

# DERBYSHIRE AND DERBY MINERALS LOCAL PLAN

## SITE ASSESSMENT WHITWELL

DECEMBER 2016

Derbyshire County Council and Derby City Council (the mineral planning authorities) are working together to prepare a joint minerals local plan. It will be called the Derbyshire and Derby Joint Minerals Local Plan and cover the geographical area of Derbyshire, excluding the Peak District National Park. It will cover the period to 2030.

Minerals are essential raw materials, which are used to provide the infrastructure, buildings, energy and goods that our country needs. They are vital for economic growth and our quality of life. They are, however, a finite resource and can only be worked where they are found. It is important therefore, that we make the best use of them to enable their long term conservation.

The Plan area has a wealth of mineral resources. Mineral extraction and development has, for a long time, been a part of the Derbyshire landscape and an important part of the local economy, making an important contribution to the national, regional and local need for minerals. Whilst mineral working can also provide environmental benefits, residents and local businesses are often concerned about any unwelcome impacts.

**The Councils carried out extensive consultation during 2015 and 2016 in the form of series of papers, which sought to develop further the emerging vision and objectives, strategies and policies of the Minerals Local Plan. The comments and suggestions made at this stage will be used to feed into the Draft Minerals Local Plan which will be published in 2017. We will ask for your views on this document later in the process.**

**During the 2015 and 2016 Consultation the Councils sought your views on issues relating to the development of a strategy for the provision of industrial limestone; including whether to opt for the identification (allocation) of specific sites to ensure future supply. Information was included about sites that were being**

**promoted by operators for inclusion in the Plan. The 2015 2016 Consultation also included a Paper which set out the Site Assessment Methodology that would be used to assess hard rock quarries for their suitability to be allocated in the Plan, should that option be chosen as the best way to ensure supply.**

**The Site Assessment Methodology has been refined in the light of comments made to the previous Consultation Paper and used to carry out an initial assessment of hard rock sites that have been promoted by operators for working. At this stage the Assessment process is intended to discover any positive factors that would support the allocation of the site and any negative factors against its allocation. An allocation of land in a local plan is acceptance, in principle, that a site is suitable for working subject to satisfying detailed planning considerations.**

**This Paper is about the assessment of four promoted sites at Whitwell quarry.**

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## **1. Introduction and Background**

The 2015/2016 Consultation 'Towards a Minerals Local Plan' included a Paper about developing a Strategy for Industrial Limestone. This Paper included several Options for ensuring supply including two which required the identification (allocation) of specific sites for industrial limestone working. The 2015/2016 Consultation also contained a Paper setting out a methodology for assessing the sites that had been put forward for possible allocation in the Plan. On the whole the proposed methodology received favourable comments; it has been amended slightly to address concerns raised during the Consultation process. The revised methodology will be used to carry out an initial assessment of the promoted sites.

The revised Site Assessment Methodology can be found in the following Paper:



## **2. Whitwell Quarry**

The operator Tarmac Ltd is promoting four extensions to the existing quarry at Whitwell. Where appropriate the four sites have been assessed individually against the assessment criteria. In many cases however it is the quarry operation as a whole that the assessment applies to.

Whitwell Quarry lies on the Permian Limestone resource to the north east of the County to the east of Bolsover. The quarry is long established where dolomitic limestone is extracted principally to supply the industrial limestone market. High grade stone is processed at the adjacently located Whitwell Works (operated by Lhoist), mainly to form refractory products for use in the manufacture of steel; a large percentage of which are exported. Mineral of lesser quality is used to produce agricultural lime and a range of construction grade aggregates. Annual mineral production averages around 1 million tonnes split 50/50 between the industrial and aggregate uses.

The proposed four extension sites will generate an additional 3.23 mt of industrial limestone thereby providing a supply of high grade stone for a further 6 years beyond the existing

permitted reserves. These relatively small extensions represent the last economic industrial limestone reserves at Whitwell Quarry from within the Plan area. A planning application, CM5/0416/4, has been submitted to work these areas.

### **3 Sources of Information for Assessment**

The following documents provide the main sources of information used to assess the site:

Derbyshire and Derby MLP Questionnaire for promoted sites

Whitwell Quarry Development Strategy 2013 2 13

Planning Application CM5/0416/4 and supporting documents

The following information has been mapped:

Site location, resource, buffer zones, transport features, water designations, nature and heritage assets, landscape character, predictive agricultural land

The site assessment should be read alongside the mapped information which can be found in the following Paper:

Derbyshire and Derby Minerals Local Plan –

Site Assessment Maps: Whitwell

## 4. Site Assessment

The Assessment process is intended to discover any positive factors that would support the allocation of the site and any negative factors against its allocation. These factors are then categorised as having a major or minor impact. In some cases the criteria has been categorised as only having a minor impact on the potential allocation of the site from the outset.

PMAJ - Major positive factor in favour of allocation

PMIN - Minor positive factor in favour of allocation

NMIN - Minor negative factor against favouring an allocation

NMAJ - Major negative factor against favouring an allocation

Criteria	Criteria Ref.	Considerations	Scale of impact	Indicators	Assessment
<b>Economic Criteria</b>					
Need for mineral	01	NPPF requires that local plans should plan for an adequate and steady supply of minerals. For aggregate minerals the level of provision is determined through the LAA. For some industrial minerals, especially those used in cement production and brick clay the NPPF sets out specific requirements for providing a stock of permitted reserves (land bank) to maintain supply. Is there an identified need for additional reserves to be worked over the Plan period?	PMAJ PMIN NMAJ	Detailed evidence to support the need for additional reserves to be worked at that quarry over the Plan period Some evidence to support the need for additional reserves to be worked at that quarry over the Plan period Insufficient evidence to support the need for additional reserves to be worked at that quarry over the Plan period	PMAJ (See Map1) Whitwell Quarry supplies dolomitic limestone for industrial and aggregate purposes roughly on a 50/50 split. It is important to consider the economic importance of the quarry in maintaining supply for both these purposes.  Existing permitted reserves of industrial limestone remain at two areas of current working (southern and eastern areas) and total some 6.5 million tonnes (mt) which at a rate of extraction of 0.5 mtpa should last for almost 13 years i.e.2028. Industrial limestone reserves in the vicinity of the railway tunnel total some 4.5 mt; this permission consented currently under a ROMP (R5/0705/13) permission expires in 2019. Whilst the company intends to work these reserves, this operation will require the diversion of the Robin Hood railway line which will need to be the subject of a Transport and Works Act 1992 application. In view of this, the timing and contribution of these

Criteria	Criteria Ref.	Considerations	Scale of impact	Indicators	Assessment
					<p>reserves is uncertain which supports the need for additional reserves at the quarry.</p> <p>The proposed four extension sites will generate an additional 3.23 mt of industrial limestone thereby providing a supply of kiln grade stone for a further 6 years beyond the existing permitted reserves. These small extensions represent the last economic industrial limestone reserves at Whitwell Quarry from within the Plan area.</p> <p>In terms of aggregates whilst the most recent LAA, 2014, concludes that there are more than sufficient reserves to last throughout the Plan period Whitwell is the only quarry located in the east of the County and could supply potential growth areas that have been identified across the border in Nottinghamshire.</p>
Quality/yield of mineral	02	<p>NPPF requires local plans to deliver development and therefore the economic viability of development is an important consideration.</p> <p>Is the reserve quality/yield sufficient to suggest extraction would be economically viable during the plan period?</p>	<p>PMAJ</p> <p>PMIN</p> <p>NMAJ</p>	<p>Detailed geological evidence to support the quality/yield of the deposit (boreholes)</p> <p>Some geological evidence to support the quality/yield of the deposit (mapped)</p> <p>Insufficient evidence to support the quality/yield of the deposit</p>	<p>PMAJ</p> <p>Detailed drilling has been carried out on site and borehole data submitted. Borehole information confirms that the proposed sites contain kiln grade high iron and low iron resources as well as civils for aggregate and agricultural uses.</p>
Use of mineral resources	03	<p>NPPF recognises that minerals are a finite resource and therefore it is important to make the best use of them in order to ensure their long term conservation.</p> <p>Is the end use proposed appropriate for the type of mineral?</p>	<p>PMAJ</p> <p>PMIN</p> <p>NMAJ</p>	<p>Detailed evidence provided to justify that the end use is appropriate for the mineral</p> <p>Some evidence provided to justify that the end use is appropriate for the mineral</p> <p>Insufficient evidence provided to justify that the end use is appropriate for the mineral</p>	<p>PMAJ</p> <p>The kiln grade mineral is used to produce refractory products for use in the manufacture of steel; a large percentage of which are exported. Mineral of less quality is used for aggregate and agricultural purposes.</p>

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Location of Processing Plant	04	Market areas vary greatly for minerals depending on their type from international, national or more local. Where relevant an assessment will be made on the appropriateness of the location of the site to intended market. Is the site appropriately located in relation to the market it is intended to serve?	PMIN NMIN	The site is well located to serve its intended market The site is not well located to serve its intended market	PMIN Markets for the dolomitic industrial limestone produced at Whitwell are both national and international. In terms of aggregate mineral the quarry is well located to serve the eastern part of the Plan area and cross border markets in Nottinghamshire and South Yorkshire.
Existing Infrastructure	05	Mineral processing plant/infrastructure can be expensive to develop and therefore NPPG states that economic considerations such as the utilisation of existing plant and infrastructure should be taken into account. Is there existing infrastructure that would be utilised by the proposed operation to process the mineral?	PMIN NMIN	Yes existing infrastructure exists on or adjacent to the site No new infrastructure would be required to process the mineral	PMIN The mineral will be processed both on site and at the adjacent works using existing infrastructure.
Sterilisation of Resources	06	NPPF recognises that minerals are a finite resource and therefore it is important to make the best use of them, including avoiding their sterilisation, in order to ensure their long term conservation. In some cases it might be that if a site isn't allocated to be worked as part of a current operation its' scale or location would affect the likelihood of it being worked in the future effectively sterilising the resource. If the site wasn't allocated would the mineral resources be sterilised from future working due to its location/scale? In many cases a new operation will not be the result of an existing site being abandoned and this will not be an issue.	PMIN NMIN	Yes The site is likely to be sterilised if not allocated No The site is unlikely to be sterilised if not allocated due to its scale/location	PMIN Limestone quarries are expensive to develop and therefore if these sites aren't worked as extensions to the existing quarry they are unlikely to be worked in the future. The promoted areas are relatively small in scale and would be unviable to work independently.
Employment	07	The minerals industry can provide an important source of local employment. NPPG states that economic considerations such as the retention	PMAJ PMIN	A new operation which would result in new jobs Working of the site would enable a continuation of the operation leading to the retention of existing jobs at an existing	PMIN The Quarry complex supports some 220 jobs and makes a contribution to the local economy of over £6 million per year.

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		of jobs should be taken into account. Is it likely that the proposal would lead to the retention of jobs at a currently operational site to the benefit of the local community? Would it be the continuation of an existing operation or a new operation?	NMIN	quarry or A new operation that would not result in net job losses A new operation which would result in job losses elsewhere	
<b>Social Criteria</b>					
Duration of mineral extraction	08	NPPF requires the cumulative impact of proposals to be taken into account; the duration of the operation should be a consideration. The duration of mineral extraction will affect the overall scale of impact on local communities. What is the intended timeframe for working the site (i.e. short term 0-10 years etc.?)	PMAJ PMIN NMIN NMAJ	Short term 0-10 years Medium term 10-20 years Long term 20-30 years Very long term 30+ years	NMIN Working the existing and promoted sites is a long term proposal between 25 and 30 years; particularly the aggregate element.
<b>Site 1 North Extension</b>					
Visual Intrusion	09	NPPG advises that visual intrusion is a consideration that needs to be taken into account. Visual intrusion covers impact of the workings in relation to nearby communities and impact on landscape during and after working. This section covers impact on communities. Impact on landscape character will be dealt with separately. Assessment makes a judgement of visual impact on 'sensitive receptors'. In terms of visual impact these have been classed as occupied residential properties and places where people go e.g. schools/hospitals/community centres/leisure facilities. Public Rights of Way have also been included in this assessment. The assessment takes into account as far as possible; proximity to sensitive receptors topography of site existing screening measures	PMAJ PMIN NMIN NMAJ	The site has few or no visually sensitive receptors and/or only small parts of the site will be visible from them. The site has few visually sensitive receptors but large parts (or more than one part) of the site will be visible from them. The site has some visually sensitive receptors and/or some parts of the site will be visible from them. The site has many visually sensitive receptors and/or large parts (or more than one part) of the site will be visible from them.	PMIN (See Map 2a) The planning application contains information in relation to the distance between the closest sensitive receptors and the proposed extraction limit of the quarry. The nearest residences lie some 200 metres to the north of the site on the southern edge of Whitwell village; none have views into the active quarry. Footpaths 73 and 20 lie at the bottom of the planted bunds which lie north of this extension area and views are well screened by the bund. Where footpath 20 is on higher ground at its eastern end there are open views into the northern and main quarry areas.

Criteria	Criteria Ref.	Considerations	Scale of impact	Indicators	Assessment
Noise	10	<p>NPPG advises that noise is a consideration that needs to be taken into account particularly where noise sensitive properties are affected. The effects of noise need to be evaluated, controlled or mitigated.</p> <p>At this stage the only factor that we can measure is the proximity of the site to noise sensitive areas and properties which would be adversely affected by an increase in noise levels. These would normally include dwellings/ places of worship/educational establishments/ hospitals/ livestock farms/ some factories or any other property likely to be adversely affected by an increase in noise levels.</p> <p>NPPG states that Mineral planning authorities should aim to establish a noise limit, through a planning condition, at the noise-sensitive property that does not exceed the background noise level (<math>L_{A90,1h}</math>) by more than 10dB(A) during normal working hours (0700-1900).</p> <p>The assessment takes into account the number of sensitive receptors within 200 and 500m of site.</p>	PMAJ  PMIN  NMIN  NMAJ	<p>The site has no noise sensitive receptors within 500m of the boundary of the site</p> <p>The site has no or few noise sensitive receptors within 200m of the boundary of the site and some within 500m</p> <p>The site has no or few noise sensitive receptors within 200m of the boundary of the site and many within 500m</p> <p>The site has many noise sensitive receptors within 200m of the boundary of the site</p>	<p>NMIN (See Map 2a)</p> <p>The planning application contains information in relation to the distance between the closest sensitive receptors and the proposed extraction limit of the quarry. The site is located to the south of Whitwell village. A few properties on the southern edge of Whitwell lie just beyond 200 metres of the site whilst many properties lie within 500 metres.</p>
Nuisance Dust	11	<p>NPPG advises that dust is a consideration that needs to be taken into account. This criteria deals with nuisance dust only. Dust likely to cause harm to human health is dealt with under air quality.</p> <p>The location of residential areas, schools and other dust-sensitive land uses should be identified in relation to the site, as well as proposed or likely sources of dust emission from within the site.</p> <p>The assessment should explain how topography may affect the emission and dispersal of site dust, particularly the influence of areas of woodland, downwind or adjacent to the site boundary, and of valley or hill formations in</p>	PMAJ  PMIN  NMIN  NMAJ	<p>The site has no high/medium dust sensitive receptors within 500m of the boundary of the site</p> <p>The site has no or few high/medium dust sensitive receptors within 200m of the boundary of the site and some within 500m</p> <p>The site has no or few high/medium dust sensitive receptors within 200m of the boundary of the site and many within 500m</p> <p>The site has many high/medium dust sensitive receptors within 200m of the boundary of the site</p>	<p>NMIN (See Map 2a)</p> <p>The planning application contains information in relation to the distance between the closest sensitive receptors and the proposed extraction limit of the quarry. The site is located to the south of Whitwell village. A few high/ medium dust sensitive properties on the southern edge of Whitwell lie just beyond 200 metres of the site whilst many properties lie within 500 metres.</p>

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		<p>altering local wind patterns.</p> <p>Large dust particles (&gt;30um), which make up the greatest source of dust emitted from mineral workings will largely deposit within 100m of sources. Intermediate sized particles (10-30um) are likely to travel up to 200-500 m.</p> <p>Large/intermediate particles are classed as nuisance dust.</p> <p>Assessment takes into account the number of high/medium dust sensitive properties within 200 and 500 metres of sites i.e. area where large/intermediate dust particles are likely to deposit.</p>			
Air Quality/ Human Health	12	<p>Smaller particles (&lt; 10um) which make up a small proportion of dust emitted from most mineral workings can travel up to 1000m or more. These small particles (PM10s) are associated with effects on human health. NPPG states that measures to control fine particulates (PM<sub>10</sub>) to address any impacts of dust might be necessary if, within a site, the actual source of emission (e.g. the haul roads, crushers, stockpiles etc.) is in close proximity to any residential property or other sensitive use. Unacceptable levels of PM10s are one factor that may result in the establishment of an Air Quality Management Area to address the problem. The presence of such an area has been regarded as an indicator that air quality is poor therefore might constrain the location of additional dust generating development. Given that PM10s can travel up to and over 1000m, this has been used as a cut-off point.</p>	PMIN NMIN NMAJ	Site does not lie within 1000 m of an AQMA Site lies within 1000m of an AQMA Site lies within an AQMA	PMIN The site does not lie within 1000m of an AQMA
Blasting /Vibration	13	<p>NPPG advises that blast vibration is a consideration that needs to be taken into account. Blasting is often a major cause of concern to residents close to mineral workings. Disturbance is dependent on the quantity of</p>	PMIN NMIN	Distance to nearest sensitive receptor is over 200 metres Distance to the nearest sensitive receptor is within 200 metres.	NMIN (See Map 2a) The planning application contains information in relation to the distance between the closest sensitive receptors and the proposed extraction limit of the quarry. The distance to nearest properties is just beyond 200 metres.

Criteria	Criteria Ref.	Considerations	Scale of impact	Indicators	Assessment
		explosive used, the distance to the receptor, the geology of the site and atmospheric conditions. The impact of blasting is a matter not normally addressed in detail at the 'site allocation' stage but as a practical 'rule of thumb' a 200 metre buffer zone is considered more than adequate to protect sensitive receptors from the impacts of blasting.			
<b>Site 2 North Eastern Extension</b>					
Visual Intrusion	09	<p>NPPG advises that visual intrusion is a consideration that needs to be taken into account.</p> <p>Visual intrusion covers impact of the workings in relation to nearby communities and impact on landscape during and after working. This section covers impact on communities. Impact on landscape character will be dealt with separately.</p> <p>Assessment makes a judgement of visual impact on 'sensitive receptors'. In terms of visual impact these have been classed as occupied residential properties and places where people go e.g. schools/hospitals/community centres/leisure facilities. Public Rights of Way have also been included in this assessment. The assessment takes into account as far as possible; proximity to sensitive receptors topography of site existing screening measures</p>	<p>PMAJ</p> <p>PMIN</p> <p>NMIN</p> <p>NMAJ</p>	<p>The site has few or no visually sensitive receptors and/or only small parts of the site will be visible from them.</p> <p>The site has few visually sensitive receptors but large parts (or more than one part) of the site will be visible from them.</p> <p>The site has some visually sensitive receptors and/or some parts of the site will be visible from them.</p> <p>The site has many visually sensitive receptors and/or large parts (or more than one part) of the site will be visible from them.</p>	<p>PMAJ (See Map 2b)</p> <p>The planning application contains information in relation to the distance between the closest sensitive receptors and the proposed extraction limit of the quarry .The nearest residences lie over 250 metres away on the south eastern edge of Whitwell; none have views into the active quarry. The site is effectively screened by a belt of young trees and vegetation between the former mineral line and Southfield Lane.</p>

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Noise	10	<p>NPPG advises that noise is a consideration that needs to be taken into account particularly where noise sensitive properties are affected. The effects of noise need to be evaluated, controlled or mitigated.</p> <p>At this stage the only factor that we can measure is the proximity of the site to noise sensitive areas and properties which would be adversely affected by an increase in noise levels. These would normally include dwellings/ places of worship/educational establishments/ hospitals/ livestock farms/ some factories or any other property likely to be adversely affected by an increase in noise levels.</p> <p>NPPG states that Mineral planning authorities should aim to establish a noise limit, through a planning condition, at the noise-sensitive property that does not exceed the background noise level (<math>L_{A90,1h}</math>) by more than 10dB(A) during normal working hours (0700-1900). The assessment takes into account the number of sensitive receptors within 200 - 500m of site.</p>	PMAJ PMIN NMIN NMAJ	<p>The site has no noise sensitive receptors within 500m of the boundary of the site</p> <p>The site has no or few noise sensitive receptors within 200m of the boundary of the site and some within 500m</p> <p>The site has no or few noise sensitive receptors within 200m of the boundary of the site and many within 500m</p> <p>The site has many noise sensitive receptors within 200m of the boundary of the site</p>	NMIN (See Map 2b) The planning application contains information in relation to the distance between the closest sensitive receptors and the proposed extraction limit of the quarry .The site has no noise sensitive properties within 200 metres of its boundary and many within 500 metres. The nearest residences are over 250 metres away on the south eastern edge of Whitwell.
Nuisance Dust	11	<p>NPPG advises that dust is a consideration that needs to be taken into account. This criteria deals with nuisance dust only. Dust likely to cause harm to human health is dealt with under air quality.</p> <p>The location of residential areas, schools and other dust-sensitive land uses should be identified in relation to the site, as well as proposed or likely sources of dust emission from within the site.</p> <p>The assessment should explain how topography may affect the emission and dispersal of site dust, particularly the influence of areas of woodland, downwind or adjacent to the site boundary, and of valley or hill formations in altering local wind patterns.</p>	PMAJ PMIN NMIN NMAJ	<p>The site has no high/medium dust sensitive receptors within 500m of the boundary of the site</p> <p>The site has no or few high/medium dust sensitive receptors within 200m of the boundary of the site and some within 500m</p> <p>The site has no or few high/medium dust sensitive receptors within 200m of the boundary of the site and many within 500m</p> <p>The site has many high/medium dust sensitive receptors within 200m of the boundary of the site</p>	NMIN (See Map 2b) The planning application contains information in relation to the distance between the closest sensitive receptors and the proposed extraction limit of the quarry .The site has no high/medium dust sensitive receptors within 200 metres of its boundary and many within 500 metres. The nearest residences are over 250 metres away on the south eastern edge of Whitwell.

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		<p>Large dust particles (&gt;30um), which make up the greatest source of dust emitted from mineral workings will largely deposit within 100m of sources. Intermediate sized particles (10-30um) are likely to travel up to 200-500 m. Large/intermediate particles are classed as nuisance dust. Assessment takes into account the number of high/medium dust sensitive properties within 200 -500 metres of sites i.e. area where large/intermediate dust particles are likely to deposit.</p>			
Air Quality/ Human Health	12	<p>Smaller particles (&lt; 10um) which make up a small proportion of dust emitted from most mineral workings can travel up to 1000m or more. These small particles (PM10s) are associated with effects on human health. NPPG states that measures to control fine particulates (PM<sub>10</sub>) to address any impacts of dust might be necessary if, within a site, the actual source of emission (e.g. the haul roads, crushers, stockpiles etc.) is in close proximity to any residential property or other sensitive use. Unacceptable levels of PM10s are one factor that may result in the establishment of an Air Quality Management Area to address the problem. The presence of such an area has been regarded as an indicator that air quality is poor therefore might constrain the location of additional dust generating development. Given that PM10s can travel up to and over 1000m, this has been used as a cut-off point.</p>	PMIN NMIN NMAJ	Site does not lie within 1000 m of an AQMA Site lies within 1000m of an AQMA Site lies within an AQMA	PMIN The site does not lie within 1000m of an AQMA
Blasting /Vibration	13	<p>NPPG advises that blast vibration is a consideration that needs to be taken into account. Blasting is often a major cause of concern to residents close to mineral workings. Disturbance is dependent on the quantity of explosive used, the distance to the receptor, the</p>	PMIN NMIN	Distance to nearest sensitive receptor is over 200 metres Distance to the nearest sensitive receptor is within 200 metres.	PMIN (See Map 2b) The planning application contains information in relation to the distance between the closest sensitive receptors and the proposed extraction limit of the quarry .The distance to the nearest receptor is over 200 metres.

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		geology of the site and atmospheric conditions. The impact of blasting is a matter not normally addressed in detail at the 'site allocation' stage but as a practical 'rule of thumb' a 200 metre buffer zone is considered more than adequate to protect sensitive receptors from the impacts of blasting.			
<b>Site 3 East Extension</b>					
Visual Intrusion	09	<p>NPPG advises that visual intrusion is a consideration that needs to be taken into account.</p> <p>Visual intrusion covers impact of the workings in relation to nearby communities and impact on landscape during and after working. This section covers impact on communities. Impact on landscape character will be dealt with separately.</p> <p>Assessment makes a judgement of visual impact on 'sensitive receptors'. In terms of visual impact these have been classed as occupied residential properties and places where people go e.g. schools/hospitals/community centres/leisure facilities. Public Rights of Way have also been included in this assessment. The assessment takes into account as far as possible; proximity to sensitive receptors topography of site existing screening measures</p>	<p>PMAJ</p> <p>PMIN</p> <p>NMIN</p> <p>NMAJ</p>	<p>The site has few or no visually sensitive receptors and/or only small parts of the site will be visible from them.</p> <p>The site has few visually sensitive receptors but large parts (or more than one part) of the site will be visible from them.</p> <p>The site has some visually sensitive receptors and/or some parts of the site will be visible from them.</p> <p>The site has many visually sensitive receptors and/or large parts (or more than one part) of the site will be visible from them.</p>	<p>PMAJ (See Map 2c)</p> <p>The planning application provides information in relation to the distance between the closest sensitive receptors and the proposed extraction limit of the quarry .There is only one sensitive receptor near to this site; Hennemoor farm lies some 500 metres away to the south east. However well-established vegetation covers the land along the eastern edge of the site negating any views.</p>

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Noise	10	<p>NPPG advises that noise is a consideration that needs to be taken into account particularly where noise sensitive properties are affected. The effects of noise need to be evaluated, controlled or mitigated.</p> <p>At this stage the only factor that we can measure is the proximity of the site to noise sensitive areas and properties which would be adversely affected by an increase in noise levels. These would normally include dwellings/ places of worship/ educational establishments/ hospitals/ livestock farms/ some factories or any other property likely to be adversely affected by an increase in noise levels.</p> <p>NPPG states that Mineral planning authorities should aim to establish a noise limit, through a planning condition, at the noise-sensitive property that does not exceed the background noise level (<math>L_{A90,1h}</math>) by more than 10dB(A) during normal working hours (0700-1900).</p> <p>The assessment takes into account the number of sensitive receptors within 200 -500m of site.</p>	PMAJ PMIN NMIN NMAJ	<p>The site has no noise sensitive receptors within 500m of the boundary of the site</p> <p>The site has no or few noise sensitive receptors within 200m of the boundary of the site and some within 500m</p> <p>The site has no or few noise sensitive receptors within 200m of the boundary of the site and many within 500m</p> <p>The site has many noise sensitive receptors within 200m of the boundary of the site</p>	PMAJ (See Map 2c) The planning application provides information in relation to the distance between the closest sensitive receptors and the proposed extraction limit of the quarry. The site has no sensitive properties within 500 metres of its boundary. Hennymoor Farm lies some 500 metres away to the south east.
Nuisance Dust	11	<p>NPPG advises that dust is a consideration that needs to be taken into account. This criteria deals with nuisance dust only. Dust likely to cause harm to human health is dealt with under air quality.</p> <p>The location of residential areas, schools and other dust-sensitive land uses should be identified in relation to the site, as well as proposed or likely sources of dust emission from within the site.</p> <p>The assessment should explain how topography may affect the emission and dispersal of site dust, particularly the influence of areas of woodland, downwind or adjacent to the site boundary, and of valley or hill formations in altering local wind patterns.</p>	PMAJ PMIN NMIN NMAJ	<p>The site has no high/medium dust sensitive receptors within 500m of the boundary of the site</p> <p>The site has no or few high/medium dust sensitive receptors within 200m of the boundary of the site and few within 500m</p> <p>The site has no or few high/medium dust sensitive receptors within 200m of the boundary of the site and many within 500m</p> <p>The site has many high/medium dust sensitive receptors within 200m of the boundary of the site</p>	PMAJ (See Map 2c) The planning application provides information in relation to the distance between the closest sensitive receptors and the proposed extraction limit of the quarry. The site has no high/medium dust sensitive receptors within 500 metres of its boundary.

Criteria	Criteria Ref.	Considerations	Scale of impact	Indicators	Assessment
		<p>Large dust particles (&gt;30um), which make up the greatest source of dust emitted from mineral workings will largely deposit within 100m of sources. Intermediate sized particles (10-30um) are likely to travel up to 200-500 m. Large/intermediate particles are classed as nuisance dust. Assessment takes into account the number of high/medium dust sensitive properties within 200 -500 metres of sites i.e. area where large/intermediate dust particles are likely to deposit.</p>			
Air Quality/ Human Health	12	<p>Smaller particles (&lt; 10um) which make up a small proportion of dust emitted from most mineral workings can travel up to 1000m or more. These small particles (PM10s) are associated with effects on human health. NPPG states that measures to control fine particulates (PM<sub>10</sub>) to address any impacts of dust might be necessary if, within a site, the actual source of emission (e.g. the haul roads, crushers, stockpiles etc.) is in close proximity to any residential property or other sensitive use. Unacceptable levels of PM10s are one factor that may result in the establishment of an Air Quality Management Area to address the problem. The presence of such an area has been regarded as an indicator that air quality is poor therefore might constrain the location of additional dust generating development. Given that PM10s can travel up to and over 1000m, this has been used as a cut-off point.</p>	PMIN NMIN NMAJ	Site does not lie within 1000 m of an AQMA Site lies within 1000m of an AQMA Site lies within an AQMA	PMIN The site does not lie within 1000m of an AQMA
Blasting /Vibration	13	<p>NPPG advises that blast vibration is a consideration that needs to be taken into account. Blasting is often a major cause of concern to residents close to mineral workings. Disturbance is dependent on the quantity of explosive used, the distance to the receptor, the</p>	PMIN NMIN	Distance to nearest sensitive receptor is over 200 metres Distance to the nearest sensitive receptor is within 200 metres.	PMIN (See Map 2c) The planning application provides information in relation to the distance between the closest sensitive receptors and the proposed extraction limit of the quarry. The site has no sensitive receptors within 200 metres.

Criteria	Criteria Ref.	Considerations	Scale of impact	Indicators	Assessment
		geology of the site and atmospheric conditions. The impact of blasting is a matter not normally addressed in detail at the 'site allocation' stage but as a practical 'rule of thumb' a 200 metre buffer zone is considered more than adequate to protect sensitive receptors from the impacts of blasting.			
<b>Site 4 South Eastern Extension</b>					
Visual Intrusion	09	<p>NPPG advises that visual intrusion is a consideration that needs to be taken into account.</p> <p>Visual intrusion covers impact of the workings in relation to nearby communities and impact on landscape during and after working. This section covers impact on communities. Impact on landscape character will be dealt with separately.</p> <p>Assessment makes a judgement of visual impact on 'sensitive receptors'. In terms of visual impact these have been classed as occupied residential properties and places where people go e.g. schools/hospitals/community centres/leisure facilities. Public Rights of Way have also been included in this assessment. The assessment takes into account as far as possible; proximity to sensitive receptors topography of site existing screening measures</p>	<p>PMAJ</p> <p>PMIN</p> <p>NMIN</p> <p>NMAJ</p>	<p>The site has few or no visually sensitive receptors and/or only small parts of the site will be visible from them.</p> <p>The site has few visually sensitive receptors but large parts (or more than one part) of the site will be visible from them.</p> <p>The site has some visually sensitive receptors and/or some parts of the site will be visible from them.</p> <p>The site has many visually sensitive receptors and/or large parts (or more than one part) of the site will be visible from them.</p>	<p>PMAJ (See Map 2d)</p> <p>The planning application provides information in relation to the distance between the closest sensitive receptors and the proposed extraction limit of the quarry. The site has few sensitive receptors; Henny Moor Farm lies approximately 350 metres to the east; Craggs Lodge and Creswell Craggs visitor centre lay some 160 and 330 metres respectively to the south. The southern end of the existing quarry is well screened by peripheral acoustic bunds/fencing and an existing plantation. Some gaps in the plantation allow glimpses into the site from Bridleway 5.</p>

Criteria	Criteria Ref.	Considerations	Scale of impact	Indicators	Assessment
Noise	10	<p>NPPG advises that noise is a consideration that needs to be taken into account particularly where noise sensitive properties are affected. The effects of noise need to be evaluated, controlled or mitigated.</p> <p>At this stage the only factor that we can measure is the proximity of the site to noise sensitive areas and properties which would be adversely affected by an increase in noise levels. These would normally include dwellings/ places of worship/educational establishments/ hospitals/ livestock farms/ some factories or any other property likely to be adversely affected by an increase in noise levels.</p> <p>NPPG states that Mineral planning authorities should aim to establish a noise limit, through a planning condition, at the noise-sensitive property that does not exceed the background noise level (<math>L_{A90,1h}</math>) by more than 10dB(A) during normal working hours (0700-1900).</p> <p>The assessment takes into account the number of sensitive receptors within 200 -500m of site.</p>	<p>PMAJ</p> <p>PMIN</p> <p>NMIN</p> <p>NMAJ</p>	<p>The site has no noise sensitive receptors within 500m of the boundary of the site</p> <p>The site has no or few noise sensitive receptors within 200m of the boundary of the site and some within 500m</p> <p>The site has no or few noise sensitive receptors within 200m of the boundary of the site and many within 500m</p> <p>The site has many noise sensitive receptors within 200m of the boundary of the site</p>	<p>PMIN (See Map 2d)</p> <p>The planning application provides information in relation to the distance between the closest sensitive receptors and the proposed extraction limit of the quarry. The site has one sensitive property within 200 metres of the site and few within 500 metres. Hennymoor Farm lies approximately 350 metres to the east; Craggs Lodge and Creswell Craggs visitor centre lie some 160 and 330 metres respectively to the south.</p>
Nuisance Dust	11	<p>NPPG advises that dust is a consideration that needs to be taken into account. This criteria deals with nuisance dust only. Dust likely to cause harm to human health is dealt with under air quality.</p> <p>The location of residential areas, schools and other dust-sensitive land uses should be identified in relation to the site, as well as proposed or likely sources of dust emission from within the site.</p> <p>The assessment should explain how topography may affect the emission and dispersal of site dust, particularly the influence of areas of woodland, downwind or adjacent to the site boundary, and of valley or hill formations in altering local wind patterns.</p>	<p>PMAJ</p> <p>PMIN</p> <p>NMIN</p> <p>NMAJ</p>	<p>The site has no high/medium dust sensitive receptors within 500m of the boundary of the site</p> <p>The site has no or few high/medium dust sensitive receptors within 200m of the boundary of the site and some within 500m</p> <p>The site has no or few high/medium dust sensitive receptors within 200m of the boundary of the site and many within 500m</p> <p>The site has many high/medium dust sensitive receptors within 200m of the boundary of the site</p>	<p>PMIN (See Map 2d)</p> <p>The planning application provides information in relation to the distance between the closest sensitive receptors and the proposed extraction limit of the quarry. The site has one high/medium dust sensitive property within 200 metres of the site and few within 500 metres. Hennymoor Farm lies approximately 350 metres to the east; Craggs Lodge and Creswell Craggs visitor centre lie some 160 and 330 metres respectively to the south.</p>

Criteria	Criteria Ref.	Considerations	Scale of impact	Indicators	Assessment
		<p>Large dust particles (&gt;30um), which make up the greatest source of dust emitted from mineral workings will largely deposit within 100m of sources. Intermediate sized particles (10-30um) are likely to travel up to 200-500 m. Large/intermediate particles are classed as nuisance dust. Assessment takes into account the number of high/medium dust sensitive properties within 200-500 metres of sites i.e. area where large/intermediate dust particles are likely to deposit.</p>			
Air Quality/ Human Health	12	<p>Smaller particles (&lt; 10um) which make up a small proportion of dust emitted from most mineral workings can travel up to 1000m or more. These small particles (PM10s) are associated with effects on human health. NPPG states that measures to control fine particulates (PM<sub>10</sub>) to address any impacts of dust might be necessary if, within a site, the actual source of emission (e.g. the haul roads, crushers, stockpiles etc.) is in close proximity to any residential property or other sensitive use. Unacceptable levels of PM10s are one factor that may result in the establishment of an Air Quality Management Area to address the problem. The presence of such an area has been regarded as an indicator that air quality is poor therefore might constrain the location of additional dust generating development. Given that PM10s can travel up to and over 1000m, this has been used as a cut-off point.</p>	PMIN NMIN NMAJ	Site does not lie within 1000 m of an AQMA Site lies within 1000m of an AQMA Site lies within an AQMA	PMIN The site does not lie within 1000m of an AQMA
Blasting /Vibration	13	<p>NPPG advises that blast vibration is a consideration that needs to be taken into account. Blasting is often a major cause of concern to residents close to mineral workings. Disturbance is dependent on the quantity of explosive used, the distance to the receptor, the</p>	PMIN NMIN	Distance to nearest sensitive receptor is over 200 metres Distance to the nearest sensitive receptor is within 200 metres.	NMIN (See Map 2d) The planning application provides information in relation to the distance between the closest sensitive receptors and the proposed extraction limit of the quarry. The site has one sensitive receptor Craggs Lodge within 200 metres of the site. Additionally, Creswell Craggs heritage asset lies some 300 metres

Criteria	Criteria Ref.	Considerations	Scale of impact	Indicators	Assessment
		geology of the site and atmospheric conditions. The impact of blasting is a matter not normally addressed in detail at the 'site allocation' stage but as a practical 'rule of thumb' a 200 metre buffer zone is considered more than adequate to protect sensitive receptors from the impacts of blasting.			from the site and the impact of blasting on the associated cave structures needs to be fully considered.
Transport – Local Amenity	14	NPPG advises that traffic is a consideration that should be taken into account. The movements of minerals and importation of fill material for restoration can generate large volumes of traffic, mainly heavy goods vehicle (HGVs). Such traffic can impact on communities causing problems such as public safety, noise and vibration, air pollution and visual intrusion. These problems are most severe where HGVs use roads unsuited to their weight and size, where they pass through sensitive areas and at the access to the site from the public highway. Will associated mineral traffic pass through sensitive areas on the way to the strategic road network?	PMAJ PMIN NMIN NMAJ	HGVs would have to pass no sensitive receptors between the site and the start of the local strategic network (A Class Road or designated freight routes) HGVs would have to pass few sensitive receptors between the site and the start of the local strategic network (A Class Road or designated freight routes) HGVs would have to pass some sensitive receptors between the site and the start of the local strategic network (A Class Road or designated freight routes) HGVs would have to pass many sensitive receptors between the site and the start of the local strategic network (A Class Road or designated freight routes)	PMAJ (See Map 3) HGVs will continue to use the designated route between the site and the A60 via Craggs Road and Hennymoor Lane. All HGV traffic therefore avoids residential areas and other receptors within Whitwell.  There isn't an existing collision or congestion problem and vehicle trips are expected to remain constant.
Transport - Safe and effective access to and from the site	15	What are the existing or proposed access arrangements for the site?	PMAJ NMIN NMAJ	Existing approved access to current highway standards Existing approved access not to current highway standard but no pattern of existing collisions at access location or no existing access , but subject to agreement with local highway authority new access likely to be accepted Existing approved access not to current highway standard and current pattern of existing collisions at access location or no existing access and subject to agreement with local highway authority new access unlikely to be acceptable.	PMAJ The existing purpose built access appears to conform to existing standards.
Transport – Export route (vehicular)	16	What is the main export route (vehicular) from the site?	PMAJ PMIN NMIN	Direct onto the strategic road network (I.e. and A class road or a road that is a designated freight route). Direct onto a B class road with short haul to strategic road network Direct onto a B class road but with long haul to strategic road	PMIN The site is located around 2 km from the A60 which is reached by the designated, established route via Craggs Road, and Hennymoor Lane (B6042)

Criteria	Criteria Ref.	Considerations	Scale of impact	Indicators	Assessment
			NMAJ	network Direct on to minor roads unsuitable for HGVs	
Transport - Capacity for sustainable transport options	17	NPPF promotes the use of alternatives to road transport provided that they are environmentally preferable. This helps to reduce carbon emissions thus reducing the impacts on the climate. Is an alternative mode of transport to road proposed?	PMAJ PMIN NMIN	All material would be transported by rail or canal Some material would be transported by rail or canal All material would be transported by road	NMIN As with existing operations, it is anticipated that all material would be transported by road.
Benefits from the working, restoration and proposed after-use	18	NPPF advises that the positive benefits of mineral working should be taken into account. What are the overall potential benefits from the proposed working, restoration and after-use of the site?	PMAJ PMIN NMIN NMAJ	Economic, social and environmental benefits would arise Two of the above benefits would arise One of the above benefits would arise No benefits would arise	PMIN Economic-industrial limestone from this quarry is an important raw material for many downstream industries Social – Continued local employment
Cumulative impact	19	Cumulative impact arises not only from successive mineral operations in the same area, but also coupled with other types of commercial activity, which may have an impact on an area over time.	PMIN NMIN NMAJ	There are no significant impacts of past or present mineral extraction or other significant commercial activity in the area. There are not any current mineral workings in the area but there have been workings in the recent past and there is other commercial activity in the area. There is a concentration of mineral workings and other commercial activity in the areas, which currently have, or have had, impacts either concurrently or successively over a long period of time.	PMIN There are no significant impacts of past or present mineral extraction or other significant commercial activity in the area. Coal mining has taken place historically and colliery spoil tips are present on the site and on a nearby site. The removal of Belp Tip and its use for restoration purposes forms part of the current permitted scheme at Whitwell Quarry.
<b>Environmental Criteria</b>					
Water Environment – Flood Risk	20	The EA designates flood zones which are susceptible to different risks of flooding. Zone 1 has the lowest probability of flooding and Zone 3 the highest. NPPG advises that a risk-based sequential test should be applied to proposals with the aim of steering new development to areas at the lowest probability of flooding. It classifies land uses according to their vulnerability to flooding; mineral workings (other than sand and gravel workings) are classed as ‘less vulnerable’ development which	PMAJ PMIN NMIN NMAJ	Site lies within flood zone 1- lowest probability of flooding Site lies within flood zone 2- medium probability of flooding Site lies within flood zone 3a- high probability of flooding Site lies within flood zone 3b- functional flood plain	PMAJ (See Map4) Based on information provided by the Environment Agency the site is situated in Flood Zone 1. This zone has the least probability for flooding and mineral working is appropriate development in this location.

Criteria	Criteria Ref.	Considerations	Scale of impact	Indicators	Assessment
		<p>is appropriate development in zones 1, 2 and 3a. However, mineral working should not increase flood risk elsewhere and needs to be designed, worked and restored accordingly. It sets out that it may be possible to locate ancillary facilities such as processing plant and offices in areas at lowest flood risk. Sequential working and restoration can be designed to reduce flood risk by providing flood storage and attenuation.</p>			
Water Environment – groundwater	21	<p>NPPG advises that groundwater is a consideration that should be taken into account. The EA designates Groundwater Source Protection Zones for important groundwater sources such as wells, boreholes and springs used for drinking water supply. It is important within these Zones not to interrupt the flow or to pollute the groundwater.</p>	<p>PMIN NMIN</p>	<p>Site lies outside a groundwater protection zone Site lies within a groundwater protection zone</p>	<p>PMIN (See Map 4) Site lies outside a groundwater source protection zone</p>
Water Environment - aquifer protection	22	<p>NPPG advises that groundwater is a consideration that should be taken into account. Permeable rock deposits that store groundwater are known as aquifers. The EA designates two types of aquifer, superficial drift and bedrock deposits. Aquifers are further classified as Principal or Secondary. Principal aquifers usually provide a high level of water storage and may support water supply and/or river base flow on a strategic scale. Consequently they require the greatest protection from development that might be harmful to them.</p>	<p>PMIN NMIN NMAJ</p>	<p>Site lies on a Non Aquifer Site lies on a Secondary Aquifer Site lies on a Principal Aquifer</p>	<p>NMAJ (See Map 5) Site lies on a Principal Aquifer. Detailed evidence in support of the planning application suggests that any impacts on the aquifer are acceptable. The base of the quarry is below the groundwater level and therefore the quarry is dewatered to maintain dry working area. The impact of dewatering on groundwater levels decreases with distance from the quarry. The areal extent of the groundwater level depression will be limited by leakage to groundwater from existing watercourses. Following restoration of the quarry pumping will cease and groundwater levels are anticipated to recover.</p>

Criteria	Criteria Ref.	Considerations	Scale of impact	Indicators	Assessment
Ecology – existing impacts from mineral extraction	23	NPPG advises that impacts on internationally, nationally or locally designated wildlife sites, protected habitats and species and ecological networks should be taken into account. Presence or absence of existing impacts from mineral extraction	PMAJ  PMIN NMIN  NMAJ	Over a wide area habitats have been fragmented by mineral extraction or habitats of limited quality have been created through mineral extraction but have potential to make a major contribution to biodiversity targets Localised but moderate to high impacts Only localised, limited impacts associated with mineral extraction on habitats within or adjacent to the site None or insignificant impacts from mineral extraction on habitats within or adjacent to the site	PMIN The proposed extension areas are comparatively small in the context of the existing quarry, which they lie immediately adjacent to. At the very local level, the existing quarry has significantly affected habitats within and around the proposed extension areas. In the wider area however, quarrying has been less prevalent, and the landscape remains largely intact.
Ecology – UK, regional and local BAP priority species and habitats	24	NPPG advises that impacts on internationally, nationally or locally designated wildlife sites, protected habitats and species and ecological networks should be taken into account. Presence or absence of existing priority habitats and species as identified by UK, regional and local BAPs	PMAJ  PMIN  NMIN  NMAJ	Extensive areas of degraded or biodiversity poor habitats that provide a context for possible allocation with an emphasis on habitat creation contributing to UK priority habitats Some areas of degraded or biodiversity poor habitats that provide a context for possible allocation with an emphasis on habitat restoration or creation contributing to UK and local priority habitats Some areas of positive ecological value including UK or local priority habitats or species which should be considered for protection/conservation Extensive areas of positive ecological value including UK priority habitats or species which should be considered for protection/conservation	PMIN (See Map 6) The proposed extension areas are not known to support any habitats or species of ecological interest
Ecology – ecological coherence: Natural Areas/ Wildlife Corridors/linkages	25	NPPG advises that impacts on internationally, nationally or locally designated wildlife sites, protected habitats and species and ecological networks should be taken into account. Does the site have strong ecological coherence?	PMAJ  PMIN  NMIN  NMAJ	The proposed site no longer accords with the established habitats over a wider area. The proposed site has few characteristics that accord with the established habitats over a wider area and its internal ecological coherence is poor OR coherence of the wider area is poor The proposed site generally accords with the established habitats over a wider area (or in part) but the condition of habitats is poor OR few features within the site but encompassed by landscapes which have ecological coherence The proposed site accords with the established habitats over a wider area and habitat pattern is strong	PMAJ The habitats within the proposed extension areas have negligible ecological coherence with the most notable habitats in the surrounding area, including at Creswell Crags, and Hollinhill and Markland Grips SSSI.
Ecology –	26	NPPG advises that the proposed restoration of	PMAJ	The proposed site offers excellent opportunities to create or	PMIN

Criteria	Criteria Ref.	Considerations	Scale of impact	Indicators	Assessment
Habitat Creation		the site should be taken into account. Does the site provide opportunities for habitat creation?	PMIN  NMIN  NMAJ	enhance UK priority habitats within the site and offers biodiversity benefit over a wider area e.g. by enhancing a habitat corridor. The site offers some opportunities to create or enhance UK or local priority habitats within its boundaries, making overall habitat gain, but may not make appropriate linkages to wider area. Existing habitats are intact and habitat creation would only provide limited biodiversity enhancement within the site or the wider area. Existing habitats are intact and make a strong contribution to priority biodiversity targets for conservation and there is strong ecological coherence within the site; habitat creation would not enhance the site or the wider area.	The extension areas have the potential to be restored to deliver biodiversity gain, although the significance of this will be limited by their small size
Landscape-existing impacts from mineral extraction	27	NPPG advises that impacts on landscape character should be taken into account. A particular issue for hard rock quarries is the scope of the landscape character to accommodate mitigation and thereby reduce potential impacts. What is the character of the existing landscape including its scope to accommodate mitigation?	PMAJ  PMIN  NMIN  NMAJ	A landscape of complex character with many landscape characteristics that can be employed in the satisfactory mitigation/restoration of the site A landscape of varied character with some landscape characteristics that can be employed in the satisfactory mitigation/restoration of the site A simple landscape with few landscape characteristics that can be employed in the satisfactory mitigation/restoration of the site An open and simple landscape with very few landscape characteristics that can be employed in the satisfactory mitigation/restoration of the site	NMIN A simple landscape with few landscape characteristics that can be employed in the satisfactory mitigation/restoration of the site
Landscape – Existing infrastructure	28	NPPG advises that impacts on landscape character should be taken into account. Is there existing infrastructure that the site could be worked through and what is the impact in landscape terms from connecting to this?	PMAJ  PMIN  NMIN  NMAJ	There is existing infrastructure within the vicinity of the proposed site that can be readily and easily used There is existing infrastructure within the vicinity of the proposed site that could be connected to with slight adverse effects There is existing infrastructure within the vicinity of the proposed site but there would be significant adverse impacts associated with connecting to it. There is no existing infrastructure and this will need to be developed for the proposed site to be operated	PMAJ There is existing plant within the quarry site that processes the extracted mineral that is readily accessible from these proposed extension areas.

Criteria	Criteria Ref.	Considerations	Scale of impact	Indicators	Assessment
Landscape – Strength of Landscape Character	29	NPPG advises that impacts on landscape character should be taken into account. Is the character of the landscape strong and visually coherent?	PMAJ PMIN NMIN NMAJ	The proposed site no longer accords with the established landscape character and the restoration of a 'new' landscape is required (Restore/create) The proposed site has few characteristics that accord with the established landscape character and the condition is poor (Enhance) The proposed site generally accords with the established landscape character (or in part) but the condition could be enhanced (Conserve and enhance) The proposed site accords with the established landscape character and is in good condition (Conserve)	PMIN (See Map 7) The proposed extension areas have been previously affected by land-uses that aren't necessarily consistent with the established character of the wider landscape such as soil storage mounds and recent plantation woodland.
Landscape/– visual impact	30	NPPG advises that impacts on landscape character should be taken into account. What would be the visual impact on the landscape of working the site?	PMAJ PMIN NMIN NMAJ	The site has few or no visual receptors and/or only small parts of the site will be visible The site has few visual receptors but large parts (or more than one part) of the site will be visible The site has some visual receptors and/or some parts of the site will be visible The site has many visual receptors and/or large parts (or more than one part) of the site will be visible	PMIN The existing quarry is visually well contained by the local topography and on-site mitigation. There are few locations that will be able to view the extension areas and these views will be in the context of an established working quarry.
Landscape – impact on the Peak District National Park	31	NPPF requires great weight to be given to conserving landscape and scenic beauty in National Parks. Many of the hard rock quarries within the Plan area lie in close proximity to the Peak District National Park (PDNP). Would working the site impact on the PDNP?	PMAJ PMIN NMIN NMAJ	The site is not close to the PDNP boundary and no part of the site will be visible from it The site is not close to the PDNP boundary although parts of the site may be visible from it The site lies in close proximity to the PDNP boundary forming part of the wider setting and/or large parts of the site will be visible from it The site abuts the PDNP boundary forming part of its immediate setting and/or large parts of the site will be clearly visible from it	PMAJ The site is not close to the PDNP boundary and no part of the site will be visible from it.
Historic Environment – designated sites and settings	32	NPPG advises that impacts on archaeology and heritage features should be taken into account. Would working the site impact on a designated site or its setting?	PMIN NMIN NMAJ	No perceivable impact on a designation and/or its setting Impact on a Grade II designation, conservation area and/or its setting Impact on a Grade I or II* designation, SAM and/or its setting	PMIN (See Map 8) The south east site lies closest to the Creswell Crags Scheduled Monument but it is screened by the tree belt and there is no significant setting issue.

Criteria	Criteria Ref.	Considerations	Scale of impact	Indicators	Assessment
Historic Environment – Archaeology	33	NPPG advises that impacts on archaeology and heritage features should be taken into account. What is the archaeological importance of the site?	PMAJ PMIN NMIN NMAJ	Little or known earthworks and/or known archaeology with low potential for buried archaeology Occasional or localised earthworks (may not be visually evident) and/or known archaeology with limited potential for buried remains Frequent, visible and interpretable earthworks and/or some known archaeology with significant potential for buried remains Extensive, visible and interpretable earthworks and/or known archaeology with high potential for buried remains.	PMAJ Most of the areas have already been disturbed so will have little potential for buried remains. There has been extensive monitoring of previous extension areas in the quarry with very few significant finds coming to light so even in undisturbed areas the potential seems low.
Historic Environment – historic landscape	34	NPPG advises that impacts on archaeology and heritage features should be taken into account. Is the historic character of the landscape strong?	PMAJ PMIN NMIN NMAJ	Historic field pattern largely gone Remnant field patterns with significant boundary loss Recognisable field patterns with some boundary loss Evidence of multi-period landscape and/or intact field pattern (as indicated by 1st edition OS or earlier)	PMAJ Historic field pattern largely gone
Geological and Geomorphological features	35	NPPG advises that the impacts on nationally protected geological and geomorphological sites and features need to be taken into account. What is the geological /geomorphological importance of the site?	PMIN NMIN	No impact on a designated site Impact on a designated site	PMIN Although much of the existing quarry site has been identified as a Local Geological Site, the proposed extensions will not adversely affect this designation
Best and most versatile agricultural land	36	NPPG advises that the impacts on soil resources should be taken into account. What is the likelihood of the site containing bmv land? i.e. grade 1,2 or 3a of the Agricultural Land Classification Scheme. At this stage we do not have detailed working and restoration proposals to assess how much bmv land will be conserved and in many cases we do not have information about the presence of bmv land. We have decided therefore to use DEFRA's predictive agricultural land classification map to indicate whether the site lies within an area where there is a high, moderate or low likelihood of bmv land being present. In principle areas of bmv land should be protected.	PMAJ PMIN NMIN	The site lies within an area where there is a low likelihood of bmv land (less than 20% of the land is likely to be bmv). The site lies within an area where there is a moderate likelihood of bmv land (20-60% of the land is likely to be bmv). The site lies within an area where there is a high likelihood of bmv land (more than 60% is likely to be bmv).	NMIN (See Map 9) The sites lie within an area where there is a high likelihood of best and most versatile (bmv) agricultural land; more than 60% of the land is likely to be classed as bmv. However only the north east extension contains a small area of bmv soils land and these will not be lost during working of the site (information taken from detailed soil resource analysis as provided in planning application CM5-0416-4 to work the four extension sites)
<b>Duty to Cooperate</b>					
Conformity	37	NPPF requires local planning authorities to	PMAJ	The site is in conformity with other local plans	NMIN

Criteria	Criteria Ref.	Considerations	Scale of impact	Indicators	Assessment
with other local plans (allocations)		cooperate on strategic cross border issues which includes ensuring that local plans are compatible Is the site in conformity with other local plans?	NMIN NMAJ	The site is not in conformity but the issue is likely to be resolvable The site is not in conformity with other local plans and the issue is unlikely to be resolved	Bolsover DC is producing a new local plan. The draft Plan published October 2016 identifies a strategic housing site for a minimum of 200 dwellings at the former Whitwell Colliery. This proposal would bring some housing to approximately 350 metres from the north eastern extension. It is considered that any impacts are likely to be capable of mitigation.

## 5. Conclusions

The following commentary seeks to identify those key factors that favour the allocation of the site and those that would constrain the site's allocation. In many cases the impacts are judged to be minor. A tabular summary of the assessment findings is set out below.

The following matters have been assessed as key positive factors favouring allocation:

- Nationally and internationally important resource supplying the UK's only producer of steel refractory products, exported to many countries
- Quarry well located to serve aggregates market in the east of the Plan area
- Detailed borehole information available justifying quality of deposit
- Important local employer and provider of wealth to local economy in area previously decimated by coal mine and related industrial manufacturing closures and currently undergoing regeneration
- The extension areas are small and the eastern and south eastern sites in particular are relatively isolated from sensitive receptors and would not impact on local amenity
- Whilst transport is road based the site has good transport and access arrangements and HGV's would not pass sensitive receptors to reach the strategic road network

The following matters have been assessed as key negative factors against allocation:

- Working would extend the duration of the quarry to around 2040; the latter years would be for aggregate working only
- Working the northern and north eastern extension would extend the quarry closer to the edge of Whitwell village and appropriate safeguards would need to be in place to protect local amenity
- The south eastern extension would extend working towards Creswell Crag, appropriate safeguards regarding blasting and vibration would need to continue
- The quarry lies on a principal aquifer, appropriate safeguards would need to continue to protect the water regime
- There are few landscape characteristics that can be employed in the satisfactory mitigation/restoration of the quarry; careful consideration needs to be given to achieve its acceptable restoration

Where potential negative impacts have been identified the Mineral Planning Authority will carry out further detailed work, in consultation with appropriate bodies, to see if that impact could be mitigated or avoided to enable the site to go forward for allocation.

## Summary of Assessment - Whitwell

Criteria	PMAJ	PMIN	NMIN	NMAJ	Criteria	PMAJ	PMIN	NMIN	NMAJ
<b>Economic Criteria</b>					<b>Environmental Criteria</b>				
Need for mineral	*				Water Environment – Flood Risk	*			
Quality/yield of mineral	*				Water Environment –groundwater		*		
Use of mineral resources	*				Water Environment-aquifer protection				*
Location of Processing Plant		*			Ecology – existing impacts from mineral extraction		*		
Existing Infrastructure		*			Ecology – UK, regional and local BAP priority species and habitats		*		
Sterilisation of Resources		*			Ecology – ecological coherence: Natural Areas/ Wildlife Corridors/linkages	*			
Employment		*			Ecology – Habitat Creation		*		
<b>Social Criteria</b>					Landscape- existing impacts from mineral extraction			*	
Duration of mineral extraction			*		Landscape – Existing infrastructure	*			
					Landscape – Strength of Landscape Character		*		
<b>Site 1 North Extension</b>					Landscape/– visual impact		*		
Visual Intrusion		*			Landscape – impact on the Peak District National Park	*			
Noise			*		Historic Environment –designated sites and settings		*		
Nuisance Dust			*		Historic Environment – Archaeology	*			
Air Quality/ Human Health		*			Historic Environment –historic landscape	*			
Blasting /Vibration			*		Geological and Geomorphological features		*		
<b>Site 2 North East Extension</b>					Best and most versatile agricultural land			*	
Visual Intrusion	*				<b>Duty to Cooperate</b>				
Noise			*		Conformity with other local plans (allocations)			*	
Nuisance Dust			*						
Air Quality/ Human Health		*							
Blasting /Vibration		*							
<b>Site 3 East Extension</b>									
Visual Intrusion	*								
Noise	*								
Nuisance Dust	*								
Air Quality/ Human Health		*							
Blasting /Vibration		*							
<b>Site 4 South East Extension</b>									
Visual Intrusion	*								
Noise		*							
Nuisance Dust		*							
Air Quality/ Human Health		*							
Blasting /Vibration			*						
Transport – Local Amenity	*								
Transport - Safe and effective access to and from the site	*								
Transport – Export route (vehicular)		*							
Transport - Capacity for sustainable transport options			*						
Benefits from the working, restoration and proposed after-use		*							
Cumulative impact		*							

## 6. Next Steps

The next stage of Plan preparation involves the publication of a Draft Minerals Local Plan which will set out strategies to ensure the supply of minerals. If the identification of specific sites is considered to be the best option for making provision for industrial limestone, the Plan will include the allocation of any sites that we think should be identified for working during the Plan period. Supporting evidence to the Plan would include a full site assessment to accompany sites that are suitable for allocation as well as those that are considered to be unsuitable. Where sites are proposed for allocation they will be accompanied by a list of planning requirements that would need to be taken into account in the submission of any planning application.

It should be reiterated that an allocation doesn't automatically mean that planning permission will be forthcoming; the sites will have to be fully evaluated against detailed planning requirements.

### Site Assessment: Whitwell

Do you have any comments on the Assessment of sites promoted for mineral working at Whitwell Quarry? Please give reasons for your answer.