concurrently. In the long-term, however, the impact for all three sites is considered to become only slightly negative and there is also potential for mitigation through reinstatement of hedgerows and planting schemes which use appropriate species for the Idle Lowlands Landscape Character Area.

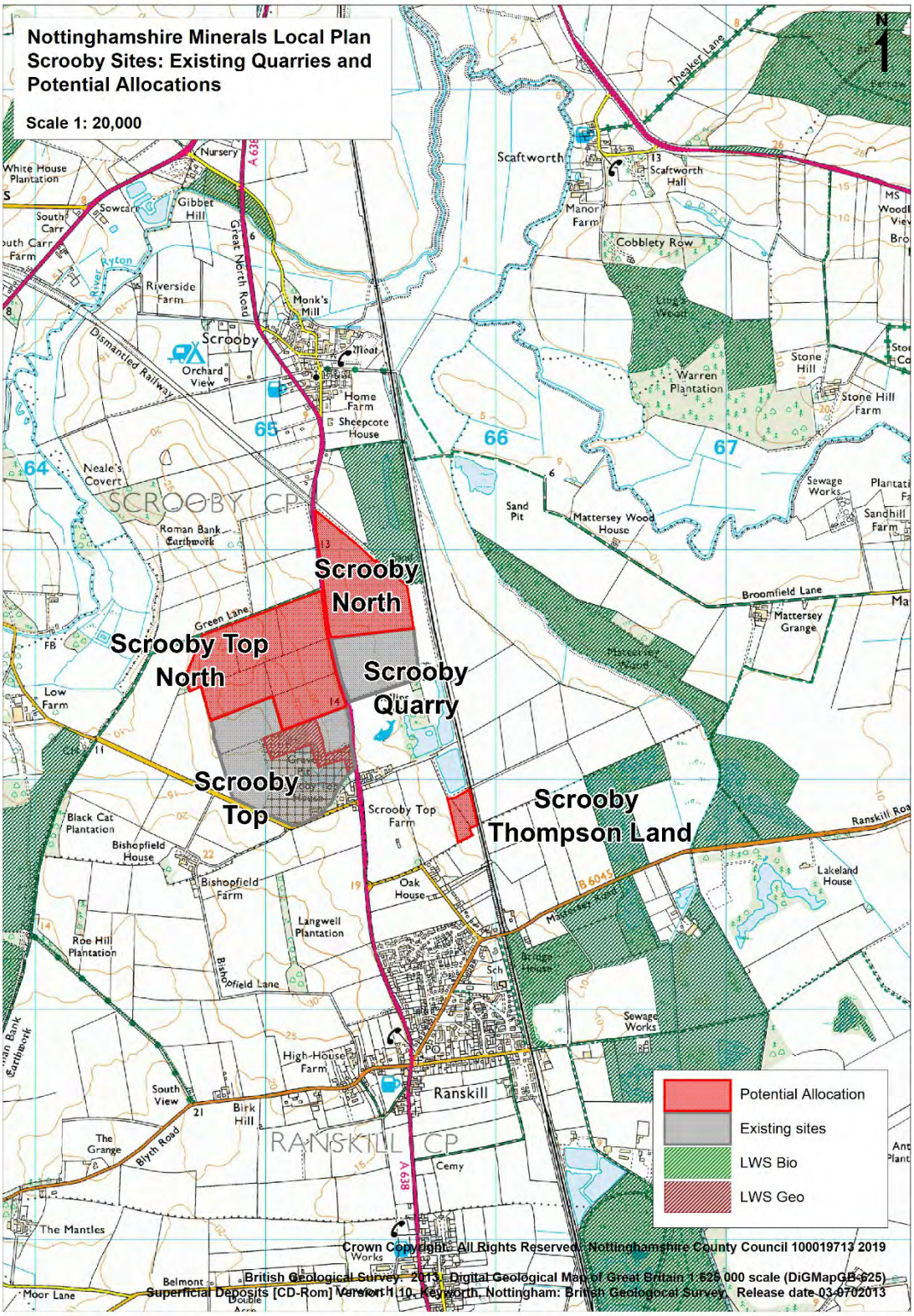
6.70 All of these sites contain some Grade 3a (best and most versatile) agricultural land. Restoration of Scrooby Thompson land does not include reinstatement of agricultural land and it is unclear whether restoration of the other two sites would involve return to agricultural land of the original quality. Consequently, there could be a cumulative negative effect in terms of loss of best and most versatile agricultural land in this area.

6.71 All three sites are situated on a primary aquifer, giving rise to potential cumulative negative impacts through contamination, however this could be avoided through careful management and implementation of on-site protection measures.

6.72 A transport assessment of the Scrooby sites considered the potential cumulative transport impacts of use of the same highway network in the export of material by HGV. It concluded that the Scrooby Sites would not generate any perceptible additional cumulative highway impacts and no mitigation would be required.

6.73 All three sites are located between the villages of Scrooby and Ranskill which could potentially be affected by negative cumulative impacts from noise and dust. Such cumulative impacts could result from the possible concurrent operation of Scrooby Top North with Scrooby North. In addition, all of these sites are extensions which taken together have a long operational time span, starting in 2020 with Scrooby Thompson land and continuing beyond the end of the Plan period (2036) which, combined with the operational periods of the previous sites that they are replacing, could result in a negative cumulative impact on quality of life due to the prolongation of the effects of traffic, noise and dust. There is, however, potential for mitigation through environmental protection measures.

Plan 6.3: Scrooby Sites



Newark

Sites – Besthorpe East (sand and gravel) and Langford North (sand and gravel)

6.74 Besthorpe East would be worked from 2021 (as an extension to the existing Besthorpe site) until beyond the Plan period and Langford North would be worked from 2027 (as an extension to the existing Langford Lowfields site) until beyond the Plan period.

6.75 Three existing permitted sites are also in close proximity to these allocated sites. Langford Lowfields and Cromwell are currently being worked, both with an expected end date of 2027, and Besthorpe is currently being worked with an expected end date of 2020.These sites therefore need to be taken into account in terms of potential cumulative impacts.

6.76 The locations of the existing and potential sites are shown on the map below.

6.77 These sites are in close proximity to a cluster of LWSs and a SSSI which, whilst the sites are operational, could be subject to a negative cumulative impact through indirect effects such as dust, noise and changes in hydrology and hydrogeology (as well as the loss of an LWS which lies within the Langford North site). However, in the long-term, there is potential for a very positive cumulative impact on biodiversity through appropriate restoration providing additional habitat to extend and link into existing and planned wetland habitat in the area in line with the RSPB's 'Bigger and Better' concept plan for the restoration and after-use of sand and gravel workings in this area.

6.78 The archaeological potential is high across the area covered by these sites therefore there is potential for a negative cumulative impact, however provided mitigation measures are undertaken, including adequate provision for preservation, excavation or recording there would also be scope for the archaeological resource over a wider area to be better understood.

6.79 Both sites are considered to have a negative impact on landscape character which, together with the previous quarrying in the area, could result in a negative cumulative impact over a wider area. The entirety of this quarried area, however, is being restored in line with the RSPB's 'Bigger and Better' concept plan for the landscape scale delivery of wetland habitats through restoration of the sand and gravel workings. So, whilst there will be a change in landscape character this should be weighed against the significant biodiversity benefits which would be achieved across this area.

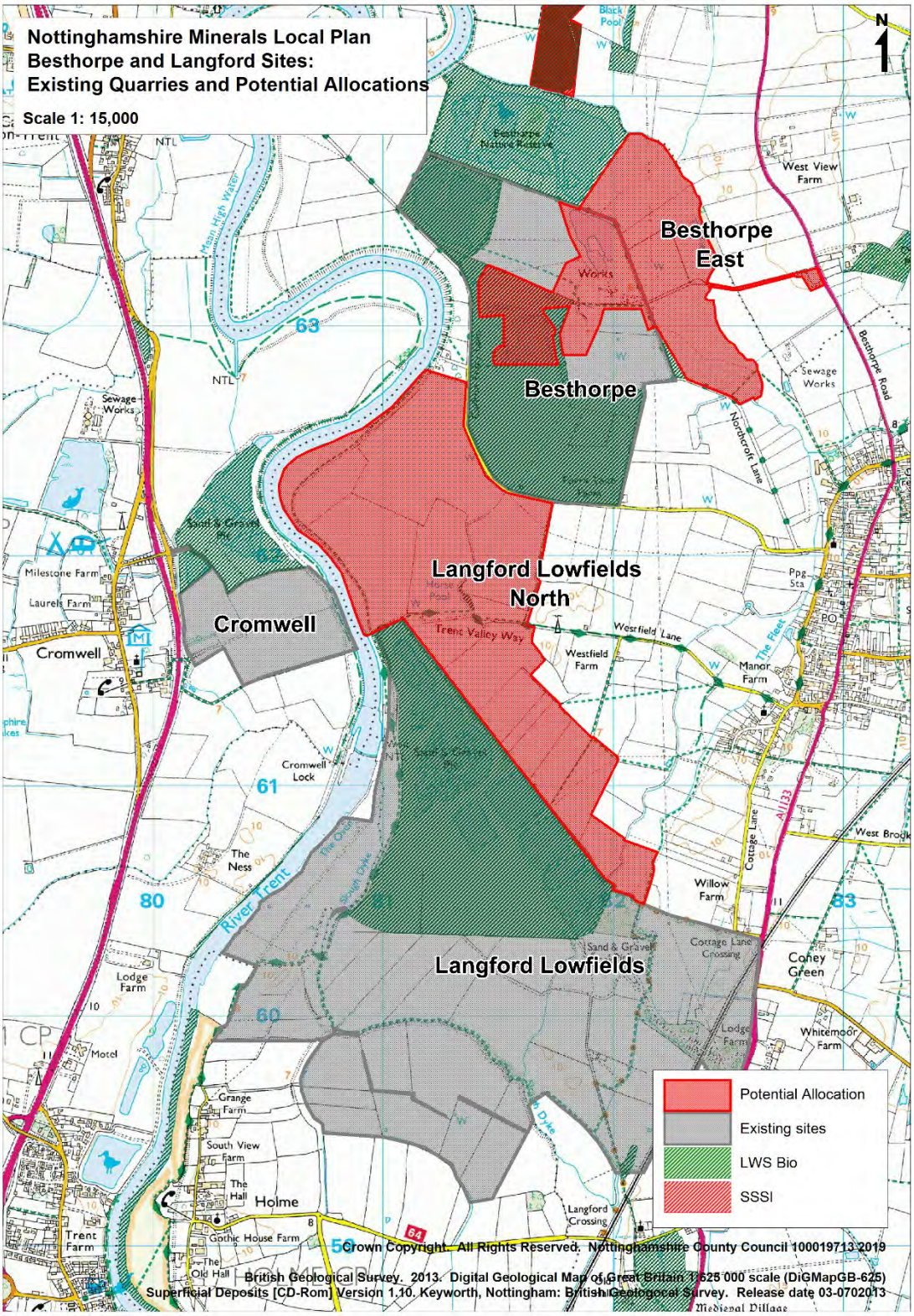
6.80 All of these sites are located in an area of high flood risk, however sand and gravel working is water compatible and flood risk assessments would be required to ascertain whether there is potential for a negative cumulative effect.

6.81 A transport assessment of the Besthorpe and Langford sites considered the potential cumulative transport impacts of use of the same highway network in the export of material by HGV. The Besthorpe East and Langford Sites are located to the north and south of Collingham, respectively. HGVs from both

sites route onto the A1133. However, current routeing agreements mean that HGVs from both sites are restricted from travelling through Collingham, with HGVs from Besthrope required to travel northwards, and HGVs from Langford required to travel southwards. The continuation of such routeing agreements for Besthorpe East and Langford North would ensure that cumulative highway impacts would continue to be avoided.

6.82 Surrounding settlements could be affected by negative cumulative impacts from noise and dust during the concurrent operation of Besthorpe East and Langford North from 2027 onwards. In addition, both of these sites are extensions which taken together have a long operational time span, starting in 2021 and continuing beyond the end of the Plan period (2036). This, combined with the operational periods of the previous sites that they are replacing, could result in a negative cumulative impact on quality of life in surrounding settlements due to the prolongation of the effects of traffic, noise and dust. There is, however, potential for mitigation through environmental protection measures.

Plan 6.4: Besthorpe and ;Langford Sites



Overall

6.83 There is potential for all extensions to have negative cumulative effects because, in conjunction with the existing sites, any existing negative effects, such as those on landscape or from the effects of traffic, noise and dust, could be exacerbated or prolonged. However, it should also be recognised that an extension can be more sustainable than creating an entirely new site, particularly in terms of making more efficient use of land and resources through, for example, utilising the existing site's infrastructure.

6.84 Policy DM8 of the Publication Version Minerals Local Plan specifically addresses potential cumulative impacts.

Site Selection

6.85 The sustainability appraisal findings informed the site selection process, explained in the Draft Site Selection Methodology and Assessment Background Paper (July 2018) and Site Selection Methodology and Assessment Background Paper (May 2019), which has resulted in the allocation of sites set out in the Minerals Provision policies of the Publication Version Minerals Local Plan. The allocated sites are listed in Table 6.5, and shown on Plan 6.2, of this report.

7 Mitigation

7.1 Mitigation encompasses any measures aimed at preventing, reducing and offsetting significant negative sustainability effects identified in the sustainability appraisal.

7.2 Mitigation measures at the policy level are different from those at the site level. In the case of the policies, mitigation measures take the form of application of other policies within the Plan (as no policy should be applied in isolation) or recommendations to the plan-makers in terms of potential policy changes such as re-wording the policy to include or exclude certain components or statements.

7.3 Potential mitigation measures are suggested wherever a negative effect has been identified and they are set out in the individual policy appraisal matrices in Appendix B.

7.4 In the case of sites, potential mitigation measures for each site are set out in in the individual site appraisal matrices in Appendices C and D. Measures which could be proposed as mitigation could include:

Biodiversity:
Habitat and species surveys;
Avoidance of designated sites;
Creation of buffer zones;
Protection of trees;
Species translocation (if possible and only as a last resort);
Habitat creation and enhancement.

Historic environment:
Archaeological surveys and provision for preservation, excavation or recording as appropriate.

Landscape:
Site screening measures;
Creation of appropriate new landscape features.

Flooding:
Flood risk assessments;
Site management to control surface water runoff.

Sustainable transport/ Climate change/Renewable energy:
Minimise use of road transport and maximise use more sustainable modes, e.g. rail/water/conveyor belts, wherever possible;
Generation of renewable energy and use of energy efficient plant on-site.

Agricultural land and soil:
Minimise land take as much as possible;
Restoration to agricultural land of equivalent quality where appropriate.

Water quality:
On-site protection measures to avoid contamination of surface waters and groundwater.

Human health and quality of life:
Noise and dust attenuation measures and site screening.

7.5 The implementation of the policies in the Minerals Local Plan, particularly policies SP1 ‘Minerals Provision’, SP2 ‘Biodiversity-led Restoration’, SP4 ‘Sustainable Transport, SP5 ‘The Built, Historic and Natural Environment’, DM1 ‘Protecting Local Amenity’, DM2 ‘Water Resources and Flood Risk’, DM3 ‘Agricultural land and Soil Quality’, DM4 ‘Protection and Enhancement of Biodiversity and Geodiversity’, DM5 ‘Landscape Character’, DM6 ‘Historic Environment’, DM7 ‘Public Access’, DM8 ‘Cumulative Impact’, DM9 ‘Highway Safety and Vehicle Movements’, DM11 ‘Planning Obligations’ and DM12 ‘Restoration, After-care and After-use’, will help to ensure avoidance or mitigation of potential adverse effects on many of the SA objectives.

8 Monitoring

8.1 Monitoring is an important and ongoing part of the overall sustainability appraisal process. It will highlight trends and issues which can identify specific performance issues and significant effects from the adoption of the Minerals Local Plan. It should also identify unforeseen adverse impacts and enable remedial action to be taken. It will also contribute to more informed decision-making on future plans and contribute to baseline data for future planning documents requiring SA.

8.2 SA monitoring will include the use of indicators covering social, economic and environmental effects and should be able to establish a link between the implementation of the Minerals Local Plan and the effect being monitored. These indicators, which are set out in Table 8.1, were established in the Scoping Report and are designed to monitor significant effects identified through the SA process and bring to light any unforeseen adverse impacts.

8.3 Guidance on SA and requirements for SEA emphasise the monitoring of those policies for which the appraisal identified either significant positive or negative impacts. This would enable assessment of whether the Plan was performing in a sustainable way and whether mitigation measures were functioning in the expected manner.

8.4 The monitoring of the SA and the Minerals Local Plan itself should be closely linked. A Monitoring Report will be produced on the Minerals Local Plan, including a review of how well the policies are working and should incorporate performance indicators which encompass the indicators set out in Table 8.1 in order to ensure that the impacts on the SA objectives are considered.

8.5 The proposed indicators may need to be reviewed following any changes made to policies as a result of the independent examination of the Minerals Local Plan. The monitoring framework could therefore be subject to future change and refinement.

Table 8.1: Sustainability Appraisal objective and proposed indicators

Objective	Proposed Indicators
1. Ensure that adequate provision is made to meet local and national mineral demand.	• Annual production figures (where available) • Level of permitted reserves • Land bank requirement.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	• Area of LBAP habitats created as part of minerals development • Area of designated sites lost to mineral extraction • Number of developments judged to have a harmful impact on legally protected species/habitats or those listed in the LBAP • Area of LBAP habitat lost to minerals development.
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	• Number of permitted sites that would result in less haulage of minerals. • Number of permitted sites that use alternative means of transport other than road. • Number of permitted sites judged to reduce/increase HGV numbers. • Average distance travelled by minerals (no local data currently available). • Number of permitted sites requiring new access/road improvements.
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	• Number of archaeological sites lost or damaged. • Number of designated heritage assets (including conservation areas, listed buildings, SMs, registered parks and gardens and battlefields) adversely affected by development. • Number of developments with watching briefs.
5. Protect and enhance the quality and character of our townscape and landscape.	• Number of permitted sites judged to have a major overall adverse impact on local landscape character/conservation areas. • Number of permitted sites resulting in landscape/townscape improvements.

Objective	Proposed Indicators
	• Area of Green Belt lost to minerals development. • Area of public open space lost to minerals development.
6. Minimise impact and risk of flooding.	• Number of permitted sites with flood alleviation benefits. • Number of sites permitted against EA flood advice. • Number of permitted sites with flood management plans in place.
7. Minimise any possible impacts on, and increase adaptability to, climate change.	• Number of permitted sites that include specific carbon reduction measures. • Estimated output of greenhouse emissions from new mineral sites and related transport. • Average distance travelled by minerals (no local data currently available). • Amount of CO^2 produced per tonne of sand and gravel. • Number of permitted sites that include climate adaptation measures (e.g. to cope with heat, flood, storms).
8. Protection of high quality agricultural land and soil.	• Number of developments permitted which will have an adverse impact on soil quality. • Number of sites with soil management plans (where data available). • Area of best and most versatile land permanently lost to mineral extraction. • Amount of best and most versatile land permanently lost as % of total agricultural land area. • Amount of land contaminated.
9. Promote more efficient use of land and resources.	• Number of new aggregate and other mineral recycling plants permitted. • Amount of recycled/secondary aggregates produced. • Percentage of recycled and secondary aggregates produced. • Area of previously developed land used for minerals development.

Objective	Proposed Indicators
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	• Number of sites permitted that incorporate energy efficiency measures. • Amount of renewable/low carbon energy produced from minerals sites.
11. Protect and improve local air quality.	• Number of sites permitted that are judged to have an adverse impact on air quality. • Number of sites permitted within AQMAs.
12. Protect and improve water quality and promote efficient use of water.	• Local surface/groundwater quality (where data exists). • Number of sites permitted within groundwater protection zones. • Changes in groundwater levels. • Volume of water abstracted for, and discharged from, minerals developments. • Number of developments with sustainable drainage schemes. • Number of schemes with rainwater harvesting.
13. Support wider economic development and promote local job opportunities.	• Data on existing job numbers related to minerals. • Number of new jobs created by new mineral sites. • Minerals production by type.
14. Protect and improve human health and quality of life.	• Amount of public open space/ recreational space/ green infrastructure/ publicly accessible land created by minerals development. • Amount of public open space/ recreational space/ green infrastructure/ publicly accessible land lost due to minerals development. • Number of permissions granted contrary to advice from Public Health England. • Number of properties within 250m of mineral working proposals. • Number of properties affected by noise or other nuisance from minerals development. • Number / length of rights of way (ROW) affected by minerals development.

Objective	Proposed Indicators
	• Number / length of ROW created as a result of minerals development. • Number of confirmed complaints.

9 Conclusions

Vision

9.1 The overall vision of the Draft Minerals Local Plan, once it had been re-worded in line with the Sustainability Appraisal's recommendations at the Issues and Options stage, was found to be sustainable, having a positive or very positive impact on all the Sustainability Appraisal (SA) objectives.

Strategic Objectives

9.2 The strategic objectives of the Minerals Local Plan, which are central to achieving the Plan's vision, were found to be compatible with the SA objectives and therefore they contribute positively to sustainability.

Policies

9.3 All the policies had positive effects on at least some of the SA objectives.

9.4 Several of the development management policies had a slightly negative effect on SA objective 1 (ensuring adequate provision of minerals to meet demand) because they might impose constraints which could limit the choice of sites. However, some of these policies did allow for development in certain circumstances and where this was not the case rewording the policy to avoid a negative impact was not feasible without negating the purpose of the policy.

9.5 There was uncertainty about the effects of some policies on some SA objectives, particularly those on environmental issues, largely because the effects would be dependent on the location of sites in relation to sensitive receptors. Site specific implications were considered separately in the detailed appraisals of potential sites.

9.6 The assessment of cumulative effects did not identify any negative cumulative effects on any of the SA objectives. It was found that there was likely to be a positive cumulative effect from the combination of policy impacts (in either the short or long term, or in both) on SA objectives 1 (ensuring adequate provision of minerals to meet local and national demand), 4 (protecting the quality of the historic environment), 5 (protecting and enhancing the quality and character of townscape and landscape), 11 (protecting and improving local air quality), 13 (supporting wider economic development and promoting job opportunities) and 14 (protecting and improving human health and quality of life). For the remaining SA objectives the overall cumulative effect was uncertain or there was no clear link.

Sites

9.7 The SA of sites identified significant predicted effects on most of the SA objectives. Based on the information available, sites have been shown to have significant positive effects on SA objectives 1 (adequate mineral provision), 3

(sustainable movement), 9 (efficient use of a land and resources) and 13 (wider economic development and local job opportunities). However, sites have also been shown to have significant negative effects on SA objectives 2 (biodiversity), 4 (historic environment), 5 (landscape), 6 (flood risk), 8 (agricultural land and soil), 11 (air quality), 12 (water quality) and 14 (human health and quality of life).

9.8 It is possible that some negative effects could be minimised to an acceptable level through mitigation measures set out in the detailed appraisals contained in the individual site matrices, and potentially through other measures as those referred to are not an exhaustive list.

9.9 However, the appraisal highlighted that some proposed sites have the potential for unavoidable significant negative sustainability effects which could continue into the long term. The scope for restoration is very often a key issue in terms of whether or not negative impacts will persist in the long term. For example, in respect of biodiversity there can be potential for a negative impact during the operational period to become a positive effect in the long term if LBAP priority habitats for the area are maximised through restoration or biodiversity-led restoration contributes to a wider overall scheme to create a nature reserve complex, as, for instance, at Langford South & West.

9.10 Twenty-two sand and gravel sites were assessed. It was found that those which scored most negatively in the operational period were Barton-in-Fabis (Mill Hill), Cromwell Triangle & Carlton River Meadows, Great North Road North, Flash Farm, Little Carlton and Barnby Moor (Hanson). In all cases the negative impact was much reduced in the long-term, but less so for Cromwell Triangle & Carlton River Meadows than the others, and Flash Farm scored the most positively out of all the sand and gravel sites in the long-term. The sand and gravel site which scored least negatively was Bawtry Road. This site had only one negative impact during the operational period. Although it should be borne in mind that the numerical scoring was used to aid comparisons between sites but was not intended to be definitive. The commentary explaining the reasoning behind each predicted effect and the potential mitigation set out in each site appraisal matrix should also be referred to rather than looking at the scores in isolation.

9.11 Out of the three Sherwood Sandstone sites assessed Scrooby Top North scored least negatively. Only one gypsum site and one brick clay site were assessed. All these sites had some significant positive and negative effects.

9.12 The potential cumulative effects of the two groups of allocated sites in close proximity to one another (in the North Nottinghamshire and Newark areas) were also assessed as part of the SA. It was found that the potential negative cumulative effects which were common to both groups of sites were on SA objectives 2 (protect and enhance of biodiversity), 4 (protect the historic environment), 5 (protect and enhance landscape) and 14 (protect and improve human health and quality of life). The North Nottinghamshire group of sites also had potential negative cumulative effects on SA objectives 8 (protect high quality agricultural land) and 12 (protect and improve water quality). There was, however, scope for mitigation in most cases.

Overall

9.13 The SA has appraised the likely social, environmental and economic effects of the Minerals Local Plan from the outset, through the various stages, to reach this Publication Version stage. It has aided the decision-making process by enabling the evaluation of reasonable alternatives and identifying potential mitigation measures where negative impacts have been identified. The SA has been an integral part of the plan-making process for the Minerals Local Plan.

10 Next Steps

10.1 This Sustainability Appraisal Report forms part of the evidence base for the Minerals Local Plan. There will be a six-week period for making formal representations on the Publication Version Minerals Local Plan which is likely to commence on 30th August 2019. All the information on this consultation is available online via the County Council's website at www.nottinghamshire.gov.uk/minerals.

10.2 Following the consultation period the Minerals Local Plan will be submitted for Examination. An independent inspector will be appointed to hold the public examination to consider the soundness of the Minerals Local Plan. This Sustainability Appraisal Report will be examined as part of the evidence base for the Plan. If modifications to the Plan are proposed at Examination and these represent significant changes then further sustainability appraisal will be carried out. If the inspector decides that the Minerals Local Plan is sound the County Council will adopt it and a post-adoption sustainability appraisal statement will be produced which will include details of monitoring arrangements.

10.3 If the Minerals Local Plan is not found sound, the County Council would need to make further amendments and re-consult or may have to withdraw the Plan and start again. In either case further sustainability appraisal would be an integral part of the process.

Appendix A: Publication Version Policy Re-appraisal Requirements

Policy	Revisions	SA Requirement
Vision	Wording changes.	Re-appraisal required.
Strategic Objectives	Wording changes.	Re-appraisal required.
SP1 (formerly SP2) Minerals Provision	Wording changes.	Re-appraisal required.
SP2 (formerly SP3) Biodiversity-led Restoration	Wording changes.	Re-appraisal required.
SP3 (formerly SP4) Climate Change	No change.	N/A
SP4 (formerly SP5) Sustainable Transport	Wording changes.	Re-appraisal required.
SP5 (formerly SP6) The Built, Historic and Natural Environment	Wording changes.	Re-appraisal required.
SP6 (formerly SP7) The Nottinghamshire Green Belt	Wording changes.	Re-appraisal required.
SP7 (formerly SP8) Minerals Safeguarding, Consultation Areas and Associated Minerals Infrastructure	Minor wording changes which do not substantially alter the Plan and are not likely to give rise to significant effects.	No re-appraisal required.
MP1 Aggregate Provision	No change.	N/A
MP2 Sand and Gravel Provision	Changes to the sites included within the policy.	Re-appraisal required.
MP3 Sherwood Sandstone Provision	Changes to the sites included within the policy.	Re-appraisal required.
MP4 Crushed Rock (Limestone) Provision	No change.	No re-appraisal required.
MP5 Secondary and Recycled Aggregates	No change.	No re-appraisal required.
MP6 Brick Clay Provision	Changes to the sites included within the policy.	Re-appraisal required.
MP7 Gypsum Provision	No change.	No re-appraisal required.
MP8	No change.	No re-appraisal required.

Silica Sand Provision		
MP9 Industrial Dolomite Provision	No change.	No re-appraisal required.
MP10 Building Stone Provision	No change.	No re-appraisal required.
MP11 Coal	No change.	No re-appraisal required.
MP12 Oil and Gas	Wording changes.	Re-appraisal required.
DM1 Protecting Local Amenity	Wording changes.	Re-appraisal required.
DM2 Water Resources and Flood Risk	Wording changes.	Re-appraisal required.
DM3 Agricultural Land and Soil Quality	Wording changes.	Re-appraisal required.
DM4 Protection and Enhancement of Biodiversity and Geodiversity	Wording changes.	Re-appraisal required.
DM5 Landscape Character	Wording changes.	Re-appraisal required.
DM6 Historic Environment	Wording changes.	Re-appraisal required.
DM7 Public Access	No change.	No re-appraisal required.
DM8 Cumulative Impact	Wording changes.	Re-appraisal required.
DM9 Highways Safety and Vehicle Movements/Routeing	No change.	No re-appraisal required.
DM10 Airfield Safeguarding	Minor wording changes which do not substantially alter the Plan and are not likely to give rise to significant effects.	No re-appraisal required.
DM11 Planning Obligations	No change.	No re-appraisal required.
DM12 Restoration, Aftercare and After-use	Wording changes.	Re-appraisal required.
DM13	No change.	No re-appraisal required.

Incidental Mineral Extraction		
DM14 Irrigation Lagoons	Wording changes.	Re-appraisal required.
DM15 Borrow Pits	No change.	No re-appraisal required.
DM16 Associated Industrial Development	No change.	No re-appraisal required.
DM17 Mineral Exploration	No change.	No re-appraisal required.

Appendix B: Policy appraisal matrices

POLICY: SP1 (was SP2) Minerals Provision

Sustainability Appraisal Objectives	Effect		Commentary	Mitigation
	Short-term	Long-term		
1. Ensure that adequate provision is made to meet local and national minerals demand.	+++	0	The purpose of the policy is to ensure adequate local and national minerals demand can be met during the Plan period.	N/A
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	?	?	Although the policy seeks to avoid adverse environmental impacts, the policy is not site specific and impacts would be dependent on the location of any site in relation to habitats/species/geological features.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	?	?	The policy is not site specific and so the impacts would be dependent on the location of any site in relation to transport routes and the end market for the mineral.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	?	?	Although the policy seeks to avoid adverse environmental impacts, the policy is not site specific and impacts would be dependent on the location of any site in relation to heritage assets.	N/A

5. Protect and enhance the quality and character of our townscape and landscape.	?	?	Although the policy seeks to avoid adverse environmental impacts, the policy is not site specific and impacts would be dependent on the location of any site in relation to townscape/landscape character.	N/A
6. Minimise impact and risk of flooding.	?	?	Although the principle of minerals extraction is water compatible there could be site specific impacts of plant and equipment which will need to be taken into account, particularly in areas of high flood risk.	N/A
7. Minimise any possible impacts on, and increase adaptability to, climate change.	-	-	The policy does not explicitly address climate change.	Application of other policies within the Minerals Local Plan, in particular SP3 which specifically addresses climate change.
8. Protection of high-quality agricultural land and soil.	?	?	Although the policy seeks to avoid adverse environmental impacts, the policy is not site specific and impacts would be dependent on the location of any site in relation to high quality agricultural land and soil.	N/A
9. Promote more efficient use of land and resources	+	0	The policy prioritises the extension of existing sites, which would utilise existing infrastructure.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A

11. Protect and improve local air quality.	?	?	Although the policy seeks to avoid adverse environmental impacts, the policy is not site specific and impacts would be dependent on the location of any site in relation to sensitive neighbouring uses including designated Air Quality Management Areas.	N/A
12. Protect and improve water quality and promote efficient use of water.	?	?	Although the policy seeks to avoid adverse environmental impacts, the policy is not site specific and the impacts would be dependent on the location, type of mineral being extracted and the details of site operation.	N/A
13. Support wider economic development and promote local job opportunities	++	+	The policy seeks to maintain an adequate supply of minerals. Minerals extraction will provide some direct local employment and provide essential raw materials for the local and wider economy. Indirect benefits could continue in the longer term.	N/A
14. Protect and improve human health and quality of life.	?	?	Although the policy prioritises the avoidance of adverse social, environmental and economic impacts, the policy is not site specific and impacts would be dependent on the location of any site in relation to sensitive receptors.	N/A

Summary

- The policy makes an important contribution to the economic aspects of sustainability, having, in the short-term, a very positive effect on ensuring adequate minerals provision in the short-term and a positive effect in the short-term and slightly positive effect in the long-term on supporting wider economic development.
- There is a negative effect of the policy in that it does not address the issue of climate change however no policy would be applied in isolation and the Plan does contain a strategic policy on climate change.
- Its impact on most of the other SA objectives is uncertain as this would be dependent on the location of sites in relation to sensitive receptors and the details of operation or, in the case of sustainable transport issues, location in relation to transport routes and the end market for the mineral.

POLICY: SP2 (was SP3) Biodiversity-Led Restoration				
Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Short-term	**Long-term**		
1. Ensure that adequate provision is made to meet local and national minerals demand.	0	0	No clear link.	N/A
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	0	+++	The policy prioritises biodiversity-led restoration and does not make any specific provision for non-biodiversity-led restoration schemes to be supported.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	0	0	No clear link.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	0	+	The policy seeks to ensure that restoration schemes for allocated sites are in line with the relevant Site Allocation Development Brief. Where there is a particular sensitivity with regard to heritage this is identified in the Briefs.	N/A
5. Protect and enhance the quality and character of our townscape and landscape.	0	+	The policy seeks to ensure that restoration schemes for allocated sites are in line with the relevant Site Allocation Development Brief. The Briefs state that consideration should be given to the Landscape Character Assessment Policy Zone recommendation and identify where	N/A

			there is a particular sensitivity with regard to landscape.	
6. Minimise impact and risk of flooding.	0	+	The policy seeks to ensure that restoration schemes for allocated sites are in line with the relevant Site Allocation Development Brief. Where sites are in close proximity to the River Trent the opportunities for floodplain reconnection upon restoration are highlighted in the Briefs.	N/A
7. Minimise any possible impacts on, and increase adaptability to, climate change.	0	+	The policy seeks to ensure that restoration schemes maximise biodiversity gains in accordance with LBAP targets, which could help some species to cope with climate change.	N/A
8. Protection of high-quality agricultural land and soil.	0	0	No significant effect.	N/A
9. Promote more efficient use of land and resources	?	?	Insufficient information to determine impact, which would be dependent on the details of restoration in any particular proposal.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A
11. Protect and improve local air quality.	0	0	No significant effect.	N/A

12. Protect and improve water quality and promote efficient use of water.	0	+	The policy seeks to ensure that restoration contributes to the delivery of the Water Framework Directive's targets, which set environmental quality objectives for surface waters and groundwater.	N/A
13. Support wider economic development and promote local job opportunities	0	0	No significant effect.	N/A
14. Protect and improve human health and quality of life.	0	+	The policy seeks to ensure that restoration schemes for allocated sites are in line with the relevant Site Allocation Development Brief. Opportunities for improvements to Rights of Way provision are highlighted in the Briefs.	N/A

Summary

- The policy has a very positive impact, in the long-term, on protecting and enhancing biodiversity because it prioritises biodiversity-led restoration and does not make any specific provision for non-biodiversity-led restoration schemes to be supported.
- There are also slightly positive impacts, in the long-term, on protecting the historic environment and landscape, minimising flooding, increasing adaptability to climate change and quality of life as the policy as the policy states that restoration schemes for allocated sites should be in line with the relevant Site Allocation Development Briefs.
- There is a slightly positive impact, in the long-term, on protecting and improving water quality as the policy requires restoration schemes to contribute to the delivery of the Water Framework Directive's objectives.
- The impact on promoting more efficient use of land and resources is uncertain as it would be dependent on the details of restoration in any particular proposal.
- There is no clear link with, or no significant effect on, the other SA objectives.

POLICY: SP3 (was SP4) Climate Change				
Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Short-term	**Long-term**		
1. Ensure that adequate provision is made to meet local and national minerals demand.	0	0	The policy does not preclude minerals development although it may restrict the choice of possible sites. However, it is not considered that this would have a significant effect on provision.	N/A
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	+	++	The policy will help to minimise climate change impacts on biodiversity and could contribute, through restoration schemes, to increasing the resilience of flora and fauna to climate change by providing appropriate habitats.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	++	0	The policy seeks to ensure that the location of sites helps to reduce greenhouse gas emissions. One way of achieving this will be to locate sites close to markets, thereby promoting sustainable patterns of movement and use of more sustainable modes of transport. The policy will have effect for the duration of the Plan period but is not considered to have a long-term impact beyond that.	N/A
4. Protect the quality of the historic environment, heritage assets and	+	+	Climate change impacts such as flooding and acid erosion could have	N/A

their settings above and below ground.			an adverse effect on the historic environment. The policy seeks to minimise these impacts with possible long-term benefits.	
5. Protect and enhance the quality and character of our townscape and landscape.	0	0	No significant effect.	N/A
6. Minimise impact and risk of flooding.	+++	+++	The policy specifically aims to avoid and reduce flood risk, including the use of appropriate adaptation measures where necessary.	N/A
7. Minimise any possible impacts on, and increase adaptability to, climate change.	+++	+++	The policy specifically aims to minimise possible impacts and increase adaptability to climate change.	N/A
8. Protection of high-quality agricultural land and soil.	0	0	No clear link.	N/A
9. Promote more efficient use of land and resources.	0	0	No clear link.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	++	0	The policy seeks to ensure that development is designed and operated to help reduce greenhouse gas emissions and move towards a low-carbon economy. The policy will have effect for the duration of the Plan period but is not considered to have a long-term impact beyond that.	N/A
11. Protect and improve local air quality.	++	0	Reducing greenhouse emissions during the Plan period will help to protect and improve local air quality.	N/A

12. Protect and improve water quality and promote efficient use of water.	0	0	No clear link.	N/A
13. Support wider economic development and promote local job opportunities.	0	0	No clear link.	N/A
14. Protect and improve human health and quality of life.	++	+	Reducing greenhouse gas emissions and flood risk during the Plan period will help to protect and improve human health and quality of life with ongoing benefits in the long term.	N/A

Summary

- This policy makes a very important contribution to sustainability as it seeks to ensure that the impact of minerals development on the causes of climate change is minimised and that future adaptability to climate change is addressed through restoration schemes.
- The policy has a very positive, positive or slightly positive effect on many of the SA objectives, largely in both the short- and long-term. For the remainder of the SA objectives there is no clear link

POLICY: SP4 (was SP5) Sustainable Transport

Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Short-term	**Long-term**		
1. Ensure that adequate provision is made to meet local and national minerals demand.	0	0	No clear link.	N/A
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	0	0	No clear link.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	+++	?	The policy explicitly promotes sustainable patterns of movement and the use of more sustainable modes of transport during the Plan period. However, long term impacts are uncertain as they would be dependent on the long-term use of the site following restoration.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	0	0	No clear link.	N/A
5. Protect and enhance the quality and character of our townscape and landscape.	0	0	No clear link.	N/A
6. Minimise impact and risk of flooding.	0	0	No clear link.	N/A

7. Minimise any possible impacts on, and increase adaptability to, climate change.	+	0	The policy encourages the use of alternatives to road transport and seeks to minimise transport distances thus reducing greenhouse gas emissions.	N/A
8. Protection of high-quality agricultural land and soil.	0	0	No clear link.	N/A
9. Promote more efficient use of land and resources	+	0	The policy promotes the use of alternatives to road transport, such as barge, rail and pipeline which could contribute towards more efficient use of land and resources.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A
11. Protect and improve local air quality.	+	0	The policy would help to minimise the impact on air quality by maximising the use of alternatives to road transport and minimising transport movement distances thus reducing transport emissions.	N/A
12. Protect and improve water quality and promote efficient use of water.	I	0	Increased use of water borne transport could result in contamination of water courses but reduction in the need for road transport would minimise contamination from run-off.	Application of other policies within the Minerals Local Plan in association with this policy, such as policy DM2 which deals with water resources.

13. Support wider economic development and promote local job opportunities	0	0	No clear link.	N/A
14. Protect and improve human health and quality of life.	+	0	The policy seeks to minimise the impact of transportation on local communities by directing sites away from residential areas. In the long term it is not considered that the policy would have a significant effect.	N/A

Summary

- The policy has a very positive impact on promoting sustainable patterns of movement and the use of more sustainable modes of transport during the Plan period but the long-term impact on this objective is uncertain.
- Other slightly positive impacts are anticipated during the Plan period in respect of climate change, efficient use of land and resources, air quality and human health /quality of life.
- The policy may have an impact on water quality, which could be positive or negative depending on the specific forms of alternative transport used.

POLICY: SP5 (was SP6) The Built, Historic and Natural Environment

Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Short-term	**Long-term**		
1. Ensure that adequate provision is made to meet local and national minerals demand.	-	0	This policy may impose constraints which would limit the choice of sites.	No mitigation identified.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	++	++	The policy seeks to protect and enhance biodiversity and geological interests. The policy will minimise harmful short-term impacts and aims to secure long term gains through enhancement.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	0	0	No clear link.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	++	+	The policy seeks to protect and enhance heritage interests. There would be a slightly positive long-term impact resulting from the investigation, recording or preservation of heritage assets.	N/A
5. Protect and enhance the quality and character of our townscape and landscape.	++	++	The policy seeks to protect and enhance landscape and townscape character.	N/A
6. Minimise impact and risk of flooding.	++	++	The policy seeks to ensure that there is no adverse impact in respect of flood risk.	N/A

7. Minimise any possible impacts on, and increase adaptability to, climate change.	0	0	No clear link. Policy SP3 specifically addresses climate change.	
8. Protection of high-quality agricultural land and soil.	++	++	The policy seeks to protect high quality agricultural land and soil.	N/A
9. Promote more efficient use of land and resources	0	0	No clear link.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A
11. Protect and improve local air quality.	+	0	The policy seeks to protect air quality. In terms of minerals development this would only be relevant during the operational period.	N/A
12. Protect and improve water quality and promote efficient use of water.	+	0	The policy seeks to protect water quality. In terms of minerals development this would only be relevant during the operational period.	N/A
13. Support wider economic development and promote local job opportunities	0	0	No clear link.	N/A
14. Protect and improve human health and quality of life.	++	+	The policy seeks to protect and enhance community amenity and protect water and air quality. In the long-term site restoration could secure community benefits such as open space, rights of way and access to nature conservation areas.	N/A

Summary

- There could be a slightly negative effect on adequate provision of minerals as the policy may impose constraints which could limit the choice of sites.
- The policy has positive impacts during both the Plan period and in the long-term in relation to biodiversity and geodiversity, a positive effect during the Plan period and a slightly positive effect in the long-term for the historic environment and for human health/quality of life. There are also slightly positive effects in the short-term for protection of air and water quality.
- The policy has a positive impact, in both the short- and long-term, in relation to landscape and townscape, flooding and high-quality agricultural land and soil.

POLICY: SP6 (was SP7) The Nottinghamshire Green Belt

Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Short-term	**Long-term**		
1. Ensure that adequate provision is made to meet local and national minerals demand.	0	0	No significant effect.	N/A
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	0	0	No significant effect.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	0	0	No clear link.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	0	0	No clear link.	N/A
5. Protect and enhance the quality and character of our townscape and landscape.	+	+	The policy seeks to protect the openness of the Green Belt but does not address landscape character issues or townscape as this does not fall within its scope. These issues will be covered under other policies in the Plan.	N/A
6. Minimise impact and risk of flooding.	0	0	No clear link.	N/A
7. Minimise any possible impacts on, and increase adaptability to, climate change.	0	0	No clear link.	N/A

8. Protection of high-quality agricultural land and soil.	0	0	No clear link.	N/A
9. Promote more efficient use of land and resources	0	0	No clear link.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A
11. Protect and improve local air quality.	0	0	No clear link.	N/A
12. Protect and improve water quality and promote efficient use of water.	0	0	No clear link.	N/A
13. Support wider economic development and promote local job opportunities	0	0	No clear link.	N/A
14. Protect and improve human health and quality of life.	0	0	No clear link.	N/A

Summary

- The policy has a slightly positive impact on protecting landscape through seeking to protect the openness of the Green Belt.
- There is no clear link with, or no significant effect on, any of the other SA objectives.

POLICY: SP7 (was SP8) Minerals Safeguarding, Consultation Areas and Associated Minerals Infrastructure

Sustainability Appraisal Objectives	Effect		Commentary	Mitigation
	Short-term	Long-term		
1. Ensure that adequate provision is made to meet local and national minerals demand.	+++	+++	The policy aims to ensure that economically important minerals resources are not sterilised.	N/A
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	0	0	No clear link.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	0	0	No clear link.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	0	0	No clear link.	N/A
5. Protect and enhance the quality and character of our townscape and landscape.	0	0	No clear link.	N/A
6. Minimise impact and risk of flooding.	0	0	No clear link.	N/A
7. Minimise any possible impacts on, and increase adaptability to, climate change.	0	0	No clear link.	N/A
8. Protection of high-quality agricultural land and soil.	0	0	No clear link.	N/A

9. Promote more efficient use of land and resources	+++	+++	The policy aims to ensure that economically important minerals resources are not sterilised.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A
11. Protect and improve local air quality.	0	0	No clear link.	N/A
12. Protect and improve water quality and promote efficient use of water.	0	0	No clear link.	N/A
13. Support wider economic development and promote local job opportunities	?	?	Although the policy should ensure the availability of minerals resources to the economy, there could be a potential impact on other forms of development.	N/A
14. Protect and improve human health and quality of life.	0	0	No clear link.	N/A

Summary

- The policy has a very positive impact on ensuring adequate minerals provision and promoting more efficient use of land as it aims to ensure that economically important minerals resources are not sterilised.
- The impact on supporting the wider economy is uncertain because there could be a restrictive impact on non-minerals development.
- There is no clear link with any of the other SA objectives, which is to be expected given the specific nature of this policy.

POLICY: MP1 Aggregate Provision

Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Short-term	**Long-term**		
1. Ensure that adequate provision is made to meet local and national minerals demand.	+++	0	The policy will ensure adequate provision during the Plan period.	N/A
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	?	?	The policy is not site specific and impacts would be dependent on the location of any site in relation to habitats/species/geological features.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	?	?	The policy is not site specific and so the impacts would be dependent on the location of any site in relation to transport routes and the end market for the mineral.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	?	?	The policy is not site specific and impacts would be dependent on the location of any site in relation to heritage assets.	N/A
5. Protect and enhance the quality and character of our townscape and landscape.	?	?	The policy is not site specific and impacts would be dependent on the location of any site in relation to townscape/landscape character.	N/A
6. Minimise impact and risk of flooding.	?	?	Although the principle of minerals extraction is water compatible there could be site specific impacts of plant and equipment which will need to be taken into account, particularly in areas of high flood risk.	N/A

7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	?	Impacts would be dependent on the details of operation and restoration.	N/A
8. Protection of high-quality agricultural land and soil.	?	?	The policy is not site specific and impacts would be dependent on the location of any site in relation to high quality agricultural land and soil.	N/A
9. Promote more efficient use of land and resources	0	0	No clear link.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A
11. Protect and improve local air quality.	?	?	The policy is not site specific and impacts would be dependent on the location of any site in relation to sensitive neighbouring uses including designated Air Quality Management Areas.	N/A
12. Protect and improve water quality and promote efficient use of water.	?	?	The policy is not site specific and the impacts would be dependent on the location and the details of site operation.	N/A
13. Support wider economic development and promote local job opportunities	+++	+	The policy makes specific provision for identified aggregate needs. Aggregates extraction will provide some direct local employment and provide essential raw materials for the local and wider economy. Indirect benefits will continue in the long term.	N/A
14. Protect and improve human health and quality of life.	?	?	The policy is not site specific and impacts would be dependent on the	N/A

			location of any site in relation to sensitive receptors.	

Summary

- The policy makes an important contribution to the economic aspects of sustainability as it makes specific provision for identified aggregate needs and has a very positive effect, in the short-term, on ensuring adequate provision and supporting economic development and a slightly positive effect, in the long-term, on the latter.
- Its impact on most of the other SA objectives is uncertain as this would be dependent on the location of sites in relation to sensitive receptors and the details of operation and restoration or, in the case of sustainable transport issues, location in relation to transport routes and the end market for the mineral.

POLICY: MP2 Sand and Gravel Provision

Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Short-term	**Long-term**		
1. Ensure that adequate provision is made to meet local and national minerals demand.	+++	0	The policy will ensure adequate provision during the Plan period.	N/A
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	?	?	The impacts would differ between site locations in relation to habitats/species/geological features. The site-specific implications are considered separately.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	?	?	The impacts would differ between site locations in relation to transport routes and the end market for the mineral. The site-specific implications are considered separately.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	?	?	The impacts would differ between site locations in relation to heritage assets. The site specific implications are considered separately.	N/A
5. Protect and enhance the quality and character of our townscape and landscape.	?	?	The impacts would differ between site locations in relation to townscape/landscape character. The site-specific implications are considered separately.	N/A
6. Minimise impact and risk of flooding.	?	?	Although the principle of minerals extraction is water compatible there could be site specific impacts of plant and equipment which will need to be	N/A

			taken into account, particularly in areas of high flood risk. The site-specific implications are considered separately.	
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	?	Impacts would be dependent on the details of operation and restoration.	N/A
8. Protection of high-quality agricultural land and soil.	?	?	The impacts would differ between site locations in relation to high quality agricultural land and soil. The site-specific implications are considered separately.	N/A
9. Promote more efficient use of land and resources	0	0	No clear link.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A
11. Protect and improve local air quality.	?	?	The impacts would differ between site locations in relation to sensitive neighbouring uses including designated Air Quality Management Areas. The site-specific implications are considered separately.	N/A
12. Protect and improve water quality and promote efficient use of water.	?	?	The impacts would differ between site locations in relation to the location and the details of site operation. The site-specific implications are considered separately.	N/A
13. Support wider economic development and promote local job opportunities	+++	+	The policy makes specific provision for identified sand and gravel needs. Sand and gravel extraction will	N/A

			provide some direct local employment and provide essential raw materials for the local and wider economy. Indirect benefits will continue in the long term.	
14. Protect and improve human health and quality of life.	?	?	The impacts would differ between site locations in relation to sensitive receptors. The site-specific implications are considered separately.	N/A

Summary

- The policy makes an important contribution to the economic aspects of sustainability as it makes specific provision for identified sand and gravel needs and has a very positive effect, in the short-term, on ensuring adequate provision and supporting economic development and a slightly positive effect, in the long-term, on the latter.
- Its impact on most of the other SA objectives is uncertain as this would be dependent on the location of sites in relation to sensitive receptors and the details of operation and restoration or, in the case of sustainable transport issues, location in relation to transport routes and the end market for the mineral.

POLICY: MP3 Sherwood Sandstone Provision

Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Short-term	**Long-term**		
1. Ensure that adequate provision is made to meet local and national minerals demand.	+++	0	The policy will ensure adequate provision during the Plan period.	N/A
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	?	?	The impacts would differ between site locations in relation to habitats/species/geological features. The site-specific implications are considered separately.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	?	?	The impacts would differ between site locations in relation to transport routes and the end market for the mineral. The site-specific implications are considered separately.	N/A
4. Protect the quality of the historic environment above and below ground.	?	?	The impacts would differ between site locations in relation to heritage assets. The site-specific implications are considered separately.	N/A
5. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	?	?	The impacts would differ between site locations in relation to townscape/landscape character. The site-specific implications are considered separately.	N/A
6. Minimise impact and risk of flooding.	?	?	Although the principle of minerals extraction is water compatible there could be site specific impacts of plant and equipment which will need to be	N/A

			taken into account, particularly in areas of high flood risk. The site-specific implications are considered separately.	
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	?	Impacts would be dependent on the details of operation and restoration.	N/A
8. Protection of high-quality agricultural land and soil.	?	?	The impacts would differ between site locations in relation to high quality agricultural land and soil. The site-specific implications are considered separately.	N/A
9. Promote more efficient use of land and resources	0	0	No clear link.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A
11. Protect and improve local air quality.	?	?	The impacts would differ between site locations in relation to sensitive neighbouring uses including designated Air Quality Management Areas. The site-specific implications are considered separately.	N/A
12. Protect and improve water quality and promote efficient use of water.	?	?	The impacts would differ between site locations in relation to the location and the details of site operation. The site-specific implications are considered separately.	N/A
13. Support wider economic development and promote local job opportunities	+++	+	The policy makes specific provision for identified Sherwood Sandstone needs. Sherwood Sandstone	N/A

			extraction will provide some direct local employment and provide essential raw materials for the local and wider economy. Indirect benefits will continue in the long term.	
14. Protect and improve human health and quality of life.	?	?	The impacts would differ between site locations in relation to sensitive receptors. The site-specific implications are considered separately.	N/A

Summary

- The policy makes an important contribution to the economic aspects of sustainability as it makes specific provision for identified Sherwood Sandstone needs and has a very positive effect, in the short-term, on ensuring adequate provision and supporting economic development and a slightly positive effect, in the long-term, on the latter.
- Its impact on most of the other SA objectives is uncertain as this would be dependent on the location of sites in relation to sensitive receptors and the details of operation and restoration or, in the case of sustainable transport issues, location in relation to transport routes and the end market for the mineral.

POLICY: MP4 Crushed Rock (Limestone) Provision

Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Short-term	**Long-term**		
1. Ensure that adequate provision is made to meet local and national minerals demand.	+++	0	The policy will ensure adequate provision during the Plan period.	N/A
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	?	?	The impacts would differ between site locations in relation to habitats/species/geological features.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	?	?	The impacts would differ between site locations in relation to transport routes and the end market for the mineral.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	?	?	The impacts would differ between site locations in relation to heritage assets.	N/A
5. Protect and enhance the quality and character of our townscape and landscape.	?	?	The impacts would differ between site locations in relation to townscape/landscape character.	N/A
6. Minimise impact and risk of flooding.	?	?	Although the principle of minerals extraction is water compatible there could be site specific impacts of plant and equipment which will need to be taken into account, particularly in areas of high flood risk. T	N/A
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	?	Impacts would be dependent on the details of operation and restoration.	N/A

8. Protection of high-quality agricultural land and soil.	?	?	The impacts would differ between site locations in relation to high quality agricultural land and soil.	N/A
9. Promote more efficient use of land and resources	0	0	No clear link.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A
11. Protect and improve local air quality.	?	?	The impacts would differ between site locations in relation to sensitive neighbouring uses including designated Air Quality Management Areas.	N/A
12. Protect and improve water quality and promote efficient use of water.	?	?	The impacts would differ between site locations in relation to the location and the details of site operation.	N/A
13. Support wider economic development and promote local job opportunities	++	+	The policy makes specific provision for identified limestone needs. Limestone extraction will maintain existing local employment and provide essential raw materials for the local and wider economy. Indirect benefits will continue in the long term.	N/A
14. Protect and improve human health and quality of life.	?	?	The impacts would differ between site locations in relation to sensitive receptors.	N/A

Summary

- The policy makes an important contribution to the economic aspects of sustainability as it makes specific provision for identified limestone needs and has a very positive effect, in the short-term, on ensuring adequate provision.
- There will also be a positive impact during the Plan period on supporting wider economic development and a slightly positive impact in the long-term as the indirect benefits of provision of this essential raw material will continue in the long-term.
- Its impact on most of the other SA objectives is uncertain as this would be dependent on the location of sites in relation to sensitive receptors and the details of operation and restoration or, in the case of sustainable transport issues, location in relation to transport routes and the end market for the mineral.

POLICY: MP5 Secondary and Recycled Aggregates

Sustainability Appraisal Objectives	Effect		Commentary	Mitigation
	Short-term	Long-term		
1. Ensure that adequate provision is made to meet local and national minerals demand.	++	+++	The policy will contribute to the provision of secondary and recycled aggregates over the Plan period. In the long term this will minimise demand for primary aggregates thus conserving higher grade minerals for future use.	N/A
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	+	0	The policy seeks to ensure there are no significant environmental impacts.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	?	?	The policy is not site specific and so the impacts would be dependent on the location of any site in relation to transport routes and the end market for the mineral.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	+	0	The policy seeks to ensure there are no significant environmental impacts.	N/A
5. Protect and enhance the quality and character of our townscape and landscape.	+	0	The policy seeks to ensure there are no significant environmental impacts.	N/A
6. Minimise impact and risk of flooding.	+	0	The policy seeks to ensure there are no significant environmental impacts.	N/A

7. Minimise any possible impacts on, and increase adaptability to, climate change.	+	0	The policy seeks to ensure there are no significant environmental or other unacceptable impacts.	N/A
8. Protection of high-quality agricultural land and soil.	+	0	The policy seeks to ensure there are no significant environmental impacts.	N/A
9. Promote more efficient use of land and resources	+++	+++	The policy seeks to increase the supply of secondary and/or recycled materials thereby promoting the efficient use of land and resources. Benefits will continue long term due to the reduced demand for primary materials and the associated loss of land.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A
11. Protect and improve local air quality.	+	0	The policy seeks to ensure there are no significant environmental impacts.	N/A
12. Protect and improve water quality and promote efficient use of water.	+	0	The policy seeks to ensure there are no significant environmental impacts.	N/A
13. Support wider economic development and promote local job opportunities	+	+	The policy will help to ensure a continued supply of raw materials to support wider economic growth.	N/A
14. Protect and improve human health and quality of life.	+	0	The policy seeks to ensure there are no significant environmental or other unacceptable impacts.	N/A

Summary

- This policy contributes to all aspects of sustainability with slightly positive, positive or very positive (particularly in the case of promoting more efficient use of land and resources) impacts on all the SA objectives, with the exception of objective 10 (energy efficiency/renewable energy), where there is no clear link.

POLICY: MP6 Brick Clay Provision

Sustainability Appraisal Objectives	Effect		Commentary	Mitigation
	Short-term	Long-term		
1. Ensure that adequate provision is made to meet local and national minerals demand.	+++	0	The policy will ensure adequate provision during the Plan period.	N/A
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	?	?	The impacts would differ between site locations in relation to habitats/species/geological features.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	?	?	The impacts would differ between site locations in relation to transport routes and the end market for the mineral.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	?	?	The impacts would differ between site locations in relation to heritage assets.	N/A
5. Protect and enhance the quality and character of our townscape and landscape.	?	?	The impacts would differ between site locations in relation to townscape/landscape character.	N/A
6. Minimise impact and risk of flooding.	?	?	Although the principle of minerals extraction is water compatible there could be site specific impacts of plant and equipment which will need to be taken into account, particularly in areas of high flood risk.	N/A
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	?	Impacts would be dependent on the details of operation and restoration.	N/A

8. Protection of high-quality agricultural land and soil.	?	?	The impacts would differ between site locations in relation to high quality agricultural land and soil.	N/A
9. Promote more efficient use of land and resources	0	0	No clear link.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A
11. Protect and improve local air quality.	?	?	The impacts would differ between site locations in relation to sensitive neighbouring uses including designated Air Quality Management Areas.	N/A
12. Protect and improve water quality and promote efficient use of water.	?	?	The impacts would differ between site locations in relation to the location and the details of site operation.	N/A
13. Support wider economic development and promote local job opportunities	++	+	The policy makes specific provision for identified brick clay needs. Brick clay extraction will provide some direct local employment and provide essential raw materials for the local and wider economy. Indirect benefits will continue in the long-term, particularly through use of this mineral in the construction industry.	N/A
14. Protect and improve human health and quality of life.	?	?	The impacts would differ between site locations in relation to sensitive receptors.	N/A

Summary

- The policy has a very positive impact on the adequate provision of minerals during the Plan period as it makes specific provision for identified brick clay needs.
- There will also be a positive impact during the Plan period on supporting wider economic development and a slightly positive impact in the long-term as the indirect benefits of provision of this essential raw material will continue through its use in the construction industry.
- The impact on most of the other SA objectives is uncertain as the impact would be dependent on the location of sites in relation to sensitive receptors and the details of operation and restoration or, in the case of sustainable transport issues, location in relation to transport routes and the end market for the mineral.

POLICY: MP7 Gypsum Provision

Sustainability Appraisal Objectives	Effect		Commentary	Mitigation
	Short-term	Long-term		
1. Ensure that adequate provision is made to meet local and national minerals demand.	+++	0	The policy will ensure adequate provision during the Plan period.	N/A
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	?	?	The impacts would differ between site locations in relation to habitats/species/geological features.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	?	?	The impacts would differ between site locations in relation to transport routes and the end market for the mineral.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	?	?	The impacts would differ between site locations in relation to heritage assets.	N/A
5. Protect and enhance the quality and character of our townscape and landscape.	?	?	The impacts would differ between site locations in relation to townscape/landscape character.	N/A
6. Minimise impact and risk of flooding.	?	?	Although the principle of minerals extraction is water compatible there could be site specific impacts of plant and equipment which will need to be taken into account, particularly in areas of high flood risk.	N/A
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	?	Impacts would be dependent on the details of operation and restoration.	N/A

8. Protection of high-quality agricultural land and soil.	?	?	The impacts would differ between site locations in relation to high quality agricultural land and soil.	N/A
9. Promote more efficient use of land and resources	0	0	No clear link.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A
11. Protect and improve local air quality.	?	?	The impacts would differ between site locations in relation to sensitive neighbouring uses including designated Air Quality Management Areas.	N/A
12. Protect and improve water quality and promote efficient use of water.	?	?	The impacts would differ between site locations in relation to the location and the details of site operation.	N/A
13. Support wider economic development and promote local job opportunities	++	+	The policy makes specific provision for identified gypsum needs. Gypsum extraction will maintain existing local employment and provide essential raw materials for the local and wider economy. Indirect benefits will continue in the long term.	N/A
14. Protect and improve human health and quality of life.	?	?	The impacts would differ between site locations in relation to sensitive receptors.	N/A

Summary

- The policy makes an important contribution to the economic aspects of sustainability as it makes specific provision for identified gypsum needs and has a very positive effect, in the short-term, on ensuring adequate provision.

- There will also be a positive impact during the Plan period on supporting wider economic development and a slightly positive impact in the long-term as the indirect benefits of provision of this essential raw material will continue in the long-term.
- Its impact on most of the other SA objectives is uncertain as this would be dependent on the location of sites in relation to sensitive receptors and the details of operation and restoration or, in the case of sustainable transport issues, location in relation to transport routes and the end market for the mineral.

POLICY: MP8 Silica Sand Provision

Sustainability Appraisal Objectives	Effect		Commentary	Mitigation
	Short-term	Long-term		
1. Ensure that adequate provision is made to meet local and national minerals demand.	+++	0	The policy will ensure adequate provision during the Plan period.	N/A
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	?	?	The impacts would differ between site locations in relation to habitats/species/geological features.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	?	?	The impacts would differ between site locations in relation to transport routes and the end market for the mineral.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	?	?	The impacts would differ between site locations in relation to heritage assets.	N/A
5. Protect and enhance the quality and character of our townscape and landscape.	?	?	The impacts would differ between site locations in relation to townscape/landscape character.	N/A
6. Minimise impact and risk of flooding.	?	?	Although the principle of minerals extraction is water compatible there could be site specific impacts of plant and equipment which will need to be taken into account, particularly in areas of high flood risk.	N/A
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	?	Impacts would be dependent on the details of operation and restoration.	N/A

8. Protection of high-quality agricultural land and soil.	?	?	The impacts would differ between site locations in relation to high quality agricultural land and soil.	N/A
9. Promote more efficient use of land and resources	0	0	No clear link.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A
11. Protect and improve local air quality.	?	?	The impacts would differ between site locations in relation to sensitive neighbouring uses including designated Air Quality Management Areas.	N/A
12. Protect and improve water quality and promote efficient use of water.	?	?	The impacts would differ between site locations in relation to the location and the details of site operation.	N/A
13. Support wider economic development and promote local job opportunities	++	+	The policy makes specific provision for identified silica sand needs. Silica sand extraction will maintain existing local employment and provide essential raw materials for the local and wider economy. Indirect benefits will continue in the long term.	N/A
14. Protect and improve human health and quality of life.	?	?	The impacts would differ between site locations in relation to sensitive receptors.	N/A

Summary

- The policy makes an important contribution to the economic aspects of sustainability as it makes specific provision for identified silica sand needs and has a very positive effect, in the short-term, on ensuring adequate provision.
- There will also be a positive impact during the Plan period on supporting wider economic development and a slightly positive impact in the long-term as the indirect benefits of provision of this essential raw material will continue in the long-term.
- Its impact on most of the other SA objectives is uncertain as this would be dependent on the location of sites in relation to sensitive receptors and the details of operation and restoration or, in the case of sustainable transport issues, location in relation to transport routes and the end market for the mineral.

POLICY: MP9 Industrial Dolomite Provision

Sustainability Appraisal Objectives	Effect		Commentary	Mitigation
	Short-term	Long-term		
1. Ensure that adequate provision is made to meet local and national minerals demand.	++	0	The policy provides for the extraction of industrial dolomite where a need can be demonstrated.	N/A
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	?	?	The impacts would be dependent on any site's location in relation to habitats/species/geological features.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	?	?	The impacts would be dependent on any site's location in relation to transport routes and the end market for the mineral.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	?	?	The impacts would be dependent on any site's location in relation to heritage assets.	N/A
5. Protect and enhance the quality and character of our townscape and landscape.	?	?	The impacts would be dependent on any site's location in relation to townscape/landscape character.	N/A
6. Minimise impact and risk of flooding.	?	?	Although the principle of minerals extraction is water compatible there could be site specific impacts of plant and	N/A

			equipment which will need to be taken into account, particularly in areas of high flood risk.	
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	?	Impacts would be dependent on the details of operation and restoration.	N/A
8. Protection of high-quality agricultural land and soil.	?	?	The impacts would be dependent on any site's location in relation to high quality agricultural land and soil.	N/A
9. Promote more efficient use of land and resources	0	0	No clear link.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A
11. Protect and improve local air quality.	?	?	The impacts would be dependent on any site's location in relation to sensitive neighbouring uses including designated Air Quality Management Areas.	N/A
12. Protect and improve water quality and promote efficient use of water.	?	?	The impacts would be dependent on any site's location in relation to the location and the details of site operation.	N/A

13. Support wider economic development and promote local job opportunities	+	0	The policy allows for demand for industrial dolomite to be met which will contribute to wider economic development through provision of essential raw materials and there would be potential for some local job opportunities.	N/A
14. Protect and improve human health and quality of life.	?	?	The impacts would be dependent on any site's location in relation to sensitive receptors.	N/A

Summary

- The policy makes a positive contribution to ensuring adequate provision of minerals during the Plan period.
- There will also be a slightly positive impact during the Plan period on supporting wider economic development through the provision of essential raw materials.
- Its impact on most of the other SA objectives is uncertain as this would be dependent on the location of sites in relation to sensitive receptors and the details of operation and restoration or, in the case of sustainable transport issues, location in relation to transport routes and the end market for the mineral.

POLICY: MP10 Building Stone Provision

Sustainability Appraisal Objectives	Effect		Commentary	Mitigation
	Short-term	Long-term		
1. Ensure that adequate provision is made to meet local and national minerals demand.	+++	0	The policy will ensure adequate provision during the Plan period.	N/A
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	?	?	The impacts would differ between site locations in relation to habitats/species/geological features.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	?	?	The impacts would differ between site locations in relation to transport routes and the end market for the mineral.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	++	++	Maintaining a supply of local building stone will ensure that the quality of the historic environment in Nottinghamshire can be protected.	N/A
5. Protect and enhance the quality and character of our townscape and landscape.	++	++	Maintaining a supply of local building stone will ensure that the quality and character of local townscapes, and to a lesser extent landscapes, can be protected.	N/A
6. Minimise impact and risk of flooding.	?	?	Although the principle of minerals extraction is water compatible there could be site specific impacts of plant and equipment which will need to be taken into account, particularly in areas of high flood risk.	N/A

7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	?	Impacts would be dependent on the details of operation and restoration.	N/A
8. Protection of high-quality agricultural land and soil.	?	?	The impacts would differ between site locations in relation to high quality agricultural land and soil.	N/A
9. Promote more efficient use of land and resources	++	+	The policy seeks to ensure that local building stone is retained for non-aggregate use.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A
11. Protect and improve local air quality.	?	?	The impacts would differ between site locations in relation to sensitive neighbouring uses including designated Air Quality Management Areas.	N/A
12. Protect and improve water quality and promote efficient use of water.	?	?	The impacts would differ between site locations in relation to the location and the details of site operation.	N/A
13. Support wider economic development and promote local job opportunities	++	+	The policy makes specific provision for anticipated local building stone requirements which will support some local job opportunities.	N/A
14. Protect and improve human health and quality of life.	?	?	The impacts would differ between site locations in relation to sensitive receptors.	N/A

Summary

- The policy makes an important contribution to the economic aspects of sustainability as it makes specific provision for anticipated local building stone requirements and has a very positive effect, in the short-term, on ensuring adequate provision.
- There will also be a positive impact during the Plan period on supporting wider economic development and a slightly positive impact in the long-term as the indirect benefits of provision of building stone will continue in the long-term.
- The policy also has a positive effect in relation to protecting the historic environment and protecting and enhancing townscape/landscape by ensuring that local building stone will be available.
- There will also be a positive impact in terms of more efficient use of resources through local building stone being retained for non-aggregate use.
- Its impact on most of the other SA objectives is uncertain as this would be dependent on the location of sites in relation to sensitive receptors and the details of operation and restoration or, in the case of sustainable transport issues, location in relation to transport routes and the end market for the mineral.

POLICY: MP11 Coal

Sustainability Appraisal Objectives	Effect		Commentary	Mitigation
	Short-term	Long-term		
1. Ensure that adequate provision is made to meet local and national minerals demand.	++	0	The policy provides for the extraction of coal during the Plan period.	N/A
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	I	I	The various elements of the policy could have a positive or negative impact depending on how they are implemented in terms of individual proposals.	Re-word policy to give more weight to environmental considerations.
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	?	?	The impacts would differ between site locations in relation to transport routes and the end market for the mineral.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	I	I	The various elements of the policy could have a positive or negative impact depending on how they are implemented in terms of individual proposals.	Re-word policy to give more weight to environmental considerations.
5. Protect and enhance the quality and character of our townscape and landscape.	I	I	The various elements of the policy could have a positive or negative impact depending on how they are implemented in terms of individual proposals.	Re-word policy to give more weight to environmental considerations.
6. Minimise impact and risk of flooding.	I	I	The various elements of the policy could have a positive or negative impact depending on how they are implemented in terms of individual proposals.	Re-word policy to give more weight to environmental considerations.

7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	?	The burning of fossil fuels contributes to climate change. The policy allows for coal extraction in certain circumstances but does not actively encourage it.	N/A
8. Protection of high-quality agricultural land and soil.	I	I	The various elements of the policy could have a positive or negative impact depending on how they are implemented in terms of individual proposals.	Re-word policy to give more weight to environmental considerations.
9. Promote more efficient use of land and resources	++	0	The policy allows for incidental mineral extraction and the re-working of colliery spoil tips which will contribute to the more efficient use of resources.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A
11. Protect and improve local air quality.	I	I	The various elements of the policy could have a positive or negative impact depending on how they are implemented in terms of individual proposals.	Re-word policy to give more weight to environmental considerations.
12. Protect and improve water quality and promote efficient use of water.	I	I	The various elements of the policy could have a positive or negative impact depending on how they are implemented in terms of individual proposals.	Re-word policy to give more weight to environmental considerations.
13. Support wider economic development and promote local job opportunities	++	0	The policy allows for national demand for coal to be met which will contribute to wider economic	N/A

			development and there would be potential for some local job opportunities.	
14. Protect and improve human health and quality of life.	I	I	The various elements of the policy could have a positive or negative impact depending on how they are implemented in terms of individual proposals.	Re-word policy to give more weight to environmental considerations.

Summary

- The policy contributes positively to the economic aspects of sustainability by allowing for the extraction of coal in certain circumstances.
- There is also a positive effect in terms of the efficient use of resources through allowing incidental mineral extraction and the re-working of colliery spoil tips.
- The impact on most of the other SA objectives could be positive or negative depending on how individual proposals are implemented. In order for the impact to be positive the policy would have to be re-worded to give more weight to environmental considerations.

POLICY: MP12 Oil and Gas

Sustainability Appraisal Objectives	Effect		Commentary	Mitigation
	Short-term	Long-term		
1. Ensure that adequate provision is made to meet local and national minerals demand.	++	0	The policy provides for oil and gas development during the Plan period.	N/A
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	+	0	The policy seeks to ensure that sites and equipment do not have an unacceptable environmental impact and are located in the least sensitive locations.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	?	?	The impacts would differ between site locations in relation to transport routes and the end market for the mineral.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	+	0	The policy seeks to ensure that sites and equipment do not have an unacceptable environmental impact and are located in the least sensitive locations.	N/A
5. Protect and enhance the quality and character of our townscape and landscape.	+	0	The policy seeks to ensure that sites and equipment do not have an unacceptable environmental impact and are located in the least sensitive locations.	N/A
6. Minimise impact and risk of flooding.	+	0	The policy seeks to ensure that sites and equipment do not have an unacceptable environmental impact and are located in the least sensitive locations.	N/A

7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	?	The burning of fossil fuels contributes to climate change. The policy allows for oil and gas to be extracted but only in certain circumstances.	N/A
8. Protection of high-quality agricultural land and soil.	+	0	The policy seeks to ensure that sites and equipment do not have an unacceptable environmental impact and are located in the least sensitive locations.	N/A
9. Promote more efficient use of land and resources	0	0	No clear link.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A
11. Protect and improve local air quality.	+	0	The policy seeks to ensure that sites and equipment do not have an unacceptable environmental impact and are located in the least sensitive locations.	N/A
12. Protect and improve water quality and promote efficient use of water.	+	0	The policy seeks to ensure that sites and equipment do not have an unacceptable environmental impact and are located in the least sensitive locations. The policy only allows for sites and equipment to be located in protected areas, which include protected groundwater source areas, in exceptional circumstances.	N/A
13. Support wider economic development and promote local job opportunities	+	0	The policy allows for oil and gas to be exploited in certain circumstances which could contribute to wider	N/A

			economic development and there would be potential for some local job opportunities.	
14. Protect and improve human health and quality of life.	+	0	The policy seeks to ensure that sites and equipment do not have an unacceptable environmental impact and are located in the least sensitive locations.	N/A

Summary

- The policy has a positive effect on ensuring that adequate provision of oil and gas is made to meet demand.
- The effect on most of the remaining SA objectives is slightly positive during the Plan period as the policy seeks to ensure that sites and equipment do not have an unacceptable environmental impact and are located in the least sensitive locations.

POLICY: DM1 Protecting Local Amenity

Sustainability Appraisal Objectives	Effect		Commentary	Mitigation
	Short-term	Long-term		
1. Ensure that adequate provision is made to meet local and national minerals demand.	-	0	This policy may impose constraints which would limit the choice of sites.	The policy also allows for mitigation of potential adverse impacts.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	0	0	No clear link.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	0	0	No clear link.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	0	0	No clear link.	N/A
5. Protect and enhance the quality and character of our townscape and landscape.	+	+	The policy seeks to ensure that there are no adverse effects through visual intrusion.	N/A
6. Minimise impact and risk of flooding.	0	0	No clear link.	N/A
7. Minimise any possible impacts on, and increase adaptability to, climate change.	+	+	The policy seeks to ensure that impacts from transport and other emissions to air are minimised.	N/A
8. Protection of high-quality agricultural land and soil.	0	0	No clear link.	N/A
9. Promote more efficient use of land and resources	0	0	No clear link.	N/A

10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A
11. Protect and improve local air quality.	+	0	The policy seeks to ensure that there are no adverse impacts from dust or emissions to air.	N/A
12. Protect and improve water quality and promote efficient use of water.	0	0	No clear link.	N/A
13. Support wider economic development and promote local job opportunities	0	0	No significant effect.	N/A
14. Protect and improve human health and quality of life.	++	++	The policy aims to ensure that local amenity is protected and would continue to deliver such protection in relation to site restoration.	N/A

Summary

- During the Plan period the policy has a slightly negative effect on the provision of minerals in that it imposes constraints which may limit the choice of sites, however there may be potential for mitigation of adverse effects which would make sites acceptable.
- There are slightly positive impacts on townscape/landscape, climate change and local air quality and a positive impact on human health/quality of life.
- There is no clear link with any of the other SA objectives, which is to be expected given the specific nature of this policy.

POLICY: DM2 Water Resources and Flood Risk

Sustainability Appraisal Objectives	Effect		Commentary	Mitigation
	Short-term	Long-term		
1. Ensure that adequate provision is made to meet local and national minerals demand.	-	0	This policy may impose constraints which could limit the choice of sites.	No mitigation identified.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	+	0	The protection of water resources and minimisation of flood risk will be beneficial to biodiversity over the Plan period.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	0	0	No clear link.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	+	0	Minimisation of flood risk would help to protect the historic environment.	N/A
5. Protect and enhance the quality and character of our townscape and landscape.	0	0	No significant effect.	N/A
6. Minimise impact and risk of flooding.	+++	++	The policy aims to minimise the impact and risk of flooding.	N/A
7. Minimise any possible impacts on, and increase adaptability to, climate change.	+	+	The policy would help towards adaptability to climate change through encouraging flood storage schemes and SuDS.	N/A
8. Protection of high-quality agricultural land and soil.	0	0	No significant effect.	N/A

9. Promote more efficient use of land and resources	0	0	No significant effect.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A
11. Protect and improve local air quality.	0	0	No clear link.	N/A
12. Protect and improve water quality and promote efficient use of water.	+++	0	The policy aims to protect and improve water quality and promote efficient use of water.	N/A
13. Support wider economic development and promote local job opportunities	0	0	No clear link.	N/A
14. Protect and improve human health and quality of life.	++	+	Protection of water quality and minimisation of flood risk will help to protect human health and quality of life.	N/A

Summary

- There could be a slightly negative effect on adequate provision of minerals as the policy may impose constraints which could limit the choice of sites.
- However, the policy would have a slightly positive impact on biodiversity through protection of water resources and minimisation of flood risk, on the historic environment through minimisation of flood risk and on climate change as it would help towards adaptability to climate change through encouraging flood storage schemes and SuDS.
- There would also be a very positive impact on protecting and improving water quality and promoting efficient use of water, and a positive impact on helping to protect human health and quality of life.
- The policy would have a very positive impact on minimising the impact and risk of flooding.

POLICY: DM3 Agricultural Land and Soil Quality

Sustainability Appraisal Objectives	Effect		Commentary	Mitigation
	Short-term	Long-term		
1. Ensure that adequate provision is made to meet local and national minerals demand.	0	0	No significant effect as although the policy aims to direct development away from best and most versatile agricultural land, it does allow development on such land in certain circumstances.	N/A
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	0	0	No clear link.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	0	0	No clear link.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	0	0	No clear link.	N/A
5. Protect and enhance the quality and character of our townscape and landscape.	0	0	No clear link.	N/A
6. Minimise impact and risk of flooding.	0	0	No clear link.	N/A
7. Minimise any possible impacts on, and increase adaptability to, climate change.	0	0	No clear link.	N/A

8. Protection of high-quality agricultural land and soil.	+++	+++	The policy aims to direct development away from best and most versatile agricultural land and to protect soil quality.	N/A
9. Promote more efficient use of land and resources.	+	+	The policy aims to direct development away from best and most versatile agricultural land.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A
11. Protect and improve local air quality.	0	0	No clear link.	N/A
12. Protect and improve water quality and promote efficient use of water.	0	0	No clear link.	N/A
13. Support wider economic development and promote local job opportunities	+	+	The policy would help to maintain agricultural output.	N/A
14. Protect and improve human health and quality of life.	0	0	No clear link.	N/A

Summary

- The policy has a very positive impact on protecting high quality agricultural land and soil and a slightly positive effect on promoting efficient use of land and on supporting wider economic development.
- There is no clear link with any of the other SA objectives, which is to be expected given the specific nature of this policy.

POLICY: DM4 Protection and Enhancement of Biodiversity and Geodiversity

Sustainability Appraisal Objectives	Effect		Commentary	Mitigation
	Short-term	Long-term		
1. Ensure that adequate provision is made to meet local and national minerals demand.	-	0	The policy may impose constraints which would limit the choice of sites.	The policy allows for minerals development in certain circumstances, such that protection is commensurate with the status of the site, habitat or species involved.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	+++	++	The aim of the policy is to protect and enhance biodiversity and geodiversity.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	0	0	No clear link.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	0	0	No clear link.	N/A
5. Protect and enhance the quality and character of our townscape and landscape.	0	0	No clear link.	N/A
6. Minimise impact and risk of flooding.	0	0	No clear link.	N/A
7. Minimise any possible impacts on, and increase adaptability to, climate change.	+	+	The protection and enhancement of biodiversity and geodiversity could help to enable species to adapt to climate change.	N/A

8. Protection of high-quality agricultural land and soil.	0	0	No clear link.	N/A
9. Promote more efficient use of land and resources	0	0	No clear link.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A
11. Protect and improve local air quality.	0	0	No significant effect.	N/A
12. Protect and improve water quality and promote efficient use of water.	0	0	No significant effect.	N/A
13. Support wider economic development and promote local job opportunities	0	0	No clear link.	N/A
14. Protect and improve human health and quality of life.	+	+	The protection and enhancement of biodiversity can contribute to quality of life.	N/A

Summary

- There could be a slightly negative effect on adequate provision of minerals as the policy may impose constraints which could limit the choice of sites. The policy does allow for minerals development in certain circumstances however, such that protection is commensurate with the status of the site, habitat or species involved.
- The policy has very positive impact during the Plan period, and a positive effect in the long- term, on biodiversity and geodiversity which it aims to protect and enhance.
- There is also a slightly positive impact, in both the short- and long-term, on climate change, and on quality of life to which biodiversity makes a contribution.
- There is no clear link with the remaining SA objectives which is to be expected given the specific nature of this policy.

POLICY: DM5 Landscape Character

Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Short-term	**Long-term**		
1. Ensure that adequate provision is made to meet local and national minerals demand.	-	0	The policy may impose constraints which would limit the choice of sites.	The policy allows for development where there is no available alternative and the need for development outweighs the landscape interest and adequate mitigation can be provided.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	0	0	No clear link.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	0	0	No clear link.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	+	+	Protection of landscape character can be beneficial to the historic environment.	N/A
5. Protect and enhance the quality and character of our townscape and landscape.	++	++	The policy seeks to protect landscape character and distinctiveness.	N/A
6. Minimise impact and risk of flooding.	0	0	No clear link.	N/A
7. Minimise any possible impacts on, and increase adaptability to, climate change.	0	0	No clear link.	N/A

8. Protection of high-quality agricultural land and soil.	0	0	No significant effect.	N/A
9. Promote more efficient use of land and resources	0	0	No clear link.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A
11. Protect and improve local air quality.	0	0	No clear link.	N/A
12. Protect and improve water quality and promote efficient use of water.	0	0	No clear link.	N/A
13. Support wider economic development and promote local job opportunities	+	+	Protection of landscape character can contribute to tourism.	N/A
14. Protect and improve human health and quality of life.	+	+	The protection of landscape character can contribute to quality of life.	N/A

Summary

- There could be a slightly negative effect on adequate provision of minerals as the policy may impose constraints which could limit the choice of sites. However, the policy does allow for development where there is no available alternative and the need for development outweighs the landscape interest and adequate mitigation can be provided.
- The policy has a positive impact in terms of seeking to protect landscape character and distinctiveness.
- The protection of landscape has a slightly positive impact on the historic environment, quality of life and supporting wider economic development.
- There is no clear link with the remaining SA objectives which is to be expected given the specific nature of this policy.

POLICY: DM6 Historic Environment

Sustainability Appraisal Objectives	Effect		Commentary	Mitigation
	Short-term	Long-term		
1. Ensure that adequate provision is made to meet local and national minerals demand.	-	0	The policy imposes constraints in relation to designated and non-designated heritage assets and to the South Muskham Archaeological Resource Area, which could limit the choice of sites.	The policy does allow for minerals development where there will not be any harm to designated or non-designated heritage assets, where public benefits outweigh the harm to, or loss of, such assets and where satisfactory mitigation measures are provided.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	0	0	No clear link.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	0	0	No clear link.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	+++	+++	The policy seeks to protect the historic environment and encourage its enhancement where relevant.	N/A
5. Protect and enhance the quality and character of our townscape and landscape.	+	++	The policy would protect important historical elements of townscape and landscape and encourages enhancement of historic landscapes where relevant.	N/A
6. Minimise impact and risk of flooding.	0	0	No clear link.	N/A

7. Minimise any possible impacts on, and increase adaptability to, climate change.	0	0	No clear link.	N/A
8. Protection of high-quality agricultural land and soil.	0	0	No clear link.	N/A
9. Promote more efficient use of land and resources	0	0	No clear link.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A
11. Protect and improve local air quality.	0	0	No clear link.	N/A
12. Protect and improve water quality and promote efficient use of water.	0	0	No clear link.	N/A
13. Support wider economic development and promote local job opportunities	0	0	No significant effect.	N/A
14. Protect and improve human health and quality of life.	+	+	The policy seeks to protect heritage assets thus contributing to local amenity and quality of life.	N/A

Summary

- The policy is very positive in relation to protecting the historic environment, slightly positive in its effect on protecting and enhancing townscape/landscape in the short-term and positive in the long-term, and slightly positive in contributing to quality of life.

- There is a slightly negative impact on the provision of minerals in that the policy does impose constraints which could limit the choice of sites, however the policy does allow for minerals development which affects heritage assets in certain circumstances.
- There is no clear link with any of the other SA objectives, which is to be expected given the specific nature of this policy.

POLICY: DM7 Public Access

Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Short-term	**Long-term**		
1. Ensure that adequate provision is made to meet local and national minerals demand.	0	0	No significant effect.	N/A
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	0	0	No clear link.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	++	++	The policy provides for protection and enhancement of the rights of way network, thus promoting sustainable transport.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	0	0	No clear link.	N/A
5. Protect and enhance the quality and character of our townscape and landscape.	0	0	No significant effect.	N/A
6. Minimise impact and risk of flooding.	0	0	No clear link.	N/A
7. Minimise any possible impacts on, and increase adaptability to, climate change.	0	0	No significant effect.	N/A
8. Protection of high-quality agricultural land and soil.	0	0	No clear link.	N/A

9. Promote more efficient use of land and resources	0	0	No clear link.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A
11. Protect and improve local air quality.	0	0	No clear link.	N/A
12. Protect and improve water quality and promote efficient use of water.	0	0	No clear link.	N/A
13. Support wider economic development and promote local job opportunities	0	0	No clear link.	N/A
14. Protect and improve human health and quality of life.	++	++	The policy seeks to protect and enhance public access thus contributing to quality of life.	N/A

Summary

- The policy has a positive impact on promoting sustainable transport and protecting and improving quality of life because it seeks to protect and enhance the public rights of way network.
- There is no clear link with any of the other SA objectives, which is to be expected given the specific nature of this policy.

POLICY: DM8 Cumulative Impact

Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Short-term	**Long-term**		
1. Ensure that adequate provision is made to meet local and national minerals demand.	-	0	This policy may impose constraints which would limit the choice of sites.	No mitigation identified.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	+	+	The policy seeks to ensure that there will be no unacceptable cumulative impacts on the environment.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	0	0	No clear link.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	+	+	The policy seeks to ensure that there will be no unacceptable cumulative impacts on the environment.	N/A
5. Protect and enhance the quality and character of our townscape and landscape.	+	+	The policy seeks to ensure that there will be no unacceptable cumulative impacts on the environment.	N/A
6. Minimise impact and risk of flooding.	+	+	The policy seeks to ensure that there will be no unacceptable cumulative impacts on the environment.	N/A
7. Minimise any possible impacts on, and increase adaptability to, climate change.	0	0	No significant effect.	N/A
8. Protection of high-quality agricultural land and soil.	+	+	The policy seeks to ensure that there will be no unacceptable cumulative impacts on the environment.	N/A

9. Promote more efficient use of land and resources	0	0	No clear link.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A
11. Protect and improve local air quality.	+	+	The policy seeks to ensure that there will be no unacceptable cumulative impacts on the environment.	N/A
12. Protect and improve water quality and promote efficient use of water.	+	+	The policy seeks to ensure that there will be no unacceptable cumulative impacts on the environment.	N/A
13. Support wider economic development and promote local job opportunities	?	?	The effects of this policy are unclear.	N/A
14. Protect and improve human health and quality of life.	+	+	The policy seeks to ensure that there will be no unacceptable cumulative impacts on local amenity.	N/A

Summary

- During the Plan period the policy has a slightly negative effect on ensuring adequate mineral provision as it may impose constraints which limit the choice of sites.
- However, it has a slightly positive impact on the environmental aspects of sustainability and human health/quality of life, in both the short- and long-term, as it seeks to ensure that there will be no unacceptable cumulative impacts on the environment or local amenity.

POLICY: DM9 Highway Safety and Vehicle Movements/Routeing

Sustainability Appraisal Objectives	Effect		Commentary	Mitigation
	Short-term	Long-term		
1. Ensure that adequate provision is made to meet local and national minerals demand.	-	0	This policy may impose constraints which would limit the choice of sites.	No mitigation identified.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	+	0	The policy seeks to ensure that minerals transportation does not have an unacceptable impact on the environment.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	0	0	No significant effect.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	+	0	The policy seeks to ensure that minerals transportation does not have an unacceptable impact on the environment.	N/A
5. Protect and enhance the quality and character of our townscape and landscape.	+	0	The policy seeks to ensure that minerals transportation does not have an unacceptable impact on the environment.	N/A
6. Minimise impact and risk of flooding.	+	0	The policy seeks to ensure that minerals transportation does not have an unacceptable impact on the environment.	N/A
7. Minimise any possible impacts on, and increase adaptability to, climate change.	0	0	No significant effect.	N/A

8. Protection of high-quality agricultural land and soil.	+	0	The policy seeks to ensure that minerals transportation does not have an unacceptable impact on the environment.	N/A
9. Promote more efficient use of land and resources	0	0	No clear link.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A
11. Protect and improve local air quality.	+	0	The policy seeks to ensure that minerals transportation does not have an unacceptable impact on the environment.	N/A
12. Protect and improve water quality and promote efficient use of water.	+	0	The policy seeks to ensure that minerals transportation does not have an unacceptable impact on the environment.	N/A
13. Support wider economic development and promote local job opportunities	0	0	No significant effect.	N/A
14. Protect and improve human health and quality of life.	++	0	The policy seeks to ensure that minerals transportation does not cause disturbance to local amenity and minimises the impact of traffic on local communities.	N/A

Summary

- During the Plan period the policy has a slightly negative effect on ensuring adequate mineral provision as it may impose constraints which limit the choice of sites.

- However, during the Plan period, it has a slightly positive impact on the environmental aspects of sustainability and a positive effect on human health/quality of life as it seeks to ensure that minerals transportation does not have an unacceptable impact on the environment or local amenity and that traffic impact on local communities is minimised.

POLICY: DM10 Airfield Safeguarding

Sustainability Appraisal Objectives	Effect		Commentary	Mitigation
	Short-term	Long-term		
1. Ensure that adequate provision is made to meet local and national minerals demand.	0	0	The policy does not preclude minerals development although it may restrict the choice of possible sites. However, provided that proposals are appropriate, this should not have a significant effect on provision.	N/A
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	?	?	Insufficient information to determine impact because it would be dependent on the details of proposed restoration.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	0	0	No clear link.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	0	0	No clear link.	N/A
5. Protect and enhance the quality and character of our townscape and landscape.	0	0	No clear link.	N/A
6. Minimise impact and risk of flooding.	0	0	No clear link.	N/A
7. Minimise any possible impacts on, and increase adaptability to, climate change.	0	0	No clear link.	N/A

8. Protection of high-quality agricultural land and soil.	0	0	No clear link.	N/A
9. Promote more efficient use of land and resources	0	0	No clear link.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A
11. Protect and improve local air quality.	0	0	No clear link.	N/A
12. Protect and improve water quality and promote efficient use of water.	0	0	No clear link.	N/A
13. Support wider economic development and promote local job opportunities	0	0	No clear link.	N/A
14. Protect and improve human health and quality of life.	+	+	The policy seeks to ensure that minerals development is not a hazard to air traffic.	N/A

Summary

- The policy has a slightly positive impact on human health/quality of life as it seeks to ensure that minerals development is not a hazard to air traffic.
- The effect on biodiversity is uncertain because it would be dependent on the details of proposed restoration.
- There is no clear link with any of the other SA objectives, which is to be expected given the specific nature of this policy.

POLICY: DM11 Planning Obligations

Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Short-term	**Long-term**		
1. Ensure that adequate provision is made to meet local and national minerals demand.	0	0	No clear link.	N/A
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	++	++	The policy aims to secure sustainable development objectives which would not otherwise be achieved.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	++	++	The policy aims to secure sustainable development objectives which would not otherwise be achieved.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	++	++	The policy aims to secure sustainable development objectives which would not otherwise be achieved.	N/A
5. Protect and enhance the quality and character of our townscape and landscape.	++	++	The policy aims to secure sustainable development objectives which would not otherwise be achieved.	N/A
6. Minimise impact and risk of flooding.	++	++	The policy aims to secure sustainable development objectives which would not otherwise be achieved.	N/A
7. Minimise any possible impacts on, and increase adaptability to, climate change.	++	++	The policy aims to secure sustainable development objectives which would not otherwise be achieved.	N/A
8. Protection of high-quality agricultural land and soil.	++	++	The policy aims to secure sustainable development objectives which would not otherwise be achieved.	N/A

9. Promote more efficient use of land and resources	++	++	The policy aims to secure sustainable development objectives which would not otherwise be achieved.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	++	++	The policy aims to secure sustainable development objectives which would not otherwise be achieved.	N/A
11. Protect and improve local air quality.	++	++	The policy aims to secure sustainable development objectives which would not otherwise be achieved.	N/A
12. Protect and improve water quality and promote efficient use of water.	++	++	The policy aims to secure sustainable development objectives which would not otherwise be achieved.	N/A
13. Support wider economic development and promote local job opportunities	++	++	The policy aims to secure sustainable development objectives which would not otherwise be achieved.	N/A
14. Protect and improve human health and quality of life.	++	++	The policy aims to secure sustainable development objectives which would not otherwise be achieved.	N/A

Summary

- There is no clear link with ensuring adequate provision of minerals.
- However, for all the other SA objectives there is a positive impact, both in the short- and long-term, because the policy aims to secure sustainable development objectives which would not otherwise be achieved.

POLICY: DM12 Restoration, After-use and After-care

Sustainability Appraisal Objectives	Effect		Commentary	Mitigation
	Short-term	Long-term		
1. Ensure that adequate provision is made to meet local and national minerals demand.	0	0	No clear link.	N/A
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	?	+	The impact of the policy would depend on the specific details of restoration, but, as the policy seeks to ensure that restoration contributes to the delivery of local objectives for habitats and biodiversity, the effect is likely to be at least slightly positive in the long-term.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	0	0	No clear link.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	?	+	The impact of the policy would depend on the specific details of restoration, but, as the policy seeks to ensure that restoration contributes to the delivery of local objectives for the historic environment, the effect is likely to be at least	N/A

			slightly positive in the long-term.	
5. Protect and enhance the quality and character of our townscape and landscape.	?	+	The impact of the policy would depend on the specific details of restoration, but, as the policy seeks to ensure that restoration is in keeping with the character and setting of the local area and contributes to the delivery of local objectives for landscape, the effect is likely to be at least slightly positive in the long-term.	N/A
6. Minimise impact and risk of flooding.	?	?	The impact of the policy would depend on the specific details of restoration.	N/A
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	?	The impact of the policy would depend on the specific details of restoration.	N/A
8. Protection of high-quality agricultural land and soil.	?	?	The impact of the policy would depend on the specific details of restoration.	N/A
9. Promote more efficient use of land and resources	?	?	The impact of the policy would depend on the specific details of restoration.	N/A
10. Promote energy efficiency and maximise renewable	0	0	No clear link.	N/A

energy opportunities from new or existing development.				
11. Protect and improve local air quality.	0	0	No clear link.	N/A
12. Protect and improve water quality and promote efficient use of water.	0	0	No clear link.	N/A
13. Support wider economic development and promote local job opportunities	?	?	The impact of the policy would depend on the specific details of restoration.	N/A
14. Protect and improve human health and quality of life.	?	+	The impact of the policy would depend on the specific details of restoration, but, as the policy seeks to ensure that restoration contributes to the delivery of local objectives for community use, the effect is likely to be at least slightly positive in the long-term.	N/A

Summary

- For some of the SA objectives the impact is uncertain because it would depend on the specific details of restoration.
- The policy has a slightly positive effect in the long-term on the SA objectives for biodiversity, the historic environment, landscape and quality of life.
- There is no clear link with the remaining SA objectives, which is to be expected given the nature of the policy.

POLICY: DM13 Incidental Mineral Extraction

Sustainability Appraisal Objectives	Effect		Commentary	Mitigation
	Short-term	Long-term		
1. Ensure that adequate provision is made to meet local and national minerals demand.	++	0	The policy would allow the extraction of minerals that might otherwise be lost.	N/A
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	+	+	The policy is not site specific and impacts would be dependent on the location of any site in relation to habitats/species/geological features. However, it seeks to ensure that minerals extraction does not have any adverse environmental impacts and brings environmental benefits to the development it is incidental to, so the effect is likely to be slightly positive both in the short and long-term.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	?	?	The policy is not site specific and so the impacts would be dependent on the location of any site in relation to transport routes and the end market for the mineral.	N/A
4. Protect the quality of the historic environment, heritage	+	+	The policy is not site specific and impacts would be	N/A

assets and their settings above and below ground.			dependent on the location of any site in relation to heritage assets. However, it seeks to ensure that minerals extraction does not have any adverse environmental impacts and brings environmental benefits to the development it is incidental to, so the effect is likely to be slightly positive both in the short and long-term.	
5. Protect and enhance the quality and character of our townscape and landscape.	+	+	The policy is not site specific and impacts would be dependent on the location of any site in relation to townscape/landscape character. However, it seeks to ensure that minerals extraction does not have any adverse environmental impacts and brings environmental benefits to the development it is incidental to, so the effect is likely to be slightly positive both in the short and long-term.	N/A
6. Minimise impact and risk of flooding.	+	+	Although the principle of minerals extraction is water compatible there could be site specific impacts of plant and equipment which will need to	N/A

			be taken into account, particularly in areas of high flood risk. However, it seeks to ensure that minerals extraction does not have any adverse environmental impacts and brings environmental benefits to the development it is incidental to, so the effect is likely to be slightly positive both in the short and long-term.	
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	?	Impacts would be dependent on the details of operation and restoration.	N/A
8. Protection of high-quality agricultural land and soil.	+	+	The policy is not site specific and impacts would be dependent on the location of any site in relation to high quality agricultural land and soil. However, it seeks to ensure that minerals extraction does not have any adverse environmental impacts and brings environmental benefits to the development it is incidental to, so the effect is likely to be slightly positive both in the short and long-term.	N/A

9. Promote more efficient use of land and resources	++	0	The policy would allow the extraction of minerals that might otherwise be lost.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A
11. Protect and improve local air quality.	+	+	The policy is not site specific and impacts would be dependent on the location of any site in relation to sensitive neighbouring uses including designated Air Quality Management Areas. However, it seeks to ensure that minerals extraction does not have any adverse environmental impacts and brings environmental benefits to the development it is incidental to, so the effect is likely to be slightly positive both in the short and long-term.	N/A
12. Protect and improve water quality and promote efficient use of water.	+	+	The policy is not site specific and the impacts would be dependent on the location, type of mineral being extracted and the details of site operation. However, it seeks to ensure that minerals extraction does not have any	N/A

			adverse environmental impacts and brings environmental benefits to the development it is incidental to, so the effect is likely to be slightly positive both in the short and long-term.	
13. Support wider economic development and promote local job opportunities	+	0	The policy would contribute to the provision of minerals to provide raw materials for the wider economy.	N/A
14. Protect and improve human health and quality of life.	+	+	The policy is not site specific and impacts would be dependent on the location of any site in relation to sensitive receptors. However, it seeks to ensure that minerals extraction does not have any adverse environmental impacts and brings environmental and other benefits to the development it is incidental to, so the effect is likely to be slightly positive both in the short and long-term.	N/A

Summary

- The policy contributes positively to the economic aspects of sustainability as it would allow the extraction of minerals that might otherwise be lost.

- The impact on promoting more efficient use of resources is also positive in that the policy would allow the extraction of minerals that might otherwise be lost.
- The effects on the environmental and quality of life SA objectives are slightly positive as the policy seeks to ensure that minerals extraction does not have any adverse environmental impacts and brings environmental and other benefits to the development it is incidental to.

POLICY: DM14 Irrigation Lagoons

Sustainability Appraisal Objectives	Effect		Commentary	Mitigation
	Short-term	Long-term		
1. Ensure that adequate provision is made to meet local and national minerals demand.	++	+	The policy would enable access to mineral resources that might not otherwise be exploited. The policy also seeks to ensure that the development of permitted or allocated mineral extraction sites is not adversely affected.	N/A
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	?	?	The policy is not site specific and impacts would be dependent on the location of any site in relation to habitats/species/geological features.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	?	?	The policy is not site specific and so the impacts would be dependent on the location of any site in relation to transport routes and the end market for the mineral.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	?	?	The policy is not site specific and impacts would be dependent on the location of any site in relation to heritage assets.	N/A
5. Protect and enhance the quality and character of our townscape and landscape.	?	?	The policy is not site specific and impacts would be dependent on the location of any site in relation to townscape/landscape character.	N/A
6. Minimise impact and risk of flooding.	?	?	Although the principle of minerals extraction is water compatible there could be site specific impacts of plant	N/A

			and equipment which will need to be taken into account, particularly in areas of high flood risk.	
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	?	Impacts would be dependent on the details of operation and restoration.	N/A
8. Protection of high-quality agricultural land and soil.	?	?	The policy is not site specific and impacts would be dependent on the location of any site in relation to high quality agricultural land and soil.	N/A
9. Promote more efficient use of land and resources	++	0	The policy would provide for both mineral extraction and agricultural benefits from the same area of land.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A
11. Protect and improve local air quality.	?	?	The policy is not site specific and impacts would be dependent on the location of any site in relation to sensitive neighbouring uses including designated Air Quality Management Areas.	N/A
12. Protect and improve water quality and promote efficient use of water.	?	?	Insufficient information to determine impact.	N/A
13. Support wider economic development and promote local job opportunities	+	+	The policy would contribute to the provision of minerals to provide raw materials for the wider economy, including in the long-term by ensuring that development of permitted or	N/A

			allocated mineral extraction sites is not adversely affected.	
14. Protect and improve human health and quality of life.	?	?	The policy is not site specific and impacts would be dependent on the location of any site in relation to sensitive receptors.	N/A

Summary

- The policy contributes positively/slightly positively in the short-term to the economic aspects of sustainability as it would enable access to mineral resources that might not otherwise be exploited and it contributes slightly positively in the long-term by ensuring that development of permitted or allocated mineral extraction sites is not adversely affected.
- The impact on promoting more efficient use of land and resources is also positive in that the policy would provide for both mineral extraction and agricultural benefits from the same area of land.
- Its impact on most of the other SA objectives is uncertain as this would be dependent on the location of sites in relation to sensitive receptors and on the details of operation and restoration or, in the case of sustainable transport issues, location in relation to transport routes and the end market for the mineral.

POLICY: DM15 Borrow Pits

Sustainability Appraisal Objectives	Effect		Commentary	Mitigation
	Short-term	Long-term		
1. Ensure that adequate provision is made to meet local and national minerals demand.	+	+	The policy would help to meet specific localised short-term demand and may consequently conserve Nottinghamshire's wider minerals resource.	N/A
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	+	+	The policy is not site specific and impacts would be dependent upon the location of any site in relation to habitats/species/geological features. However, as the policy seeks to ensure that borrow pits can be worked and reclaimed without any unacceptable environmental impacts, the effect is likely to be slightly positive both in the short and long-term.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	+++	0	The policy supports sustainable patterns of movement and there is potential for more sustainable modes of transport to be used e.g. conveyors.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	+	+	The impact is uncertain as this would depend on the siting of development in relation to any heritage assets. However, as it seeks to ensure that borrow pits can be worked and	N/A

			reclaimed without any unacceptable environmental impacts, the effect is likely to be slightly positive both in the short and long-term.	
5. Protect and enhance the quality and character of our townscape and landscape.	+	+	The policy is not site specific and impacts would be dependent upon the location of any site in relation to townscape/landscape character. However, as it seeks to ensure that borrow pits can be worked and reclaimed without any unacceptable environmental impacts, the effect is likely to be slightly positive both in the short and long-term.	N/A
6. Minimise impact and risk of flooding.	+	+	Although the principle of minerals extraction is water compatible there could be site specific impacts of plant and equipment which will need to be taken into account, particularly in areas of high flood risk. However, as it seeks to ensure that borrow pits can be worked and reclaimed without any unacceptable environmental impacts, the effect is likely to be slightly positive both in the short and long-term.	N/A
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	?	Impacts would be dependent on the details of operation and restoration.	N/A
8. Protection of high-quality agricultural land and soil.	+	+	The policy is not site specific and impacts would be dependent upon the location of any site in relation to	N/A

			high quality agricultural land and soil. However, as it seeks to ensure that borrow pits can be worked and reclaimed without any unacceptable environmental impacts, the effect is likely to be slightly positive both in the short and long-term.	
9. Promote more efficient use of land and resources	0	0	No clear link.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A
11. Protect and improve local air quality.	+	+	The policy is not site specific and impacts would be dependent upon the location of any site in relation to sensitive neighbouring uses including designated Air Quality Management Areas (AQMAs). However, as it seeks to ensure that borrow pits can be worked and reclaimed without any unacceptable environmental impacts, the effect is likely to be slightly positive both in the short and long-term.	N/A
12. Protect and improve water quality and promote efficient use of water.	+	+	The policy is not site specific and impacts would be dependent upon the location and details of site operation. However, as it seeks to ensure that borrow pits can be worked and reclaimed without any unacceptable environmental impacts,	N/A

			the effect is likely to be slightly positive both in the short and long-term.	
13. Support wider economic development and promote local job opportunities	0	0	No significant effect.	N/A
14. Protect and improve human health and quality of life.	?	?	The policy is not site specific and impacts would be dependent upon the location of any site in relation to sensitive receptors.	N/A

Summary

- The policy is very positive in terms of sustainable transport issues as it allows for borrow pits which are typically located next to the construction sites where the excavated material is to be used.
- There is a slightly positive impact on ensuring adequate provision of minerals as the policy allows for specific localised short-term demand to be met which may conserve Nottinghamshire's wider minerals resource.
- The policy has a slightly positive effect on the environmental SA objectives as it seeks to ensure that borrow pits can be worked and reclaimed without any unacceptable environmental effects.

POLICY:DM16 Associated industrial development

Sustainability Appraisal Objectives	Effect		Commentary	Mitigation
	Short-term	Long-term		
1. Ensure that adequate provision is made to meet local and national minerals demand.	0	0	No significant effect.	N/A
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	?	?	The policy is not site specific and impacts would be dependent upon the location of any site in relation to habitats/species/geological features.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	+++	0	The policy supports sustainable patterns of movement and there is potential for more sustainable modes of transport to be used e.g. conveyors.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	?	?	The impact is uncertain as this would depend on the siting of development in relation to any heritage assets.	N/A
5. Protect and enhance the quality and character of our townscape and landscape.	?	?	The policy is not site specific and impacts would be dependent upon the location of any site in relation to townscape/landscape character.	N/A
6. Minimise impact and risk of flooding.	?	?	There could be site specific impacts which would need to be taken into account, particularly in areas of high flood risk.	N/A
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	?	Impacts will be dependent upon the details of operation and restoration of the site.	N/A

8. Protection of high-quality agricultural land and soil.	?	?	The policy is not site specific and impacts would be dependent upon the location of any site in relation to high quality agricultural land and soil.	N/A
9. Promote more efficient use of land and resources	0	0	No significant effect.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A
11. Protect and improve local air quality.	?	?	The policy is not site specific and impacts would be dependent upon the location of any site in relation to sensitive neighbouring uses including designated Air Quality Management Areas.	N/A
12. Protect and improve water quality and promote efficient use of water.	0	0	No clear link.	N/A
13. Support wider economic development and promote local job opportunities	+	0	The policy could contribute to the provision of local job opportunities.	N/A
14. Protect and improve human health and quality of life.	?	?	The policy is not site specific and impacts would be dependent upon the location of any site in relation to sensitive receptors.	N/A

Summary

- The policy has a very positive impact during the Plan period on promoting sustainable patterns of movement and the use of more sustainable modes of transport.
- There is a slightly positive impact on promoting local job opportunities.

- The impact is uncertain for most of the other SA objectives as it would be dependent on the location of sites in relation to sensitive receptors and on the details of operation and restoration.

POLICY: DM17 Mineral Exploration

Sustainability Appraisal Objectives	Effect		Commentary	Mitigation
	Short-term	Long-term		
1. Ensure that adequate provision is made to meet local and national minerals demand.	+	0	Exploration is essential to prove the existence and extent of mineral resources.	N/A
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	++	0	The policy seeks to ensure satisfactory environmental and restoration safeguards.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	0	0	No clear link.	N/A
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	++	0	The policy seeks to ensure satisfactory environmental, amenity and restoration safeguards.	N/A
5. Protect and enhance the quality and character of our townscape and landscape.	++	0	The policy seeks to ensure satisfactory environmental, amenity and restoration safeguards.	N/A
6. Minimise impact and risk of flooding.	++	0	The policy seeks to ensure satisfactory environmental and restoration safeguards.	N/A
7. Minimise any possible impacts on, and increase adaptability to, climate change.	0	0	No significant effect.	N/A
8. Protection of high-quality agricultural land and soil.	++	0	The policy seeks to ensure satisfactory environmental and restoration safeguards.	N/A

9. Promote more efficient use of land and resources	0	0	No clear link.	N/A
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	0	0	No clear link.	N/A
11. Protect and improve local air quality.	++	0	The policy seeks to ensure satisfactory environmental and amenity safeguards.	N/A
12. Protect and improve water quality and promote efficient use of water.	+	0	The policy seeks to ensure satisfactory environmental safeguards which would include protection of water quality.	N/A
13. Support wider economic development and promote local job opportunities	0	0	No significant effect.	N/A
14. Protect and improve human health and quality of life.	++	0	The policy seeks to ensure satisfactory environmental and amenity safeguards.	N/A

Summary

- The policy has a slightly positive effect on ensuring adequate provision of minerals because exploration plays a role in this as it is essential to prove the existence and extent of mineral resources.
- In terms of the environmental and quality of life SA objectives there is a positive impact during the Plan period because the policy seeks to ensure satisfactory environmental, amenity and restoration safeguards.
- There is no clear link or no significant effect on the other SA objectives.

Appendix C: Site Appraisal Matrices – Allocated Sites

Site appraisal matrices: Sand and Gravel

SITE NAME: *BARTON IN FABIS (MILL HILL)*			**MINERAL TYPE: Sand and gravel**	
NEW OR EXTENSION: New			**POTENTIAL CAPACITY: 3.4 million tonnes**	
Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Operational period	**Long-term**		
1. Ensure that adequate provision is made to meet local and national mineral demand.	+2	0	The size of the estimated reserves of this site would contribute positively to meeting national and local demand for sand and gravel.	Not applicable.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	-2	-1	There is a cluster of Local Wildlife Sites which form an important ecological corridor beside the River Trent which would be directly affected. The site includes or is immediately adjacent to the Barton Flash LWS, Barton Pond and Drain LWS, Brandshill Wood LWS, Brandshill Grassland LWS and Brandshill Marsh LWS. It is also adjacent to Brandshill Wood, which is ancient woodland, and in close proximity to Attenborough Gravel Pits and Holme Pit SSSIs, and several more LWSs including Clifton Fox Covert, Burrows Farm Grassland and Clifton Wood. There is therefore the potential for direct and indirect impacts on	Ecological surveys and hydrological reports. Alternative working proposals/buffer zones to retain/protect LWSs, ancient woodland and SSSIs. Appropriate restoration scheme to maximise LBAP priority habitats for the area.

			these sites, during operations, through noise, dust, NOx and changes to hydrology and hydrogeology. The restoration scheme includes the creation of 62ha of several key UK and Nottinghamshire LBAP priority habitats but this would still involve an overall reduction in LBAP habitat and the loss and degradation of a number of LWSs and features used by protected species.	
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	+1	0	The site is well related to the main highway network (A453 & M1).	
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	-2	I	The settings of Clifton Village Conservation Area and listed buildings, and the listed Clifton Hall and Church with associated registered park and garden and a scheduled ancient monument at Barton-in-Fabis (which also contains a number of non-designated built heritage assets) could all be adversely affected. There is very high potential for, and risk to, non-designated	Buffer zones and screening. Archaeological surveys to determine the nature and significance of non-designated remains, then adequate provision to be made for preservation, excavation or recording. Metal detector on conveyor belt to seek metal objects of archaeological interest. Appropriate restoration proposals.

			archaeology which could include remains of schedulable quality. In the long-term the impact on the settings of heritage assets could be positive or negative depending on the details of restoration.	
5. Protect and enhance the quality and character of our townscape and landscape.	-3	-3	The landscape assessment resulted in a combined landscape score of 96/100 for the operational period so the impact is considered to be very negative. The site is also within the Green Belt and there is the potential for an adverse impact on its openness and visual amenity during the operational phase. The landscape assessment for post-restoration resulted in a combined landscape score of 96/100 so the impact is considered to remain very negative.	During the operational phase advance planting should be provided to screen development from residents on the edge of Barton-in-Fabis and in riverside properties; buffer zones along the River Trent should be used for enhancing riparian planting and to reduce impact from residential properties; ridge and furrow and routes of existing rights of way should be retained. Restoration should include the use of native species recommended for the Trent Valley landscape character area, native wetland grass mixes etc; management of landscape buffer areas; retention of ridge and furrow areas for grazing.
6. Minimise impact and risk of flooding.	-3	I	The site is largely located within the River Trent floodplain (Zone 3 – high flood risk area). Sand and gravel workings are considered to be water-	Meeting the requirements of the Environment Agency, including no excavation within 45m of the River Trent or flood defences.

			compatible development which is appropriate in this zone provided that there is no net loss of floodplain storage, water flows are not impeded and flood risk is not increased elsewhere. There is insufficient information at this stage on which to determine the impact of operations and as it is a high risk zone the effect has to be considered as very negative. Impact in the long-term could be positive or negative depending on the nature of restoration.	Flood Risk Assessment (FRA) including consideration of flood flow and storage. Implementation of SuDs.
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	I	During the operational phase the effect would be dependent on the details of operation, e.g. whether the most energy efficient plant and machinery were used. Thereafter, in the long term, the effect could be positive or negative in terms of increasing the resilience of flora and fauna to climate change depending on the details of restoration.	Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.
8. Protect high quality agricultural land and soil.	-1	+1	The majority of the site comprises Grade 3b agricultural land which is not best and most versatile, however 12% of the	Not applicable.

			site is Grade 2 and 3a, which is best and most versatile agricultural land. The proposer states that 7% of this will be restored to agricultural land of the same quality.	
9. Promote more efficient use of land and resources.	0	?	No significant effect during the operational period.	Not applicable.
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	?	?	Effect would be dependent on the details of operation, such as the use of energy efficient plant and machinery and renewable energy sources for on-site power.	Not applicable.
11. Protect and improve local air quality.	-3	0	Operations would create dust. The mineral would be exported by HGV with an estimated 102 two-way movements (51 HGV arrivals and 51 HGV departures) per average working day.	Environmental protection measures to reduce dust.
12. Protect and improve water quality and promote efficient use of water.	-1	0	Potential de-watering and discharge into watercourses.	Hydrological reports. On-site protection measures to avoid contamination of surface waters and groundwater. Implementation of SuDs. Meeting the requirements of the Environment Agency and Internal Drainage Board (IDB).
13. Support wider economic development and promote local job opportunities.	+2	0	This site has the potential to produce a large quantity of aggregate which is important in supporting the wider economy	Not applicable.

			particularly through meeting the demands of the construction industry. There is also the potential for creation of some local job opportunities.	
14. Protect and improve human health and quality of life.	-3	?	The site is in close proximity to settlements so during the operational phase there could be an adverse effect resulting from noise, dust and traffic. In terms of visual amenity, there would be a significant adverse change to views for residents on the northern edge of Barton in Fabis with windows facing the site and riverside properties to the eastern edge of the River Trent. There are 3 RoWs which would be disrupted. The long-term impact depends on the details of restoration. If public access to nature conservation areas is provided there is the potential for a positive impact.	Environmental protection measures to reduce noise and dust. Transport Assessment. Buffer zones and screen planting. Protection/re-routing of RoWs. Public access opportunities as part of restoration scheme.
Total	-13	-3		

Summary

- This site scores positively in terms of its contribution to the economic aspects of sustainability.
- There is a negative impact on biodiversity during the operational period with the impact in the long-term remaining slightly negative as although restoration would create LBAP priority habitats, there would be an overall reduction in LBAP habitat and the loss and degradation of a number of LWSs.
- There is a negative impact on the historic environment during the operational period as the settings of designated heritage assets could be adversely affected and there is a very high potential for non-designated archaeology.
- The landscape assessment concluded that there would be a very negative impact both during the operational period and in the long-term, but also identified some scope for mitigation measures. The site is also within the Green Belt and there is the potential for an adverse impact on its openness and visual amenity during the operational phase.
- The site scores very negatively with regard to impact and risk of flooding as it is within Flood Zone 3, however the precise nature of the impact would have to be ascertained through a detailed flood risk assessment.
- The loss of some high-quality agricultural land would have a slightly negative impact during the operational period but restoration would include re-instatement of this.
- The high number of HGV movements during the operational period could have a negative impact on local air quality.
- During the operational period there could be a very negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic; rights of way would be disrupted and there would be an adverse effect on visual amenity, but there is some scope for mitigation.

SITE NAME: *BESTHORPE EAST*			**MINERAL TYPE: Sand and gravel**	
NEW OR EXTENSION: Extension			**POTENTIAL CAPACITY: 3.3 million tonnes**	
Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Operational period	**Long-term**		
1. Ensure that adequate provision is made to meet local and national mineral demand.	+2	0	The size of the estimated reserves of this site would contribute positively to meeting national and local demand for sand and gravel.	Not applicable.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	-1	+3	The site is immediately adjacent to Mons Pool LWS and to Northcroft Lane Meadow LWS. It is also in close proximity to the Black Pool and Langford Marsh LWS, and to Besthorpe Meadows SSSI. There is therefore the potential for direct and indirect impacts to these sites, including through noise, dust, NOx and changes to hydrology and hydrogeology. It is stated that restoration will be to predominantly water based nature conservation in line with the published RSPB "Bigger and Better" vision for the restoration and after use of sand and gravel workings in the Trent	Ecological surveys and hydrological reports. Buffer zones. Appropriate restoration scheme to enhance biodiversity.

			Valley north of Newark. The restoration scheme will enhance the existing wetland nature reserve areas created through quarry reclamation schemes at Besthorpe Quarry over the previous 30 years. Such restoration would deliver significant biodiversity benefits and would contribute to a larger landscape scale delivery of wetland habitats as per the "Bigger and Better" concept plan document.	
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	+1	0	As this is an extension the existing access would be utilised, which is well-related to the main highway network (A1133). The existing wharf facility to load river barges is mothballed but is available for use if the economics of supply by barge becomes viable in future.	Not applicable.
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	-2	I	The setting of Collingham Conservation Area and some listed buildings in the village could be adversely affected. The site has high archaeological potential.	Buffer zones and screening. Archaeological surveys to determine the nature and significance of any remains, then adequate provision to be made for preservation, excavation or recording.

			The long-term impact on the settings of the conservation area and listed buildings, could be positive or negative, depending on the nature of restoration.	Metal detector on conveyor belt to seek metal objects of archaeological interest.
5. Protect and enhance the quality and character of our townscape and landscape.	-2	-2	The landscape assessment resulted in a combined landscape score of 58/100 for the operational period, so the impact is considered to be negative. The landscape assessment for post-restoration resulted in a combined landscape score of 62/100 so the impact is considered to remain negative.	During the operational phase there should be planting adjacent to Besthorpe Nature Reserve and retention of a buffer >15m along the Fleet watercourse.
6. Minimise impact and risk of flooding.	-3	I	The site is located within Flood Zone 3 (high flood risk area) and the functional flood plain. Sand and gravel workings are considered to be water-compatible development which is appropriate in this zone provided that there is no net loss of floodplain storage, water flows are not impeded and flood risk is not increased elsewhere. There is insufficient information at this stage on which to determine the impact of operations and as it is a high	Meeting the requirements of the Environment Agency. Flood Risk Assessment (FRA) including consideration of flood flow and storage. Implementation of SuDs.

			risk zone the effect has to be considered as very negative. Impact in the long-term could be positive or negative depending on the nature of restoration.	
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	I	During the operational phase the effect would be dependent on the details of operation, e.g. whether the most energy efficient plant and machinery were used. Thereafter, in the long term, the effect could be positive or negative in terms of increasing the resilience of flora and fauna to climate change depending on the details of restoration.	Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.
8. Protect high quality agricultural land and soil.	-1	-1	Predominantly Grade 3b agricultural land (86%), which is not high quality, but with some Grade 3a (12%) which is best and most versatile.	Restoration of an appropriate proportion of the site to high quality agricultural land if that is possible.
9. Promote more efficient use of land and resources.	+1	?	More efficient use of land would result from an extension, which could utilise the existing site's infrastructure.	Not applicable.
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	?	?	Effect would be dependent on the details of operation, such as the use of energy efficient plant and machinery and renewable	Not applicable.

			energy sources for on-site power.	
11. Protect and improve local air quality.	-2	0	Operations would create dust. The mineral would be exported by HGV with an estimated 72 two-way movements (36 HGV arrivals and 36 HGV departures) per average working day.	Environmental protection measures to reduce dust.
12. Protect and improve water quality and promote efficient use of water.	-1	0	Potential de-watering and discharge into watercourses.	Hydrological reports. On-site protection measures to avoid contamination of surface waters and groundwater. Implementation of SuDs. Meeting the requirements of the Environment Agency and Internal Drainage Board (IDB).
13. Support wider economic development and promote local job opportunities.	+2	0	This site has the potential to produce a large quantity of aggregate which is important in supporting the wider economy particularly through meeting the demands of the construction industry. There is also the potential for creation of some local job opportunities.	Not applicable.
14. Protect and improve human health and quality of life.	-2	+2	There are settlements in close proximity to the site so during the operational phase there could be a negative effect resulting from noise, dust and traffic. In terms of visual	Environmental protection measures to reduce noise and dust. Transport Assessment. Protection/ re-routing of RoWs. Public access opportunities as part of

			amenity, the main receptors would be users of rights of way (RoWs) and visitors to Besthorpe Nature Reserve. A few isolated farms may have distant views in the winter months. There are RoWs within the site and partly adjoining the site boundaries. Disruption of these RoWs would add to the negative impact. There is potential for long term benefits through restoration allowing for public access and linking into the RSPB's 'Bigger and Better vision' for landscape-scale delivery of wetland habitats.	restoration scheme for nature conservation.
Total	-8	+2		

Summary

- This site scores positively in terms of its contribution to the economic aspects of sustainability.
- Although there is a slightly negative impact on biodiversity during the operational period it is likely that the proposed restoration for nature conservation, linking in with existing wetland nature reserve areas, would have a positive impact.
- There is a negative impact on the historic environment during the operational period as the settings of designated heritage assets could be adversely affected and the site has high archaeological potential.
- The landscape assessment concluded that there would be a negative impact both during the operational period and in the long-term, but also identified some scope for mitigation measures.

- The site scores very negatively with regard to impact and risk of flooding as it is within Flood Zone 3, however the precise nature of the impact would have to be ascertained through a flood risk assessment.
- The loss of some high-quality agricultural land, which would not be restored, would have a slightly negative effect both in the short- and long-term.
- The number of HGV movements during the operational period could have a slightly negative impact on local air quality.
- During the operational period there could be a negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic and rights of way would be disrupted, but there is some scope for mitigation and potential for long-term benefits.

SITE NAME: *LANGFORD NORTH*			**MINERAL TYPE: Sand and gravel**	
NEW OR EXTENSION: Extension			**POTENTIAL CAPACITY: 8 million tonnes**	
Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Operational period	**Long-term**		
1. Ensure that adequate provision is made to meet local and national mineral demand.	+3	0	The size of the estimated reserves of this site would contribute very positively to meeting national and local demand for sand and gravel.	Not applicable.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	-2	+2	Horse Pool, Collingham LWS, which lies centrally within the site, is one of a declining number of such features in this part of the Trent Valley and would be directly affected. Langford Lowfields LWS is immediately adjacent to the site and could be indirectly affected during operations through noise, dust and changes in hydrology and hydrogeology. It is likely that the existing LWS within the site will be lost but it is indicated that restoration will be biodiversity-led in line with the RSPB's "Bigger and Better" concept plan for the restoration and after use of sand and gravel workings in the Trent Valley	Ecological surveys and hydrological reports. Retention of Horse Pool, Collingham LWS with mitigation to ensure that it is not affected by hydrological drawdown. Buffer zones to protect LWSs.

			north of Newark. The restoration scheme would enhance the existing RSPB reed bed based nature reserve complex on the main Langford Lowfields quarry.	
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	+1	0	As this is an extension the existing access would be utilised, which is well-related to the main highway network with direct access to the A1133.	Not applicable.
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	-2	I	There is potential for an adverse impact on the settings of Collingham's conservation area and listed buildings. It is unlikely that there will be any adverse impact on the Scheduled Monument on the western bank of the river, given the previous quarry workings on that side of the river. The site has high archaeological potential. In the long-term the impact on the settings of the conservation area and listed buildings could be positive or negative depending on the nature of restoration.	Buffer zones and screening. Archaeological surveys to determine the nature and significance of any remains, then adequate provision to be made for preservation, excavation or recording. Metal detector on conveyor belt to seek metal objects of archaeological interest. Appropriate restoration scheme.

5. Protect and enhance the quality and character of our townscape and landscape.	-2	-2	The landscape assessment resulted in a combined landscape score of 71/100 for the operational period so the impact is considered to be negative. The landscape assessment for post-restoration resulted in a combined landscape score of 71/100 so the impact is considered to remain negative.	During the operational phase there should be planting to screen views from 3 residential properties around Wharf Cottage and buffers around Horse Pool LWS, along multiple RoWs and the edge of the River Trent. Restoration should include provision of a network of small pondsand allow river meadowlands to be managed as flood meadow grasslands.
6. Minimise impact and risk of flooding.	-3	I	The site is located within Flood Zone 3 (high flood risk area) and the functional flood plain. Sand and gravel workings are considered to be water-compatible development which is appropriate in this zone provided that there is no net loss of floodplain storage, water flows are not impeded and flood risk is not increased elsewhere. There is insufficient information at this stage on which to determine the impact of operations and as it is a high risk zone the effect has to be considered as very negative. Impact in the long-term could be positive or negative depending on the nature of restoration.	Meeting the requirements of the Environment Agency, including no excavation within 45m of the River Trent or flood defences. Flood Risk Assessment (FRA) including consideration of flood flow and storage. Implementation of SuDs.

7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	I	During the operational phase the effect would be dependent on the details of operation, e.g. whether the most energy efficient plant and machinery were used. Thereafter, in the long term, the effect could be positive or negative in terms of increasing the resilience of flora and fauna to climate change depending on the details of restoration.	Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.
8. Protect high quality agricultural land and soil.	-1	-1	42% of the site area is Grade 3a which is best and most versatile agricultural land and 58% is Grade 3b.	Restoration of an appropriate proportion of the site to high quality agricultural land if that is possible.
9. Promote more efficient use of land and resources.	+1	?	More efficient use of land would result from an extension, which could utilise the existing site's infrastructure.	Not applicable.
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	?	?	Effect would be dependent on the details of operation, such as the use of energy efficient plant and machinery and renewable energy sources for on-site power.	Not applicable.
11. Protect and improve local air quality.	-3	0	Operations would create dust. The mineral would be exported by HGV with an estimated 164 two-way movements (82 HGV	Environmental protection measures to reduce dust.

			arrivals and 82 HGV departures) per average working day.	
12. Protect and improve water quality and promote efficient use of water.	-1	0	Potential de-watering and discharge into watercourses.	Hydrological reports. On-site protection measures to avoid contamination of surface waters and groundwater. Implementation of SuDs. Meeting the requirements of the Environment Agency and Internal Drainage Board (IDB).
13. Support wider economic development and promote local job opportunities.	+3	0	This site has the potential to produce a very large quantity of aggregate which is important in supporting the wider economy particularly through meeting the demands of the construction industry. There is also the potential for creation of some local job opportunities.	Not applicable.
14. Protect and improve human health and quality of life.	-3	+2	There are settlements in close proximity to the site so during the operational phase there could be a negative effect resulting from noise, dust and traffic. In terms of visual amenity, there are distant views from a few adjacent properties including Wharf Cottage. There are rights of way within the site and partially along the eastern boundary. Disruption of	Environmental protection measures to reduce noise and dust. Transport Assessment. Buffer zones and screen planting. Protection/re-routing of RoWs. Public access opportunities as part of restoration scheme.

			these RoWs would add to the negative impact. There is potential for long term benefits through restoration allowing for public access and linking into the RSPB's 'Bigger and Better vision' for landscape-scale delivery of wetland habitats.	
Total	-9	+1		

Summary

- This site scores very positively in terms of its contribution to the economic aspects of sustainability.
- Although there is a negative impact on biodiversity during the operational period it is likely that the proposed restoration for nature conservation, linking in with the developing Langford Lowfields Reserve, would have a positive impact.
- There is a negative impact on the historic environment during the operational period as the settings of designated heritage assets could be adversely affected and the site has high archaeological potential.
- The landscape assessment concluded that there would be a negative impact both during the operational period and in the long-term, but also identified some scope for mitigation measures.
- The site scores very negatively with regard to impact and risk of flooding as it is within Flood Zone 3, however the precise nature of the impact would have to be ascertained through a flood risk assessment.
- The loss of some high-quality agricultural land, which would not be restored, would have a slightly negative effect both in the short- and long-term.
- The high number of HGV movements during the operational period could have a negative impact on local air quality.
- During the operational period there could be a very negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic; rights of way would be disrupted and there could be an adverse effect on visual amenity for some residents, but there is some scope for mitigation and potential for long-term benefits

SITE NAME: *BAWTRY ROAD*			**MINERAL TYPE: Sand and gravel**	
NEW OR EXTENSION: Extension			**POTENTIAL CAPACITY: 180,000 tonnes**	
Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Operational period	**Long-term**		
1. Ensure that adequate provision is made to meet local and national mineral demand.	+1	0	The size of the estimated reserves of this site would contribute slightly positively to meeting national and local demand for sand and gravel.	Not applicable.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	-1	+1	The site is in close proximity to Slaynes Lane LWS, Rugged Butts LWS (adjoining the north-east corner of the site) and the Idle Washlands SSSI. There is therefore the potential for direct and indirect impacts on these sites, including through noise, dust, NOx and changes to hydrology and hydrogeology. There could be adverse effects from further dewatering in this area on the groundwater dependent LWSs and SSSIs, and surface water effects on the nearby woodland. Restoration is stated as enabling further additions to landscape enhancements	Ecological surveys and hydrological reports. Buffer zones. Appropriate biodiversity-led restoration scheme to deliver creation of appropriate habitats, including acid grassland and/or wetland.

			already made on previously quarried areas. It is assumed that this will mean the creation of semi-natural habitat (but this is not clear), so it assumed that restoration will deliver modest biodiversity benefits. Restoration should complement the restoration of the existing quarry, and should seek to deliver the creation of appropriate habitats, including acid grassland and/or wetland.	
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	0	0	The existing site entrance will be utilised, which is onto Newington Road.	Not applicable.
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	0	0	It is unlikely that there will be any adverse impact on Misson Conservation Area, or the listed buildings therein, given that there is the existing quarry between the Conservation Area and this site and lorry routing is likely to be via Bawtry Road/Newington Road to the A614 to the west. The potential for non-designated archaeology at this site is low to medium and the level of risk is low.	Archaeological surveys to determine the nature and significance of any remains, then adequate provision to be made for preservation, excavation or recording. Metal detector on conveyor belt to seek metal objects of archaeological interest.

5. Protect and enhance the quality and character of our townscape and landscape.	-1	-1	The landscape assessment resulted in a combined landscape score of 47/100 for the operational period so the impact is considered to be slightly negative. The landscape assessment for post-restoration resulted in a combined landscape score of 42/100 so the impact is considered to remain slightly negative.	Restoration should include replacement of the hedge line (refer to species list for the Idle Lowlands LCA, not including Ash).
6. Minimise impact and risk of flooding.	-1	0	The site is in Flood Zone 1 (low probability of flooding).	Meeting the requirements of the Environment Agency and Internal Drainage Board. Implementation of SuDs.
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	I	During the operational phase the effect would be dependent on the details of operation, e.g. whether the most energy efficient plant and machinery were used. Thereafter, in the long term, the effect could be positive or negative in terms of increasing the resilience of flora and fauna to climate change depending on the details of restoration.	Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.
8. Protect high quality agricultural land and soil.	0	0	The site is Grade 3b agricultural land, which is not high quality.	Not applicable.

9. Promote more efficient use of land and resources.	+1	?	More efficient use of land would result from an extension, which can utilise the existing site's infrastructure.	Not applicable.
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	?	?	Effect would be dependent on the details of operation, such as the use of energy efficient plant and machinery and renewable energy sources for on-site power.	Not applicable.
11. Protect and improve local air quality.	-1	0	Operations would create dust. The mineral would be exported by HGV with an estimated 10 two-way movements (5 HGV arrivals and 5 HGV departures) per average working day.	Environmental protection measures to reduce dust.
12. Protect and improve water quality and promote efficient use of water.	-2	0	Potential de-watering and discharge into watercourses. The site is situated within Source Protection Zone 3, which could be of concern from a groundwater perspective.	Hydrological reports. On-site protection measures to avoid contamination of surface waters and groundwater. Meeting the requirements of the Environment Agency and Internal Drainage Board.
13. Support wider economic development and promote local job opportunities.	+1	0	This small site would play a slightly positive role in supporting the wider economy particularly through contributing to meeting the demands of the construction industry. It is also likely to ensure that some jobs created at the existing site will	Not applicable.

			continue with the working of this extension.	
14. Protect and improve human health and quality of life.	-1	0	Although this extension is in close proximity to Misson, the existing quarry lies between the two and given the size and form of the extension it is unlikely to create any adverse effects through noise, dust or traffic. In terms of visual amenity, there would be limited views from residential properties at the end of Bryans Close Lane. Misson Byway No. 2 could be affected for a short section, where it adjoins the northern site boundary. No public amenity benefits are proposed in the restoration scheme.	Protect RoW along northern boundary. Provide public access opportunities upon restoration.
Total	-4	0		

Summary

- This site scores slightly positively in terms of its contribution to the economic aspects of sustainability.
- The impact on biodiversity would be slightly negative during the operational period due to the proximity of LWSs and a SSSI. In the long-term it is likely that the restoration scheme would result in a slightly positive impact but would not maximise biodiversity gain.
- The landscape assessment concluded that there would be a slightly negative impact both during the operational period and in the long-term, but also identified some scope for mitigation through the restoration scheme.
- The impact on water quality could be negative, as the site lies within Source Protection Zone 2 which could be of concern from a groundwater perspective, but there is scope for mitigation.

- During the operational period there could be a slightly negative effect on quality of life for some local residents in terms of visual amenity.

SITE NAME: *SCROOBY (THOMPSON LAND) – AMENDED (Site area reduced)* **MINERAL TYPE: Sand and gravel** **NEW OR EXTENSION: Extension** **POTENTIAL CAPACITY: 60,000 tonnes**				
Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Operational period	**Long-term**		
1. Ensure that adequate provision is made to meet local and national mineral demand.	+1	0	The size of the estimated reserves of this site would contribute slightly positively to meeting national and local demand for sand and gravel. As a result of the reduced site area, potential capacity has been reduced from 400,000 to 60,000 tonnes, however both of these figures fall within the same category in terms of the effect so the score remains unchanged.	Not applicable.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	-1	+1	This site is in close proximity to a number of LWSs and Scrooby Top Quarry SSSI. There is therefore the potential for direct and indirect impacts to these sites, including from noise, dust, NOx and changes to hydrology and hydrogeology. It is stated that restoration would be for the purposes of angling	Ecological surveys and hydrological reports. Buffer zones. Appropriate biodiversity-led restoration scheme to deliver creation of appropriate habitats, including wetland, grassland and/or wet woodland.

			and nature conservation, so it can be assumed that restoration will deliver modest biodiversity benefits. However this would not maximise the biodiversity gains which could be achieved on this site. Restoration should seek to deliver the creation of appropriate habitats, including wetland, species-rich grassland and/or wet woodland. The reduced site area would be likely to reduce the magnitude of adverse impacts but not to such a degree that the scores would be any different.	
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	+1	0	The site is well related to the main highway network, with direct access to the A638 via the existing site's access.	Not applicable.
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	-1	I	The site is within close proximity to listed buildings associated with Scrooby Top House to the west. The settings of these heritage assets could be adversely affected. In the long term the effect on the settings of these heritage assets could be positive or negative, depending on the nature of restoration.	Buffer zones and screening. Archaeological surveys to determine the nature and significance of any remains, then adequate provision to be made for preservation, excavation or recording. Metal detector on conveyor belt to seek metal objects of archaeological interest.

			The potential for, and level of risk to, non-designated archaeology at this site is medium. A known archaeological issue here is a brickwork plan field system. The reduced site area would be likely to reduce the magnitude of adverse impacts but not to such a degree that the scores would change.	
5. Protect and enhance the quality and character of our townscape and landscape.	-2	-1	The landscape assessment resulted in a combined landscape score of 56/100 for the operational period so the impact is considered to be negative. The landscape assessment for post-restoration resulted in a combined landscape score of 42/100 so the impact is considered to be slightly negative.	During the operational phase a landscape buffer is required to residential properties on Folly Nook Lane, and for users of Lodge Farm Fishery. During the restoration phase hedgerows should be reinstated using the species list for the Idle Lowlands LCA (not including Ash).
6. Minimise impact and risk of flooding.	-1	0	The site is in Flood Zone 1 (low probability of flooding).	Meeting the requirements of the Environment Agency and Internal Drainage Board. Implementation of SuDs.

7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	I	During the operational phase the effect would be dependent on the details of operation, e.g. whether the most energy efficient plant and machinery were used. Thereafter, in the long term, the effect could be positive or negative in terms of increasing the resilience of flora and fauna to climate change depending on the details of restoration.	Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.
8. Protect high quality agricultural land and soil.	-2	-2	The site contains a mix of Grade 3a (best and most versatile) and Grade 3b (not high quality) agricultural land. It is unclear whether the remaining site area is Grade 3a or 3b therefore the scoring remains unchanged. In the long term, as restoration does not include a return to agriculture it can be assumed that there would be permanent loss of this area of agricultural land.	Restoration to high quality agricultural land if possible.
9. Promote more efficient use of land and resources.	+1	?	More efficient use of land would result from an extension, which can utilise the existing site's infrastructure.	Not applicable.
10. Promote energy efficiency and maximise renewable	?	?	Effect would be dependent on the details of operation, such as	Not applicable.

energy opportunities from new or existing development.			the use of energy efficient plant and machinery and renewable energy sources for on-site power.	
11. Protect and improve local air quality.	-1	0	Operations would create dust. Whilst the reduced site area may ameliorate the effect of dust to some degree, it would still remain an issue which could have a slightly negative impact. The mineral would be exported by HGV with an estimated 18 two-way movements (9 HGV arrivals and 9 HGV departures) per average working day. The HGV movements may be fewer with the reduction in capacity, however the score remains unchanged as the relatively low number of HGV movements associated with the original site area were already considered to be unlikely to have any significant effect.	Environmental protection measures to reduce dust.
12. Protect and improve water quality and promote efficient use of water.	-2	0	Potential de-watering and discharge into watercourses. The site is situated on a primary aquifer, which could be a concern from a groundwater perspective.	Hydrological reports. On-site protection measures to avoid contamination of surface waters and groundwater. Meeting the requirements of the Environment Agency and Internal Drainage Board.

13. Support wider economic development and promote local job opportunities.	+1	0	This small site would play a slightly positive role in supporting the wider economy particularly through contributing to meeting the demands of the construction industry. It is also likely to ensure that some jobs created at the existing site will continue with the working of this extension.	Not applicable.
14. Protect and improve human health and quality of life.	-2	+1	The site is in close proximity to settlements so during the operational phase there could be a negative effect resulting from noise, dust and traffic. In terms of visual amenity there would be open views of the site from the rear of residential properties. The reduced site area would be likely to reduce the magnitude of adverse impacts but not to such a degree that the score would be any different. No RoWs are affected. As restoration is stated as being for the purposes of angling and nature conservation, it is reasonable to assume there would be some form of public	Environmental protection measures to reduce noise and dust. Transport Assessment. Improvements to public access.

			access to the site, leading to potential amenity benefit.	
Total	-8	-1		

Summary

- This site scores slightly positively in terms of its contribution to the economic aspects of sustainability.
- The impact on biodiversity would be slightly negative during the operational period as there are several LWSs and an SSSI in close proximity to the site. In the long-term the nature conservation elements included in the restoration scheme would result in a slightly positive impact but would not maximise biodiversity gain.
- The landscape assessment concluded that there would be a negative impact during the operational period and a slightly negative impact in the long-term, but also identified some scope for mitigation measures.
- The loss of some high quality agricultural land results in a negative impact in both the short- and long-term.
- The impact on water quality could be negative, as the site lies on a primary aquifer, but there is scope for mitigation.
- During the operational period there could be a negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic and visual amenity would be adversely affected for some residents, but there is some scope for mitigation and potential for slightly positive benefits in the long-term through public access to recreational opportunities.

SITE NAME: *SCROOBY NORTH*			**MINERAL TYPE: Sand and gravel**	
NEW OR EXTENSION: Extension			**POTENTIAL CAPACITY: 620,000 tonnes**	
Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Operational period	**Long-term**		
1. Ensure that adequate provision is made to meet local and national mineral demand.	+1	0	The size of the estimated reserves of this site would contribute slightly positively to meeting national and local demand for sand and gravel.	Not applicable.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	-1	?	Scrooby Sand Pits LWS adjoins part of the north-eastern boundary of the site. Scrooby Top Quarry SSSI and Scrooby Top Quarry GeoSINC are in close proximity to the site. There are several other LWSs in the vicinity. There is therefore the potential for direct and indirect impacts to these sites, including from noise, dust, NOx and changes to hydrology and hydrogeology. It is stated that no restoration scheme has been designed, so it is not possible to consider the level of biodiversity benefit that can be achieved. Restoration should seek to deliver the	Ecological surveys and hydrological reports. Buffer zones. Appropriate biodiversity-led restoration scheme to deliver creation of appropriate habitats, including wetland, grassland and/or wet woodland.

			creation of appropriate habitats, including wetland, grassland and/or wet woodland.	
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	+1	0	The site is well related to the main highway network with direct access to the A638 via the existing site's access.	Not applicable.
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	-1	I	The site is within close proximity to Scrooby Conservation Area, Manor Farm Moat Scheduled Monument (within the Conservation Area) and listed buildings associated with Scooby Top House to the south. The settings of these heritage assets could be adversely affected. In the long term the effect on the settings of these heritage assets could be positive or negative, depending on the nature of restoration. The potential for, and level of risk to, non-designated archaeology at this site is medium. A known archaeological issue here is a brickwork plan field system.	Buffer zones and screening. Archaeological surveys to determine the nature and significance of any remains, then adequate provision to be made for preservation, excavation or recording. Metal detector on conveyor belt to seek metal objects of archaeological interest.
5. Protect and enhance the quality and character of our townscape and landscape.	-2	-1	The landscape assessment resulted in a combined landscape score of 51/100 for the operational period so the	A landscape buffer is required to the A638 during the operational phase.

			impact is considered to be negative. The landscape assessment for post-restoration resulted in a combined landscape score of 47/100 so the impact is considered to be slightly negative.	Restoration should involve a planting scheme to tie in with the Idle Lowlands LCA species list (not to include Ash).
6. Minimise impact and risk of flooding.	-1	0	The site is in Flood Zone 1 (low probability of flooding).	Meeting the requirements of the Environment Agency and Internal Drainage Board. Implementation of SuDs.
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	I	During the operational phase the effect would be dependent on the details of operation, e.g. whether the most energy efficient plant and machinery were used. Thereafter, in the long term, the effect could be positive or negative in terms of increasing the resilience of flora and fauna to climate change depending on the details of restoration.	Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.
8. Protect high quality agricultural land and soil.	-2	I	The site contains a mix of Grade 3a (best and most versatile) and Grade 3b (not high quality) agricultural land. The long-term impact depends on approach to, and quality of, restoration.	Restoration to high quality agricultural land if possible.

9. Promote more efficient use of land and resources.	+1	?	More efficient use of land would result from extension, which can utilise the existing site's infrastructure.	Not applicable.
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	?	?	Effect would be dependent on the details of operation, such as the use of energy efficient plant and machinery and renewable energy sources for on-site power.	Not applicable.
11. Protect and improve local air quality.	-1	0	Operations would create dust. The mineral would be exported by HGV with an estimated 10 two-way movements (5 HGV arrivals and 5 HGV departures) per average working day.	Environmental protection measures to reduce dust.
12. Protect and improve water quality and promote efficient use of water.	-2	0	Potential de-watering and discharge into watercourses. The site is situated on a primary aquifer, which could be a concern from a groundwater perspective.	Hydrological reports. On-site protection measures to avoid contamination of surface waters and groundwater. Meeting the requirements of the Environment Agency and Internal Drainage Board.
13. Support wider economic development and promote local job opportunities.	+1	0	This small site would play a slightly positive role in supporting the wider economy particularly through contributing to meeting the demands of the construction industry. It is also likely to ensure that some jobs	Not applicable.

			created at the existing site will continue with the working of this extension.	
14. Protect and improve human health and quality of life.	-1	?	The site is in close proximity to settlements so during the operational phase there could be a negative effect resulting from noise, dust and traffic. In terms of visual amenity there are no close residential receptors, and views from Scrooby are unlikely due to intervening vegetation. No RoWs are affected. The long-term impact depends on details of restoration, but no restoration details have been provided.	Environmental protection measures to reduce noise and dust. Transport Assessment.
Total	-7	-1		

Summary

- This site scores slightly positively in terms of its contribution to the economic aspects of sustainability.
- The impact on biodiversity would be slightly negative during the operational period as one LWS adjoins the site boundary and there are several LWSs, GeoSINC and an SSSI in the vicinity. The effect in the long-term is uncertain as no restoration details were provided.
- The landscape assessment concluded that there would be a negative impact during the operational period and a slightly negative impact in the long-term, but also identified some scope for mitigation measures.
- The loss of some high quality agricultural land results in a negative impact in the short-term, with the long-term effect being uncertain due to the absence of restoration details.

- The impact on water quality could be negative, as the site lies on a primary aquifer which could be a concern from a groundwater perspective, but there is scope for mitigation.
- During the operational period there could be a slightly negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic, but there is some scope for mitigation.

Site Appraisal Matrices: Sherwood Sandstone

SITE NAME: *BESTWOOD II NORTH*			**MINERAL TYPE: Sherwood Sandstone**	
NEW OR EXTENSION: Extension			**POTENTIAL CAPACITY: 750,000 tonnes**	
Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Operational period	**Long-term**		
1. Ensure that adequate provision is made to meet local and national mineral demand.	+1	0	The size of the estimated reserves of this site would contribute slightly positively to meeting national and local demand for Sherwood Sandstone.	Not applicable.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	-2	?	The site is entirely located within Longdale Plantation LWS, and is in close proximity to Longdale Heath LWS and Wildman's Wood Quarry GeoSINC. There is therefore the potential for major direct and indirect impacts to these sites, including for habitat loss, noise, dust, NOx and changes to hydrology and hydrogeology. The main (direct) impact would be the loss of LWS woodland habitat. The site lies between two parts of the Sherwood Forest Important Bird Area, upon which any future Special Protection Area (SPA) designation may be	Ecological surveys and hydrological reports. Buffer zones. Implement the recommendations of the Minerals Local Plan Habitats Regulations Assessment Screening Report in respect of possible proposed Sherwood SPA. Appropriate biodiversity-led restoration scheme.

			based, which raises concerns as this is of international importance. Restoration is stated to be to nature conservation after-uses to complement restoration at the existing quarry, including heathland acid grassland, seasonally wet and marshy areas and retention of woodland plantations and sandstone faces along the extraction boundaries. It is not clear whether or not this will outweigh the existing nature conservation value of the site.	
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	+1	0	The site is well related to the main highway network and would be accessed off the A60 through the existing quarry.	Not applicable.
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	-1	I	The site is in close proximity to the scheduled monument and listed buildings of Papplewick Pumping Station and Reservoir and to a boundary stone, which is a designated heritage asset. The settings of these heritage assets could be adversely affected. The potential for non-designated archaeology is medium.	Buffer zones and screening. Appropriate restoration proposals. Archaeological surveys to determine the nature and significance of any remains, then adequate provision to be made for preservation, excavation or recording. Archaeological supervision and control of soil stripping.

			The impact on the settings of the heritage assets in the long term could be positive or negative depending on the details of restoration.	
5. Protect and enhance the quality and character of our townscape and landscape.	-3	-2	The landscape assessment resulted in a combined landscape score of 72/100 for the operational period so the impact is considered to be negative. The site is also within the Green Belt and there is the potential for an adverse impact on its openness and visual amenity during the operational phase. The landscape assessment for post-restoration resulted in a combined landscape score of 72/100 so the impact is considered to remain negative.	During the operational phase understorey planting to an adequate buffer zone to maintain wooded skyline, and an adequate buffer zone to protect existing trees to the boundary would be required and adequate width of woodland should be retained to the western boundary to maintain views of woodland from properties on Longdale Lane. The restoration phase should include tree planting appropriate to the Sherwood Character Area and acidic grassland/heathland, together with retention and management of woodland in the buffer zone to maintain the wooded skyline.
6. Minimise impact and risk of flooding.	-1	0	The site is within Flood Zone 1 (low probability of flooding).	Meeting the requirements of the Environment Agency and Internal Drainage Board. Implementation of SuDs.
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	I	During the operational phase the effect would be dependent on the details of operation, e.g. whether the most energy	Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.

			efficient plant and machinery were used. Thereafter, in the long term, the effect could be positive or negative in terms of increasing the resilience of flora and fauna to climate change depending on the details of restoration.	
8. Protect high quality agricultural land and soil.	0	0	The site currently comprises woodland.	Not applicable.
9. Promote more efficient use of land and resources.	+1	?	More efficient use of land would result from an extension, which could utilise the existing site's infrastructure.	Not applicable.
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	?	?	Effect would be dependent on the details of operation, such as the use of energy efficient plant and machinery and renewable energy sources for on-site power.	Not applicable.
11. Protect and improve local air quality.	-2	0	Operations would create dust. The mineral would be exported by HGV with an estimated 50 two way movements (25 HGV arrivals and 25 HGV departures) per average working day.	Environmental protection measures to reduce dust.
12. Protect and improve water quality and promote efficient use of water.	-2	0	Potential de-watering and discharge into watercourses. The site lies in Source Protection Zone 3 and on a primary aquifer.	Hydrological reports. On-site protection measures to avoid contamination of surface waters and groundwater – particularly careful management will be required to protect groundwater.

				Implementation of SUDs. Meeting the requirements of the Environment Agency and Internal Drainage Board (IDB).
13. Support wider economic development and promote local job opportunities.	+1	0	This small site would play a slightly positive role in supporting the wider economy particularly through contributing to meeting the demands of the construction industry. It is also likely to ensure that some jobs created at the existing site will continue with the working of this extension.	Not applicable.
14. Protect and improve human health and quality of life.	-2	0	The site is in close proximity to settlements so during the operational phase there could be an adverse effect resulting from noise, dust and traffic, In terms of visual amenity, there would be a moderate adverse change to views for residents of properties along Longdale Lane to the north west of the site. No RoWs are affected. Restoration details do not include any reference to public access to recreation opportunities.	Environmental protection measures to reduce noise and dust. Transport Assessment.
Total	-9	-2		

Summary

- This site scores slightly positively in terms of its contribution to the economic aspects of sustainability.
- The impact on biodiversity would be very negative during the operational period because the site is entirely located within an LWS and lies between two parts of the Sherwood Forest Important Bird Area, upon which any future Special Protection Area (SPA) designation may be based. The impact in the long-term is uncertain as it is not clear whether restoration proposals will outweigh the existing nature conservation value of the site.
- The landscape assessment concluded that there would be a negative impact both during the operational period and in the long-term, but also identified some scope for mitigation measures. The site is also in the Green Belt, which, together with the landscape score, results in a very negative impact during the operational period.
- The number of HGV movements during the operational period could have a slightly negative impact on local air quality.
- The impact on water quality could be negative, as the site lies in Source Protection Zone 3 and on a primary aquifer which could be a concern from a groundwater perspective, but there is scope for mitigation.
- During the operational period there could be a negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic, and there would be a detrimental impact on visual amenity for some residents, but there is some scope for mitigation.

SITE NAME: *SCROOBY TOP NORTH*			**MINERAL TYPE: Sherwood Sandstone**	
NEW OR EXTENSION: Extension			**POTENTIAL CAPACITY: 4.831 million tonnes**	
Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Operational period	**Long-term**		
1. Ensure that adequate provision is made to meet local and national mineral demand.	+3	0	The size of the estimated reserves of this site would contribute very positively to meeting national and local demand for Sherwood Sandstone.	Not applicable.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	-2	+1	The site abuts the Scrooby Top Quarry SSSI, which is a geological SSSI with exposure of early Triassic river deposits. This is visible predominantly to the north-west corner of the SSSI, which forms the boundary with the proposed quarry. This exposure could be potentially lost through quarrying, although it is acknowledged that within a quarry setting new exposures can replace current ones, if they are of the same or better geological quality. This site is in close proximity to the Scrooby Sand Pits LWS and Serlby Park Golf Course LWS.	Protection of the current geological SSSI's exposure until new ones are created, to ensure there is no net loss. Ecological surveys and hydrological reports. Buffer zones. Appropriate biodiversity-led restoration scheme to deliver creation of appropriate habitats, including acid grassland, oak-birch woodland, marsh and swamp, ponds and other wetland habitats.

			There is therefore the potential for direct and indirect impacts to these sites, including from noise, dust, NOx and changes to hydrology and hydrogeology. The restoration scheme has not been designed, but it is indicated that restoration will be to a low level with wetland/waterbodies 'where a nature conservation element can be accommodated'; so some biodiversity benefit could be gained. However, reference is also made to provision for agricultural restoration. This would not maximise biodiversity gain on this site. The scheme should seek to maximise the creation of priority habitats, which may include acid grassland, oak-birch woodland, marsh and swamp, ponds and other wetland habitats.	
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	+1	0	The site is well related to the main highway network, with direct access to the A638 via the existing site's access.	Not applicable.
4. Protect the quality of the historic environment, heritage	-2	I	The archaeological potential is high, with a Roman settlement within the site.	Archaeological surveys (and open area excavation of at least the settlement focus) to determine the nature and

assets and their settings above and below ground.			The site is within close proximity to listed buildings associated with Scrooby Top House to the south. The setting of these heritage assets could be adversely affected. In the long term the effect on the settings of these heritage assets could be positive or negative depending on the nature of restoration.	significance of any remains, then adequate provision to be made for preservation, excavation or recording. Buffer zones and screening. Appropriate restoration proposals.
5. Protect and enhance the quality and character of our townscape and landscape.	-2	-1	The landscape assessment resulted in a combined landscape score of 62/100 for the operational period so the impact is considered to be negative. The landscape assessment for post-restoration resulted in a combined landscape score of 48/100 so the impact is considered to become slightly negative.	During the operational phase a buffer would be required to the A638 and a stand off to the mature hedgerow to Green Lane. The restoration phase should include the replacement of the hedge line using the species list for Idle Lowlands LCA (not to include Ash).
6. Minimise impact and risk of flooding.	-1	0	The site is within Flood Zone 1 (low probability of flooding).	Meeting the requirements of the Environment Agency and Internal Drainage Board. Implementation of SuDs.
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	I	During the operational phase the effect would be dependent on the details of operation, e.g. whether the most energy	Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.

			efficient plant and machinery were used. Thereafter, in the long term, the effect could be positive or negative in terms of increasing the resilience of flora and fauna to climate change depending on the details of restoration.	
8. Protect high quality agricultural land and soil.	-2	?	The site is a mix of Grade 3a (best and most versatile) and Grade 3b (not high quality) agricultural land. Reference is made to provision of agricultural land in the restoration scheme, however it is not clear whether this would match the existing quality.	Restoration to high quality agricultural land if possible.
9. Promote more efficient use of land and resources.	+1	?	More efficient use of land would result from extension, which can utilise the existing site's infrastructure.	Not applicable.
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	?	?	Effect would be dependent on the details of operation, such as the use of energy efficient plant and machinery and renewable energy sources for on-site power.	Not applicable.
11. Protect and improve local air quality.	-1	0	Operations would create dust. The mineral would be exported by HGV with an estimated 44	Environmental protection measures to reduce dust.

			two-way movements (22 HGV arrivals and 22 HGV departures) per average working day.	
12. Protect and improve water quality and promote efficient use of water.	-2	0	Potential de-watering and discharge into watercourses. The site is situated in Source Protection Zone 3 and on a primary aquifer. This could be a concern from a groundwater perspective.	Hydrological reports. On-site protection measures to avoid contamination of surface waters and groundwater. Meeting the requirements of the Environment Agency and Internal Drainage Board.
13. Support wider economic development and promote local job opportunities.	+3	0	This site has the potential to produce a very large quantity of Sherwood Sandstone which is important in supporting the wider economy particularly through meeting the demands of the construction industry. It should also help to maintain the jobs currently at the existing site.	Not applicable.
14. Protect and improve human health and quality of life.	-1	0	The site is in close proximity to settlements so during the operational phase there could be a negative effect resulting from noise, dust and traffic. In terms of visual amenity, Serlby Park woodland to the west and the ridgeline to the north east help to screen the site from distant views, there are no close residential properties, and views	Environmental protection measures to reduce noise and dust. Transport Assessment. Protection of RoW. Public access opportunities as part of restoration scheme.

			from Scrooby are unlikely due to intervening vegetation. There is a bridleway (Green Lane) immediately to the north of the site. No restoration scheme has been designed, but it is stated that restoration will be to a low level with wetland/waterbodies 'where a nature conservation element can be accommodated' but no reference to enhancement of public access to nature conservation areas is included.	
Total	-5	0		

Summary

- This site scores very positively in terms of its contribution to the economic aspects of sustainability.
- The impact on biodiversity would be negative during the operational period as the site abuts, and could potentially harm, a SSSI, and is in close proximity to LWSs. In the long-term the nature conservation element indicated in the restoration proposals would result in a slightly positive impact but would not maximise biodiversity gain.
- There is a negative impact on the historic environment during the operational period as the settings of designated heritage assets could be adversely affected and the site has high archaeological potential.

- The landscape assessment concluded that there would be a negative impact during the operational period and a slightly negative impact in the long-term, but also identified some scope for mitigation measures.
- The loss of some high quality agricultural land results in a negative impact in the short-term, with the long-term effect being uncertain as it is not clear whether any reinstatement of agricultural land would match the existing quality.
- The impact on water quality could be negative, as the site lies in Source Protection Zone 3 and on a primary aquifer which could be a concern from a groundwater perspective, but there is scope for mitigation.

- During the operational period there could be a slightly negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic, but there is some scope for mitigation.

Site Appraisal Matrix: Gypsum

SITE NAME: *BANTYCOCK*			**MINERAL TYPE: Gypsum**	
NEW OR EXTENSION: Extension			**POTENTIAL CAPACITY: 7.5 – 8.5 million tonnes**	
Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Operational period	**Long-term**		
1. Ensure that adequate provision is made to meet local and national mineral demand.	+3	0	The very large reserves of this site and the high quality of a significant proportion of the gypsum found here mean that this site would contribute very positively to meeting demand, particularly as high-quality gypsum which is used in a range of products, including those from the food and pharmaceuticals industries, is only found in a few locations.	Not applicable.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	-2	+1	Cowtham House Arable LWS falls entirely within the site and part of Shire Dyke, Balderton South LWS is within the site. It seems likely that Cowtham House Arable LWS will be lost in its entirety, as well as part of Shire Dyke, Balderton South LWS, with the retained parts of the latter potentially being adversely affected due to hydrological changes. Several other LWSs are in close proximity to the site, including	Ecological surveys and hydrological reports. Alternative working proposals/buffer zones to retain/protect SINCs. Appropriate restoration scheme to maximise biodiversity gain.

			Staple Lane Ditch LWS, Grange Lane Drain LWS and Hawton Tip Grasslands. There is therefore the potential for direct and indirect impacts to these sites, including from noise, dust, NOx and changes to hydrology and hydrogeology. Restoration is stated as involving the return of land to agriculture, with nature conservation corridors. These should complement the approved restoration in the existing quarry to the north, and the Staple Land Quarry landfill to the west. At least a modest biodiversity benefit from the scheme therefore appears likely.	
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	+1	0	The site is not well-connected to the main highway network but there would be a sustainable pattern of movement for the high grade gypsum (25% of material to be processed at the nearby Jericho works, with the rest (lower grade material) being exported) which would be moved by conveyor or internal haul road to the adjacent Jericho Works for processing.	Not applicable.

4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	-1	I	This site contains two farmsteads that are identified on the County HER as non-designated heritage assets. Quarrying in the vicinity of these farmsteads would cause harm to their settings. There is potential for non-designated archaeology with a known area of cropmarks suggesting settlement activity of potentially Iron Age or Roman date. In the long term the impact on the setting of the non-designated heritage assets could be positive or negative depending on the details of restoration.	Restoration to agriculture at a similar topography to the pre-quarrying would mitigate any long-term impacts. Archaeological surveys to determine the nature and significance of any remains, then adequate provision to be made for preservation, excavation or recording. Archaeological supervision of soil stripping and possibly open area excavation.
5. Protect and enhance the quality and character of our townscape and landscape.	-2	-2	The landscape assessment resulted in a combined landscape score of 73/100 for the operational period so the impact is considered to be negative. The landscape assessment for post-restoration resulted in a combined landscape score of	During the operational phase there should be advance boundary screen planting and outgrowing exiting boundary hedges, also bunding as a landscape buffer to screen activity. The restoration phase should include establishment of mixed hedge boundaries, with elements of pasture and tree cover in line with the

			56/100 so the impact is considered to remain negative.	landscape policy zone. Also, pastureland tree cover should be incorporated, particularly along the A1 corridor.
6. Minimise impact and risk of flooding.	-1	0	The majority of the site falls within Flood Zone 1(low probability of flooding), with an area of Flood Zone 3 (high flood risk) in the south-eastern section.	Meeting the requirements of the Environment Agency and Internal Drainage Board. Implementation of SuDs.
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	I	During the operational phase the effect would be dependent on the details of operation, e.g. whether the most energy efficient plant and machinery were used. Thereafter, in the long term, the effect could be positive or negative in terms of increasing the resilience of flora and fauna to climate change depending on the details of restoration.	Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.
8. Protect high quality agricultural land and soil.	-2	?	The site comprises Grade 3 agricultural land. On the assumption that at least a proportion of this is Grade 3a, which is best and most versatile there would be a negative impact. The restoration scheme involves returning the majority of the land back to agricultural production,	Restoration to high quality agricultural land if that is possible.

			but it is unclear whether it would be the same quality agricultural land as the existing.	
9. Promote more efficient use of land and resources.	+1	?	More efficient use of land would result from an extension, which could utilise the existing site's infrastructure.	Not applicable.
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	?	?	Effect would be dependent on the details of operation, such as the use of energy efficient plant and machinery and renewable energy sources for on-site power.	Not applicable.
11. Protect and improve local air quality.	-3	0	Operations would create dust. The mineral would be exported by HGV with an estimated 182 two-way movements (91 HGV arrivals and 91 HGV departures) per average working day.	Environmental protection measures to reduce dust.
12. Protect and improve water quality and promote efficient use of water.	-2	0	The site is situated on a secondary aquifer, which is of concern from a groundwater perspective.	Hydrological reports. On-site protection measures to avoid contamination of surface waters and groundwater. Implementation of SUDs. Meeting the requirements of the Environment Agency and Internal Drainage Board
13. Support wider economic development and promote local job opportunities.	+3	0	This site has the potential to produce a very large quantity of gypsum, including that of high quality which is required by a number of industries, so it would	Not applicable.

			play an important role in supporting the wider economy. It is also likely to maintain the jobs currently at the existing site.	
14. Protect and improve human health and quality of life.	-2	0	The site is in close proximity to settlements so during the operational phase there could be an adverse effect resulting from noise, dust and traffic. In terms of visual amenity, there are four properties which would be affected – Balderton Grange, two properties at Cowtham House and Shire Farm. No RoWs are directly affected. Restoration details do not include any reference to public access to recreation opportunities.	Environmental protection measures to reduce noise and dust. Transport Assessment.
Total	-7	-1		

Summary

- This site scores very positively in terms of its contribution to the economic aspects of sustainability.
- There would be a negative impact on biodiversity during the operational period because the entirety of one LWS and part of another fall within the site. In the long-term there could be a slightly positive impact with modest biodiversity benefits resulting from the restoration scheme.
- There is a slightly negative impact on the historic environment during the operational period, but there may be potential for mitigation upon restoration.
- The landscape assessment concluded that there would be a negative impact both during the operational period and in the long-term, but also identified some scope for mitigation measures.

- The loss of some high quality agricultural land results in a negative impact in the short-term, with the long-term effect being uncertain as it is not clear whether the reinstatement of agricultural land would match the existing quality.
- The high number of HGV movements during the operational period could have a negative impact on local air quality.
- The impact on water quality could be negative, as the site lies on an aquifer which could be a concern from a groundwater perspective, but there is scope for mitigation.
- During the operational period there could be a negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic, and there could be a detrimental impact on visual amenity for some residents, but there is some scope for mitigation.

Appendix D: Site Appraisal Matrices – Unallocated Sites

Site appraisal matrices: Sand and Gravel

SITE NAME: *BARTON IN FABIS (WEST)*			**MINERAL TYPE: Sand and gravel**	
NEW OR EXTENSION: New			**POTENTIAL CAPACITY: 1.4 million tonnes**	
Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Operational period	**Long-term**		
1. Ensure that adequate provision is made to meet local and national mineral demand.	+2	0	The size of the estimated reserves of this site would contribute positively to meeting national and local demand for sand and gravel.	Not applicable.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	-1	?	There is a Local Wildlife Site (LWS) adjoining the site (Barton in Fabis Fishing Pools) and a cluster of other LWSs in close proximity to the site. Attenborough Gravel Pits SSSI is also within the vicinity. During the operational period indirect effects such as dust, noise and changes in hydrology and hydrogeology could have an adverse impact on these sites. In the long term the impact will depend on the details of the restoration scheme. No details have been provided.	Ecological surveys and hydrological reports. Buffer zones to protect the LWS. Appropriate restoration scheme to maximise LBAP priority habitats for the area.
3. Promote sustainable patterns of movement and the use of	+1	0	The site is well related to the main highway network (A453 and M1).	Not applicable.

more sustainable modes of transport.				
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	-2	I	The site is in close proximity to Thrumpton Conservation Area (with part of the southern site boundary adjoining part of the Conservation Area which includes local interest historic buildings) and there are 2 Scheduled Monuments within the vicinity. There is potential for an adverse impact on the settings of these heritage assets. There is known archaeology with possible cropmarks, and traces of ridge and furrow indicate the area was probably in the open fields in the Medieval period. Potential for additional archaeology is high, particularly palaeo-environmental archaeology. In the long-term the impact on the settings of heritage assets could be positive or negative depending on the nature of restoration.	Buffer zones and screening. Archaeological field evaluation informed by geomorphological investigations. Appropriate restoration proposals.

5. Protect and enhance the quality and character of our townscape and landscape.	-3	-2	The landscape assessment resulted in a combined landscape score of 77/100 for the operational period so the impact is considered to be very negative. However, the site is also within the Green Belt and there is the potential for an adverse impact on its openness and visual amenity during the operational phase, particularly given the topography in this area. The landscape assessment for post-restoration resulted in a combined landscape score of 61/100 so the impact is considered to become negative.	The operational phase should include advance planting to screen development from residents on the edge of Barton in Fabis and a buffer zone along Green Street with screen planting.
6. Minimise impact and risk of flooding.	-3	I	The site is within the River Trent floodplain (Zone 3 – high flood risk area). Sand and gravel workings are considered to be water-compatible development which is appropriate in this zone provided that there is no net loss of floodplain storage, water flows are not impeded and flood risk is not increased elsewhere. There is insufficient information at this stage on which to determine the impact of	Meeting the requirements of the Environment Agency, including no excavation within 45m of the River Trent or flood defences. Flood Risk Assessment (FRA) including consideration of flood flow and storage. Implementation of SuDs.

			operations and as it is a high-risk zone the effect has to be considered as very negative. Impact in the long-term could be positive or negative depending on the nature of restoration.	
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	I	During the operational phase the effect would be dependent on the details of operation, e.g. whether the most energy efficient plant and machinery were used. Thereafter, in the long term, the effect could be positive or negative in terms of increasing the resilience of flora and fauna to climate change depending on the details of restoration.	Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.
8. Protect high quality agricultural land and soil.	-2	I	The site is predominantly Grade 3 (it is assumed that at least some of this is 3a – best and most versatile) so there would be a negative impact. Long term impact depends on approach to, and quality of, restoration.	Restoration to high quality agricultural land if that is possible.
9. Promote more efficient use of land and resources.	0	?	No significant effect during the operational period.	Not applicable.
10. Promote energy efficiency and maximise renewable	?	?	Effect would be dependent on the details of operation, such as the use of energy efficient plant	Not applicable.

energy opportunities from new or existing development.			and machinery and renewable energy sources for on-site power.	
11. Protect and improve local air quality.	-2	0	Operations would create dust. The mineral would be exported by HGV with an estimated 90 two-way movements (45 HGV arrivals and 45 HGV departures) per average working day.	Environmental protection measures to reduce dust.
12. Protect and improve water quality and promote efficient use of water.	-1	0	Potential de-watering and discharge into watercourses.	Hydrological reports. On-site protection measures to avoid contamination of surface waters and groundwater. Implementation of SuDs. Meeting the requirements of the Environment Agency and Internal Drainage Board (IDB).
13. Support wider economic development and promote local job opportunities.	+2	0	This site has the potential to produce a large quantity of aggregate which is important in supporting the wider economy particularly through meeting the demands of the construction industry. There is also the potential for creation of some local job opportunities.	Not applicable.
14. Protect and improve human health and quality of life.	-2	?	The site is in close proximity to settlements so during the operational phase there could be an adverse effect resulting from noise, dust and traffic.	Environmental protection measures to reduce noise and dust. Screen planting and buffer zones. Transport Assessment. Protection of RoW.

			In terms of visual amenity, during the operational period there would significant adverse change to views for residents to the southern edge of Barton in Fabis and there would be more distant views from residential properties on the northern edge of Thumpton. A RoW adjacent to the north-western corner of the site could be indirectly affected. The long-term impact depends on the details of restoration, but no details have been provided.	Public access opportunities as part of restoration scheme.
Total	-11	-2		

Summary

- This site scores positively in terms of its contribution to the economic aspects of sustainability.
- There is a slightly negative impact on biodiversity during the operational period as the site adjoins a LWS.
- There is a negative impact on the historic environment during the operational period as the settings of designated heritage assets could be adversely affected and there is both known archaeology and high potential for additional archaeology.
- The landscape assessment concluded that there would be a very negative impact during the operational period and a negative effect in the long-term, but identified some scope for mitigation measures during the former.
- The site scores very negatively with regard to impact and risk of flooding as it is within Flood Zone 3, however the precise nature of the impact would have to be ascertained through a detailed flood risk assessment.
- The loss of some high quality agricultural land would have a negative impact during the operational period whilst the long-term impact depends on details of restoration.
- HGV movements during the operational period could have a slightly negative impact on local air quality.

- During the operational period there could be a negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic and there would be an adverse effect on visual amenity, but there is some scope for mitigation.

SITE NAME: *EAST LEAKE NORTH* **MINERAL TYPE: Sand and gravel** **NEW OR EXTENSION: Extension** **POTENTIAL CAPACITY: 750,000 tonnes**				
Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Operational period	**Long-term**		
1. Ensure that adequate provision is made to meet local and national mineral demand.	+1	0	The size of the estimated reserves of this site would contribute slightly positively to meeting national and local demand for sand and gravel.	Not applicable.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	-1	I	The site adjoins Sheepwash Brook Wetlands LWS. Indirect effects such as dust, noise and changes in hydrology and hydrogeology could have an adverse impact on this wildlife site. In the long term the impact will depend on the details of implementation of the restoration scheme. No details have been provided - the proposer only states that restoration is likely to include nature conservation, fishing or a return to agriculture.	Ecological surveys and hydrological reports. Buffer zones to protect the LWS. Appropriate restoration scheme to maximise LBAP priority habitats for the area.
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	+1	0	On the basis that it would be feasible for the extension to use the existing site's infrastructure, the existing access, which is	Not applicable.

			well related to the main highway network, could be utilised.	
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	-1	I	During the operational period there is potential for an adverse impact on the settings of conservation areas (Costock & East Leake) & listed buildings (Grade II listed Rempstone Hall and Grade II* Stanford Hall). Significant archaeological finds have been made at the existing adjacent quarry. At this site there is also potential for the archaeological resource to be better understood and findings recorded provided that there is appropriate archaeological supervision and control of soil stripping. Although it should be noted that without this there could be a negative impact. The long-term impact on the settings of the conservation areas and listed buildings could be positive or negative depending on the nature of restoration.	Buffer zones and screening. Archaeological evaluation. Archaeological supervision and control of soil stripping. Appropriate restoration proposals.
5. Protect and enhance the quality and character of our townscape and landscape.	-2	-2	The landscape assessment resulted in a combined landscape score of 53/100 for the operational period so the	During the operational phase: - planting along hedgerow boundaries, particularly along the western edge; landscape buffer against Sheepwash

			impact is considered to be negative. The landscape assessment for post-restoration resulted in a combined landscape score of 51/100 so the impact is considered to remain negative.	Pond and Brook; protection of plantation woodland field hedgerows. Restoration should include sensitive earthworks to tie in with Wolds rolling landform and planting to link woodland with existing LWS; landscape buffer adjacent to RoW and Farm Park; and provide a network of small field ponds.
6. Minimise impact and risk of flooding.	-1	0	The site is in Flood Zone 1 (low risk), but it should be noted that there are flooding issues downstream.	Flood Risk Assessment to assess the impact on downstream flooding. Strict controls on discharge of water from the site in line with the IDB's requirements.
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	I	An extension could use the existing site's infrastructure thus minimising energy usage and consequent greenhouse gas emissions involved in setting the site up but the effect during the operational phase would also be dependent on the details of operation, e.g. whether the most energy efficient plant and machinery were used. Long term impacts could be positive or negative in terms of increasing the resilience of flora and fauna to climate change depending on the details of restoration.	Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.

8. Protect high quality agricultural land and soil.	-2	I	The majority of the site appears (on initial investigation using Natural England mapping) to be Grade 3, with potentially some areas being Grade 2. On the assumption that at least a proportion of the Grade 3 is Grade 3a, which is best and most versatile (as is Grade 2), there would be a negative impact. The long-term impact depends on the nature of the restoration scheme. No details have been provided - the proposer only states that restoration is likely to include nature conservation, fishing or a return to agriculture.	Restoration to high quality agricultural land if that is possible.
9. Promote more efficient use of land and resources.	+1	?	More efficient use of land would result from an extension, which could utilise the existing site's infrastructure.	Not applicable.
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	?	?	Effect would be dependent on the details of operation, such as the use of energy efficient plant and machinery and renewable energy sources for on-site power.	Not applicable.
11. Protect and improve local air quality.	-2	0	Operations would create dust.	Environmental protection measures to reduce dust.

			The mineral would be exported by HGV with an estimated 78 two-way movements (39 HGV arrivals and 39 HGV departures) per average working day.	
12. Protect and improve water quality and promote efficient use of water.	-1	0	Potential de-watering and discharge into watercourses.	Hydrological reports. On-site protection measures to avoid contamination of surface waters and groundwater. Implementation of SuDs. Meeting the requirements of the Environment Agency and Internal Drainage Board (IDB).
13. Support wider economic development and promote local job opportunities.	+1	0	This small site would play a slightly positive role in supporting the wider economy particularly through contributing to meeting the demands of the construction industry. It is also likely to ensure that some jobs created at the existing site will continue with the working of this extension.	Not applicable.
14. Protect and improve human health and quality of life.	-1	?	The site is in close proximity to settlements so during the operational phase there could be an adverse effect resulting from noise, dust and traffic. In terms of visual amenity, there is only limited visibility of the site from surrounding properties.	Environmental protection measures to reduce noise and dust. Transport Assessment. Protection of RoW. Public access opportunities as part of restoration scheme.

			A RoW which runs along the southern boundary of the site, would be indirectly affected. The long-term impact depends on the details of restoration. If public access to nature conservation and fishing areas is provided there is the potential for a positive impact.	
Total	-7	-2		

Summary

- This site scores slightly positively in terms of its contribution to the economic aspects of sustainability.
- There is a slightly negative impact on biodiversity during the operational period as the site adjoins an LWS. The long-term impact could be positive or negative depending on the details of restoration.
- There is a slightly negative impact on the historic environment during the operational period as the settings of designated heritage assets could be adversely affected.
- The landscape assessment concluded that there would be a negative impact both during the operational period and in the long-term, but also identified some scope for mitigation measures.
- The loss of some high quality agricultural land results in a negative impact in the short-term, with the long-term impact being dependent on the details of restoration.
- HGV movements during the operational period could have a slightly negative impact on local air quality.
- During the operational period surrounding settlements could be slightly negatively affected by noise, dust and traffic, but there is scope for mitigation.

SITE NAME: *REDHILL* **MINERAL TYPE: Sand and gravel** **NEW OR EXTENSION: New** **POTENTIAL CAPACITY: 700,000 tonnes**				
Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Operational period	**Long-term**		
1. Ensure that adequate provision is made to meet local and national mineral demand.	+1	0	The size of the estimated reserves of this site would contribute slightly positively to meeting national and local demand for sand and gravel.	Not applicable.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	-2	+1	The site is immediately adjacent to the River Soar, Loughborough Meadows to Trent LWS and two small areas of this LWS are within the site. The site is also in close proximity to Lockington Marshes SSSI, which is on the opposite side of the river. The two LWS areas within the site are likely to be directly adversely affected and the other sites would be subject to indirect effects such as dust, noise and changes in hydrology and hydrogeology. Proposed restoration is for open water, linked to the River Soar, to enable use of the site as a marina. Limited biodiversity benefits may result from	Ecological surveys and hydrological reports. Buffer zones to protect the LWS. Appropriate restoration scheme to maximise LBAP priority habitats for the area.

			moorings current being brought into the marina, which would improve the ecological status of a considerable length of riverbank. However, the restoration would not be biodiversity led.	
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	+1	?	The site is well related to the main highway network (A453 and M1). In the long term the development of a marina would generate traffic, but there is insufficient information at this stage to determine the impact.	Not applicable.
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	-3	-3	There are significant Roman remains across the eastern edge of the site, which are a continuation of the Roman town and temple located on the nearby hilltop, scheduled as an ancient monument. The site of an Anglo-Saxon mill, and other traces of Saxon activity, are in the vicinity, probably located on the river's edge (wherever the river edge was at the time). The archaeology of the site is of substantial significance, and in addition, extraction here could have the impact of dewatering	Assessment of direct impacts of dewatering and appropriate protection of the scheduled monument.

			surrounding areas, causing loss of waterlogged archaeological remains associated with the scheduled site. Mineral extraction here will cause serious loss of significant, high importance archaeological remains.	
5. Protect and enhance the quality and character of our townscape and landscape.	-3	-2	The landscape assessment resulted in a combined landscape score of 56/100 for the operational period so the impact is considered to be negative. However, the site is also within the Green Belt and there is the potential for an adverse impact on its openness and visual amenity during the operational phase. The landscape assessment for post-restoration resulted in a combined landscape score of 61/100 so the impact is considered to be negative.	During the operational phase: enhance existing on-site vegetation where this can be retained as advanced works planting; offset from river to retain marginal wetland habitats and grasslands/retain existing tree cover; retain external hedgerows and manage to improve screening by laying and tree planting. Restoration should provide wetland river landscape/grasslands and be designed so planting screens site furniture/car parking areas that are currently very visible in the landscape.
6. Minimise impact and risk of flooding.	-3	I	The site is within the floodplain (Zone 3 – high flood risk area). Sand and gravel workings are considered to be water-compatible development which is appropriate in this zone	Meeting the requirements of the Environment Agency, including no excavation within 45m of the River Soar or flood defences.

			provided that there is no net loss of floodplain storage, water flows are not impeded and flood risk is not increased elsewhere. There is insufficient information at this stage on which to determine the impact of operations and as it is a high risk zone the effect has to be considered as very negative. Impact in the long-term could be positive or negative depending on the nature of restoration and, in particular, whether potential to improve flood risk management in the area is considered.	Flood Risk Assessment (FRA) including consideration of flood flow and storage. Implementation of SuDs.
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	I	During the operational phase the effect would be dependent on the details of operation, e.g. whether the most energy efficient plant and machinery were used. Thereafter, in the long term, the effect could be positive or negative in terms of increasing the resilience of flora and fauna to climate change depending on the details of restoration and the impact of the proposed marina.	Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.

8. Protect high quality agricultural land and soil.	0	0	The site comprises largely Grade 4 agricultural land, with some areas of Grade 3, therefore it is unlikely that there is any significant amount of best and most versatile agricultural land.	Not applicable.
9. Promote more efficient use of land and resources.	0	?	No significant effect during the operational period.	Not applicable.
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	?	?	Effect would be dependent on the details of operation, such as the use of energy efficient plant and machinery and renewable energy sources for on-site power.	Not applicable.
11. Protect and improve local air quality.	-1	?	Operations would create dust. Proposed restoration includes a marina and there is insufficient information at this stage to determine the effect of this in the long term. The mineral would be exported by HGV with an estimated 44 two-way movements (22 HGV arrivals and 22 HGV departures) per average working day.	Environmental protection measures to reduce dust.
12. Protect and improve water quality and promote efficient use of water.	-1	0	Potential de-watering and discharge into watercourses.	Hydrological reports. On-site protection measures to avoid contamination of surface waters and groundwater. Implementation of SuDs. Meeting the requirements of

				the Environment Agency and Internal Drainage Board (IDB).
13. Support wider economic development and promote local job opportunities.	+1	+1	This small site would play a slightly positive role in supporting the wider economy particularly through contributing to meeting the demands of the construction industry. There is also some limited potential for creation of local job opportunities. In the long term the proposed marina could provide some potential for local job opportunities.	
14. Protect and improve human health and quality of life.	-1	+1	Ratcliffe-on-Soar lies to the south of the site, but on the opposite side of the A453 and the power station is in close proximity so, together with the fact that this is only a relatively small site, any adverse effects resulting from noise, dust and traffic during the operational phase would be likely to be minimal. In terms of visual amenity, although Redhill Farm and Middlegate Cottage overlook parts of the site the main visual impact would be on RoW users.	Protection of RoW. Public access to recreational opportunities.

			A RoW which runs along part of the eastern site boundary and partially within the site could be adversely affected. In the long term, the proposed development of a marina has the potential to increase recreational opportunities.	
Total	-11	-2		

Summary

- This site scores slightly positively in terms of its contribution to the economic aspects of sustainability.
- There is a negative impact on biodiversity during the operational period. In the long-term some limited biodiversity benefits would result in a slightly positive effect.
- There is a very negative impact on the historic environment during both the operational period and in the long-term as mineral extraction in this location would cause serious loss of significant, high importance archaeological remains.
- The landscape assessment concluded that there would be a negative impact both during the operational period and in the long-term, with, in addition, a potential adverse impact on the openness of the Green Belt, but also identified some scope for mitigation measures.
- The site scores very negatively with regard to impact and risk of flooding as it is within Flood Zone 3, however the precise nature of the impact would have to be ascertained through a detailed flood risk assessment.
- During the operational period there could be a slightly negative effect on quality of life through the impact on rights of way, but there is some scope for mitigation. The potential to increase recreational opportunities in the long-term with the development of a marina results in a slightly positive effect.

SITE NAME: *SHELFORD*	**MINERAL TYPE: Sand and gravel**			
NEW OR EXTENSION: New	**POTENTIAL CAPACITY: 6.5 million tonnes**			
Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Operational period	**Long-term**		
1. Ensure that adequate provision is made to meet local and national mineral demand.	+3	0	The size of the estimated reserves of this site would contribute very positively to meeting national and local demand for sand and gravel.	Not applicable.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	-1	+2	Swallow Plantation Local Wildlife Site (LWS) lies within the site area, but outside the extraction area, and would therefore be indirectly affected. Shelford Carr, Manor Lane Bank and River Trent: Burton Joyce to Lowdham LWSs are within close proximity. All of these could be indirectly affected during operations through noise, dust and changes in hydrology and hydrogeology. The proposer states that the restoration scheme will seek to balance a high level of ecological restoration with providing access to the local community through footpath access alongside the river in an	Ecological surveys and hydrological reports. Assessment and mitigation of any ecological impacts of the proposed conveyor route. Buffer zones to protect LWSs. Appropriate restoration scheme to maximise LBAP priority habitats for the area. The location of this proposed allocation in a meander of the Trent provides an important opportunity to secure natural flood risk management and biodiversity outcomes through the re-connection of the Trent to its floodplain, channel braiding and the creation of wet grassland floodplain /grazing marsh.

			area where there is currently no public access. The scheme has the potential to deliver significant biodiversity benefits.	
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	+2	0	It is proposed that just over one-third of the annual tonnage extracted (180,000 tonnes) will be transported from the site by barge. The remainder will be transported by a conveyor system to a direct access on to the A6097.	Not applicable.
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	-2	I	There is potential for an adverse impact on the setting of Shelford's scheduled monument and listed buildings. The site also has high archaeological potential, including having one of the few known 'pillow mound' sites in the County and the likelihood of remains warranting preservation in situ, so the risk to the archaeological resource is high. In the long term the impact on the settings of heritage assets will depend on the details of restoration, and it is unclear at	Buffer zones and screening. Archaeological surveys to determine the nature and significance of any remains, then adequate provision to be made for preservation, excavation or recording. Metal detector on conveyor belt to seek metal objects of archaeological interest. Appropriate restoration proposals.

			this stage whether a negative impact would remain from any loss of archaeological remains.	
5. Protect and enhance the quality and character of our townscape and landscape.	-3	-3	The landscape assessment resulted in a combined landscape score of 89/100 for the operational period so the impact is considered to be very negative. The site is also within the Green Belt and there is the potential for an adverse impact on its openness and visual amenity during the operational phase. The landscape assessment for post-restoration resulted in a combined landscape score of 89/100 so the impact is considered to remain very negative.	During the operational phase: - advance planting to screen operations from residents and public rights of way; buffer zone to the edge of Shelford and opposite Stoke Bardolph; retention of earthworks and pasture adjacent to the church. The restoration phase should involve the use of native species recommended for the Trent Washlands landscape character area, native wetland grass mixes etc; management of landscape buffer areas to provide setting and management of earthworks/continued grazing to pasture areas.
6. Minimise impact and risk of flooding.	-3	I	The site is largely located within the River Trent floodplain (Zone 3 – high flood risk area). Sand and gravel workings are considered to be water-compatible development which is appropriate in this zone provided that there is no net loss of floodplain storage, water flows are not impeded and flood	Flood Risk Assessment (FRA) including consideration of flood flow and storage. Implementation of sustainable drainage systems (SuDs). No excavations within 45 metres of the River Trent, or flood defences, particularly around meanders which are a zone of active erosion, in

			risk is not increased elsewhere. There is insufficient information at this stage on which to determine the impact of operations and as it is a high-risk zone the effect has to be considered as very negative. Impact in the long-term could be positive or negative depending on the nature of restoration. The proposer has indicated that an improved flood defence scheme could be provided for Shelford.	accordance with Environment Agency requirements.
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	I	During the operational phase the effect would be dependent on the details of operation, e.g. whether the most energy efficient plant and machinery were used. Thereafter the effect could be positive or negative in terms of increasing the resilience of flora and fauna to climate change depending on the details of restoration. Improved flood defences for Shelford could reduce vulnerability to increased flooding resulting from climate change.	Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.
8. Protect high quality agricultural land and soil.	-2	-2	The site comprises Grade 3 agricultural land. On the	Restoration to high quality agricultural land if that is possible.

			assumption that at least a proportion of this is Grade 3a, which is best and most versatile, there would be a negative impact.	
9. Promote more efficient use of land and resources.	0	?	No significant effect during the operational period.	Not applicable.
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	?	?	Effect would be dependent on the details of operation, such as the use of energy efficient plant and machinery and renewable energy sources for on-site power.	Not applicable.
11. Protect and improve local air quality.	-3	0	Operations would create dust. The amount of mineral which would be exported by HGV would result in an estimated 116 two-way movements (58 HGV arrivals and 58 HGV departures) per average working day.	Environmental protection measures to reduce dust.
12. Protect and improve water quality and promote efficient use of water.	-1	0	Potential de-watering and discharge into watercourses.	Hydrological reports. On-site protection measures to avoid contamination of surface waters and groundwater. Implementation of SuDs. Meeting the requirements of the Environment Agency and Internal Drainage Board (IDB).
13. Support wider economic development and promote local job opportunities.	+3	0	This site has the potential to produce a very large quantity of sand and gravel which is important in supporting the	Not applicable.

			wider economy particularly through meeting the demands of the construction industry. There is also the potential for creation of some local job opportunities.	
14. Protect and improve human health and quality of life.	-3	+2	As this is a large site in close proximity to settlements the operational phase could result in a very negative effect from noise, dust, traffic and disruption of rights of way (RoWs). In terms of visual amenity, there would be a significant adverse change to views for residents of Stoke Bardolph to the west and Shelford to the east. In the long-term improvements to the Trent Valley Way long-distance footpath are proposed. The suggested provision of an improved flood defence scheme for Shelford could have a beneficial effect in the long-term.	Environmental protection measures to reduce noise and dust. Buffer zones and screen planting. Transport Assessment. Protection/re-routing of RoWs. Public access opportunities as part of restoration scheme.
Total	-10	-1		

Summary

- This site scores very positively in terms of its contribution to the economic aspects of sustainability.
- The site scores positively in terms of sustainable patterns and modes of transport because a significant proportion of the mineral will be transported from the site by barge and the remainder will be taken by conveyor to a direct access onto the A6097.

- The site scores very negatively with regard to impact and risk of flooding as it is largely within Flood Zone 3, however the precise nature of the impact would have to be ascertained through a detailed flood risk assessment.
- There is a negative impact on the historic environment in the short and long-term with the site having high archaeological potential, including one of the few known ‘pillow mound’ sites in the County, and the likelihood of remains warranting preservation in situ. The long-term effect is unclear.
- There is a slightly negative impact on biodiversity due to there being LWSs adjacent to the site, however the impact would be positive in the long-term with the implementation of a biodiversity-led restoration scheme.
- The landscape assessment concluded that there would be a very negative impact both during the operational period and in the long-term, but also identified some scope for mitigation measures.
- The loss of some high quality agricultural land results in a negative impact both in the short and long-term.
- The high number of HGV movements during the operational period could have a negative impact on local air quality.
- During the operational period there could be a very negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic; rights of way would be disrupted and there would be an adverse effect on visual amenity, but there is some scope for mitigation. In the long-term improvement to RoWs and flood defences could have a positive effect.

SITE NAME: *BURRIDGE FARM*			**MINERAL TYPE: Sand and gravel**	
NEW OR EXTENSION: New			**POTENTIAL CAPACITY: 3.5 million tonnes**	
Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Operational period	**Long-term**		
1. Ensure that adequate provision is made to meet local and national mineral demand.	+2	0	The size of the estimated reserves of this site would contribute positively to meeting national and local demand for sand and gravel.	Not applicable.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	-1	+3	The site is immediately adjacent to The Fleet, South Muskham LWS, close to Trent West Bank LWS, and is immediately across the River Trent from Winthorpe Lake LWS. There is therefore the potential for direct and indirect impacts to these sites, including from noise, dust, NOx and changes to hydrology and hydrogeology. It is stated that restoration would be to nature conservation afteruses, comprising wet grassland and open water with marginal planting and reedbed. Such restoration could lead to significant biodiversity benefits,	Ecological surveys and hydrological reports. Buffer zones. Appropriate restoration scheme to enhance biodiversity.

			depending on the scale of habitat created. In addition, quarrying and subsequent restoration for nature conservation would contribute to a larger landscape-scale delivery of wetland habitats as per the 'Bigger and Better' concept plan document.	
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	+2	0	The extracted mineral would be transported by barge along the River Trent for processing at Cromwell Quarry, which has an existing wharf facility, approximately 4.5 km to the north. Access from Cromwell is well-related to the main highway network (A1).	Not applicable.
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	-2	I	The south-eastern corner of the site adjoins the listed Winthorpe Bridge, the setting of which could be adversely affected, along with the setting of Winthorpe Conservation Area and the listed Winthorpe Hall. A Scheduled Monument (Iron Age settlement) lies to the NW, with the north-west corner of the site adjoining it. Remains extend on air photographic mapping up to The Fleet which forms the	Buffer zones and screening. Archaeological surveys to determine the extent of any impact on the scheduled monument and whether mitigation is feasible. Archaeological surveys to determine the nature and significance of non-designated remains, then adequate provision to be made for preservation, excavation or recording. Metal detector on conveyor belt to seek metal objects of archaeological interest.

			western edge of the site. There is potential for an adverse impact on the setting. The area should be regarded as of high potential for buried remains. The site also has high archaeological potential in terms of non-designated features. In the long term the impact on the settings of these heritage assets could be positive or negative, depending on the nature of restoration.	Appropriate restoration proposals.
5. Protect and enhance the quality and character of our townscape and landscape.	-2	-1	The landscape assessment resulted in a combined landscape score of 67/100 for the operational period so the impact is considered to be negative. The landscape assessment for post-restoration resulted in a combined landscape score of 48/100 so the impact is considered to be slightly negative.	The operational phase should incorporate screening from the river and Winthorpe Lakes and a buffer to protect The Fleet LWS. Restoration should strengthen riparian planting, incorporate grassland, particularly adjacent to the River Trent corridor. Open water mosaic could add value to existing Winthorpe lakes and mineral working to south.
6. Minimise impact and risk of flooding.	-3	I	The site is located within Flood Zone 3 (high flood risk area) and the functional flood plain and is largely bounded by the River Trent. Sand and gravel workings are considered to be water-	Meeting the requirements of the Environment Agency and Internal Drainage Board. Flood Risk Assessment (FRA) including consideration of flood flow and storage.

			compatible development which is appropriate in this zone provided that there is no net loss of floodplain storage, water flows are not impeded and flood risk is not increased elsewhere. There is insufficient information at this stage on which to determine the impact of operations and as it is a high risk zone the effect has to be considered as very negative.	Implementation of SuDs.
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	I	During the operational phase the effect would be dependent on the details of operation, e.g. whether the most energy efficient plant and machinery were used. Thereafter, in the long term, the effect could be positive or negative in terms of increasing the resilience of flora and fauna to climate change depending on the details of restoration.	Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.
8. Protect high quality agricultural land and soil.	-2	-2	The site is a mix of Grade 3a (best and most versatile) and Grade 3b (not high quality) agricultural land. Restoration would be biodiversity-led.	Restoration to high quality agricultural land if that is possible.
9. Promote more efficient use of land and resources.	0	?	No significant effect during the operational period.	Not applicable.

10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	?	?	Effect would be dependent on the details of operation, such as the use of energy efficient plant and machinery and renewable energy sources for on-site power.	Not applicable.
11. Protect and improve local air quality.	-2	0	Operations would create dust. The mineral would be exported by HGV with an estimated 54 two-way movements (27 HGV arrivals and 27 HGV departures) per average working day.	Environmental protection measures to reduce dust.
12. Protect and improve water quality and promote efficient use of water.	-1	0	Potential de-watering and discharge into watercourses.	Hydrological reports. On-site protection measures to avoid contamination of surface waters and groundwater. Implementation of SuDs. Meeting the requirements of the Environment Agency and Internal Drainage Board (IDB).
13. Support wider economic development and promote local job opportunities.	+2	0	This site has the potential to produce a large quantity of aggregate which is important in supporting the wider economy particularly through meeting the demands of the construction industry. There is also the potential for creation of some local job opportunities.	Not applicable.
14. Protect and improve human health and quality of life.	-1	+2	There are settlements in close proximity to the site so during	Environmental protection measures to reduce noise and dust.

			the operational phase there could be a negative effect resulting from noise, dust and traffic. However, there would not be any detrimental impact on residents in terms of visual amenity. No RoWs are affected. There is potential for long term benefits, through restoration allowing for public access and linking into the RSPB's 'Bigger and Better' vision for landscape-scale delivery of wetland habitats.	Transport Assessment.
Total	-8	+2		

Summary

- This site scores positively in terms of its contribution to the economic aspects of sustainability.
- Although there is a slightly negative impact on biodiversity during the operational period due to the proximity of LWSs, it is likely that the proposed restoration would deliver significant biodiversity benefits, thereby having a very positive impact.
- The site scores positively in terms of sustainable patterns and modes of transport because the extracted mineral would be transported by barge along the River Trent for processing at Cromwell Quarry.
- There is a negative impact on the historic environment during the operational period as the site adjoins a scheduled monument, has high archaeological potential and there is possibility of an adverse impact on the settings of a conservation area and listed buildings.
- The site scores very negatively with regard to impact and risk of flooding as it is within Flood Zone 3, however the precise nature of the impact would have to be ascertained through a flood risk assessment.
- The loss of some high-quality agricultural land, which would not be restored, would have a negative effect both in the short- and long-term.
- The landscape assessment concluded that there would be a negative impact during the operational period and a slightly negative effect in the long-term, but also identified some scope for mitigation measures.
- The number of HGV movements during the operational period could have a slightly negative impact on local air quality.
- During the operational period there could be a slightly negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic, but there is some scope for mitigation and potential for long-term benefits.

SITE NAME: *CODDINGTON* **NEW OR EXTENSION: New**			**MINERAL TYPE: Sand and gravel** **POTENTIAL CAPACITY: 9.5 million tonnes**	
Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Operational period	**Long-term**		
1. Ensure that adequate provision is made to meet local and national mineral demand.	+3	0	The size of the estimated reserves of this site would contribute very positively to meeting national and local demand for sand and gravel.	Not applicable.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	-2	+1	Langford Moor LWS lies immediately to the east of the site, Stapleford Wood (ancient woodland) adjoins the site to the east, and most of Moor Brats Drain LWS lies within the site. Moor Brats Drain LWS would therefore be adversely affected whilst the other sites could suffer from indirect effects such as dust, noise, NOx and changes in hydrology and hydrogeology. In terms of restoration the proposer has stated some commitment to including LBAP habitats, but it is not clear whether the restoration will be biodiversity-led or recreation-	Ecological surveys and hydrological reports. Buffer zones to protect LWSs and ancient woodland. Appropriate restoration scheme to maximise LBAP priority habitats for the area.

			led. In the long-term the restoration scheme may deliver at least modest biodiversity benefits.	
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	+1	0	The site is well-related to the main highway network with direct access off the A17.	Not applicable.
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	-1	I	The setting of Coddington Conservation Area could be adversely affected. The site also has high potential to contain non-designated archaeology. In the long-term the impact on the setting could be positive or negative depending on the nature of restoration.	Buffer zones and screening. Archaeological surveys to determine the nature and significance of non-designated remains, then adequate provision to be made for preservation, excavation or recording. Metal detector on conveyor belt to seek metal objects of archaeological interest. Appropriate restoration proposals.
5. Protect and enhance the quality and character of our townscape and landscape.	-2	-2	The landscape assessment resulted in a combined landscape score of 71/100 for the operational period so the impact is considered to be negative. The landscape assessment for post-restoration resulted in a combined landscape score of 60/100 so the impact is considered to remain negative.	During the operational phase there would be screening opportunities to north, south and west; a buffer /stand-off should be provided to reduce the negative impact on Stapleford Woods. Restoration should include management of peripheral woodland belts to create mature blocks of woodland and creation of a mosaic of wetland, woodland and woodland edge.

6. Minimise impact and risk of flooding.	-1	I	Part of the site is located in a high flood risk area (Flood Zone 3), from an un-named watercourse, however sand and gravel workings are considered to be water-compatible development which is appropriate in this zone provided that there is no net loss of floodplain storage, water flows are not impeded and flood risk is not increased elsewhere, and the majority of the site is not within Flood Zones 2 or 3. The Trent Valley Internal Drainage Board maintains water courses in and around the site. Impact in the long-term could be positive or negative depending on the nature of restoration.	Flood Risk Assessment (FRA) including consideration of flood flow and storage. Implementation of SuDs. Meeting the requirements of the Internal Drainage Board (IDB).
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	I	During the operational phase the effect would be dependent on the details of operation, e.g. whether the most energy efficient plant and machinery were used. Thereafter the effect could be positive or negative in terms of increasing the resilience of flora and fauna to climate change depending on the details of restoration.	Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.

8. Protect high quality agricultural land and soil.	-2	-2	Grade 3 agricultural land. On the assumption that at least a proportion of this is Grade 3a, which is best and most versatile, there would be a negative impact. The impact would remain negative in the long-term as restoration does not appear to include reinstatement of agricultural land.	Restoration to high quality agricultural land if that is possible.
9. Promote more efficient use of land and resources.	0	?	No significant effect during the operational period.	Not applicable.
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	?	?	Effect would be dependent on the details of operation, such as the use of energy efficient plant and machinery and renewable energy sources for on-site power.	Not applicable.
11. Protect and improve local air quality.	-3	0	Operations would create dust. The mineral would be exported by HGV with an estimated 182 two-way movements (91 HGV arrivals and 91 HGV departures) per average working day.	Environmental protection measures to reduce dust.
12. Protect and improve water quality and promote efficient use of water.	-1	0	Potential de-watering and discharge into watercourses.	Hydrological reports. On-site protection measures to avoid contamination of surface waters and groundwater. Implementation of SuDs. Meeting the requirements of the Environment Agency and Internal Drainage Board (IDB).

13. Support wider economic development and promote local job opportunities.	+3	0	This site has the potential to produce a very large quantity of aggregate which is important in supporting the wider economy particularly through meeting the demands of the construction industry. There is also the potential for creation of some local job opportunities.	Not applicable.
14. Protect and improve human health and quality of life.	-2	+1	The site is in close proximity to Coddington so during the operational phase there could be a negative effect resulting from noise, dust and traffic. In terms of visual amenity, there would be a significant change to views for residential receptors. No RoWs are affected. The proposed restoration is water-based recreation and/or nature conservation. There is potential for a positive impact from public access to either of these uses.	Environmental protection measures to reduce noise and dust. Transport Assessment. Screen planting. Public access opportunities as part of restoration scheme.
Total	-7	-2		

Summary

- This site scores very positively in terms of its contribution to the economic aspects of sustainability.
- There is a negative impact on biodiversity due to the potential for adverse impacts on adjacent LWSs and ancient woodland, whilst in the long-term the restoration scheme may deliver at least modest biodiversity benefits.

- There is a slightly negative impact on the historic environment during the operational period as the setting of a conservation area could be adversely affected and the site may have potential for non-designated archaeology.
- The landscape assessment concluded that there would be a negative impact both during the operational period and in the long-term, but also identified some scope for mitigation measures.
- The site scores only slightly negatively with regard to impact and risk of flooding as the majority of it lies outside the high flood risk zone.
- The loss of some high-quality agricultural land, which would not be restored, would have a negative effect both in the short- and long-term.
- The high number of HGV movements during the operational period could have a negative impact on local air quality.
- During the operational period there could be a negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic and there could be an adverse effect on visual amenity for some residents, but there is some scope for mitigation. In the long-term there is potential for a slightly positive impact.

SITE NAME: *CROMWELL TRIANGLE & CARLTON RIVER MEADOWS* **MINERAL TYPE: Sand and gravel** **NEW OR EXTENSION: New** **POTENTIAL CAPACITY: 710000 tonnes**				
Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Operational period	**Long-term**		
1. Ensure that adequate provision is made to meet local and national mineral demand.	+1	0	The size of the estimated reserves of this site would contribute slightly positively to meeting national and local demand for sand and gravel.	Not applicable.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	-1	?	No designated sites would be directly affected, but the site is close to a number of LWSs, with Mons Pool Gravel Pits LWS and Langford Lowfields LWS across the Trent and Cromwell Meadow LWS and Cromwell Pits LWS adjacent. Besthorpe Meadow SSSI is also in the vicinity of the site. There is therefore the potential for indirect impacts to these sites, including from noise, dust, NOx and changes to hydrology and hydrogeology. No information has been submitted on proposed restoration, so it is not possible to determine whether the site will provide biodiversity benefits.	Ecological surveys and hydrological reports. Appropriate restoration scheme to maximise LBAP priority habitats for the area.

3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	+1	0	The site is well-related to the main highway network, with access onto the A1.	Not applicable.
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	-3	-3	The Carlton River Meadows area of the site directly abuts the Carlton-on-Trent Conservation Area, so would affect the setting of this. There is also potential for harm to the settings of the listed Church of St Mary and Carlton Hall. Impacts on the settings of the designated heritage assets associated with the village will need to be considered (including noise and dust arising from vehicle movements). The Cromwell Triangle area of the site includes part of Scheduled Monument (NT 140) which comprises two areas of protection to the north and south of the east-west drain. The southern area of protection falls within the proposed site boundaries so the monument would be very adversely affected. Even beyond the scheduled area there are significant remains known from cropmarks evidence.	Buffer zones and screening to minimise harm to settings of heritage assets. Revise site boundaries to protect scheduled monument. Appropriate restoration scheme.

			Archaeological remains are present in the Carlton River Meadows area of the site. These are not of considerable significance, however, the impact of extraction on this part of the site on the setting of the scheduled monument would need to be carefully considered. In the long term, it would appear that there would be a permanent loss of the southern area of protection of the scheduled monument.	
5. Protect and enhance the quality and character of our townscape and landscape.	-3	-3	For the Carlton River Meadows area of the site the landscape assessment resulted in a combined landscape score of 92/100 for the operational period so the impact is considered to be very negative and remains very negative in the long term a post-restoration score of 79/100. For the Cromwell Triangle area of the site the landscape assessment resulted in a slightly negative combined landscape score of 48/100 for both the	For the Carlton River Meadows area of the site: During the operational phase provide screen planting along west and north boundary to reduce visibility; ensure off set from Beck, Trent and existing hedgerows and aim to preserve existing historic hedgerows. During the restoration phase establish planting around boundaries. For the Cromwell Triangle area of the site: During the operational phase provide screen planting along west and north boundary to reduce visibility and during the restoration phase

			operational period and 44/100 post-restoration. As the Carlton River Meadows area of the site is larger than the Cromwell Triangle area the overall effect is considered to be very negative.	establish hedge and small scale woodland tree planting.
6. Minimise impact and risk of flooding.	-3	I	The Carlton River Meadows area of the site falls within Flood Zone 3 (high flood risk area) and the functional floodplain. The Cromwell Triangle area of the site is within Flood Zone 2, however Carlton River Meadows comprises the larger area of the proposed site. Sand and gravel workings are considered to be water-compatible development which is appropriate in this Zone 3 provided that there is no net loss of floodplain storage, water flows are not impeded and flood risk is not increased elsewhere. There is insufficient information at this stage on which to determine the impact of operations and as the larger part of the site is in a high risk zone the effect has to be considered as very negative.	Meeting the requirements of the Environment Agency and Internal Drainage Board. Flood Risk Assessment (FRA) including consideration of flood flow and storage. Implementation of SuDs.

7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	I	During the operational phase the effect would be dependent on the details of operation, e.g. whether the most energy efficient plant and machinery were used. Thereafter, in the long term, the effect could be positive or negative in terms of increasing the resilience of flora and fauna to climate change depending on the details of restoration.	Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.
8. Protect high quality agricultural land and soil.	-2	I	The site is predominantly Grade 3 (it is assumed that at least some of this is 3a which is best and most versatile agricultural land) so there would be a negative impact. The long-term impact depends on approach to, and quality of, restoration.	Restoration to high quality agricultural land if that is possible.
9. Promote more efficient use of land and resources.	0	?	No significant effect during the operational period.	Not applicable.
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	?	?	Effect would be dependent on the details of operation, such as the use of energy efficient plant and machinery and renewable energy sources for on-site power.	Not applicable.
11. Protect and improve local air quality.	-1	0	Operations would create dust. No information on HGV movements was available	Environmental protection measures to reduce dust.

			however given the relatively small reserves of this site it is considered likely that total daily HGV movements would be below 50.	
12. Protect and improve water quality and promote efficient use of water.	-1	0	Potential de-watering and discharge into watercourses.	Hydrological reports. On-site protection measures to avoid contamination of surface waters and groundwater. Implementation of SuDs. Meeting the requirements of the Environment Agency and Internal Drainage Board (IDB).
13. Support wider economic development and promote local job opportunities.	+1	0	This small site would play a slightly positive role in supporting the wider economy particularly through contributing to meeting the demands of the construction industry. It is also likely to ensure that some jobs created at the existing site will continue with the working of this extension.	Not applicable.
14. Protect and improve human health and quality of life.	-2	?	The site is in close proximity to settlements so during the operational phase there could be a negative effect resulting from noise, dust and traffic. In terms of visual amenity, the Carlton Meadows area of the site would be highly visible to sensitive receptors, including	Environmental protection measures to reduce noise and dust. Transport Assessment. Screen planting.

			residential properties on Main Street in Carlton-on-Trent. No RoWs are directly affected by the site. Long-term impact depends on details of restoration, however no restoration details have been provided.	
Total	-13	-6		

Summary

- This site scores slightly positively in terms of its contribution to the economic aspects of sustainability.
- There is a slightly negative impact on biodiversity during the operational period due to the close proximity of LWSs and uncertainty as to the long-term effect as no restoration details have been provided.
- There is a very negative impact on the historic environment both during the operational period and in the long-term as part of a scheduled monument lies within the site boundaries.
- The landscape assessment concluded that there would be a very negative impact both during the operational period and in the long-term, but also identified scope for mitigation measures.
- The site scores very negatively with regard to impact and risk of flooding as it is within Flood Zone 3, however the precise nature of the impact would have to be ascertained through a detailed flood risk assessment.
- The loss of some high-quality agricultural land would have a slightly negative impact during the operational period and it is unclear at his stage whether this would be re-instated.
- During the operational period there could be a negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic, and the visual amenity of some residential properties would be adversely affected, but there is some scope for mitigation.

SITE NAME: *CROMWELL AMENDED (Additional information)* **MINERAL TYPE: Sand and gravel** **NEW OR EXTENSION: New** **POTENTIAL CAPACITY: 1.75 million tonnes**				
Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Operational period	**Long-term**		
1. Ensure that adequate provision is made to meet local and national mineral demand.	+2	0	The size of the estimated reserves of this site would contribute positively to meeting national and local demand for sand and gravel.	Not applicable.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	-1	*+1*	Cromwell Meadow LWS and Cromwell Pits LWS are immediately adjacent to the site. Mons Pool Gravel Pits LWS and Langford Lowfields LWS and Besthorpe Meadow SSSI are within the vicinity of the site, on the opposite side of the river Trent. There is therefore the potential for direct and indirect impacts to these sites, including through noise, dust, NOx and changes to hydrology and hydrogeology. Restoration will be to a mix of agriculture and nature conservation after-uses	Ecological surveys and hydrological reports. Buffer zones. Appropriate biodiversity-led restoration scheme to deliver creation of appropriate habitats, including wetland, species-rich neutral grassland and/or wet woodland, with extensive reedbed to complement the nearby Langford Lowfields restoration. This would contribute to a larger landscape-scale delivery of wetland habitats as per the 'Bigger and Better' concept plan document.

			involving reedbed ponds, ephemeral ponds, lakes, grassland and woodland. This would not maximise the biodiversity benefits that could be gained.	
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	+1	0	The site is well-related to the main highway network (A1).	Not applicable.
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	-2	I	Carlton-on-Trent Conservation Area is in very close proximity to the site and there is a cluster of listed buildings in nearby Cromwell. Also in close proximity (albeit on the eastern bank of the Trent) there is a cluster of non-designated historic buildings associated with Cromwell Wharf. The settings of these heritage assets could be adversely affected. There is a scheduled monument (NT140) which lies directly between the western and eastern arms of the site and is adjoined by the site boundaries. The monument could therefore be directly and/or indirectly adversely affected. It is likely	Buffer zones and screening. Assessment of experiential landscape and archaeological setting issues alongside direct impacts of dewatering. Appropriate protection of the scheduled monument from physical erosion. Archaeological surveys to determine the nature and significance of any remains, then adequate provision to be made for preservation, excavation or recording. Metal detector on conveyor belt to seek metal objects of archaeological interest. Appropriate restoration scheme.

			that remains associated with the monument extend into the application area. This is a high potential location for buried remains which may include remains of national importance. In the long term the effect on the settings of the conservation area, listed buildings and non-designated heritage assets could be positive or negative, depending on the nature of restoration. The long-term impact on the scheduled ancient monument is dependent on whether the extraction of the site is conducted in an archaeologically sympathetic manner, which could result in better understanding of the scheduled monument.	
5. Protect and enhance the quality and character of our townscape and landscape.	-2	-2	The landscape assessment resulted in a combined landscape score of 72/100 for the operational period so the impact is considered to be negative. The landscape assessment for post-restoration resulted in a	During the operational phase a buffer should be provided along the boundary with the river meadow to north and along the river bank, and to the ancient monument. Restoration should include hedge and small scale woodland tree planting;

			combined landscape score of 63/100 so the impact is considered to remain negative.	buffer along the boundary with intact river meadowlands to the north and river bank.
6. Minimise impact and risk of flooding.	-3	I	The site is located within Flood Zone 3 (high flood risk area) and the functional flood plain. Sand and gravel workings are considered to be water-compatible development which is appropriate in this zone provided that there is no net loss of floodplain storage, water flows are not impeded and flood risk is not increased elsewhere. There is insufficient information at this stage on which to determine the impact of operations and as it is a high risk zone the effect has to be considered as very negative.	Meeting the requirements of the Environment Agency and Internal Drainage Board. Flood Risk Assessment (FRA) including consideration of flood flow and storage. Implementation of SuDs.
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	I	During the operational phase the effect would be dependent on the details of operation, e.g. whether the most energy efficient plant and machinery were used. Thereafter, in the long term, the effect could be positive or negative in terms of increasing the resilience of flora and fauna to climate change depending on the details of restoration.	Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.

8. Protect high quality agricultural land and soil.	-2	*?*	The site is predominantly Grade 3 (it is assumed that at least some of this is 3a – best and most versatile agricultural land) so there would be a negative impact. It is proposed to restore part of the site to agriculture, but it is not clear whether this would match the existing quality.	Restoration to high quality agricultural land if that is possible.
9. Promote more efficient use of land and resources.	0	?	No significant effect during the operational period.	Not applicable.
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	?	?	Effect would be dependent on the details of operation, such as the use of energy efficient plant and machinery and renewable energy sources for on-site power.	Not applicable.
11. Protect and improve local air quality.	-3	0	Operations would create dust. The mineral would be exported by HGV with an estimated 112 two-way movements (56 HGV arrivals and 56 HGV departures) per average working day.	Environmental protection measures to reduce dust.
12. Protect and improve water quality and promote efficient use of water.	-1	0	Potential de-watering and discharge into watercourses.	Hydrological reports. On-site protection measures to avoid contamination of surface waters and groundwater. Implementation of SuDs. Meeting the requirements of the Environment Agency and Internal Drainage Board (IDB).

13. Support wider economic development and promote local job opportunities.	+2	0	This site has the potential to produce a large quantity of aggregate which is important in supporting the wider economy particularly through meeting the demands of the construction industry. There is also the potential for creation of some local job opportunities.	Not applicable.
14. Protect and improve human health and quality of life.	-2	*+1*	There are settlements in close proximity to the site so during the operational phase there could be a negative effect resulting from noise, dust and traffic. In terms of visual amenity, there are views from a small number of residential properties but these views are screened by riparian tree growth. There are RoWs within and adjoining the site, which would be respectively directly/indirectly affected. In the long term enhanced public access opportunities to nature conservation areas could have a slightly positive impact.	Environmental protection measures to reduce noise and dust. Transport Assessment. Protection/re-routing of RoWs.
Total	-11	*0*		

Summary

- This site scores positively in terms of its contribution to the economic aspects of sustainability.
- There is a slightly negative impact on biodiversity during the operational period due to adjacent LWSs. In the long-term the nature conservation elements included in the restoration scheme would result in a slightly positive impact but would not maximise biodiversity gain.
- There is a negative impact on the historic environment during the operational period as a scheduled monument adjoins the site boundaries.
- The landscape assessment concluded that there would be a negative impact both during the operational period and in the long-term, but also identified scope for mitigation measures.
- The site scores very negatively with regard to impact and risk of flooding as it is within Flood Zone 3, however the precise nature of the impact would have to be ascertained through a detailed flood risk assessment.
- The loss of some high quality agricultural land would have a slightly negative impact during the operational period and it is unclear at his stage whether this would be re-instated.
- The high number of HGV movements during the operational period could have a negative impact on local air quality.
- During the operational period there could be a negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic and rights of way would be disrupted, but there is some scope for mitigation. In the long term enhanced public access opportunities could have a slightly positive impact.

SITE NAME: *GREAT NORTH ROAD NORTH*			**MINERAL TYPE: Sand and gravel**	
NEW OR EXTENSION: New			**POTENTIAL CAPACITY: 4 million tonnes**	
Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Operational period	**Long-term**		
1. Ensure that adequate provision is made to meet local and national mineral demand.	+2	0	The size of the estimated reserves of this site would contribute positively to meeting national and local demand for sand and gravel.	Not applicable.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	-1	+2	The site adjoins Kelham Trent and Island LWS, and Kelham Pool LWS, and is close to a cluster of several other LWSs. There is therefore the potential for direct and indirect impacts to these sites, including through noise, dust, NOx and changes to hydrology and hydrogeology. The proposed restoration is stated as being to agriculture, although it is stated that there is a 'significant opportunity' to create enhanced grassland habitats in the corridor adjoining the Trent. The scheme may therefore deliver at least modest biodiversity benefits. There is potential to create an extensive	Ecological surveys and hydrological reports. Buffer zones. Appropriate restoration scheme to enhance biodiversity.

			area of wet grassland (floodplain grazing marsh), which would deliver significant biodiversity benefits if done at scale, and would allow continued use as farmland through grazing.	
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	I	0	The site is well related to the main highway network, with direct access off the A616, however the A616 Great North Road junction with the A46 is heavily congested at peak times and the A46 around Newark is generally under a capacity strain, therefore lorry routing requires careful consideration.	Imposition of a lorry routing agreement or a similar management control to ensure that HGV traffic avoids inappropriate routes.
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	-2	I	This site is very close to the listed Kelham Bridge and within the setting of the listed Kelham Hall and Kelham Conservation Area. It is immediately adjacent to the listed Smeaton's Arches. It is highly likely that there will be adverse impacts on the settings of these built heritage assets. There are two Civil War era scheduled monuments within close proximity to the site and the settings of these (along with the non-designated heritage	Buffer zones and screening. Archaeological surveys to determine the nature and significance of non-designated remains, then adequate provision to be made for preservation, excavation or recording. Metal detector on conveyor belt to seek metal objects of archaeological interest. Appropriate restoration proposals.

			asset “Edinburgh Fort”) may be adversely affected. The site also has medium to high potential for non-designated archaeology. In the long term the impact on the settings of heritage assets could be positive or negative, depending on the nature of restoration.	
5. Protect and enhance the quality and character of our townscape and landscape.	-3	-2	The landscape assessment resulted in a combined landscape score of 77/100 for the operational period so the impact is considered to be very negative. The landscape assessment for post-restoration resulted in a combined landscape score of 64/100 so the impact is considered to be negative.	During the operational phase there would be a screening opportunity along the river and road corridor, particularly from Kelham and a buffer /stand off to protect the Civil War earthwork and river corridor should be provided. Restoration should include riparian and road side planting, hedgerow restoration and riverside pasture.
6. Minimise impact and risk of flooding.	-3	I	The site is located within Flood Zone 3 (high flood risk area) and the functional flood plain. Sand and gravel workings are considered to be water-compatible development which is appropriate in this zone provided that there is no net loss of floodplain storage, water flows are not impeded and flood	Meeting the requirements of the Environment Agency and Internal Drainage Board. Flood Risk Assessment (FRA) including consideration of flood flow and storage. Implementation of SuDs.

			risk is not increased elsewhere. There is insufficient information at this stage on which to determine the impact of operations and as it is a high-risk zone the effect has to be considered as very negative. The Environment Agency has raised particular concern in relation to this site and flood risk, due to its proximity to the village of Kelham. This area is known for flooding and is the first area to be affected when the River Trent overtops. Impact in the long-term could be positive or negative depending on the nature of restoration.	
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	I	During the operational phase the effect would be dependent on the details of operation, e.g. whether the most energy efficient plant and machinery were used. Thereafter, in the long term, the effect could be positive or negative in terms of increasing the resilience of flora and fauna to climate change depending on the details of restoration.	Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.
8. Protect high quality agricultural land and soil.	-2	?	The site is predominantly Grade 2 and Grade 3a, which is best	Restoration to high quality agricultural land if that is possible.

			and most versatile agricultural land, with the remainder being Grade 3b which is not high quality. Restoration is proposed to be to agriculture, but it is not clear whether this would match the existing quality.	
9. Promote more efficient use of land and resources.	0	?	No significant effect during the operational period.	Not applicable.
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	?	?	Effect would be dependent on the details of operation, such as the use of energy efficient plant and machinery and renewable energy sources for on-site power.	Not applicable.
11. Protect and improve local air quality.	-2	0	Operations would create dust. The mineral would be exported by HGV with an estimated 90 two-way movements (45 HGV arrivals and 45 HGV departures) per average working day.	Environmental protection measures to reduce dust.
12. Protect and improve water quality and promote efficient use of water.	-1	0	Potential de-watering and discharge into watercourses.	Hydrological reports. On-site protection measures to avoid contamination of surface waters and groundwater. Implementation of SuDs. Meeting the requirements of the Environment Agency and Internal Drainage Board (IDB).

13. Support wider economic development and promote local job opportunities.	+2	0	This site has the potential to produce a large quantity of aggregate which is important in supporting the wider economy particularly through meeting the demands of the construction industry. There is also the potential for creation of some local job opportunities.	Not applicable.
14. Protect and improve human health and quality of life.	-3	0	There are settlements in close proximity to the site so during the operational phase there could be a negative effect resulting from noise, dust and traffic. In terms of visual amenity, residential properties overlooking the River Trent off Kelham Lane to the south-east would have filtered views and there would be distant views from properties at Little Carlton and South Muskham, though filtered by vegetation. The Trent Valley Way long-distance footpath could be adversely affected as it adjoins the site. In the long term there would be no significant effect as restoration is primarily for agriculture and no enhancement	Environmental protection measures to reduce noise and dust. Transport Assessment. Screen planting. Protection of the Trent Valley Way long distance footpath and improvements to RoW network on restoration.

			of public access to recreational opportunities is proposed.	
Total	-13	0		

Summary

- This site scores positively in terms of its contribution to the economic aspects of sustainability.
- Although there is a slightly negative impact on biodiversity during the operational period, it is likely that the proposed restoration would deliver at least modest biodiversity benefits, thereby having a positive impact.
- There is a negative impact on the historic environment during the operational period as the settings of a number of designated heritage assets could be adversely affected.
- The landscape assessment concluded that there would be a very negative impact during the operational period and negative effect in the long-term, but also identified some scope for mitigation measures.
- The site scores very negatively with regard to impact and risk of flooding as it is within Flood Zone 3, however the precise nature of the impact would have to be ascertained through a flood risk assessment.
- The loss of some high-quality agricultural land would have a negative effect in the short-term.
- The number of HGV movements during the operational period could have a slightly negative impact on local air quality.
- During the operational period there could be a very negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic; visual amenity would be adversely affected for some residents and there would be an impact on the Trent Valley Way long-distance footpath, but there is some scope for mitigation.

SITE NAME: *GREAT NORTH ROAD SOUTH*			**MINERAL TYPE: Sand and gravel**	
NEW OR EXTENSION: New			**POTENTIAL CAPACITY: 4 million tonnes**	
Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Operational period	**Long-term**		
1. Ensure that adequate provision is made to meet local and national mineral demand.	+2	0	The size of the estimated reserves of this site would contribute positively to meeting national and local demand for sand and gravel.	Not applicable.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	-1	+2	The site is immediately adjacent to the River Trent at Staythorpe LWS, the Kelham Road Grassland LWS, the Kelham Shingle Bank LWS and the Old Trent Dyke LWS. There is therefore the potential for direct and indirect impacts to these sites, including though noise, dust, NOx and changes to hydrology and hydrogeology. The proposed restoration is stated as being to agriculture, although it is stated that there is a 'significant opportunity' to create enhanced grassland habitats in the corridor adjoining the Trent. The scheme may therefore deliver at least modest	Ecological surveys and hydrological reports. Buffer zones. Appropriate restoration scheme to enhance biodiversity.

			biodiversity benefits. There is potential to create an extensive area of wet grassland (floodplain grazing marsh), which would deliver significant biodiversity benefits if done at scale, and would allow continued use as farmland through grazing. There is also the potential for the establishment of wet woodland next to the Trent, adjacent to existing areas of this habitat.	
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	I	0	Extracted material will be transported by conveyor to the Great North Road North site and from there onto the highway network. The site is therefore well related to the main highway network, with direct access off the A616, however the A616 Great North Road junction with A46 is heavily congested at peak times and the A46 around Newark is generally under a capacity strain, therefore lorry routing requires careful consideration.	Imposition of a lorry routing agreement or a similar management control to ensure that HGV traffic avoids inappropriate routes.
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	-2	I	This site is very close to the listed Kelham Bridge and Church of St Wilfrid's, and it is likely to impinge on the setting	Buffer zones and screening. Archaeological surveys to determine the nature and significance of non-designated remains, then adequate

			of the historic parkland that forms part of the setting of Kelham Hall. The parkland is a non-designated heritage asset. It is also in close proximity to Kelham and Averham Conservation Areas. It is immediately adjacent to the listed Smeaton's Arches. It is highly likely that there will be adverse impacts on the settings of these built heritage assets. There are several scheduled monuments within close proximity to the site and the setting of these (along with the non-designated heritage asset "Edinburgh Fort") may be adversely affected. The site also has medium to high potential for non-designated archaeology. In the long term the impact on the settings of these heritage assets could be positive or negative, depending on the nature of restoration.	provision to be made for preservation, excavation or recording. Metal detector on conveyor belt to seek metal objects of archaeological interest. Appropriate restoration proposals.
5. Protect and enhance the quality and character of our townscape and landscape.	-3	-2	The landscape assessment resulted in a combined landscape score of 85/100 for the operational period so the	During the operational phase there would be a screening opportunity along the river and road corridor and a buffer /stand off to protect Old Trent

			impact is considered to be very negative. The landscape assessment for post-restoration resulted in a combined landscape score of 72/100 so the impact is considered to be negative.	Dyke LWS, the Civil War Redoubt and river corridor should be provided. Restoration should include riparian and road side planting, hedgerow restoration and riverside pasture.
6. Minimise impact and risk of flooding.	-3	I	The site is located within Flood Zone 3 (high flood risk area) and the functional flood plain. Sand and gravel workings are considered to be water-compatible development which is appropriate in this zone provided that there is no net loss of floodplain storage, water flows are not impeded and flood risk is not increased elsewhere. There is insufficient information at this stage on which to determine the impact of operations and as it is a high-risk zone the effect has to be considered as very negative. The Environment Agency has raised particular concern in relation to this site and flood risk, due to its proximity to the villages of Kelham and Averham.	Meeting the requirements of the Environment Agency and Internal Drainage Board. Flood Risk Assessment (FRA) including consideration of flood flow and storage. Implementation of SuDs.

			Impact in the long-term could be positive or negative depending on the nature of restoration.	
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	I	During the operational phase the effect would be dependent on the details of operation, e.g. whether the most energy efficient plant and machinery were used. Thereafter, in the long term, the effect could be positive or negative in terms of increasing the resilience of flora and fauna to climate change depending on the details of restoration.	Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.
8. Protect high quality agricultural land and soil.	-2	?	The site is predominantly Grade 2 and Grade 3a, which is best and most versatile agricultural land, with the remainder being Grade 3b which is not high quality. Restoration is proposed to be to agriculture, but it is not clear whether this would match the existing quality.	Restoration to high quality agricultural land if that is possible.
9. Promote more efficient use of land and resources.	0	?	No significant effect during the operational period.	Not applicable.
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	?	?	Effect would be dependent on the details of operation, such as the use of energy efficient plant and machinery and renewable	Not applicable.

			energy sources for on-site power.	
11. Protect and improve local air quality.	-2	0	Operations would create dust. The mineral would be exported by HGV with an estimated 90 two-way movements (45 HGV arrivals and 45 HGV departures) per average working day.	Environmental protection measures to reduce dust.
12. Protect and improve water quality and promote efficient use of water.	-1	0	Potential de-watering and discharge into watercourses.	Hydrological reports. On-site protection measures to avoid contamination of surface waters and groundwater. Implementation of SuDs. Meeting the requirements of the Environment Agency and Internal Drainage Board (IDB).
13. Support wider economic development and promote local job opportunities.	+2	0	This site has the potential to produce a large quantity of aggregate which is important in supporting the wider economy particularly through meeting the demands of the construction industry. There is also the potential for creation of some local job opportunities.	Not applicable.
14. Protect and improve human health and quality of life.	-2	0	There are settlements in close proximity to the site so during the operational phase there could be a negative effect resulting from noise, dust and traffic. In terms of visual	Environmental protection measures to reduce noise and dust. Transport Assessment. Protection of the Trent Valley Way long distance footpath and

			amenity, there would be no significant detrimental effect on residential properties. The Trent Valley Way long-distance footpath would be disrupted by the conveyor route. In the long term there would be no significant effect as restoration is primarily for agriculture and no enhancement of public access to recreational opportunities is proposed.	improvements to RoW network on restoration.
Total	-12	0		

Summary

- This site scores positively in terms of its contribution to the economic aspects of sustainability.
- Although there is a slightly negative impact on biodiversity during the operational period, it is likely that the proposed restoration would deliver at least modest biodiversity benefits, thereby having a positive impact.
- There is a negative impact on the historic environment during the operational period as the settings of a number of designated heritage assets could be adversely affected.
- The landscape assessment concluded that there would be a very negative impact during the operational period and negative effect in the long-term, but also identified some scope for mitigation measures.
- The site scores very negatively with regard to impact and risk of flooding as it is within Flood Zone 3, however the precise nature of the impact would have to be ascertained through a flood risk assessment.
- The loss of some high-quality agricultural land would have a negative effect in the short-term.
- The number of HGV movements during the operational period could have a slightly negative impact on local air quality.
- During the operational period there could be a negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic and there would be an impact on the Trent Valley Way long-distance footpath, but there is some scope for mitigation

SITE NAME: *LANGFORD SOUTH AND WEST*			**MINERAL TYPE: Sand and gravel**	
NEW OR EXTENSION: Extension			**POTENTIAL CAPACITY: 3.6 million tonnes**	
Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Operational period	**Long-term**		
1. Ensure that adequate provision is made to meet local and national mineral demand.	+2	0	The size of the estimated reserves of this site would contribute positively to meeting national and local demand for sand and gravel.	Not applicable.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	-1	+3	Neither the southern nor western extension areas include any nature conservation designations. However, Langford Lowfields LWS abuts the western extension area. Given that extraction has already taken place to the south of this LWS, any impact upon it as a result of this site appears very unlikely. A number of other LWSs are present within the vicinity of the application site, but none would be directly affected. Potential indirect impacts on Langford Marsh LWS, which lies approximately 430m to the east have been identified in a Hydrological Impact	Further ecological surveys and hydrological reports if required. Buffer zones. Appropriate restoration scheme to enhance biodiversity.

			Assessment due to a decline in groundwater level in a nearby monitoring borehole. The impact, if any, of this on the LWS should be reviewed and mitigation measures put in place if any adverse impacts are observed. It is not specified what such mitigation might entail nor how the impacts would be reviewed. At this stage therefore it has to be considered that there could be a slightly negative impact on this LWS. In addition, the River Trent, Holme LWS lies approximately 160m to the west, but given that the interest of this LWS is associated with the banks of the River Trent, no impact on it is expected. The nearest SSSI to the application is the Besthorpe Meadow SSSI and no impact is predicted on this as it is not groundwater dependent. Restoration has the potential to create high-value wetland habitats, building on the restoration works already delivered or underway at	

			Langford Lowfields, in line with the RSPB's "Bigger and Better" vision for the restoration of sand and gravel workings in the Trent Valley north of Newark. The creation of these habitats should more than compensate for the loss of habitat arising during quarrying.	
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	+1	0	As this is an extension the existing access would be utilised, which is well-related to the main highway network with direct access to the A1133.	Not applicable.
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	-2	I	The settings of listed buildings in Holme and Langford could be adversely affected, as could the settings of the Scheduled Monument in close proximity to the southern boundary of the site and other Scheduled Monuments in close proximity to the site. The site has high archaeological potential. Depending on the nature of restoration, there could be a positive or negative impact on the setting of the listed buildings and scheduled monuments.	Buffer zones and screening. Archaeological surveys to determine the nature and significance of any remains, then adequate provision to be made for preservation, excavation or recording. Metal detector on conveyor belt to seek metal objects of archaeological interest. Appropriate restoration scheme.

5. Protect and enhance the quality and character of our townscape and landscape.	-2	-2	The landscape assessment resulted in a combined landscape score of 62/100 for the operational period so the impact is considered to be negative. The landscape assessment for post-restoration resulted in a combined landscape score of 62/100 so the impact is considered to remain negative.	During the operational phase for the western part of the site the river edge should be protected and pasture retained against the river bank as a buffer; advanced works planting of hedgerow trees and hedgerow gapping up. Restoration should include wetland planting and management of grasslands as flood meadow, with low density grazing.
6. Minimise impact and risk of flooding.	-3	I	The site is located within Flood Zone 3 (high flood risk area) and the functional flood plain. Sand and gravel workings are considered to be water-compatible development which is appropriate in this zone provided that there is no net loss of floodplain storage, water flows are not impeded and flood risk is not increased elsewhere. There is insufficient information at this stage on which to determine the impact of operations and as it is a high risk zone the effect has to be considered as very negative. Impact in the long-term could be positive or negative depending on the nature of restoration.	Meeting the requirements of the Environment Agency, including no excavation within 45m of the River Trent or flood defences and no excavations within 20 metres of the Slough Dyke. Flood Risk Assessment (FRA) including consideration of flood flow and storage. Implementation of SuDs.

7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	I	During the operational phase the effect would be dependent on the details of operation, e.g. whether the most energy efficient plant and machinery were used. Thereafter, in the long term, the effect could be positive or negative in terms of increasing the resilience of flora and fauna to climate change depending on the details of restoration.	Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.
8. Protect high quality agricultural land and soil.	-1	-1	Predominantly Grade 3b agricultural land, which is not high quality, but with some Grade 3a which is best and most versatile.	Restoration of an appropriate proportion of the site to high quality agricultural land if that is possible.
9. Promote more efficient use of land and resources.	+1	?	More efficient use of land would result from an extension, which could utilise the existing site's infrastructure.	Not applicable.
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	?	?	Effect would be dependent on the details of operation, such as the use of energy efficient plant and machinery and renewable energy sources for on-site power.	Not applicable.
11. Protect and improve local air quality.	-3	0	Operations would create dust. The mineral would be exported by HGV with an estimated 164	Environmental protection measures to reduce dust.

			two-way movements (82 HGV arrivals and 82 HGV departures) per average working day.	
12. Protect and improve water quality and promote efficient use of water.	-1	0	Potential de-watering and discharge into watercourses.	Hydrological reports. On-site protection measures to avoid contamination of surface waters and groundwater. Implementation of SuDs. Meeting the requirements of the Environment Agency and Internal Drainage Board (IDB).
13. Support wider economic development and promote local job opportunities.	+2	0	This site has the potential to produce a large quantity of aggregate which is important in supporting the wider economy particularly through meeting the demands of the construction industry. There is also the potential for creation of some local job opportunities.	Not applicable.
14. Protect and improve human health and quality of life.	-3	+2	There are settlements in close proximity to the site so during the operational phase there could be a negative effect resulting from noise, dust and traffic. In terms of visual amenity, a few residential properties to the eastern edge of Holme have views north east across the surrounding farmland.	Environmental protection measures to reduce noise and dust. Transport Assessment. Buffer zones and screen planting. Protection/ re-routing of RoWs. Public access opportunities as part of restoration scheme for nature conservation.

			There are rights of way within the site and partly adjoining the site boundaries. Disruption of these RoWs would add to the negative impact. There is potential for long term benefits through restoration allowing for public access and linking into the RSPB's 'Bigger and Better vision' for landscape-scale delivery of wetland habitats.	
Total	-10	+2		

Summary

- This site scores positively in terms of its contribution to the economic aspects of sustainability.
- Although there is a slightly negative impact on biodiversity during the operational period it is likely that the proposed restoration for nature conservation, linking in with the developing Langford Lowfields Reserve, would have a very positive impact.
- There is a negative impact on the historic environment during the operational period as the settings of designated heritage assets could be adversely affected and the site has high archaeological potential.
- The landscape assessment concluded that there would be a negative impact both during the operational period and in the long-term, but also identified some scope for mitigation measures.
- The site scores very negatively with regard to impact and risk of flooding as it is within Flood Zone 3, however the precise nature of the impact would have to be ascertained through a flood risk assessment.
- The loss of some high quality agricultural land, which would not be restored, would have a slightly negative effect both in the short- and long-term.

- The high number of HGV movements during the operational period could have a negative impact on local air quality.
- During the operational period there could be a very negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic; rights of way would be disrupted and there could be an adverse effect on visual amenity for some residents, but there is some scope for mitigation and potential for long-term benefits.

SITE NAME: *BARNBY MOOR (HANSON) – AMENDED (Site area reduced)* **MINERAL TYPE: Sand and gravel** **NEW OR EXTENSION: New** **POTENTIAL CAPACITY: 450,000 tonnes**				
Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Operational period	**Long-term**		
1. Ensure that adequate provision is made to meet local and national mineral demand.	+1	0	The size of the estimated reserves of this site would contribute slightly positively to meeting national and local demand for sand and gravel. As a result of the reduced site area, potential capacity has been reduced from 900,000 to 450,000 tonnes, however both of these figures fall within the same category in terms of the effect so the score remains unchanged.	Not applicable.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	-2	+1	The site *no longer* adjoins, *but remains in close prox*imity *to,* the southern part of Daneshill Lakes and Woodland LWS. Impacts are likely to occur to habitats from changes to groundwater (through dewatering) or surface water, both in terms of quantity or quality.	Ecological surveys and hydrological reports. Buffer zones. Appropriate biodiversity-led restoration scheme to deliver creation of appropriate habitats.

			Mattersey Marsh and Sutton and Lound Gravel Pits SSSIs are in the vicinity. The site falls within the Impact Risk Zone for the SSSIs and there are potential hydrological and/or hydrogeological impacts on the SSSIs. There may also be direct and indirect impacts on these sites, including from the effects of noise, dust and NOx. The stated restoration scheme would comprise a combination of agricultural land, with field boundaries (hedgerows), either retained or newly created, and biodiversity habitat, including shallow waterbodies, ponds and scrapes, reedbeds, wet grassland and blocks of scrub planting. This would not maximise the biodiversity benefits that could be gained from this site.	
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	+1	0	The site is well related to the main highway network with direct access to the A638.	Not applicable.

4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	-1	I	There are no designated or non-designated built heritage assets within the area of the site and the settings of those in nearby Barnby Moor are unlikely to be harmed. The potential for non-designated archaeology at this site is low. A known archaeological issue in the vicinity is the brickwork plan field system, which if well preserved could be of regional importance but if poorly preserved will retain very little archaeology.	Archaeological surveys to determine the nature and significance of any remains then adequate provision to be made for preservation, excavation or recording. Metal detector on conveyor belt to seek metal objects of archaeological interest.
5. Protect and enhance the quality and character of our townscape and landscape.	-2	-2	The revised landscape assessment resulted in a combined landscape score of 60/100 for the operational period so the impact is still negative. There would be a moderate adverse change to views from the A638 and a group of residential receptors. The revised landscape assessment for post-restoration resulted in an unchanged combined landscape score of 50/100 so the impact is considered to remain negative.	A landscape buffer is required to the A638 and residential receptors during the operational phase. Restoration should include restoring hedge lines (refer to species list for Idle Lowlands LCA, avoid use of Ash).

6. Minimise impact and risk of flooding.	-3	I	Part of this is site is located within an area of high flood risk (Zone 3). however sand and gravel workings are considered to be water-compatible development which is appropriate in this zone provided that there is no net loss of floodplain storage, water flows are not impeded and flood risk is not increased elsewhere. There is insufficient information at this stage on which to determine the impact of operations and as it is a high risk zone the effect has to be considered as very negative. The long-term impact could be positive or negative depending on the nature of restoration.	Flood Risk Assessment (FRA) including consideration of flood flow and storage. Meeting the requirements of the Environment Agency and Internal Drainage Board. Implementation of SuDs.
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	I	During the operational phase the effect would be dependent on the details of operation, e.g. whether the most energy efficient plant and machinery were used. Thereafter, in the long term, the effect could be positive or negative in terms of increasing the resilience of flora and fauna to climate change depending on the details of restoration.	Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.

8. Protect high quality agricultural land and soil.	-2	?	The site contains a mix of Grade 3a (best and most versatile) and Grade 3b (not high quality) agricultural land. It is proposed to restore part of the site to agriculture, but it is not clear whether this would match the existing quality.	Restoration to high quality agricultural land if possible.
9. Promote more efficient use of land and resources.	0	?	No significant effect during the operational period.	Not applicable.
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	?	?	Effect would be dependent on the details of operation, such as the use of energy efficient plant and machinery and renewable energy sources for on-site power.	Not applicable.
11. Protect and improve local air quality.	-2	0	Operations would create dust. The mineral would be exported by HGV with an estimated *75* two-way movements per average working day.	Environmental protection measures to reduce dust.
12. Protect and improve water quality and promote efficient use of water.	-2	0	Potential de-watering and discharge into watercourses. The site lies in Source Protection Zone 3 and on a primary aquifer, which is of concern from a groundwater perspective.	Hydrological reports. On-site protection measures to avoid contamination of surface waters and groundwater – particularly careful management will be required to protect groundwater. Implementation of SUDs. Meeting the requirements of the Environment Agency and Internal Drainage Board (IDB).

13. Support wider economic development and promote local job opportunities.	+1	0	This small site would play a slightly positive role in supporting the wider economy particularly through contributing to meeting the demands of the construction industry. It is also likely to ensure that some jobs created at the existing site will continue with the working of this extension.	Not applicable.
14. Protect and improve human health and quality of life.	-2	0	The site is in close proximity to settlements so during the operational phase there could be a negative effect resulting from noise, dust and traffic. In terms of visual amenity, there would be an impact on a group of residential properties to the east and west of the A638 and views from properties on the northern edge of Barnby Moor. No RoWs are affected. No public amenity benefits are proposed as part of restoration scheme.	Environmental protection measures to reduce noise and dust. Transport Assessment. Landscape buffer. Public access opportunities as part of restoration scheme.
Total	-13	-1		

Summary

- This site scores slightly positively in terms of its contribution to the economic aspects of sustainability.

- The impact on biodiversity would be negative during the operational period as there is a LWS in close proximity to the site and there are two SSSIs in the vicinity. In the long-term the nature conservation elements included in the restoration scheme would result in a slightly positive impact but would not maximise biodiversity gain.
- The landscape assessment concluded that there would be a negative impact both during the operational period and in the long-term, but also identified some scope for mitigation measures.
- The site scores very negatively with regard to impact and risk of flooding as part of it is within Flood Zone 3, however the precise nature of the impact would have to be ascertained through a flood risk assessment.
- The loss of some high quality agricultural land results in a negative impact in the short-term.
- The number of HGV movements during the operational period could have a slightly negative impact on local air quality.
- The impact on water quality could be negative, as the site lies in Source Protection Zone 3 and on a primary aquifer, which is of concern from a groundwater perspective, but there is scope for mitigation.
- During the operational period there could be a negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic and visual amenity would be adversely affected for some residents, but there is some scope for mitigation.

SITE NAME: *BARNBY MOOR TORWORTH (ROTHERHAM S&G) –AMENDED (Site area increased)* **MINERAL TYPE: Sand and gravel** **NEW OR EXTENSION: New** **POTENTIAL CAPACITY: 1.2 million tonnes**				
Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Operational period	**Long-term**		
1. Ensure that adequate provision is made to meet local and national mineral demand.	*+2*	0	The size of the estimated reserves of this site would contribute positively to meeting national and local demand for sand and gravel.	Not applicable.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	-2	I	The site adjoins the southern part of Daneshill Lakes and Woodland LWS. Impacts are likely to occur to habitats from changes to groundwater (through dewatering) or surface water, both in terms of quantity or quality. Mattersey Marsh and Sutton and Lound Gravel Pits SSSIs are in the vicinity. The site falls within the Impact Risk Zone for the SSSIs and there are potential hydrological and/or hydrogeological impacts on the SSSIs. There may also be direct and indirect impacts on these sites,	Ecological surveys and hydrological reports. Buffer zones. Appropriate biodiversity-led restoration scheme to deliver creation of appropriate habitats, including wetland, ponds, species-rich grassland and/or wet woodland.

			including from the effects of noise, dust and NOx. Restoration is stated as not having been designed, but having potential for water-based commercial (presumably fishing) and nature conservation afteruse. Restoration could deliver modest biodiversity benefits if the nature conservation element is implemented, but if water-based commercial afteruse is implemented this would not maximise the biodiversity benefits that could be gained. Restoration should seek to deliver the creation of appropriate habitats, including wetland, ponds, species-rich grassland and/or wet woodland, and should be designed to complement the adjacent area of wetland and restored quarry.	
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	+1	0	The site is well related to the main highway network with direct access to the A638.	Not applicable.
4. Protect the quality of the historic environment, heritage	-1	I	There are no designated or non-designated built heritage assets within the area of the site and	Archaeological surveys to determine the nature and significance of any remains then adequate provision to

assets and their settings above and below ground.			the settings of those in nearby Barnby Moor are unlikely to be harmed. The potential for non-designated archaeology at this site is low to medium and the level of risk is medium. A known archaeological issue is the brickwork plan field system, which if well preserved could be of regional importance but if poorly preserved will retain very little archaeology.	be made for preservation, excavation or recording. Metal detector on conveyor belt to seek metal objects of archaeological interest.
5. Protect and enhance the quality and character of our townscape and landscape.	-2	-2	The revised landscape assessment resulted in a combined landscape score of 60/100 for the operational period so the impact is still considered to be negative. There would be a moderate adverse change to views for a group of residential properties. The revised landscape assessment for post-restoration resulted in an unchanged combined landscape score of 50/100 so the impact is considered to remain negative.	A landscape buffer is required to screen views from A638 and residential properties during the operational phase. Restoration should include restoring hedge lines (refer to species list for Idle Lowlands LCA, avoid use of Ash).

6. Minimise impact and risk of flooding.	-3	I	Part of this is site is located within an area of high flood risk (Zone 3). however sand and gravel workings are considered to be water-compatible development which is appropriate in this zone provided that there is no net loss of floodplain storage, water flows are not impeded and flood risk is not increased elsewhere. There is insufficient information at this stage on which to determine the impact of operations and as it is a high risk zone the effect has to be considered as very negative. The long-term impact could be positive or negative depending on the nature of restoration.	Flood Risk Assessment (FRA) including consideration of flood flow and storage. Meeting the requirements of the Environment Agency and Internal Drainage Board. Implementation of SuDs.
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	I	During the operational phase the effect would be dependent on the details of operation, e.g. whether the most energy efficient plant and machinery were used. Thereafter, in the long term, the effect could be positive or negative in terms of increasing the resilience of flora and fauna to climate change depending on the details of restoration.	Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.

8. Protect high quality agricultural land and soil.	-2	-2	Grade 3 agricultural land. On the assumption that at least a proportion of this is Grade 3a, which is best and most versatile, there would be a negative impact. Restoration proposals do not indicate any reinstatement of agricultural land.	Restoration to high quality agricultural land if possible.
9. Promote more efficient use of land and resources.	0	?	No significant effect during the operational period.	Not applicable.
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	?	?	Effect would be dependent on the details of operation, such as the use of energy efficient plant and machinery and renewable energy sources for on-site power.	Not applicable.
11. Protect and improve local air quality.	-1	0	Operations would create dust. The mineral would be exported by HGV with an estimated *16* two-way movements (*8* HGV arrivals and *8* HGV departures) per average working day.	Environmental protection measures to reduce dust.
12. Protect and improve water quality and promote efficient use of water.	-2	0	Potential de-watering and discharge into watercourses. The site lies in Source Protection Zone 3 and on a primary aquifer.	Hydrological reports. On-site protection measures to avoid contamination of surface waters and groundwater – particularly careful management will be required to protect groundwater. Implementation of SUDs. Meeting the requirements

				of the Environment Agency and Internal Drainage Board (IDB).
13. Support wider economic development and promote local job opportunities.	*+2*	0	This site would play a positive role in supporting the wider economy particularly through contributing to meeting the demands of the construction industry. It is also likely to ensure that some jobs created at the existing site will continue with the working of this extension.	Not applicable.
14. Protect and improve human health and quality of life.	-2	I	The site is in close proximity to settlements so during the operational phase there could be a negative effect resulting from noise, dust and traffic. In terms of visual amenity, there would be an impact on a group of residential properties to the east and west of the A638. No RoWs are affected. Should the site be restored to water based commercial or nature conservation afteruse (with public access) there may be a public amenity benefit, depending on the details of site restoration.	Environmental protection measures to reduce noise and dust. Transport Assessment. Public access opportunities as part of restoration scheme.
Total	*-10*	-4		

Summary

- This site scores positively in terms of its contribution to the economic aspects of sustainability.
- The impact on biodiversity would be negative during the operational period as there is a LWS adjoining the site and there are two SSSIs in the vicinity. In the long-term the impact could be positive or negative depending on whether restoration is biodiversity-led or not.
- The landscape assessment concluded that there would be a negative impact both during the operational period and in the long-term, but also identified some scope for mitigation measures.
- The site scores very negatively with regard to impact and risk of flooding as part of it is within Flood Zone 3, however the precise nature of the impact would have to be ascertained through a flood risk assessment.
- The loss of some high-quality agricultural land results in a negative impact in both the short- and long-term.
- The impact on water quality could be negative, as the site lies in Source Protection Zone 3 and on a primary aquifer, which is of concern from a groundwater perspective, but there is scope for mitigation.
- During the operational period there could be a negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic and visual amenity would be adversely affected for some residents, but there is some scope for mitigation.

SITE NAME: *BOTANY BAY*			**MINERAL TYPE: Sand and gravel**	
NEW OR EXTENSION: New			**POTENTIAL CAPACITY: 2.44 million tonnes**	
Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Operational period	**Long-term**		
1. Ensure that adequate provision is made to meet local and national mineral demand.	+2	0	The size of the estimated reserves of this site would contribute positively to meeting national and local demand for sand and gravel.	Not applicable.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	-1	+1	The Chesterfield Canal (Shireoaks to Welham) LWS demarcates the southern site boundary, Sutton and Lound Gravel Pits SSSI and Idle Valley Nature Reserve LWS lie to the north-east. The site is also adjacent to Barnby Fox Covert which is ancient woodland. There is therefore the potential for direct and indirect impacts on these sites, including from noise, dust, NOx and changes to hydrology and hydrogeology. Restoration would be to a combination of water-based nature conservation and agricultural land use to complement existing land uses	Ecological surveys and hydrological reports. Buffer zones. Appropriate biodiversity-led restoration scheme to deliver creation of appropriate priority habitats, with restoration to arable farmland restricted to the current amount of high quality agricultural land.

			and landscape character within the vicinity (including the presence of the Chesterfield Canal and Nature Reserves within the local area). This would not maximise the biodiversity gain that could be achieved on the site.	
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	+1	0	The site is well related to the main highway network, with direct access off the A638.	Not applicable.
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	-1	I	This site is bounded by the non-designated heritage asset of the Chesterfield canal and includes Lady Bridge, a C18th brick canal bridge, which could be potentially adversely affected. The setting of listed buildings, including Ranby Hall and buildings associated with the Babworth Park Estate, which is a registered park and garden, could be affected. The potential for non-designated archaeology at this site is medium and the level of risk is medium. In the long term the impact on these designated heritage assets could be positive or	Buffer zones and screening. Archaeological surveys to determine the nature and significance of any remains, then adequate provision to be made for preservation, excavation or recording. Metal detector on conveyor belt to seek metal objects of archaeological interest.

			negative depending on the nature of restoration.	
5. Protect and enhance the quality and character of our townscape and landscape.	-3	-2	The landscape assessment resulted in a combined landscape score of 82/100 for the operational period so the impact is considered to be very negative. The landscape assessment for post-restoration resulted in a combined landscape score of 60/100 so the impact is considered to become negative.	During the operational phase a landscape buffer will be required to the A638 and the Chesterfield Canal. Restoration should include replacement of the hedge lines (refer to species list for the Idle Lowlands LCA, not including Ash).
6. Minimise impact and risk of flooding.	-1	0	The site is in Flood Zone 1 (low probability of flooding).	Meeting the requirements of the Environment Agency and Internal Drainage Board. Implementation of SuDs.
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	I	During the operational phase the effect would be dependent on the details of operation, e.g. whether the most energy efficient plant and machinery were used. Thereafter, in the long term, the effect could be positive or negative in terms of increasing the resilience of flora and fauna to climate change depending on the details of restoration.	Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.
8. Protect high quality agricultural land and soil.	-1	?	Approximately 64% of the site is Grade 3b (not high quality) agricultural land, with smaller	Restoration to high quality agricultural land if possible.

			areas of Grade 3a (approximately 29%) and Grade 2 (approximately 7%) which are best and most versatile agricultural land. The majority of the site, therefore, is not within the best and most versatile agricultural land categories. Proposed restoration would include some agricultural land, but it is not clear whether it would match the existing quality.	
9. Promote more efficient use of land and resources.	0	?	No significant effect during the operational period.	Not applicable.
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	?	?	Effect would be dependent on the details of operation, such as the use of energy efficient plant and machinery and renewable energy sources for on-site power.	Not applicable.
11. Protect and improve local air quality.	-2	0	Operations would create dust. The mineral would be exported by HGV with an estimated 72 two-way movements (36 HGV arrivals and 36 HGV departures) per average working day.	Environmental protection measures to reduce dust.
12. Protect and improve water quality and promote efficient use of water.	-2	0	Potential de-watering and discharge into watercourses. The site is situated on a primary aquifer, which could be of	Hydrological reports. On-site protection measures to avoid contamination of surface waters and groundwater. Meeting the

			concern from a groundwater perspective.	requirements of the Environment Agency and Internal Drainage Board.
13. Support wider economic development and promote local job opportunities.	+2	0	This site has the potential to produce a large quantity of aggregate which is important in supporting the wider economy particularly through meeting the demands of the construction industry. There is also the potential for creation of some local job opportunities.	Not applicable.
14. Protect and improve human health and quality of life.	-2	0	The site is in close proximity to settlements so during the operational phase there could be a negative effect resulting from noise, dust and traffic. In terms of visual amenity, there would be a significant adverse change to views from a limited number of residential properties. No RoWs are directly affected, but the Chesterfield Canal towpath, which adjoins the southern site boundary, could potentially be affected by noise and dust during the operational phase. No enhancement of public access to recreational	Environmental protection measures to reduce noise and dust. Transport Assessment. Public access opportunities to nature conservation areas as part of restoration scheme.

			opportunities is included in the restoration proposals.	
Total	-8	-1		

Summary

- This site scores positively in terms of its contribution to the economic aspects of sustainability.
- The impact on biodiversity would be slightly negative during the operational period due to the proximity of LWSs and a SSSI. In the long-term the elements of nature conservation proposals included in the restoration scheme would result in a slightly positive impact but would not maximise biodiversity gain.
- There is a slightly negative impact on the historic environment during the operational period as the settings of a number of designated heritage assets could be adversely affected.
- The landscape assessment concluded that there would be a very negative impact during the operational period and negative effect in the long-term, but also identified some scope for mitigation measures.
- The loss of some high quality agricultural land would have a slightly negative effect in the short-term.
- The number of HGV movements during the operational period could have a slightly negative impact on local air quality.
- The impact on water quality could be negative, as the site is situated on a primary aquifer which could be of concern from a groundwater perspective, but there is scope for mitigation.
- During the operational period there could be a negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic and visual amenity would be adversely affected for some residents, but there is some scope for mitigation.

SITE NAME: *FLASH FARM*		**MINERAL TYPE: Sand and gravel**		
NEW OR EXTENSION: New			**POTENTIAL CAPACITY: 3.08m tonnes**	
Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Operational period	**Long-term**		
1. Ensure that adequate provision is made to meet local and national mineral demand.	+2	0	The size of the estimated reserves of this site would contribute positively to meeting national and local demand for sand and gravel.	Not applicable.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	-1	+2	The site is in close proximity to Kelham Hills LWS. It is stated that a buffer to the LWS would be maintained, but there would still be potential for indirect effects such as dust, noise and changes in hydrology and hydrogeology. The proposed restoration has the potential to offer a significant net gain for biodiversity through the creation of lowland wet grassland, lowland neutral grassland, wetland and hedgerows, although the extent of such habitats is not quantified.	Ecological surveys and hydrological reports. Buffer zone to protect LWS. Appropriate restoration scheme to maximise LBAP priority habitats for the area.
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	+1	0	The site is well-related to the main highway network with direct access to the A617.	Not applicable.

4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	-1	I	The settings of Averham and Kelham Conservation Areas and the listed buildings within them could be slightly adversely affected. The site also has high potential to contain non-designated archaeology. The long-term impact on the settings of the conservation area and listed buildings, could be positive or negative, depending on the nature of restoration.	Archaeological surveys to determine the nature and significance of non-designated remains, then adequate provision to be made for preservation, excavation or recording. Metal detector on conveyor belt to seek metal objects of archaeological interest. Buffer zones and screening. Appropriate restoration proposals.
5. Protect and enhance the quality and character of our townscape and landscape.	-3	-1	The landscape assessment resulted in a combined landscape score of 76/100 for the operational period so the impact is considered to be very negative. There would be significant adverse impacts during the operational period. The landscape assessment for post-restoration resulted in a combined landscape score of 44/100 so the impact is considered to be slightly negative.	Retain hedgerows to site boundaries, with advance planting up of gaps, and manage to improve screening. Top soil and subsoil mounds to be used to help screen the site. Restoration should include use of native tree and hedgerow species recommended for the Trent Washlands landscape character area and native grass mixes. Hedgerows to be reinstated to field boundaries within the site.
6. Minimise impact and risk of flooding.	-3	I	Approximately half of this site is located within Flood Zone 3 (high flood risk area) and there is an unnamed secondary watercourse running through it.	Meeting the requirements of the Environment Agency, Internal Drainage Board and Lead Local Flood Authority.

			Sand and gravel workings are considered to be water-compatible development which is appropriate in this zone provided that there is no net loss of floodplain storage, water flows are not impeded and flood risk is not increased elsewhere. There is insufficient information at this stage on which to determine the impact of operations and as it is a high-risk zone the effect has to be considered as very negative. Impact in the long-term could be positive or negative depending on the nature of restoration.	Flood Risk Assessment (FRA) including consideration of flood flow and storage. Implementation of sustainable drainage systems.
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	I	During the operational phase the effect would be dependent on the details of operation, e.g. whether the most energy efficient plant and machinery were used. Thereafter, in the long term, the effect could be positive or negative in terms of increasing the resilience of flora and fauna to climate change depending on the details of restoration.	Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.
8. Protect high quality agricultural land and soil.	-2	+2	Just over half of the site is Grade 2 and 3a (best and most	Not applicable.

			versatile) agricultural land. It is stated that the proposed restoration would ensure no permanent loss of best and most versatile soil resources with the ability to re-establish all high quality agricultural land.	
9. Promote more efficient use of land and resources.	0	?	No significant effect during the operational period.	Not applicable.
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	?	?	Effect would be dependent on the details of operation, such as the use of energy efficient plant and machinery and renewable energy sources for on-site power.	Not applicable.
11. Protect and improve local air quality.	-3	0	Operations would create dust. The mineral would be exported by HGV with an estimated 108 two-way movements (54 HGV arrivals and 54 HGV departures) per average working day.	Environmental protection measures to reduce dust.
12. Protect and improve water quality and promote efficient use of water.	-2	0	Potential de-watering and discharge into watercourses. The site is situated on a principal aquifer, which could be of concern from a groundwater perspective.	Hydrological reports. On-site protection measures to avoid contamination of surface waters and groundwater. Implementation of SuDs. Meeting the requirements of the Environment Agency and Internal Drainage Board (IDB).

13. Support wider economic development and promote local job opportunities.	+2	0	This site has the potential to produce a large quantity of aggregate which is important in supporting the wider economy particularly through meeting the demands of the construction industry. There is also the potential for creation of some local job opportunities.	Not applicable.
14. Protect and improve human health and quality of life.	-3	0	There are settlements in close proximity to the site so during the operational phase there could be a negative effect resulting from noise, dust and traffic. In terms of visual amenity, there would be an adverse visual impact on nearby residents (at Flash Farm, Mickleborough Hill Farm and Micklebarrow House) and filtered views from properties on the edge of Kelham to the north-east and Averham to the south-east. There are RoWs adjacent to the site boundaries and passing through the site. Disruption of these would add to the negative impact.	Environmental protection measures to reduce noise and dust. Transport Assessment. Landscape buffer. Protection/ re-routing of RoWs. Public access opportunities as part of restoration scheme.

			No specific public amenity benefits are proposed as part of the restoration scheme.	
Total	- 13	+3		

Summary

- This site scores positively in terms of its contribution to the economic aspects of sustainability.
- Although there is a slightly negative impact on biodiversity during the operational period it is likely that the proposed restoration would have a positive impact.
- The landscape assessment concluded that there would be a very negative impact during the operational period and a slightly negative impact in the long-term, but also identified some scope for mitigation measures.
- The site scores very negatively with regard to impact and risk of flooding as a large part of the site is within Flood Zone 3, however the precise nature of the impact would have to be ascertained through a flood risk assessment.
- The loss of high quality agricultural land results in a negative impact during the operational period, however the restoration proposals allow for reinstatement of high quality agricultural land.
- The number of HGV movements during the operational period could have a very negative impact on local air quality.
- During the operational period there could be a very negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic; visual amenity would be adversely affected for some residents and a right of way would be disrupted, but there is some scope for mitigation.

SITE NAME: *LITTLE CARLTON*			**MINERAL TYPE: Sand and gravel**	
NEW OR EXTENSION: New			**POTENTIAL CAPACITY: 3.35m tonnes**	
Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Operational period	**Long-term**		
1. Ensure that adequate provision is made to meet local and national mineral demand.	+2	0	The size of the estimated reserves of this site would contribute positively to meeting national and local demand for sand and gravel.	Not applicable.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	-1	+1	The site is in close proximity to two LWSs, Ollerton Road Grasslands and Choulers Gorse, Kelham, which could suffer from indirect effects such as dust, noise and changes in hydrology and hydrogeology. Proposed restoration is stated to be predominantly agriculture but with the aim of enhancing biodiversity. This would not maximise the biodiversity gain which could be achieved from the site.	Ecological surveys and hydrological reports. Buffer zones to protect LWSs. Appropriate restoration scheme to maximise LBAP priority habitats for the area.
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	+1	0	The site is well-related to the main highway network with direct access to the A616 on its southern boundary.	Not applicable.
4. Protect the quality of the historic environment, heritage	-3	-3	The settings of scheduled monuments and listed buildings	Archaeological surveys to determine the nature and significance of

assets and their settings above and below ground.			which are in close proximity to the site could be affected. The site adjoins the South Muskham archaeological resource area and a small part of the site falls within the resource area. The archaeological potential in this location is very high with a range of highly significant archaeological remains including possibly WWII human remains and the risk to this archaeological resource from mineral extraction is very high.	remains, then assessment of whether adequate provision can be made for preservation, excavation or recording. Metal detector on conveyor belt to seek metal objects of archaeological interest. Buffer zones and screening. Appropriate restoration proposals.
5. Protect and enhance the quality and character of our townscape and landscape.	-3	-2	The landscape assessment resulted in a combined landscape score of 84/100 for the operational period so the impact is considered to be very negative. There would be significant adverse changes to views during the operational period. The landscape assessment for post-restoration resulted in a combined landscape score of 64/100 so the impact is considered to be negative.	Advance planting to screen operations from residents and users of public rights of way. A landscape buffer is required during the operational period to protect the scheduled ancient monuments and listed buildings. Existing hedgerows should be retained if possible, with gaps planted up. Restoration to existing levels would be preferable and restoration should include use of native species recommended for the Trent Washlands landscape character area and native grass mixes.

6. Minimise impact and risk of flooding.	-1	0	The majority of the site lies within Flood Zone 1 (not within the floodplain), with a small potion in Flood Zone 2 which is associated with a secondary unnamed watercourse.	Implementation of sustainable drainage systems. Meeting the requirements of the Internal Drainage Board and Lead Local Flood Authority.
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	I	During the operational phase the effect would be dependent on the details of operation, e.g. whether the most energy efficient plant and machinery were used. Thereafter, in the long term, the effect could be positive or negative in terms of increasing the resilience of flora and fauna to climate change depending on the details of restoration.	Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.
8. Protect high quality agricultural land and soil.	-3	?	The majority of the site is Grade 2 and 3a (best and most versatile) agricultural land. Proposed restoration is stated to be predominantly agriculture but it is not clear whether this would match the existing quality.	Restoration to high quality agricultural land if that is possible.
9. Promote more efficient use of land and resources.	0	?	No significant effect during the operational period.	Not applicable.
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	?	?	Effect would be dependent on the details of operation, such as the use of energy efficient plant and machinery and renewable	Not applicable.

			energy sources for on-site power.	
11. Protect and improve local air quality.	-2	0	Operations would create dust. The mineral would be exported by HGV with an estimated 80 two-way movements (40 HGV arrivals and 40 HGV departures) per average working day.	Environmental protection measures to reduce dust.
12. Protect and improve water quality and promote efficient use of water.	-2	0	Potential de-watering and discharge into watercourses. The site is situated on a principal aquifer, which could be of concern from a groundwater perspective.	Hydrological reports. On-site protection measures to avoid contamination of surface waters and groundwater. Implementation of SuDs. Meeting the requirements of the Environment Agency and Internal Drainage Board (IDB).
13. Support wider economic development and promote local job opportunities.	+2	0	This site has the potential to produce a large quantity of aggregate which is important in supporting the wider economy particularly through meeting the demands of the construction industry. There is also the potential for creation of some local job opportunities.	Not applicable.
14. Protect and improve human health and quality of life.	-3	0	There are settlements in close proximity to the site so during the operational phase there could be a negative effect resulting from noise, dust and traffic. In terms of visual	Environmental protection measures to reduce noise and dust. Transport Assessment. Landscape buffer. Protection/ re-routing of RoWs.

			amenity, there would be a substantial adverse visual impact on residents of properties to the eastern site boundary. Disruption of the RoW which passes through the site would add to the negative impact. No public amenity benefits are proposed as part of restoration scheme, which is predominantly to agriculture.	Public access opportunities as part of restoration scheme.
Total	-13	-4		

Summary

- This site scores positively in terms of its contribution to the economic aspects of sustainability.
- There is a very negative impact on the historic environment, both in the short- and long-term, as the South Muskham archaeological resource area adjoins, and a small part is within, the site; there are scheduled monuments in close proximity and there is very high potential for non-designated archaeology.
- The landscape assessment concluded that there would be a very negative impact during the operational period and a negative impact in the long-term, but also identified some scope for mitigation measures.

- The loss of high-quality agricultural land results in a very negative impact and it is unclear whether adequate mitigation would be possible.
- The number of HGV movements during the operational period could have a slightly negative impact on local air quality.
- During the operational period there could be a very negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic; visual amenity would be adversely affected for some residents and a right of way would be disrupted, but there is some scope for mitigation.

Site Appraisal Matrices: Sherwood Sandstone

SITE NAME: *BESTWOOD II EAST*			**MINERAL TYPE: Sherwood Sandstone**	
NEW OR EXTENSION: Extension			**POTENTIAL CAPACITY: 1.44 million tonnes**	
Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Operational period	**Long-term**		
1. Ensure that adequate provision is made to meet local and national mineral demand.	+2	0	The size of the estimated reserves of this site would contribute positively to meeting national and local demand for Sherwood Sandstone.	Not applicable.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	-2	0	The site is entirely located within Longdale Plantation LWS, abuts Longdale Heath LWS and is in close proximity to Wildman's Wood Quarry GeoSINC. There is therefore the potential for major direct and indirect impacts to these sites, including through habitat loss, noise, dust, NOx and changes to hydrology and hydrogeology. The proposal would result in the loss of 4.5ha of the 24.5ha Longdale Plantation LWS, in addition to approximately 3.8ha lost as a result of the previous extension into the LWS, resulting in around 30% of the LWS being lost to quarrying in total.	Ecological surveys and hydrological reports. Buffer zones. Appropriate biodiversity-led restoration scheme.

			The site lies between two parts of the Sherwood Forest Important Bird Area, upon which any future Special Protection Area (SPA) designation may be based, which raises concerns as this is of international importance. Restoration is stated to be to nature conservation after-uses to complement restoration at the existing quarry, which would provide mitigation for the loss of woodland habitat. With such mitigation, the residual effect is considered to be neutral, but it should be noted that there would be a net loss of woodland habitat as the restoration is focussed on heathland/acid grassland and natural regeneration.	
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	+1	0	The site is well related to the main highway network and would be accessed off the A60 through the existing quarry.	Not applicable.
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	-1	I	The site is in close proximity to the scheduled monument and listed buildings of Papplewick Pumping Station and Reservoir and to a boundary stone, which	Buffer zones and screening. Appropriate restoration proposals. Archaeological surveys to determine the nature and significance of any remains, then adequate provision to

			is a designated heritage asset. The settings of these heritage assets could be adversely affected. The potential for non-designated archaeology is medium. The impact on the settings of the heritage assets in the long term could be positive or negative depending on the details of restoration.	be made for preservation, excavation or recording. Archaeological supervision and control of soil stripping.
5. Protect and enhance the quality and character of our townscape and landscape.	-3	-3	The landscape assessment resulted in a combined landscape score of 78/100 for the operational period so the impact is considered to be very negative. The site is also within the Green Belt and there is the potential for an adverse impact on its openness and visual amenity during the operational phase. The landscape assessment for post-restoration resulted in a combined landscape score of 78/100 so the impact is considered to remain very negative.	During the operational phase understorey planting to the southern edge of the existing woodland and an adequate buffer zone to protect existing trees to the boundary would be required and an adequate width of woodland should be retained to maintain the dense wooded skyline. The restoration phase should include tree planting appropriate to the Sherwood Character Area and acidic grassland/heathland, and management of understorey planting/existing woodland to the buffer zone. There should be adequate width of woodland to maintain the dense wooded skyline.

6. Minimise impact and risk of flooding.	-1	0	The site is within Flood Zone 1 (low probability of flooding).	Meeting the requirements of the Environment Agency and Internal Drainage Board. Implementation of SuDs.
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	I	During the operational phase the effect would be dependent on the details of operation, e.g. whether the most energy efficient plant and machinery were used. Thereafter, in the long term, the effect could be positive or negative in terms of increasing the resilience of flora and fauna to climate change depending on the details of restoration.	Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.
8. Protect high quality agricultural land and soil.	0	0	The site currently comprises woodland.	Not applicable.
9. Promote more efficient use of land and resources.	+1	?	More efficient use of land would result from an extension, which could utilise the existing site's infrastructure.	Not applicable.
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	?	?	Effect would be dependent on the details of operation, such as the use of energy efficient plant and machinery and renewable energy sources for on-site power.	Not applicable.
11. Protect and improve local air quality.	-2	0	Operations would create dust.	Environmental protection measures to reduce dust.

			The mineral would be exported by HGV with an estimated 50 two-way movements (25 HGV arrivals and 25 HGV departures) per average working day.	
12. Protect and improve water quality and promote efficient use of water.	-2	0	Potential de-watering and discharge into watercourses. The site lies in Source Protection Zone 3 and on a primary aquifer.	Hydrological reports. On-site protection measures to avoid contamination of surface waters and groundwater – particularly careful management will be required to protect groundwater. Implementation of SUDs. Meeting the requirements of the Environment Agency and Internal Drainage Board (IDB).
13. Support wider economic development and promote local job opportunities.	+2	0	The production of a large amount of mineral from this site would play a role in supporting the wider economy particularly through meeting the demands of the construction industry. As an extension, it is also likely to safeguard the jobs currently at the existing site.	Not applicable.
14. Protect and improve human health and quality of life.	-2	0	The site is in close proximity to settlements so during the operational phase there could be an adverse effect resulting from noise, dust and traffic. In terms of visual amenity, there would be a significant adverse change to views of the skyline	Environmental protection measures to reduce noise and dust. Transport Assessment.

			for residents in properties along the A60 to the south. No RoWs are affected. Restoration details do not include any reference to public access to recreation opportunities.	
Total	-7	-3		

Summary

- This site scores positively in terms of its contribution to the economic aspects of sustainability.
- The impact on biodiversity would be very negative during the operational period because the site is entirely located within an LWS and lies between two parts of the Sherwood Forest Important Bird Area, upon which any future Special Protection Area (SPA) designation may be based. The overall impact in the long-term would be neutral.
- The landscape assessment concluded that there would be a very negative impact both during the operational period and in the long-term, but also identified some scope for mitigation measures. It should be noted that the site is also in the Green Belt.
- The number of HGV movements during the operational period could have a slightly negative impact on local air quality.
- The impact on water quality could be negative, as the site lies in Source Protection Zone 3 and on a primary aquifer which could be a concern from a groundwater perspective, but there is scope for mitigation.
- During the operational period there could be a negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic, and there would be a detrimental impact on visual amenity for some residents, but there is some scope for mitigation.

Site Appraisal Matrix: Clay

SITE NAME: *WOODBOROUGH LANE*			**MINERAL TYPE: Clay**	
NEW OR EXTENSION: Extension			**POTENTIAL CAPACITY: 2,700,000 cubic metres/approx. 4.32 million tonnes**	
Sustainability Appraisal Objectives	**Effect**		**Commentary**	**Mitigation**
	Operational period	**Long-term**		
1. Ensure that adequate provision is made to meet local and national mineral demand.	+3	0	The size of the estimated reserves of this site would contribute very positively to meeting national and local demand for clay.	Not applicable.
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	0	+1	The site is not in close proximity to any designated nature conservation sites. In the long term, it is stated that the site will be restored to a 'natural' state, and restoration will provide an opportunity for biodiversity. So there is potential for a slight biodiversity gain, however it would not maximise the biodiversity gain which could be achieved. The restoration scheme should seek to maximise the biodiversity value of the site, including through the creation of species-rich neutral grassland, ponds/wetland, woodland and hedgerows.	Appropriate restoration scheme to maximise the biodiversity value of the site.

3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	+2	0	The transfer of clay from the proposed site to the existing clay stockpiles would be by quarry dumper truck crossing over Woodborough Lane. The clay would then be transported via the existing conveyor to the existing brickworks located nearby.	Not applicable.
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	-1	I	This site is adjacent to a non-designated heritage asset, Arnold Lodge Farm. The setting of this asset could be harmed by quarrying. The potential for non-designated archaeology is low to medium. In the long term the impact on the setting of Arnold Lodge Farm could be positive or negative depending on the details of restoration.	Any harm to the setting of the non-designated heritage asset may be mitigated if the ground level is returned to agriculture and similar topography in the long term. Archaeological surveys to determine the nature and significance of any remains, then adequate provision to be made for preservation, excavation or recording.
5. Protect and enhance the quality and character of our townscape and landscape.	-3	-2	The landscape assessment resulted in a combined landscape score of 69/100 for the operational period so the impact is considered to be negative. The site is also within the Green Belt and there is the potential for an adverse impact on its openness and visual	During the operational phase advanced planting works would be required to provide screening. A landscape buffer would be required along Woodborough Lane and to provide screening from the footpath along the ridgeline to the north. Retention of field trees and ponds and hedgerows.

			amenity during the operational phase. The landscape assessment for post-restoration resulted in a combined landscape score of 63/100 so the impact is considered to remain negative.	The restoration phase should include replacement field trees, improvement of hedgerows with field margins and increased field ponds/avenues of trees.
6. Minimise impact and risk of flooding.	-1	0	The site is within Flood Zone 1 (low probability of flooding).	Meeting the requirements of the Environment Agency and Internal Drainage Board. Implementation of SuDs.
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	I	During the operational phase the effect would be dependent on the details of operation, e.g. whether the most energy efficient plant and machinery were used. Thereafter, in the long term, the effect could be positive or negative in terms of increasing the resilience of flora and fauna to climate change depending on the details of restoration.	Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.
8. Protect high quality agricultural land and soil.	-2	-2	The site comprises a mix of Grade 3a (best and most versatile) and Grade 3b (not high quality) agricultural land. The proposed restoration scheme does not include a return to agricultural land.	Restoration to high quality agricultural land if that is possible.

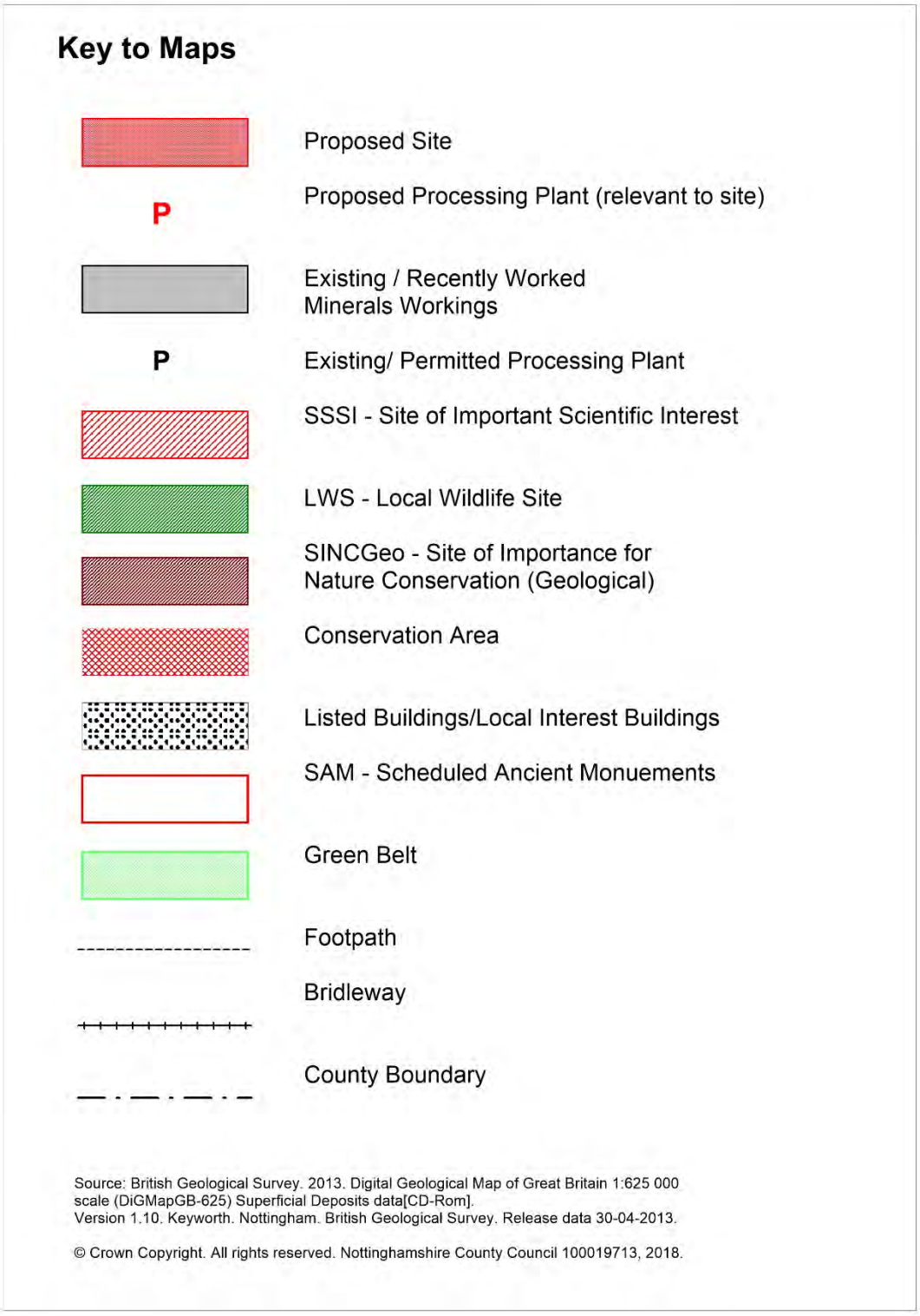
9. Promote more efficient use of land and resources.	+1	?	More efficient use of land would result from an extension, which could utilise the existing site's infrastructure.	Not applicable.
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	?	?	Effect would be dependent on the details of operation, such as the use of energy efficient plant and machinery and renewable energy sources for on-site power.	Not applicable.
11. Protect and improve local air quality.	-1	0	Operations would create dust. The transfer of clay from the proposed site to the existing clay stockpiles would be by quarry dumper truck crossing over Woodborough Lane. The clay would then be transported via the existing conveyor to the existing brickworks located nearby. There is insufficient information at this stage to determine whether any impact on local air quality is likely to result from the dumper truck movements.	Environmental protection measures to reduce dust.
12. Protect and improve water quality and promote efficient use of water.	-2	0	The site is situated on a secondary aquifer of Gunthorpe Member mudstone, which could be a concern from a groundwater perspective.	Hydrological reports. On-site protection measures to avoid contamination of surface waters and groundwater. Implementation of SUDs. Meeting the requirements of the Environment Agency and Internal Drainage Board

13. Support wider economic development and promote local job opportunities.	+3	0	This site has the potential to produce a very large quantity of brick clay which is important in supporting the wider economy particularly through helping to meet the demands of the construction industry. It should also help to maintain the jobs currently at the existing site.	Not applicable.
14. Protect and improve human health and quality of life.	-2	0	The site is in close proximity to Arnold so during the operational phase there could be an adverse effect resulting from noise and dust. In terms of visual amenity, there is potential for a medium adverse change to views for Arnold Lodge Farm to the north-west and 2 residential properties north of Nottingham Road. There are no RoWs within or adjoining the site. Restoration details do not include any reference to public access to recreation opportunities.	Environmental protection measures to reduce noise and dust.
Total	-3	-3		

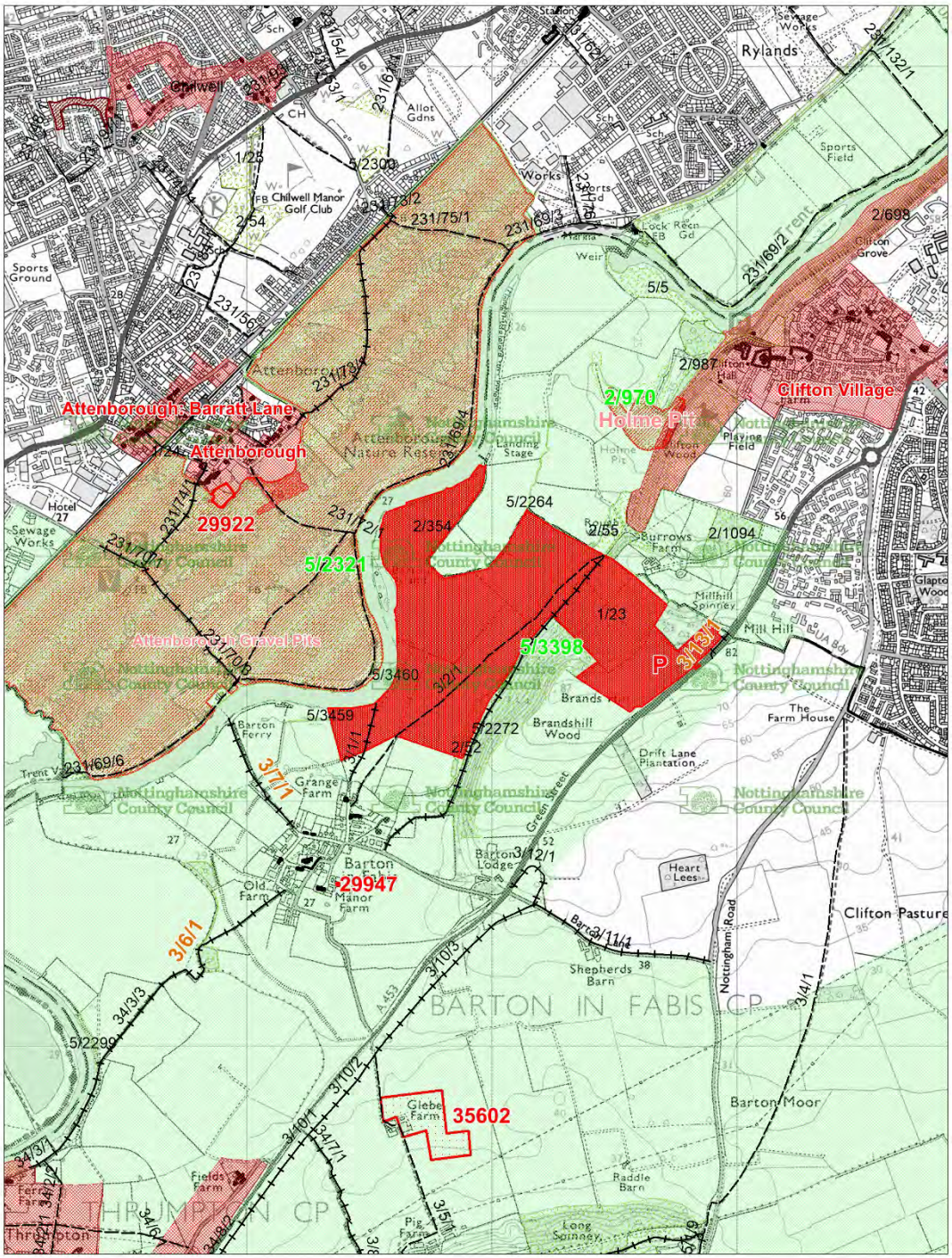
Summary

- This site scores very positively in terms of its contribution to the economic aspects of sustainability.
- The site is located in close proximity to a brickworks which would be the destination for the extracted clay resulting in a positive impact in terms of sustainable patterns of movement.
- The landscape assessment concluded that there would be a negative impact both during the operational period and in the long-term, but also identified some scope for mitigation measures. The site is also in the Green Belt, which, together with the landscape score, results in a very negative impact during the operational period.
- Loss of some high-quality agricultural land would have a negative impact in both the short- and long-term.
- The impact on water quality could be negative, as the site lies on an aquifer which could be a concern from a groundwater perspective, but there is scope for mitigation.
- During the operational period there could be a negative effect on quality of life for local residents as surrounding settlements could be adversely affected by noise, dust and traffic, and there could be a detrimental impact on visual amenity for some residents, but there is some scope for mitigation.

Appendix E: Site location plans – allocated sites



Nottinghamshire MLP Call for Sites - Sand and Gravel -
Mill Hill near Barton in Fabis - London Rock



Constraints Key – Mill Hill Barton in Fabis – London Rock

SSSI

Attenborough Gravel Pits / Holme Pit

LWS

1/23 Brandshill Grassland Biosinc NBGRC2015 Recognised 'Excellent grasslands with a rather calcareous species-rich sward - small areas within the City'

2/55 Burrows Farm Grassland Biosinc NBGRC2015 Recognised 'A damp grassland beside a species-rich field pond'

2/56 Barton in Fabis Fishing Pools Biosinc NBGRC2015 Recognised 'Two pools linked by a drain, with a noteworthy flora and fauna'

2/984 Clifton Wood Biosinc NBGRC2015 Recognised 'A well-established, mostly deciduous woodland supporting a good ground flora'

2/861 Brandshill Marsh Biosinc NBGRC2015 Recognised An area of species -rich marshy grassland and adjecent drain

2/354 Barton Flash Biosinc NBGRC2015 Recognised 'An important ornithological site'

2/1094 Clifton Fox Covert Biosinc NBGRC2015 Recognised 'A valuable area of mature mixed woodland'

5/2251 River Trent - Attenborough Biosinc NBGRC2015 Recognised Vegetated shallows of the River Trent of interest for Water Beetles

5/2264 Barton-in-Fabis Pond and Drain Biosinc NBGRC2015 Recognised Ponds and drains with a notable emergent aquatic flora

SINC Geo

Listed Buildings

As indicated

Conservation Area

Clifton Village / Thrumpton / Attenborough / Attenborough Barratt Lane

SAM

29947 DOVECOTE MANOR FARM

35602 ROMANO-BRITISH NUCLEATED SETTLEMENT AND ROMAN VILLA COMPLEX AT GLEBE FARM

29922 FISHPONDS 220M SOUTH WEST OF ST MICHAEL'S CHURCH

Footpath

3/2/1 Barton-In-FabisFP2

231/69/5 Barton-In-FabisFP69

Bridleway

3/1/1 Barton-In-FabisBW1

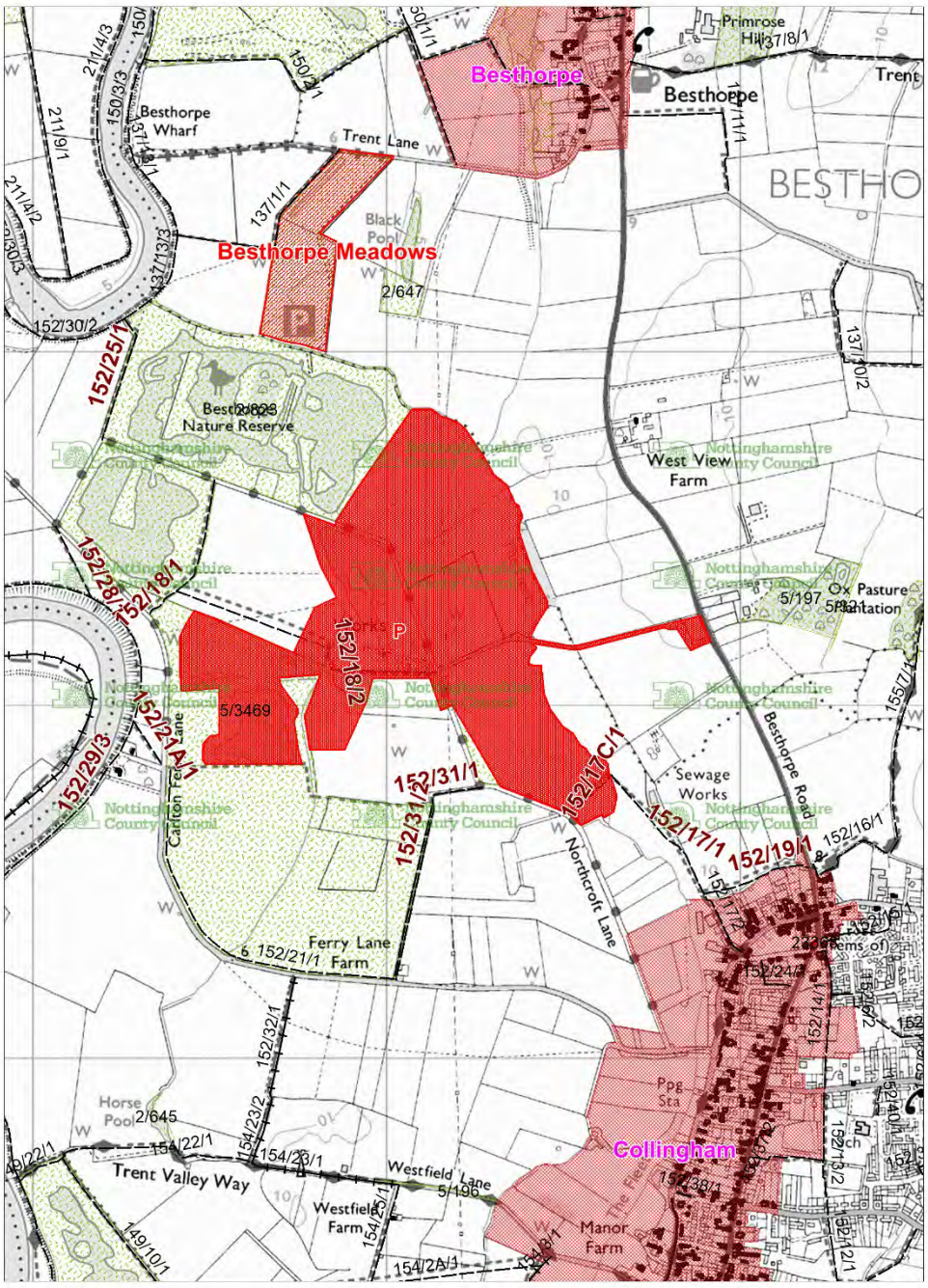
3/7/1 Barton-In-FabisBW7

3/11/1 Barton-In-FabisBW11

3/12/1 Barton-In-FabisBW12

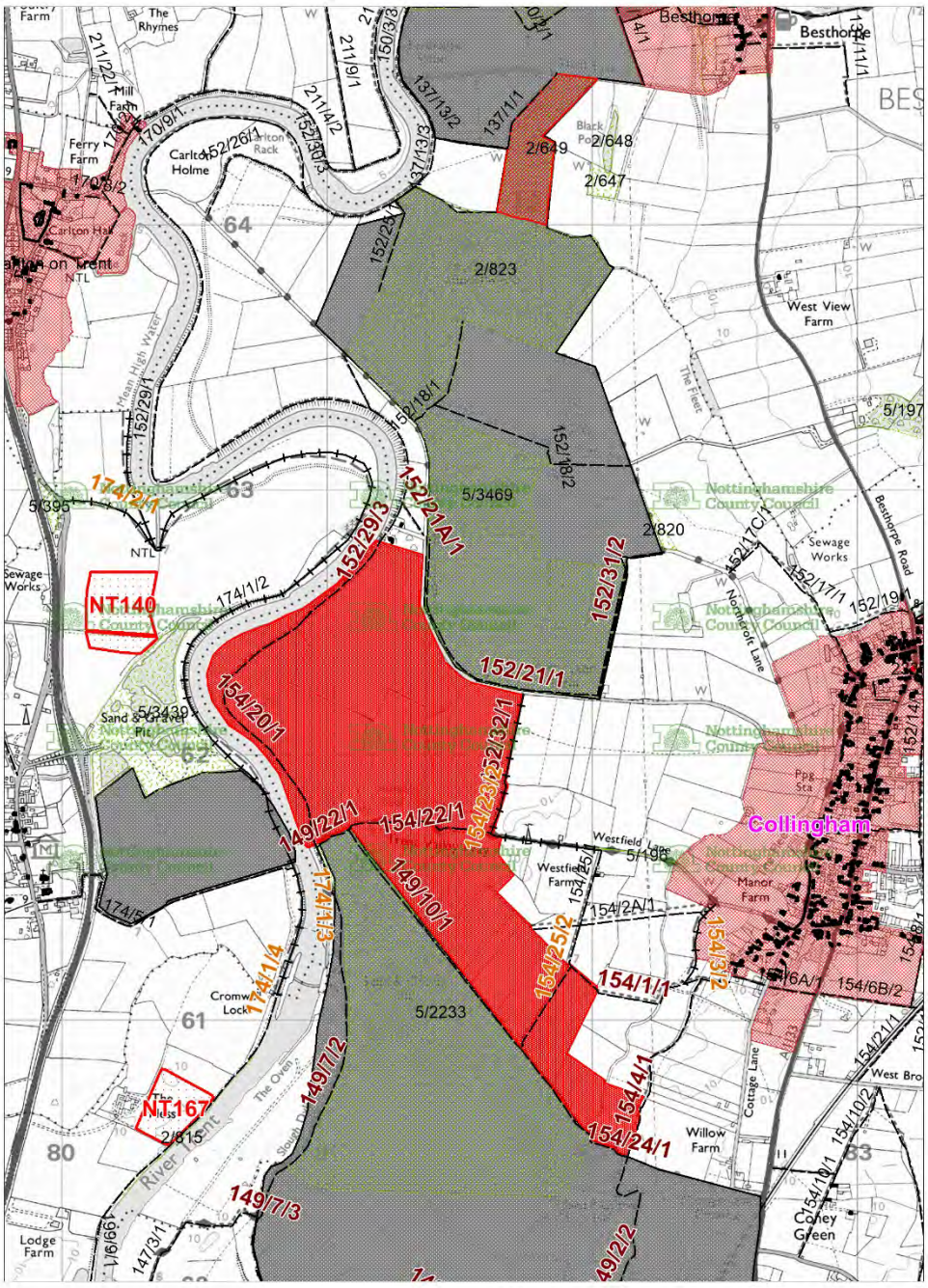
3/13/1 Barton-In-FabisBW13

Nottinghamshire MLP Call for Sites - Sand and Gravel - Besthorpe East



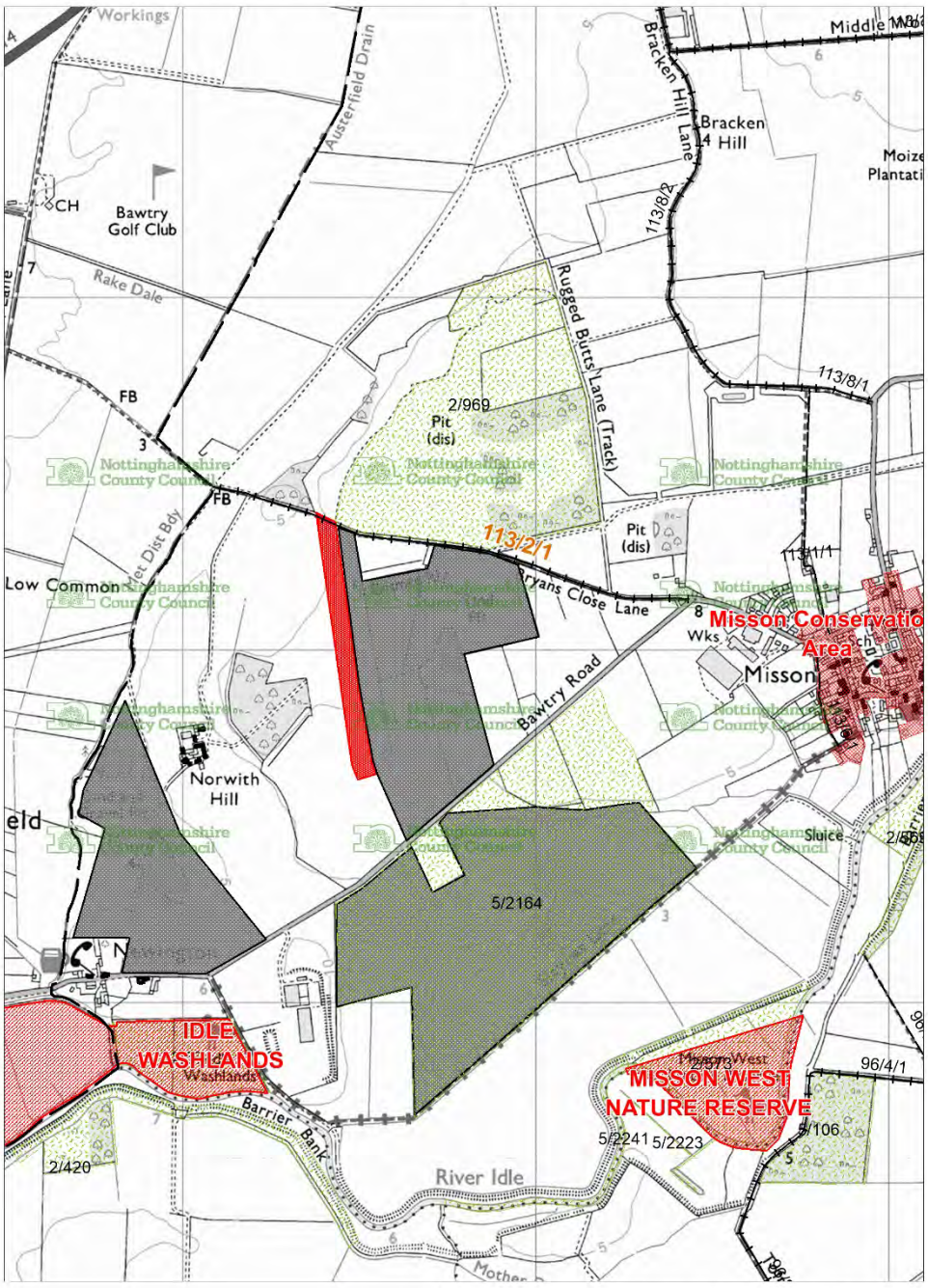
Constraints Key – Besthorpe East
SSSI
Besthorpe Meadows
LWS
2/647 Black Pool Grassland, Besthorpe Biosinc NBGRC2015 Recognised 'A well-managed hay meadow with a species-rich sward'
2/820 Northcroft Lane Meadow Biosinc NBGRC2015 Recognised 'A small herb-rich hay meadow'
2/823 Mons Pool Gravel Pits Biosinc NBGRC2015 Recognised 'Mature deciduous woodland surrounded by large areas of open water formed on gravel workings - of particular zoological interest'
5/197 Oxpasture Plantation Besthorpe Biosinc NBGRC2015 Recognised A partly cleared damp woodland with a species-rich flora
SINC Geo
Listed Buildings
Numerous as indicated
Conservation Area
Besthorpe / Collingham
SAM
Footpath
152/17/1 North Collingham FP17
152/17/2 North Collingham FP17
152/17C/1 North Collingham FP17C
152/18/2 North Collingham FP18
152/19/1 North Collingham FP19
152/21A/1 North Collingham FP21A
152/28/1 North Collingham FP28
152/29/3 North Collingham FP29
152/31/1 North Collingham FP31
152/31/2 North Collingham FP31
Bridleway

Nottinghamshire MLP Call for Sites - Sand and Gravel - Langford North

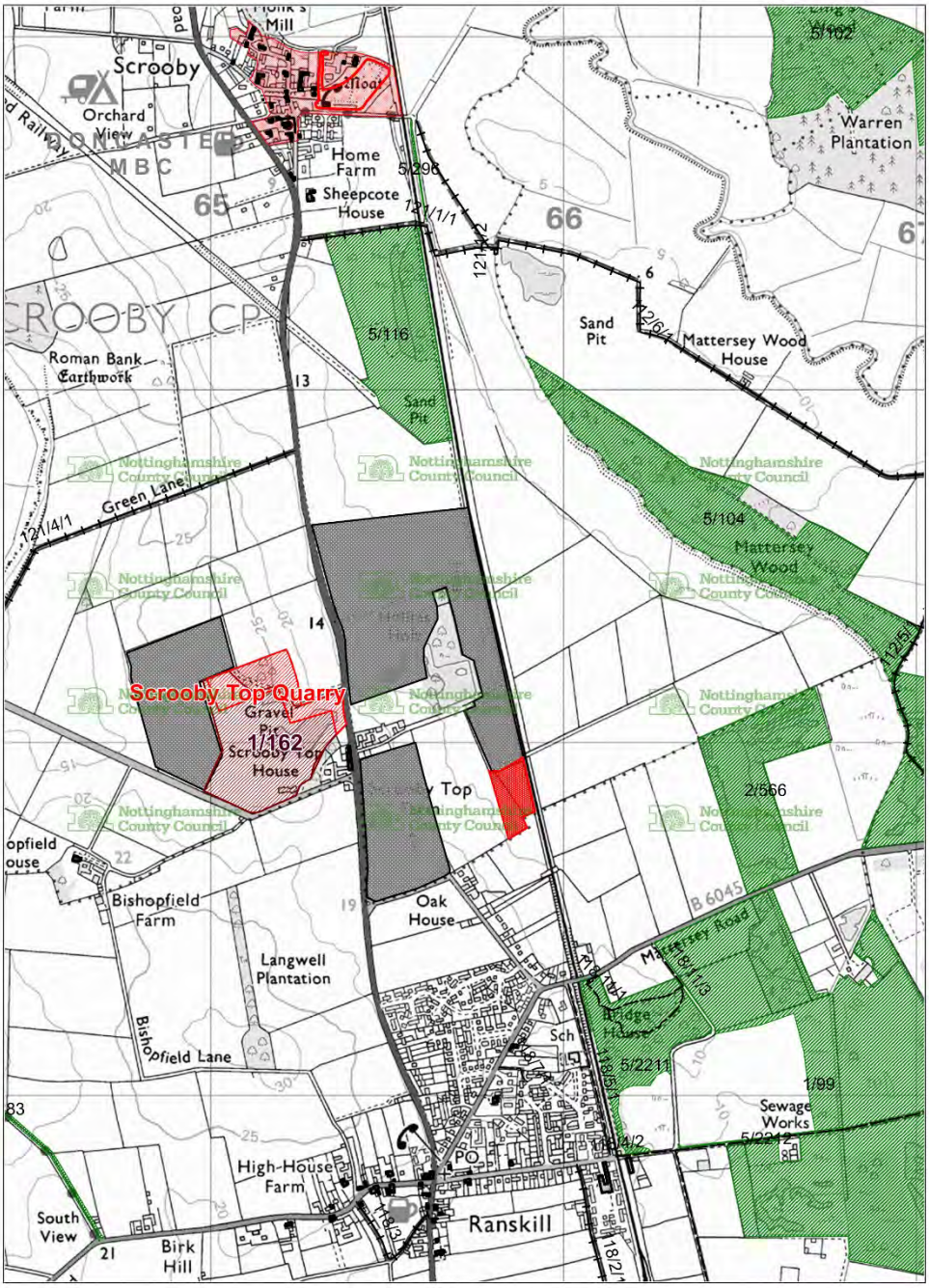


Constraints Key – Langford North
SSSI
LWS
2/645 Horse Pool, Collingham Biosinc NBGRC2015 Recognised 'A small pool with a rich diversity of aquatic plants'
2/820 Northcroft Lane Meadow Biosinc NBGRC2015 Recognised 'A small herb-rich hay meadow'
5/196 Westfield Lane Verges Biosinc NBGRC2015 Recognised Track verges supporting a flora characteristic of the blown sand
5/233 Langford Lowfields Biosinc NBGRC2015 Recognised A gravel pit complex of botanical and zoological note
SINC Geo
Listed Buildings
Numerous as indicated, especially in Collingham
Conservation Area
Collingham
SAM
NT167 Rectangular barrows at North Muskham
NT140 Site discovered by aerial photography NNE of village
29929 Roman camp 750m east of church cottages
Footpath
149/7/2 Langford FP7
149/7/3 Langford FP7
149/10/1 Langford FP10
149/22/1 Langford FP22
152/21/1 North Collingham FP21
152/21A/1 North Collingham FP21A
152/29/3 North Collingham FP29
152/31/2 North Collingham FP31
154/1/1 South Collingham FP1
154/2A/1 South Collingham FP2A
154/4/1 South Collingham FP4
154/20/1 South Collingham FP20
154/24/1 South Collingham FP24
154/25/1 South Collingham FP25
154/25/2 South Collingham FP25
Bridleway
152/32/1 North Collingham BW32
154/23/1 South Collingham BW23
154/23/2 South Collingham BW23
154/3/2 South Collingham BW3
174/1/4 Cromwell BW1
174/1/3 Cromwell B1

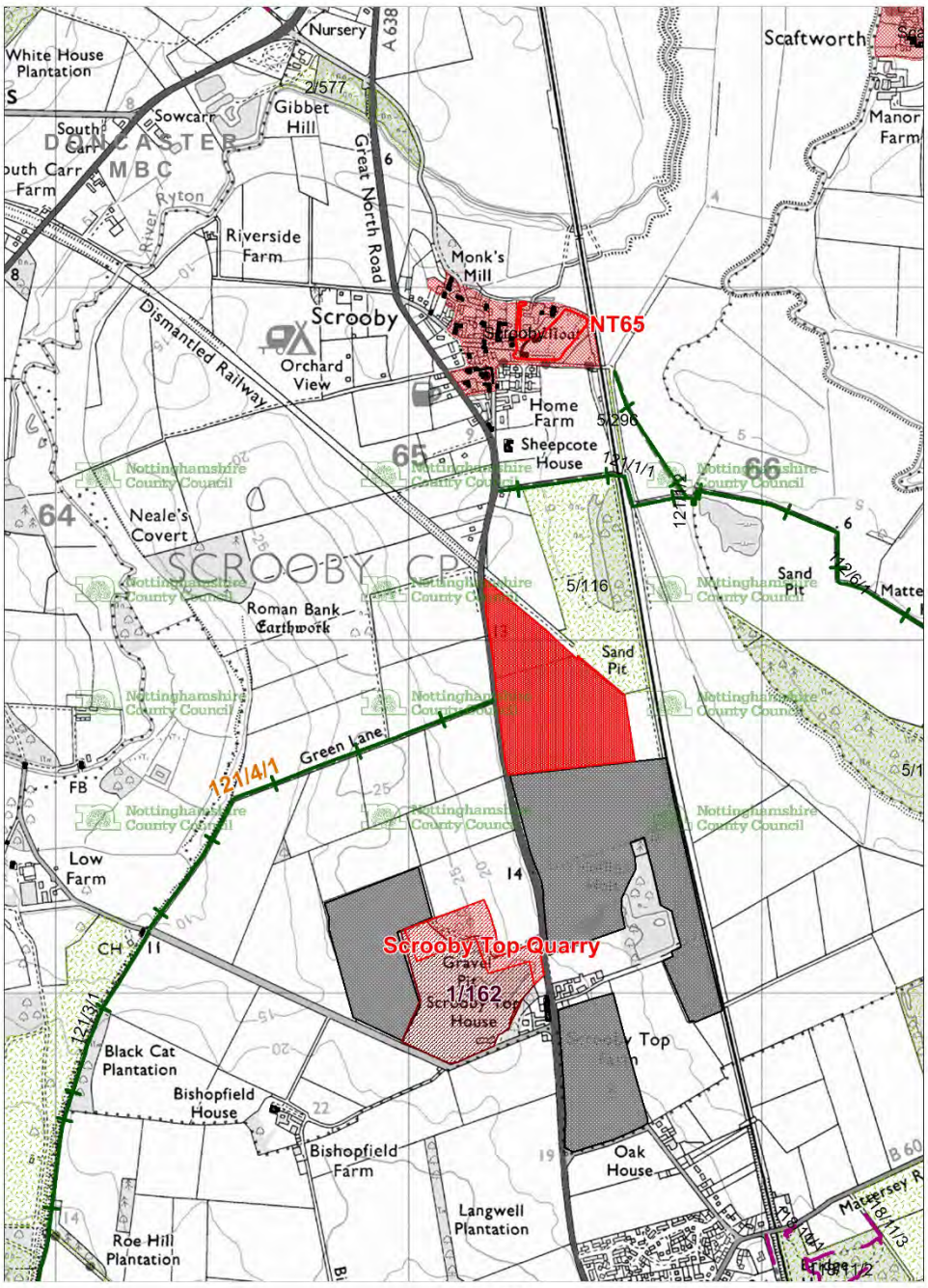
Nottinghamshire MLP Call for Sites - Sand and Gravel - Bawtry Road



Constraints Key – Bawtry Road
SSSI Idle Washlands and Misson West Nature Reserve
LWS
2/969 Rugged Butts Biosinc NBGRC2015 Recognised 'An extensive area of acid grassland with associated woodland habitats'
5/3164 Slaynes Lane Biosinc NBGRC2015 Recognised Carr, farmland and sand quarry prone to winter/spring flooding supporting rich assemblage of breeding birds
SINC Geo
Listed Buildings
Numerous as indicated – Note: Norwith Hill
Conservation Area
Misson Conservation Area
SAM
Footpath
Bridleway
113/2/1 Misson BW2

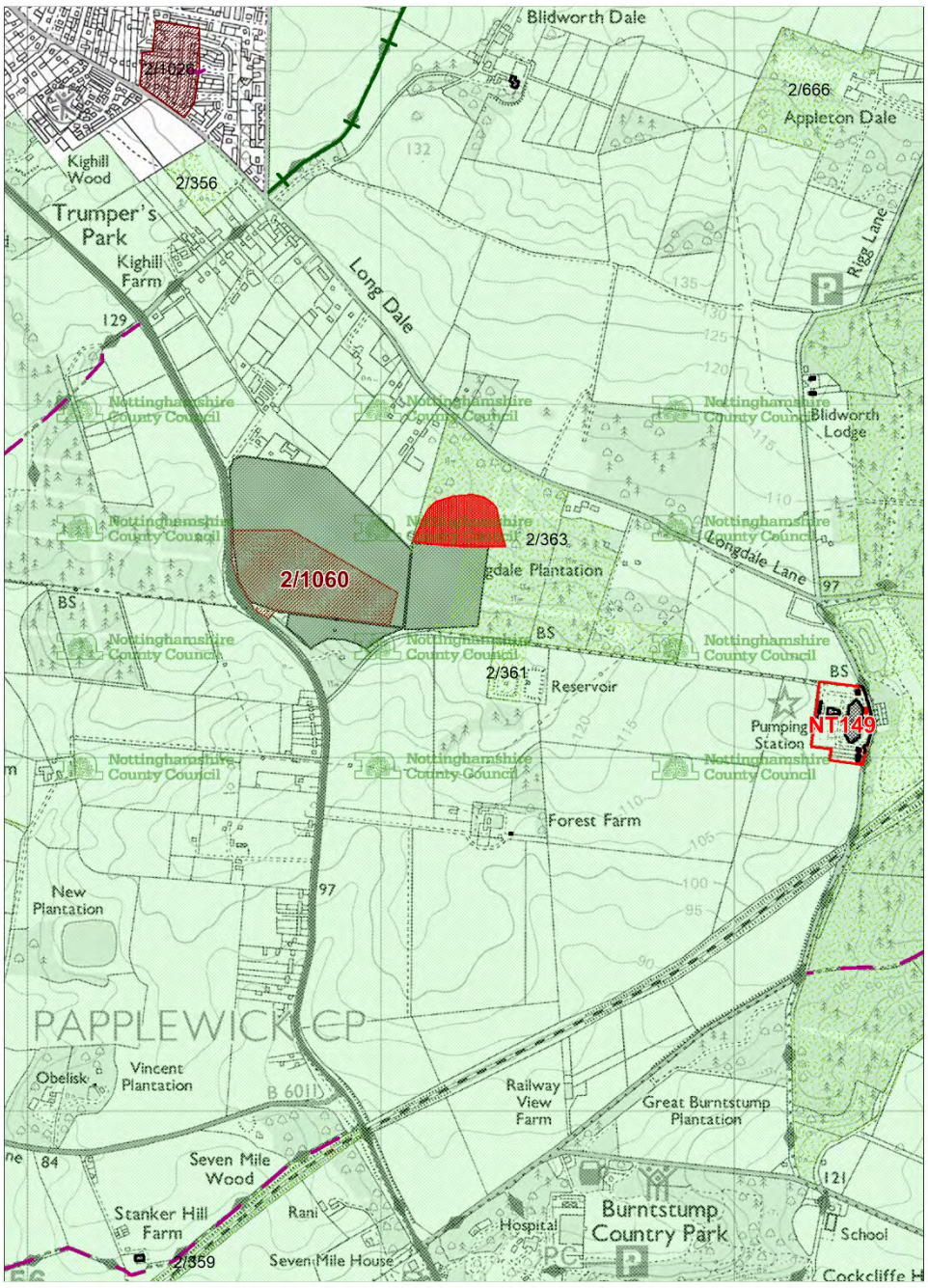


Constraints Key – Scrooby Thompson Land
SSSI
Scrooby Top Quarry
LWS
SINC Geo
1/162 Scrooby Top Quarry Geosinc NBGRC 2004b An active quarry exposing a section of glacial sand and gravel
Listed Buildings
Numerous as indicated
Conservation Area
Scrooby
SAM
NT65 Manor Farm Moat
Footpath
Bridleway



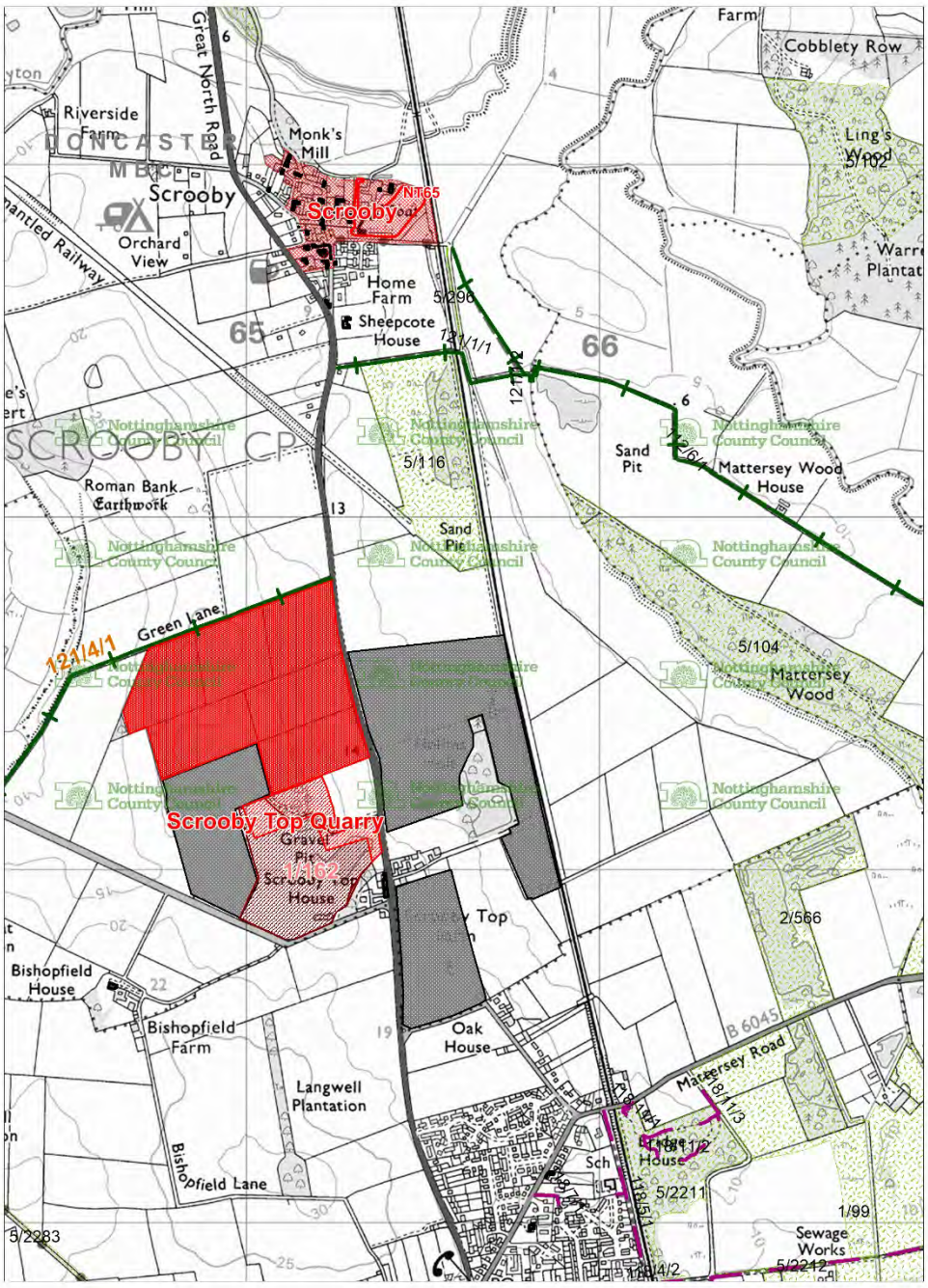
Constraints Key – Scrooby North
SSSI
Scrooby Top Quarry
LWS
5/116 Scrooby Sand Pits Biosinc NBGRC2015 Recognised Mosaic of swamp, marsh, grassland, scrub and developing fen communities of considerable botanical and zoological interest
SINC Geo
1/162 Scrooby Top Quarry Geosinc NBGRC 2004b An active quarry exposing a section of glacial sand and gravel
Listed Buildings
Numerous as indicated
Conservation Area
Scrooby
SAM
NT65 Manor Farm Moat
Footpath
Bridleway
121/4/1 Scrooby BW4

Nottinghamshire MLP Call for Sites - Sherwood Sandstone - Bestwood II North



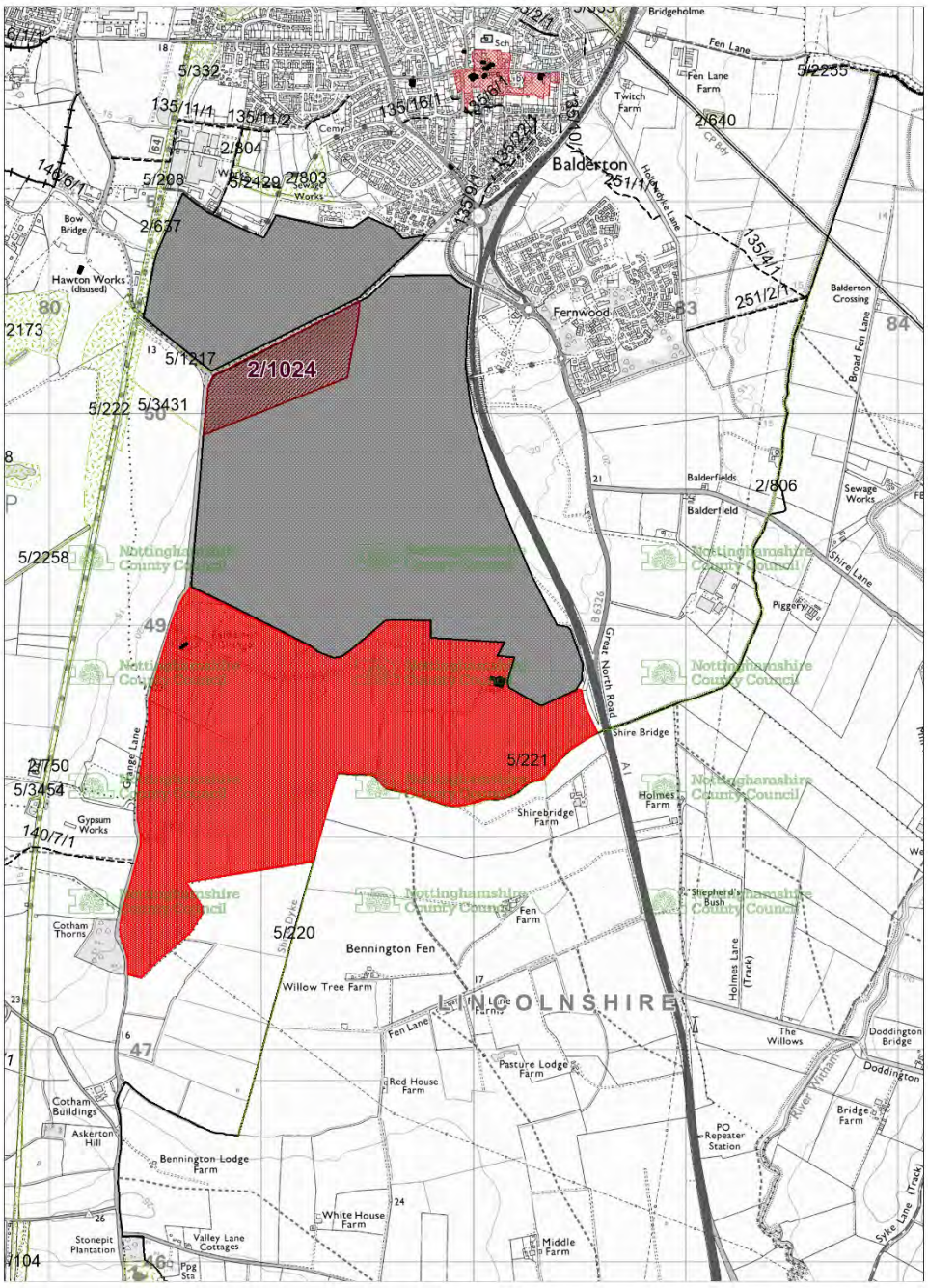
Constraints Key – Bestwood II North
SSSI
Greenbelt
Full coverage as indicated
LWS
2/363 Longdale Heath Biosinc NBGRC2015 Recognised 'A covered reservoir supporting heath and acidic grassland'
2/363 Longdale Plantation Biosinc NBGRC2015 Recognised 'An important area of deciduous woodland with a characteristic acidic ground flora'
SINC Geo
2/1060 Wildman's Wood Quarry Geosinc NBGRC 2004b A good exposure of the Nottingham Castle Formation (Bunter Pebble Beds) showing sedimentary structures and marl beds
Listed Buildings
Papplewick Pumping Station
Conservation Area
SAM
NT149 Papplewick Pumping Station
Footpath
Bridleway

Nottinghamshire MLP Call for Sites - Sherwood Sandstone - Scrooby Top Extension



Constraints Key – Scrooby Top
SSSI
Scrooby Top Quarry
LWS
5/116 Scrooby Sand Pits Biosinc NBGRC2015 Recognised Mosaic of swamp, marsh, grassland, scrub and developing fen communities of considerable botanical and zoological interest
SINC Geo
1/162 Scrooby Top Quarry Geosinc NBGRC 2004b An active quarry exposing a section of glacial sand and gravel
Listed Buildings
Numerous as indicated
Conservation Area
Scrooby
SAM
NT65 Manor Farm Moat
Footpath
Bridleway
121/4/1 Scrooby BW4

Nottinghamshire MLP Call for Sites - Gypsum - Bantycock



Constraints Key – Bantycock
SSSI
LWS
2/750 Mineral Line, Cotham Biosinc NBGRC2015 Recognised 'Scrub and base-rich grassland along a disused raiway line'
3/805 Shire Dyke, Balderton Biosinc NBGRC2015 Recognised 'A representative stretch of a species-rich drain'
5/220 Shire Dyke, Balderton South Biosinc NBGRC2015 Recognised County boundary drain of notable botanical and zoological importance
5/221 Cowtham House Arable Biosinc NBGRC2015 Recognised Notable 'arable weeds' along a field margin
5/1217 Staple Lane Ditch Biosinc NBGRC2015 Recognised Roadside ditches with a diverse and notable aquatic and emergent flora
SINC Geo
2/1024 Bantycock Gypsum Pit, Newark Geosinc NBGRC 2004b A quarry showing the complete geological succession of the area, from the Mercia Mudstone Group (Keuper Marl) through to the Lower Lias, and also the mode of gypsum occurence
5/221
Listed Buildings
Numerous as indicated
Conservation Area
SAM
Footpath
140/7/1 Cotham FP7
Bridleway

Appendix F: Site location plans – unallocated sites

Key to Maps

Proposed Site

P

Proposed Processing Plant (relevant to site)

Existing / Recently Worked Minerals Workings

P

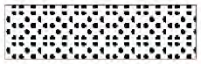
Existing/ Permitted Processing Plant

SSSI - Site of Important Scientific Interest

LWS - Local Wildlife Site

SINCGeo - Site of Importance for Nature Conservation (Geological)

Conservation Area



Listed Buildings/Local Interest Buildings

SAM - Scheduled Ancient Monuements

Green Belt

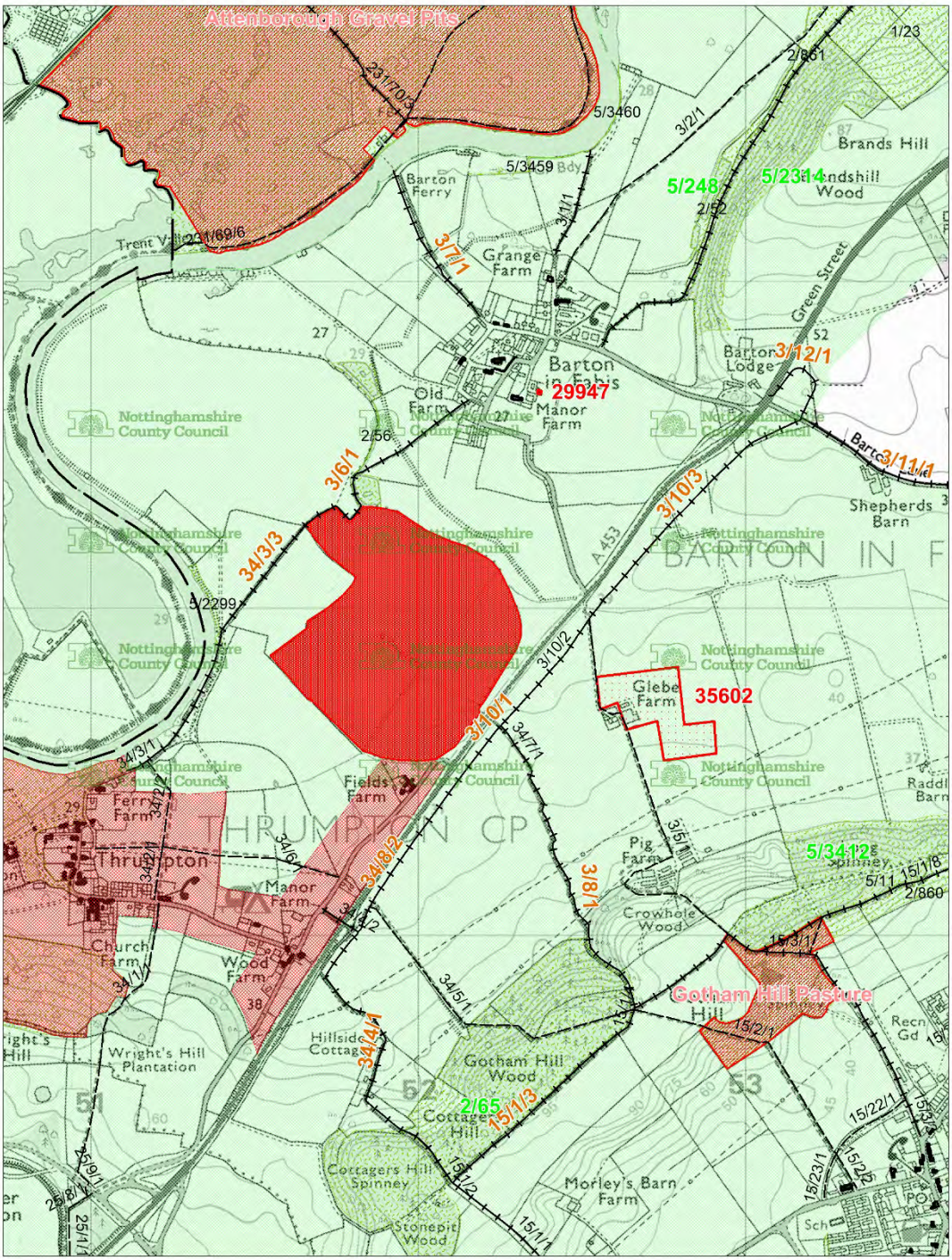
Footpath

Bridleway

County Boundary

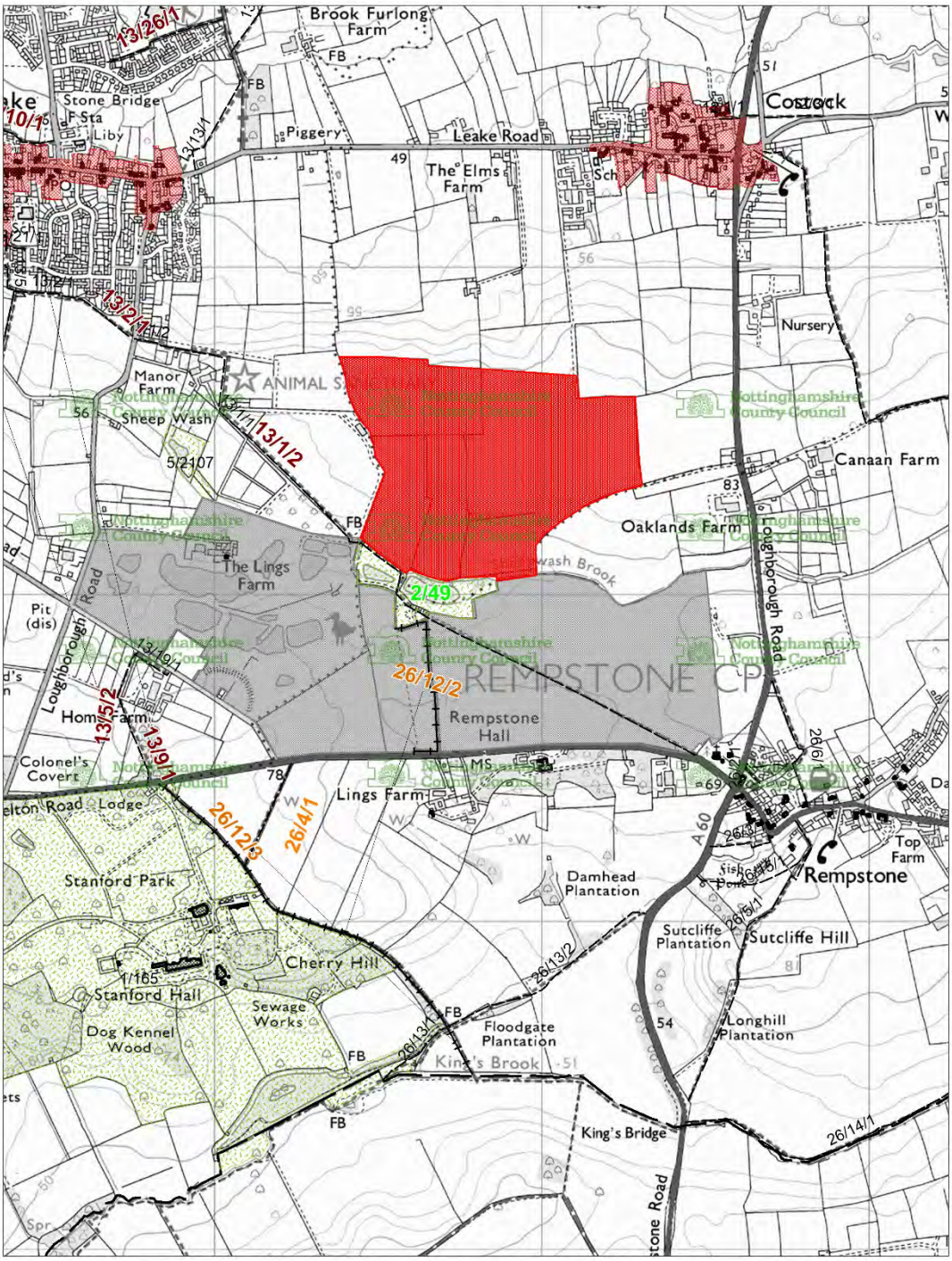
Source: British Geological Survey. 2013. Digital Geological Map of Great Britain 1:625 000 scale (DiGMapGB-625) Superficial Deposits data[CD-Rom]. Version 1.10. Keyworth. Nottingham. British Geological Survey. Release data 30-04-2013.

Nottinghamshire MLP Call for Sites - Sand and Gravel -
Barton in Fabis - CEMEX



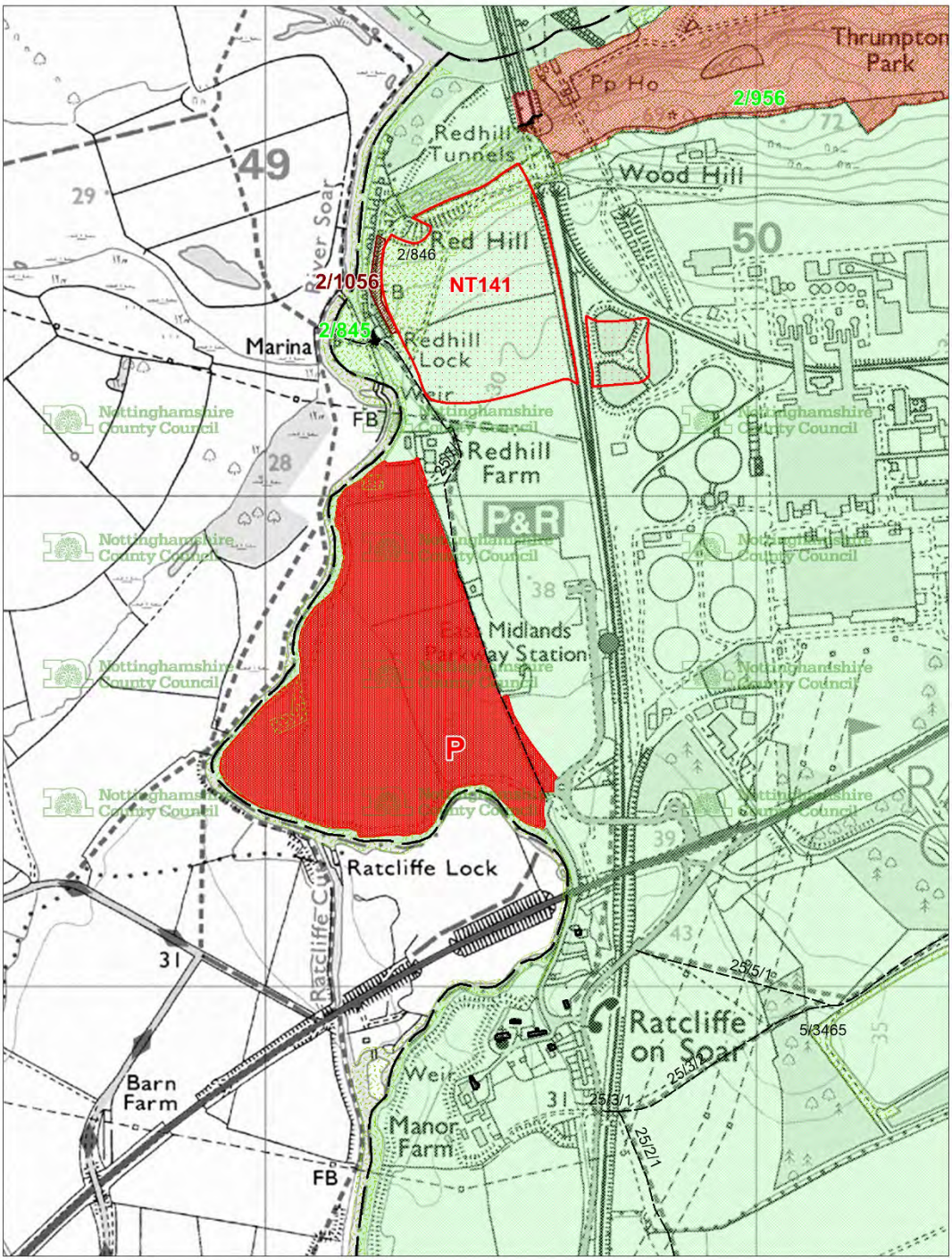
Constraints Key – Barton in Fabis - CEMEX			
SSSI			
Attenborough Gravel Pits / Gotham Hill Pasture			
LWS			
2/52 Borrow Pits, Barton with a rich variety of emergent and aquatic vegetation'	Biosinc NBGRC2015	Recognised	'Pools and a length of dyke
2/50 Barton in Fabis Fishing Pools a drain, with a noteworthy flora and fauna'	Biosinc NBGRC2015	Recognised	'Two pools linked by
2/860 Long Spinney Pastures calcareous grasslands'	Biosinc NBGRC2015	Recognised	'A series of grazed
5/11 Long Spinney, Gotham developed from scrub with a notable flora	Biosinc NBGRC2015	Recognised	A woodland possibly
5/2272 Brandshill Wood occasional noteworthy species	Biosinc NBGRC2015	Recognised	A secondary woodland with
5/2299 Thrumpton Bank	Biosinc NBGRC2015	Recognised	A notable dry grassland
SINC Geo			
Listed Buildings			
As indicated, nearest at Fields Farm			
Conservation Area			
Thrumpton			
SAM			
29947 DOVECOTE MANOR FARM			
35602 ROMANO-BRITISH NUCLEATED SETTLEMENT AND ROMAN VILLA COMPLEX AT GLEBE FARM			
Footpath			
3/5/1 Barton-In-FabisFP5			
34/2/1 ThrumptonFP2			
34/2/2 ThrumptonFP2			
34/5/1 ThrumptonFP5			
34/6/1 ThrumptonFP6			
Bridleway			
3/8/1 Barton-In-FabisBW8			
3/6/1 Barton-In-FabisBW6			
3/10/1 Barton-In-FabisBW10			
3/10/2 Barton-In-FabisBW10			
34/3/1 ThrumptonBW3			
34/3/3 ThrumptonBW3			
34/4/2 ThrumptonBW44			
34/7/1 ThrumptonBW74			
34/8/2 ThrumptonBW84			
15/3/1 GothamBW3			

Nottinghamshire MLP Call for Sites - Sand and Gravel - East Leake



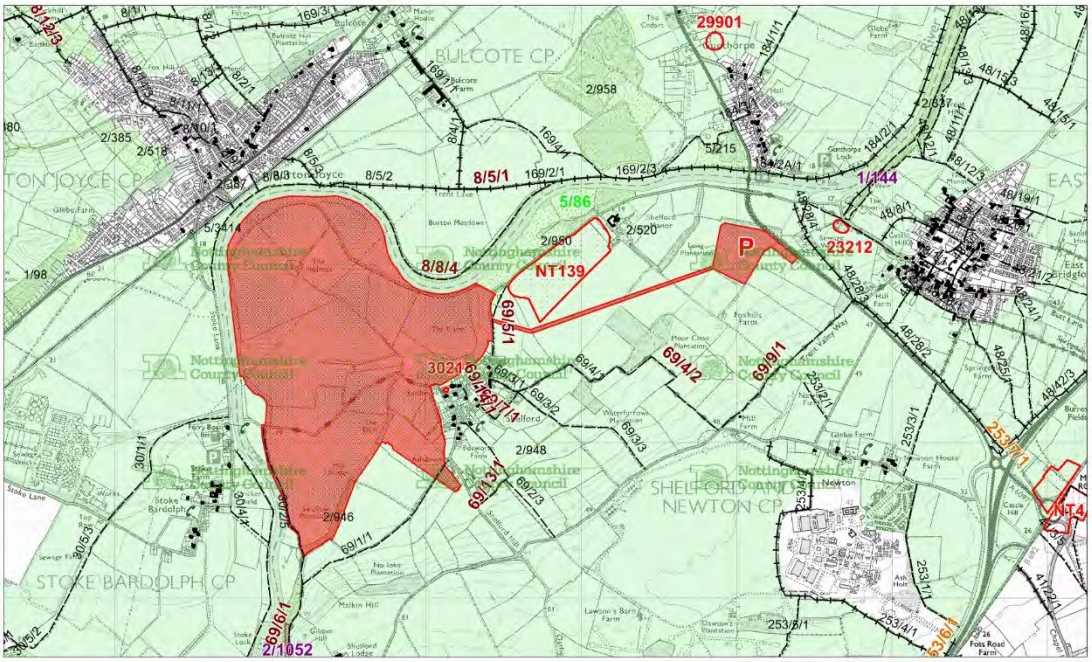
Constraints Key – East Leake
SSSI
LWS
1/165 Stanford Park Biosinc NBGRC2015 Recognised 'Well-wooded parkland of exceptional zoological interest'
2/34 Sheepwash Brook Wetlands Biosinc NBGRC2015 Recognised 'A fishing lake surrounded by valuable marsh and grasslands'
5/7167 Manor Farm, East Leake Grassland Biosinc NBGRC2015 Recognised A species-rich grassland with a notable flora
SINC Geo
Listed Buildings
Numerous as indicated
Conservation Area
East Leake / Costock
SAM
Footpath
13/1/2 East Leake FP1
13/2/1 East Leake FP2
13/3/2 East Leake FP3
13/5/1 East Leake FP5
26/4/1 Rempstone FP4
Bridleway
26/11/1 Rempstone BW11
26/12/1 Rempstone BW12
26/12/2 Rempstone BW12
26/12/3 Rempstone BW12

Nottinghamshire MLP Call for Sites - Sand and Gravel - Redhill



Constraints Key - Redhill
SSSI
LWS
1/846 Red Hill, Ratcliffe on Soar Biosinc NBGRC2015 Recognised 'A rough calcareous grassland community'
7/845 River Soar, Loughborough Meadows to Trent Biosinc NBGRC2015 Recognised 'A slow-flowing river with notable plant communities'
5/2/66 Trowell Junction Grassland Biosinc NBGRC2015 Recognised 'A grassland with a flood meadow character and scrubby herb-rich areas'
SINC Geo
2/1056 Red Hill, Ratcliffe-on-Soar Geosinc NBGRC 2004b A good river cliff exposure of the Mercia Mudstone Group (Keuper Marl) with gypsum veins and beds
Listed Buildings
Numerous as indicated
Conservation Area
Thrumpton Park is classified as a Conservation Area
SAM
NT141 Roman site on Red Hill
Footpath
25/5/1 Ratcliffe On Soar FP5
25/3/2 Ratcliffe On Soar FP3
25/7/1 Ratcliffe On Soar FP7
Bridleway

Nottinghamshire MLP Call for Sites - Sand and Gravel - Shelford

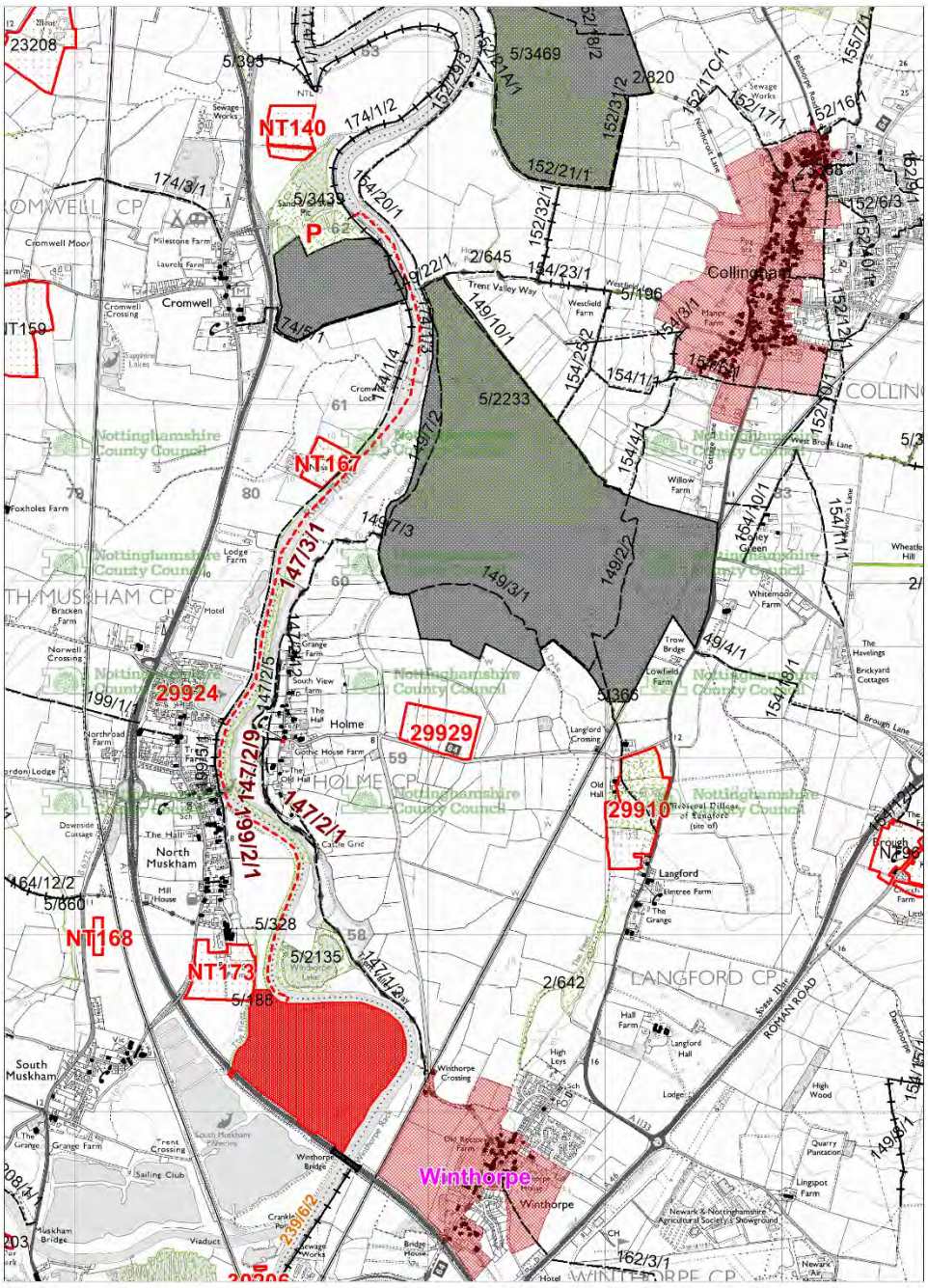


Constraints Key - Shelford
SSSI
LWS
[illegible] Shelford Carr Biosinc NBGRC2015 Recognised 'An excellent habitat of inundated deciduous woodland of botanical and zoological interest'
[illegible] Manor Lane Bank Shelford Biosinc NBGRC2015 Recognised A roadside bank supporting a notable flora characteristic of a dry Trentside grassland
[illegible] Swallow Plantation Biosinc NBGRC2015 Recognised 'A linear plantation following the course of an aquatic-rich drain'
[illegible] Field Lane DykeBiosinc NBGRC2015 Recognised 'A notable aquatic community in a drainage channel'
[illegible] River Trent: Burton Joyce to Lowdham Biosinc NBGRC2015 Recognised Stretch of the River Trent with notable marginal and inundation communities
[illegible] Trent Bluff Scrub, Radcliffe Biosinc NBGRC2015 Recognised A mosaic of scrub and notable grassland on a Mercia Mudstone river bluff
[illegible] Burton Joyce Cemetery Biosinc NBGRC2015 Recognised 'A species-rich, well-established grassland sward'
[illegible] Gunthorpe Lakes Biosinc NBGRC2015 Recognised 'A large area of abandoned gravel workings of ornithological importance'
[illegible] Gunthorpe Riverside Gravel Pit Biosinc NBGRC2015 Recognised Flooded gravel pit with valuable scrub and aquatic habitat
[illegible] Trent Hills Wood, East Bridgford BioSinc NBGRC2015 Recognised 'A wooded river bluff primarily of zoological interest'
SINC Geo
1/144 Gunthorpe Weir Geosinc NBGRC 2004b An excellent site showing clearly the Harlequin Formation of the Mercia Mudstone Group (Keuper Marl) with fibrous gypsum and sedimentary features also to be seen
2/1052 Gibbet Hill River Cliffs, Radcliffe-on-Trent Geosinc NBGRC 2004b A good exposure of the Mercia Mudstone Group (Keuper Marl) with the Plains Skerry sandstone unit and gypsum also exposed
Listed Buildings
Cluster in Shelford and surround settlements
Conservation Area
Bulcote and East Bridgford
SAM
NT139 SUCCESSION OF RECTILINEAR ENCLOSURES SW OF SHELFORD MANOR
30215 CIVIL WAR GUN BATTERY 50M SOUTH WEST OF ST PETERS AND ST PAUL'S CHURCH
23212 MOTTE AND BAILEY CASTLE ADJACENT TO RIVER TRENT
29901 HENGE 120M SOUTH OF LODGE FARM
NT4 MARGIDUNUM ROMAN STATION
Footpath
69/3/1
69/3/2
69/4/1

69/4/2
69/4/3
60/2/5
69/1/1

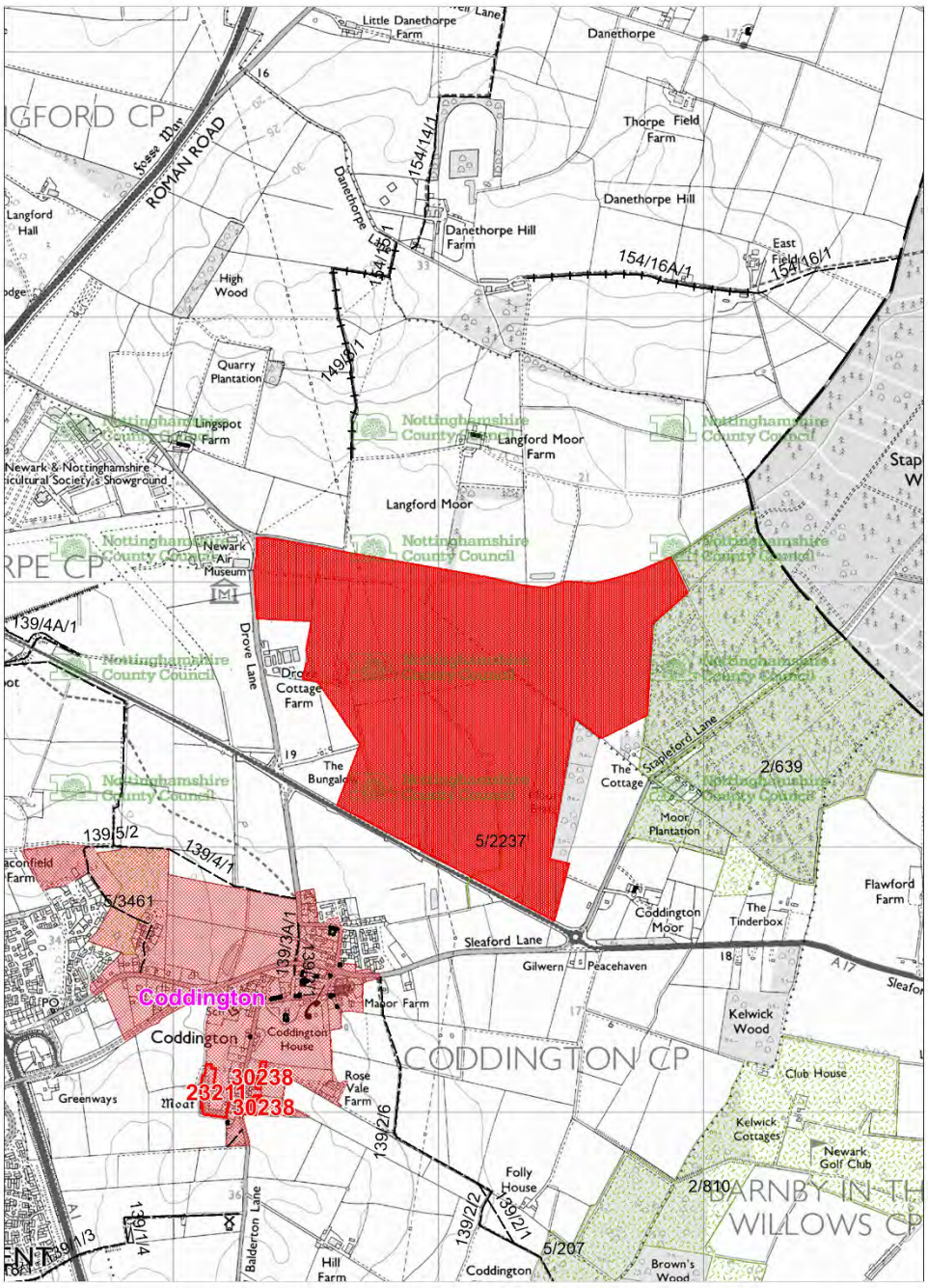
Bridleway	
253/4/2	Newton BW4
253/4/1	Newton BW4

Nottinghamshire MLP Call for Sites - Sand and Gravel - Burridge Farm



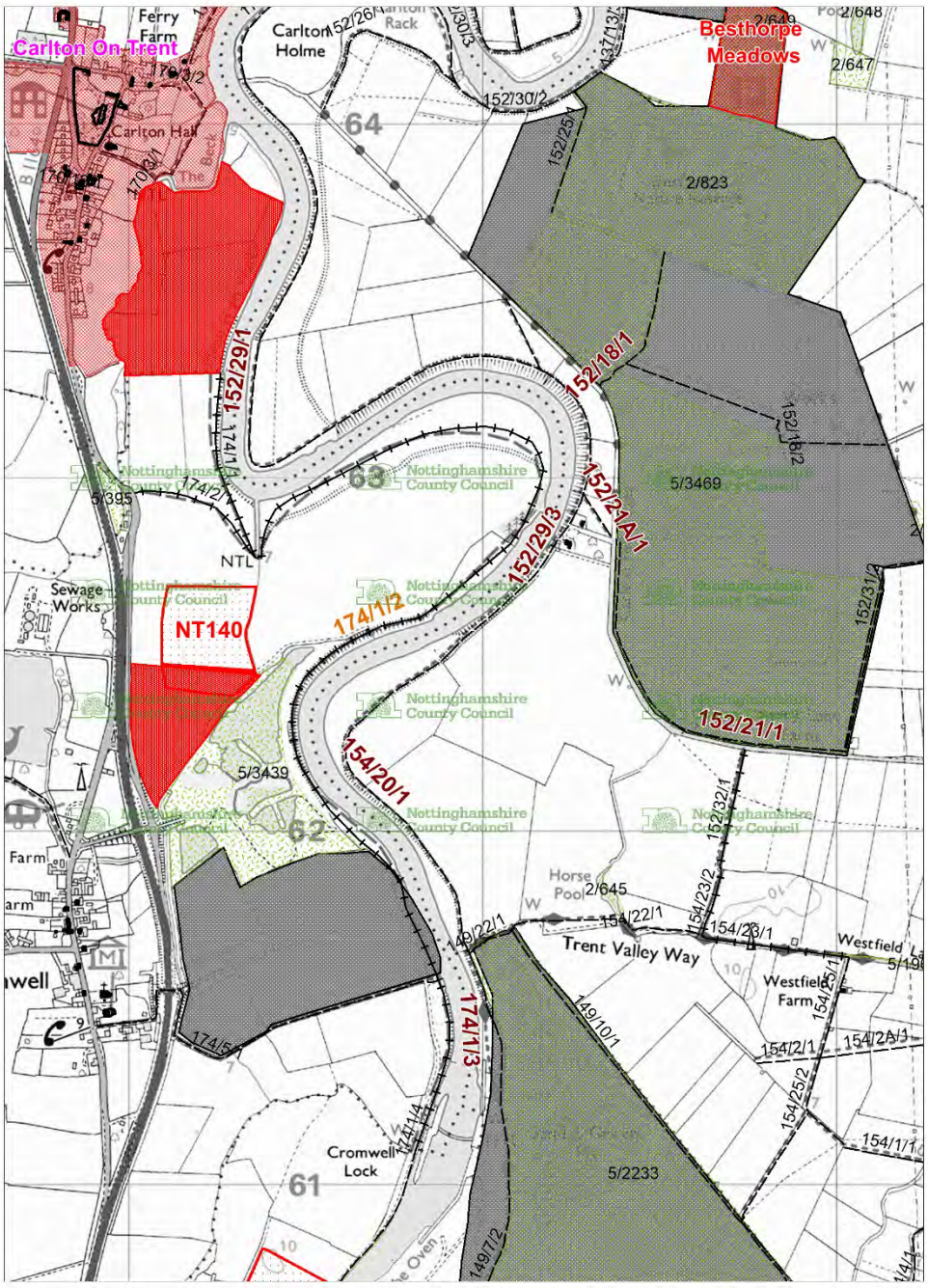
Constraints Key – Burridge Farm
SSSI
LWS
2/315 The Ness Trentside, North Muskham Biosinc NBGRC2015 Recognised 'A varied dry grassland community on the Trent floodbank'
5/188 The Fleet, South Muskham Biosinc NBGRC2015 Recognised A linear strip of open water and swamp with notable aquatic and emergent plant communities
5/1145 Winthorpe Lake Biosinc NBGRC2015 Recognised A former gravel pit of botanical and zoological note
5/2501 River Trent, Holme Biosinc NBGRC2015 Recognised A characteristic section of the River Trent
5/528 Trent West Bank Biosinc NBGRC2015 Recognised A representative stretch of the River Trent with notable bankside grassland communities and marginal aquatic vegetation
SINC Geo
Listed Buildings
Numerous as indicated – Note: Winthorpe Bridge
Conservation Area
Winthorpe
SAM
NT140 Site discovered by aerial photography NNE of village
NT167 Rectangular barrows at North Muskham
29924 Standing cross 300m north of Trent Farm
29929 Roman camp 750m east of church cottages
29910 Langford medieval village, including moat and open field system, 450m north west of elmtree farm
NT168 Site of pit alignments
NT173 Iron Age settlement
Footpath
147/1/2 Holme FP1
147/2/1 Holme FP1
147/2/9 Holme FP2
199/2/1 North Muskham FP2
199/5/1 North Muskham FP5
Bridleway
199/7/1 North Muskham BW7
238/6/1 Newark BW6

Nottinghamshire MLP Call for Sites - Sand and Gravel - Coddington



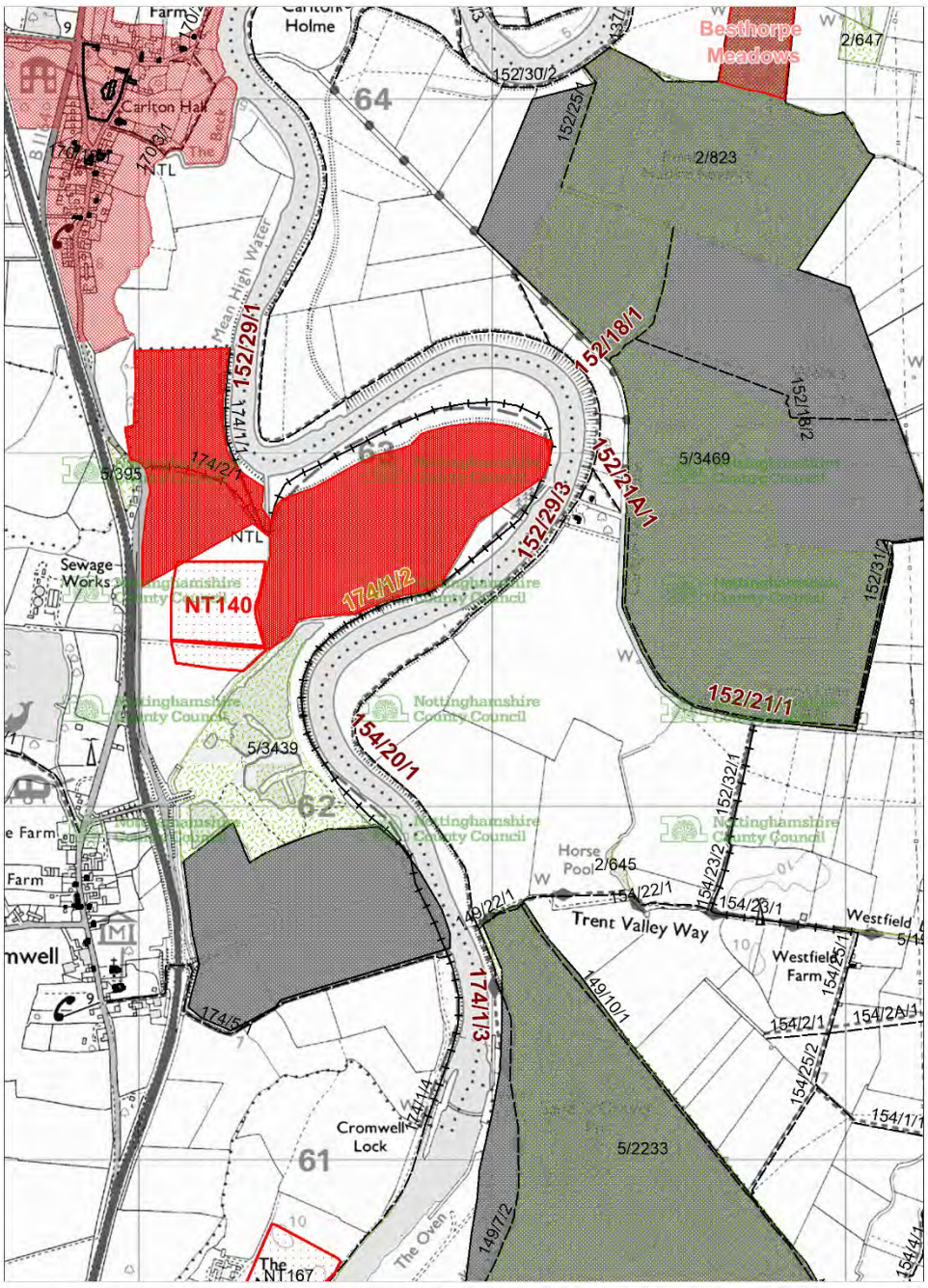
Constraints Key – Coddington
SSSI
LWS
[redacted] Langford Moor Area Biosinc NBGRC2015 Recognised 'Valuable plant and animal communities along rides and in drainage ditches throughout this coniferous forestry plantation'
[redacted] Moor Brats Drain, Coddington Biosinc NBGRC2015 Recognised A drain of interest for Water Beetles
SINC Geo
Listed Buildings
Numerous as indicated
Conservation Area
Coddington
SAM
23211 Moat, two fishponds, fishstews and pond bay, West of Balderton Lane
30238 Civil war defences 270M and 300M west of Vale Farm
Footpath
Bridleway

Nottinghamshire MLP Call for Sites - Sand and Gravel -
Carlton River Meadows (CEMEX) - Cromwell Triangle (CEMEX)



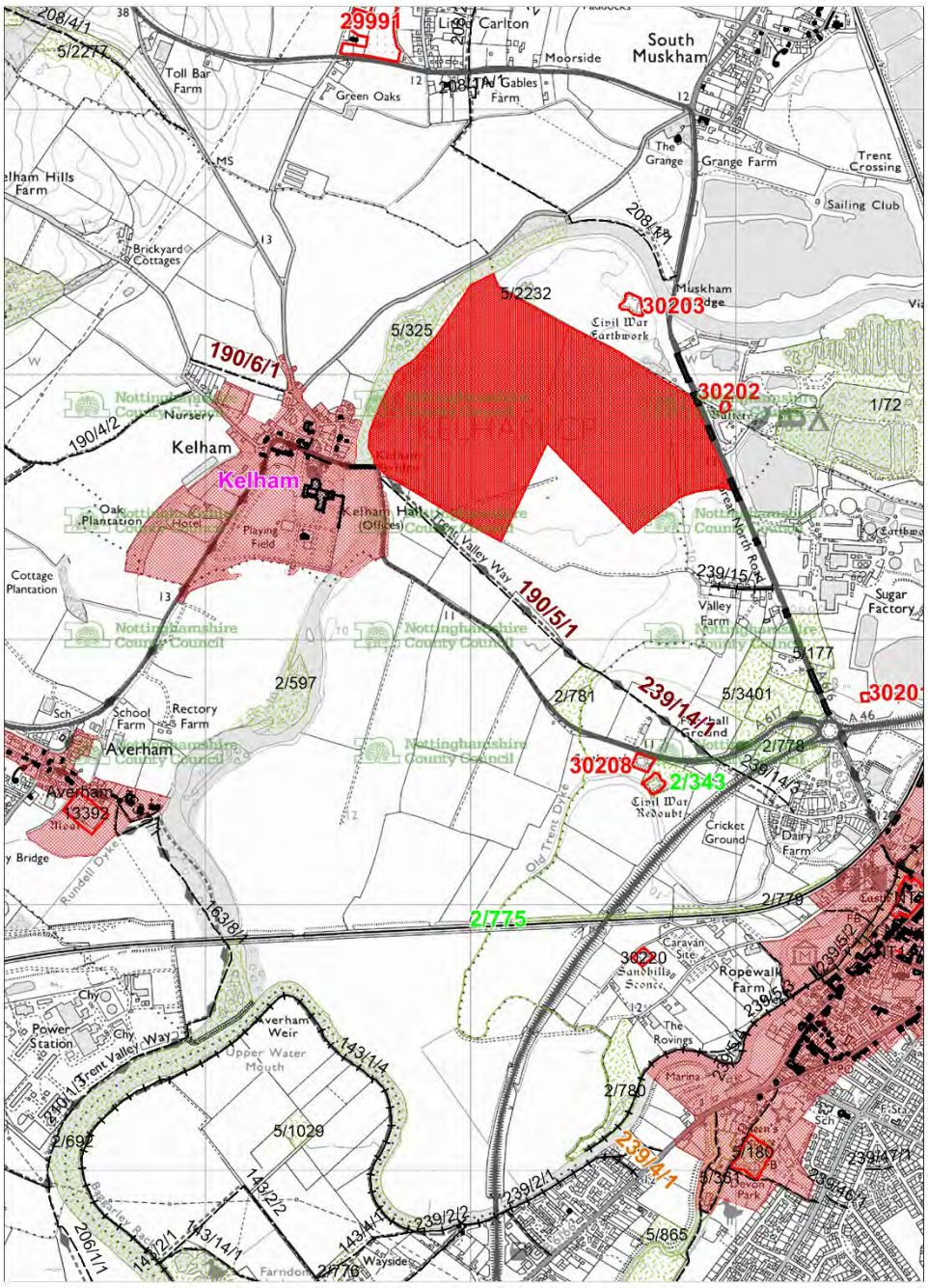
Constraints Key – Carlton River Meadows (CEMEX) - Cromwell Triangle (CEMEX)			
SSSI Besthorpe Meadows			
LWS			
S/852 Mons Pool Gravel Pits	Biosinc NBGRC2015	Recognised	'Mature deciduous woodland surrounded by large areas of open water formed on gravel workings - of particular zoological interest'
S/395 Cromwell Meadow	Biosinc NBGRC2015	Recognised	A damp grassland supporting tall herb communities
S/2933 Langford Lowfields	Biosinc NBGRC2015	Recognised	A gravel pit complex of botanical and zoological note
SINC Geo			
Listed Buildings			
Numerous as indicated			
Conservation Area			
Carlton on Trent			
SAM			
NT140 Site discovered by aerial photography NNE of village			
Footpath			
152/18/1 North Collingham FP18			
152/21a/1 North Collingham FP21A			
152/29/1 North Collingham FP29			
152/29/3 North Collingham FP29			
154/20/1 South Collingham FP20			
170/3/1 Carlton-On-Trent FP3			
174/5/1 Cromwell FP5			
Bridleway			
174/1/1 Cromwell BW1			
174/1/2 Cromwell BW1			
174/2/1 Cromwell BW2			

Nottinghamshire MLP Call for Sites - Sand and Gravel - Cromwell (CEMEX)



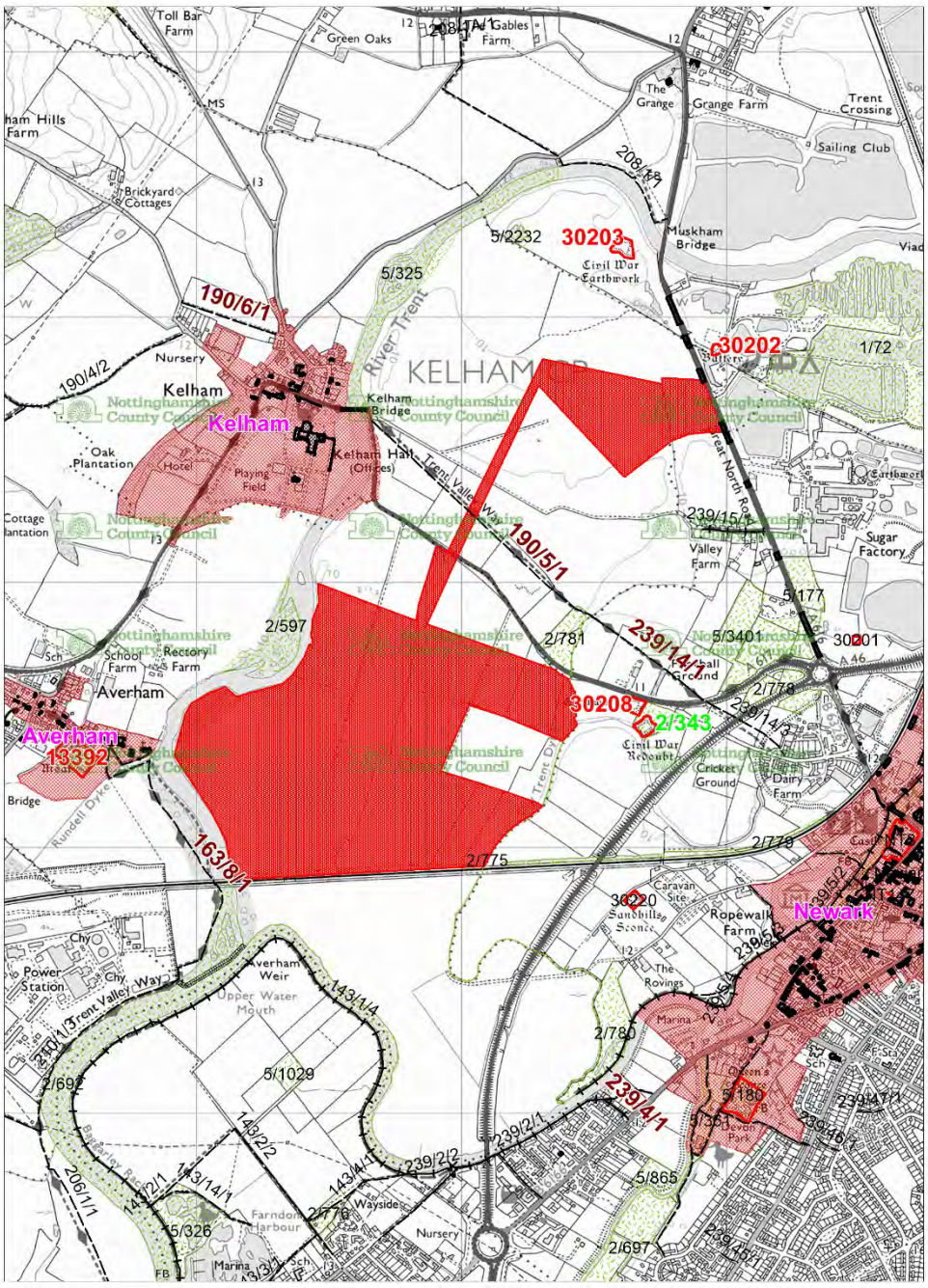
Constraints Key – Cromwell (CEMEX)			
SSSI Besthorpe Meadows			
LWS			
[illegible] Mons Pool Gravel Pits	Biosinc NBGRC2015	Recognised	'Mature deciduous woodland surrounded by large areas of open water formed on gravel workings - of particular zoological interest'
[illegible] Cromwell Meadow	Biosinc NBGRC2015	Recognised	A damp grassland supporting tall herb communities
[illegible] Langford Lowfields	Biosinc NBGRC2015	Recognised	A gravel pit complex of botanical and zoological note
SINC Geo			
Listed Buildings			
Numerous as indicated			
Conservation Area			
Carlton on Trent			
SAM			
NT140 Site discovered by aerial photography NNE of village			
Footpath			
152/18/1 North Collingham FP18			
152/21a/1 North Collingham FP21A			
152/29/1 North Collingham FP29			
152/29/3 North Collingham FP29			
154/20/1 South Collingham FP20			
174/5/1 Cromwell FP5			
Bridleway			
[illegible] Cromwell BW1			
[illegible] Cromwell BW1			
[illegible] Cromwell BW2			

Nottinghamshire MLP Call for Sites - Sand and Gravel -
Great North Road (North)



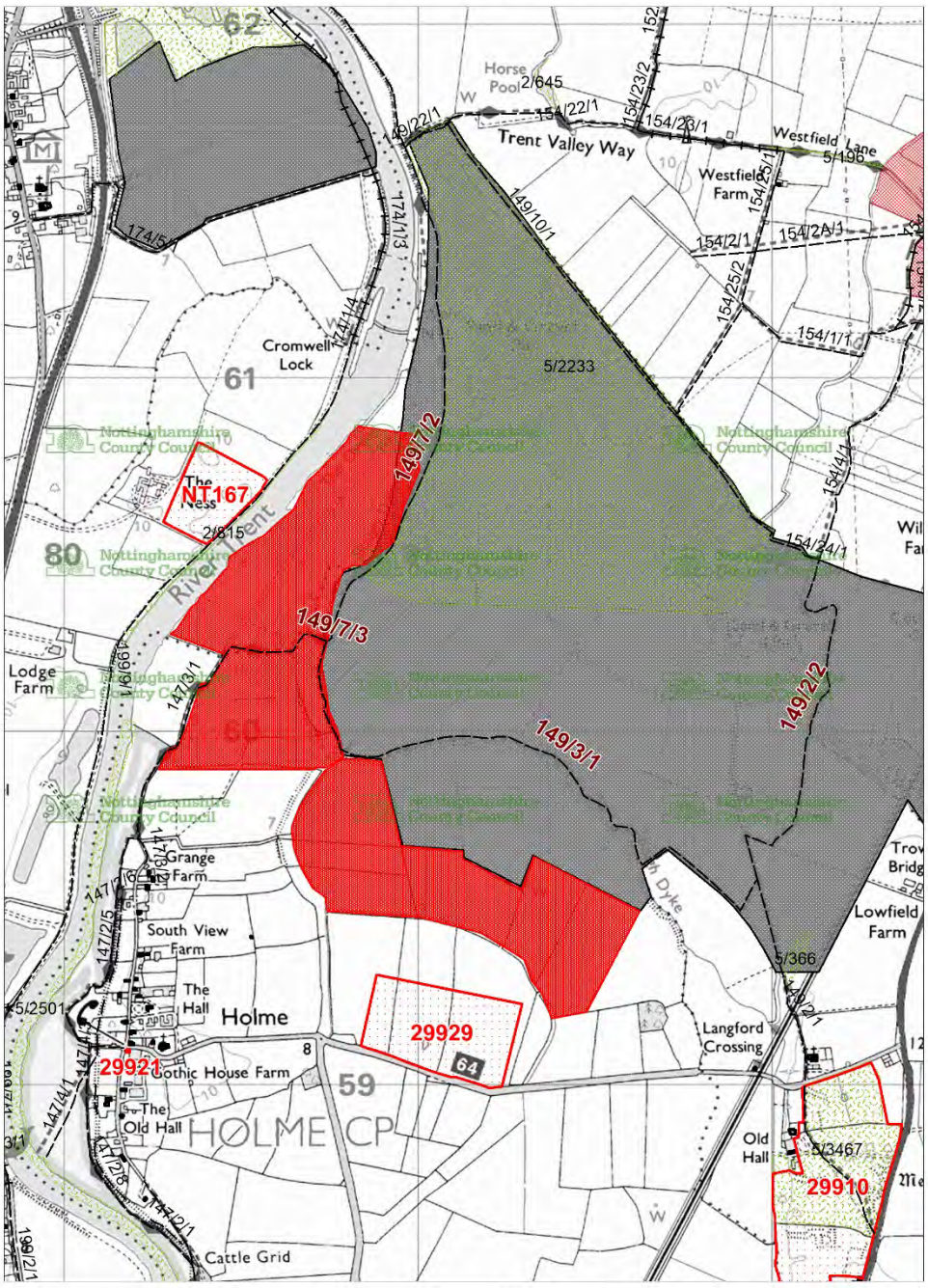
Constraints Key – Great North Road (North)
SSSI
LWS
5/73 South Muskham Gravel Pits Biosinc NBGRC2015 Recognised 'An excellent complex of pools, scrub and ruderal habitats among old gravel workings - of particular ornithological value'
2/307 Kelham Hall Shingle Bank Biosinc NBGRC2015 Recognised 'A point bar in the River Trent with developing scrub and ruderal communities'
2/778 Great North Road Grasslands Biosinc NBGRC2015 Recognised 'A series of diverse meadows with damp hollows'
2/781 Kelham Road Grassland Biosinc NBGRC2015 Recognised 'A herb-rich grassland'
5/1078 Kelham Road Redoubt Grassland Biosinc NBGRC2015 Recognised A hay meadow witha diverse grassland community
5/177 Newark Grassland Biosinc NBGRC2015 Recognised Species-rich unimproved grassland on river gravel
5/2231 Kelham Pool Biosinc NBGRC2015 Recognised A seasonal pool of interest for Water Beetles and Water Bugs
5/875 Kelham Trent and Island Biosinc NBGRC2015 Recognised A valuable community of scrub, ruderals and notable gravel colonists on a Trent river island
5/3401 Valley Farm Grassland Biosinc NBGRC2015 Recognised Damp grassland with notable species
SINC Geo
Listed Buildings
Numerous as indicated, especially in Collingham
Conservation Area
Collingham
SAM
29991 Little Carlton medieval village and part of the meadow field system
30201 Civil war redoubt 550M south east of Valley Farm
30202 Gun platform 440M south east of Muskham Bridge
30203 Civil war Sconce 150M west of Muskham Bridge
30208 Moated site 750M north west if Dairy Farm
Footpath
190/5/1 Kelham FP5
190/6/1 Kelham FP6
239/14/1 Newark FP14
Bridleway
239/15/1 Newark BW15

Nottinghamshire MLP Call for Sites - Sand and Gravel -
Great North Road South



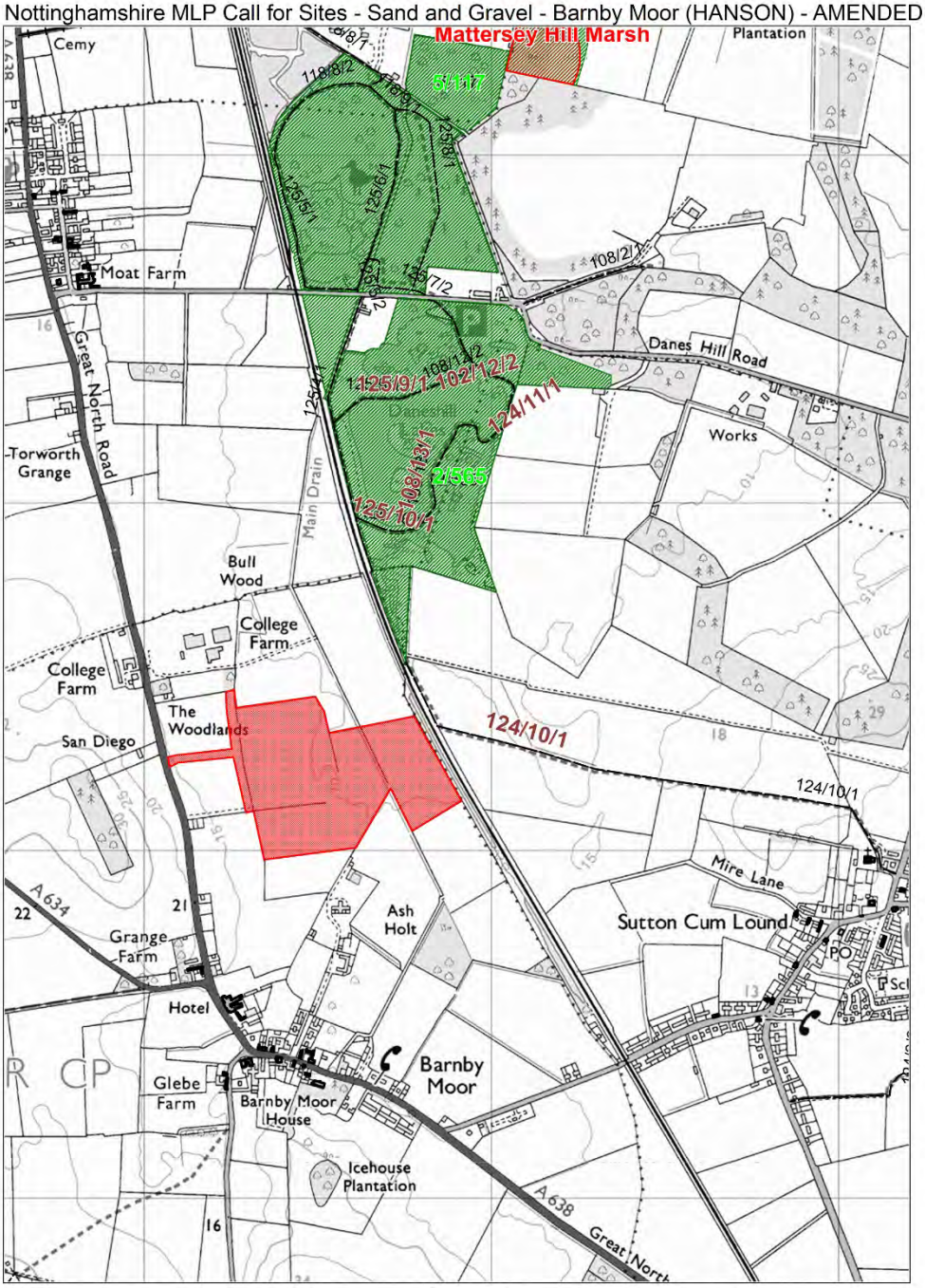
Constraints Key – Great North Road (South)
SSSI
LWS
2/73 South Muskham Gravel Pits Biosinc NBGRC2015 Recognised 'An excellent complex of pools, scrub and ruderal habitats among old gravel workings - of particular ornithological value'
2/597 Kelham Hall Shingle Bank Biosinc NBGRC2015 Recognised 'A point bar in the River Trent with developing scrub and ruderal communities'
2/852 River Trent, Staythorpe Biosinc NBGRC2015 Recognised 'A good representative stretch of the River Trent with broad aquatic margins'
2/775 Old Trent Dyke Biosinc NBGRC2015 Recognised 'A species-rich aquatic community in a secondary channel of the River Trent'
2/778 Great North Road Grasslands Biosinc NBGRC2015 Recognised 'A series of diverse meadows with damp hollows'
2/779 Dairy Farm Railway Strip, Newark Biosinc NBGRC2015 Recognised 'A notable damp community of woodland, scrub and wetland species'
2/783 Kelham Road Grassland Biosinc NBGRC2015 Recognised 'A herb-rich grassland'
5/1078 Kelham Road Redoubt Grassland Biosinc NBGRC2015 Recognised A hay meadow with a diverse grassland community
5/177 Newark Grassland Biosinc NBGRC2015 Recognised Species-rich unimproved grassland on river gravel
5/2253 River Trent – Kelham Biosinc NBGRC2015 Recognised A section of the RiverTrent of interest for Water Beetles
SINC Geo
Listed Buildings
Numerous as indicated
Conservation Area
Collingham / Newark / Kelham
SAM
13392 Averham Moat and Enclosure
30202 Gun platform 440M south east of Muskham Bridge
30203 Civil war Sconce 150M west of Muskham Bridge
30208 Moated site 750M north west of Dairy Farm
30220 Civil War Sconce 650M north west of Devon Bridge
Footpath
163/8/1 Averham FP8
190/5/1 Kelham FP5
190/6/1 Kelham FP6
210/1/3 Staythorpe FP1
239/4/1 Newark FP14
239/14/1 Newark FP14
Bridleway
143/1/4 Farndon BW1

Nottinghamshire MLP Call for Sites - Sand and Gravel - Langford South and West



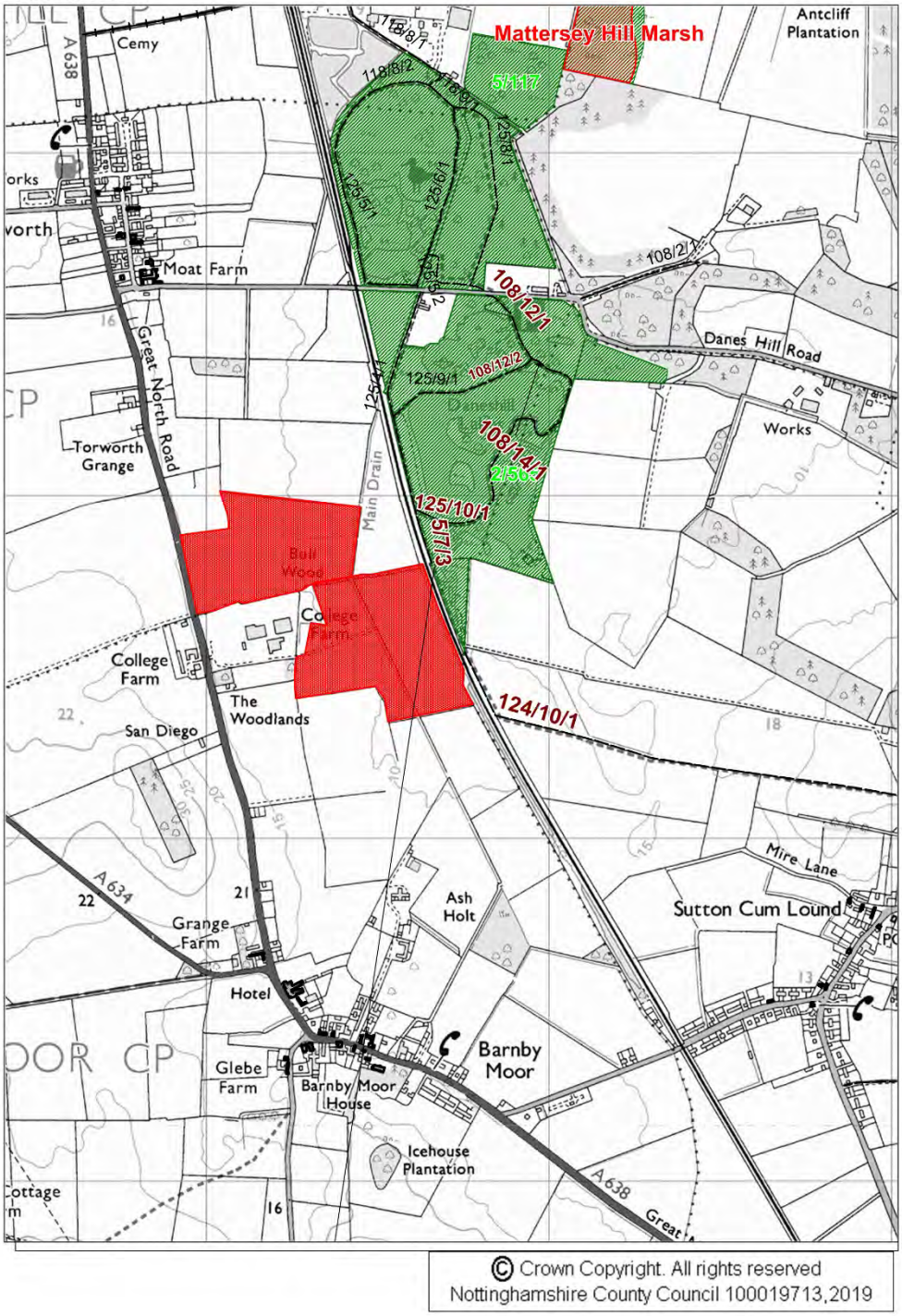
Constraints Key – Langford South and West
SSSI
LWS
The Ness Trentside, North Muskham Biosinc NBGRC2015 Recognised 'A varied dry grassland community on the Trent floodbank'
Langford Lowfields Biosinc NBGRC2015 Recognised A gravel pit complex of botanical and zoological note
River Trent, Holme Biosinc NBGRC2015 Recognised A characteristic section of the River Trent
Langford Marsh Biosinc NBGRC2015 Recognised A pond and marsh of botanical interest
SINC Geo
Listed Buildings
Numerous as indicated
Conservation Area
SAM
NT167 Rectangular barrows at North Muskham
29910 Langford medieval village, including moat and open field system, 450m north west of elmtree farm
29921 Standing Cross 140M North of the Old Hall
29929 Roman camp 750m east of church cottages
Footpath
147/3/1 Holme FP3
149/2/2 Langford FP2
149/3/1 Langford FP3
149/7/2 Langford FP7
149/7/3 Langford FP7
199/9/1 North Muskham FP9
Bridleway
174/1/4 Cromwell BW1

Nottinghamshire MLP Call for Sites - Sand and Gravel - Barnby Moor (HANSON) - AMENDED



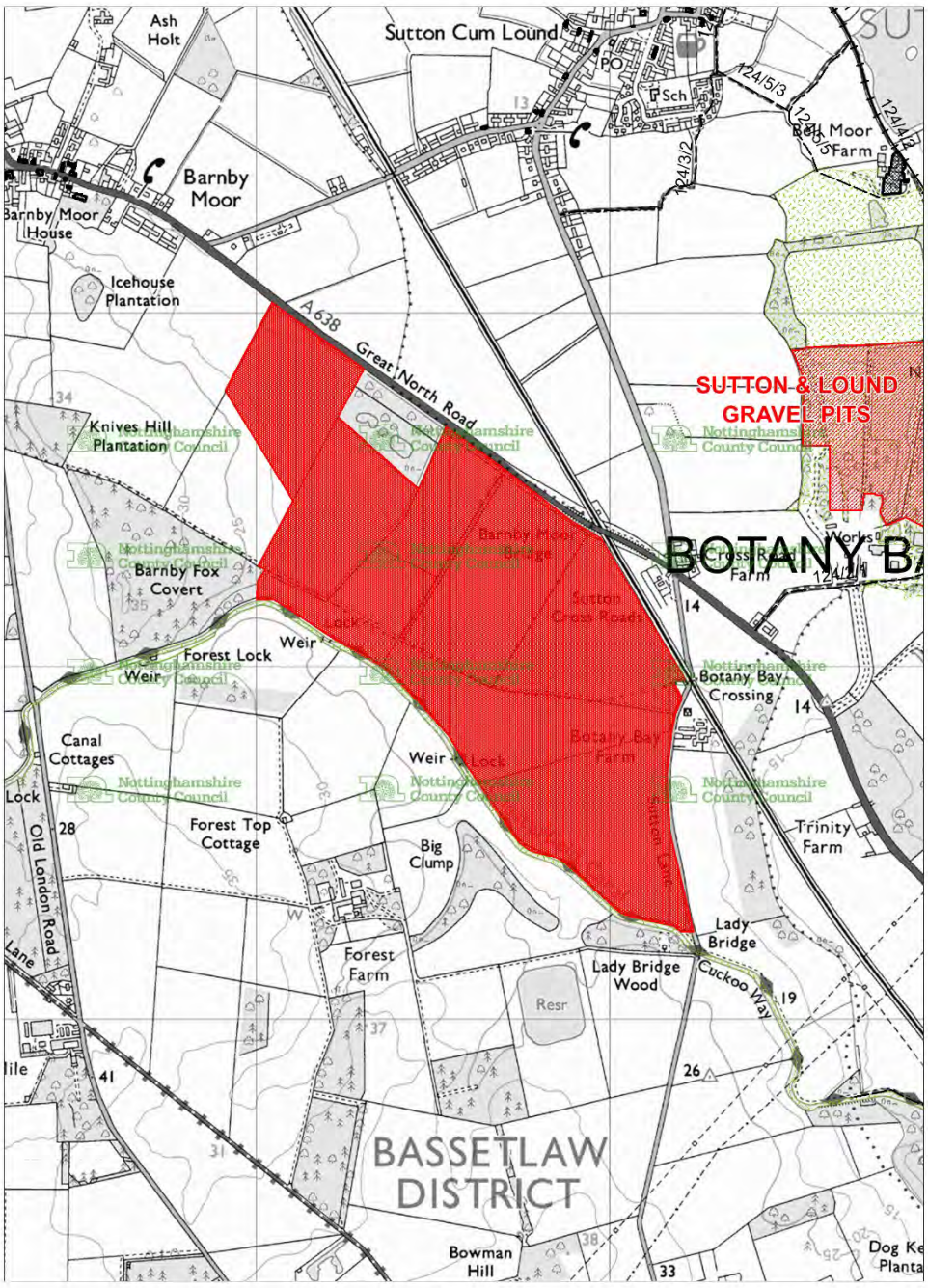
Constraints Key – Barnby Moor (HANSON)
SSSI Mattersey Hill Marsh
LWS
2/565 Daneshill Lakes and Woodland Biosinc NBGRC2015 Recognised 'A very rich mosaic of woodland, marsh and aquatic habitats on old sand and gravel workings - of note for both its plant and animal communities'
SINC Geo
Listed Buildings
Numerous as indicated
Conservation Area
SAM
Footpath
82/6/1 Barnby Moor FP6
108/2/1 Lound FP2
108/12/2 Lound FP12
108/13/1 Lound FP13
125/9/1 Torworth FP9
125/10/1 Torworth FP10
Bridleway

Nottinghamshire MLP Call for Sites - Sand and Gravel - Torworth (Rotherham S&G) - AMENDED



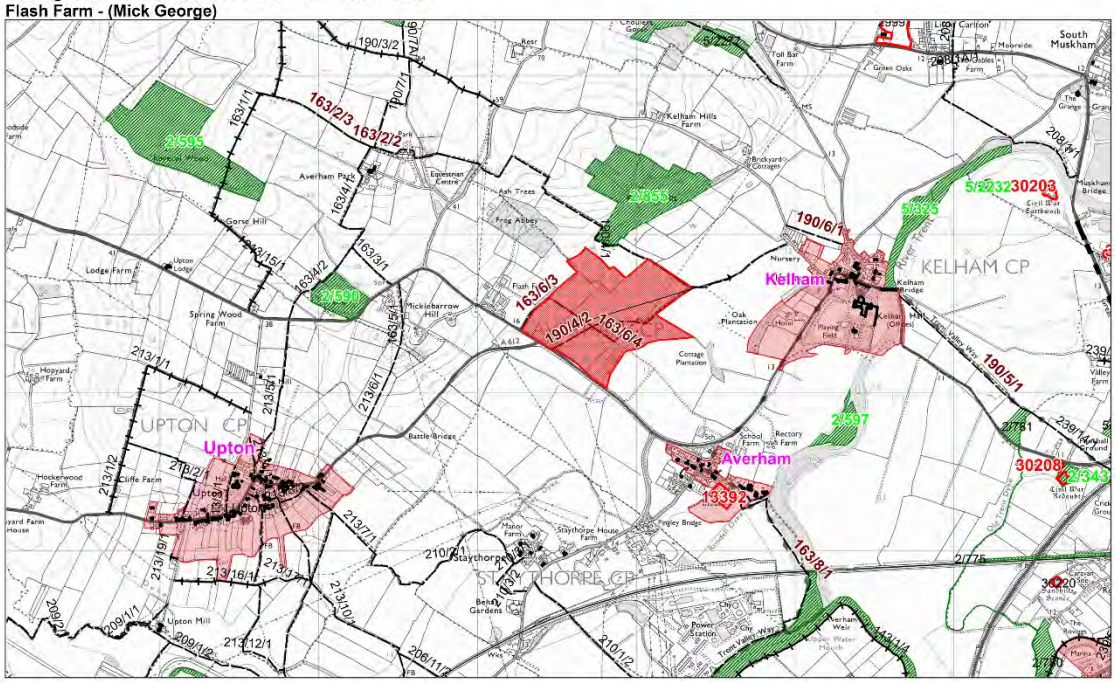
Constraints Key – Torworth (Rotherham S&G)
SSSI Mattersey Hill Marsh
LWS
2/5NS Daneshill Lakes and Woodland Biosinc NBGRC2015 Recognised 'A very rich mosaic of woodland, marsh and aquatic habitats on old sand and gravel workings - of note for both its plant and animal communities'
5/117 Ranskill Sandpit Spoil Biosinc NBGRC2015 Recognised A mosaic of marsh, open water and characteristic sand-land communities which have developed on an old sand pit
SINC Geo
Listed Buildings
Numerous as indicated
Conservation Area
SAM
Footpath
82/6/1 Barnby Moor FP6
108/2/1 Lound FP2
108/12/1 Lound FP12
108/12/2 Lound FP12
108/13/1 Lound FP13
118/8/2 Ranskill FP8
118/9/1 Ranskill FP9
124/11/1 Sutton FP11
124/10/1 Sutton FP10
125/4/1 Torworth FP4
125/4/3 Torworth FP4
125/9/1 Torworth FP9
125/10/1 Torworth FP10
Bridleway

Nottinghamshire MLP Call for Sites - Sand and Gravel - Botany Bay



Constraints Key – Botany Bay
SSSI Sutton and Lound Gravel Pits
LWS
2/623 Chesterfield Canal (Shireoaks to Welham) Biosinc NBGRC2015 Recognised 'A long stretch of canal varying in character and quality but always of aquatic and emergent botanical interest and zoological value'
SINC Geo
Listed Buildings
Numerous as indicated
Conservation Area
SAM
Footpath
Bridleway

Nottinghamshire MLP Call for Sites - Sand and Gravel -
Flash Farm - (Mick George)



Constraints Key – Flash Farm

SSSI

LWS

2/855 Kelham Hills Biosinc NBGRC2018 Recognised 'A predominantly mature, deciduous woodland, largely of zoological interest'

2/590 Spring Wood, Kelham Biosinc NBGRC2018 Recognised 'A characteristic Mercia Mudstone woodland with a diverse ground flora'

2/595 Cheveral Wood Biosinc NBGRC2018 Recognised 'A sizeable mature deciduous woodland'

2/597 Kelham Hall Shingle Bank Biosinc NBGRC2018 Recognised 'A point bar in the River Trent with developing scrub and ruderal communities'

5/325 Kelham Trent and Island Biosinc NBGRC2018 Recognised A valuable community of scrub, ruderals and notable gravel colonists on a Trent river island

SINC Geo

Listed Buildings

Nearest at Averham as indicated - numerous

Conservation Area

Kelham / Newark / Upton

SAM

13392 Averham Moat and Enclosure

30203 Civil War Sconce 150M West of Muskham Bridge

30208 Moated Site 750M North West of Dairy Farm

Footpath

163/2/1 Averham FP2

163/2/2 Averham FP2

163/6/1 Kelham FP6

163/6/2 Kelham FP6

163/6/3 Kelham FP6

163/6/4 Kelham FP6

163/8/4 Kelham FP8

190/4/1 Kelham FP4

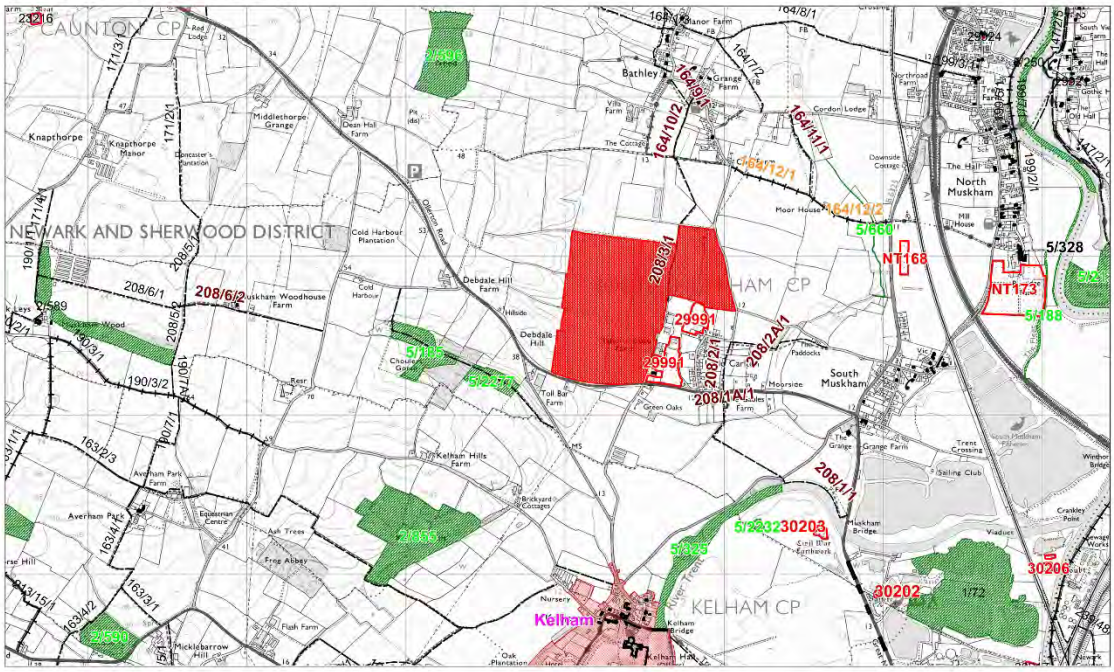
190/4/2 Kelham FP4

190/5/1 Kelham FP5

190/6/1 Kelham FP6

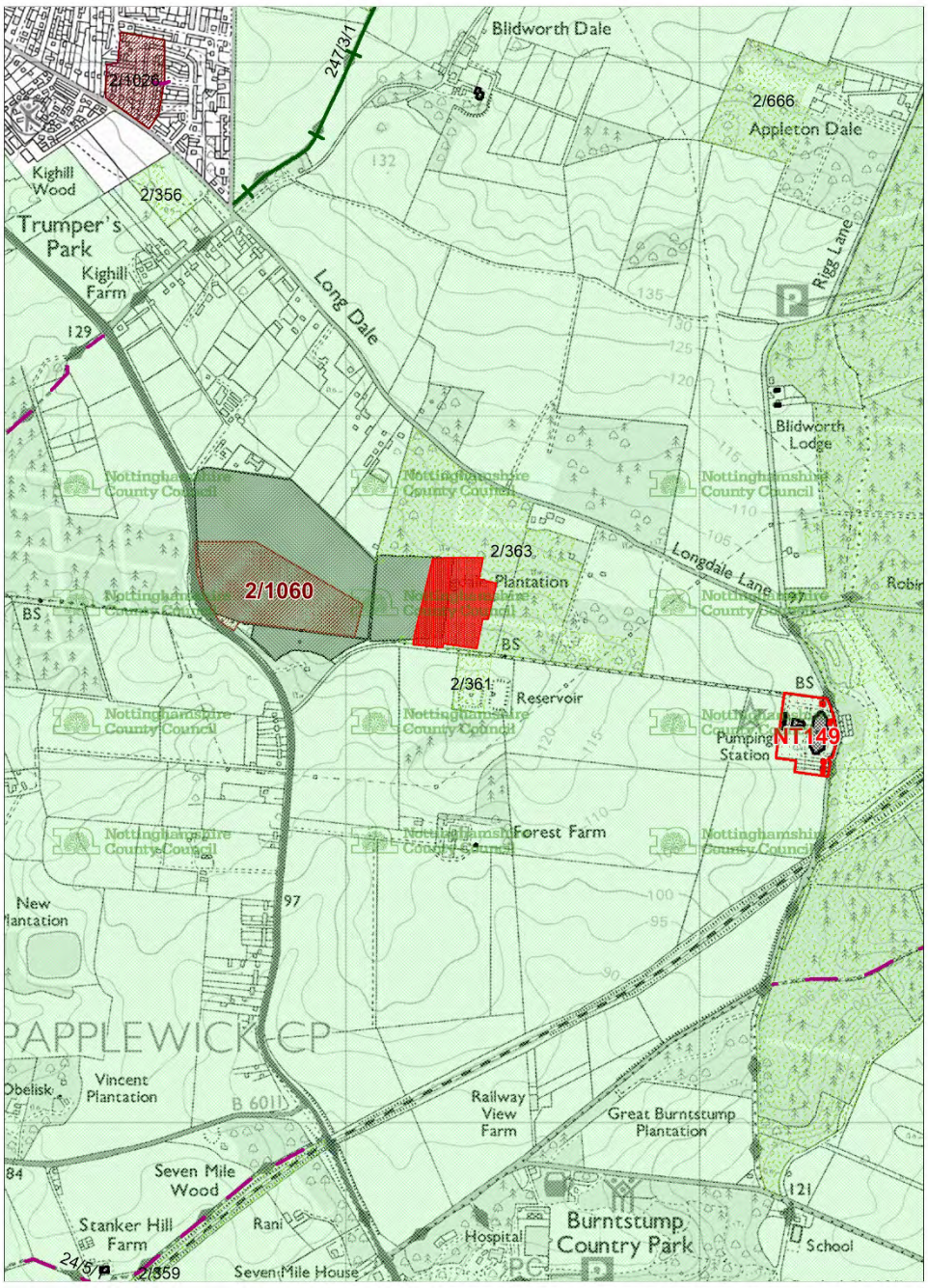
Bridleway

Nottinghamshire MLP Call for Sites - Sand and Gravel -
Little Carlton - (Aggregate Industries)



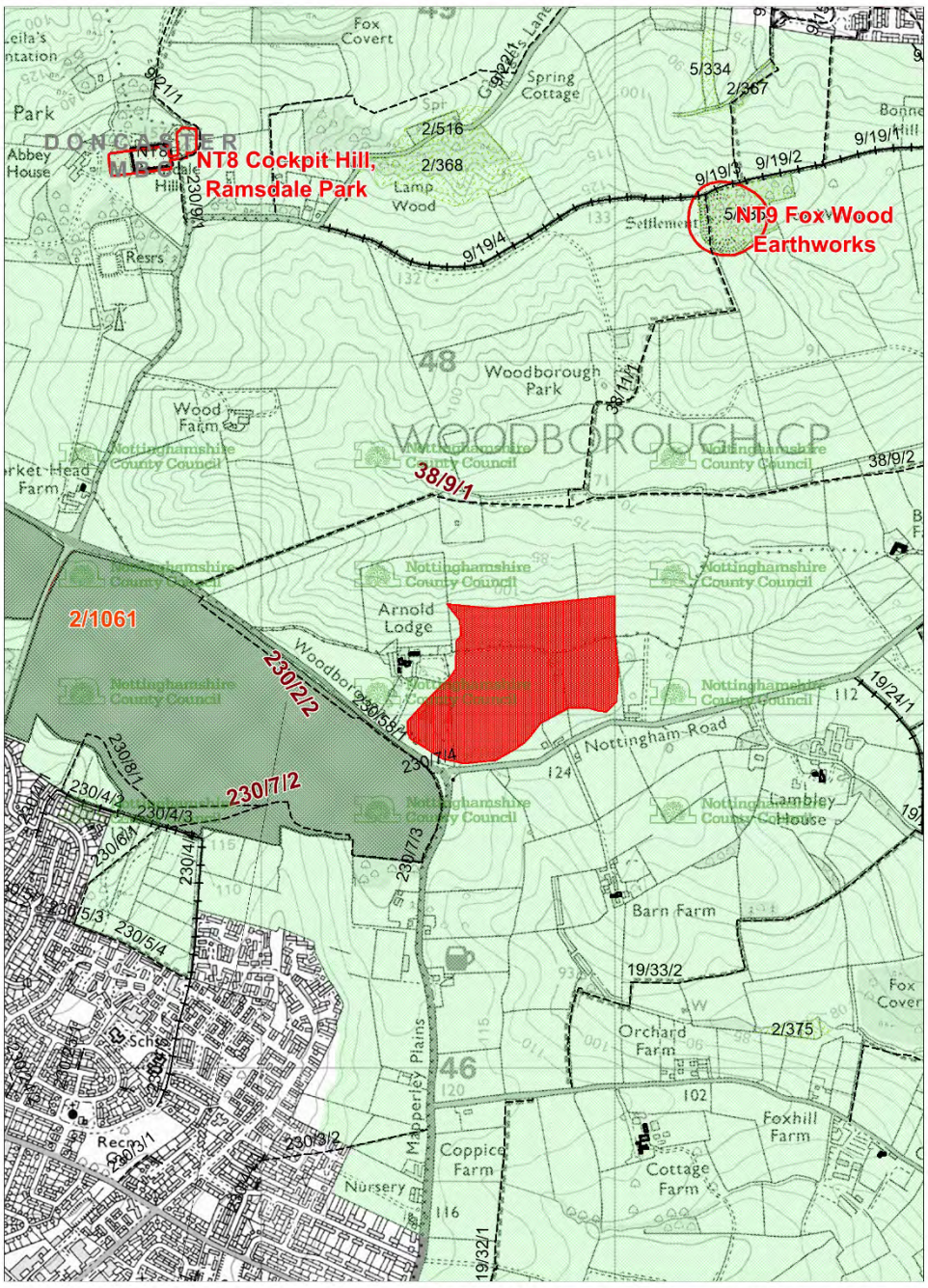
Constraints Key – Little Carlton
SSSI
LWS
2/596 Worner Wood Biosinc NBGRC2018 Recognised 'A mature deciduous woodland with a characteristic species composition'
5/185 Choulers Gorse, Kelham Biosinc NBGRC2018 Recognised A small valley with a mosaic of extensive scrub and species-rich unimproved neutral grassland
5/188 The Fleet, South Muskham Biosinc NBGRC2018 Recognised A linear strip of open water and swamp with notable aquatic and emergent plant communities
5/213 North Dumble Biosinc NBGRC2018 Recognised 'A characteristic 'Dumble'
5/2277 Ollerton Road Grasslands Biosinc NBGRC2018 Recognised Neutral grassland
5/328 Trent West Bank Biosinc NBGRC2018 Recognised A representative stretch of the River Trent with notable bankside grassland communities and marginal aquatic vegetation
5/660 Moorhouse Lane Drain Biosinc NBGRC2018 Recognised A drain with a notable plant community
SINC Geo
Listed Buildings
numerous
Conservation Area
Kelham
SAM
13392 Averham Moat and Enclosure
29991 Little Carlton Medieval Village and part of the meadow field system
30202 Gun platform 440M South East of Muskham Bridge
30203 Civil Wat Sconce 150M West of Muskham Bridge
30206 Civil War Redoubt on Crankley Point
NT168 Site of pit alignments
NT173 Iron Age Settlement
Footpath
208/1/1 South Muskham FP1
208/1A/1 South Muskham FP1A
208/2/1 South Muskham FP2
208/2A/1 South Muskham FP2A
208/3/1 South Muskham FP3
208/6/2 South Muskham FP6
Bridleway
164/13/2 Bathley BW12

Nottinghamshire MLP Call for Sites - Sherwood Sandstone - Bestwood II East



Constraints Key – Bestwood II East
SSSI
Greenbelt
Full coverage as indicated
LWS
2/3[illegible] Longdale Heath Biosinc NBGRC2015 Recognised 'A covered reservoir supporting heath and acidic grassland'
2/3[illegible] Longdale Plantation Biosinc NBGRC2015 Recognised 'An important area of deciduous woodland with a characteristic acidic ground flora'
SINC Geo
2/1060 Wildman's Wood Quarry Geosinc NBGRC 2004b A good exposure of the Nottingham Castle Formation (Bunter Pebble Beds) showing sedimentary structures and marl beds
Listed Buildings
Papplewick Pumping Station
Conservation Area
SAM
NT149 Papplewick Pumping Station
Footpath
Bridleway

Nottinghamshire MLP Call for Sites - Brick Clay - Woodborough Lane



Constraints Key – Woodborough Lane	
SSSI	
LWS	
SINC Geo	
2/1061 Dorket Head Brick Quarry Geosinc NBGRC 2004b Mercia Mudstone Group (Keuper Marl)	An active quarry exposing the
Listed Buildings	
Numerous as indicated, Note: Arnold Lodge	
Conservation Area	
SAM	
NT8 Cockpit Hill, Ramsdale Park	
NT9 Fox Wood Earthworks	
Footpath	
230/7/2 Arnold FP7	
230/7/3 Arnold FP7	
230/58/1 Arnold FP58	
Bridleway	