Planning for Places

5.5 **Minerals**

The following set of policies relate to minerals safeguarding and extraction including sandstone, sand, gravel, fireclay, coal and other hydrocarbons.

New and Extended Minerals Extraction Sites

Introduction

5.5.1 **Maintaining a steady and adequate supply of minerals is essential to the economy, both locally and at a wider regional/ national scale. Mineral resources within the District are primarily most suited to the production of construction materials, particularly building and paving stones but also building sand, crushed rock aggregates and clays suitable for brick making, engineering or as a refractory material. However potentially viable hydrocarbon, sand and gravel resources are also thought to remain within the District which may, in the future, be capable of contributing towards the supply of concrete making materials and indigenous energy minerals.**

5.5.2 Supporting new investment in minerals extraction is both a responsibility, in terms of Bradford playing its part in supplying the raw materials necessary for economic growth, but also an opportunity, in terms of enhancing Bradford's reputation as a supplier of high quality building materials and increasing skilled employment particularly in rural areas. The primary purpose of policy EN9 is to support new investment in minerals extraction within the District, where such development can be undertaken sustainably, without resulting in an unacceptable level of harm to communities or the natural environment. The secondary objective of the policy is to reduce the need for minerals development to take place on new greenfield sites by encouraging developers to consider any options they may have to fully exhaust remaining reserves within existing workings, or to extend those workings, before looking at opening up new sites.

5.5.3 One of the key challenges for the District over the plan period is to develop a thriving local economy and accommodate significant levels of new development without degrading the quality of the built and natural environment. Policy EN9 is intended to strike the necessary

Banktop Quarry stone processing

balance between the promotion of investment in new minerals development and the protection of the District's human and natural resources by offering policy support for sustainable minerals development, which meets key environmental criteria. The criteria which have been set reflect the objectives for environmental protection/ enhancement and prioritisation of previously developed land set out in core policies SC1, SC5 and SC6.

5.5.4 Policy EN9, together with policies EN10 and EN11, and other policies set out elsewhere in the Development Plan which contain environmental criteria applying to all types of development, provide sufficient coverage to comply with the policy content guidance set out in paragraph 143 of the National Planning Policy Framework (NPPF). The evidence underpinning the policy is set out in the accompanying Minerals Evidence Base Report and includes British Geological Survey resource appraisals, feedback from previous consultation exercises and the guidance set out in the NPPF.

Policy EN9: New and Extended Minerals Extraction Sites

A. Proposals to open up a new minerals extraction site on previously undeveloped land will be supported in principle provided that all of the following criteria are met:

1. **For the protection of the South Pennine Moors SPA, avoid and/or mitigate loss or deterioration of important foraging land within the SPA's zone of influence.**
2. **The proposal accords with the policy for the specific mineral proposed to be extracted, as set out in policies EN10 and EN11, and;**
3. **The development would not result in unacceptable adverse impacts on people or the environment in terms of pollution, flooding or land stability risks, or harm to amenity, heritage assets or their settings, or harm the character of the landscape, taking into account the cumulative effects associated with all existing or approved developments affecting the area and the environmental criteria set out in other Local Development Plan Policies, and;**
4. **The development would not lead to a long-term net loss of biodiversity, to the loss or significant deterioration of any irreplaceable habitats, or to the permanent disruption of a significant ecological network, and;**
5. **One of the following circumstances applies:**
   - i. **It is not reasonably practical for physical, economic, or environmental reasons to reopen or extend any existing workings under the applicant's control, or;**
   - ii. **The specific qualities of the mineral reserve proposed to be extracted will meet an identified need that could not be met through the extension or re-opening of existing workings under the applicant's control, or;**
   - iii. **The mineral resource proposed to be extracted would otherwise be sterilised by another form of development.**

B. Proposals to open up a new minerals extraction site on previously developed

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land, re-open a disused minerals extraction site, or extend an existing minerals extraction site, will be supported in principle provided that all of the following criteria are met:

1. **For the protection of the South Pennine Moors SPA, avoid and/or mitigate loss or deterioration of important foraging land within the SPA's zone of influence.**
2. **The proposal accords with the policy for the specific mineral proposed to be extracted, as set out in policies EN10 and EN11, and;**
3. **The development would not result in unacceptable adverse impacts on people or the environment in terms of pollution, flooding or land stability risks, or harm to amenity, heritage assets or their setting, or harm the character of the landscape, taking into account the cumulative effects associated with all existing or approved developments affecting the area and the environmental criteria set out in other Local Development Plan Policies, and;**
4. **The development would not lead to a long-term net loss of biodiversity, to the loss or significant deterioration of any irreplaceable habitats, or to the permanent disruption of a significant ecological network, and;**
5. **If the proposal is to extend an existing minerals extraction site: existing permitted reserves are close to exhaustion and those parts of the existing site which it is practicable to restore, without unreasonably constraining future minerals extraction activity, have been restored.**

OUTCOMES	INDICATORS	TARGETS
Sustainable proposals for the opening up of new minerals extraction sites, extension of existing sites or re-opening of disused sites, which meet the specified criteria, are supported.	Number of planning permissions granted for new minerals workings where the specified criteria are not met. Operational	

LEAD ROLES	MAIN MECHANISMS
Bradford Council	This policy will be implemented through the determination of planning applications and the consideration of proposals for minerals site allocations during the preparation of the Allocations DPD. Successful implementation is reliant on a sufficient range of potential minerals extraction sites and existing voids remaining available to allow sites to be selected which are capable of meeting the specified environmental criteria, and therefore the delivery of this policy is linked to the delivery of the safeguarding policy EN12.

5.5.5 Policy EN9 is the overarching minerals policy against which all proposals for new minerals development will be tested. The policy is relevant to all types of development involving the extraction of minerals including quarries, pits, opencast mines, underground mines and all forms of underground hydrocarbon exploitation. The criteria are essentially intended to ensure that proposals for minerals development are consistent with the policy for the specific mineral type (either EN10 or EN11), that sufficient mitigation is proposed to ensure that unacceptable adverse impacts on people or the environment do not occur (taking account of cumulative effects), that the site proposed to be worked does not include any irreplaceable habitats or green infrastructure essential to the functioning of a wider ecological network and that restoration proposals adequately compensate for any loss of biodiversity brought about by the minerals extraction activity.

5.5.6 The policy also includes a test to ensure that any applicant for a new working has fully explored any options they may have for extending existing workings under their control and that extensions to existing workings are not allowed if the original working still contains significant remaining permitted reserves or opportunities for phased restoration have not been taken. Underlying the policy is therefore an implied hierarchy whereby exhausting existing permitted reserves is preferred to extending sites and extending or re-opening existing sites is preferred to opening up new sites.

5.5.7 The logic behind this hierarchy is that it is environmentally beneficial to minimise the size of existing workings, by ensuring that parts of sites where reserves are exhausted are restored before permission is granted for extensions, and that the extension of existing sites will usually (but not always) result in less environmental harm than the opening up of new sites. The exceptions set out in criteria EN9(A)(5) are intended to ensure that the policy does not restrict proposals for prior-extraction or proposals which would result in an increase in the diversity of minerals products supplied from the District (including building stones of specific qualities or characteristics).

Ten Yards Quarry restoration

5.5.8 As well as being functionally related to policies EN10 and EN11, policy EN9 links to other policies with the core strategy which set out environmental criteria against which all new development proposals should be tested. Such policies include: EN2 (Biodiversity and Geodiversity), EN3 (Historic Environment), EN4 (Landscape), EN7 (Development and Flood Risk) and EN8 (Environmental Protection). Policy EN8 is particularly relevant to new minerals development as it sets out details of the Council's aspirations and expectations for the protection of the environment in terms of the quality of air, land and water resources and the potential for new development to cause nuisance to existing residents.

5.5.9 All prospective minerals developers are advised to fully review the Local Development Plan during the preparation of development proposals and consider whether sufficient information is being provided to demonstrate that all relevant environmental criteria are satisfied. If it is

found that a proposed new minerals development has the potential to cause an unacceptable level of environmental harm or disturbance, taking into consideration the cumulative effects of other developments in the locality, this harm can in some circumstances be overcome by appropriate mitigation, such as screening/ landscaping proposals or restrictions on the extent, depth or intensity of development. However, where adverse impacts cannot be mitigated to an acceptable level, proposals will not be supported.

Sandstone Supply

Introduction

5.5.10 **The sandstones of the Bradford District are renowned as a resource capable of producing some of the highest quality building, roofing and paving stones in the country. The eight active quarries within the District work stone of varying, colours, textures and bedding characteristics, allowing a wide range of natural stone building materials to be produced, either on-site or at one of the District's numerous stone yards. Products include riven paving and roofing flags, ashlar walling stones and architectural masonry. These materials are used in both new build development projects, public realm paving schemes, and for the repair and extension of traditional buildings. The market for stone products from the District extends throughout the Region and beyond, with a demand for bespoke natural 'York Stone' masonry for quality development projects throughout the country.**

5.5.11 Although the sandstone extraction industry within Bradford remains of significant importance in terms of the total national supply of natural building stone products, the level of output and the land area covered by active quarries is far smaller than was the case at the height of the quarrying industry in the early to mid twentieth century. This is due to the significant contraction of the quarrying industry in the post-war period, a trend which appears to have continued into the 21st century. The extent of sandstone quarrying in the past has left a significant legacy, both in terms of the high quality and distinctive local character of the traditional built environment, including iconic buildings built from local stone such as Bradford City Hall, but also in relation to the land stability problems which can be associated with historic surface and underground stone mining.

5.5.12 Stone extraction is currently concentrated in the Elland Flag, Rough Rock and Woodhouse Grit rock units; however a number of other distinct sandstone types occur within the District and there is therefore the potential to further diversify the supply of building stones, particularly in relation to the courser grained sandstones found within the northern parts of the District. Core policy SC1 promotes the continued growth of the Bradford economy through facilitating high quality development which enhances local settings, character, distinctiveness and heritage, whilst protecting the District's environmental resources. Policy EN10 supports the delivery of the objectives embedded in policy SC1 by encouraging new investment in the local quarrying industry, to realise an enhanced supply of high quality building stones, whilst seeking to minimise the potential adverse social and environmental impacts associated with minerals development by setting out environmentally considerate area of search criteria.

5.5.13 Although the District's sandstones are primarily valued as a resource for the production of high quality building, roofing and paving stones they are also of secondary importance for the production of aggregates. The characteristics of Bradford's sandstones are such that

they are generally unsuitable to produce the high specification aggregates required for use in road surfacing and concrete production; however several of the District's quarries produce crushed rock aggregates which are sold for a variety of lower specification uses including building sand, engineered fill, and material for the repair and resurfacing of tracks and paths. Recycled and Secondary Aggregates (RSA) can often be a suitable alternative material for use as engineered fill; however the same can not be said for building sand or footpath surfacing material. Therefore the use of the lower specifications sandstones which are produced as a by-product of building stone quarrying for such purposes is generally considered to represent a sustainable use of resources, allowing aggregates quarried elsewhere which meet higher engineering specifications to be reserved for use in more demanding applications.

5.5.14 The Local Aggregates Assessment for West Yorkshire 2012 (WY LAA) confirms that the sub-region is heavily dependant upon higher specification crushed rock aggregate imports from neighbouring authorities, and in particular Derbyshire and North Yorkshire. Substantial crushed rock aggregate reserves exist within West Yorkshire; however the majority of these reserves do not comprise concreting or road stone grade materials and the quality of the sub-region's stone resources is such that any significant future reduction in the reliance of West Yorkshire on high specification aggregate imports from neighbouring authorities is considered to be unlikely.

Table EN10: West Yorkshire Crushed Rock (CR) Aggregate Landbank Figures

Estimated CR Consumption 2009 (tonnes)	Estimated CR Imports from Neighbouring Authorities 2009 (tonnes)	Ten Year Average Annual CR Sales (2003-2012) (tonnes)	CR Reserves as of 31 Dec 2012 (tonnes)	Landbank (Reserves/ Average Sales)
2,330,000	1,499,505	1,000,000	28,500,000	28.5 Years

Note: Above figures are taken from The Local Aggregate Assessment for West Yorkshire 2012, wherein full details of how these figures have been derived can be found.

5.5.15 The landbank calculation set out in the LAA, as repeated in Table EN10 above, represents a calculation of the length of time it would take to exhaust current permitted reserves of Crushed Rock within West Yorkshire if average annual sales continue at historic average levels. However the fact that this figure is in excess of the 10 year minimum recommended within the NPPF in no way implies that sufficient crushed rock reserves exist within West Yorkshire to meet West Yorkshire's construction aggregate needs. In fact the figures set out in the WY LAA imply that the level of aggregate product within West Yorkshire could satisfy, at most, 40% of demand, with imports from neighbouring authorities estimated to be almost 50% higher than indigenous production.

5.5.16 In order to secure continuity of supply of crushed rock the West Yorkshire Authorities have engaged with neighbouring authorities, in particular Derbyshire and North Yorkshire, through the Aggregates Working Party and through the production of the WYLAA. This has resulted in the adoption of LAAs by those neighbouring authorities which provide for the continuation of levels of extraction which are sufficient to allow for the continued supply of aggregates into West Yorkshire.

5.5.17 Although Bradford is not a significant aggregate producer the small quantities of crushed sandstone aggregate by-product which are produced do contribute towards redressing the trade imbalance highlighted above and absorbing some local demand for lower specification bulk aggregates and building sand. Therefore, notwithstanding the fact that the West Yorkshire landbank calculated in the 2012 WYLAA (based upon historic average sales) is substantially in excess of the 10 year minimum, it is considered inappropriate to adopt a strongly negative policy position towards the extraction of crushed rock aggregates in the District.

5.5.18 Policy EN10 below seeks to support the managed supply of aggregates and respond to the local aggregates context by setting out a favourable policy environment for proposals involving the production of building sand and allowing the production of other types of crushed rock aggregates where this is supported by the Local Aggregates Assessment or the type of aggregate proposed to be produced can otherwise be demonstrated to be needed to fulfil an unmet demand. To prevent any restraint on aggregates from adversely affecting building stone production, the policy also supports the production of aggregates in circumstances where it is a secondary activity required to ensure the viability of a building, roofing or paving stone quarry, providing that the achievement of high quality quarry restoration is not prejudiced.

5.5.19 The key pieces of evidence underlying policy EN10 include the *Symonds Report* (2004), an internal report on the Need for Local Stone for the Maintenance of the Character of Bradford's Built Environment (2008), English Heritage's *Strategic Stone Study: A Building Stone Atlas of West & South Yorkshire* (2012), The Regional Aggregates Working Party reports up to 2009 and the Bradford Local Stone Survey thereafter, and the emerging Local Aggregates Assessments for adjacent MPAs including North Yorkshire and Derbyshire. A review of all of these sources can be found in the accompanying *Minerals Evidence Base Report*.

Policy EN10: Sandstone Supply

A. Within the area of search identified in the Allocations DPD proposals for the extraction of sandstone where the proposed reserves will primarily be used for the production of high quality building, roofing or paving stones will be supported in principle.

B. When considering the merits of proposals for new or extended building, roofing and paving stone quarries, any evidence that the proposal would result in an increased supply of particularly scarce building, roofing or paving stones, such as stone slates, riven flags, or matching stones needed for the repair of historic buildings or monuments, will be accorded significant weight.

C. In conjunction with other Minerals Planning Authorities within West Yorkshire, the Council will seek to contribute to the maintenance of a landbank of at least 10 years supply of crushed rock aggregate reserves, as calculated through the Local Aggregates Assessment. Therefore proposals for the extraction of sandstone where the proposed reserves will primarily be used for the production of aggregates shall be permitted providing that all of the following criteria are met:

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1. The sandstone reserves to be used for aggregates are not suitable for the production of building, roofing or paving stones, and;
2. One of the following circumstances applies:
   i. The Local Aggregates Assessment indicates that additional permitted reserves of crushed rock aggregates are required, or;
   ii. The aggregates would mainly be used to produce building sand, or;
   iii. The applicant can otherwise demonstrate that demand for the type of aggregates intended to be produced can not be met from the existing permitted reserves within West Yorkshire or by Recycled or Secondary Aggregates.

D. The ancillary production of aggregates at building, roofing or paving stone quarries shall be permitted providing that all of the follow criteria are met:

1. Only those sandstone reserves unsuitable for building, roofing or paving stone production will be used for aggregates, and;
2. Sufficient material would remain to allow the site to be restored to an appropriate landform, and;
3. One of the following circumstances applies:
   i. The Local Aggregates Assessment indicates that additional permitted reserves of crushed rock aggregates are required, or;
   ii. The aggregates would mainly be used to produce building sand, or;
   iii. The applicant can otherwise demonstrate that demand for the type of aggregates intended to be produced can not be met from the existing permitted reserves within West Yorkshire or by Recycled or Secondary Aggregates, or;
   iv. The production of aggregates is necessary to facilitate the recovery of building, paving or roofing stones in terms of practical considerations or economic viability.

E. The following criteria shall be used to identify areas of search for building, roofing and paving stone quarries:

1. Locations within the potential resource area identified by the British Geological Survey;
2. Locations outside of areas where the natural environment is protected under national and international statutory designations;
3. Locations outside of areas where further minerals extraction activities would be likely to lead to the loss or significant deterioration of any irreplaceable habitats, or to the permanent disruption of a significant ecological network;
4. Locations outside of urban areas, except for open land adjacent to existing urban quarries.

OUTCOMES	INDICATORS	TARGETS
The level of output of building, paving and roofing stones from the District is maintained at least at current levels.	Output levels of building and paving stones from quarries with District assessed through an annual local building stone survey. IND18(EV)	Trend in total quantity of building and paving stone output, as plotted over 3 year periods, to be positive or neutral. IND18(EV)
The quantity of permitted reserves of sandstone within the District of suitable quality to produce building, paving or roofing stones is maintained at least at current levels.	Reserve levels for quarries with District assessed through an annual Local Aggregates Assessment. IND19(EV)	Trend in permitted reserves of sandstone within District, as plotted over 3 year periods, to be positive or neutral. IND19(EV)
Quarries within the district continue to be an important alternative supplier of building sand.	Output levels of sand from quarries with District assessed through an annual Local Aggregates Assessment. IND18(EV)	Trend in total quantity of sand output, as plotted over 3 year periods, to be positive or neutral. IND18(EV)

LEAD ROLES	MAIN MECHANISMS
Bradford Council	The planning authority can implement the policy principles and criteria set out in policy EN10 through its development management function of assessing planning applications for new or extended minerals workings. In determining such applications the principles and criteria set out in policy EN10 will be weighed against other development plan policies and other relevant material considerations in order to conclude whether planning permission should be granted and therefore any policy support provided by EN10 may be outweighed by other factors for specific development proposals. The Council will implement the area of search criteria set out in policy EN10(E) through the allocation of an area of search within the Allocations DPD. These criteria will also be used to consider the appropriateness of any minerals site allocations proposed for inclusion in the Allocations DPD.

LEAD ROLES	MAIN MECHANISMS
Minerals Industry	Delivery of the objective of maintaining supplies of building, paving and roofing stones from the District is reliant upon economic conditions being such that the working of building, roofing and paving stone remains economically viable. The economic viability of minerals workings can be affected by the planning system both negatively, through overheads associated with the submission of planning applications and compliance with planning conditions, but also positively, by stimulating demand for natural stone building materials through other development policies within the Local Plan, particularly built heritage and design policies.

5.5.20 Policy EN10 supports new or extended building stone quarries within the area of search, where the proposed reserves would primarily be used for the production of high quality building, roofing or paving stones. Prior to the adoption of the Allocations DPD the criteria set out in EN10(E) can be used by developers to consider whether prospective new extraction sites would be likely to fall within the area of search. In order to demonstrate the quality of the target sandstone reserve minerals resource appraisals should be provided setting out all available evidence of the likely quality of the target sandstone resource (in terms of colour, texture, bedding, fracturing and strength), specifying the types of building stone materials which the resource is likely to be suitable to produce and estimating the anticipated level of wastage associated with the winning, working and processing of the building, roofing of paving stones proposed to be produced.

5.5.21 Particularly strong support is offered to minerals development which would result in an increased supply of scarce building, roofing or paving stones, such as stone slates, riven flags, or matching stones needed for the repair of historic buildings or monuments. This is because the supply of such materials is key to maintaining the character of the historic built environment including the fabric of listed buildings. Where developers consider that the resource which they propose to extract would meet a demand for scarce building materials, supporting evidence should be supplied in relation to the quality of the stone resource and the specific demand which it would meet. Developers are encouraged to contact English Heritage or the Council's Conservation and Design Team for their expert advice on the types of building stone materials which are needed to support the conservation of the historic built environment. It is acknowledged that the duration of building, paving or roofing stone quarrying projects may be more protracted than would be the case for aggregates quarries, given the fluctuating demand for natural stone building materials and the relatively small scale and low intensity of extraction sites and working methods.

5.5.22 For new or extended building stone quarries where ancillary aggregate production is proposed, developers should provide an estimate of the types and quantities of aggregates which will be produced. In cases where such ancillary aggregate production activities are needed to support the viability of a building stone quarry, developers should state that this is the case and explain the reason why the development would be unviable without aggregate production. A viability assessment will not be required where the

aggregate production is supported by the Local Aggregates Assessment, where the type of aggregate intended to be produced would be primarily building sand, or where another type of aggregate is intended to be produced but it can be demonstrated that this supply is needed to fulfil a demand which could not otherwise be met. The District has not generally supported quarries primarily intended to produce aggregates in the past; however proposals for new aggregates quarries will also be considered favourably if the criteria described above can be met.

Sand, Gravel, Fireclay, Coal and Hydrocarbons (oil and gas)

Introduction

5.5.23 **Although sandstone is the primary commodity extracted within Bradford, the District also possesses coal, clay, sand and gravel resources which were an important source of construction and energy minerals in the past and may become so again in the future. No significant coal, sand or gravel extraction has occurred within the District over the preceding four decades, other than production of sand from crushed sandstone; however future changes in extraction technology and commodity prices may make renewed extraction viable within the plan period or beyond. Brick clay and landfill engineering clay continue to be extracted at two sites on Soil Hill to the south of Denholme.**

5.5.24 The Local Aggregates Assessment for West Yorkshire 2012 (WYLAA) identifies that the sub-region is heavily dependant upon sand and gravel imports from neighbouring authorities, and in particular North Yorkshire. Very limited sand and gravel reserves exist within West Yorkshire, with only two relatively small sites reported in the WYLAA (located in Kirklees and Wakefield), possessing reserves totalling 1.6 million tonnes. No reserves of sand and gravel exist within the Bradford District. British Geological Survey (BGS) resource maps indicate that some potentially viable sand and gravel resources may remain within West Yorkshire, including river terrace deposits along the Wharfe and Aire Valleys in the Bradford District. However previous BGS research has identified minerals extraction industry scepticism that the remaining resource would be economically viable to exploit due to the constrained nature of the remaining deposits.

Table EN11: West Yorkshire Sand and Gravel Landbank Figures

Estimated S&G Consumption 2009 (tonnes)	Estimated S&G Imports from Neighbouring Authorities 2009 (tonnes)	Ten Year Average Annual S&G Sales (2003-2012) (tonnes)	S&G Reserves as of 31 Dec 2012 (tonnes)	Landbank (Reserves/ Average Sales)
810,000	490,000	130,000	1,600,000	12.3 Years

Note: Above figures are taken from The Local Aggregate Assessment for West Yorkshire 2012, wherein full details of how these figures have been derived can be found.

5.5.25 The landbank calculation set out in the LAA, as repeated in Table EN11 above, represents a calculation of the length of time it would take to exhaust current permitted reserves

of Sand and Gravel within West Yorkshire if average annual sales continue at historic average levels. However the fact that this figure is in excess of the 7 year minimum recommended within the NPPF in no way implies that sufficient sand and gravel reserves exist within West Yorkshire to meet West Yorkshire's construction aggregate needs. In fact the figures set out in the WY LAA imply that West Yorkshire historic production could satisfy, at most, 16% of demand, with imports from neighbouring authorities estimated to be almost 4 times higher than indigenous production.

5.5.26 In order to secure continuity of supply of sand and gravel the West Yorkshire Authorities have engaged with neighbouring authorities, in particularly North Yorkshire, through the Aggregates Working Party and through the production of the WYLAA. This has resulted in the adoption of LAAs by neighbouring authorities which provide for the continuation of levels of extraction which are sufficient to allow for the continued supply of aggregates into West Yorkshire.

5.5.27 Notwithstanding the fact that the West Yorkshire landbank calculated in the 2012 LAA, based upon historic average sales, is in excess of the seven year minimum, given West Yorkshire's reliance on imports from neighbouring authorities, it is considered inappropriate and unsustainable to adopt a policy position that would not be supportive of any environmentally acceptable proposals for the extraction of sand and gravel resources within the District which may come forward within the plan period. Therefore policy EN11 is supportive in principle of proposals for sand and gravel extraction, within an area of search constrained by specified environmental criteria, except in the unlikely event that the LAA indicates that no additional permitted reserves of sand and gravel are required.

5.5.28 Clay extraction tends to be driven by a demand for a clay resource which meets certain specifications, in terms of porosity or engineering qualities, for specific purposes. The Council are aware that there is currently a demand for mudstone/clay with properties which make it suitable to produce high quality engineering bricks, however, it is not feasible to predict with any degree of certainty the level or nature of the demand for clay likely to persist within the plan period. Therefore policy EN11(B) adopts a flexible approach by indicating that support will be given for clay extraction where a specific demand is demonstrated.

5.5.29 The policy on coal extraction set out in EN11(C) generally reflects the advice contained in paragraph 149 of the National Planning Policy Framework, with the modification that provisions for the co-extraction of fireclay are also included. This slightly modified local approach reflects the local context, in that the fireclays within the District have historically been valued as a high quality refractory material (co-extraction of coal, ironstone and fireclay has been common in Bradford's mines in the past). The part of the coalfield covered by the District is know to contain relatively lower rank coals which have already been subject to significant historic extraction activity.

5.5.30 There are no proven oil or gas resources within the District and the Council are unaware of any interest in initiating exploratory works in connection with either conventional or unconventional onshore oil or gas extraction. However the potential for future interest in oil or gas extraction cannot be entirely discounted, as part of the southern half of the District is underlain by the East Pennine Coalfield, which could potentially contain resources suitable for Coal Bed Methane exploitation or Underground Coal Gasification, and part of the northern half of the District is underlain by the Lower Bowland-Hodder Shale Unit, which could potentially contain shale oil or gas resources. Policy EN11(D) sets out a general policy applying to all forms of conventional and unconventional oil and gas exploitation which takes

account of the advice set out in the *Planning practice guidance for onshore oil and gas* 2013 published by the Government and paragraph 144 of the NPPF.

5.5.31 Policy EN11 is intended to support the aspirations for economic growth and better resource use set out in core policies SC1 and SC2, particularly through the facilitation of improved security in the supply of sand and gravel into West Yorkshire. The evidence underlying the policy includes resource maps and resource appraisals published by the British Geological Survey and a series of reports on sand and gravel provision within West Yorkshire published by the former Yorkshire and Humber Assembly. All such evidence is referenced and summarised in the accompanying Minerals Evidence Base Report.

Policy EN11: Sand, Gravel, Fireclay, Coal and Hydrocarbons (oil and gas)

A. In conjunction with other Minerals Planning Authorities within West Yorkshire, the Council will seek to contribute to the maintenance of a landbank of at least 7 years supply of sand and gravel reserves, as calculated through the Local Aggregates Assessment. Therefore, within the area of search identified in the Allocations DPD, proposals for the extraction of sand and gravel will be supported in principle unless the Local Aggregates Assessment indicates that no additional permitted reserves of sand and gravel are required.

B. Proposals for the extraction of clay (including brick clay, engineering clay and fireclay) will be supported in principle providing that the applicant can produce evidence that there is a demonstrable economic need for the quality and quantity of clay proposed to be recovered.

C. Proposals for coal extraction will not be permitted unless the coal resource would otherwise be sterilised by another form of development or all of the following criteria are met:

1. **Any viable fireclay resources will also be recovered, and;**
2. **One of the following circumstances applies:**
   - i. **The proposals are environmentally acceptable, or can be made so by planning conditions or obligations, or;**
   - ii. **The proposal provides national, local or community benefits which clearly outweigh the likely impacts of the development.**

D.1. Proposals associated with the exploration and appraisal of hydrocarbons (oil and gas) resources will be supported in principle providing that the proposal accords with other policies within the Local Development Plan and all of the following criteria are met:

1. **Any sites where intrusive exploration or appraisal works are to take place are sited so as to minimise averse impacts on people or the environment, whilst allowing for the effective exploration and appraisal of the potential oil or gas resource, and;**

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2. Adequate evidence has been provided that the operations and infrastructure associated with the exploration or appraisal activities will not lead to unacceptable adverse impacts on people or the environment or that any such adverse impacts will be adequately mitigated, and;
3. Any boreholes intended to be capable of being reused for production in the future are sited in locations which can accommodate the scale of infrastructure and mitigation which would be necessary at the production stage, and;
4. Proposals are included to restore the areas of land affected by the exploration or appraisal activities to a condition which provides for the maintenance or enhancement of the ecological, landscape and/ or amenity value of the site in the event that planning permission is not subsequently granted for these areas of land to be used for production.

D.2. Proposals for the commercial production of hydrocarbons (oil and gas) will be supported in principle providing that the proposal accords with other policies within the Local Development Plan and all of the following criteria are met:

1. A full appraisal programme for the oil or gas resource proposed to be exploited has been completed which demonstrates that a viable oil or gas resource exists of a sufficient size to justify the environmental, social and economic costs associated with its extraction, and;
2. The proposed production site is in the most sustainable viable location taking account of the proximity of sensitive environmental, human and cultural receptors, transportation distances, infrastructure requirements and the benefits of efficiently exploiting the identified oil and gas deposit, and;
3. Adequate evidence has been provided that the operations and infrastructure necessary for the exploitation of the oil or gas resource will not lead to unacceptable adverse impacts on people or the environment or that any such adverse impacts will be adequately mitigated, and;
4. Proposals are included to restore the areas of land affected by the production activities and associated infrastructure to a condition which provides for the maintenance or enhancement of the ecological, landscape and/ or amenity value of the site once production has ceased.

E. The following criteria shall be used to identify areas of search for sand and gravel extraction sites:

1. Locations within the potential sand and gravel resource areas identified by the British Geological Survey;
2. Locations outside of areas where the natural environment is protected under national and international statutory designations;
3. Locations outside of areas where further minerals extraction activities would be likely to lead to the loss or significant deterioration of any irreplaceable habitats, or to the permanent disruption of a significant ecological network;
4. Locations outside of urban areas.

OUTCOMES	INDICATORS	TARGETS
Renewed sand and gravel extraction takes place within the District.	Reserves and output levels of sand and gravel from sites with District assessed through annual Local Aggregates Assessment. IND19(EV) IND18(EV)	Trend in permitted reserves of sand and gravel within District, as plotted over 3 year periods, to be positive or neutral. IND19(EV) At least 1 extraction site opened within the plan period. IND18(EV)

LEAD ROLES	MAIN MECHANISMS
Bradford Council	Supporting appropriate proposals for sand, gravel and clay extraction and those proposals for coal, oil and gas extraction which meet the specified criteria can be achieved through the development management process. In determining such applications the principles and criteria set out in policy EN11 will be weighed against other development plan policies and other relevant material considerations in order to conclude whether planning permission should be granted and therefore any policy support provided by EN11 may be outweighed by other factors for specific development proposals. The criteria for the sand and gravel area of search set out in policy EN11(E) will be applied when drawing up the proposals map attached to the Allocations DPD. These criteria will also be applied when considering the appropriateness of proposed site allocations submitted for inclusion in the Allocations DPD.
Minerals Industry	Delivery of the objective of renewing sand and gravel extraction within the District is reliant upon an economically viable sand and gravel extraction site, which would be acceptable in planning terms, being identified and invested in by the extractive industry. Evidence indicates that the industry do not currently consider that such a site exists within the District; however this may change, as less constrained sites located elsewhere within the Region become exhausted and smaller resource pockets become more attractive for extraction. Windfall prior extraction opportunities may also arise from any major re-development activities within the resource area. Taking advantage of any such windfall prior extraction opportunities would require joined up thinking between the Council, the prospective developer and the extraction industry.

5.5.32 Policy EN11(A) provides strong policy support for any proposals for sand and gravel extraction outside of urban areas and areas where the natural environment is protected under national and international statutory designations, or where further minerals extraction activities would be likely to lead to the loss or significant deterioration of any irreplaceable habitats or ecological networks. The one caveat upon this support is that it would not apply if the Local Aggregates Assessment (LAA) indicates that the release of additional reserves of sand and gravel is not required; however, given the current West Yorkshire context of high demand for sand and gravel and relatively low levels of extraction, it is not anticipated that the LAA will advise any restraint on sand and gravel extraction within the plan period.

5.5.33 Clay extraction is generally related to specific sources of demand and therefore developers proposing new clay extraction sites should provide supporting evidence explaining the demand which the clay proposed to be extracted would fulfil and demonstrating that the clay resource is of an appropriate quality to supply that demand. It is understood that demand for clay may arise from various sources, requiring the delivery of clay over differing periods at varying rates of intensity. Planning applications for clay extraction sites should include details of the anticipated annual output and overall extraction period duration, based upon the peculiarities of the demand which the clay would be fulfilling.

5.5.34 For the purposes of policy EN11 it is assumed that there will be an ongoing national need for coal as an energy mineral during the plan period. However, for the reasons discussed in the Minerals Evidence Base Report, it cannot be assumed that the entire mapped surface coal resource area within the District contains significant quantities of accessible coal of sufficient quality to be used as an energy mineral. Given the relatively high quality of the fireclays present within the District, developers wishing to extract coal resources must also ensure that provisions are made for the co-extraction of fireclay, unless it can be shown that such co-extraction would be unviable.

5.5.35 In line with paragraph 149 of the NPPF policy EN11(C) also specifies that proposals for coal extraction must be tested for their environmental acceptability and, where unacceptable environmental impacts are identified, it must be considered whether any demonstrable national, local or community benefits associated with the development outweigh this adverse impact. Although a similar test of environmental acceptability is applied to all types of minerals extraction development, as expressed in policy EN9, specific emphasis is given to the need for coal extraction proposals to demonstrate environmental acceptability, or provide overwhelming benefits, as certain coal extraction activities can be particularly environmentally intrusive. Development involving the extraction of coal to prevent it from being sterilised by another form of development are not required to meet the criteria set out at EN11(C), as policy for this type of prior extraction development is set out in EN12.

5.5.36 There are conventionally three distinct phases involved in the exploitation of onshore oil and gas resources: *exploration*, where the existence of an oil or gas deposit is proven through geological survey and exploratory drilling, *appraisal*, where the economic viability of extracting an oil or gas deposit is assessed through techniques such as flow testing, and *production*, where full oil or gas extraction is commenced using wells associated with boreholes established during the exploration and appraisal phases and/ or additional boreholes linked to storage, processing and transportation infrastructure. Policy EN11(D) addresses the exploration and appraisal and production phases separately and planning

permission granted during the exploration and appraisal phases will not commit the Council to subsequently granting planning permission for full commercial oil or gas production.

5.5.37 The information and evidence required to be submitted to support applications for oil or gas exploration, appraisal and production should be proportionate to the scale of development and phase of the project. However developers should ensure that consideration has been given to all of the impacts listed at paragraph 30 of the *Planning practice guidance for onshore oil and gas*. During the process of site selection for boreholes and infrastructure proper consideration should be given to environmental and community sensitivities as well as geological and technical factors. Where there is reason to suspect that the development may lead to adverse impacts, sufficient evidence should be submitted to understand the likely nature and magnitude of those impacts and the extent to which adverse effects can be mitigated. Appropriate planning conditions and/ or obligations will be sought to secure mitigation or necessary infrastructure improvements; however the Council will endeavour to ensure that such conditions and obligations do not duplicate the controls exerted through other regulatory regimes.

Minerals Safeguarding

Introduction

5.5.38 **Safeguarding specific mineral resources of local and national importance from sterilisation by non-mineral development is a key element of the government's approach to minerals planning, as articulated in paragraph 143 of the National Planning Policy Framework. A minerals resource is considered to have been sterilised when surface development occurs which would severely inhibit the extraction of that resource. In order to implement safeguarding, planning authorities must define Minerals Safeguarding Areas (MSAs) which identify the geographical areas thought to contain minerals of local or national importance. An MSA does not convey any policy support for minerals extraction, other than prior-extraction to recover minerals before an approved surface development goes ahead. Separate Areas of Search will be defined which illustrate the parts of the District within which minerals extraction will be supported in principle, see policies EN10 and EN11.**

5.5.39 The resources found within the District which are considered to be of local and national importance are: coal, sandstone, sand and gravel. Coal is considered to be nationally important due to the strategic need for security of supply of energy minerals, sand and gravel is considered to be regionally importance due to the relative scarcity of concrete grade sand and gravel within West Yorkshire and the local sandstone resource is considered to be important due to its suitability for the production of the high quality building stones necessary to maintain the character of the historic built environment and also its secondary value as a source of aggregates and, in particular, building sand. Sandstone and coal resources are coincident in various parts of the District and in such areas a hierarchical approach has been adopted whereby the Coal MSA overlays and obscures the sandstone MSA. The reason for this approach is that coal is the more valuable mineral and is generally more suitable for prior extraction than sandstone bedrock.

5.5.40 Where a mineral resource is scarce it is appropriate to adopt a strongly protective safeguarding policy prohibiting surface development which does not involve prior-extraction

of minerals other than in exceptional circumstances. However, where the mineral resources being safeguarded occur fairly widely throughout a geographical area, such as is the case for coal, sandstone, sand and gravel within the Yorkshire and Humber Region, a strongly protectionist approach is not appropriate, as it would significantly impede non-minerals related economic development and housing supply. Therefore the policy approach set out in policy EN12 below is designed to ensure that due consideration is given to the prior-extraction of minerals, rather than to strongly restrain non-mineral development within the allocated MSA.

5.5.41 Requiring consideration of prior-extraction for surface development proposals within areas thought to contain important minerals should serve to mitigate the impact of housing growth and economic development on the accessibility of the District's mineral resources. Therefore minerals safeguarding policy EN12 is key to the implementation of core policy SC2, which includes the aspiration of seeking to assess and manage the impact of future decisions on the District's natural resources and the objective of encouraging better resource use.

5.5.42 The key type of evidence necessary to implement an effective safeguarding policy is geological evidence identifying the location of the minerals resources within the District likely to be economically viable for extraction. The primary source of this form of evidence is the British Geological Survey (BGS) and therefore the BGS resource areas are the primary basis for the MSAs. Policy EN12 has also been informed by evidence in relation to the quality of the resources likely to be remaining within the District and the factors which influence the viability of prior-extraction. Further details and analysis of the evidence underpinning the Council's safeguarding policy is contained within the accompanying Minerals Evidence Base Report.

Policy EN12: Minerals Safeguarding

A. Sandstone, coal and sand and gravel resources within the District will be safeguarded from sterilisation by other forms of development through the allocation of Minerals Safeguarding Areas defined in the Allocations DPD based on the broad areas shown in the Minerals Safeguarding Plan.

B. Within the Sandstone Minerals Safeguarding Area planning permission should not be granted for proposals involving the development of over 1 hectare of land unless it has been demonstrated that one of the following circumstances applies:

1. **The applicant proposes to recover part of the sandstone resource beneath the site for use as construction materials, or;**
2. **The applicant has demonstrated that there is no sandstone resource beneath the site of sufficient quality to produce either building stones or aggregates at sufficiently shallow depth to be viable for extraction, or;**
3. **The applicant has demonstrated that the costs associated with extracting the sandstone resource beneath the site significantly outweigh the value of the resource, or;**
4. **The applicant has demonstrated that non of the sandstone resource beneath the site could be extracted without prejudicing the development of the site due to ground level or engineering issues, or;**

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5. The prior extraction of the sandstone resource would result in an unacceptable level of environmental harm, or;
6. There is an urgent need for the development, in terms of economic, environmental or social benefits, which justifies the sterilisation of a sandstone resource which could otherwise be viable for extraction.

C. Within Coal and Sand and Gravel Minerals Safeguarding Areas planning permission should not be granted for any major development[1] unless it has been demonstrated that one of the following circumstances applies:

1. The applicant proposes to recover the coal or sand and gravel resource beneath the site prior to developing the site, or;
2. The applicant has demonstrated that there is no coal or sand and gravel resource beneath the site at sufficiently shallow depth to be viable for extraction, or;
3. The applicant has demonstrated that the costs associated with extracting the coal or sand and gravel resource beneath the site significantly outweigh the value of the resource, or;
4. The prior extraction of the coal or sand and gravel resource would result in an unacceptable level of environmental harm, or;
5. There is an urgent need for the development, in terms of economic, environmental or social benefits, which justifies the sterilisation of the coal or sand and gravel resource.

D. Planning permission should not be granted for the development of any land within 500m of an existing active minerals extraction site, other than development within the curtilage of an existing dwelling house, unless it has been demonstrated that the development would not prejudice any opportunities for the future extension of the active minerals extraction site.

E. Planning permission should not be granted for development within active, inactive or historic minerals extraction voids unless it has been demonstrated that such development would not result in the sterilisation of an economically significant mineral resource or a resource which may be required for the restoration or conservation of historic buildings and would not be affected by any unacceptable land stability risks.

F. Proposals involving the extraction of minerals from a development site which has the benefit of planning permission for a type of development which would otherwise sterilise the mineral resource beneath the site, will be supported in principle, providing that the proposal accords with the other policies within the Local Development Plan.

[1] *As defined by the Town and Country Planning (General Development Management) Order 2010*

OUTCOMES	INDICATORS	TARGETS
Minerals interests are considered before planning permission is granted for developments covering over 1ha of land within the Sandstone Safeguarding Area	Submission of Minerals Resource Appraisals to support planning applications. Operational	
Minerals interests are considered before planning permission is granted for any major developments within the Coal and Sand and Gravel Safeguarding Areas	Submission of Minerals Resource Appraisals to support planning applications. Operational	
No major or minor development takes place on open land within 500m of existing active minerals extraction sites except where such development would not prejudice opportunities to extend the minerals site.	Planning permissions for minor or major development granted on open land within 500m of existing active minerals extraction sites. Operational	
Any viable and environmentally acceptable opportunities for prior extraction are taken.	Number of planning permissions granted for development which include proposals for prior-extraction of minerals. Operational	

LEAD ROLES	MAIN MECHANISMS
Bradford Council	The main mechanism for implementing the safeguarding policies set out in EN12 is through granting and refusing planning permission and enforcing validation requirements. Development management procedures and process must be adjusted to ensure that minerals resource appraisals are required for applications which meet the relevant thresholds within Minerals Safeguarding Areas. Expert advice will have to be provided to assess the content of minerals resource appraisals in terms of the quality of the minerals resource which would be sterilised and the viability of prior extraction. Training and advice should be made available to planners and members of planning committees to ensure they understand the approach taken to minerals safeguarding and support recommendations to grant planning permission subject to prior extraction undertakings.

LEAD ROLES	MAIN MECHANISMS
Minerals Industry	Both the development industry (housing, commercial and industrial) and the minerals industry will have to take minerals resource appraisals seriously as part of site assessments and accept that prior extraction can in certain circumstances be a viable option. However it should be ensured that lines of communication are established between developers and the planning authority to ensure that any concerns from developers about the effect of safeguarding policies on the deliverability of non-minerals development within safeguarding areas can be discussed and resolved.
Local Communities/ Parish Councils	Local communities and Parish Councils may initially oppose any suggestions of prior extraction at development sites due to the perceived environmental problems associated with minerals extraction. Opportunities should be taken by developers and the planning authority to explain the rationale behind minerals safeguarding and re-assure communities that environmental impacts will be fully considered and that prior extraction will only be required in circumstances where extraction would be environmentally acceptable.

5.5.43 The effect of policies EN12(B)&(C) above is to apply a safeguarding policy to all proposals involving major development within the Coal and Sand and Gravel MSAs and to all proposals involving the development of over 1 hectare of land within the Sandstone MSA. However the listed exempting criteria allow development to go ahead within an MSA in situations where prior extraction is proposed, where the resource is too deep to be viable for prior extraction, where the costs of extracting the resource outweighs the value of the resource, where prior-extraction would result in an unacceptable level of environmental harm, or where there is an urgent need for the development which justifies the sterilisation of the resource. An additional criterion (EN12(B)(4)) is included for the sandstone safeguarding policy to cover situations where there is a potentially viable sandstone resource beneath a site which could not be extracted without effecting such significant changes to site levels that the originally proposed surface development would become unviable.

5.5.44 Applicants for developments which would fall within the safeguarding thresholds should consider whether the site they are intending to develop is covered by an MSA and, if so, should commission a minerals resource assessment to ascertain whether there is a mineral resource beneath the site which could be viable for extraction as part of the development project. If a potentially viable mineral resource is thought to be present then the first option should be to amend the development project to allow for extraction of the viable part of the resource as part of the site preparation work. The planning application should be supported by the minerals resource assessment and include details of the quantity of minerals to be extracted, extraction methods to be employed, the expected duration of the prior-extraction operation and transportation arrangements. If prior

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extraction is deemed to be unviable due to cost/ benefit factors or development scheme practicalities supporting documentation should be submitted which identifies the factors which are consider to preclude prior extraction.

5.5.45 Although there is no requirement to do so, it is also recommended that applicant's for developments which are not classified as major, or which fall below the 1ha threshold for sandstone safeguarding, consider whether prior-extraction may be viable and appropriate as part of their development projects. Prior-extraction of minerals can result in significant benefits for developers including direct profit gained from the sale of the mineral, offsetting construction costs through the on-site use of the mineral as a construction material and the use of prior extraction to mitigate natural, mining or other geological hazards as part of required site preparation works. Policy EN12(F) provides policy support for prior-extraction proposals, providing that they would be consistent with other development policies and, in particular, the environmental criteria set out in policy EN9.

5.5.46 A number of companies now exist whose main purpose is to undertake prior-extraction and site preparation works in order to facilitate development within MSAs. Examples of situations where prior-extraction may be particularly appropriate include development on sites where near surface hazards associated with coal mining occur and development of sloping sites where sandstone bedrock can be recovered during terracing works for use as construction aggregate. Development involving the excavation of basements or subterranean parking areas should include particularly strenuous consideration of how excavation arisings can be re-used on site as constructional fill or landscaping material with off-site disposal only considered as an absolute last resort.

5.5.47 The extension of existing minerals extraction sites provides one of the main viable opportunities for releasing additional mineral reserves. Therefore development within the vicinity of existing active minerals extraction sites needs to be carefully controlled. Policy EN12(D) prohibits all non-householder developments within 500m of existing minerals extraction sites unless it can be shown that the development would not prejudice the extension of the extraction site. Existing active minerals extraction sites are identified within the Minerals Evidence Base Report and the 500m safeguarded buffers will be shown on the Policies Map which will be attached to the Allocations DPD. Developers intending to build on land within 500m of extraction sites are encouraged to utilise the Council's pre-application enquiry process in order to ascertain whether there would be any conflict with potential future extension options and, if so, whether this impact could be mitigated.

5.5.48 Policy EN12(E) safeguards historic quarry voids in order to ensure that such voids are not unnecessarily sterilised by non-minerals development. Such historic voids can potentially present sustainable opportunities for renewed minerals extraction activity to facilitate the release of new minerals reserves. Furthermore historic building stone quarry voids can sometimes contain remaining stone resources with particular characteristics, in terms of texture and appearance, which make them a suitable source for matching stones to facilitate the repair or restoration of historic buildings, particularly where that quarry was the original source of such building stones. Anyone intending to develop a quarry void is strongly advised to contact the Council's Minerals and Waste team and request pre-application advice to ascertain if the development would be compatible with the Council's minerals safeguarding policy and whether there is a need to address land stability risks.