



**Nottinghamshire
County Council**

Nottinghamshire Minerals Local Plan

**Draft Minerals Local Plan
Sustainability Appraisal
Interim Report
July 2018**



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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 and informed the current stage of the MLP – the Draft Plan.
- 1.2 The Draft Plan sets 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 land allocations) and development management policies to provide the planning policy framework against which all proposals for minerals development will be assessed. SA has been an integral part of the development of the vision, strategic objectives and policies and is the subject of this report. The Draft Plan also allocates sites for minerals development and the sustainability appraisal of all the potential sites, resulting from a 'Call for Sites', is also contained in this report.

Requirement for Strategic Environmental Assessment (SEA)

- 1.3 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.
- 1.4 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

- 1.5 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 (2012) (NPPF) introduced a 'presumption in favour of sustainable development' as a 'golden thread' which should run through plan-making and decision-making.

Sustainability Appraisal process

- 1.6 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.

2 Sustainability appraisal methodology

- 2.1 The sustainability appraisal methodology was set out in the Issues and Options SA Report. The Issues and Options Sustainability Report and this Interim Sustainability Report on the Draft Plan comprise Stage B (developing and refining options and policies, and assessing effects) of the SA process.
- 2.2 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 1 below.

Table 1: SA objectives and decision-making criteria

Objective	Decision making criteria
1. Ensure that adequate provision is made to meet local and national mineral demand.	<ul style="list-style-type: none"> •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.	<ul style="list-style-type: none"> • 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.	<ul style="list-style-type: none"> •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?

Objective	Decision making criteria
	<ul style="list-style-type: none"> •Will it require new transport infrastructure to be developed?
<p>4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.</p>	<ul style="list-style-type: none"> •Will the plan/proposal have an adverse impact upon heritage assets and/or their settings, including archaeological remains and historic buildings? •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?
<p>5. Protect and enhance the quality and character of our townscape and landscape.</p>	<ul style="list-style-type: none"> •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?
<p>6. Minimise impact and risk of flooding.</p>	<ul style="list-style-type: none"> •Will the plan/proposal increase the risk of flooding? •Will it help to alleviate flood risk or the impact of flooding?

Objective	Decision making criteria
	<ul style="list-style-type: none"> •Will it seek to avoid flood risk?
7. Minimise any possible impacts on, and increase adaptability to, climate change.	<ul style="list-style-type: none"> •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.	<ul style="list-style-type: none"> •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	<ul style="list-style-type: none"> •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 previous developed land?

Objective	Decision making criteria
	<ul style="list-style-type: none"> •Will it utilise existing infrastructure or minimise the need for additional infrastructure and land take?
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	<ul style="list-style-type: none"> •Will the plan/proposal minimise energy needs? •Will it contribute to renewable/low carbon energy targets?
11. Protect and improve local air quality.	<ul style="list-style-type: none"> •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.	<ul style="list-style-type: none"> •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.	<ul style="list-style-type: none"> •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.	<ul style="list-style-type: none"> •Will the plan/proposal minimise adverse impacts of minerals activity on human health and quality of life and minimise

Objective	Decision making criteria
	<ul style="list-style-type: none"> <li data-bbox="629 288 1995 360">• levels of nuisance including dust, particulate emissions, noise (including traffic noise), vibration, visual amenity and light pollution. <li data-bbox="629 400 1615 432">• Will it promote best practice in the operation and restoration of sites? <li data-bbox="629 472 2013 544">• Will it help to enhance health and wellbeing through the provision of new or improved public open space/recreational space and access? <li data-bbox="629 584 1917 616">• Will it lead to a loss of public open space/recreational space or reduction in public access?

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 Table1), as set out in the Issues and Options Sustainability Report. 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 this amended vision are shown in Table 2.
- 3.3 The re-appraisal of the revised vision found that it had a positive or very positive impact on all the SA objectives.

Table 2: 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 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 and operated 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
	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 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 1) was evaluated to allow for identification of any tensions or conflicts between them, as shown in Table 3.
- 4.2 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.
- 4.3 There were five MLP objectives where the relationship with one or more of the SA objectives was unknown or dependent on implementation:
- MLP objective 2 (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);
 - MLP objective 5 (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);
 - MLP objective 6 (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.
 - MLP objective 7 (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.
 - MLP objective 8 (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.
- 4.4 Every MLP objective was compatible with a number of SA objectives. The MLP objectives seek to support the economy (objective 2) whilst encouraging the efficient use of resources (objectives 1 and 4), addressing climate change issues (objective 3), maximising biodiversity gain through restoration (objective 6) and minimising the impact on the environment and local communities (objectives 5, 6, 7 and 8). Overall, therefore, the compatibility matrix showed that the MLP objectives contribute positively to sustainability.

Table 3: Compatibility of the Draft Minerals Local Plan Strategic Objectives with the Sustainability Appraisal Objectives

Plan 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	+	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 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 1 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.
- 5.4 Table 4 shows the assessment key used to appraise the policies and all the completed policy appraisal matrices are set out in the Policy Appraisal Matrices section below.

Table 4: Assessment key for appraisal of policies

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
	The policy could have a positive or a negative impact depending on how it is implemented

Policy Appraisal Matrices

POLICY: SP1 Sustainable 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.	+++	+++	The Minerals Local Plan seeks to ensure that adequate minerals provision is made and the effect of this policy will be that planning applications which are in accordance with the Plan's policies will be approved unless material considerations indicate otherwise.	N/A
2. Protect and enhance biodiversity at all levels and safeguard features of geological interest.	++	+	The policy supports sustainable development and aims to secure environmental improvements. This would include biodiversity interests but these may also need to be balanced against other environmental, social and economic factors. The policy is considered to have a positive impact during the Plan period with a slightly positive impact in the longer term due to the legacy of possible improvements.	N/A
3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.	?	?	The policy is not site specific and impacts would be dependent on the location, size and operation of any site in relation to the transport network and available modes of transport. The policy presumption to work jointly and proactively with applicants may assist in mitigating some transport issues, such as through the promotion of sustainable modes of transport.	

<p>4. Protect the quality of the historic environment above and below ground.</p>	<p>++</p>	<p>+</p>	<p>The policy supports sustainable development and aims to secure environmental improvements. This would include the protection of heritage interests but these may also need to be balanced against other environmental, social and economic factors. The policy is considered to have a positive impact during the Plan period with a slightly positive impact in the longer term due to the legacy of possible improvements.</p>	
<p>5. Protect and enhance the quality and character of our townscape and landscape.</p>	<p>++</p>	<p>+</p>	<p>The policy supports sustainable development and aims to secure environmental improvements. This would include the protection and enhancement of townscape and landscape but these may also need to be balanced against other environmental, social and economic factors. The policy is considered to have a positive impact during the Plan period with a slightly positive impact in the longer term due to the legacy of possible improvements.</p>	
<p>6. Minimise impact and risk of flooding.</p>	<p>++</p>	<p>+</p>	<p>The policy supports sustainable development and aims to secure environmental improvements which will include avoidance and minimisation of flood risk. The policy is considered to have a positive impact during the Plan period with a slightly positive impact in the longer term due to the legacy of possible improvements.</p>	

7. Minimise any possible impacts on and increase adaptability to climate change.	++	+	The policy supports sustainable development and aims to secure environmental improvements which will include minimising the impacts on and reducing vulnerability to climate change. The policy presumption to work jointly and proactively with applicants may assist in mitigating climate change impacts and reducing vulnerability. The policy is considered to have a positive impact during the Plan period with a slightly positive impact in the longer term due to the legacy of possible improvements.	
8. Protection of high quality agricultural land and soil.	++	0	The policy supports sustainable development. This would include the protection of high quality agricultural land and soil but this may also need to be balanced against other environmental, social and economic factors. The policy is considered to have a positive impact during the Plan period.	
9. Promote more efficient use of land and resources	?	?	The general presumption in favour of sustainable development would support the more efficient use of land and resources but the actual effects will be dependent on where sites are located and whether it is possible to make use of existing plant and infrastructure.	
10. Promote energy efficiency and maximise renewable energy opportunities from new or existing development.	+	?	The policy supports sustainable development and aims to secure environmental improvements. This could include promoting energy efficiency measures as part of future mineral operations. This would	

			provide a slightly positive effect over the Plan period. Long term impacts are uncertain as site restoration may bring opportunities for renewable energy but this cannot be assessed at this stage.	
11. Protect and improve local air quality.	+	0	The policy supports sustainable development which will include protecting local air quality but it is difficult to ascertain whether air quality improvements could be achieved directly. The policy presumption to work jointly and proactively with applicants may assist in securing more sustainable means of transport during the Plan period which would be beneficial to air quality. The policy is considered to have a slightly positive short term impact.	
12. Protect and improve water quality and promote efficient use of water.	++	0	The policy supports sustainable development including the protection of water quality and the potential to promote efficient use of water. The policy is likely to have a positive impact during the Plan period but unlikely to have a long term effect.	
13. Support wider economic development and promote local job opportunities	+	?	The policy seeks to secure development that improves the economic conditions within an area, therefore the policy could produce an overall slightly positive effect during the Plan period but whether such effects would continue beyond the Plan period would be dependent on individual circumstances.	
14. Protect and improve human health and quality of life.	+	?	The policy seeks to secure development that improves the	

			economic, social and environmental conditions within an area, therefore the policy could produce an overall slightly positive effect during the Plan period but whether such effects would continue beyond the Plan period would be dependent on individual circumstances.	
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Summary

- This policy makes a very important contribution to sustainable development as it seeks to secure development that improves the economic, social and environmental conditions in an area.
- The policy has very positive, positive or slightly positive impacts on the majority of the SA objectives during the Plan period whilst there is more uncertainty or no clear link for more of the SA objectives beyond the Plan period as there will be variable impacts of development depending on the individual site circumstances and the nature of restoration and after-care.

POLICY: 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 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	N/A

			taken into account, particularly in areas of high flood risk.	
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: 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 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	N/A

			where 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 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: 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 above and below ground.	+	+	Climate change impacts such as flooding and acid erosion could have an adverse effect on the historic environment. The policy seeks to minimise these impacts with possible long term benefits.	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 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: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 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 river barge, 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.	l	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	N/A

			the policy would have a significant effect.	
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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: 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	0	No significant effect. Criteria could restrict choice of sites but the caveat of overriding need for development should ensure adequate provision is made.	N/A
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 above and below ground.	++	+	The policy seeks to protect and enhance heritage interests. There would be a slight 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

- 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: 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 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 and visual amenity of the Green Belt.
- There is no clear link with, or no significant effect on, any of the other SA objectives.

POLICY: 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 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	0	0	No clear link.	N/A

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	?	?	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 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	N/A

			location of any site in relation to high quality agricultural land and soil.	
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 location of any site 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 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 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 taken into account, particularly in areas of high flood risk. The site specific implications are considered separately.	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. 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 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 impacts would differ between site locations in relation to sensitive receptors. The site specific	N/A

			implications are considered separately.	
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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 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 taken into account, particularly in areas of high flood risk. The site specific implications are considered separately.	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. 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 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 impacts would differ between site locations in relation to sensitive receptors. The site specific	N/A

			implications are considered separately.	
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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 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 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	N/A

			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.	
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. 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 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 taken into account, particularly in areas of high flood risk. The site specific implications are considered separately.	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. 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 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. The site specific	N/A

			implications are considered separately.	
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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.
- Partly as a result of the SA the policy has been re-worded to omit reference to economic benefits outweighing environmental impacts, so the impact on most of the other SA objectives is no longer a negative one but rather 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 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 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 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 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 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 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.			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 above and below ground.			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.			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.			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 development and there would be potential for some local job opportunities.	N/A
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 Hydrocarbon Minerals

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 hydrocarbons 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 there are no unacceptable impacts on the environment.	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 above and below ground.	+	0	The policy seeks to ensure that there are no unacceptable impacts 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 there are no unacceptable impacts on the environment.	N/A
6. Minimise impact and risk of flooding.	+	0	The policy seeks to ensure that there are no unacceptable impacts on the environment.	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 hydrocarbons 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 there are no unacceptable impacts on the environment.	N/A
9. Promote more efficient use of land and resources	++	+	The policy requires full development of the hydrocarbon resource and seeks to avoid the sterilisation of other mineral 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 seeks to ensure that there are no unacceptable impacts on the environment.	N/A
12. Protect and improve water quality and promote efficient use of water.	+	0	The policy seeks to ensure that there are no unacceptable impacts on the environment.	N/A
13. Support wider economic development and promote local job opportunities	+	0	The policy allows for hydrocarbons to be exploited in certain circumstances which could contribute to wider economic development and there would be potential for some local job opportunities.	N/A
14. Protect and improve human health and quality of life.	+	0	The policy seeks to ensure that there are no unacceptable impacts on the environment or residential amenity.	N/A

Summary

- The policy has a positive effect on ensuring that adequate provision of minerals is made to meet demand.
- It also has a positive impact on promoting more efficient use of land and resources through requiring full development of the hydrocarbon resource and avoidance of sterilisation of other mineral resources.
- The effect on most of the remaining SA objectives is slightly positive during the Plan period as the policy seeks to ensure that there are no unacceptable impacts on the environment or residential amenity.

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 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 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 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 positive impact on protecting water quality and promoting efficient use of water and 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 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 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	+	No clear link in the short-term, but the policy seeks to ensure that, where appropriate, opportunities for biodiversity gain are taken into account in restoration proposals.	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 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 and restoration which takes into account opportunities for biodiversity gain can both 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.
- There is a slightly positive impact on protecting and enhancing biodiversity in the long-term as opportunities for biodiversity gain should be taken into account in restoration proposals.
- 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 a positive effect in the long-term on quality of life due to both the protection of landscape character and the requirement to take into account opportunities for biodiversity gain in restoration proposals.
- 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 an adverse effect on any designated or non-designated heritage assets, where public benefits outweigh the harm to or loss of such assets and where satisfactory provision is made for the excavation and recording of archaeologically important remains.
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 above and below ground.	+++	+++	The policy seeks to protect the historic environment and encourage enhancement of specific features of the historic environment as part of restoration.	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	N/A

			landscapes as part of restoration.	
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 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 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 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 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 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	++	++	The policy aims to secure sustainable development objectives which would not otherwise be achieved.	N/A

opportunities from new or existing development.				
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 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 slightly positive in the long-term.	N/A
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	N/A

			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.	
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 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 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 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. However, it seeks to ensure that minerals	N/A

			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 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,	N/A

			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	N/A

			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.	
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 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
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	N/A

			benefits to the development it is incidental to, so the effect is likely to be slightly positive both in the short and long-term.	
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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 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	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 allocated mineral extraction sites is not adversely affected.	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.	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 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 reclaimed without any unacceptable environmental impacts, the effect is likely to be slightly positive both in the short and long-term.	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. 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 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.	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 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, the effect is likely to be slightly positive both in the short and long-term.	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 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 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 reclamation 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 above and below ground.	++	0	The policy seeks to ensure satisfactory environmental, amenity and reclamation 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 reclamation safeguards.	N/A
6. Minimise impact and risk of flooding.	++	0	The policy seeks to ensure satisfactory environmental and reclamation 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 reclamation 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 reclamation safeguards.
- There is no clear link or no significant effect on the other SA objectives.

Summary of the Policy Appraisal Results

- 5.5 All of the policies had positive effects on at least some of the SA objectives.
- 5.6 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.
- 5.7 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

- 5.8 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 below.
- 5.9 The assessment did not identify any negative cumulative effects on any of the SA objectives.

Table 5: Cumulative effects of the Draft 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	+	?	+	?	
SP2	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	?	?	?	?	++	+	?	?	
SP5	0	0	0	0	+++	?	0	0	0	0	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	++	+	
SP7	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	
SP8	+++	+++	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	?	?	?	?	++	+	?	?	
MP10	+++	0	?	?	?	?	++	++	++	++	?	?	?	?	?	?	++	+	0	0	?	?	?	?	++	+	?	?	
MP11					?	?							?	?					0	0					++	0			
MP12	++	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	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	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++
DM11	0	0	?	?	0	0	?	?	?	?	?	?	?	?	?	?	?	?	0	0	0	0	0	0	?	?	?	?	
DM12	0	0	?	?	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	+	+	
DM13	++	0	?	?	?	?	?	?	?	?	?	?	?	?	?	?	++	0	++	0	?	?	?	?	+	0	?	?	
DM14	++	0	?	?	?	?	?	?	?	?	?	?	?	?	?	?	++	0	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	++	0

ST Short term
LT Long term

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
	The policy could have a positive or a negative impact depending on how it is implemented

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. A 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. These are listed in Table 7 and their locations are shown in Plan A. All of the individual site location plans for these sites are contained in Appendix A of this report.

Appraisal methodology

6.2 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.

6.3 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: 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
1	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

- 6.4 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.
- 6.5 The total scores for each site (shown in Table 7) 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.
- 6.6 The approach taken to scoring for each individual Sustainability Appraisal objective is outlined below.
- 6.7 *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).
- 6.8 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.
- 6.9 *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.

- 6.10 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.
- 6.11 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 Biodiversity Action Plan (BAP) priority habitats for the area. So the greater the extent to which BAP priority habitats would be restored or created, the more positive the score.
- 6.12 *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.
- 6.13 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).
- 6.14 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.
- 6.15 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 to be determined according to the individual site details.
- 6.16 *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.

- 6.17 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.
- 6.18 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).

6.19 *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

- 6.20 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.
- 6.21 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.

6.22 *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

6.23 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.

6.24 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).

6.25 *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.

6.26 *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.

6.27 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.

- 6.28 *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).
- 6.29 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.
- 6.30 *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.
- 6.31 *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).
- 6.32 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

- 6.33 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.

- 6.34 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.
- 6.35 In the long-term it was anticipated that there would be no significant effect (0) as operations would have ceased.
- 6.36 *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.
- 6.37 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).
- 6.38 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.
- 6.39 In the case of a site being located on an aquifer it would be scored negatively (-2).
- 6.40 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).
- 6.41 *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.

- 6.42 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.
- 6.43 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.
- 6.44 *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).
- 6.45 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.

Table 7: Potential Sites and Total Sustainability 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	-2
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
Botany Bay	-8	-1
Bawtry Road	-4	0
Barnby Moor (Hanson)	-13	-1
Barnby Moor (Rotherham SG)	-12	-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		
Bantycok	-7	-1

Full details of the site appraisal findings are set out in the site appraisal matrices included below in this report.

Site appraisal matrices: Sand and Gravel

SITE NAME: <i>BARTON IN FABIS (MILL HILL)</i>		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 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 these sites, during operations, through noise, dust, NOx and	Ecological surveys and hydrological reports. Alternative working proposals/buffer zones to retain/protect LWSs and SSSIs. Appropriate restoration scheme to maximise BAP priority habitats for the area.

			<p>changes to hydrology and hydrogeology.</p> <p>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 BAP habitat and the loss and degradation of a number of LWSs and features used by protected species.</p>	
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	1	<p>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 archaeology which could include remains of schedulable quality.</p>	<p>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.</p>

			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	<p>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.</p> <p>The landscape assessment for post-restoration resulted in a combined landscape score of 96/100 so the impact is considered to remain very negative.</p>	<p>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.</p> <p>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.</p>
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	Meeting the requirements of the Environment Agency,

			<p>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.</p>	<p>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.</p>
<p>7. Minimise any possible impacts on, and increase adaptability to, climate change.</p>	?	I	<p>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.</p>	<p>Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.</p>

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 site is Grade 2 and 3a, which is best and most versatile agricultural land which the proposer states will be restored to the same 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 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 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	?	<p>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.</p> <p>There are 3 RoWs which would be disrupted.</p> <p>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.</p>	<p>Environmental protection measures to reduce noise and dust.</p> <p>Transport Assessment.</p> <p>Buffer zones and screen planting.</p> <p>Protection/re-routing of RoWs.</p> <p>Public access opportunities as part of restoration scheme.</p>
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 BAP priority habitats, there would be an overall reduction in BAP 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 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: 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 BAP 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 (A453 and M1).	Not applicable.
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	-2	1	<p>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.</p> <p>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.</p> <p>In the long-term the impact on the settings of heritage assets could be positive or negative depending on the nature of restoration.</p>	<p>Buffer zones and screening.</p> <p>Archaeological field evaluation informed by geomorphological investigations.</p> <p>Appropriate restoration proposals.</p>

<p>5. Protect and enhance the quality and character of our townscape and landscape.</p>	<p>-3</p>	<p>-2</p>	<p>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.</p> <p>The landscape assessment for post-restoration resulted in a combined landscape score of 61/100 so the impact is considered to become negative.</p>	<p>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.</p>
<p>6. Minimise impact and risk of flooding.</p>	<p>-3</p>	<p>I</p>	<p>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</p>	<p>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.</p>

			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.

			<p>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.</p> <p>A RoW adjacent to the north-western corner of the site could be indirectly affected.</p> <p>The long term impact depends on the details of restoration, but no details have been provided.</p>	<p>Transport Assessment.</p> <p>Protection of RoW.</p> <p>Public access opportunities as part of restoration scheme.</p>
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	1	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 BAP priority habitats for the area.
3. Promote sustainable patterns of movement and the use of	+1	0	On the basis that it would be feasible for the extension to use the existing site's infrastructure,	Not applicable.

more sustainable modes of transport.			the existing access, which is 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	<p>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.</p> <p>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.</p>	<p>Buffer zones and screening. Archaeological evaluation. Archaeological supervision and control of soil stripping. Appropriate restoration proposals.</p>
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	During the operational phase: - planting along hedgerow boundaries, particularly along

			<p>the operational period so the impact is considered to be negative.</p> <p>The landscape assessment for post-restoration resulted in a combined landscape score of 51/100 so the impact is considered to remain negative.</p>	<p>the western edge; landscape buffer against Sheepwash Pond and Brook; protection of plantation woodland field hedgerows.</p> <p>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.</p>
6. Minimise impact and risk of flooding.	-1	0	<p>The site is in Flood Zone 1 (low risk), but it should be noted that there are flooding issues downstream.</p>	<p>Flood Risk Assessment to assess the impact on downstream flooding.</p> <p>Strict controls on discharge of water from the site in line with the IDB's requirements.</p>
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	1	<p>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.</p>	<p>Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.</p>

			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.	
8. Protect high quality agricultural land and soil.	-2	I	<p>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.</p> <p>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.</p>	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	?	?	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 78 two way movements (39 HGV arrivals and 39 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	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	Environmental protection measures to reduce noise and dust.

			<p>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. A RoW which runs along the southern boundary of the site, would be indirectly affected.</p> <p>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.</p>	<p>Transport Assessment. Protection of RoW. Public access opportunities as part of restoration scheme.</p>
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 NEW OR EXTENSION: New		MINERAL TYPE: Sand and gravel 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	<p>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.</p> <p>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 moorings current being brought</p>	Ecological surveys and hydrological reports. Buffer zones to protect the LWS. Appropriate restoration scheme to maximise BAP priority habitats for the area.

			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	?	<p>The site is well related to the main highway network (A453 and M1).</p> <p>In the long term the development of a marina would generate traffic, but there is insufficient information at this stage to determine the impact.</p>	Not applicable.
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	-3	-3	<p>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 surrounding areas, causing loss</p>	Assessment of direct impacts of dewatering and appropriate protection of the scheduled monument.

			<p>of waterlogged archaeological remains associated with the scheduled site.</p> <p>Mineral extraction here will cause serious loss of significant, high importance archaeological remains.</p>	
5. Protect and enhance the quality and character of our townscape and landscape.	-3	-2	<p>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.</p> <p>The landscape assessment for post-restoration resulted in a combined landscape score of 61/100 so the impact is considered to be negative.</p>	<p>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.</p> <p>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.</p>
6. Minimise impact and risk of flooding.	-3	I	<p>The site is within the floodplain (Zone 3 – high flood risk area). Sand and gravel workings are considered to be water-compatible development which</p>	<p>Meeting the requirements of the Environment Agency, including no excavation within 45m of the River Soar or flood defences.</p>

			<p>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 and, in particular, whether potential to improve flood risk management in the area is considered.</p>	<p>Flood Risk Assessment (FRA) including consideration of flood flow and storage. Implementation of SuDs.</p>
<p>7. Minimise any possible impacts on, and increase adaptability to, climate change.</p>	?	I	<p>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.</p>	<p>Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.</p>

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	Protection of RoW. Public access to recreational opportunities.

			<p>main visual impact would be on RoW users.</p> <p>A RoW which runs along part of the eastern site boundary and partially within the site could be adversely affected.</p> <p>In the long term, the proposed development of a marina has the potential to increase recreational opportunities.</p>	
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 NEW OR EXTENSION: New		MINERAL TYPE: Sand and gravel 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 area where there is currently no	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.

			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	1	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 this stage whether a negative	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.

			impact would remain from any loss of archaeological remains.	
5. Protect and enhance the quality and character of our townscape and landscape.	-3	-3	<p>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.</p> <p>The landscape assessment for post-restoration resulted in a combined landscape score of 89/100 so the impact is considered to remain very negative.</p>	<p>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.</p> <p>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.</p>
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	<p>Flood Risk Assessment (FRA) including consideration of flood flow and storage.</p> <p>Implementation of sustainable drainage systems (SuDs).</p> <p>No excavations within 45 metres of the River Trent, or flood defences, particularly around meanders which are a zone of active erosion, in</p>

			<p>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.</p>	<p>accordance with Environment Agency requirements.</p>
<p>7. Minimise any possible impacts on, and increase adaptability to, climate change.</p>	<p>?</p>	<p>I</p>	<p>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.</p>	<p>Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.</p>

8. Protect high quality agricultural land and soil.	-2	-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.	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 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 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	<p>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.</p> <p>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.</p>	<p>Environmental protection measures to reduce noise and dust.</p> <p>Buffer zones and screen planting.</p> <p>Transport Assessment.</p> <p>Protection/re-routing of RoWs.</p> <p>Public access opportunities as part of restoration scheme.</p>
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: <i>BESTHORPE EAST</i> NEW OR EXTENSION: Extension		MINERAL TYPE: Sand and gravel 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	<p>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.</p> <p>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 Valley north of Newark. The</p>	<p>Ecological surveys and hydrological reports. Buffer zones. Appropriate restoration scheme to enhance biodiversity.</p>

			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	1	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	1	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	Meeting the requirements of the Environment Agency. Flood Risk Assessment (FRA) including consideration of flood flow and storage. Implementation of SuDs.

			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 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.	-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 amenity, the main receptors	Environmental protection measures to reduce noise and dust. Transport Assessment. Protection/ re-routing of RoWs. Public access opportunities as

			<p>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.</p> <p>There are RoWs within the site and partly adjoining the site boundaries. Disruption of these RoWs would add to the negative impact.</p> <p>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.</p>	part of 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: BURRIDGE FARM
NEW OR EXTENSION: New

MINERAL TYPE: Sand and gravel
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	<p>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.</p> <p>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, depending on the scale of habitat created.</p>	<p>Ecological surveys and hydrological reports. Buffer zones. Appropriate restoration scheme to enhance biodiversity.</p>

			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	1	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 western edge of the site. There is potential for an adverse	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.

			<p>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.</p> <p>In the long term the impact on the settings of these heritage assets could be positive or negative, depending on the nature of restoration.</p>	<p>Metal detector on conveyor belt to seek metal objects of archaeological interest. Appropriate restoration proposals.</p>
5. Protect and enhance the quality and character of our townscape and landscape.	-2	-1	<p>The landscape assessment resulted in a combined landscape score of 67/100 for the operational period so the impact is considered to be negative.</p> <p>The landscape assessment for post-restoration resulted in a combined landscape score of 48/100 so the impact is considered to be slightly negative.</p>	<p>The operational phase should incorporate screening from the river and Winthorpe Lakes and a buffer to protect The Fleet LWS.</p> <p>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.</p>
6. Minimise impact and risk of flooding.	-3	1	<p>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-</p>	<p>Meeting the requirements of the Environment Agency and Internal Drainage Board. Flood Risk Assessment (FRA) including consideration of flood flow and storage.</p>

			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	<p>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. However there would not be any detrimental impact on residents in terms of visual amenity. No RoWs are affected.</p> <p>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.</p>	<p>Environmental protection measures to reduce noise and dust. Transport Assessment.</p>
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	<p>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.</p> <p>In terms of restoration the proposer has stated some commitment to including BAP habitats, but it is not clear whether the restoration will be biodiversity-led or recreation-led. In the long-term the</p>	<p>Ecological surveys and hydrological reports. Buffer zones to protect LWSs and ancient woodland. Appropriate restoration scheme to maximise BAP priority habitats for the area.</p>

			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	1	<p>The setting of Coddington Conservation Area could be adversely affected. The site also has high potential to contain non-designated archaeology.</p> <p>In the long-term the impact on the setting could be positive or negative depending on the nature of restoration.</p>	<p>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.</p> <p>Metal detector on conveyor belt to seek metal objects of archaeological interest.</p> <p>Appropriate restoration proposals.</p>
5. Protect and enhance the quality and character of our townscape and landscape.	-2	-2	<p>The landscape assessment resulted in a combined landscape score of 71/100 for the operational period so the impact is considered to be negative.</p> <p>The landscape assessment for post-restoration resulted in a combined landscape score of 60/100 so the impact is considered to remain negative.</p>	<p>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.</p> <p>Restoration should include management of peripheral woodland belts to create mature blocks of woodland and</p>

				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	Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.

			climate change depending on the details of restoration.	
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	<p>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.</p> <p>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.</p>	<p>Environmental protection measures to reduce noise and dust.</p> <p>Transport Assessment.</p> <p>Screen planting.</p> <p>Public access opportunities as part of restoration scheme.</p>
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: <i>CROMWELL TRIANGLE & CARLTON RIVER MEADOWS</i> NEW OR EXTENSION: New			MINERAL TYPE: Sand and gravel 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	?	<p>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.</p> <p>No information has been submitted on proposed restoration, so it is not possible to determine whether the site will provide biodiversity benefits.</p>	Ecological surveys and hydrological reports. Appropriate restoration scheme to maximise BAP 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	<p>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).</p> <p>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.</p>	<p>Buffer zones and screening to minimise harm to settings of heritage assets.</p> <p>Revise site boundaries to protect scheduled monument.</p> <p>Appropriate restoration scheme.</p>

			<p>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.</p> <p>In the long term, it would appear that there would be a permanent loss of the southern area of protection of the scheduled monument.</p>	
5. Protect and enhance the quality and character of our townscape and landscape.	-3	-3	<p>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.</p> <p>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</p>	<p>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.</p> <p>For the Cromwell Triangle area of the site: During the operational phase provide</p>

			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.	screen planting along west and north boundary to reduce visibility and during the restoration phase establish hedge and small scale woodland tree planting.
6. Minimise impact and risk of flooding.	-3	1	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	Environmental protection measures to reduce noise and dust. Transport Assessment. Screen planting.

			<p>sensitive receptors, including residential properties on Main Street in Carlton-on-Trent. No RoWs are directly affected by the site.</p> <p>Long-term impact depends on details of restoration, however no restoration details have been provided.</p>	
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 this 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.

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	?	<p>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.</p> <p>No restoration details have been provided, so it is not possible to determine whether there would</p>	<p>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.</p>

			be biodiversity benefits in the long-term.	
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	1	<p>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.</p> <p>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 that remains associated with the monument extend into the application area. This is a high potential location for buried</p>	<p>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.</p>

			<p>remains which may include remains of national importance.</p> <p>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.</p> <p>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.</p>	
5. Protect and enhance the quality and character of our townscape and landscape.	-2	-2	<p>The landscape assessment resulted in a combined landscape score of 72/100 for the operational period so the impact is considered to be negative.</p> <p>The landscape assessment for post-restoration resulted in a combined landscape score of 63/100 so the impact is considered to remain negative.</p>	<p>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.</p> <p>Restoration should include hedge and small scale woodland tree planting;</p>

				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	I	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. 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.	-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	?	<p>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.</p> <p>There are RoWs within and adjoining the site, which would be respectively directly/indirectly affected.</p> <p>The long term impact depends on details of restoration, but no restoration details have been provided.</p>	<p>Environmental protection measures to reduce noise and dust.</p> <p>Transport Assessment.</p> <p>Protection/re-routing of RoWs.</p>
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 due to adjacent LWSs and uncertainty as to the long-term effect as no restoration details have been provided.
- 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 this 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.

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	<p>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.</p> <p>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</p>	<p>Ecological surveys and hydrological reports. Buffer zones. Appropriate restoration scheme to enhance biodiversity.</p>

SITE NAME: GREAT NORTH ROAD NORTH **MINERAL TYPE: Sand and gravel**
NEW OR EXTENSION: New **POTENTIAL CAPACITY: 4 million tonnes**

			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.	1	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	1	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.

			<p>asset “Edinburgh Fort”) may be adversely affected. The site also has medium to high potential for non-designated archaeology.</p> <p>In the long term the impact on the settings of heritage assets could be positive or negative, depending on the nature of restoration.</p>	
5. Protect and enhance the quality and character of our townscape and landscape.	-3	-2	<p>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.</p>	<p>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.</p> <p>Restoration should include riparian and road side planting, hedgerow restoration and riverside pasture.</p>
6. Minimise impact and risk of flooding.	-3	1	<p>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</p>	<p>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.</p>

			<p>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 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.</p>	
7. Minimise any possible impacts on, and increase adaptability to, climate change.	?	I	<p>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.</p>	<p>Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.</p>

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 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	<p>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.</p> <p>The Trent Valley Way long distance footpath could be adversely affected as it adjoins the site.</p> <p>In the long term there would be no significant effect as</p>	<p>Environmental protection measures to reduce noise and dust.</p> <p>Transport Assessment.</p> <p>Screen planting.</p> <p>Protection of the Trent Valley Way long distance footpath and improvements to RoW network on restoration.</p>

			restoration is primarily for agriculture and no enhancement 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.

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	<p>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.</p> <p>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</p>	<p>Ecological surveys and hydrological reports. Buffer zones. Appropriate restoration scheme to enhance biodiversity.</p>

			<p>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.</p>	
<p>3. Promote sustainable patterns of movement and the use of more sustainable modes of transport.</p>	I	0	<p>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.</p>	<p>Imposition of a lorry routing agreement or a similar management control to ensure that HGV traffic avoids inappropriate routes.</p>
<p>4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.</p>	-2	I	<p>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 of the historic parkland that</p>	<p>Buffer zones and screening. Archaeological surveys to determine the nature and significance of non-designated remains, then adequate</p>

			<p>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.</p> <p>In the long term the impact on the settings of these heritage assets could be positive or negative, depending on the nature of restoration.</p>	<p>provision to be made for preservation, excavation or recording. Metal detector on conveyor belt to seek metal objects of archaeological interest. Appropriate restoration proposals.</p>
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

			<p>impact is considered to be very negative.</p> <p>The landscape assessment for post-restoration resulted in a combined landscape score of 72/100 so the impact is considered to be negative.</p>	<p>Dyke LWS, the Civil War Redoubt and river corridor should be provided.</p> <p>Restoration should include riparian and road side planting, hedgerow restoration and riverside pasture.</p>
6. Minimise impact and risk of flooding.	-3	I	<p>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.</p>	<p>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.</p>

			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	Environmental protection measures to reduce noise and dust. Transport Assessment.

			<p>traffic. In terms of visual amenity, there would be no significant detrimental effect on residential properties.</p> <p>The Trent Valley Way long distance footpath would be disrupted by the conveyor route.</p> <p>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.</p>	<p>Protection of the Trent Valley Way long distance footpath and improvements to RoW network on restoration.</p>
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 NORTH NEW OR EXTENSION: Extension		MINERAL TYPE: Sand and gravel 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	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.

			workings in the Trent Valley 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	1	<p>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.</p> <p>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.</p>	<p>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.</p>

<p>5. Protect and enhance the quality and character of our townscape and landscape.</p>	<p>-2</p>	<p>-2</p>	<p>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.</p>	<p>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.</p> <p>Restoration should include provision of a network of small ponds and allow river meadowlands to be managed as flood meadow grasslands.</p>
<p>6. Minimise impact and risk of flooding.</p>	<p>-3</p>	<p>I</p>	<p>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.</p>	<p>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.</p>

			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	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 arrivals and 82 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.	-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	Environmental protection measures to reduce noise and dust. Transport Assessment. Buffer zones and screen planting.

			<p>amenity, there are distant views from a few adjacent properties including Wharf Cottage.</p> <p>There are rights of way within the site and partially along the eastern boundary. Disruption of these RoWs would add to the negative impact.</p> <p>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.</p>	<p>Protection/re-routing of RoWs.</p> <p>Public access opportunities as part of restoration scheme.</p>
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: LANGFORD SOUTH AND WEST
NEW OR EXTENSION: Extension

MINERAL TYPE: Sand and gravel
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	Further ecological surveys and hydrological reports if required. Buffer zones. Appropriate restoration scheme to enhance biodiversity.

		<p>Hydrological Impact 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.</p> <p>The nearest SSSI to the application is the Besthorpe Meadow SSSI and no impact is predicted on this as it is not groundwater dependent.</p> <p>Restoration has the potential to create high-value wetland habitats, building on the</p>	
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			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	1	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	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.

			the setting of the listed buildings and scheduled monuments.	
5. Protect and enhance the quality and character of our townscape and landscape.	-2	-2	<p>The landscape assessment resulted in a combined landscape score of 62/100 for the operational period so the impact is considered to be negative.</p> <p>The landscape assessment for post-restoration resulted in a combined landscape score of 62/100 so the impact is considered to remain negative.</p>	<p>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.</p> <p>Restoration should include wetland planting and management of grasslands as flood meadow, with low density grazing.</p>
6. Minimise impact and risk of flooding.	-3	I	<p>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</p>	<p>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.</p>

			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, 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	Not applicable.

			energy sources for on-site power.	
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 arrivals and 82 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	+2	There are settlements in close proximity to the site so during the operational phase there could be a negative effect	Environmental protection measures to reduce noise and dust. Transport Assessment.

			<p>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.</p> <p>There are rights of way within the site and partly adjoining the site boundaries. Disruption of these RoWs would add to the negative impact.</p> <p>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.</p>	<p>Buffer zones and screen planting.</p> <p>Protection/ re-routing of RoWs.</p> <p>Public access opportunities as part of restoration scheme for nature conservation.</p>
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: <i>BARNBY MOOR (HANSON)</i> NEW OR EXTENSION: New		MINERAL TYPE: Sand and gravel POTENTIAL CAPACITY: 900,000 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 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.

			<p>including from the effects of noise, dust and NOx.</p> <p>The stated restoration scheme would comprise approximately 15.6 ha of agricultural land, with field boundaries (hedgerows either retained or newly created), 1.6 ha of wet woodland and approximately 13.3 ha of other biodiversity habitat. This would not maximise the biodiversity benefits that could be gained.</p>	
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	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.

			but if poorly preserved will retain very little archaeology.	
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. There would be a moderate adverse change to views from the A638 and a small group of residential receptors. The landscape assessment for post-restoration resulted in a 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	1	Part of this 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	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.

			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.	
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	?	Approximately 55% of the site comprises Grade 3a (best and most versatile) soils, 40% comprises Grade 3b (not high quality) and the remainder, non-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 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.	-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	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.	-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, a small group of residential properties off the A638 will have open views of the site to the rear. No RoWs are affected. No public amenity benefits 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 adjoining 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 (ROTHERHAM S&G)
NEW OR EXTENSION: New

MINERAL TYPE: Sand and gravel
POTENTIAL CAPACITY: 1 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.	+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 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.

			<p>including from the effects of noise, dust and NOx.</p> <p>Restoration is stated as not having been designed, but having potential for water-based commercial (presumably fishing) and nature conservation after use. Restoration could deliver modest biodiversity benefits if the nature conservation element is implemented, but if water-based commercial after use 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.</p>	
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	1	There are no designated or non-designated built heritage assets	Archaeological surveys to determine the nature and

<p>assets and their settings above and below ground.</p>			<p>within the area of the site and the settings of those in nearby Barnby Moor are unlikely to be harmed.</p> <p>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.</p>	<p>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.</p>
<p>5. Protect and enhance the quality and character of our townscape and landscape.</p>	<p>-2</p>	<p>-2</p>	<p>The landscape assessment resulted in a combined landscape score of 68/100 for the operational period so the impact is considered to be negative. There would be a high adverse change to views for a number of residential properties. The landscape assessment for post-restoration resulted in a combined landscape score of 50/100 so the impact is considered to remain negative.</p>	<p>A landscape buffer is required to residential properties during the operational phase.</p> <p>Restoration should include restoring hedge lines (refer to species list for Idle Lowlands LCA, avoid use of Ash).</p>

6. Minimise impact and risk of flooding.	-3	I	Part of this 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	Implement restoration which provides appropriate habitats to help to increase the resilience of flora and fauna.

			depending on the details of restoration.	
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 12 two way movements (6 HGV arrivals and 6 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	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, a small group of properties on the eastern side of the A638 will have open views of the site, generally from the rear. No RoWs are affected. Should the site be restored to water based commercial or	Environmental protection measures to reduce noise and dust. Transport Assessment. Public access opportunities as part of restoration scheme.

			nature conservation after use (with public access) there may be a public amenity benefit, depending on the details of site restoration.	
Total	-12	-4		

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 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.

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	<p>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.</p> <p>Restoration is stated as enabling further additions to</p>	<p>Ecological surveys and hydrological reports. Buffer zones. Appropriate biodiversity-led restoration scheme to deliver creation of appropriate habitats, including acid grassland and/or wetland.</p>

			landscape enhancements 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	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.

			medium and the level of risk is low.	
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	Not applicable.

			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.	
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: <i>BOTANY BAY</i> NEW OR EXTENSION: New		MINERAL TYPE: Sand and gravel 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	<p>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. There is therefore the potential for direct and indirect impacts on these sites, including from noise, dust, NOx and changes to hydrology and hydrogeology.</p> <p>Restoration would be to a combination of water-based nature conservation and agricultural land use to complement existing land uses and landscape character within</p>	<p>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.</p>

			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	<p>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.</p> <p>The potential for non-designated archaeology at this site is medium and the level of risk is medium.</p> <p>In the long term the impact on these designated heritage assets could be positive or</p>	<p>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.</p>

			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.	?	1	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)	Restoration to high quality agricultural land if possible.

			<p>agricultural land, with smaller 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.</p> <p>Proposed restoration would include some agricultural land, but it is not clear whether it would match the existing quality.</p>	
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	<p>Operations would create dust.</p> <p>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.</p>	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 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.	+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	Environmental protection measures to reduce noise and dust. Transport Assessment. Public access opportunities to nature conservation areas as part of restoration scheme.

			and dust during the operational phase. No enhancement of public access to recreational 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.

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	<p>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.</p> <p>It is stated that restoration would be for the purposes of angling 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</p>	<p>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.</p>

			appropriate habitats, including wetland, species-rich 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	1	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. 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 66/100 for the operational period so the impact is considered to be negative.	During the operational phase a landscape buffer is required to residential properties on or adjacent to the A638. During the restoration phase hedgerows should be

			The landscape assessment for post-restoration resulted in a combined landscape score of 48/100 so the impact is considered to be slightly negative.	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.	?	1	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. In the long term, as restoration does not include a return to agriculture it can be assumed that there would be permanent	Restoration to high quality agricultural land if possible.

			loss of this area of agricultural land.	
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 18 two way movements (9 HGV arrivals and 9 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	Not applicable.

			construction industry. It is also likely to ensure that some jobs created at the existing site will continue with the working of this extension.	
14. Protect and improve human health and quality of life.	-2	+1	<p>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. No RoWs are affected.</p> <p>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 access to the site, leading to potential amenity benefit.</p>	<p>Environmental protection measures to reduce noise and dust.</p> <p>Transport Assessment.</p> <p>Improvements to public access.</p>
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 NEW OR EXTENSION: Extension		MINERAL TYPE: Sand and gravel 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	?	<p>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.</p> <p>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</p>	<p>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.</p>

			should seek to deliver the 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	<p>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.</p> <p>In the long term the effect on the settings of these heritage assets could be positive or negative, depending on the nature of restoration.</p> <p>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.</p>	<p>Buffer zones and screening.</p> <p>Archaeological surveys to determine the nature and significance of any remains, then adequate provision to be made for preservation, excavation or recording.</p> <p>Metal detector on conveyor belt to seek metal objects of archaeological interest.</p>

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 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.	A landscape buffer is required to the A638 during the operational phase. 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.	?	1	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	1	The site contains a mix of Grade 3a (best and most versatile) and	Restoration to high quality agricultural land if possible.

			Grade 3b (not high quality) agricultural land. The long term impact depends on approach to, and quality of, restoration.	
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 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	?	<p>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.</p> <p>The long term impact depends on details of restoration, but no restoration details have been provided.</p>	<p>Environmental protection measures to reduce noise and dust. Transport Assessment.</p>
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: <i>BESTWOOD II EAST</i> NEW OR EXTENSION: Extension		MINERAL TYPE: Sherwood Sandstone 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	Ecological surveys and hydrological reports. Buffer zones. Appropriate biodiversity-led restoration scheme.

			<p>LWS being lost to quarrying in total.</p> <p>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.</p> <p>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.</p>	
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	-1	1	The site is in close proximity to the scheduled monument and	Buffer zones and screening.

<p>assets and their settings above and below ground.</p>			<p>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.</p> <p>The potential for non-designated archaeology is medium.</p> <p>The impact on the settings of the heritage assets in the long term could be positive or negative depending on the details of restoration.</p>	<p>Appropriate restoration proposals.</p> <p>Archaeological surveys to determine the nature and significance of any remains, then adequate provision to be made for preservation, excavation or recording.</p> <p>Archaeological supervision and control of soil stripping.</p>
<p>5. Protect and enhance the quality and character of our townscape and landscape.</p>	<p>-3</p>	<p>-3</p>	<p>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.</p> <p>The landscape assessment for post-restoration resulted in a combined landscape score of 78/100 so the impact is</p>	<p>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.</p> <p>The restoration phase should include tree planting appropriate to the Sherwood Character Area and acidic grassland/heathland, and management of understorey</p>

			considered to remain very negative.	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.	?	1	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	?	?	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 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.	+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	<p>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 for residents in properties along the A60 to the south. No RoWs are affected.</p> <p>Restoration details do not include any reference to public access to recreation opportunities.</p>	<p>Environmental protection measures to reduce noise and dust. Transport Assessment.</p>
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 NAME: <i>BESTWOOD II NORTH</i> NEW OR EXTENSION: Extension		MINERAL TYPE: Sherwood Sandstone 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	Ecological surveys and hydrological reports. Buffer zones. Appropriate biodiversity-led restoration scheme.

			<p>Area (SPA) designation may be based, which raises concerns as this is of international importance.</p> <p>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.</p>	
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	1	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.	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.

			<p>The potential for non-designated archaeology is medium.</p> <p>The impact on the settings of the heritage assets in the long term could be positive or negative depending on the details of restoration.</p>	<p>Archaeological supervision and control of soil stripping.</p>
<p>5. Protect and enhance the quality and character of our townscape and landscape.</p>	-3	-2	<p>The landscape assessment resulted in a combined landscape score of 72/100 for the operational period so the impact is considered to be negative.</p> <p>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.</p> <p>The landscape assessment for post-restoration resulted in a combined landscape score of 72/100 so the impact is considered to remain negative.</p>	<p>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.</p> <p>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.</p>

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.	?	1	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.	+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,	Environmental protection measures to reduce noise and dust. Transport Assessment.

			<p>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.</p> <p>Restoration details do not include any reference to public access to recreation opportunities.</p>	
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.

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 Trassic 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.

			<p>There is therefore the potential for direct and indirect impacts to these sites, including from noise, dust, NOx and changes to hydrology and hydrogeology.</p> <p>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.</p>	
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.

<p>4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.</p>	<p>-2</p>	<p>I</p>	<p>The archaeological potential is high, with a Roman settlement within the site. 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.</p> <p>In the long term the effect on the settings of these heritage assets could be positive or negative depending on the nature of restoration.</p>	<p>Archaeological surveys (and open area excavation of at least the settlement focus) to determine the nature and significance of any remains, then adequate provision to be made for preservation, excavation or recording. Buffer zones and screening. Appropriate restoration proposals.</p>
<p>5. Protect and enhance the quality and character of our townscape and landscape.</p>	<p>-2</p>	<p>-1</p>	<p>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.</p>	<p>During the operational phase a buffer would be required to the A638 and a stand off to the mature hedgerow to Green Lane.</p> <p>The restoration phase should include the replacement of the hedge line using the species list for Idle Lowlands LCA (not to include Ash).</p>
<p>6. Minimise impact and risk of flooding.</p>	<p>-1</p>	<p>0</p>	<p>The site is within Flood Zone 1 (low probability of flooding).</p>	<p>Meeting the requirements of the Environment Agency and Internal Drainage Board. Implementation of SuDs.</p>

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 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	Not applicable.

			energy sources for on-site power.	
11. Protect and improve local air quality.	-1	0	Operations would create dust. 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.	-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	Environmental protection measures to reduce noise and dust. Transport Assessment.

			<p>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 from Scrooby are unlikely due to intervening vegetation. There is a bridleway (Green Lane) immediately to the north of the site.</p> <p>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.</p>	<p>Protection of RoW. Public access opportunities as part of restoration scheme.</p>
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: <i>BANTYCOCK</i> NEW OR EXTENSION: Extension		MINERAL TYPE: Gypsum 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.	Ecological surveys and hydrological reports. Alternative working proposals/buffer zones to retain/protect SINC's. Appropriate restoration scheme to maximise biodiversity gain.

			<p>Several other LWSs are in close proximity to the site, including 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.</p> <p>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.</p>	
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	Not applicable.

			moved by conveyor or internal haul road to the adjacent Jericho Works for processing.	
4. Protect the quality of the historic environment, heritage assets and their settings above and below ground.	-1	I	<p>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.</p> <p>There is potential for non-designated archaeology with a known area of cropmarks suggesting settlement activity of potentially Iron Age or Roman date.</p> <p>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.</p>	<p>Restoration to agriculture at a similar topography to the pre-quarrying would mitigate any long-term impacts.</p> <p>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.</p>
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.	During the operational phase there should be advance boundary screen planting and outgrowing exiting boundary hedges, also bunding as a

			The landscape assessment for post-restoration resulted in a combined landscape score of 56/100 so the impact is considered to remain negative.	<p>landscape buffer to screen activity.</p> <p>The restoration phase should include establishment of mixed hedge boundaries, with elements of pasture and tree cover in line with the landscape policy zone. Also, pastureland tree cover should be incorporated, particularly along the A1 corridor.</p>
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.	?	1	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, but it is unclear whether it would be the same quality agricultural land as the existing.	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.	-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 play an important role in supporting the wider economy. It is also likely to maintain the jobs currently at the existing site.	Not applicable.
14. Protect and improve human health and quality of life.	-2	0	<p>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.</p> <p>In terms of visual amenity, there are four properties which would be affected – Balderton Grange, two properties at Cowtham House and Shire Farm.</p> <p>No RoWs are directly affected.</p> <p>Restoration details do not include any reference to public</p>	<p>Environmental protection measures to reduce noise and dust.</p> <p>Transport Assessment.</p>

			access to recreation opportunities.	
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.

Site Appraisal Matrix: Clay

SITE NAME: <i>WOODBOROUGH LANE</i> NEW OR EXTENSION: Extension		MINERAL TYPE: Clay 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	<p>The site is not in close proximity to any designated nature conservation sites.</p> <p>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.</p>	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	1	<p>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.</p> <p>In the long term the impact on the setting of Arnold Lodge Farm could be positive or negative depending on the details of restoration.</p>	<p>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.</p> <p>Archaeological surveys to determine the nature and significance of any remains, then adequate provision to be made for preservation, excavation or recording.</p>
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	<p>During the operational phase advanced planting works would be required to provide screening.</p> <p>A landscape buffer would be required along Woodborough Lane and to provide screening from the footpath along the ridgeline to the north.</p>

			<p>amenity during the operational phase.</p> <p>The landscape assessment for post-restoration resulted in a combined landscape score of 63/100 so the impact is considered to remain negative.</p>	<p>Retention of field trees and ponds and hedgerows.</p> <p>The restoration phase should include replacement field trees, improvement of hedgerows with field margins and increased field ponds/avenues of trees.</p>
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.	?	1	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.	Restoration to high quality agricultural land if that is possible.

			The proposed restoration scheme does not include a return to agricultural land.	
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	Hydrological reports. On-site protection measures to avoid contamination of surface

			be a concern from a groundwater perspective.	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	Environmental protection measures to reduce noise and dust.

			access to recreation opportunities.	
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.

Summary of the Site Appraisal Results

Sand and gravel

- 6.46 All twenty 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.
- 6.47 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) and 14 (human health and quality of life).
- 6.48 In the long-term the total score was slightly positive for four sites (Langford South & West, Langford North, Besthorpe East and Burridge Farm) and for the other sites the scale of negative effects was much reduced compared to the operational period.
- 6.49 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 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. All four sites had negative or very negative effects, both in the short and long term, on SA objective 5 (landscape). Cromwell Triangle & Carlton River Meadows also had a very negative impact on SA objective 4 (historic environment), in both the short and long term, as part of a scheduled monument falls within the site boundaries. 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 four sites.
- 6.50 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

- 6.51 Scrooby Top North scored least negatively out of the three Sherwood Sandstone sites. The two Bestwood sites had similar scores to each other.
- 6.52 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.
- 6.53 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

- 6.54 There was only one gypsum site, Bantycok, 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.
- 6.55 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

- 6.56 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.
- 6.57 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 in both the short- and 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.

7 Conclusions

Vision

- 7.1 The overall vision of the Draft Minerals Local Plan, once it had been reworded 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

- 7.2 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

- 7.3 All of the policies had positive effects on at least some of the SA objectives.
- 7.4 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.
- 7.5 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.
- 7.6 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

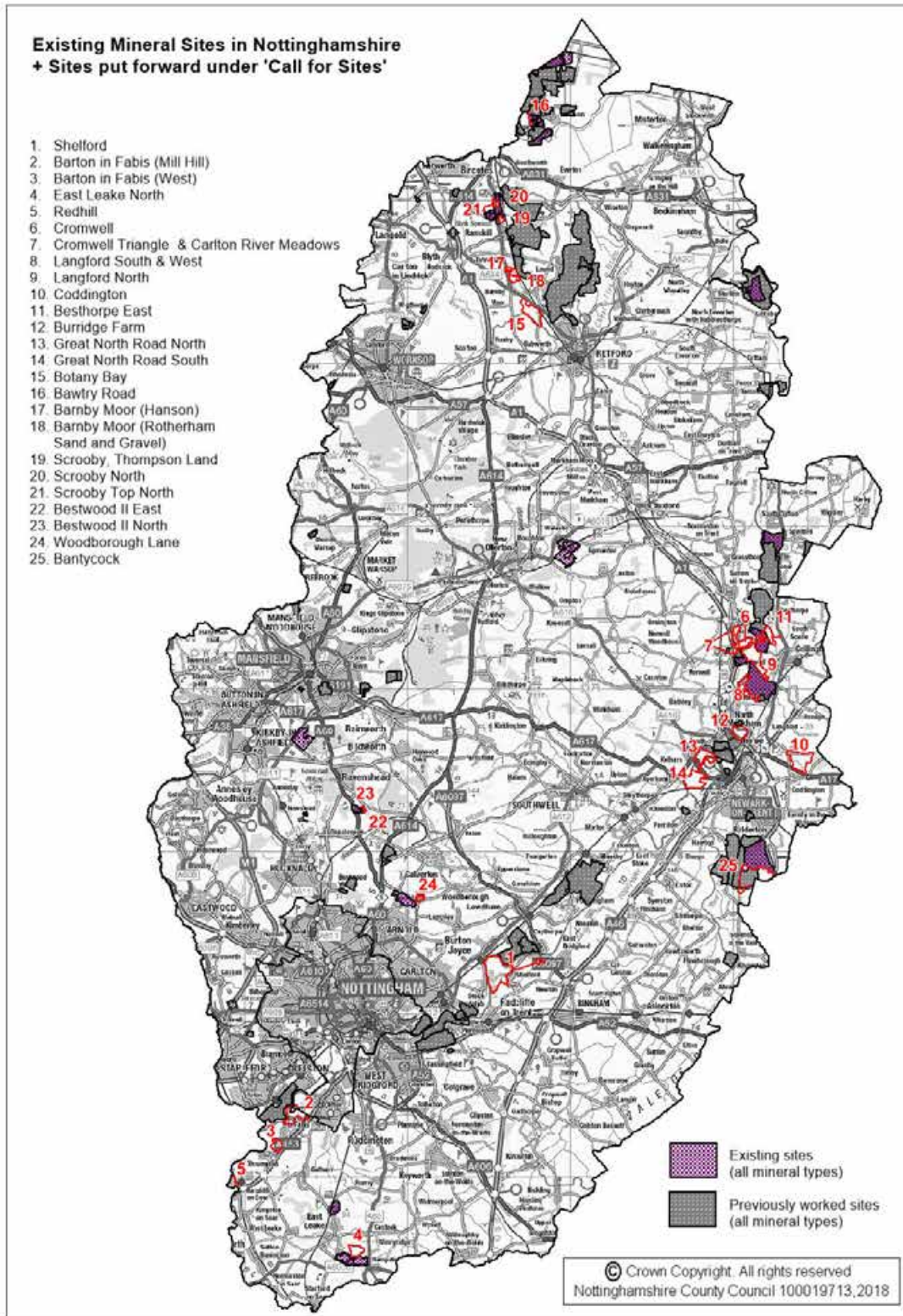
- 7.7 The SA of sites identified significant effects on most of the SA objectives. Based on the information available, sites have been shown to have significant positive effects on SA objectives 1 (adequate mineral provision), 3 (sustainable movement), 9 (efficient use of a land and resources) and 13 (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).
- 7.8 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.
- 7.9 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 this respect. For example, in respect of biodiversity there can be potential for a negative impact in the short term to become a positive effect in the long term if BAP priority habitats for the area are maximised through restoration, as, for instance, at Langford South & West.
- 7.10 Twenty 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 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. 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.

7.11 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 of which had some significant negative effects.

8 Next Steps

- 8.1 This Sustainability Report is available to view and comment on together with the accompanying Draft Minerals Local Plan. At the end of the consultation period all comments received both on the Draft Minerals Local Plan and the SA will be considered in the development of the next stage of the Minerals Local Plan and further SA will be undertaken as part of this process.

Plan A: Mineral Sites in Nottinghamshire



Appendix A: Site Location Plans

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



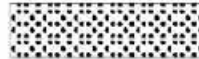
LWS - Local Wildlife Site



SINCGeo - Site of Importance for Nature Conservation (Geological)



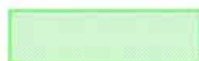
Conservation Area



Listed Buildings/Local Interest Buildings



SAM - Scheduled Ancient Monuments



Green Belt



Footpath



Bridleway

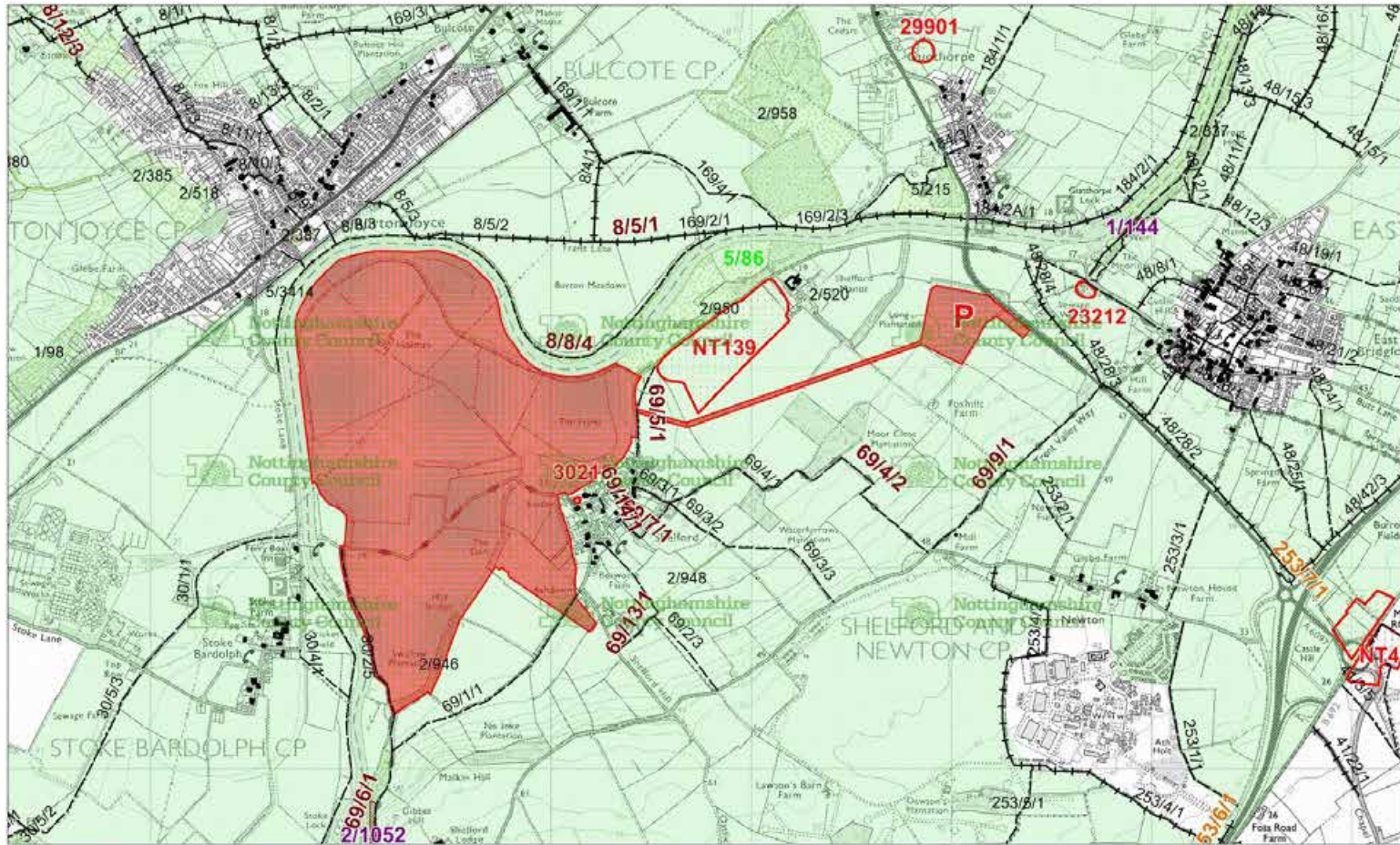


County Boundary

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.

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Nottinghamshire MLP Call for Sites - Sand and Gravel - Shelford



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Constraints Key - Shelford

SSSI

LWS

- 2/950** Shelford Carr Biosinc NBGRC2015 Recognised 'An excellent habitat of inundated deciduous woodland of botanical and zoological interest'
- 5/2181** Manor Lane Bank Shelford Biosinc NBGRC2015 Recognised A roadside bank supporting a notable flora characteristic of a dry Trentside grassland
- 2/946** Swallow Plantation Biosinc NBGRC2015 Recognised 'A linear plantation following the course of an aquatic-rich drain'
- 2/948** Field Lane Dyke Biosinc NBGRC2015 Recognised 'A notable aquatic community in a drainage channel'
- 5/3414** River Trent: Burton Joyce to Lowdham Biosinc NBGRC2015 Recognised Stretch of the River Trent with notable marginal and inundation communities
- 5/214** Trent Bluff Scrub, Radcliffe Biosinc NBGRC2015 Recognised A mosaic of scrub and notable grassland on a Mercia Mudstone river bluff
- 2/387** Burton Joyce Cemetery Biosinc NBGRC2015 Recognised 'A species-rich, well-established grassland sward'
- 2/958** Gunthorpe Lakes Biosinc NBGRC2015 Recognised 'A large area of abandoned gravel workings of ornithological importance'
- 5/215** Gunthorpe Riverside Gravel Pit Biosinc NBGRC2015 Recognised Flooded gravel pit with valuable scrub and aquatic habitat
- 2/337** 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

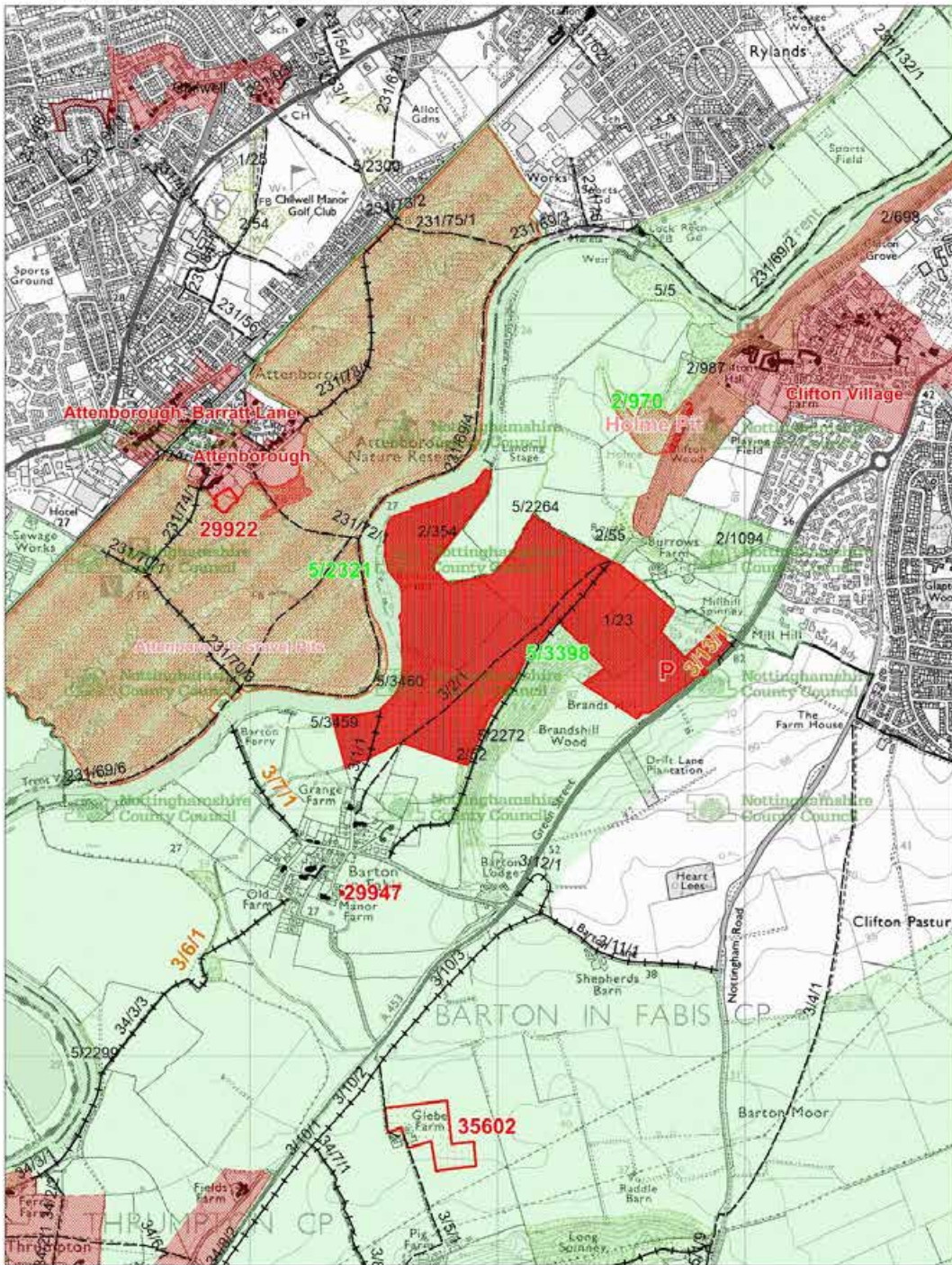
69/3/1

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

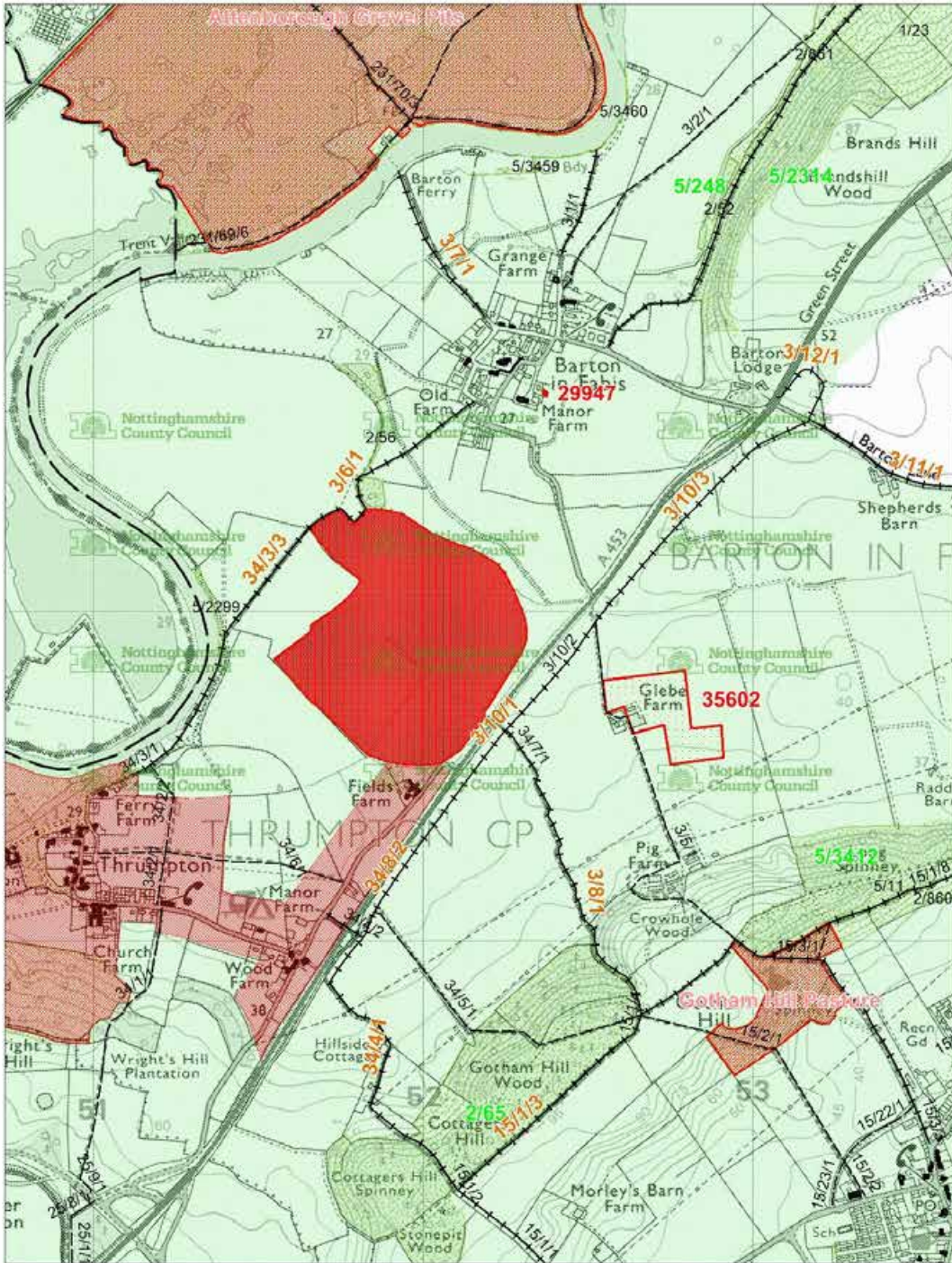
Nottinghamshire MLP Call for Sites - Sand and Gravel -
 Mill Hill near Barton in Fabis - London Rock



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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'
2/96	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 adjacent 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				

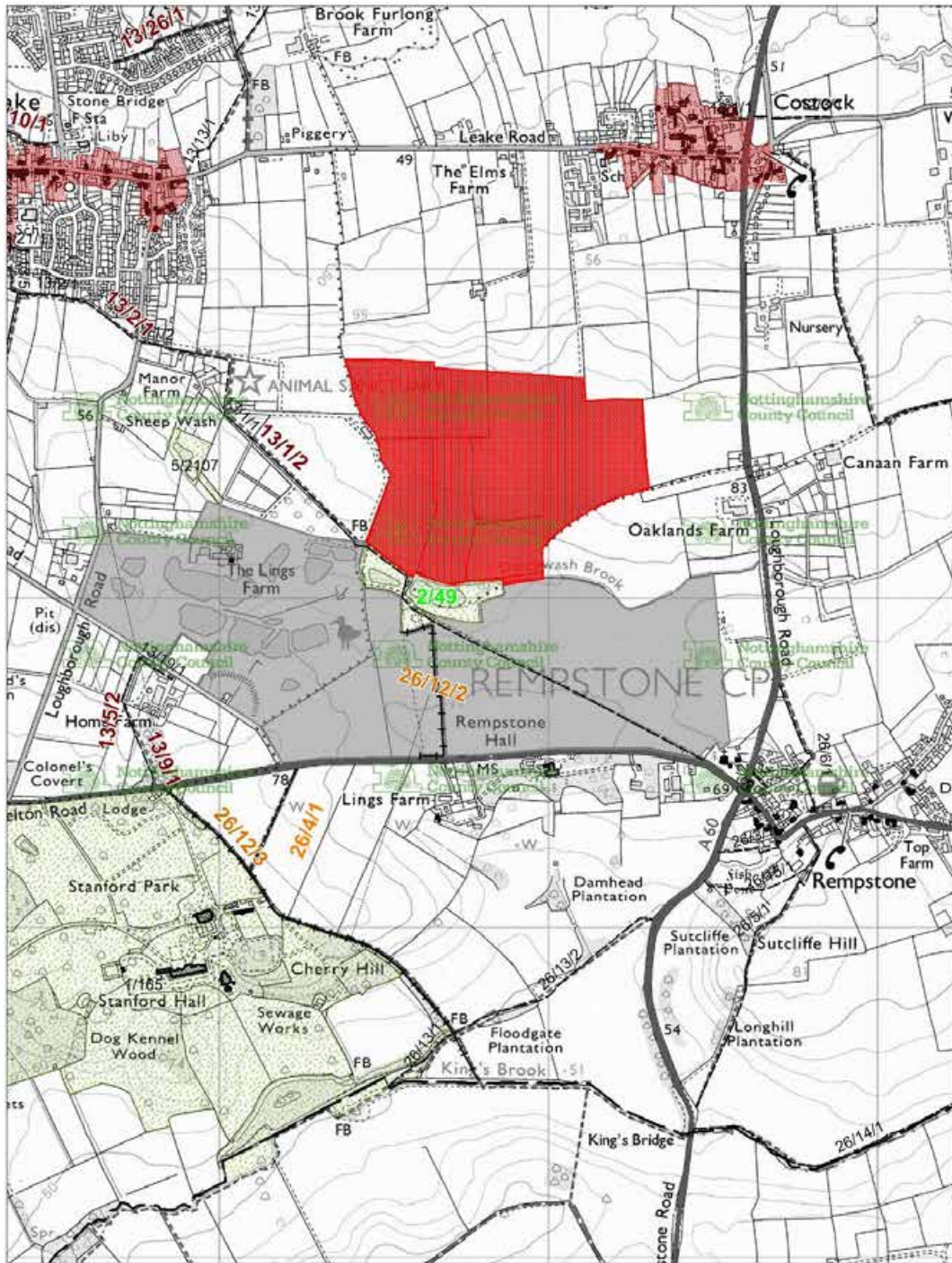
Nottinghamshire MLP Call for Sites - Sand and Gravel -
Barton in Fabis - CEMEX



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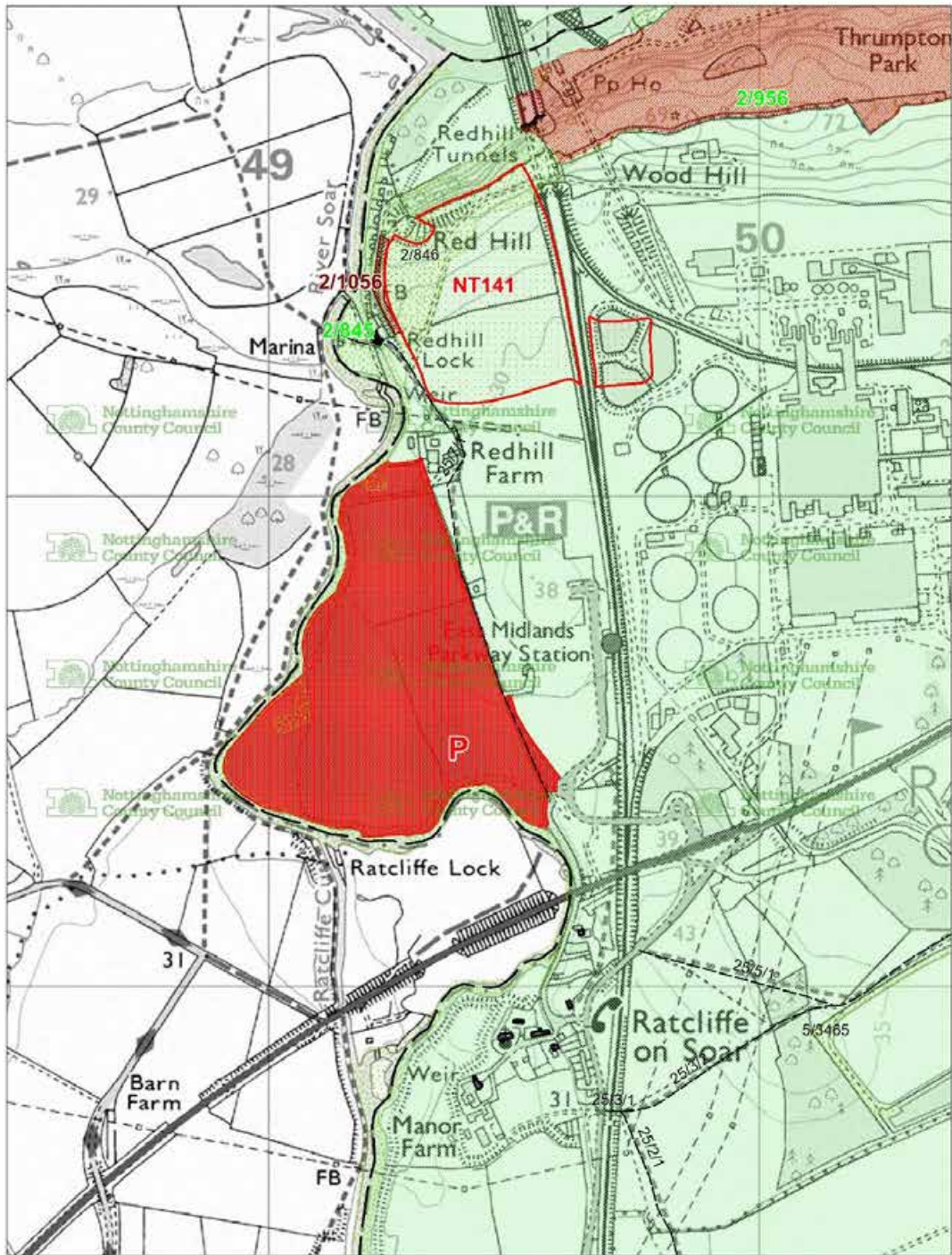
Constraints Key – Barton in Fabis - CEMEX				
SSSI				
Attenborough Gravel Pits / Gotham Hill Pasture				
LWS				
2/53	Borrow Pits, Barton	Biosinc NBGRC2015	Recognised	'Pools and a length of dyke with a rich variety of emergent and aquatic vegetation'
2/56	Barton in Fabis Fishing Pools	Biosinc NBGRC2015	Recognised	'Two pools linked by a drain, with a noteworthy flora and fauna'
2/860	Long Spinney Pastures	Biosinc NBGRC2015	Recognised	'A series of grazed calcareous grasslands'
5/11	Long Spinney, Gotham	Biosinc NBGRC2015	Recognised	A woodland possibly developed from scrub with a notable flora
5/2272	Brandshill Wood	Biosinc NBGRC2015	Recognised	A secondary woodland with occasional noteworthy species
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'	
5/2107	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				

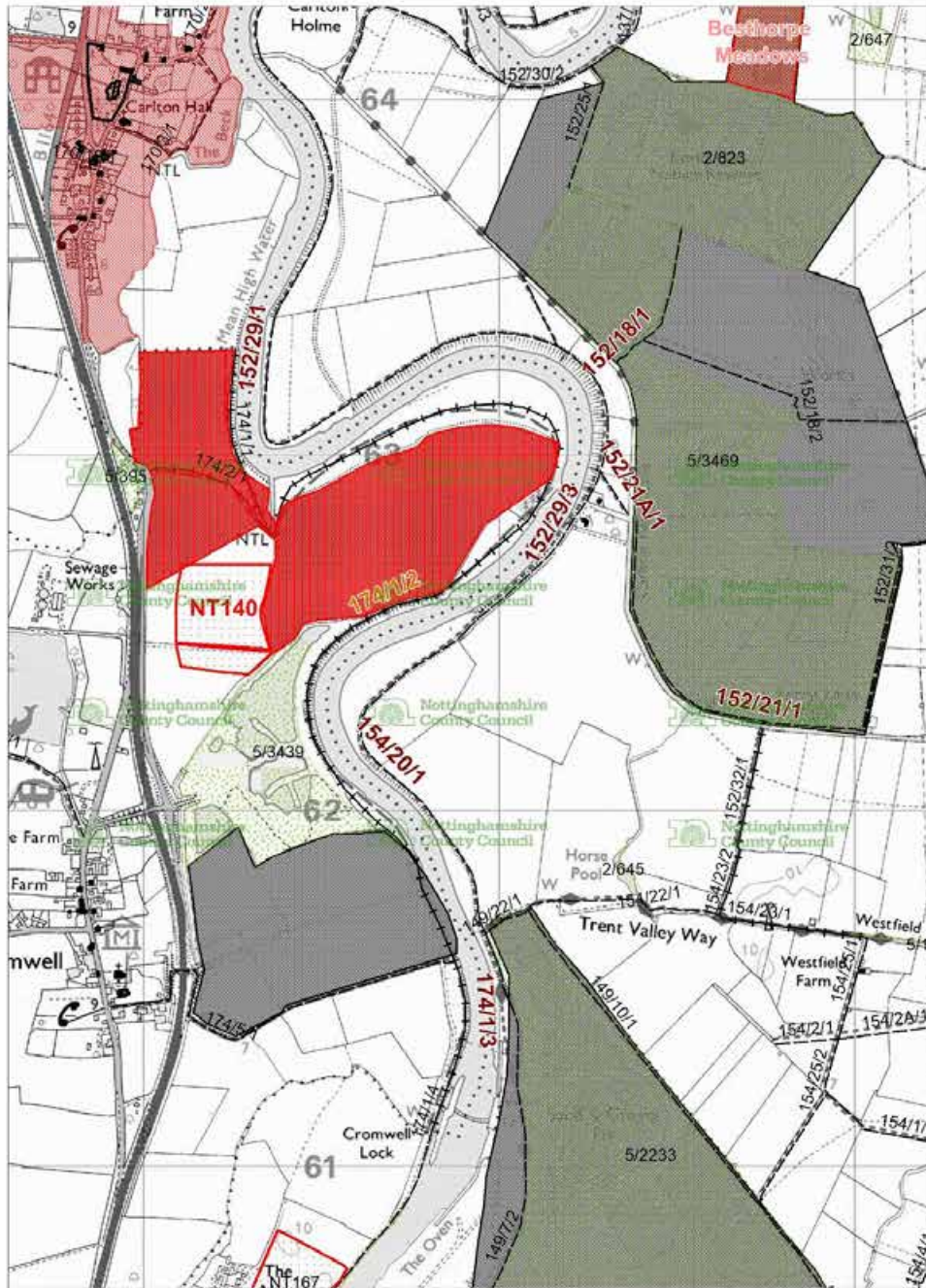
Nottinghamshire MLP Call for Sites - Sand and Gravel - Redhill



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Constraints Key - Redhill	
SSSI	
LWS	
2/846	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'
5/266	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	

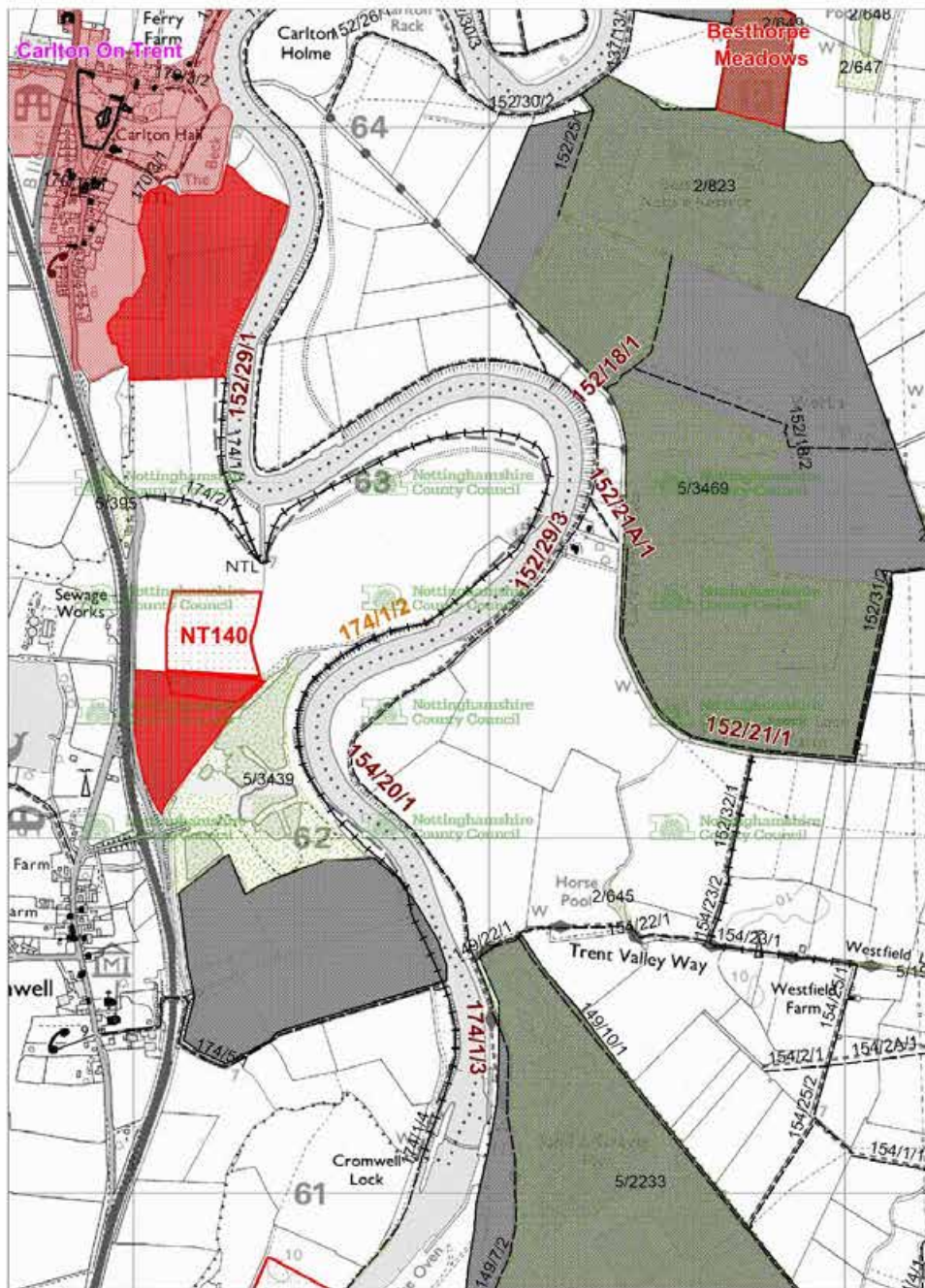
Nottinghamshire MLP Call for Sites - Sand and Gravel - Cromwell (CEMEX)



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Constraints Key – Cromwell (CEMEX)				
SSSI Besthorpe Meadows				
LWS				
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'
5/395	Cromwell Meadow	Biosinc NBGRC2015	Recognised	A damp grassland supporting tall herb communities
5/2233	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				
174/1/1	Cromwell BW1			
174/1/2	Cromwell BW1			
174/2/1	Cromwell BW2			

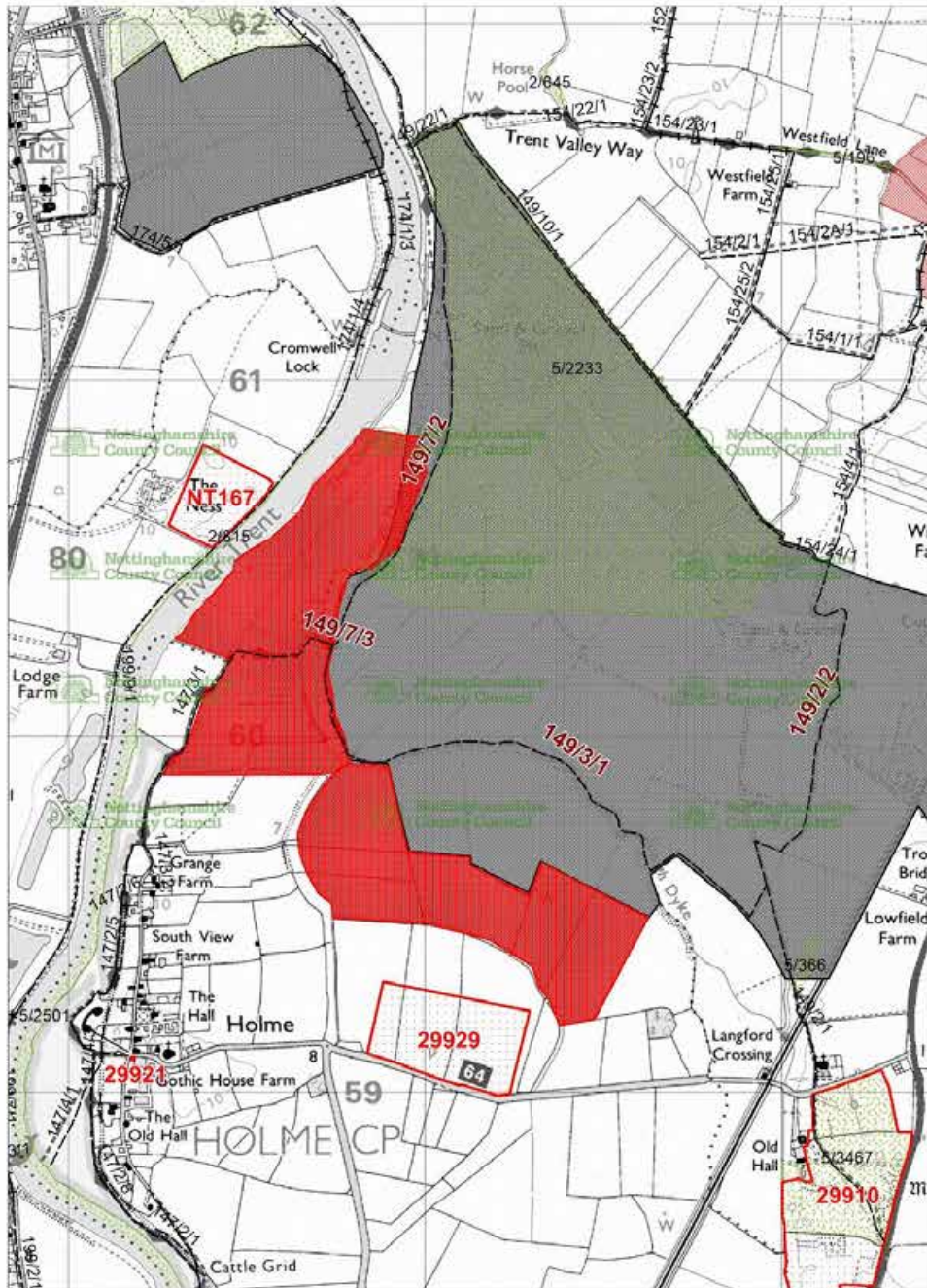
Nottinghamshire MLP Call for Sites - Sand and Gravel -
Carlton River Meadows (CEMEX) - Cromwell Triangle (CEMEX)



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Constraints Key – Carlton River Meadows (CEMEX) - Cromwell Triangle (CEMEX)				
SSSI Besthorpe Meadows				
LWS				
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'
5/395	Cromwell Meadow	Biosinc NBGRC2015	Recognised	A damp grassland supporting tall herb communities
5/2233	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			

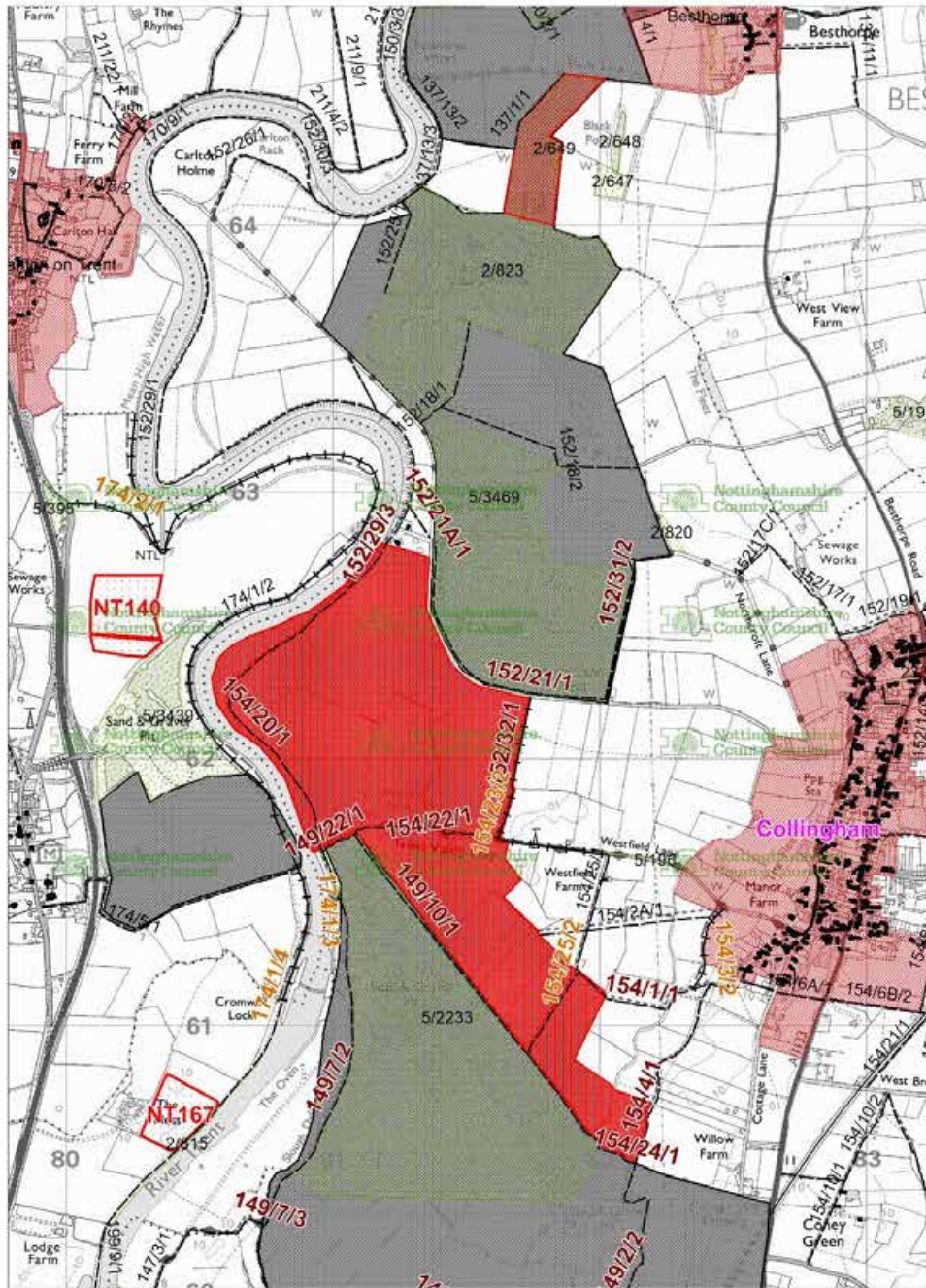
Nottinghamshire MLP Call for Sites - Sand and Gravel - Langford South and West



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Constraints Key – Langford South and West	
SSSI	
LWS	
2/815	The Ness Trentside, North Muskham Biosinc NBGRC2015 Recognised 'A varied dry grassland community on the Trent floodbank'
5/2233	Langford Lowfields Biosinc NBGRC2015 Recognised A gravel pit complex of botanical and zoological note
5/2501	River Trent, Holme Biosinc NBGRC2015 Recognised A characteristic section of the River Trent
5/386	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

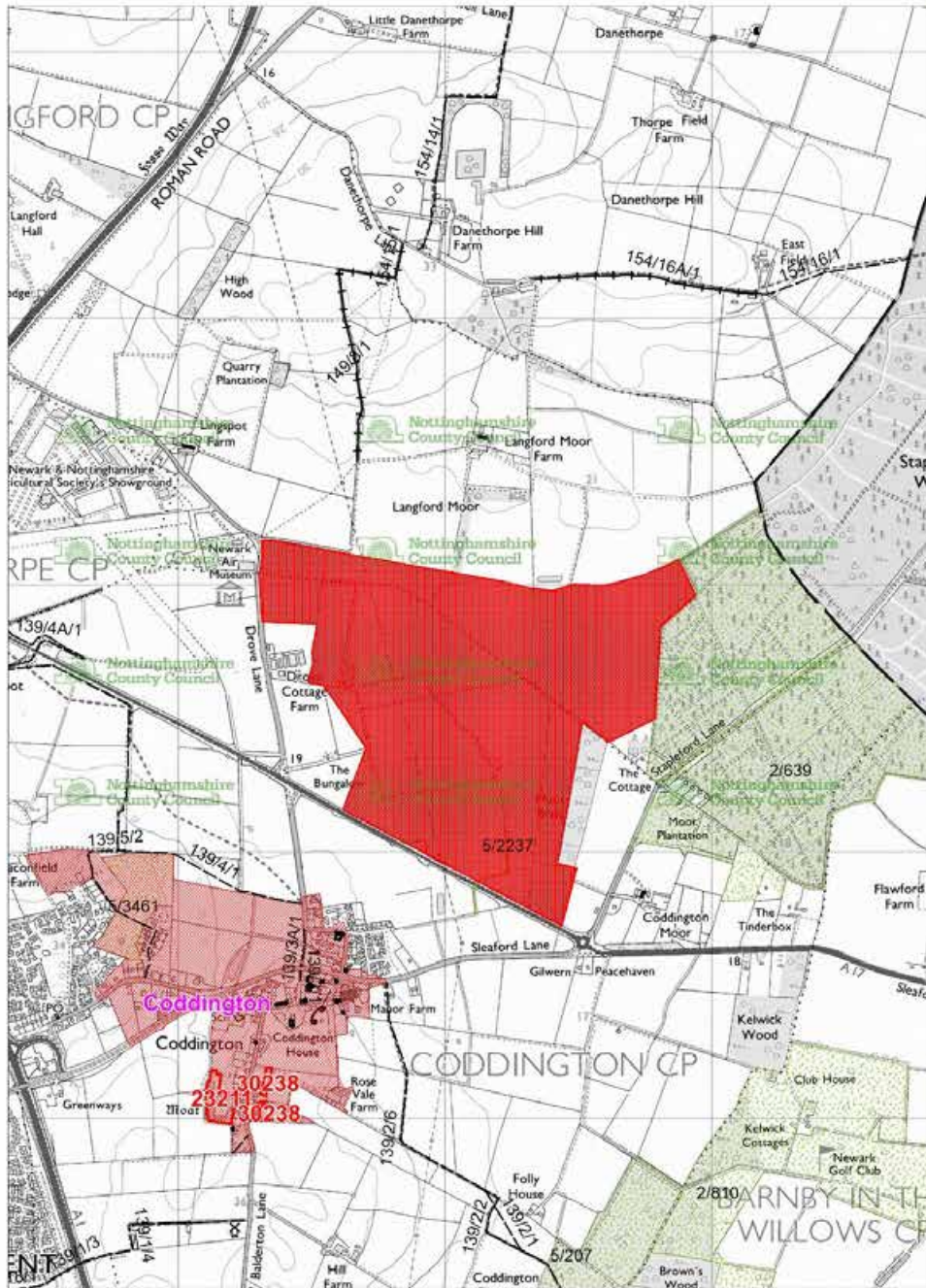
Nottinghamshire MLP Call for Sites - Sand and Gravel - Langford North



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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
5/2233	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

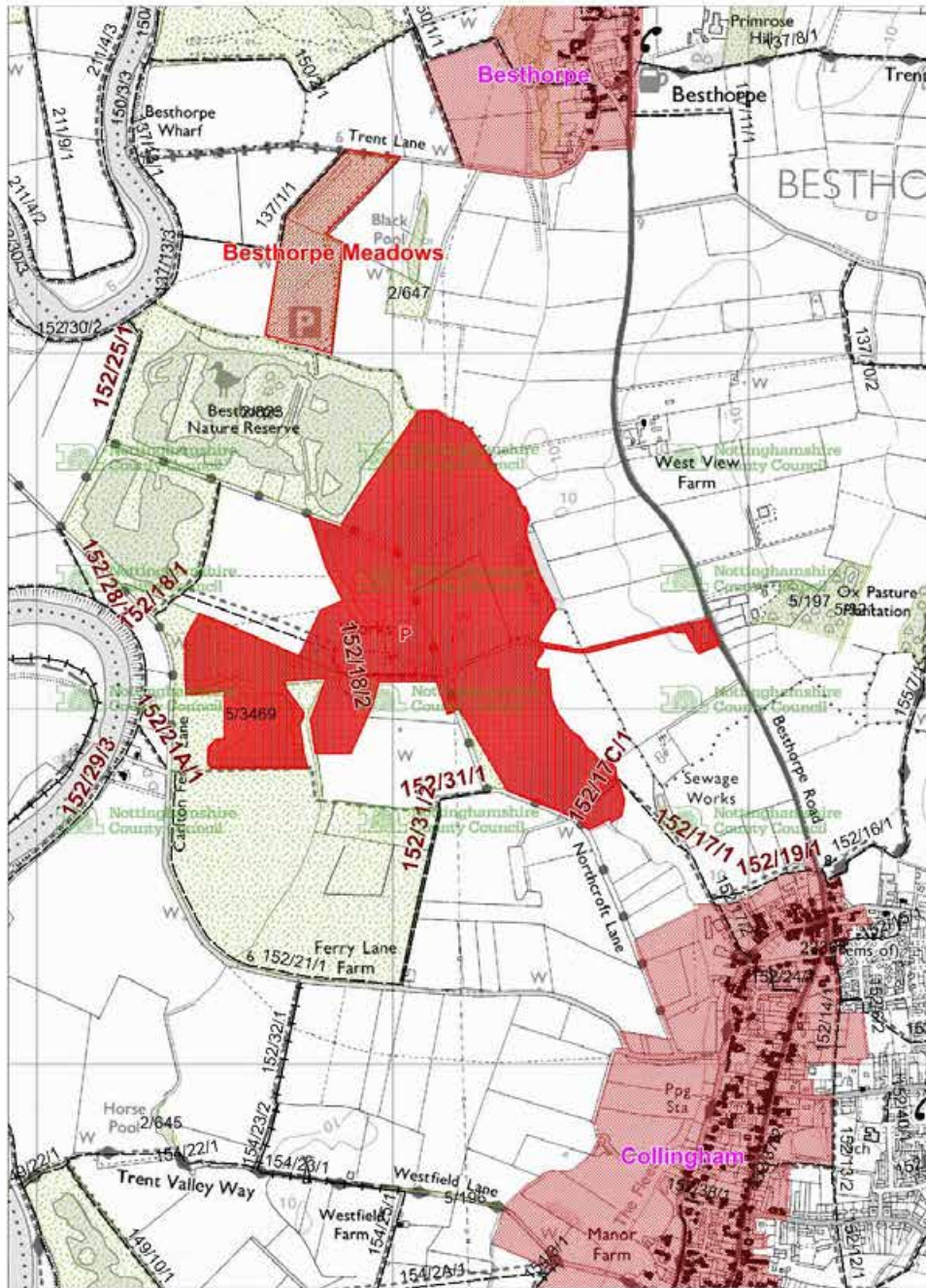
Nottinghamshire MLP Call for Sites - Sand and Gravel - Coddington



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Constraints Key – Coddington			
SSSI			
LWS			
2/639	Langford Moor Area Biosinc NBGRC2015	Recognised	'Valuable plant and animal communities along rides and in drainage ditches throughout this coniferous forestry plantation'
5/2237	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			

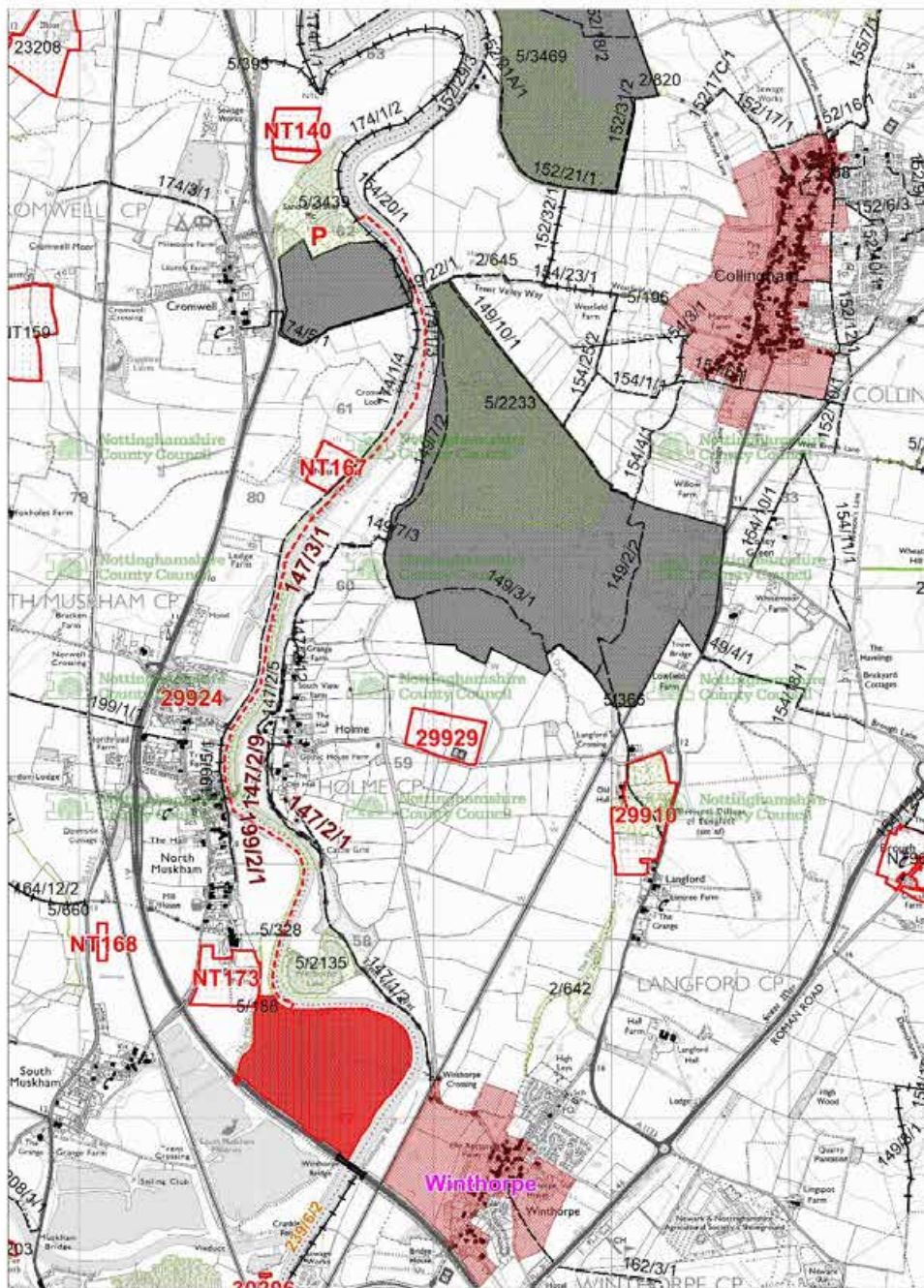
Nottinghamshire MLP Call for Sites - Sand and Gravel - Besthorpe East



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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			

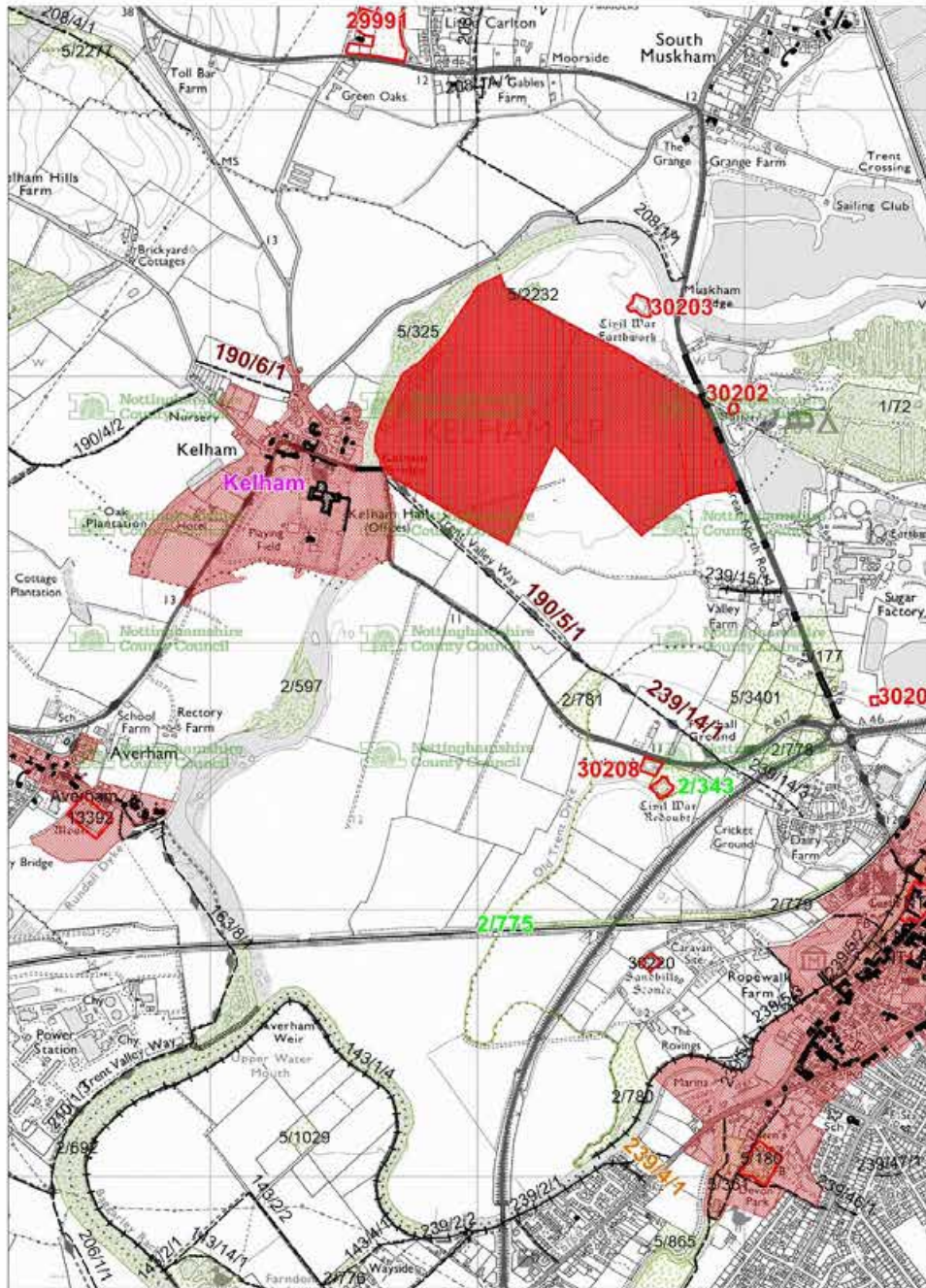
Nottinghamshire MLP Call for Sites - Sand and Gravel - Burridge Farm



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Constraints Key – Burrige Farm	
SSSI	
LWS	
2/815	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
5/2135	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
5/328	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
239/6/2	Newark BW6

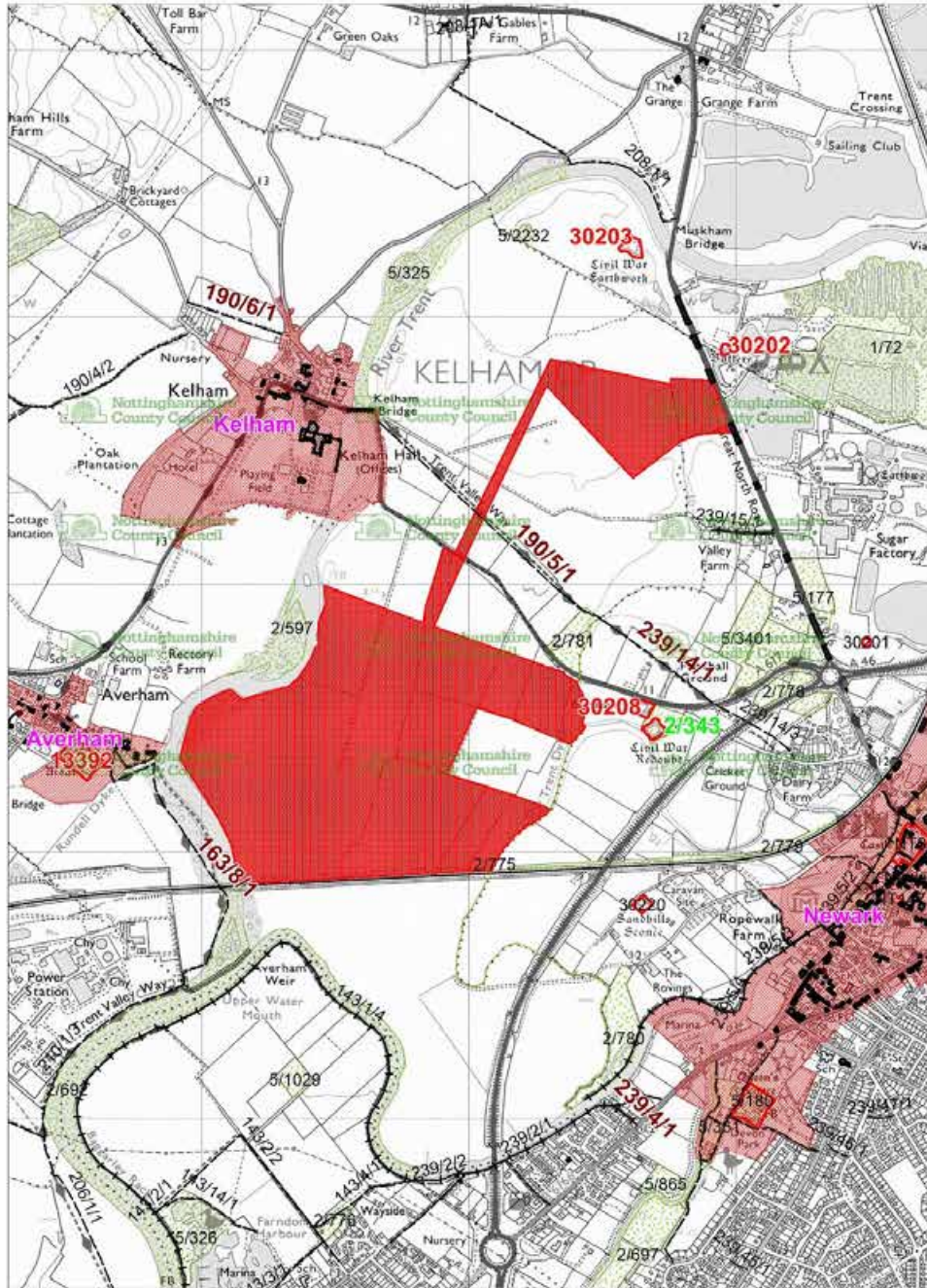
Nottinghamshire MLP Call for Sites - Sand and Gravel -
Great North Road (North)



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Constraints Key – Great North Road (North)
SSSI
LWS
1/772 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'
2/778 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'
5/1028 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
5/2232 Kelham Pool Biosinc NBGRC2015 Recognised A seasonal pool of interest for Water Beetles and Water Bugs
5/325 Kelham Trent and Island Biosinc NBGRC2015 Recognised A valuable community of scrub, ruderals and notable gravel colonists on a Trent river island
5/3403 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 of Dairy Farm
Footpath
190/5/1 Kelham FP5
190/6/1 Kelham FP6
239/14/1 Newark FP14
Bridleway
239/15/1 Newark BW15

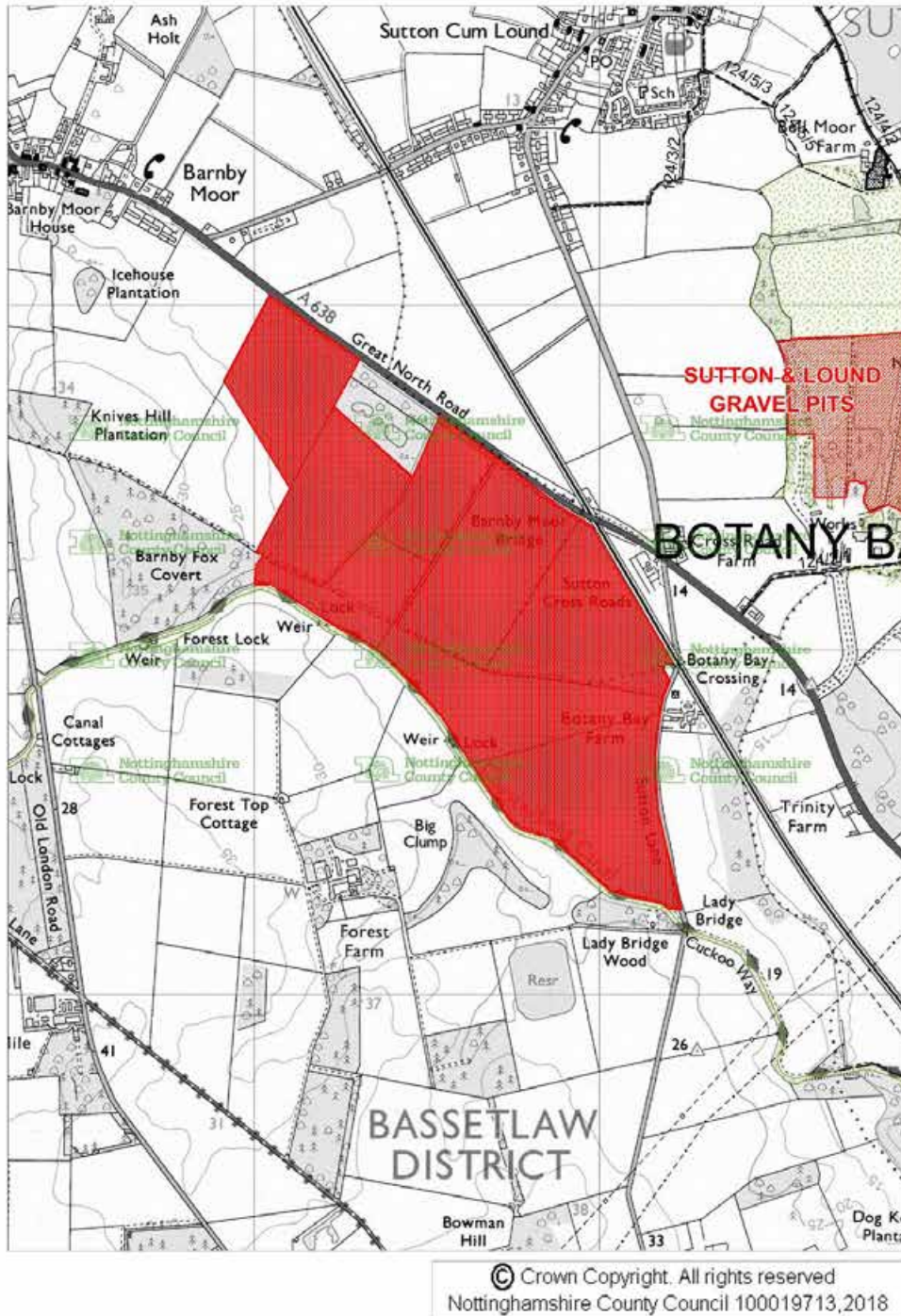
Nottinghamshire MLP Call for Sites - Sand and Gravel -
Great North Road South



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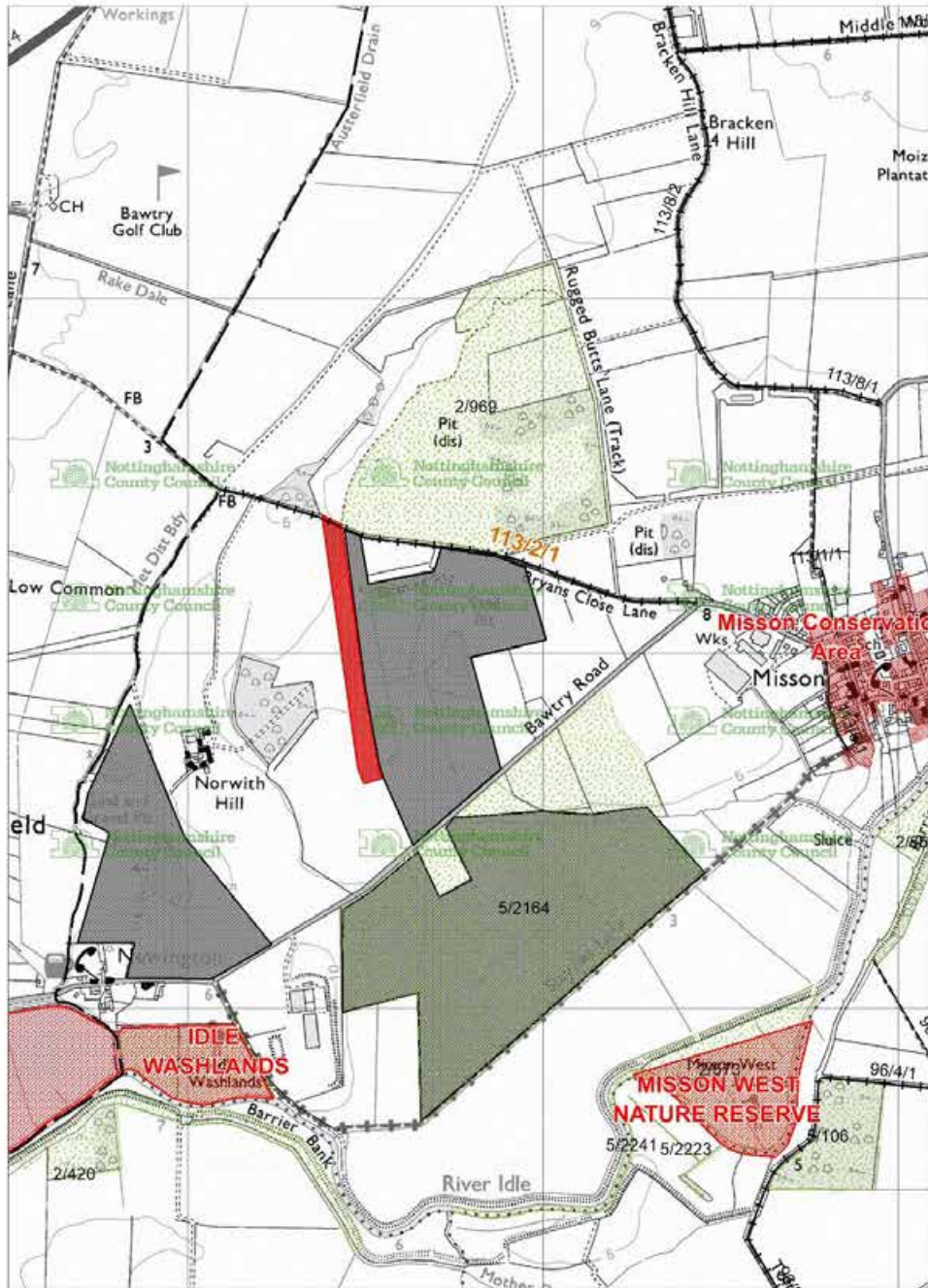
Constraints Key – Great North Road (South)
SSSI
LWS
1/772 South Muskham Gravel Pits Biosinc NBGRC2015 Recognised 'An excellent complex of pools, scrub and ruderal habitats among old gravel workings - of particular ornithological value'
2/597 Kelham Hall Shingle Bank Biosinc NBGRC2015 Recognised 'A point bar in the River Trent with developing scrub and ruderal communities'
2/692 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'
2/781 Kelham Road Grassland Biosinc NBGRC2015 Recognised 'A herb-rich grassland'
5/1028 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 - Botany Bay



Constraints Key – Botany Bay				
SSSI Sutton and Lound Gravel Pits				
LWS				
2/621	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				

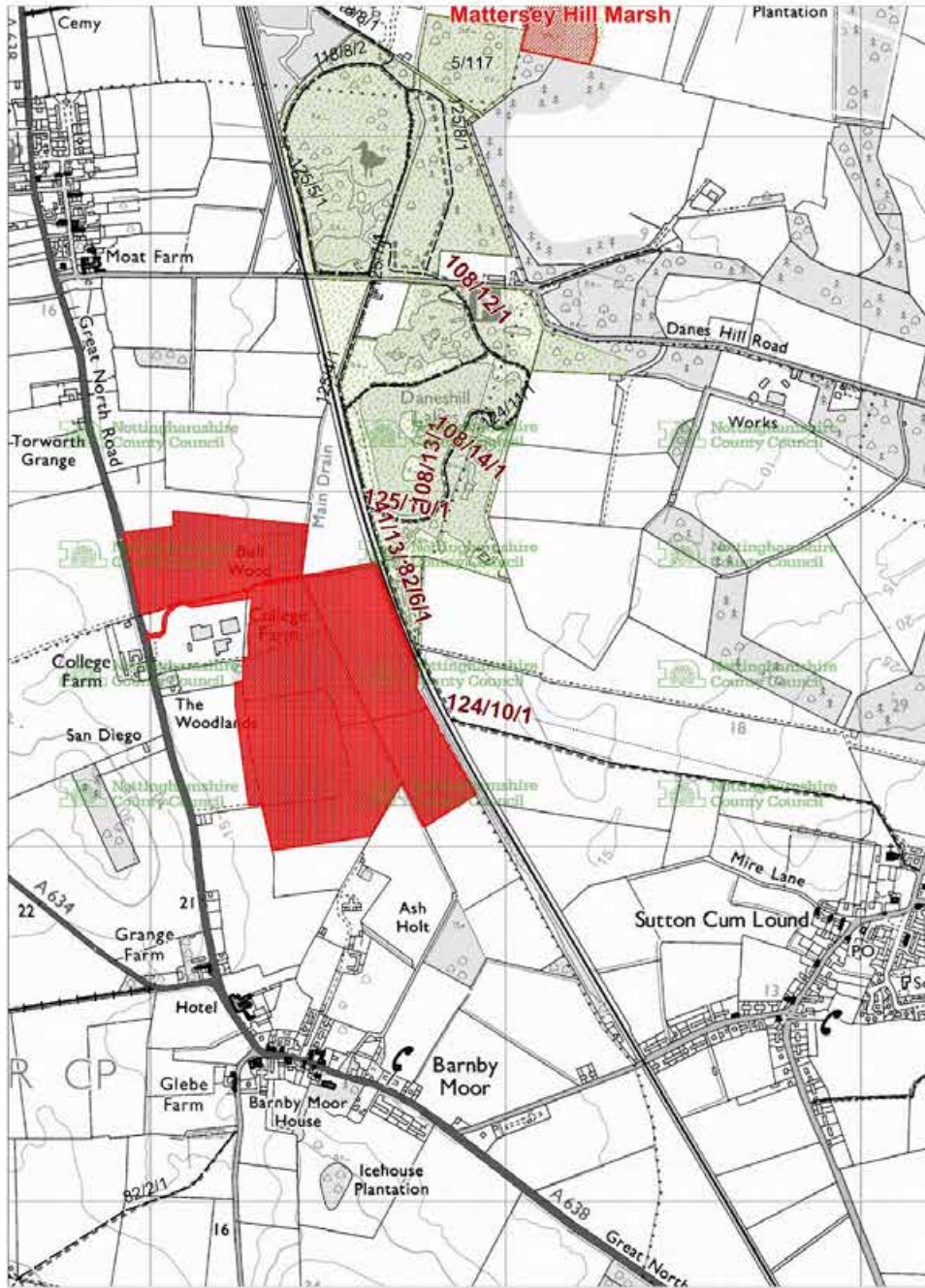
Nottinghamshire MLP Call for Sites - Sand and Gravel - Bawtry Road



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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'
5/2164	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			

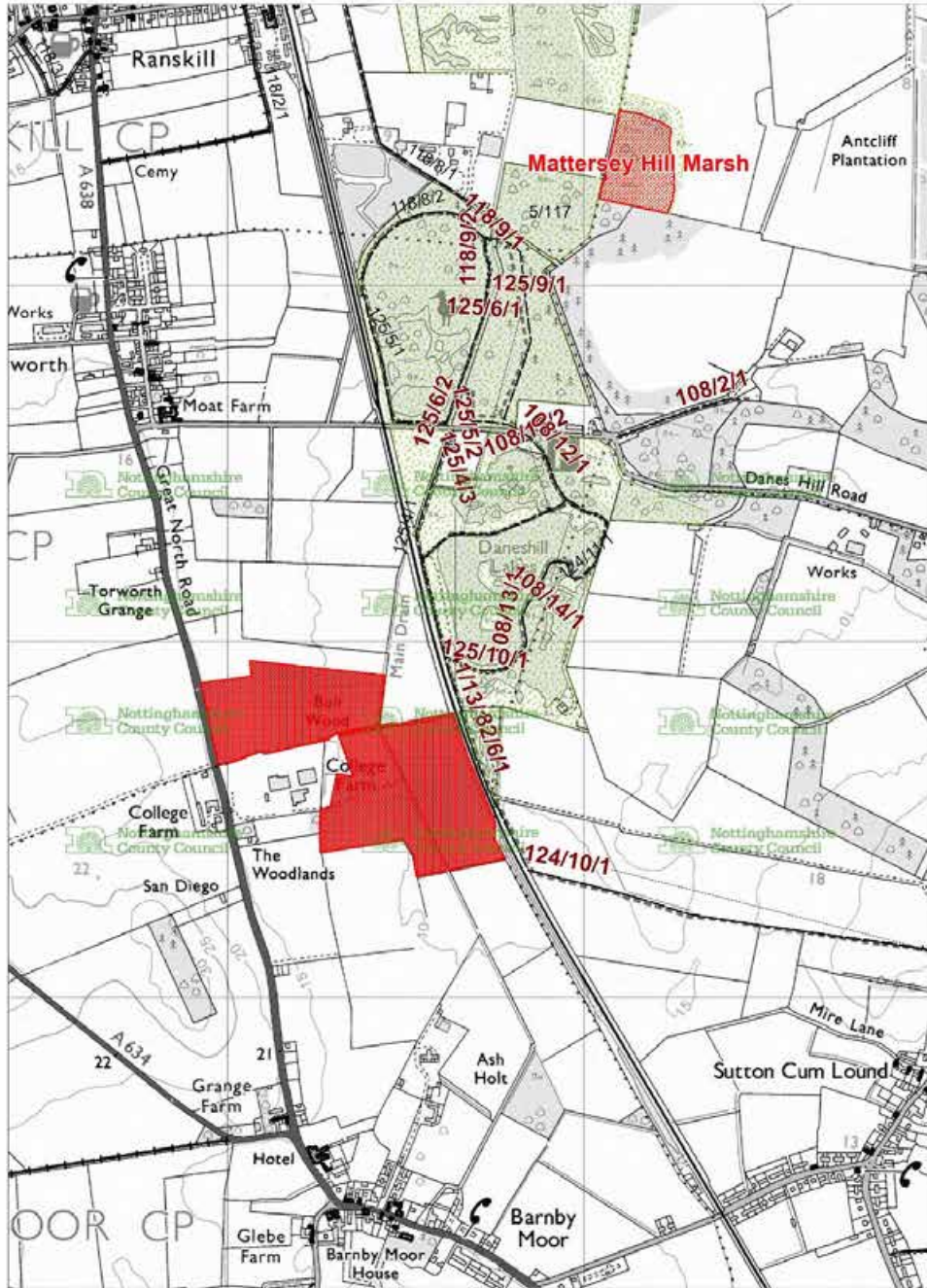
Nottinghamshire MLP Call for Sites - Sand and Gravel - Barnby Moor (HANSON)



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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

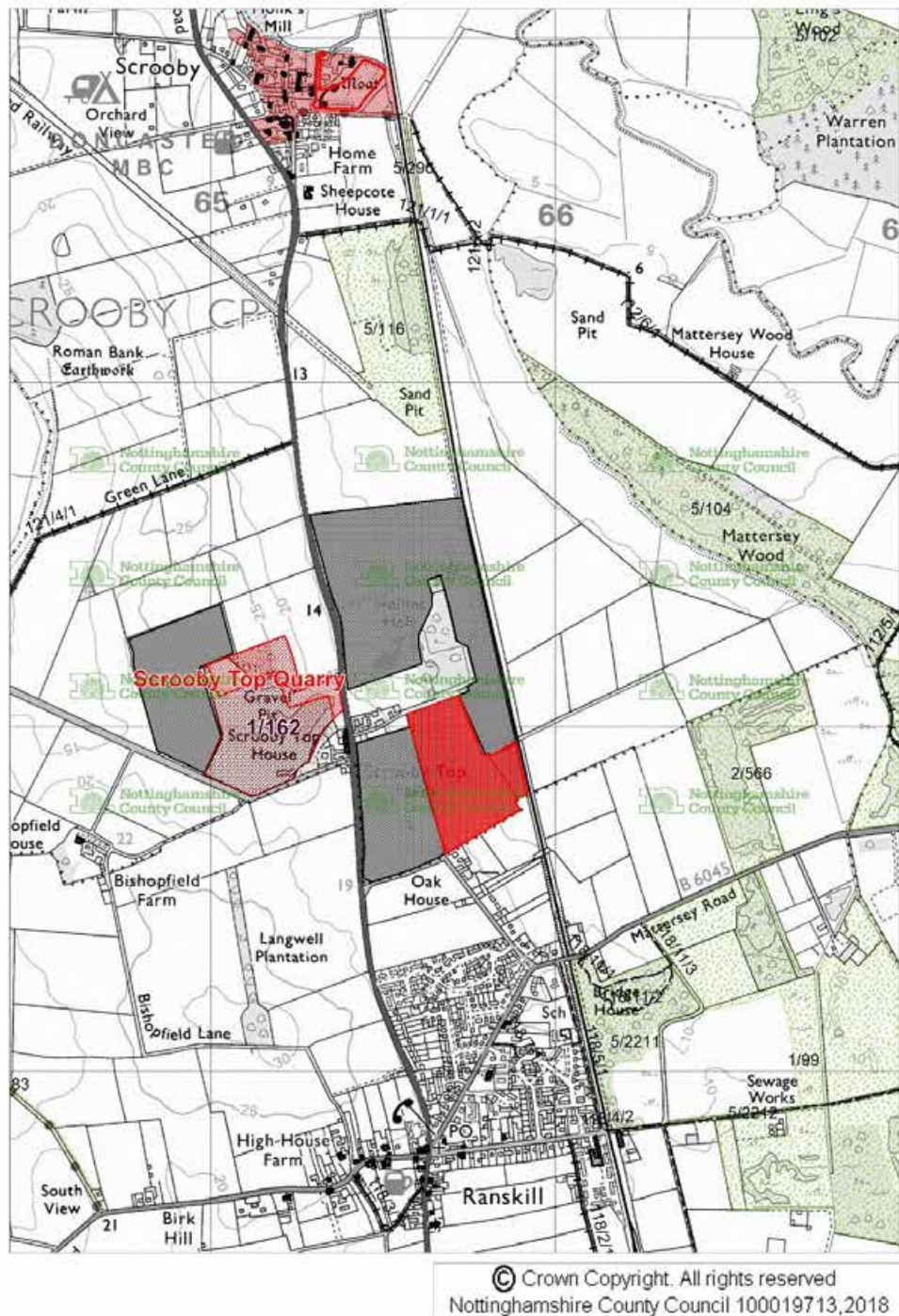
Nottinghamshire MLP Call for Sites - Sand and Gravel - Barnby Moor (Rotherham S&G)



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Constraints Key – Barnby Moor (Rotherham S&G)				
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'
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 - Scrooby Thompson Land



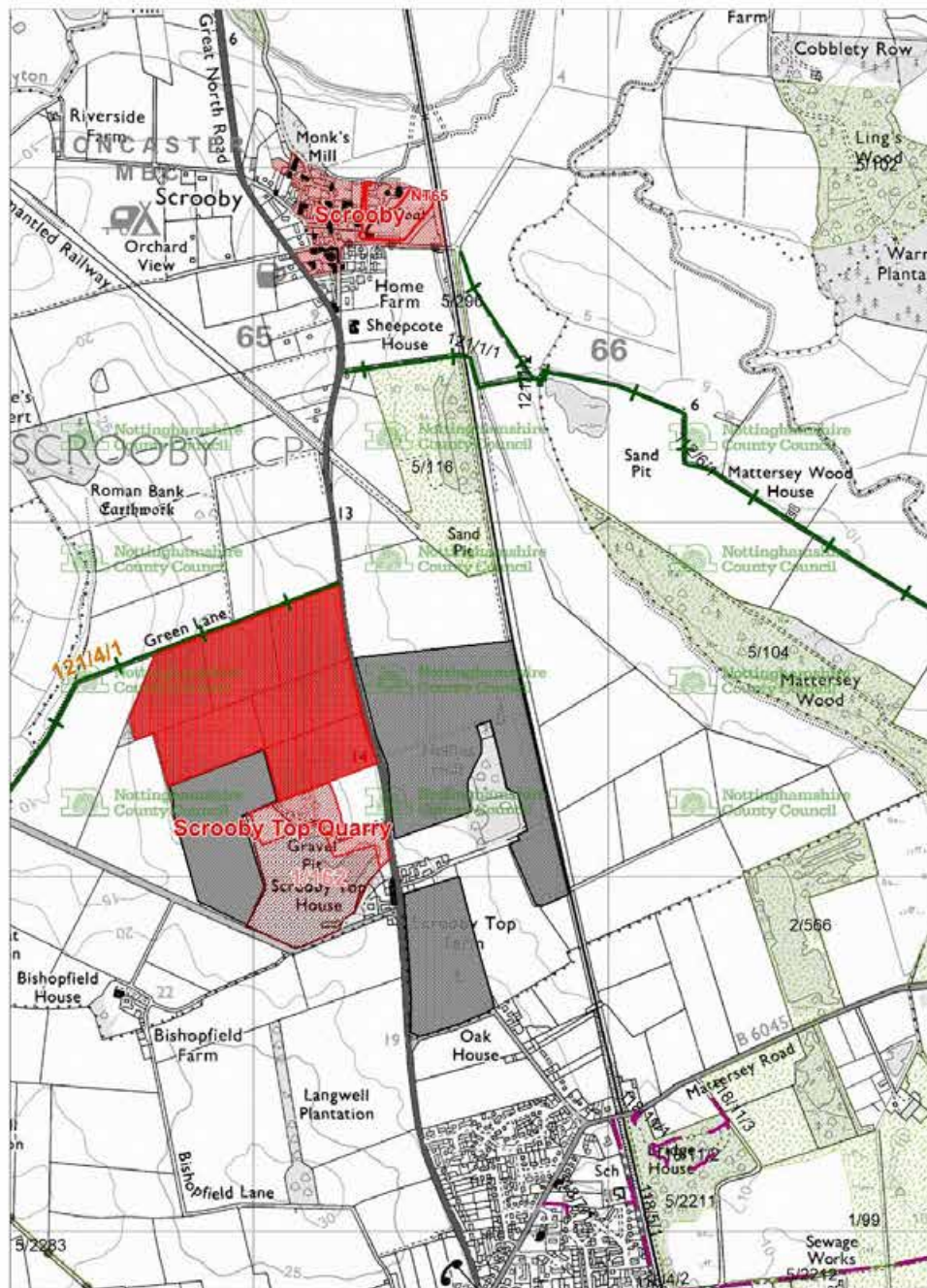
Constraints Key – Scrooby Thompson Land
SSSI
Scrooby Top Quarry
LWS
SINC Geo
1/162 Scrooby Top Quarry Geosinc NBGRC 2004b An active quarry exposing a section of glacial sand and gravel
Listed Buildings
Numerous as indicated
Conservation Area
Scrooby
SAM
NT65 Manor Farm Moat
Footpath
Bridleway

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



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

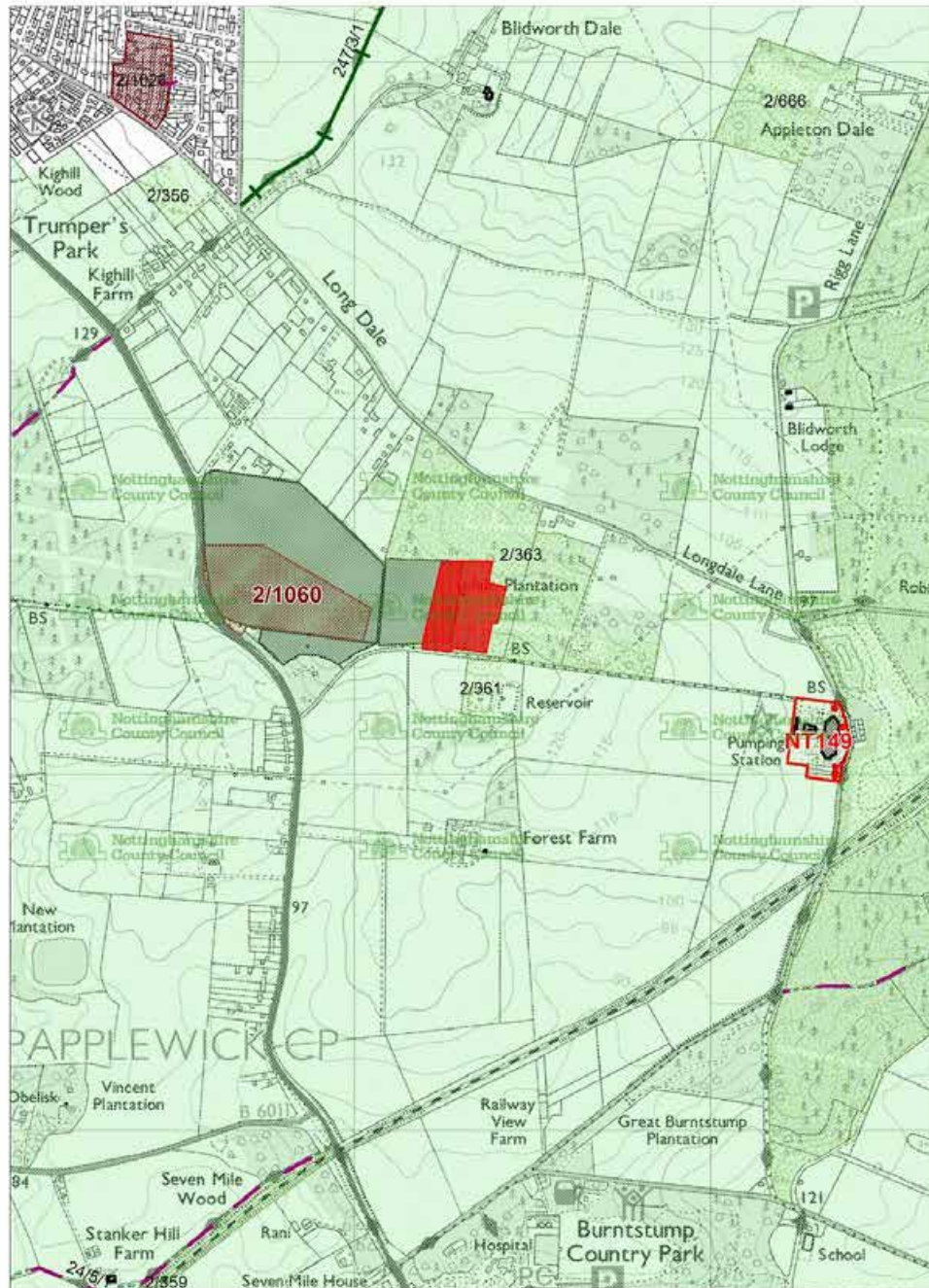
Nottinghamshire MLP Call for Sites - Sherwood Sandstone - Scrooby Top Extension



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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

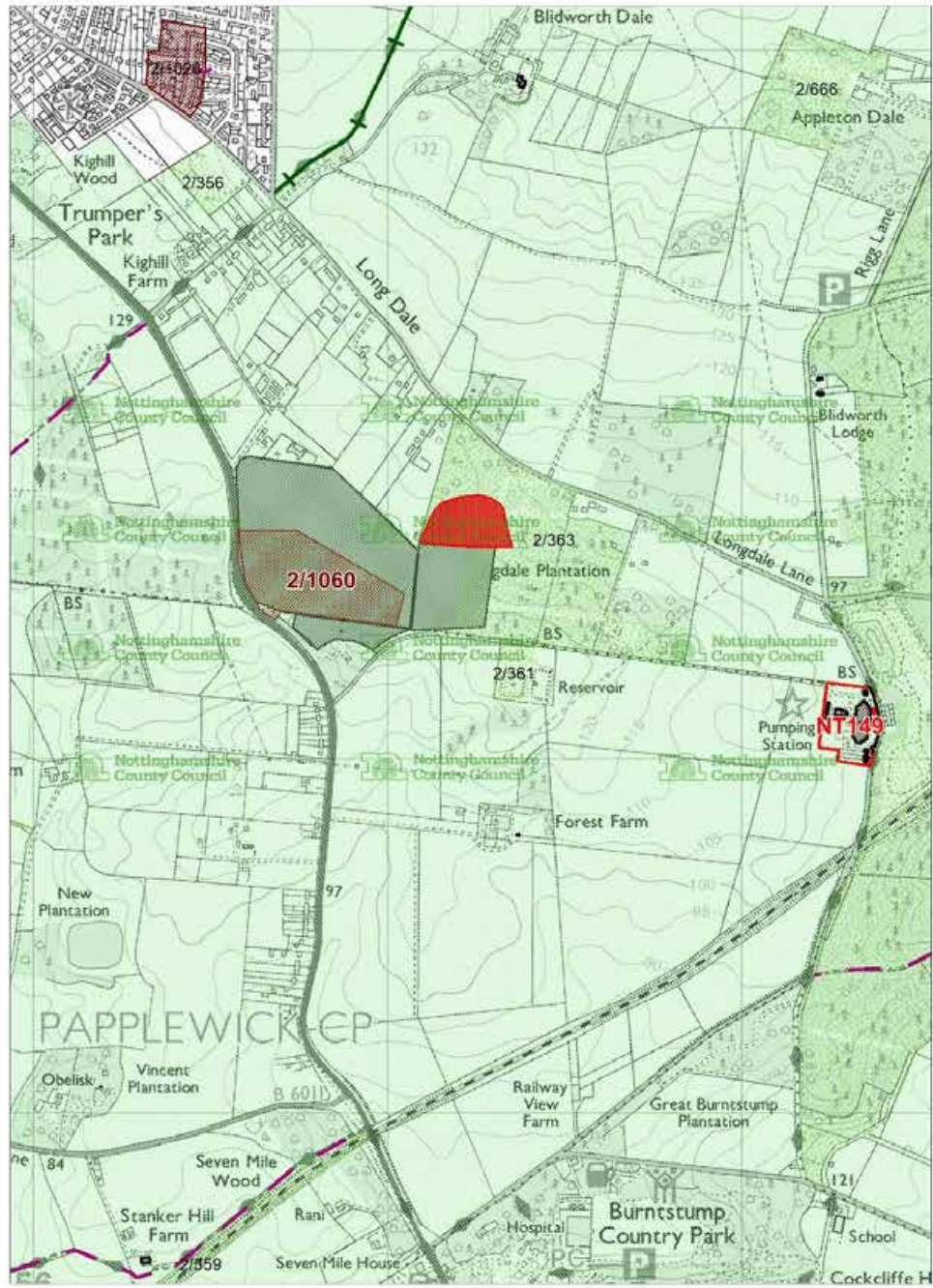
Nottinghamshire MLP Call for Sites - Sherwood Sandstone - Bestwood II East



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Constraints Key – Bestwood II East
SSSI
Greenbelt
Full coverage as indicated
LWS
2/361 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 - Bestwood II North

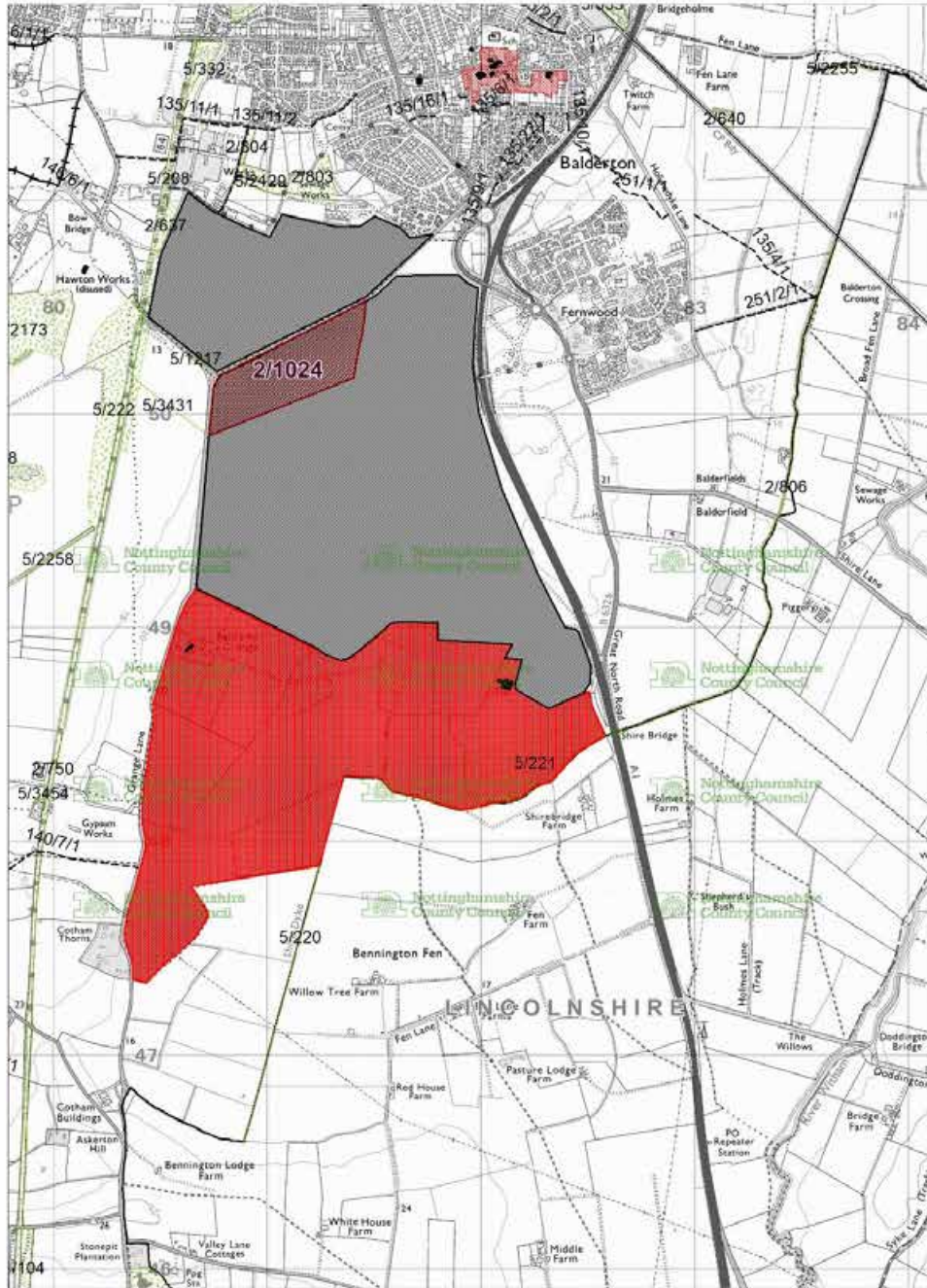


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Constraints Key – Bestwood II North
SSSI
Greenbelt
Full coverage as indicated
LWS
2/361 Longdale Heath Biosinc NBGRC2015 Recognised 'A covered reservoir supporting heath and acidic grassland'
2/363 Longdale Plantation Biosinc NBGRC2015 Recognised 'An 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

Constraints Key – Woodborough Lane	
SSSI	
LWS	
SINC Geo	
2/1061 Dorket Head Brick Quarry Geosinc NBGRC 2004b	An active quarry exposing the Mercia Mudstone Group (Keuper Marl)
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	

Nottinghamshire MLP Call for Sites - Gypsum - Bantycok



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Constraints Key – Bantymock					
SSSI					
LWS					
2/750	Mineral Line, Cotham	Biosinc NBGRC2015	Recognised	'Scrub and base-rich grassland along a disused railway line'	
2/806	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	Bantymock 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 occurrence	
5/221					
Listed Buildings					
Numerous as indicated					
Conservation Area					
SAM					
Footpath					
140/7/1 Cotham FP7					
Bridleway					

