Sandwell Metropolitan Borough Council

Walsall Council

City of Wolverhampton Council

Dudley Metropolitan Borough Council

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Sandwell MBC

Review of the Evidence Base for Minerals to support preparation of the Black Country Plan

Wood Environment & Infrastructure Solutions UK Limited – January 2020

Report for

Black Country Authorities
c/o Sandwell Metropolitan Borough Council
Sandwell Council House
Freeth Street
Oldbury
West Midlands
B69 3DE

Main contributors

[redacted]

Issued by

[redacted]

Approved by

[redacted]

Wood

Canon Court
Abbey Lawn
Abbey Foregate
Shrewsbury SY2 5DE
United Kingdom
Tel +44 (0) 1743 342 000

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Executive Summary

Introduction

The Black Country comprises the four local authorities of Dudley Metropolitan Borough Council, Sandwell Metropolitan Borough Council, Walsall Metropolitan Borough Council and Wolverhampton City Council and forms a part of the West Midlands conurbation. Each of these authorities is a Unitary Authority (UA) and as such, has the function of Mineral Planning Authority (MPA). They are collectively known as the Black Country Authorities (BCAs).

With a resident population of approximately 1.1 million, the Black Country is a densely populated region covering a total of 138 square miles (222km2). The Black Country together with Birmingham, Solihull and Coventry in the West Midlands collectively make up one of the most densely populated areas in the UK. Due to the underlying geology, the Black Country has a diverse range of mineral resources, including a number of national importance. The main minerals present are sand and gravel, brick clays, dolerite, limestone, building, coal and associated fireclay. As minerals are a finite resource and can only be worked where they are found, it is important therefore that a balance is struck between the economic growth and the need to provide minerals to support that growth, whilst at the same time safeguarding the mineral resources of the area.

Purpose of this Report

Adopted in 2011, the BCAs prepared a joint Black Country Core Strategy (BCCS) that set out the vision, objectives and strategy for future development in the Black Country up to 2026 and beyond.

In the context of the major and ongoing development demands across the Black Country and the wider conurbation, the BCAs have now agreed to prepare a new strategic plan – the Black Country Plan (BCP) – to replace the BCCS covering the period up to 2038. This minerals study forms part of the evidence base to inform new minerals policies and allocations over this period.

Scope

The primary objectives of the minerals study for the Black Country are:

- That it is based on robust and credible evidence base;
- To address issues related to minerals resources in accordance with national policy guidance and regional/sub-regional policy objectives;
- To provide current and future minerals supply requirements for all minerals; and
- That information is provided on the mineral sites and minerals infrastructure facilities and the land take they require.

Structure of this Report

The report has been structured into three parts as follows:

- **Part 1** sets an updated baseline evidence base for minerals in the Black Country. As well as looking at the economic importance of minerals and reviewing the existing BCCS policies, this part of the report outlines what mineral resources there are in the Black Country, how much mineral is consumed and produced within the area, identifies any cross-boundary mineral issues and concludes by identifying the key issues for the delivery of mineral development;

- **Part 2** sets out the future mineral supply requirements for the Black Country and reviews the mineral safeguarding areas which have previously been identified; and
- **Part 3** sets out what revised mineral safeguarding areas (MSAs) should be taken forward in the Black Country Plan, identifies those mineral extraction and mineral infrastructure sites which will be required to meet future mineral supply requirements, and outlines preferred mineral policy options.

An overview of each part of the report is provided below.

Part 1 – Update Baseline Evidence Base for Minerals

The Black Country is geologically very diverse and has a wide range of mineral resources, including a number of 'local and national importance', as defined by Annex 2 of the NPPF. Mineral resources include sand and gravel, brick clay and shallow coal, limestone, and dolerite. The minerals industry only makes a relatively small contribution to the local economy of the Black Country, but nevertheless provides employment as well as building materials (e.g. construction aggregates, bricks, etc.) that are essential to the delivery of new development and engineering projects.

Extraction is now confined to the fringes of Walsall where brick clay is extracted at two sites in Stubbers Green (Atlas Quarry and Sandown Quarry). Sand and gravel had until recently being quarried at Branton Hill Quarry in Aldridge but ceased in 2013. Although this site is currently inactive, planning permission has been granted for an extension subject to a Section 106 agreement relating to site access and future management of previously worked areas following final restoration. There are also two 'dormant' sites covered by old mineral permissions dating back to the 1950s which have not been implemented: One for working brick clay at Highfields North, and the other for working fireclay and coal on part of Brownhills Common.

In addition to these sites, there are several other sites in the Black Country involved in mineral processing, storage and distribution. These include facilities producing aggregates from recycled construction and demolition waste, a rail-linked cement distribution facility, concrete batching plants, and coating plants.

Conclusions / Recommendations

Following a review of the evidence base for minerals, the following key issues for delivery of mineral development in the Black Country have been identified:

- There is a need to continue to safeguard existing mineral and mineral infrastructure sites and resources in the Black Country.
- Aggregates – There is a need to plan for a greater demand for aggregate minerals due to planned housing growth and infrastructure projects. The recently granted permission for sand and gravel extraction at Branton Hill in Walsall is likely to be able to meet demand in the short to medium term based on the current 0.55 million tonnes per annum apportionment for the Black Country. Nevertheless, this permission is only until 2027/8 and there is some concern therefore that demand for aggregates in the latter part of the plan period may not be met.
- Brick Clay – There are insufficient brick clay supplies to enable a 25-year supply at each of the Black Country's brickworks. Other than Cradley, the supply of brick clay to other Black Country brickworks does not quite meet the 25-year supply requirement as set out in the NPPF. Dreadnought and Sandown are reliant on brick clay imports from Staffordshire, Shropshire, Leicestershire and Warwickshire. Aldridge and Atlas brickworks rely on Etruria Marl from Atlas quarry as well as imports of other clays from outside the Black Country.
- There is a need for a balanced approach between safeguarding mineral resources and pressures from housing and economic growth. Consideration should be given to adopting an

approach similar to other urban areas (Birmingham, Greater Manchester, and Telford & Wrekin) to identifying more defined MSAs (similar to approach already adopted in Walsall SAD) with a greater emphasis on prior extraction, especially in areas outside these MSAs, to prevent unnecessary sterilisation of mineral resources.

Part 2 – Review of MSAs and Future Minerals Supply Requirements

Overview

Minerals provide the raw materials to enable development and therefore it is important to understand what development is likely to take place in the Black Country in the period to 2038 and what impact this will have on the demand for minerals and the extent to which the identified needs will be met in the Black Country and/or from outside the Black Country.

During the plan period to 2038, the Black Country Plan will need to plan to meet the identified need for additional housing, employment land, town centre developments and transport infrastructure. Land supply in the Black Country is finite and a significant proportion of the acknowledged BCAs development needs will need to be met beyond the Black Country boundary. Within the Black Country, the challenge is to achieve a balance between development to protect what is most useful, provide development where it is most appropriate whilst arbitrating between land uses where conflicts could arise. This includes the need to safeguard mineral resources (both of local and national importance) and minerals infrastructure and prevent the unnecessary sterilisation of minerals resources by other development.

Key Findings

Future Minerals Supply Requirements

Three housing growth scenarios have been modelled as part of the new Black Country Plan. The housing need figures used in the projections has been calculated according to the final standard method published by the Ministry for Housing, Communities and Local Government in February 2019 which have been incorporated into the National Planning Practice Guidance. These scenarios relate to the extent to which the Black Country plans to meet its Objectively Assessed Need and whether it seeks to meet a proportion of the residual requirement of Birmingham.

Similarly, three employment growth scenarios have been modelled as part of the new Black Country Plan. These all respond to the estimates annualised/ total employment land requirement for the Black Country over the plan period in the Stage 1 Employment Development Need Assessment. These scenarios relate to the extent to which the Black Country plans to meet its employment land requirement within its own boundaries of the extent to which demand is met in South Staffordshire.

Although it is difficult to quantify what the projected housing and employment growth mean in terms of the amount of mineral that needs to be planned for, specifically construction aggregates, it is clear the projected growth will impact on mineral consumption. Estimated construction aggregate requirements to meet Black Country housing projections have been made using published figures on how much aggregate is required to build a typical home.

Given that the Black Country has limited economically viable mineral resources, there is an inherent reliance on the supply of minerals from outside the Black Country but also to safeguard those mineral resources within the Black Country and prevent their sterilisation by non-mineral development through prior extraction, where practical and environmentally feasible to do so.

Review of Mineral Safeguarding Areas

Although the Black Country is an area rich in mineral resources given its complex underlying geology, many of these resources have been sterilised by urban and industrial development in the Black Country. As a result, potentially viable mineral resources are confined to the sand and gravel resources in Walsall (Sherwood Sandstone outcrops), the Etruria Marl brick clays in Walsall and Dudley, and the fireclays in Walsall. Extraction is now confined to north west fringes of the Black Country in Walsall at Atlas Quarry (brick clay) and Sandown Quarry (brick clay). In addition to these sites, there are a number of other sites in the Black Country involved in mineral processing, storage and distribution.

The existing BCCS, through Policy MIN1 identifies a Minerals Safeguarding Area (MSA) covering the whole of the Black Country and is defined on the Proposals Maps for each BCA, which seeks to protect those minerals resources within the MSA from other non-mineral development, i.e. to prevent their sterilisation. Separate maps showing the extent of the mineral commodity are also provided. The latter have been further refined in the recently adopted Walsall SAD (2019) which identifies several Areas of Search (AOS) for sand and gravel as well as brick clay. Two further Areas of Search for brick clay have also been identified in Dudley, in accordance with BCCS Policy MIN3, and are shown on the Proposals Map for the Dudley Borough Development Strategy (2017).

The review of the MSAs has taken into account not only the latest national planning policy guidance, the latest available geological information, and information from the minerals industry, but also evaluating these against any known development pressures.

Conclusions / Recommendations

Project Mineral Supply Requirements

The projected housing and economic growth for the Black Country will have an impact on mineral consumption, not least to provide the raw materials to support this growth. The Mineral Products Association (MPA) (2018) estimated that in the UK in 2016 aggregates production per capita was around 4 tonnes per capita and that a typical home uses 200 tonnes of aggregates to build. Using the latter figure, if housing growth is estimated to be between 74,000 and 84,000 net dwellings (rounded) by the end of the plan period (depending on the housing growth scenario), then between 14.8 and 16.7 million tonnes of aggregate would be required and would need to be sourced from both primary as well as secondary and recycled sources.

The MPA has estimated that in 2016 secondary and recycled aggregates account for 29% of total aggregates supply in Great Britain. Applying this figure to the Black Country, then between 4.3 and 4.9 million tonnes of secondary and recycled aggregate would be required to support the projected housing and economic growth over the plan period. (i.e. 29% of between 14.8 and 16.7 million tonnes of aggregates as set out in the previous paragraph).

Review of Minerals Safeguarding Areas

In terms of safeguarding mineral resources, three policy options for the Black Country Plan have been identified, namely:

- Maintain the status quo and apply a single MSA across the whole of the Black Country;
- Not have any MSAs in the Black Country; and
- Adopt more tightly defined MSAs for both sand and gravel and brick clay focussed on the mineral resource in Walsall.

Part 3 – Revised MSAs and Delivering the Black Country's Future Mineral Supply Requirements

Key Findings

Following consideration of the three minerals safeguarding policy options, it is recommended that rather than have a single MSA covering the whole of the Black Country, more tightly defined MSAs are identified for sand and gravel, brick clay and fireclay focussed on the mineral resources in Walsall.

As well as seeking to safeguard mineral resources through the identification of MSAs, consideration needs to be given to policy provision to enable prior extraction of minerals, where practical and environmentally feasible, to prevent the unnecessary sterilisation of mineral resources by non-mineral development in accordance with NPPF paragraph 204. Extant BCCS Policy MIN1 already provides for this and such a policy should continue to be included in the emerging Black Country Plan.

Through the assessment of mineral extraction and infrastructure sites as well as an assessment of the impact of proposed non-minerals development options (through the Black Country Plan Call for Sites and SHLAA) , it is apparent that many of the areas of the Black Country are facing transformation through site regeneration and many traditional areas of employment where mineral infrastructure sites have operated successfully and without conflict are fewer in number.

As mineral infrastructure sites are an essential part of the total infrastructure of an area, it is not only important that they are appropriately located but also that policy protection is applied to areas suitable for mineral uses to help maintain an adequate and steady supply of minerals and associated infrastructure. This is already a concern in the adopted BCCS Policy MIN1. Consideration should be given to the application of an appropriate 'buffer zone' to safeguard existing mineral infrastructure sites.

Conclusions / Recommendations

The following preferred policy options for minerals in the Black Country have been identified:

- Adopt more tightly defined MSAs for sand and gravel, brick clay, and fireclay focussed on the mineral resources in Walsall;
- Make policy provision to enable prior extraction of minerals within the MSAs, where feasible and economically viable, to prevent the unnecessary sterilisation of mineral resources by non-mineral development; and
- Safeguard existing mineral and mineral infrastructure sites and include an appropriate 'buffer zone', in accordance with good practices to ensure a consistency of approach.

Overall Findings and Conclusions

Mineral Supply Requirements

The Black Country, which has no crushed rock mineral resources, will continue to rely on imports of crushed rock.

Sources of sand and gravel supply are confined to those in Walsall and as such, Walsall is the only Black Country authority that has contributed to the sub-regional sand and gravel requirements and this position is not expected to change as there is no evidence that the other authorities have viable sand and gravel resources.

Sand and gravel supply requirements for the West Midlands Metropolitan Area have been calculated to be between 0.5 and 0.55 million tonnes per annum based on recent production figures and it has been established that the majority of this requirement will continue to be supplied from sites in Solihull, although it is acknowledged that these sites are to be significantly affected by HS2 should it go ahead. It has been established that the Black Country has sufficient permitted reserves and production capacity for sand and gravel (at Branton Hill Quarry in Walsall) to continue with the current contribution of 50,000 tonnes per annum, at least until 2027 when minerals extraction at Branton Hill Quarry is required to cease. Although further sand and gravel resources are identified in the Birch Lane Area of Search in the Walsall SAD (2019), proposals for the extraction of these resources have yet to come forward.

Although sand and gravel resources in the Black Country will be safeguarded by the recommended MSA, it has been established through the review of mineral resources as part of this study that beyond 2027 (when extraction at Branton Hill is due to cease) the only accessible viable sand and gravel resources in the Black Country are those identified in the Birch Lane Area of Search in the Walsall SAD (2019). However, there is a lack of viable extraction sites coming forward from industry. This means that minerals supply after 2027 tails off in the Black Country and consequently it will no longer be able to continue meeting its 50,000 tonnes per annum contribution. Thus, there is a need for the BCAs to renegotiate their contribution to the West Midlands sub-regional sand and gravel requirements through the LAA process and/or regional Aggregates Working Party beyond 2027.

The main source of brick clay resources in the Black Country is Etruria Marl which is found in Walsall, Dudley and to a lesser extent in Sandwell, whilst fireclay resources are confined to the coal bearing strata in Walsall. The economic extraction fireclay is only likely to be viable when worked concurrently with surface coal extraction, which is considered unlikely during the Black Country Plan period. There two active brick clay quarries in the Black Country, namely Atlas Quarry and Sandown Quarry, both in Walsall.

Of the 5 brickworks in the Black Country, only Atlas Brickworks and Aldridge Brickworks are supplied from brick clay resources in the Black Country (i.e. Atlas Quarry), the other brickworks all rely on imported supplied of brick clay from elsewhere in the East and West Midlands – Staffordshire, Shropshire, Leicestershire and Warwickshire. It has been established that, other than Cradley, the remaining 4 brickworks will be unable to meet the 25-year supply requirements set out in the NPPF, whether this is from brick clay resources from within the Black Country or imported sources.

Mineral Safeguarding

Minerals can only be worked where they are found and in seeking to plan for a steady and adequate supply, provision must be made in the Black Country Plan to not only safeguard mineral resources areas, but also to deliver mineral sites and associated mineral infrastructure sites. The key mineral resources in the Black Country are the sand and gravels in Walsall and brick clays predominantly in Walsall and some in Dudley and Sandwell, with resources in the latter two areas having all been exhausted and/or sterilised by urbanisation. Furthermore, there are also fireclay resources in Walsall. As such, the focus in terms of minerals safeguarding should be on safeguarding those economically viable resources. For the Black Country this means the sand and gravel, brick clay as well as fireclay resources in Walsall through the identification of appropriate Mineral Safeguarding Areas (MSAs), as well as safeguarding existing mineral sites and mineral infrastructure sites. Furthermore, policy provision should be made to enable the prior extraction of minerals within the MSAs, where feasible and economically viable, to prevent the unnecessary sterilisation of mineral resources by non-mineral development.

Housing and employment land demand are projected to increase in the Black Country as regeneration of the urban area progresses. The need to plan for an adequate and steady supply of minerals and needs of minerals infrastructure will need to be balanced with those of housing and employment for suitable development sites. In seeking to identify development sites for minerals infrastructure, priority needs to be place upon safeguarding existing sites for continued use and retaining the potential of the areas in which they occur.

The Black Country retains large areas identified as existing employment uses in adopted plans. However, the regeneration agenda to diversify employment, reverse population decline and improve the environment of the Black Country all imply greater challenges to the retention or provision of increasingly non-conforming uses.

All other things being equal, development for housing and high-quality employment will always yield greater revenues. Whilst viable development depends on the interplay of location, abnormal development costs, policy requirements and landowner expectations that can only be evaluated on a site by site basis, there are significant areas where land uses has changed to housing development and there is ample evidence of an ongoing trend through planning applications and site promotion.

As mineral infrastructure facilities are an essential part of the total infrastructure of an area, it is not only important that they are appropriately located but also that policy protection is applied to areas suitable for mineral uses to help achieve the objectives of maintaining an adequate and steady supply of minerals. A policy response to safeguard capacity could consider:

- The definition of consultation zones drawn to a specified distance (say between 100-150m) to the boundary of existing mineral and mineral infrastructure uses and endure should the existing use cease; and/or
- The definition of consultation zones around areas currently suitable for new mineral uses into areas assessed as holding, as yet unrealised, potential; and
- Require a mineral viability assessment to be submitted by the applicant for any housing and non-conforming use, especially where the proposed non-mineral development falls within an MSA.

Whatever approach to their definition is adopted, the policy requirement would be that the relevant BCA is consulted on a specified range of proposed non-mineral development within these areas. This process should be precautionary but not unreasonably impede regeneration or the development of other much needed or otherwise suitable proposals.

Monitoring the effects of the policies of the BCCS will be important to ensure that the policies are having their intended effects and to identify whether any review is required.

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1. Introduction

1.1 The Black Country

1.1.1 The Black Country comprises the four local authorities of Dudley Metropolitan Borough Council, Sandwell Metropolitan Borough Council, Walsall Metropolitan Borough Council and Wolverhampton City Council and forms a part of the West Midlands conurbation. Each of these authorities is a Unitary Authority (UA) and as such, has the function of Mineral Planning Authority (MPA). They are collectively known as the Black Country Authorities (BCAs).

1.1.2 With a resident population of approximately 1.1 million, the Black Country is a densely populated region covering a total of 138 square miles (222km^2). The Black Country together with Birmingham, Solihull and Coventry in the West Midlands collectively make up one of the most densely populated areas in the UK. Due to the underlying geology, the Black Country has a diverse range of mineral resources, including a number of national importance. The main minerals present are sand and gravel, brick clays, dolerite, limestone, building, coal and associated fireclay. As minerals are a finite resource and can only be worked where they are found, it is important therefore that a balance is struck between the economic growth and the need to provide minerals to support that growth, whilst at the same time safeguarding the mineral resources of the area.

1.2 Black Country Core Strategy

1.2.1 Adopted in 2011, the BCAs prepared a joint Black Country Core Strategy (BCCS) that set out the vision, objectives and strategy for future development in the Black Country up to 2026 and beyond.

1.2.2 In the context of the major and ongoing development demands across the Black Country and the wider conurbation, the BCAs have now agreed to prepare a new strategic plan – the Black Country Plan (BCP) – to replace the BCCS covering the period up to 2038. This minerals study forms part of the evidence base to inform new minerals policies and allocations over this period.

1.2.3 The extant BCCS includes a strategic minerals objective, five minerals policies and Minerals Safeguarding Areas (MSAs) for sand and gravel, brick and clay, limestone, dolerite and coal.

1.2.4 Consultation on the Issues and Options took place in 2017 and preparation of the Draft Plan is being progressed and due to be published for consultation in October/November 2020. Publication (pre-submission consultation) is anticipated in July 2021 with consultation until September 2021, Submission in February 2022, Examination in the winter of 2022, and Adoption anticipated in March 2023.

1.3 Objectives and Deliverables

1.3.1 The primary objectives of the minerals study for the Black Country are:

- That it is based on robust and credible evidence base;
- To address issues related to minerals resources in accordance with national policy guidance and regional/sub-regional policy objectives;
- To provide current and future minerals supply requirements for all minerals; and
- That information is provided on the mineral sites and minerals infrastructure facilities and the land take they require.

Part 1: Updated Baseline Evidence Base for Minerals

This section seeks to review the minerals baseline evidence, with a view to identifying any critical gaps likely to impact on the soundness of the Black Country Plan.

2. Economic Importance of Minerals

2.1 National Context

2.1.1 Minerals are essential to the UK economy. Indigenous mineral production contributes to wealth creation and sustainable economic development by providing:

- Employment - both directly and indirectly;
- Markets for other goods and services thereby stimulating activity elsewhere in the economy; and
- Basic raw materials for other industries in construction, manufacturing and power generation.

2.1.2 The UK Minerals Strategy, published in July 2018[1] by the minerals industry, identifies that minerals and mineral products represent the largest material flow in the economy at around 1 million tonnes per day in a typical year. The Strategy quantifies the economic importance of the minerals industry to the UK economy, summarised in Table 2.1 below.

Table 2.1 Economic Importance of the Minerals Industry

Economic factor	Value
UK mineral annual extraction	210 million tonnes
Annual turnover of mineral extraction	£15 billion
Annual turnover of mineral products manufacture	£68 billion
Annual gross value added (GVA) of mineral extraction	£5 billion
Annual GVA of mineral products manufacture	£22 billion
Annual GVA of 'first use' markets	£209 billion
Annual total GVA of mineral extraction, products manufacture & first use markets	£235 billion
Share of the UK total economy directly attributable to minerals	16%
People directly employed in mineral extraction (excluding oil and gas)	34,000
Jobs supported throughout the "downstream" supply chain	4.3 million

2.1.3 The 2016 report 'The UK Mineral Extraction Industry'[2], prepared by the CBI, noted that minerals make a significant contribution to tax revenues. In 2013 the industry (excluding oil and gas) contributed directly to about £500m of VAT payments in 2013 through the purchase of goods, materials and services necessary to its operations. VAT would also be generated through the sale of goods and products that use raw minerals in their manufacture. The report identifies that, in addition to the various employment and corporation tax receipts, other taxes are collected for environmental purposes, to offset the environmental impact of mineral activity, such as the aggregates levy.

1 UK Minerals Strategy, July 2018: https://mineralproducts.org/documents/UK_Minerals_Strategy.pdf
2 The UK Mineral Extraction Industry, February 2016, CBI: http://www.cbi.org.uk/news/minerals-critical-to-the-uk-economy/cbi-report-the-uk-mineral-extraction-industry/

2.1.4 This economic importance of minerals is recognised in national planning policy. Paragraph 203 of the revised National Planning Policy Framework (NPPF) (February 2019) states that *"It is essential that there is a sufficient supply of minerals to provide the infrastructure, buildings, energy and goods that the country needs"*. Paragraph 205 requires that, when determining planning applications, "*great weight should be given to the benefits of mineral extraction, including to the economy*". Paragraphs 207 and 208 set out the requirements for ensuring a steady and adequate supply of aggregates and industrial minerals whilst paragraph 209 recognises the benefits of onshore oil and gas development for security of energy supplies and supporting the transition to a low carbon economy.

2.1.5 The NPPF defines minerals resources of local and national importance as minerals which are necessary to meet society's needs, including aggregates, brick clay (especially Etruria Marl and fireclay), silica sand (including high grade silica sands), cement raw materials, gypsum, salt, fluorspar, shallow and deep-mined coal, oil and gas (including conventional and unconventional hydrocarbons), tungsten, kaolin, ball clay, potash, polyhalite and local minerals of importance to heritage assets and local distinctiveness.

2.1.6 In terms of aggregates, the main components of aggregates supply are primary aggregates, meaning quarried crushed rock and both land-won and marine dredged sand and gravel. Aggregates can also be obtained from the recycling of construction, demolition and excavation (CD&E) waste, or derived from other industrial, production or extractive processes, referred to as secondary aggregates. As reported by the Mineral Products Association (MPA), in 2017 a total of 176 million tonnes of primary aggregates were produced by the minerals industry in Great Britain, which together with an estimated 72 million tonnes from recycled and secondary sources, supplied demand. Recycled and secondary materials accounted for 29% of the total aggregates supply[3].

2.2 Black Country Context

Minerals in the Black Country

2.2.1 The Black Country is geologically very diverse and has a wide range of mineral resources, including a number of 'local and national importance', as defined by Annex 2 of the NPPF. The extent of the sand and gravel, brick clay and shallow coal, limestone, and dolerite resources in the Black Country is illustrated in **Figure 2.1**.

2.2.2 The 2015 West Midlands Metropolitan Area Local Aggregate Assessment (LAA) identifies that there are potentially viable primary sand and gravel resources in Walsall but there are no longer any viable crushed rock resources in the West Midlands Metropolitan area, which includes the Black Country.

2.2.3 The LAA confirmed the sand and gravel apportionment as 0.55 million tonnes per annum (mtpa) for the West Midlands Metropolitan Area. The adopted BCCS includes an indicative production target of 50,000 tonnes of sand and gravel per annum as the Black Country's contribution to the West Midlands sand and gravel apportionment (Policy MIN2). The 0.55mtpa apportionment figure for the West Midlands Metropolitan Area was developed as part of a review of aggregates supply in the West Midlands in 2009/10 following the publication of the national and regional guidelines. This was based on evidence of the theoretical availability of aggregate mineral resources across the West Midlands region. However, there is no significant difference between the apportionment figure identified in the adopted plans and the latest 10-year average sales figures for the West Midlands Metropolitan Area, which the NPPF says mineral planning authorities should now use as the starting point for planning for future aggregate supply (see Section 5 of this report for further details).

[3] The Contribution of Recycled and Secondary Materials to Total Aggregates Supply in Great Britain, Mineral Products Association 2019

2.2.4 The Walsall Site Allocation Document identifies that nearly all the West Midlands sand and gravel apportionment is expected to be met through the potential sand and gravel working areas identified in the Solihull Local Plan 2013. Solihull has more extensive areas of sand and gravel resources than any other authority in the West Midlands Metropolitan Area and this is confirmed in the LAA. However, Walsall is also expected to make some contribution towards the requirement because it is the only other authority in the West Midlands Metropolitan Area to have potentially winnable primary sand and gravel. The Walsall Site Allocation Document therefore identifies two sand and gravel areas of search to help ensure continuity of supply.

2.2.5 The LAA does highlight that there is no guarantee that the resources identified in the local plans will actually come forward, as this will depend on demand and overcoming the constraints to working where they exist. The LAA also acknowledges that mineral resources underlie nearly the whole of the Black Country so difficult choices may have to be made between safeguarding any mineral resources present and allowing non-mineral development to take place to meet other identified requirements.

2.2.6 The West Midlands area remains a net importer of sand and gravel and imports all its required crushed rock aggregates.

2.2.7 The brick clay that occurs in parts of Dudley and Walsall is Etruria marl, which is a rare mineral nationally, being found mainly in limited areas within Staffordshire and the West Midlands. It is a high-quality clay, close in composition to 'ideal' brick clay[4] and at the present time (December 2019) brick clay is the only mineral being actively extracted in the study area. The West Midlands is one of the largest brick-making regions, with four brickworks in the Black Country – Atlas, Aldridge and Sandown in Walsall and Dreadnought in Dudley. Dreadnought Works makes Ketley Bricks as well as Dreadnought Tiles. There is also a small manufacturer of special bricks based in Sandwell (Cradley Special Brick Company).

2.2.8 There is a supplier of pot clay blends in Walsall (Swan Works) which is using stockpiled fireclay extracted from an adjacent site (Birch Coppice) that ceased operating in the 1980s. Fireclay is associated with coal seams and is produced mainly as a by-product of surface coal mining, but uniquely, the fireclay at Birch Coppice in Walsall was worked for the specific purpose of supplying Swan Works. Although they only represent a small percentage of consumption, fireclays are important in the manufacture of buff coloured bricks. However, given that the fireclay resources occur beneath coal seams, its extraction is unlikely to be feasible without extracting the overlying coal. The two minerals would therefore have to be worked together using surface mining methods. The likelihood of surface coal mining taking place in the future is small given the commitment of the Government to phase out the use of coal for electricity generation, the largest market for coal.

2.2.9 In terms of hydrocarbons, there is little of no potential for either conventional oil and gas or coalbed methane in the Black Country.

Black Country Minerals Sites

2.2.10 The minerals industry only makes a relatively small contribution to the local economy, but nevertheless provides employment as well as building materials (e.g. construction aggregates, bricks, etc.) that are essential to the delivery of new development and engineering projects. Extraction is now confined to the fringes of Walsall where brick clay is extracted at two sites in Stubbers Green (Atlas Quarry and Sandown Quarry) to supply the adjacent Atlas and Sandown Brickworks. Until recently, brick clay was also being extracted at Highfields South Quarry in Walsall Wood, supplying two brickworks in Walsall, but this ceased in 2013 and the site is now a non-

[4] Minerals Planning Factsheet, Brick clay, BGS 2007

hazardous landfill site only. In addition, brick clay was, until recently, extracted in Dudley at Ketley Quarry and Oak Farm (albeit for a short period).

2.2.11 Sand and gravel had until recently been quarried at Branton Hill Quarry in Aldridge but ceased in 2013. Although this site is currently inactive, planning permission has been granted for an extension subject to a Section 106 agreement relating to site access and future management of previously worked areas following final restoration. There are also two 'dormant' sites covered by old mineral permissions dating back to the 1950s which have not been implemented: one for working brick clay at Highfields North, and the other for working fireclay and coal on part of Brownhills Common.

2.2.12 In addition to these sites, there are several other sites in the Black Country involved in mineral processing, storage and distribution. These include facilities producing aggregates from recycled construction and demolition waste, a rail-linked cement distribution facility, concrete batching plants, and coating plants.

2.2.13 Table 2.2 lists the permitted mineral extraction sites in the Black Country, whilst Table 2.3 summarises the list of permitted mineral processing, storage and distribution sites, and Table 2.4 lists brickworks and ceramic industry sites. The distribution of these sites is illustrated on **Figure 2.2**.

Table 2.2 Permitted Mineral Extraction Sites in the Black Country (as at December 2018)

Site	Authority	Mineral	Use	Operational Status	Site Reference (Walsall SAD)
Atlas Quarry	Walsall	Brick Clay	Manufacture of bricks and blocks	Active	MP2
Birch Coppice	Walsall	Coal and Fireclay	Fireclay (used in manufacture of pot clay blends)	Inactive – working ceased in 1980s, clay still being stockpiled on part of site.	MP3
Branton Hill Quarry & Branton Hill Quarry Extension	Walsall	Sand	Building sand	Closed – working ceased in May 2013, restoration of worked phases incomplete. Pre-operational – Planning permission granted for quarry extension (1.03 million tonnes) in August 2018 subject to S106 covering restoration of previously worked areas and new access road.	MP4, WS2
Highfields North	Walsall	Brick Clay	Manufacture of bricks and blocks; some sand and gravel	Dormant permission	MP9
Land at Brownhills Common	Walsall	Coal and Fireclay	Fireclay (used in manufacture of pot clay blends)	Dormant permission	MP5
Sandown Quarry	Walsall	Brick Clay	Manufacture of bricks and blocks	Active	MP7, WP5

Source: Walsall SAD (2019).

Table 2.3 Permitted Mineral Processing, Storage and Distribution Sites in the Black Country (as at December 2018)

Site	Authority	Facility / Site Type	Operational Status	Site Reference**
Accumix Concrete West Midlands Depot, Oakdale Trading Estate, Ham Lane, Kingswinford	Dudley	Concrete batching plant	Operational	-
Bell Recycling Centre Oak Lane, Kingswinford	Dudley	Aggregates recycling facility	Operational	-
Bloomfield Recycling Bloomfield Road, Tipton	Dudley	Aggregates recycling facility	Operational	-
Breedon Dudley (Brierley Hill) Concrete Plant Delph Road, Brierley Hill	Dudley	Concrete batching plant	Operational	-
Dudleymix Concrete Peartree Lane, Netherton	Dudley	Concrete batching plant	Operational	-
Ketley Quarry Inert Recycling Facility Dudley Road, Kingswinford	Dudley	Inert/aggregates recycling facility	Closed in 2018. Site now being proposed for redevelopment for housing and open space	-
Oak Farm Quarry Cooked House Lane, Himley	Dudley	Inert/aggregates recycling facility	Site closed in May 2019 with only soils imported for restoration after that time.	WP4 (BCCS)
Oak Lane Aggregates Recycling Oak Lane Brickworks, Oak Lane, Kingswinford	Dudley	Aggregates recycling facility	Site to close in May 2019	-
Oak Lane CBM Yard 2, Oak Farm Brickworks, Oak Lane, Kingswinford	Dudley	Concrete batching plant	Operational	-
Pegasus Grab Hire Land South of Bott Lane, Lye, Stourbridge	Dudley	Aggregates recycling facility	Operational	-
Regen R8 Limited Timmis Road, Stambermill Estate, Lye, Stourbridge	Dudley	Aggregates recycling facility	Operational	-
Tansey Green* Kingswinford, Dudley	Dudley	Potential rail freight site to serve brickworks	Unknown	MI4 (BCCS)

Site	Authority	Facility / Site Type	Operational Status	Site Reference**
Anytime Concrete Gerard House, Kelvin Way, West Bromwich	Sandwell	Concrete batching plant and aggregates recycling facility	Operational	-
Network Rail Bescot Depot* Sandy Lane, Wednesbury	Sandwell	Storage / processing / transfer of aggregate	Operational	MI7, WSS1 (BCCS)
Tarmac Bescot Sidings* Sandy Lane, Wednesbury	Sandwell	Storage / processing / transfer of aggregate	Closed	MI8, WSS2 (BCCS)
Breedon Oldbury Concrete Plant Engine Street, Oldbury	Sandwell	Concrete batching plant	Operational	-
CEMEX Oldbury Concrete Plant Cemex House, Wolverhampton Road, Oldbury	Sandwell	Concrete batching plant	Operational	-
Edwin Richards Inert Recycling and Soil Treatment Facility Portway Road, Rowley Regis	Sandwell	Aggerates recycling and soil treatment facility	Operational	WSS7 (BCCS)
Former Hanson Site Grice Street, West Bromwich	Sandwell	Aggregates recycling facility	Unknown	-
Hanson Ready Mix Concrete (Oldbury) Roway Lane, Oldbury	Sandwell	Concrete batching plant	Operational	-
Metamix Batmans Hill Industrial Estate, Purdy Road, Tipton	Sandwell	Concrete batching plant	Operational	-
Oldfields Inert Recycling off Corngreaves Road, Cradley Heath	Sandwell	Inert aggregates recycling facility	Operational – temporary permission until 2021	-
Tarmac Birmingham Mortar Engine Street, Oldbury	Sandwell	Dry Silo Mortar Plant	Operational	-
Union Road Inert Waste Facility Union Road Industrial Estate, Union Road, Oldbury	Sandwell	Aggregates recycling facility	Operational	WSS4 (BCCS)
Vittoria Street Smethwick	Sandwell	Recycling of waste into aggregate	Vacant site with planning permission for waste recycling	MI3, WSS10 (BCCS)

Site	Authority	Facility / Site Type	Operational Status	Site Reference**
Wednesbury Asphalt Plant* Smith Road, Wednesbury	Sandwell	Coating plant / potential rail freight site	Operational	MI10, WSS19 (BCCS)
Former Bace Groundworks Coppice Lane, Aldridge	Walsall	Recycling of waste into aggregate. Closed in 2012. Since 2016 occupied by haulage contractor. Site still has permission for aggregates recycling, permission for change of use not yet sought ***	Closed	MI1 (BCCS) MI1, WS1, IN9.8 (Walsall SAD)
Branton Hill Quarry (CLEUD Site) Branton Hill, Aldridge	Walsall	Aggregates recycling facility. Closed in 2013 and permission granted to relocate recycling operations within site	Closed	WSWa2 (BCCS) MP4, WS2 (Walsall SAD)
Branton Hill Quarry (CLEUD Relocation Site) Branton Hill, Aldridge	Walsall	Site for proposed relocation of aggregates recycling facility (permission granted in 2013)	Pre-operational	MI2, WP6 (Walsall SAD)
Breedon Walsall Cement* Fairground Way, Walsall	Walsall	Rail-linked cement and aggregates depot / cement works Concrete batching plant (since 2015)	Operational	MI9 (BCCS) MI3, IND51.5 (Walsall SAD_
Bescot Triangle South Off Bescot Road, Walsall	Walsall	Small aggregates recycling facility	Operational	MI4, WS17, IN54.4 (Walsall SAD)
Express Asphalt Owen Road Trading Estate, Willenhall	Walsall	Coating plant	Operational	MI5, IN81 (Walsall SAD)
G&BG Morris Willenhall Trading Estate	Walsall	Secondary aggregate facility	Operational	MI6, IN78.3 (Walsall SAD)
Interserve Site Services Brickyard Road, Aldridge	Walsall	Material recycling facility for CD&E waste	Operational	MI7, WS20, IN9.9 (Walsall SAD)
Tarmac Concrete Walsall Fenchurch Close, off Green Lane, Walsall	Walsall	Concrete batching plant	Operational	MI8, IN32.1 (Walsall SAD)
Aggregate Industries (Wolverhampton) Manfield Road	Wolverhampton	Concrete batching plant	Operational	-
Britannia Onsite Concrete Oxford Street/ Vulcan Road, Bilston	Wolverhampton	Concrete batching plant	Operational	-
CPI Mortars (Wolverhampton) Springvale Industrial	Wolverhampton	Dry silo mortar plant	Operational	-

Site	Authority	Facility / Site Type	Operational Status	Site Reference**
Estate, Springvale Avenue, Bilston				
Dismantling & Engineering Services Ltd Noose Lane, Willenhall	Wolverhampton	Recycling of waste into aggregate	Closed	MI3, WSWo4 (BCCS)
Ettingshall Asphalt Plant Spring Road, Ettingshall	Wolverhampton	Coating plant and aggregate recycling site	Operational	MI5, WSWo5 (BCCS)
Ettingshall Recycling Facility Millfields Road, Ettingshall	Wolverhampton	Aggregate recycling facility	Operational	WSWo5 (BCCS)
GL Read Mix Concrete Unit 1a Thomas Street, Blakenhall	Wolverhampton	Concrete batching plant	Operational	-
Hanson Ready Mix (Wolverhampton) Fox's Lane	Wolverhampton	Concrete batching plant	Operational	-
Landywood Concrete Products Ltd Neachells Lane, Wednesfield	Wolverhampton	Concrete batching plant	Operational	-
Neachells Lane Transfer Station Consolidation House, Neachells Lane, Willenhall	Wolverhampton	Specialist facility for manufacture of concrete blocks from recovered street sweepings	Operational	WSWo2, WP7 (BCCS)
Premier Mortars (Wolverhampton) Chillington Works Industrial Estate, Cross Street, Eastfield	Wolverhampton	Dry silo mortar plant	Operational	-
SS Concrete Price Street, Bilston	Wolverhampton	Concrete batching plant	Operational	-
Stitchacre Ltd McAuliffe House, Northcott Road, Bilston	Wolverhampton	Aggregates recycling facility	Operational	-
Tarmac Concrete Ettingshall Millfields Road, Ettingshall	Wolverhampton	Concrete batching plant	Operational	-

* Existing or potentially rail-linked site
** Where applicable, site references taken from BCCS and local plans documents as indicated
*** The operator of this site (D E O' Reilly) took over the adjacent Interserve site in 2019 and is in October 2019 was operating it as a waste transfer station (for further details see Table 7.1). The range of services identified on the operator's website suggests that some aggregates recycling is also taking place.
Source: BCCS Appendix 7 (2011), Walsall SAD (2019), BCA supplied data (June 2019)

Table 2.4 Brickwork and Ceramic Industry Sites in the Black Country (as at December 2018)

Site	Authority	Use	Operational Status	Site Reference **
Dreadnought Brickworks (Hinton, Perry & Davenhill)	Dudley	Brickworks	Operational	-
Cradley Special Brick (Forterra)*	Sandwell	Brickworks	Operational	-
Aldridge Brickworks (Ibstock)	Walsall	Brickworks	Operational	MB1 (Walsall SAD)
Atlas Brickworks (Ibstock)	Walsall	Brickworks	Operational	MB2 (Walsall SAD)
Sandown Brickworks (Wienerberger)	Walsall	Brickworks	Operational	MB3 (Walsall SAD)
Swan Works (Potters Clay & Coal Company)	Walsall	Manufacture and Supply of Pot Clay Blends	Operational	MC1 (Walsall SAD)

* Cradley Special Brick is part of the Forterra Building Products Limited whereas Dreadnought Brickworks but is operated by an independent brick manufacturer – Hinton, Perry & Davenhill). Cradley Special Brick produces British Standard, non-standard and tailor-made bricks for individually designed buildings and conservation projects. Dreadnought Brickworks produces roof tiles (under Dreadnought Tiles brand) as well as bricks, slips and pavers (under Ketley Brick brand).
** Where applicable, site references taken from BCCS and local plans documents as indicated
Source: BCCS, Walsall SAD (2019), BCA supplied data (June 2019)

Importance of the Minerals Industry to the Black Country

2.2.14 In 2017, employment in mining and quarrying in the West Midlands was 125[5] although only the Walsall local authority area from within the Black Country recorded employees in this sector (20 employees). As at May 2017, 463,000 people were working in the Black Country[6], the minerals industry therefore represents only a very small part (0.03%) of the Black Country economy in terms of direct employment.

2.2.15 However, as noted above, minerals and mineral products are required for most development needs such as housing, schools, hospitals, employment sites, roads, rail, power stations, and airports. The need for an adequate supply of minerals for the Black Country economy is therefore important.

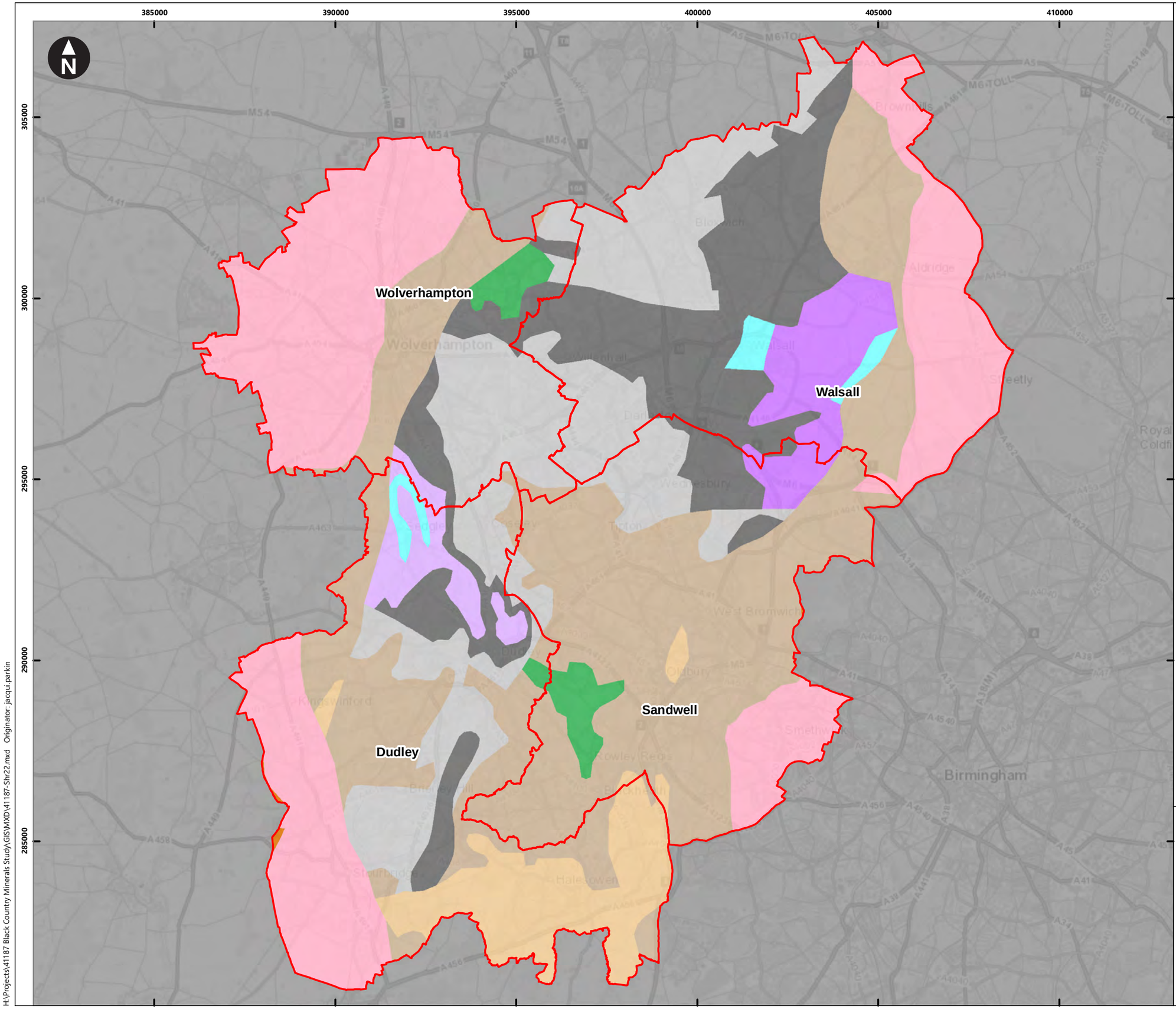
2.2.16 The Black Country Strategic Economic Plan (2017) seeks to increase the number of jobs by 127,860 (from a baseline of 441,900), increase the housing stock by a minimum of 42,480 new homes and nearly double the business birth rate.

2.2.17 The Strategic Economic Plan targets five transformational sectors, which are considered to be those that will secure most economic growth; and five enabling sectors, which are crucial in terms of the wider economy and quality of life. The transformational sectors are advanced manufacturing; building technologies, transport technologies, business services and environmental technologies. The enabling sectors are retail, visitor economy, sports, health and the public sector. The Strategic Economic Plan identifies two key elements to the economy-led spatial strategy: the regeneration of 16 growth corridors and exploiting the major contribution of the City of Wolverhampton and the three other strategic centres and improving the connectivity between them.

[5] NOMIS labour market profile, West Midlands
[6] UK Business Register and Employment Survey, Economic Intelligence Unit, 27 September 2018: www.the-blackcountry.com/upload/EIU/Intelligence%20Briefings/BRES%20one-pager%20Black%20Country%20v2.pdf

2.2.18 The need for housing in the Black Country continues to grow, with more houses completed over the last few years. Nevertheless, within the context of the West Midlands Metropolitan Area, there is a potential need for the Black Country to accommodate some of the housing growth from elsewhere in the region, notably Birmingham.

2.2.19 The development of the buildings and infrastructure to deliver these economic and housing growth requirements will require an adequate and steady supply of aggregate minerals and 'intermediate' mineral products such as lime, cement, mortar, concrete and roadstone. It is also important that brickworks within the Black Country can continue to support the local and countrywide housebuilding priorities. Most of the aggregate minerals used in the West Midlands Metropolitan Area are sourced from within the West Midlands or the East Midlands. It will therefore be important to ensure that sufficient supplies of aggregate minerals are planned for, to support the levels of growth anticipated in the West Midlands Metropolitan Area between now and the end of the Black Country Plan period in 2038. Furthermore, it will also be important to consider growth requirements within these wider regions, where it is not possible to identify sufficient resources more locally.



Black Country Minerals Study

Figure 2.1
Map of Bedrock Geology in the Black Country

January 2020

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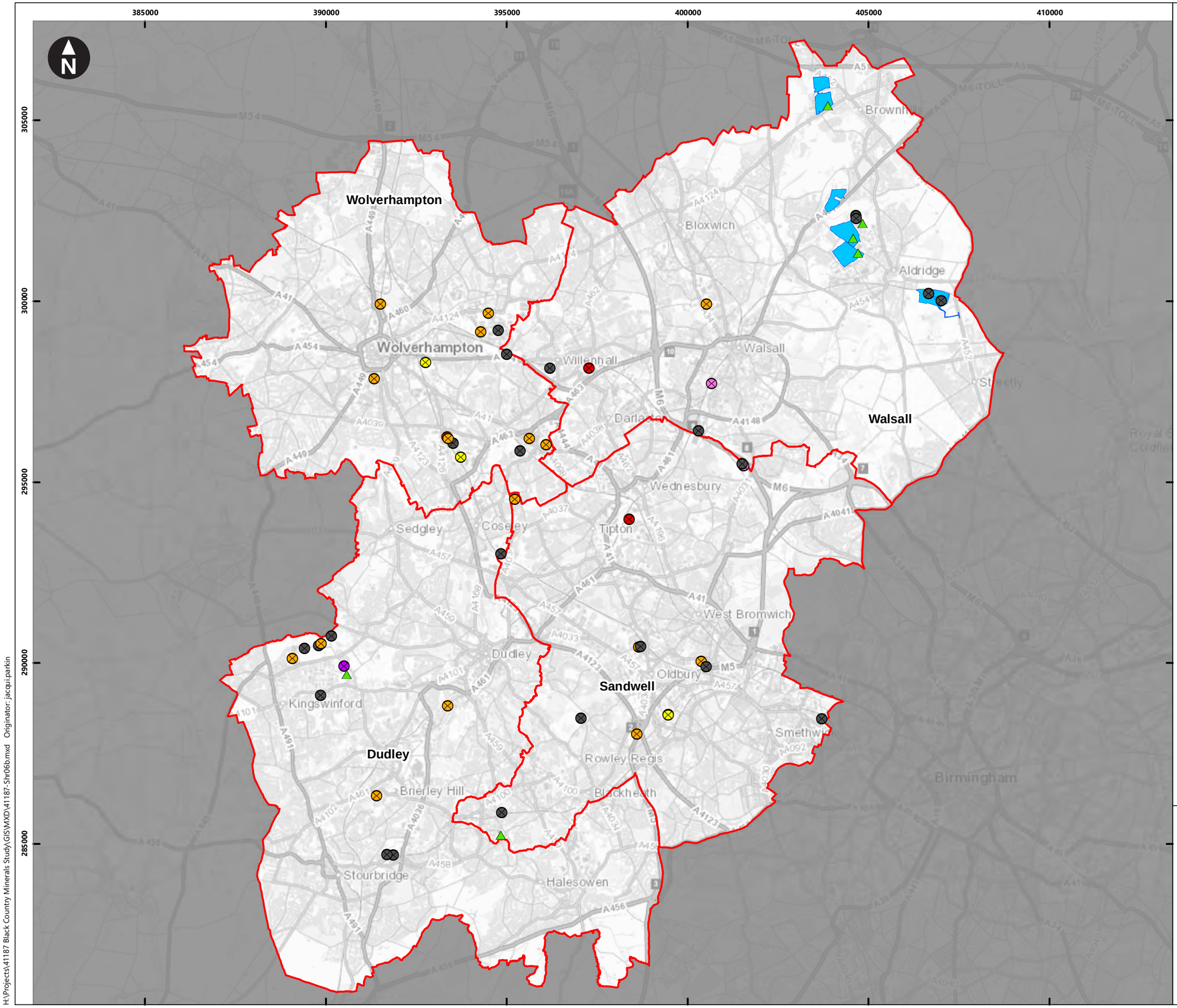

Key

- Authority Boundaries
- Permitted Mineral Extraction Sites
- Brickworks/Ceramics Industry Site

Mineral Infrastructure Site

- Aggregates Recycling/ Secondary Aggregates
- Coating Plant
- Concrete Batching Plant
- Dry Silo Mortar Plant
- Potential Rail Link
- Rail-Linked Aggregates Depot

0 1 2 3 4 5 6 km

Scale at A3: 1:100,000

Black Country Mineral Study

Figure 2.2
Permitted Mineral, Mineral Infrastructure and Brickworks/Ceramic Industry Sites in the Black Country (as at December 2018)

January 2020

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3. Review of Existing BCCS Minerals Policies

3.1 Approach

3.1.1 This section seeks to review the existing BCCS minerals policies. There have been a number of recent drivers for change that influence the extent to which current policies fulfil their purpose and conform to the likely direction of travel in national minerals policy.

3.1.2 The existing minerals policies of the adopted BCCS are set out at **Appendix B**. Since its preparation in 2009, there have been several policy documents, good practice and guidance published at international, national, Black Country and authority levels as set out in Table 3.1.

Table 3.1 Post BCCS Policy, Guidance and Practice

Coverage	Policy
International Policy	Circular Economy Package (2018)
National Planning Policy	A Green Future (25-year Environment Plan) (2018) Our Waste, Our Resources (Waste and Resources Strategy for England) (2018) National Planning Policy for Waste (2014) National Planning Practice Guidance (2016) National Planning Policy Framework (2019)
Black Country Authorities	Black Country Air Quality SPD (2016)
Dudley	Dudley Development Strategy (2017) Brierley Hill Area Action Plan (AAP) (2011) Dudley AAP (2017) Halesowen AAP (2013) Stourbridge AAP (2013)
Sandwell	Site Allocations and Delivery DPD (2012) West Bromwich AAP (2012)
Walsall	Walsall Site Allocation Document (2019) Walsall Town Centre Area Action Plan (2019)
Wolverhampton	Bilston Corridor AAP incl. Neighbourhood Plan 2013–2026 (2014) Stafford Road Corridor AAP 2013–2026 (2014) Wolverhampton City Centre AAP 2015-2026 (2016)

3.1.3 The extraction of minerals in the Black Country Authorities is influenced by a range of national, regional and local policies and strategies which are considered in this section. As minerals can only be extracted where they are found, it is important to plan appropriately for their extraction to ensure a steady and adequate supply. There are a number of policies and guidance that have spatial implications for the provision of a steady and adequate supply of minerals. These stem from national planning policies, notably the National Planning Policy Framework (NPPF) and national guidelines on future aggregates provision. These spatial requirements need to be considered in policy formulation, the safeguarding of existing minerals reserves, and the identification of potential future mineral resources.

3.2 National Planning Policy

Replacement of the Managed Aggregate Supply System (MASS)

3.2.1 The most significant changes to national planning policy since the adoption of the BCCS have been the replacement of the Managed Aggregates Supply System (MASS) with the planning for future minerals supply through annual Local Aggregate Assessments (LAAs) based on a rolling average of 10-year past sales data and other relevant local information, and the Duty to Cooperate which places a significant burden on MPAs to work together with only limited coordination via the Aggregate Working Parties (AWPs).

3.2.2 A major objective of minerals policy in England is to secure continuity of supply of construction aggregates. Over the last 30 years, this has been done through a nationally managed aggregates supply system (MASS). The starting point for this managed system was the National and Regional Guidelines for Aggregates Provision in England (July 2009) which provided indicative estimates of the tonnages of sand and gravel and crushed rock likely to be needed in England between 2005 and 2020 and indicated how much each former English region was expected to contribute. Aggregate Working Parties (AWPs) for each former English region would then apportion the regional guideline requirement to each sub-regional area, based on the evidence of the resources available or potentially available in each area. In the West Midlands the sub-regional areas identified for this purpose included the West Midlands Metropolitan Area, which includes the BCAs.

3.2.3 Although the landbank requirements for sand and gravel and crushed rock have not changed, the abolition of regional planning in 2010 and the introduction of the NPPF in 2012 marked a significant change in the approach towards planning for aggregate minerals. Mineral planning authorities are now expected to prepare an annual LAA to forecast future demand for aggregate minerals in their area. This is expected to be based on a rolling average 10 years' sales and "other relevant local information" taking into account the advice of the Aggregates Working Party (AWP). Mineral planning authorities also have a 'duty to co-operate' with other planning authorities when planning for future minerals supply, if their plans could have a 'significant' impact on them. As well as being a requirement of the NPPF, the 'duty to co-operate' is a statutory duty under Section 110 of the Localism Act 2011 (as amended) and the Local Planning Regulations 2012 (as amended).

3.2.4 Following the introduction of the NPPF, the previous national policy guidance on the MASS was withdrawn and replaced by the new planning practice guidance (NPPG) on Minerals in March 2014. This guidance expands on the guidance in the NPPF that planning for future minerals supply of aggregates should now be done through LAAs based on the rolling average 10-year past sales trends and introduces a 'Duty to Cooperate'. The NPPF has itself been revised recently (2019) although the guidance on planning for aggregates has not changed significantly. An overview of current national policy guidance and the latest West Midlands Metropolitan Area LAA is provided below. More details are set out in Section 3.3 of the report.

3.2.5 There has never been an equivalent mechanism for managing supplies of non-aggregate minerals at a national and regional level. Instead, the NPPF expects mineral planning authorities to plan for supplies for each manufacturing plant. In the case of brick clay, the requirement is to provide for a 25-year supply to each factory. Although the supply requirement has not changed since the former Mineral Planning Statement 1 (MPS1) Annex 2, most of the detail in the previous guidance has now been moved to the NPPG. Where brickworks are known to be relying on imports of clay from other areas, the 'duty to co-operate' also applies.

National Planning Policy Framework 2019

3.2.6 The Government updated its National Planning Policy Framework (NPPF) in February 2019[7]. As such, it represents the most recent statement of national policy to be translated into local plan policy in due course. As well as minerals specific policy, which is addressed in NPPF Section 17 'Facilitating the sustainable use of minerals' (paragraphs 203 to 211), those sections of the NPPF that are of most relevance to the minerals development are outlined below.

Achieving Sustainable Development

3.2.7 The NPPF outlines that the purpose of the planning system is to contribute to the achievement of sustainable development and paragraph 8 outlines the three dimensions thereof: economic, social and environmental. All three elements are of relevance to minerals development, nevertheless the environmental role is of specific interest stating that the planning system should contribute to:

"protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy."

Conserving and Enhancing the Natural Environment

3.2.8 NPPF Section 15 (paragraphs 170 to 173) outlines the relevant planning policy in relation to biodiversity. Paragraph 170 outlines how the planning system should contribute to and enhance the natural and local environment by:

- *"protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils …;*
- *recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services …;*
- *maintaining the character of the undeveloped coast, while improving public access to it where appropriate;*
- *minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;*
- *preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability …; and*
- *remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate."*

3.2.9 In terms of preparing local plans, the NPPF states that these should: *"distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries"* (paragraph 171).

[7] In June 2019, paragraph 209 was removed from the NPPF intended to support the extraction of 'unconventional hydrocarbons' following a successful High Court Challenge by Talk Fracking which found that a public consultation on the policy was flawed.

Habitats and Biodiversity

3.2.10 Paragraph 175 outlines what principles local planning authorities should apply when determining planning applications:

- *"if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or at a last resort, compensated for, then planning permission should be refused;*
- *development on land within or outside a Site of Specific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network or Sites of Special Scientific Interest;*
- *development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and*
- *development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity."*

3.2.11 Paragraph 176 states how the following should be given the same protection as habitat sites:

- *"potential Special Protection Areas and possible Species Areas of Conservation;*
- *listed or proposed Ramsar sites; and*
- *sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites."*

Conserving and Enhancing the Historic Environment

3.2.12 NPPF Section 16 (paragraphs 184 to 202) outlines the relevant policy in relation to the historic environment. Paragraph 185 states that plans should set out a positive strategy for the conservation and enjoyment of the historic environment, and this should take into account:

- *"the desirability of sustaining and enhancing the significance of heritage assts, and putting them to viable uses consistent with their conservation;*
- *the wider social, cultural, economic and environmental benefits that conservation of the historic environment can bring;*
- *the desirability of new development making a positive contribution to local character and distinctiveness; and*
- *opportunities draw on the contribution made by the historic environment to the character of a place."*

3.2.13 Paragraph 189 states that *"in determining application, local planning authorities should require an application to describe the significant of any heritage assets affected, including any contribution made by their setting"*. Relevant historic environment records should be consulted, and the heritage assets assessed using appropriate expertise where necessary. *"Where a site on which development is proposed included or has the potential to include heritage assets with archaeological interest, local*

planning authorities should require developers to submit an appropriate desk-based assessment, and where necessary, a field evaluation" (NPPF paragraph 189).

3.2.14 Where proposals could affect heritage assets, paragraph 192 sets out in determining planning applications that local planning authorities should take account of:

- *"the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;*
- *the positive contribution that conservation of heritage assets can make to sustainable communities including their economic viability; and*
- *the desirability of new development making a positive contribution to local character rand distinctiveness".*

Promoting Sustainable Transport

3.2.15 NPPF Section 9 (paragraphs 102 to 111) focusses on promoting sustainable transport. Paragraph 102 states that transport issues should be considered from the earliest stages of plan-making and development proposals so that:

- *"the potential impacts of development on transport networks can be addressed;*
- *opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;*
- *opportunities to promote walking, cycling and public transport use are identified and pursued;*
- *the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and*
- *patterns of movement, streets, parking and other transport considerations are integral to the design of schemes and contribute to making high quality places."*

Pollution Control

3.2.16 There are no specific sections within the NPPF relating to pollution, however it is referenced in a number of paragraphs, specifically within Section 15 (Conserving and Enhancing the Natural Environment) and paragraph 170 which states that planning policies should contribute to and enhance the natural and local environment by:

- *"preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Where development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and*
- *remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate."*

3.2.17 Paragraph 180 states:

"Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from development."

Noise

3.2.18 The NPPF does not specifically have a section dedicated to noise but it is mentioned within Section 15 (Conserving and Enhancing the Natural Environment) and the Technical Guidance Note provided to support the NPPF, which outlines the noise standards in relation to minerals operations.

3.2.19 Paragraph 180 states that planning policies and decisions should also ensure that new development is appropriate for its location. In doing so they should:

- *"mitigate and reduce to a minimum potential, adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life; and*
- *identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason."*

Flood Risk

3.2.20 Section 14 of the NPPF refers to Flood Risk, specifically paragraphs 155 to 165. Paragraph 155 outlines:

"Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere."

3.2.21 Paragraph 163 states that when determining any planning applications, local planning authorities should ensure that flood risk is not increased elsewhere. Where appropriate, applications should be supported by a site-specific flood risk assessment. Development should only be allowed in areas at risk of flooding where, in the light of this assessment (and the sequential and exception tests, as applicable) it can be demonstrated that:

- *"within the site, the most vulnerable development is located in areas of lowest flood risk, unless there are overriding reasons to prefer a different location;*
- *the development is appropriately flood resistant and resilient;*
- *it incorporates sustainable drainage systems, unless there is clear evidence that this would be inappropriate;*
- *any residual risk can be safely managed; and*
- *safe access and escape routes are included where appropriate, as part of an agreed emergency plan."*

Minerals

3.2.22 The NPPF, through Section 17 'Facilitating the sustainable use of minerals' states in paragraph 203 that:

"it is essential that there is a sufficient supply of minerals to provide the infrastructure, buildings, energy and goods that a country needs. Since minerals are a finite natural resource and can only be worked with where they are found, best use needs to be made of them to secure their long-term conservation."

3.2.23 Paragraph 204 outlines that planning policies should:

- *"provide for the extraction of mineral resources of local and national importance; but not identify new sites or extensions to existing sites for peat extraction;*

- *so far as practicable, take account of the contribution that substitute or secondary and recycled materials and minerals waste would make to the supply of materials, before considering extraction of primary materials, whilst aiming to source minerals supplies indigenously;*
- *safeguard mineral resources by defining Mineral Safeguarding Areas; and adopt appropriate policies so that known locations of specific minerals resources of local and national importance are not sterilised by non-mineral development where this should be avoided (whilst not creating a presumption that the resources defined will be worked);*
- *set out policies to encourage the prior extraction of minerals, where practical and environmentally feasible, if it is necessary for non-mineral development to take place;*
- *safeguard existing, planned and potential sites for: the bulk transport, handling and processing of minerals; the manufacture of concrete and concrete products; and the handling, processing and distribution of substitute, recycled and secondary aggregate material;*
- *set out criteria or requirements to ensure that permitted and proposed operations do not have unacceptable adverse impacts on the natural and historic environment or human health, taking into account the cumulative effects of multiple impacts from individual sites and/or a number of sites in a locality;*
- *when developing noise limits, recognise that some noisy short-term activities, which may otherwise be regarded as unacceptable, are unavoidable to facilitate minerals extraction; and*
- *ensure that worked land is reclaimed at the earliest opportunity, taking account of aviation safety, and that high quality restoration and aftercare of mineral sites takes place."*

3.2.24 Paragraph 205 notes that when determining planning applications, great weight should be given to the benefits of mineral extraction, including to the economy. In considering proposals for mineral extraction, minerals planning authorities should:

- *"as far as is practical, provide for the maintenance of landbanks of non-energy minerals from outside National Parks, the Broads, Areas of Outstanding Natural Beauty and World Heritage Sites, scheduled monuments and conservation areas;*
- *ensure that there are no unacceptable adverse impacts on the natural and historic environment, human health or aviation safety, and take into account the cumulative effect of multiple impacts from individual sites and/or from a number of sites in a locality*;
- *ensure that any unavoidable noise, dust and particle emissions and any blasting vibrations are controlled, mitigated or removed at source, and establish appropriate noise limits for extraction in proximity to noise sensitive properties;*
- *not grant planning permission for peat extraction from new or extended sites;*
- *provide for restoration and aftercare at the earliest opportunity, to be carried out to high environmental standards, through the application of appropriate conditions. Bonds or other financial guarantees to underpin planning conditions should only be sought in exceptional circumstances;*
- *consider how to meet any demand for small-scale extraction of building stone at, or close to, relic quarries needed for the repair of heritage assets, taking account of the need to protect designated sites; and*
- *recognise the small-scale nature and impact of building and roofing stone quarries, and the need for a flexible approach to the duration of planning permissions reflecting the intermittent or low rate of working at many sites."*

3.2.25 Paragraph 206 notes that local planning authorities should not normally permit other development proposals in Mineral Safeguarding Areas if it might constrain the potential future use for mineral working.

3.2.26 In terms of maintaining supply paragraph 207 outlines how minerals planning authorities should plan for a steady and adequate supply of aggregates by:

- *"preparing an annual Local Aggregate Assessment, either individually or jointly, to forecast future demand, based on a rolling average of 10 years sales data and other relevant local information, and an assessment of all supply options (including marine dredged, secondary and recycled sources);*
- *participating in the operation of an Aggregate Working Party and taking the advice of that party into account when preparing their Local Aggregate Assessment;*
- *making provision for the land-won and other elements of their Local Aggregate Assessment in their mineral plans, taking account of the advice of the Aggregate Working Parties and the National Aggregate Co-ordinating Group as appropriate. Such provision should take the form of specific sites, preferred areas and/or areas of search and locational criteria as appropriate;*
- *taking account of any published National and Sub National Guidelines on future provision which should be used as a guideline when planning for the future demand for and supply of aggregates;*
- *using landbanks of aggregate minerals reserves principally as an indicator of the security of aggregate minerals supply, and to indicate the additional provision that needs to be made for new aggregate extraction and alternative supplies in mineral plans;*
- *maintaining landbanks of at least 7 years for sand and gravel and at least 10 years for crushed rock, whilst ensuring that the capacity of operations to supply a wide range of materials is not compromised;*
- *ensuring that large landbanks bound up in very few sites do not stifle competition; and*
- *calculating and maintaining separate landbanks for any aggregate materials of a specific type or quality which have a distinct and separate market."*

3.2.27 Paragraph 208 outlines how minerals planning authorities should plan for a steady supply of industrial minerals by:

- *"co-operating with neighbouring and more distant authorities to ensure an adequate provision of industrial minerals to support their likely use in industrial and manufacturing processes;*
- *encouraging safeguarding or stockpiling so that important minerals remain available for use;*
- *maintaining a stock of permitted reserves to support the level of actual and proposed investment required for new or existing plant, and the maintenance and improvement of existing plant and equipment; and*
- *taking account of the need for provision of brick clay from a number of different sources to enable appropriate blends to be made."*

3.2.28 In terms of potential for on-shore oil and gas, coal and/or coal-based methane, these are addressed in paragraphs 209 to 211 of the NPPF.

National Planning Practice Guidance

3.2.29 The National Planning Practice Guidance (NPPG), an online guidance document which accompanies the NPPF, includes specific guidance related to minerals development, entitled 'Minerals'[8]. This guidance reiterates the importance of minerals, stating in Section 1:

"Mineral resources are defined as natural concentrations of minerals or, in the case of aggregates, bodies of rock that are, or may become, of potential economic interest due to inherent properties. They make an essential contribution to the country's prosperity and quality of life."

3.2.30 This section also highlights the special nature of planning for a minerals supply, which includes:

- *"minerals can only be worked (i.e. extracted) where they naturally occur, so location options for the economically viable and environmentally acceptable extraction of minerals may be limited. This means that it is necessary to consider protecting minerals from non-minerals development and has implications for the preparation of minerals plans and approving non-mineral development in defined mineral safeguarding areas;*
- *working is a temporary use of land, although it often takes place over a long period of time;*
- *working may have adverse and positive environmental effects, but some adverse effects can be effectively mitigated;*
- *since extraction of minerals is a continuous process of development, there is a requirement for routine monitoring, and if necessary, enforcement to secure compliance with conditions that are necessary to mitigate impacts of minerals working operations; and*
- *following working, land should be restored to make it suitable for beneficial after-use."*

3.2.31 Given that minerals are a non-renewable resource, the guidance underlines the importance of minerals safeguarding, in that this is *"the process of ensuring that non-minerals development does not needlessly prevent the future extraction of mineral resources, of local and national importance"* (Section 2). As such, MPAs should adopt a systematic approach for safeguarding mineral resources, which:

- *"uses the best available information on the location of all mineral resources in their area;*
- *consults with the minerals industry, other local authorities, local communities and other relevant interests to define Minerals Safeguarding Areas;*
- *sets out Minerals Safeguarding Areas on the policies map that accompanies the local plan and define Mineral Consultation Areas; and*
- *adopts clear development management policies which set out how proposals for non-minerals development in MSAs will be handled, and what action applicants for development should take to address the risk of losing the ability to extract the resource. This may include policies that encourage the prior extraction of minerals, where practicable, if it is necessary for non-mineral development to take place in MSAs and to prevent the unnecessary sterilisation of minerals."*

3.2.32 In addition to the safeguarding of mineral resources, (mineral) planning authorities should also safeguard existing, planned and potential storage, handling and transport sites to ensure that sites for these purposes are available should they be needed and prevent sensitive or inappropriate development would conflict with the use of sites identified for these purposes.

[8] https://www.gov.uk/guidance/minerals

3.2.33 In reference to planning for industrial minerals, paragraph 86 of the guidance states that:

"… mineral planning authorities should recognise that there are marked differences in geology, physical and chemical properties, markets and supply and demand between different industrial minerals, which can have different implications for their extraction. These include:

- *geology influencing the size of an industrial mineral resource, how it may be extracted, and the amount of mineral waste generated;*
- *the fact that markets are based on the consistent physical and/or chemical properties of each mineral. Different uses can require different specifications, and industrial minerals are often not interchangeable in use;*
- *the potential for the quality of a mineral extracted from a single site varying considerably. This may require multiple extraction faces within one quarry, or supplies of specific feedstock from several different quarries, to enable blending of lower specification material with that of higher grade. Alternatively, it may result in only a small proportion being suitable for specific industrial end-uses, with remaining minerals occasionally being used for alternative purposes such as aggregates;*
- *industrial minerals being essential raw materials for a wide range of downstream manufacturing industries. Their economic importance therefore extends well beyond the sites from which they are extracted;*
- *some industries are dependent on several industrial minerals. The loss of supply of one mineral could create difficulties for manufacturers even if the other minerals remain available."*

National Planning Policy for Waste

3.2.34 National Planning Policy (NPP) for Waste, issued on 16 October 2014, replaces Planning Policy Statement 10 and sets out the Government's detailed waste planning policies which should be read in conjunction with the NPPF, the Waste Management Plan for England, and the National Policy Statements for Waste Water and Hazardous Waste, or any successor documents. Although the NPP for Waste is not directly relevant to minerals, the waste section of the Planning Practice Guidance sets out a general, non-exhaustive list of waste matters that may also be relevant to mineral developments, which include landfill and land raising sites (such as soils to re-profile golf courses) and recycling facilities for construction, demolition and excavation waste.

3.3 Black Country Policy

Black Country Air Quality SPD 2016

3.3.1 All four authorities have declared the whole of their areas as Air Quality Management Areas (AQMAs) for the purpose of redressing levels of NO_2, primarily associated with vehicle emissions. Although balanced against other aims of the planning system, air quality, and specifically the AQMA designation, influences the study site criteria especially where these are located within road corridors. It does not imply a need to change BCCS policy.

West Midlands Metropolitan Area Local Aggregate Assessment (LAA) (November 2015)

3.3.2 The LAA is the first to be produced for the West Midlands Metropolitan Area, covering the area administered by the seven unitary authorities of Birmingham, Coventry, Dudley, Sandwell, Solihull, Walsall and Wolverhampton. National policy guidance requires MPAs to plan for a steady and adequate supply of aggregates and to prepare an annual LAA to provide an assessment of the

demand for and supply of aggregates. This report, the first LAA to be produced for the West Midlands Metropolitan Area Authorities, was formally endorsed by the West Midlands Aggregates Working Party (AWP) on 21 March 2016. It has been produced in accordance with the NPPF and NPPG.

3.3.3 The NPPG superseded the previous Managed Aggregate Supply System Guidance (MASS) which was withdrawn on 7 March 2014. However, the longstanding MASS continues to operate through national, sub-national and local partners working together to deliver a steady and adequate aggregate supply in the following ways:

- At the local level, MPAs are expected to produce LAAs, to assess the demand for and supply of aggregates;
- At the sub-national level, MPAs belong to and are supported by Aggregate Working Parties, who produce fit-for-purpose and comprehensive data on aggregates covering specific geographical areas; and
- At the national level, there exists the National Aggregate Co-ordinating Group, who monitor the overall provision of aggregates in England.

3.3.4 In accordance with the guidance issued within the NPPG, the LAA considers the current and potential future demand for, and supply of, aggregates for the West Midlands Metropolitan Area. The Area is a producer of primary land won sand and gravel, all of which currently takes place in Solihull. Whilst there are also potentially viable primary and gravel resources in Walsall, these are not being worked at present. There is no longer any viable crushed rock resource in the West Midlands Metropolitan Area, as the last quarry producing this in Sandwell closed in 2007. Facilities where recycled and secondary aggregates are produced are distributed more widely across the Area. An inevitable consequence of this is that the Area is a significant importer of aggregates, and this situation can be expected to continue.

3.3.5 Table 3.2 summarises key issues for future local plans and local plan reviews identified throughout the LAA. The majority of proposals are aimed at safeguarding existing mineral resources and infrastructure as far as possible, ensuring new infrastructure is appropriately located.

Table 3.2 Summary of Issues for Future Local Plans and Future LAAs identified in West Midlands LAA

LAA Section	Issues for Future Local Plans	Issues for Future LAAs – Monitoring Indicators
Demand		
National and Sub-National Guidelines	Need to consider implications for supply of aggregate minerals if new guidelines are issued	New guideline figures and underlying data
Sand and Gravel Sales – Past Trends	No current issues, no reason to change existing annual sand and gravel production targets at present, but as past trends may not reflect future requirements, will need to keep under review	Annual Sand and Gravel Sales
Construction Activity	Consider whether future planned levels of development/new infrastructure projects will significantly increase demand for aggregates over and above existing guidelines/local annual supply targets	General construction activity, new infrastructure projects, housing completions, revised requirements for new development in local plans

LAA Section	Issues for Future Local Plans	Issues for Future LAAs – Monitoring Indicators
Manufacturing Plants	Where policies are not already in place to safeguard existing and permitted plants, should consider them in future local plan reviews	Changes to existing network of manufacturing plants, new plants in the pipeline/completed
Imports and Exports	Continued engagement/"co-operation" with other mineral planning authorities likely to provide a source of aggregate minerals	Outcomes of engagement/"co-operation" with other mineral planning authorities, provision made in relevant minerals local plans
Distribution Networks	Consider whether existing policies for minerals/freight transport make appropriate provision for moving aggregates and mineral products	Changes to existing distribution networks, transport projects aimed at improving provision or bulk transportation of minerals
Supply		
Primary Land Won Sand and Gravel	Consider safeguarding sand and gravel resources through MSA policy where there is no policy already in place, otherwise, no pressing issues, there is currently a 7-year landbank of permitted sand and gravel reserves, and existing local plans make sufficient provision in Solihull and Walsall to meet longer term requirements up to and beyond 2030	Sand and Gravel Landbanks, new sand and gravel extraction proposals in the pipeline/implemented
Secondary Aggregates	Where policies are not already in place to safeguard existing and permitted production facilities and encourage development of new facilities in appropriate locations, should consider including them in future local plan reviews	Changes to existing network of production facilities, new facilities in the pipeline/completed
Recycled Aggregates	Where policies are not already in place to safeguard existing and permitted production facilities and encourage development of new facilities in appropriate locations, should consider including them in future local plan reviews	Changes to existing network of production facilities, new facilities in the pipeline/completed
Imports	Continued engagement/"co-operation" with other mineral planning authorities likely to provide a source of aggregate minerals	Outcomes of engagement/"co-operation" with other mineral planning authorities, provision made in relevant minerals local plans
Other Sources of Supply	Unlikely that any other sources will be identified, but if any are, local plans will need to factor this into indicative requirements for aggregate minerals	New sources of supply as and when identified

3.4 Local Authority Policy

Dudley Borough Development Strategy 2017

3.4.1 With regard to mineral resources within Dudley, the Dudley Borough Development Strategy states that:

3.4.2 *"The Black Country Core Strategy (2011) set out detailed policies for dealing with mineral resources across the Black Country. This policy framework is deemed sufficient to deal with mineral issues arising from future development in the Borough until the Black Country Core Strategy itself is reviewed"*.

3.4.3 The designations in relation to minerals are set out on the Proposals Map which shows the Mineral Safeguarding Areas and Mineral Areas of Search within the Borough which is in accordance with BCCS Policies MIN1, MIN2 and MIN3.

3.4.4 Under Part Two of the Borough Development Strategy *'Regeneration Corridors and Site Allocations'*, Regeneration Corridor 10 – Pensnett is noted as an important corridor for mineral extraction containing various quarry / landfill sites – Ketley Quarry, Oak Farm Quarry and Oak Lane Quarry – as well as areas of search for minerals.

3.4.5 The Plan does not comment on minerals specifically as it views the policy framework of the adopted BCCS as sufficient to deal with minerals issues arising from future development in the Borough until the BCCS itself is reviewed. It does not imply a need to change BCCS policy. Account needs to be taken of the Mineral Safeguarding Areas (MSAs) and Mineral Areas of Search (AOS) identified within Dudley and illustrated on the Proposals Map, but which accord with BCCS Policies MIN1, MIN2 and MIN3.

Sandwell Site Allocations and Delivery Development Plan Document (DPD) 2012

3.4.6 The Plan identifies the infrastructure requirements to achieve sustainable communities and pays regard to requirements for transport and a range of facilities. It is recognised that large areas of Sandwell have a history of coal mining and includes Policy SAD DC6 on land affected by contaminants, ground instability, mining legacy land of unsatisfactory load bearing capacity or other constraints. It defers to the BCCS in supporting its proposals for mineral sites and specifically MSAs and the need to consider whether any remnant surface coal resources could be extracted in advance of development to avoid their unnecessary sterilisation as well as also providing a sustainable method for treating any land stability issues as part of the process. It does not imply a need to change BCCS policy.

Walsall Site Allocation Document (SAD) (2019)

3.4.7 Adopted in January 2019, the Plan articulates BCCS policies at an authority level and includes policies on mineral safeguarding, aggregate minerals, industrial minerals and energy minerals.

3.4.8 The Plan identifies indicative Minerals Safeguarding Areas (MSAs) on its Policies Map, whilst Policy M1 provides further guidance on how BCCS Policy MIN1 will be applied when considering planning applications for development within the MSA. Policy M2 safeguards minerals infrastructure and specific minerals infrastructure sites (four of which are also strategic waste sites as they are sites for recycling construction and demolition waste into aggregates), including sites identified in BCCS Policy MIN1, and provides guidance on how BCCS policy will be applied.

3.4.9 Policy M3 supplements BCCS policy by providing further guidance on suitable locations for secondary and recycled aggregate production facilities.

3.4.10 Policies M4 and M5 supplement BCCS Policy MIN2 by providing further guidance on issues that should be addressed in new or amended planning applications within the two Areas of Search for sand and gravel, Birch Lane and Branton Hill.

3.4.11 Policies M6, M7 and M8 cover the supply of clay to Walsall's (three) brickworks and future proposals for brick clay extraction supplementing BCCS Policy M3.

3.4.12 Policy M9 supplements BCCS Policy MIN3 by providing further guidance on the extraction of coal and fireclay, whilst Policy M10 supplements BCCS Policy MIN4 by providing further guidance on the extraction of unconventional hydrocarbons, i.e. the potential exploration of onshore oil and gas including coal bed methane.

3.4.13 The Plan will influence the study only insofar as existing sites and recent development proposals will form part of the sites that are considered. It does not imply a need to change BCCS policy.

Wolverhampton Unitary Development Plan (UDP) 2001-2011 (2006)

3.4.14 Following the adoption of the BCCS in 2011, Policy EP18 regarding Mineral Extraction and Transport within the Wolverhampton UDP was replaced by BCCS Policies MIN1 to MIN5.

Neighbourhood and Area Action Plans

3.4.15 Neighbourhood and Area Actions Plans articulate specific policy to address or regenerate well-defined areas such as centres and road corridors, and those relevant to the Black Country are listed below by relevant authority area:

- Dudley – Brierley Hill Area Action Plan (AAP); Dudley AAP; Halesowen AAP; and Stourbridge AAP;
- Sandwell – Smethwick AAP; Tipton AAP; and West Bromwich AAP;
- Walsall – Walsall Town Centre AAP; and
- Wolverhampton – Bilston AAP; City Centre AAP; and Stafford Road AAP.

3.4.16 Those plans which influence the study to varying extents are address in Table 3.3 whilst the others listed above are silent on minerals.

Table 3.3 Implications of Neighbourhood and Area Action Plan Policy for BCCS Policy

Coverage	Policy	Implications for BCCS Policy
Brierley Hill AAP (2011)	Paragraph 5.98 references the AAP area has been subject to extensive past coal mining activity, which has left a legacy of mine entries (shafts and adits) and shallow mine workings which can present risk to new development. Development proposals should therefore give consideration to coal mining information and, where necessary, propose and implement mitigation measures to ensure the safety and stability of new development.	No. The Plan is supportive of BCCS policies. The AAP does not otherwise have implications for changes to BCCS policies.
Stourbridge AAP (2013)	Development parameters set out for Opportunity Site S7 Mill Race Lane include the need to submit supporting information demonstrating that mineral resources will not be unduly sterilised in accordance with BCCS Policy MIN1 for applications with an area of 5 or more hectares.	No. The Plan is highly supportive of BCCS Policy MIN1. The AAP does not otherwise have implications for changes to BCCS policies.
Bilston Corridor AAP including Bilston Neighbourhood Plan 2013-2016 (2014)	Policy BC1 – Delivering Sustainable Levels of Housing Policy has an aim to help deliver sustainable housing growth in line with the BCCS targets. Various policy justifications (e.g. paragraph 2.8 in support of Policy BC1) encourage the prior extraction of mineral resources, such as surface coal, where	No. The Plan is highly supportive of BCCS Policy MIN1. The AAP does not otherwise have implications for changes to BCCS policies.

Coverage	Policy	Implications for BCCS Policy
	possible, in accordance with BCCS Policy MIN1 and that this can assist in the remediation of sites affected by land instability.	
Walsall Town Centre AAP (2019)	Policy AAPINV7 – Addressing Potential Site Constraints Policy about development constraints, including minerals safeguarding. In accordance with BCCS Policy MIN1, where non-mineral development is proposed on sites of five hectares or more in the town centre applications will be expected to consider the feasibility of extracting any minerals present in advance of the development, i.e. prior extraction.	No. The Plan is highly supporting of BBCS Policy MIN1. The AAP does not otherwise have implications for changes to BCCS policies.
Wolverhampton City Centre AAP 2015-2026 (2016)	Policy CC12 – Infrastructure, Delivery and Monitoring The Council will work with partners to deliver the required infrastructure need to support investment and growth. … The council will adopt a flexible approach to contributions where they can be shown by means of a robust viability assessment to render the development for the allocated use unviable. … Infrastructure requirements identified in Figure 35 include site remediation and stabilisation to proposed land use standard, taking into account the findings of the Geo-Environmental Desktop Study, including the addressing mining legacy issues and the potential for the prior extraction of minerals before development occurs as set out in paragraph 5.1.3.	No. The Plan is supportive of BCCS policies. The AAP does not otherwise have implications for changes to BCCS policies.

3.5 Review Findings

3.5.1 Since the adoption of the Black Country Core Strategy in 2011, the intervening period has seen several changes to minerals and planning policy that imply changes to the existing suite of policies, namely a continued need to:

- plan to meet the demand for a steady and adequate supply of minerals;
- safeguard mineral resources, especially those of national importance, and to encourage prior extraction, where practical and environmental feasible, if it is necessary for non-mineral development to take place; and
- safeguard existing, planned and potential mineral infrastructure sites.

3.5.2 The most significant changes to national policy have been the:

- Replacement of MASS with much looser arrangements through LAAs for the planning for future minerals supply; and
- Introduction of 'duty to cooperate' placing significant burden on MPAs to work together with only limited coordination via the AWPs.

3.6 Conclusions

3.6.1 This section has set out the range of national, regional and local policies and strategies which influence the extraction of mineral resources in the Black Country and planning for their future extraction to ensure a steady and adequate supply. In particular, the spatial requirements set out will need to be taken into consideration in formulating appropriate policy, the safeguarding of mineral resources of potential local and national importance, and the identification of areas likely to be suitable for future mineral extraction to meet the requirements identified in current policy.

4. Black Country Mineral Resources

4.1 Background – Geology and Hydrology

The Geology of the Black Country

4.1.1 Relative to its size, the Black Country has an incredibly diverse geology. This has influenced human settlement, water supply and the location of industry and centres of work and prosperity. The diversity of mineral wealth and the occurrence of valuable minerals such as coal, ironstone, limestone, fireclays, brick clays, roadstone, moulding sand, building sand, gravels and building stones near the ground surface enabled the development of industries such as coal mining, iron and steel production, foundries, glass manufacture and brickmaking.

4.1.2 Historic coal and limestone working has left a 'legacy' of sites whose development potential has been compromised. For example, there are former coal mining areas that require remediation to bring them into beneficial use, and there are former lime working sites whose load bearing capacity is limited. However, mineral working has also created sites of national and regional importance for biodiversity and geological conservation. There are nearly 50 sites across the Black Country where evidence of the area's geological history and diversity can be seen. These 'Geosites' form part of a current application to Global Geoparks Network and UNESCO for the Black Country to be awarded Global Geopark status (decision expected Spring 2020). Many of these sites also have significant biodiversity value and have been designated as Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs), Sites of Importance for Nature Conservation (SINCs) and/ or Local Nature Reserves (LNRs).

4.1.3 The Black Country's bedrock geology is divided into three distinct zones by two major fault lines called the Eastern and Western Boundary Faults. These run roughly parallel to each other in a north-south direction. The change in bedrock geology on either side of the fault lines can clearly be seen on **Figure 4.1**. The Eastern Boundary Fault runs through Walsall and Sandwell and the Western Boundary Fault through Wolverhampton and Dudley[9]. The Boundary Faults were created as a result of down-faulting of Triassic sandstone strata to the east and west of the fault lines, causing significant displacement of the earlier Carboniferous coal bearing and limestone strata. Cuckoo's Nook and The Dingle Local Nature Reserve in Walsall (Geosite 028) lies directly on the Eastern Boundary Fault and is the best place to observe the abrupt change in geology and its effects on the present-day natural environment[10].

4.1.4 The oldest exposed rock strata in the Black Country are limestones and sandstones deposited in a warm, shallow sea during the Silurian period (around 430 – 410 million years ago). The basal units are the Wenlock Series; of main interest are the limestone strata, including the Barr Limestone and the limestones of the Much Wenlock Formation. The Wenlock Limestones (locally known as the Dudley Limestone) have been worked extensively and are subdivided into the Lower and Upper 'Quarried Limestones' which are separated by the Nodular Limestone. Exposures of Wenlock Limestone can be seen at the Wren's Nest National Nature Reserve (NNR) in Dudley (Geosite 002) which is a site of national importance[11].

[9] Powell J H, Glover B W and Waters C N 1992, *A geological background for planning and development in the 'Black Country'* (BGS Technical Report WA/92/33), Black Country Geological Society (BCGS) 2009 and 2010, Scorching Deserts and Icy Wastes leaflets covering Walsall, Sandwell, Wolverhampton and Stourbridge.

[10] Black Country Authorities 2015 (updated 2019), Black Country Geopark (website) – *Sites to See, Hay Head Quarry - Geosite 28.*

[11] RPS 2008, Black Country Joint Core Strategy Minerals Study 2008 4.2, Black Country Geological Society (BCGS) 2015, A Potted Geological History of the Black Country, and Black Country Geological Society (BCGS) 2016, The Geology of Wren's Nest National Nature Reserve – Black Country Geopark Geosite No. 2.

4.1.5 The Coalbrookedale Formation (formerly Wenlock Shales) comprises a thick series of shales and interbedded limestones between the Barr and Wenlock Limestones. The younger Ludlow Series comprises the Elton formation of shales, the Aymestry Limestone of interbedded predominantly limestones and mudstones (known locally as the Sedgley Limestone), and the Whitcliffe Formation of mainly flaggy shales with limestone nodules[12].

4.1.6 The Downton Group includes the Downtown Castle Sandstone, comprising cross bedded sandstones and shales (known locally as Gornal Stone), the Temeside Shales comprising predominantly mudstones and siltstone and the Ledbury Formation of siltones and sandstones[13].

4.1.7 Between the two major fault lines, the Coal Measures of the South Staffordshire Coalfield are exposed near to the ground surface. These represent the largest outcrop of Carboniferous bedrock in the area, comprising very variable strata of mainly a series of mudstones, siltstones, shales, fireclay, sandstone and occasionally ironstone, deposited by tropical forests and swamps during the Carboniferous period (around 318 million years ago). Coal seams make up typically around 15% of the total thickness of Coal Measures strata. The number of mineral seams within the South Staffordshire Coal Measures (12 coal seams, 12 ironstones and 14 fireclays) is unique within the UK and includes the famous 'Thick Coal' seam of up to 12m in thickness. The Coal Measures have been extensively exploited by surface and deep underground mining and open cast extraction pits[14].

4.1.8 The Etruria Formation (known locally as the Etruria or Old Hill Marl), which outcrops across a broad area surrounding the Coal Measures, was deposited in oxidising conditions in a flood-plain environment during the Upper Carboniferous 'Westphalian C' period (around 304 – 312 million years ago). The deposits comprise a substantial sequence of red silty mudstones (marls), lenticular sandstones and conglomerates (referred to as 'espleys') and occasional poor-quality thin coals. The clay has been extensively worked for brickmaking, and as mentioned above (Section 2) is still being worked today at Stubbers Green in Walsall[15].

4.1.9 Igneous intrusions, veins and dykes of Dolerite (a form of basalt) occurred during the late 'Westphalian C' period of the Upper Carboniferous, penetrating the sedimentary strata and leading to isolated outcrops of dark grey crystalline rock. At Barrow Hill and Tansey Green in Dudley, the basaltic magma burst through to form steam vents and cinder cones. Being much harder than the surrounding strata, this created areas of higher ground around Rowley Regis, Pouk Hill (Bentley), Wednesfield, Barrow Hill, Netherton and Gornal Wood. The dolerite (known locally as Rowley Rag) was extensively exploited for use as roadstone, and this continued until 2008 at the former Edwin Richards Quarry in Sandwell[16].

12 RPS 2008, Black Country Joint Core Strategy Minerals Study 2008 4.2.
13 RPS 2008, Black Country Joint Core Strategy Minerals Study 2008 4.2.
14 RPS 2008, Black Country Joint Core Strategy Minerals Study 2008 4.2, Black Country Geological Society (BCGS) 2015, A Potted Geological History of the Black Country.
15 RPS 2008, Black Country Joint Core Strategy Minerals Study 2008 4.2, Black Country Geological Society (BCGS) 2015, A Potted Geological History of the Black Country, British Geological Survey (BGS), online, The BGS Lexicon of Named Rock Units – Etruria Formation
16 RPS 2008, Black Country Joint Core Strategy Minerals Study 2008 4.2, Black Country Geological Society (BCGS) 2005, Barrow Hill: The Dudley Volcano, Black Country Geological Society (BCGS) 2010, From the Depths of the Earth: Discovering the Ancient Past of the Rowley Hills, Black Country Geological Society (BCGS) 2015, A Potted Geological History of the Black Country.

4.1.10 East and west of the two Boundary Faults are layers of younger sandstones, marls, breccias and conglomerates formed during a very long desert phase from the end of the Carboniferous period (around 300 million years ago) to the Early Triassic period (around 220 million years ago). These include the Halesowen Formation, a thick series of sandstones, mudstones and 'Spirobis' limestone beds, the Salop Formation (Alveley (formerly Keele) and Enville Members) comprising red mudstones, sandstones, conglomerates and 'Spirobis' limestone beds, the Clent Formation comprising mudstones, conglomerates and coarse 'breccia,' the Bridgnorth Sandstone Formation, and the Triassic sandstones and conglomerates of the Wildmoor Formation and Sherwood Sandstone Group. These deposits have been extensively exploited in the past mainly as aggregate, although Sherwood and Halesowen sandstone was sometimes used for building. Sand and gravel working in recent times has been confined to Aldridge in Walsall where there are still potentially winnable resources remaining. The last active sand quarry, Branton Hill, closed in 2013, and the planning permission to extend the quarry has not yet been implemented[17].

4.1.11 Overlying the bedrock geology are superficial (drift) deposits laid down during more recent periods of glaciation. These are shown on **Figure 4.2** and include glacial till (otherwise known as boulder clay), glaciofluvial sand and gravel, which has been exploited in the past as aggregate, alluvium, and river terrace deposits. While the superficial geology is relatively shallow across most of the Black Country area, deeper deposits occur within buried bedrock channels such as the Moxley Channel near Darlaston, the Proto-Tame Channel and the Millfield Channel in the Walsall/ Hamstead area[18].

Black Country Hydrology - Overview

4.1.12 The Black Country is unique among urban agglomerations in England, being situated on a plateau and on the watershed between the Rivers Severn and Trent[19]. The main rivers and streams flowing through the Black Country are the River Tame (Oldbury and Wolverhampton Arms) and its tributaries the Hockley Brook, Tipton Brook, Wadden's Brook, Darlaston Brook, Fullbrook, Ford Brook, Sneyd Brook and Bourne Brook (aka Black Brook), and the River Stour and its tributaries the Smestow Brook and Mousesweet Brook (see **Figure 4.3**)[20]. The River Tame drains in a north-easterly direction towards the River Trent, whereas the River Stour drains in a south-westerly direction towards the River Severn. The Black Country is therefore partly within the Humber River Basin District (Tame, Anker and Mease Catchment) and partly within the Severn River Basin District (Worcestershire Middle Severn Catchment) defined by the Environment Agency for the purpose of managing flood risk and water resources and monitoring water quality[21].

4.1.13 The Black Country's rivers and streams are heavily modified and within the urban areas some sections are culverted or in canalised channels. The main areas at risk from fluvial flooding are the River Tame and Ford Brook corridors in Sandwell and Walsall. Parts of Walsall Town Centre are

[17] Powell J H, Glover B W and Waters C N 1992, A geological background for planning and development in the 'Black Country' (BGS Technical Report WA/92/33), RPS 2008, Black Country Joint Core Strategy Minerals Study 2008 4.2, Black Country Geological Society (BCGS) 2009 and 2010, Scorching Deserts and Icy Wastes leaflets covering Walsall, Sandwell, Wolverhampton and Stourbridge, Black Country Geological Society (BCGS) 2015, A Potted Geological History of the Black Country, British Geological Survey (BGS), online, The BGS Lexicon of Named Rock Units.

[18] Powell J H, Glover B W and Waters C N 1992, A geological background for planning and development in the 'Black Country' (BGS Technical Report WA/92/33) and RPS 2008, Black Country Joint Core Strategy Minerals Study 2008, Black Country Geological Society (BCGS) 2009 and 2010, Scorching Deserts and Icy Wastes leaflets covering Walsall, Sandwell, Wolverhampton and Stourbridge, Black Country Geological Society (BCGS) 2015, A Potted Geological History of the Black Country.

[19] Palliser, D M 1976, The Black Country, in The Staffordshire Landscape (The Making of the English Landscape).

[20] Although the Bourne Brook (aka Black Brook) in Walsall is a tributary of the River Tame, the confluence is outside the Black Country, near Fazeley. The only streams in the Black Country that are not tributaries of the Rivers Tame or Stour are Pendeford Brook and Waterhead Brook in Wolverhampton, which are tributaries of the River Penk (Humber River Basin District, Penk Rivers and Lakes Catchment).

[21] Environment Agency 2015, Humber River Basin District - River Basin District Management Plan, Environment Agency 2015, Severn River Basin District - River Basin District Management Plan, Tame, Anker and Mease Partnership 2017, The Tame, Anker and Mease Catchment Action Management Plan, Worcestershire Middle Severn Catchment Partnership 2017, CaBA Catchment Management Plan.

vulnerable to flooding from the culverted Ford Brook because of capacity constraints (see Walsall Town Centre AAP Policy AAPINV7: Addressing Potential Site Constraints). While elsewhere the risks from fluvial flooding are relatively low, the heavily urbanised nature of much of the Black Country and its steep sided valleys mean that the area is particularly susceptible to localised surface water flooding following heavy rainfall events. Although most culverts have significant capacity, there is also an ongoing risk of localised flooding if blockages occur. Due to rising groundwater levels, parts of Wolverhampton are also at risk from groundwater flooding[22].

4.1.14 The Black Country has an extensive network of canals, also shown on **Figure 4.3**. These were developed during the late 18th and 19th centuries to improve communications – and in particular, to speed up and reduce the costs of transporting bulky raw materials such as coal, iron and lime from their source to the manufacturing centres where they were being used. A good example of this is the Wyrley & Essington Canal, the main line of which was completed in 1794. The 1792 Act for the canal states that it was specifically designed to link the collieries near Wyrley and at Essington in South Staffordshire to Wolverhampton, with a branch to Birchills near Walsall. The main motivation behind a further extension, the Daw End Branch to Hay Head near Walsall, completed around 1800, was to connect the "immense Beds of Lime Stone at Linley, Rushall-Park and Hay-Head" to the canal network. This enabled large quantities of lime to be supplied to iron works such as John ('Iron Mad') Wilkinson's Bradley Furnaces at Bilston[23].

4.1.15 The Triassic sandstone underlying the eastern parts of Dudley and Wolverhampton and the eastern parts of Walsall is part of a Principal Aquifer (the Sherwood Sandstone Aquifer of the Staffordshire Basin) which contributes to local public water supplies[24]. The other aquifers in the Black Country are now either over-abstracted or have no water available. Groundwater Source Protection Zones (SPZs) have been designated around the boreholes from which water is currently being abstracted or has been abstracted in the recent past. For example, there is a SPZ around Bourne Vale Pumping Station in Aldridge, Walsall[25], which is near to the Branton Hill Quarry extension site.

4.2 Sand and Gravels

4.2.1 Sand and gravel resources are divided into two categories:

- Superficial or 'drift' deposits, which are further subdivided into:
  - 'Glacial' sand and gravel (sediments laid down by streams flowing above, within and beneath ice sheets); and
  - 'River' sand and gravel, which includes river terrace and alluvial deposits, developed along river valleys, as well as fluvio-glacial sands and gravels, which typically occur beneath the river terrace and alluvial deposits.
- Bedrock or 'solid' deposits, generally comprising pebbly sandstones.

4.2.2 It is difficult to estimate the location and extent of sand and gravel deposits, mainly due to their inherent variability and concealment below drift deposits of till (boulder clay).

[22] Jacobs 2009, The Black Country Strategic Flood Risk Assessment (SFRA), Halcrow Group Limited 2009, Environment Agency - Ford Brook Strategic Flood Risk Mapping, Study and Scoping Surface Water Management Plan, Walsall Council 2019, Walsall Site Allocation Document (SAD) Policy EN3 and Map 7.7 and Walsall Town Centre Area Action Plan (AAP) Policy AAPINV7, both adopted January 2019.
[23] Inland Waterways Association (IWA) website, Wyrley & Essington Canal: Historical Information, Lichfield and Hatherton Canals Restoration Trust (LHCRT) website, The History of the Wyrley & Essington Canal and Wolverhampton and Walsall HER 6069: Hay Head Limeworks and 9022: The Dingle Limeworks.
[24] Environment Agency, Aquifer Designation Map (Bedrock) (England) and Source Protection Zones [available to view on 'MAGIC' interactive map] and South Staffordshire Water, Revised Draft Water Resources Management Plan 2019.
[25] Scott Wilson 2009, Black Country Water Cycle Study and Scoping Surface Water Management Plan.

Superficial Sand and Gravel

4.2.3 Superficial sand and gravel deposits are widespread in the Black Country, particularly in Walsall and Sandwell, although a very large proportion have been sterilised by urban and industrial development. Neither 'glacial' or 'river' sand and gravel deposits are extracted in the Black Country.

Bedrock Sand and Gravel

4.2.4 Bedrock deposits of sand and gravel are confined within the pebbly sandstones and conglomerates of the Kidderminster Formation within the Triassic Sherwood Sandstone Group. The Sherwood Sandstone outcrops around the boundary of the Black Country, to the west of Wolverhampton and Brierley Hill, the east of Walsall as well as to the south-east of West Bromwich. Urban development has sterilised much of this resource in the Black Country, but it has been worked up until recently in two locations near Walsall (Aldridge and Branton Hill). Section 5 of this report gives further details.

4.2.5 The Black Country's sand and gravel resources occur mainly in Dudley and Wolverhampton to the west of the Western Boundary Fault and in Walsall to the east of the Eastern Boundary Fault. These have been extensively worked in the past. The only bedrock sand and gravel resource area not worked out or sterilised by modern development is the Sherwood Sandstone underlying the eastern parts of Aldridge in Walsall.

4.2.6 The best place to see exposures of Kidderminster Formation sands and gravels is Barr Beacon Local Nature Reserve in Walsall (Geosite 003). This site includes the former Pinfold Lane Quarry where exposures of red Sherwood Sandstone can also be seen. Sands and gravels of the Wildmoor Formation can be seen at Norton Covert in Stourbridge, Dudley (Geosite 025).

4.2.7 The sand and gravel resources in the Black Country are illustrated in **Figure 4.4**.

4.3 Brick Clays

4.3.1 The principal brick clay resource in the Black Country is the Carboniferous Etruria Formation, which crops out within the Upper Coal Measures in Walsall, Dudley, Sandwell and to a minor extent in Wolverhampton. The extensive deposits in Dudley, the western side of Sandwell and Walsall are of high-quality and of national importance. The thickness of the Etruria Formation is understood to range between 61m and 207m across the West Midlands.

4.3.2 Again, large parts of the outcrop are now sterilised by urban development, although there are operational pits (Atlas Quarry, Sandown Quarry) as well as sites subject to 'dormant' mineral permissions (Highfields North, Brownhills Common) in Walsall. The brick clay pits in Dudley (Ketley Quarry and Oak Farm Quarry) are no longer operational. The former fireclay site at Birch Coppice in Walsall is inactive and part of it is still being used for stocking of extracted clay. Section 5 of this report gives further details.

4.3.3 The brick clay resources in the Black Country are illustrated in **Figure 4.5**.

4.4 Dolerite

4.4.1 Dolerite is an igneous intrusive rock that is typically used as roadstone. Isolated outcrops (colloquially known as Rowley Rag) occur in Dudley and Walsall with more extensive outcrops in Sandwell to the west of Oldbury and Wolverhampton at Wednesfield. The large dolerite intrusion in the Rowley Hills between Dudley and Sandwell has been extensively quarried, notably at Edwin Richards Quarry, which closed in 2008. Outcrops that have not been worked already are believed to be too small or are of unsuitable quality for aggregate production.

4.4.2 The dolerite intrusion in Walsall at Pouk Hill, Bentley, shown on **Figure 4.1**, was extensively worked in the 19th century and there is no winnable resource remaining. The former quarry was infilled in the late 1970s and laid out as an area of open space[26]. No geological exposures are now visible at Pouk Hill, but they were in the early 20th century and the site appears to have attracted visitors[27]. The best place to see exposures of dolerite in the Black Country today, including examples of columnar jointing, is Blue Rock Quarry in Rowley Regis, Sandwell (Geosite 023). Other exposures including evidence of volcanic ash beds ('Dudley Volcano') can also be seen at Barrow Hill and Tansey Green in Dudley (Geosite 005).

4.4.3 As noted, the main use of dolerite quarried in the Black Country was as a roadstone. It was also used extensively to make paving setts and kerbstones, and very occasionally, as a building stone (see below).

4.4.4 The dolerite resources in the Black Country are illustrated in **Figure 4.1**.

4.5 Limestone

4.5.1 Limestones outcrop in isolated areas around Walsall and between Wolverhampton and Dudley and were used in ironmaking and for agricultural lime and cement manufacture. These were extensively worked at crop and underground, peaking in the late 19th Century but are no longer worked in the Black Country due to depletion and sterilisation by urbanisation.

4.5.2 The deposits are believed to be of low quality in terms of chemical purity and aggregate properties and as such are no longer considered a resource. However, it is important to maintain a local supply of stone for the conservation of historic buildings and features within Conservation Areas.

4.5.3 The most important deposit was the Silurian Much Wenlock (or Dudley) Limestone, which is divided into the Upper Quarried Limestone (10m thick) and the Lower Quarried Limestone (13m thick), separated by the unworked Nodular (Limestone) Member (35m thick).

4.5.4 All of the four principal limestone seams that occur in the Black Country, the Barr, Lower Wenlock, Upper Wenlock (Dudley) and Aymestry (Sedgley) Limestones, were all worked in the past from mediaeval times to the late 19th century, but the seams most extensively worked were the Upper and Lower Wenlock Limestone, known locally as Dudley Limestone[28].

4.5.5 While Wenlock and Barr limestone were used as building stone in the past (see Section 4.6), most of the limestone quarried in the Black Country was used for other purposes, for example, to produce lime for building and for agricultural use. From the 1780s onwards, it was also used extensively as a flux in the iron smelting process to remove impurities, and the bulk of the quarried Aymestry (Sedgley) Limestone was used for this purpose[29]. The need to facilitate the bulk transport of lime from the main sources of supply in Walsall to the iron works in Bilston was one of the main reasons for the construction of the Daw End Branch of the Wyrley & Essington Canal[30].

4.5.6 The earliest limestone workings were surface quarries near the present Dudley and Walsall Town Centres, where the limestone outcrops. As demand increased, surface mining reached its limit and mining techniques improved, limestone mining extended underground. The main underground mining techniques used in the 19th century were 'pillar and stall' (used where strata dip at < 30°) and 'galleries' (long tunnels used where strata dip more steeply). As some limestone was always

[26] Ixer, R A 1981, The Petrography of the Igneous Rocks from Pouk Hill, Near Walsall.
[27] Wolverhampton Journal, August 1908, Wolverhampton Naturalists' Field Club Visit to Bentley Hall & Powk Hill [available on Local History website]: http://www.historywebsite.co.uk/articles/Darlaston3/article.htm
[28] Braithwaite P A and Seago K L 1988, Regional study of the West Midlands to locate old limestone mine workings.
[29] Historic England 2012, Strategic Stone Study: A Building Stone Atlas of Staffordshire, Including Dudley, Stoke-on-Trent, Walsall & Wolverhampton.
[30] Lichfield & Hatherton Canals Restoration Trust (LHCRT) website, The History of the Wyrley & Essington Canal.

left in place to form the mine roof, the existence of an underground limestone mine is often not obvious from the ground surface. Historic limestone working sites are still a constraint to development today, even though many were treated to stabilise them using government support from the former Derelict Land Reclamation Programme during the late 1980s and 1990s[31]. The Black Country Authorities have a record of all known limestone sites and their current status (treated and untreated).

4.5.7 Several former limestone working sites in Dudley and Walsall are important for biodiversity and geological conservation and have been designated as SINCs, SSSIs and/ or LNRs, as well as being identified as 'Geosites' in the Global Geopark application. These include Castle Hill and Dudley Zoo, Dudley (Geosite 017), Wren's Nest Local Nature Reserve, Dudley (Geosite 002), Hay Head Quarry, Walsall (Geosite 028) and Park Lime Pits Local Nature Reserve, Walsall (Geosite 033).

4.5.8 The limestone resources in the Black Country are illustrated in **Figure 4.1**.

4.6 Building Stone

4.6.1 Good building stone resources in the Black Country are limited and of those resources, particularly limestone and dolerite, many have been sterilised by built development as described previously. The building stone that does occur was only used locally, for example the Upper and Lower Wenlock and Barr limestone in and around Dudley and Walsall Town Centres, Rushall and Aldridge, Gornal Stone around Lower Gornal and Ruiton, Sherwood Sandstone in Aldridge and Rushall, and Halesowen sandstone in and around Halesowen. There are not many surviving examples of historic buildings constructed from locally sourced building stone, thus its contribution to the Black Country's building heritage and local character is considered quite limited.

4.6.2 Gornal Stone, a type of sandstone, is the local name for Downton Castle Sandstone, a Silurian sandstone that forms part of the Ludlow (Pridoli) Series[32]. It was used extensively as a building stone in Lower Gornal and Ruiton (Dudley) where there are still surviving examples of buildings constructed from this material. Gornal Stone or Gornal Grit was also ground and mixed with fireclay and used as a refractory coating[33].

4.6.3 As mentioned, sandstones of the Halesowen Formation were used as a building stone locally within the Halesowen area, although they generally do not make good building stones. The only significant surviving examples of its use are St. John the Baptist Church in Halesowen and Halesowen Abbey ruins[34].

4.6.4 Triassic Sherwood Group sandstone was also occasionally used for building in the Black Country, mainly for dressings, such as at Dudley Castle and the gatehouse and curtain wall at Rushall Hall. St. Mary's Church in Aldridge also appears to incorporate some of this sandstone[35].

4.6.5 The Upper and Lower Wenlock (Dudley) Limestone and Barr Limestone were used as building stone in Dudley and Walsall. The main surviving examples of use of this material in the Black Country are

[31] Braithwaite P A and Seago K L 1988, Regional study of the West Midlands to locate old limestone mine workings, National Audit Office 1988, Department of the Environment: Derelict Land Grant – Black Country Rolling Programme [Report by the Comptroller and Auditor General], Brook, D 1991, Abandoned Limestone Mines in the West Midlands of England – A Strategy for Action [in Land Subsidence (Proceedings of the Fourth International Symposium on Land Subsidence, May 1991].
[32] British Geological Survey (BGS), online, The BGS Lexicon of Named Rock Units - Downton Castle Sandstone Formation.
[33] Lower Gornal website, Quarrying: http://www.lowergornal.co.uk/i_quarrying.htm.
[34] Historic England 2012, Strategic Stone Study: A Building Stone Atlas of Staffordshire, Including Dudley, Stoke-on-Trent, Walsall & Wolverhampton Historic England, History of Halesowen Abbey and Dudley MBC 2013, Halesowen Urban Historic Landscape Characterisation
[35] Historic England 2012, Strategic Stone Study: A Building Stone Atlas of Staffordshire, Including Dudley, Stoke-on-Trent, Walsall & Wolverhampton, Historic England Listing Descriptions (online): Gatehouse and Curtain Wall at Rushall Hall and Church of St. Mary the Virgin [Aldridge]

Dudley Castle and Priory ruins, St. Michael's Church in Rushall, the older parts of St. Matthew's Church in Walsall and parts of St. Mary's Church in Aldridge[36].

4.6.6 Dolerite quarried in the Black Country (see Section 4.4) was extensively used to make paving setts and kerbstones but also occasionally used as a building stone. The only surviving example appears to be St. Anne's Church in Willenhall, which is built of stone from Pouk Hill with sandstone detailing[37].

4.6.7 The building stone resources in the Black Country are illustrated in **Figure 4.1**.

4.7 Coal

4.7.1 Coal bearing strata (Coal Measures) occur at crop in Walsall, Dudley and Wolverhampton as part of the South Staffordshire Coalfield. Coal seams typically make up around 15% of the total thickness of the Coal Measures strata in the Black Country and as a result coal has been extensively worked by both deep mining and open pit, peaking in the mid-19th Century. The most extensively worked seam was the Thick Coal (up to 10m thick) by both deep mining and at crop.

4.7.2 The last deep mine in the Black Country closed in 1968 and further deep mining is unlikely. The last opencast scheme of any significance was Ryders Hayes in Pelsall in Walsall which was worked in the early 2000s.

4.7.3 Much, if not all, of the coalfield within the Black Country lies in urban areas and therefore the resource is largely sterilised. Future opencast operations can only occur in association with the redevelopment of large industrial sites.

4.8 Fireclay

4.8.1 Fireclays (seatearths) are fossil soils that occur beneath almost all coal seams (i.e. within the Coal Measures) and are produced mainly as a by-product of surface coal mining. Although they only represent a small percentage of the consumption of clays, they are mainly used today in the manufacture of high-quality facing bricks.

4.8.2 The last site in the Black Country to produce fireclay (Birch Coppice in Walsall) ceased operating in the 1980s but extracted fireclay is still being stocked on about a third of the site and is being used to manufacture pot clay blends at the adjacent Swan Works, operated by the Potters Clay & Coal Company Ltd. The adjacent site at Brownhills Common is covered by the same old mineral permissions as Birch Coppice but has not been worked and as there are no modern working conditions in place, the permission covering this site is 'dormant'. There has been interest in working fireclay at Yorks Bridge nearby[38] but this has not translated into a planning application.

4.8.3 Given that the fireclay resources occur beneath coal seams, its extraction is unlikely to be feasible without extracting the coal. The two minerals would therefore have to be worked together using surface mining methods.

4.8.4 The coal and fireclay resources in the Black Country are illustrated in **Figure 4.6**.

[36] Arnold P 2003, A Guide to the Buildings of Walsall – An Illustrated Architectural History, Historic England 2012, Strategic Stone Study: A Building Stone Atlas of Staffordshire, Including Dudley, Stoke-on-Trent, Walsall & Wolverhampton.
[37] Arnold P 2003, A Guide to the Buildings of Walsall – An Illustrated Architectural History, Wolverhampton and Walsall HER 8907: St. Anne's Church, Anne St, Willenhall https://www.heritagegateway.org.uk/Gateway/Results_Single.aspx?uid=MBL2072&resourceID=1025.
[38] As referenced in representations on the BCCS and Walsall SAD by Potters Clay & Coal Company and Little Wyrley Estate

4.9 Other Mineral Resources

Ironstone

4.9.1 Along with coal, ironstone has been extracted from the Black Country since medieval times, peaking in the mid-19th Century. Ironstone is no longer of significance as a source of iron ore, but it does represent a source of aggregate.

4.9.2 Ironstone is associated with the Lower Coal Measures, along with coal, fireclay and sandstone. The Lower Coal Measures occur at crop in Walsall, Dudley and Wolverhampton as part of the South Staffordshire Coalfield. The Blue Flats Ironstone is shown on the available geological mapping near the base of the Lower Coal Measures and is known to been worked previously in Wolverhampton and Walsall. According to local mining records[39], the ironstone occurs in *"regular bands, a few inches thick … interstratified with clunch (soft limestone) or clod (clay)"*.

4.9.3 The ironstone resources in the Black Country are illustrated in **Figure 4.1**.

[39] *On the Geology of the South Staffordshire Coal Field* by J. Beete Jukes

385000 390000 395000 400000 405000 410000

305000 300000 295000 290000 285000

Wolverhampton

Walsall

Sandwell

Dudley

Birmingham

Key

Authority Boundaries

For Bedrock Geology legend see overleaf

0 1 2 3 4 5 6 km

Scale at A3: 1:100,000

Black Country Minerals Study

Figure 4.1
Detailed Map of Bedrock Geology in the Black Country

January 2020

wood.

H:\Projects\41187 Black Country Minerals Study\GIS\MXD\41187-Shr05b.mxd Originator: jacqui.parkin

Key

Bedrock Geology

- HELSBY SANDSTONE FORMATION - MUDSTONE
- HELSBY SANDSTONE FORMATION - SANDSTONE, PEBBLY (GRAVELLY)
- HELSBY SANDSTONE FORMATION - SANDSTONE
- CHESTER FORMATION - CONGLOMERATE
- CHESTER FORMATION - MUDSTONE
- CHESTER FORMATION - SANDSTONE AND CONGLOMERATE, INTERBEDDED
- WILDMOOR SANDSTONE MEMBER - SANDSTONE
- BRIDGNORTH SANDSTONE FORMATION - SANDSTONE
- CLENT FORMATION - ARGILLACEOUS ROCKS AND [SUBEQUAL/SUBORDINATE] BRECCIA, INTERBEDDED
- CLENT FORMATION - BRECCIA, SANDSTONE AND MUDSTONE
- CLENT FORMATION - SANDSTONE
- HOPWAS BRECCIA FORMATION - BRECCIA AND SANDSTONE, INTERBEDDED
- ALVELEY MEMBER - LIMESTONE
- ALVELEY MEMBER - MUDSTONE AND SANDSTONE
- ALVELEY MEMBER - MUDSTONE, SILTSTONE AND SANDSTONE
- ALVELEY MEMBER - MUDSTONE
- ALVELEY MEMBER - SANDSTONE
- ALVELEY MEMBER - SANDSTONE AND MUDSTONE
- CLENT FORMATION AND ENVILLE FORMATION (UNDIFFERENTIATED) - MUDSTONE AND SANDSTONE
- ENVILLE MEMBER - CONGLOMERATE
- ENVILLE MEMBER - SANDSTONE, CONGLOMERATE AND [SUBORDINATE] ARGILLACEOUS ROCKS
- ENVILLE MEMBER - SANDSTONE WITH SUBORDINATE CONGLOMERATE, SILTSTONE AND MUDSTONE
- ENVILLE MEMBER - SANDSTONE
- HALESOWEN FORMATION - LIMESTONE
- HALESOWEN FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE
- HALESOWEN FORMATION - SANDSTONE
- BREWIN'S BRIDGE MICROGABBRO DYKE - MICROGABBRO
- BARROW HILL BASALTIC VENT - AGGLOMERATE
- LONDON FIELDS BASALT SILL - MICROGABBRO
- ROWLEY REGIS MICROGABBRO LOPOLITH - MICROGABBRO
- PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE
- PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE
- THICK COAL (SOUTH STAFFORDSHIRE) - COAL
- THICK COAL ROCK (SOUTH STAFFORDSHIRE) - SANDSTONE
- LUDGBRIDGE CONGLOMERATE - CONGLOMERATE
- NEW MINE COAL ROCK - SANDSTONE
- PENNINE COAL MEASURES GROUP - MUDSTONE, SILTSTONE AND SANDSTONE
- PENNINE COAL MEASURES GROUP - SANDSTONE
- PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE
- PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE
- PENNINE LOWER COAL MEASURES FORMATION AND PENNINE MIDDLE COAL MEASURES FORMATION (UNDIFFERENTIATED) - MUDSTONE, SILTSTONE AND SANDSTONE
- YARD ROCK (SOUTH STAFFORDSHIRE) - SANDSTONE
- ETRURIA FORMATION - CONGLOMERATE
- ETRURIA FORMATION - MUDSTONE, SANDSTONE AND CONGLOMERATE
- ETRURIA FORMATION - SANDSTONE
- UNNAMED IGNEOUS INTRUSION, WESTPHALIAN - MICROGABBRO
- DOWNTON CASTLE SANDSTONE FORMATION - SANDSTONE
- RAGLAN MUDSTONE FORMATION - SILTSTONE AND MUDSTONE, INTERBEDDED
- TEMESIDE MUDSTONE FORMATION - MUDSTONE AND SANDSTONE
- TEMESIDE MUDSTONE FORMATION AND RAGLAN MUDSTONE FORMATION (UNDIFFERENTIATED) - SANDSTONE AND [SUBEQUAL/SUBORDINATE] ARGILLACEOUS ROCKS, INTERBEDDED
- UPPER LUDLOW SHALES GROUP - SILTSTONE
- WHITCLIFFE FORMATION - ARGILLACEOUS ROCK AND [SUBEQUAL/SUBORDINATE] LIMESTONE, INTERBEDDED
- AYMESTRY LIMESTONE FORMATION - LIMESTONE
- AYMESTRY LIMESTONE FORMATION - LIMESTONE AND MUDSTONE, INTERBEDDED
- LOWER LUDLOW SHALES GROUP - SILTSTONE AND MUDSTONE, INTERBEDDED
- LOWER QUARRIED LIMESTONE MEMBER - LIMESTONE
- NODULAR LIMESTONE MEMBER - LIMESTONE AND [SUBEQUAL/SUBORDINATE] SANDSTONE, INTERBEDDED
- NODULAR LIMESTONE MEMBER - LIMESTONE AND MUDSTONE, INTERBEDDED
- UPPER QUARRIED LIMESTONE MEMBER - LIMESTONE
- BARR LIMESTONE FORMATION - LIMESTONE
- BUILDWAS FORMATION AND COALBROOKDALE FORMATION (UNDIFFERENTIATED) - LIMESTONE
- COALBROOKDALE FORMATION - MUDSTONE
- COALBROOKDALE FORMATION - SILTSTONE
- RUBERY SANDSTONE MEMBER - SANDSTONE

Black Country Minerals Study

Figure 4.1
Map of Bedrock Geology in the Black Country

January 2020

wood.

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385000 390000 395000 400000 405000 410000

305000 300000 295000 290000 285000

Wolverhampton

Walsall

Dudley

Sandwell

Key

Authority Boundaries

Alluvium - Clay, silt, sand and gravel

Head - Clay, silt, sand and gravel

0 1 2 3 4 5 6 km

Scale at A3: 1:100,000

Black Country Minerals Study

Figure 4.2
Map of Superficial (Drift) Geology in the Black Country

January 2020

wood.

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385000 390000 395000 400000 405000 410000

305000 300000 295000 290000 285000

N

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GB40401G300500
GB40902G304100
GB40901G300800
GB40402G992400
GB40401G301000
GB40902G304100
GB40901G300800
GB40401G301000

Wolverhampton
Walsall
Sandwell
Dudley

Bloxwich
Aldridge
Willenhall
Darlaston
Wednesbury
Tipton
Sedgley
Coseley
West Bromwich
Oldbury
Rowley Regis
Blackheath
Brierley Hill
Kingswinford
Halesowen
Smethwick
Birmingham

Wyrley and Essington Canal
Ford Brook
Daw End Branch
Walsall Canal
Birmingham Canal
River Tame
Dudley Canal
River Stour

Key

Authority Boundaries

Environment Agency WFD Groundwater Bodies Cycle 2

Watercourse

0 1 2 3 4 5 6 km

Scale at A3: 1:100,000

Black Country Minerals Study

Figure 4.3
Hydrology of the Black Country

January 2020

wood.

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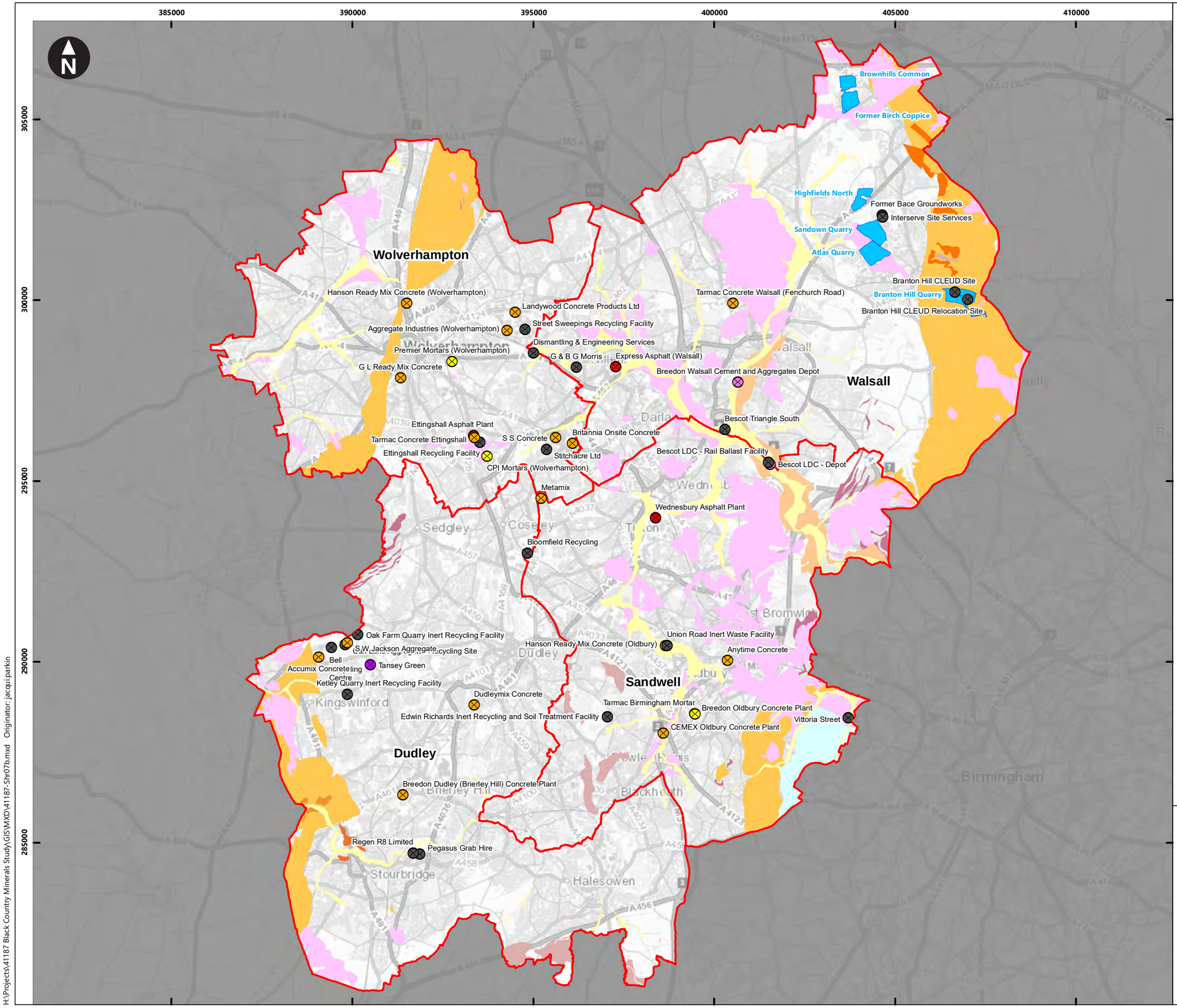

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Black Country Mineral Study

Figure 4.4
Aggregate Minerals - Extent of Sand and Gravel Resources, Permitted Sand and Gravel Sites and Mineral Infrastructure

January 2020

wood.

385000 390000 395000 400000 405000 410000

305000 300000 295000 290000 285000

Brownhills Common
Swan Works
Former Birch Coppice
Highfields North
Aldridge Factory
Sandown Quarry
Sandown Works
Atlas Factory
Atlas Quarry
Wolverhampton
Walsall
Dreadnought Works
Dudley
Sandwell
Cradley Special Brick

Key

- Authority Boundaries
- Brickworks/Ceramics Industry Site
- Permitted Mineral Extraction Sites (Brick Clay)
- Brick Clay (Etruria Marl)
- Brick Clay associated with Shallow Coal

For Bedrock Geology legend see overleaf

0 1 2 3 4 5 6 km
Scale at A3: 1:100,000

Black Country Mineral Study

Figure 4.5
Extent of Brick Clay Resources, Permitted Clay Extraction Sites and Brickworks/Ceramics Industry Sites in the Black Country

January 2020

wood.

H:\Projects\41187 Black Country Minerals Study\GIS\MXD\41187-Shr08b.mxd Originator: jacqui.parkin

Key

Bedrock Geology

- CHESTER FORMATION - CONGLOMERATE
- CHESTER FORMATION - SANDSTONE AND CONGLOMERATE, INTERBEDDED
- WILDMOOR SANDSTONE MEMBER - SANDSTONE
- CLENT FORMATION - ARGILLACEOUS ROCKS AND [SUBEQUAL/SUBORDINATE] BRECCIA, INTERBEDDED
- CLENT FORMATION - BRECCIA, SANDSTONE AND MUDSTONE
- ALVELEY MEMBER - MUDSTONE AND SANDSTONE
- ALVELEY MEMBER - MUDSTONE, SILTSTONE AND SANDSTONE
- ALVELEY MEMBER - MUDSTONE
- ALVELEY MEMBER - SANDSTONE
- CLENT FORMATION AND ENVILLE FORMATION (UNDIFFERENTIATED) - MUDSTONE AND SANDSTONE
- ENVILLE MEMBER - CONGLOMERATE
- ENVILLE MEMBER - SANDSTONE WITH SUBORDINATE CONGLOMERATE, SILTSTONE AND MUDSTONE
- ENVILLE MEMBER - SANDSTONE
- HALESOWEN FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE
- HALESOWEN FORMATION - SANDSTONE
- BREWIN'S BRIDGE MICROGABBRO DYKE - MICROGABBRO
- BARROW HILL BASALTIC VENT - AGGLOMERATE
- LONDON FIELDS BASALT SILL - MICROGABBRO
- ROWLEY REGIS MICROGABBRO LOPOLITH - MICROGABBRO
- PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE
- PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE
- THICK COAL (SOUTH STAFFORDSHIRE) - COAL
- THICK COAL ROCK (SOUTH STAFFORDSHIRE) - SANDSTONE
- LUDGBRIDGE CONGLOMERATE - CONGLOMERATE
- NEW MINE COAL ROCK - SANDSTONE
- PENNINE COAL MEASURES GROUP - MUDSTONE, SILTSTONE AND SANDSTONE
- PENNINE COAL MEASURES GROUP - SANDSTONE
- PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE
- PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE
- PENNINE LOWER COAL MEASURES FORMATION AND PENNINE MIDDLE COAL MEASURES FORMATION (UNDIFFERENTIATED) - MUDSTONE, SILTSTONE AND SANDSTONE
- YARD ROCK (SOUTH STAFFORDSHIRE) - SANDSTONE
- ETRURIA FORMATION - CONGLOMERATE
- ETRURIA FORMATION - MUDSTONE, SANDSTONE AND CONGLOMERATE
- ETRURIA FORMATION - SANDSTONE
- UNNAMED IGNEOUS INTRUSION, WESTPHALIAN - MICROGABBRO
- DOWNTON CASTLE SANDSTONE FORMATION - SANDSTONE
- RAGLAN MUDSTONE FORMATION - SILTSTONE AND MUDSTONE, INTERBEDDED
- TEMESIDE MUDSTONE FORMATION - MUDSTONE AND SANDSTONE
- TEMESIDE MUDSTONE FORMATION AND RAGLAN MUDSTONE FORMATION (UNDIFFERENTIATED) - SANDSTONE AND [SUBEQUAL/SUBORDINATE] ARGILLACEOUS ROCKS, INTERBEDDED
- UPPER LUDLOW SHALES GROUP - SILTSTONE
- WHITCLIFFE FORMATION - ARGILLACEOUS ROCK AND [SUBEQUAL/SUBORDINATE] LIMESTONE, INTERBEDDED
- AYMESTRY LIMESTONE FORMATION - LIMESTONE AND MUDSTONE, INTERBEDDED
- LOWER LUDLOW SHALES GROUP - SILTSTONE AND MUDSTONE, INTERBEDDED
- LOWER QUARRIED LIMESTONE MEMBER - LIMESTONE
- NODULAR LIMESTONE MEMBER - LIMESTONE AND MUDSTONE, INTERBEDDED
- UPPER QUARRIED LIMESTONE MEMBER - LIMESTONE
- COALBROOKDALE FORMATION - MUDSTONE

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Black Country Mineral Study

Figure 4.5
Extent of Brick Clay Resources, Permitted Clay Extraction Sites and Brickworks/Ceramics Industry Sites in the Black Country

January 2020

wood.

385000 390000 395000 400000 405000 410000

305000 300000 295000 290000 285000

Wolverhampton

Walsall

Dudley

Sandwell

Birch Coppice

Land at Brownhills Common

Key

- Authority Boundaries
- Permitted Mineral Extraction Sites (Coal & Fireclay)
- Shallow Coal
- Shallow Coal associated with Fireclay

For Bedrock Geology legend see overleaf

0 1 2 3 4 5 6 km

Scale at A3: 1:100,000

Black Country Mineral Study

Figure 4.6
Extent of Surface Coal and Fireclay Resources in the Black Country

January 2020

wood.

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Key

Bedrock Geology

- CHESTER FORMATION - SANDSTONE AND CONGLOMERATE, INTERBEDDED
- WILDMOOR SANDSTONE MEMBER - SANDSTONE
- CLENT FORMATION - ARGILLACEOUS ROCKS AND [SUBEQUAL/SUBORDINATE] BRECCIA, INTERBEDDED
- CLENT FORMATION - BRECCIA, SANDSTONE AND MUDSTONE
- ALVELEY MEMBER - MUDSTONE AND SANDSTONE
- ALVELEY MEMBER - MUDSTONE, SILTSTONE AND SANDSTONE
- ALVELEY MEMBER - MUDSTONE
- ALVELEY MEMBER - SANDSTONE
- CLENT FORMATION AND ENVILLE FORMATION (UNDIFFERENTIATED) - MUDSTONE AND SANDSTONE
- ENVILLE MEMBER - CONGLOMERATE
- ENVILLE MEMBER - SANDSTONE WITH SUBORDINATE CONGLOMERATE, SILTSTONE AND MUDSTONE
- ENVILLE MEMBER - SANDSTONE
- HALESOWEN FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE
- HALESOWEN FORMATION - SANDSTONE
- BREWIN'S BRIDGE MICROGABBRO DYKE - MICROGABBRO
- LONDON FIELDS BASALT SILL - MICROGABBRO
- ROWLEY REGIS MICROGABBRO LOPOLITH - MICROGABBRO
- PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE
- PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE
- THICK COAL (SOUTH STAFFORDSHIRE) - COAL
- THICK COAL ROCK (SOUTH STAFFORDSHIRE) - SANDSTONE
- LUDGBRIDGE CONGLOMERATE - CONGLOMERATE
- NEW MINE COAL ROCK - SANDSTONE
- PENNINE COAL MEASURES GROUP - MUDSTONE, SILTSTONE AND SANDSTONE
- PENNINE COAL MEASURES GROUP - SANDSTONE
- PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE
- PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE
- PENNINE LOWER COAL MEASURES FORMATION AND PENNINE MIDDLE COAL MEASURES FORMATION (UNDIFFERENTIATED) - MUDSTONE, SILTSTONE AND SANDSTONE
- YARD ROCK (SOUTH STAFFORDSHIRE) - SANDSTONE
- ETRURIA FORMATION - CONGLOMERATE
- ETRURIA FORMATION - MUDSTONE, SANDSTONE AND CONGLOMERATE
- ETRURIA FORMATION - SANDSTONE
- UNNAMED IGNEOUS INTRUSION, WESTPHALIAN - MICROGABBRO
- DOWNTON CASTLE SANDSTONE FORMATION - SANDSTONE
- RAGLAN MUDSTONE FORMATION - SILTSTONE AND MUDSTONE, INTERBEDDED
- TEMESIDE MUDSTONE FORMATION - MUDSTONE AND SANDSTONE
- TEMESIDE MUDSTONE FORMATION AND RAGLAN MUDSTONE FORMATION (UNDIFFERENTIATED) - SANDSTONE AND [SUBEQUAL/SUBORDINATE] ARGILLACEOUS ROCKS, INTERBEDDED
- UPPER LUDLOW SHALES GROUP - SILTSTONE
- WHITCLIFFE FORMATION - ARGILLACEOUS ROCK AND [SUBEQUAL/SUBORDINATE] LIMESTONE, INTERBEDDED
- AYMESTRY LIMESTONE FORMATION - LIMESTONE AND MUDSTONE, INTERBEDDED
- LOWER LUDLOW SHALES GROUP - SILTSTONE AND MUDSTONE, INTERBEDDED
- LOWER QUARRIED LIMESTONE MEMBER - LIMESTONE
- NODULAR LIMESTONE MEMBER - LIMESTONE AND MUDSTONE, INTERBEDDED
- UPPER QUARRIED LIMESTONE MEMBER - LIMESTONE
- COALBROOKDALE FORMATION - MUDSTONE

0 1 2 3 4 5 6 km

Scale at A3: 1:100,000

Black Country Mineral Study

Figure 4.6
Extent of Surface Coal and Fireclay Resources in the Black Country

January 2020

wood.

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5. Black Country Minerals Production

5.1 Sand and Gravel

5.1.1 In accordance with the NPPF (paragraph 207) consideration needs to be given to ensuring a steady and adequate supply of aggregates. The NPPF advises that landbanks of at least 7 years for sand and gravel should be maintained to ensure a steady and adequate supply for aggregate purposes. This section provides an overview of the primary land won sand and gravel resources in the Black Country, including a review of permitted sand and gravel extraction sites and the areas of search that have been included in the current Black Country Core Strategy and the Walsall Site Allocations Document.

5.1.2 A review of permitted sand and gravel extraction sites in the Black Country was undertaken using information available from sources such as the West Midlands AWP annual monitoring reports, Local Aggregate Assessments and Annual Minerals Raised Inquiry (AMRI) returns, as well as information held by the planning authorities.

Resource Availability and Production

5.1.3 This section considers the status of current permitted sand and gravel sites in terms of reserves and production capacity. It also considers the resources potentially available within the Areas of Search identified in the Walsall Site Allocations Document.

Permitted Sites

5.1.4 There are two sand and gravel sites in the Black Country, both within Walsall. Only one of these has an extant planning permission,

Branton Hill Quarry

5.1.5 Branton Hill Quarry is operated by Jack Moody Group. Quarrying in this area has taken place over a long period of time. Permission was first granted in 1945 under an Interim Development Order. Permission was granted in 1962 for the extraction of sand and gravel, with further permissions granted in 1972 and 1985. In 2000 a Certificate of Lawful Existing Use or Development (CLEUD) was granted for the storage, sale and distribution of imported sand, soils, gravels, stones, broken tarmac, hardcore, concrete and various other inert wastes from the construction industry. In 2001 an application for an extension of the operational area of the quarry was submitted. This was not subsequently granted consent until August 2018. A planning application for a new access road and a relocation of the recycling centre, including associated buildings was submitted in 2006 and granted permission in October 2013. The conditions of the 1962 and 1972 permissions were reviewed in 2001 but have now been incorporated into the new schedule of conditions that apply to the whole site including the extension area following the August 2018 permission.

5.1.6 Branton Hill Quarry has been inactive since 2013, when the then operator went into receivership. A new operator has now secured the site and a new access road is now available as an alternative access to the quarry and the extension application. This extension had been on hold until the new access road was resolved but was granted permission in August 2018 and enables the extraction of 1.028 million tonnes of sand in three phases, with an average extraction rate of approximately 120,000 tonnes per annum[40].

[40] Report to Walsall Council Planning Committee 1 February 2018

Other Mineral Sites

Aldridge Quarry

5.1.7 Aldridge Quarry ceased operating in 2008 and it is not expected to resume as there are no winnable sand and gravel reserves remaining. Furthermore, the quarry no longer has an extant permission for mineral extraction in that the end date for working has expired. There is an outstanding issue regarding restoration which is addressed through a policy in the Walsall SAD to guide any restoration proposals that may come forward.

Walsall Site Allocations Document

Areas of Search

5.1.8 The Walsall Site Allocations Document (SAD) identifies two areas of search – Birch Lane and Branton Hill – in Policies M4 and M5.

5.1.9 The potential winnable sand and gravel resource in the Birch Lane Area of Search was estimated to total approximately 5.2 million tonnes. This figure would need to be further verified and refined through appropriate borehole information to ascertain the actual winnable resource and this is likely to only become available either through pre-application discussion and/or at a planning application stage, or at the discretion of an operator with an interest in extracting the resource.

5.1.10 The potential winnable resource in the Branton Hill Area of Search was estimated to total approximately 1.028 million tonnes, although this figure is based on information contained in the planning application for the extension that has now been granted consent.

5.1.11 Both areas of search are subject to environmental constraints which may further limit the available resource and/or affect viability.

5.1.12 Four additional areas of search were considered during the preparation of the Walsall SAD. These were no less constrained (and in some cases more constrained) than those that have been carried forward in to the SAD. There is still no evidence of any current interest in sand and gravel extraction in these areas and no information is currently available on potential minerals resources in these areas.

Site Allocations

5.1.13 During preparation of the Walsall SAD, a potential allocation on land near Aldridge Quarry was considered (which is located within the Birch Lane Area of Search). The resource at the site was estimated to be some 2.6 million tonnes but there was uncertainty about whether the site could be delivered within the plan period, mainly due to a lack of interest by the landowner or an operator. The site was therefore not carried forward as a site allocation.

5.1.14 A summary of potential sand and gravel supply within the Black Country is set out in Table 5.1.

Table 5.1 Sand and Gravel Sources of Supply (as at October 2019)

Source of supply	Estimated quantity of sand and gravel (tonnes)	Source of evidence
Branton Hill extension	1,028,000	Planning application committee report
Birch Lane Area of Search (unpermitted)*	5,200,000	BCCS, Walsall SAD, AFW Report, West Midlands Metropolitan Area LAA
TOTAL	**6,228,000**	

* This includes 2.6 mt at Land near Aldridge Quarry

Sand and Gravel Supply Requirements

Requirements

5.1.15 The National and Regional Guidelines for Aggregates Provision in England 2005-2020 provides a guideline for primary aggregates provision with the West Midlands. Subsequent local apportionment by the West Midlands Aggregates Working Party, published by DCLG in September 2011, indicates an apportionment of 8.8 million tonnes of sand and gravel aggregates for the West Midlands County sub-region. This equates to an annual apportionment of 550,000 tonnes.

5.1.16 The NPPF requires minerals planning authorities to prepare an annual LAA to plan for a steady and adequate supply of aggregates. The 2015 LAA puts forward two scenarios: firstly, on the apportioned figure of 0.55 million tonnes per annum, and secondly on the ten-year rolling average of sales data of just under 0.5 million tonnes per annum. The LAA identifies that the majority of the sand and gravel provision will come from Solihull, reflecting where the main source of sand and gravel reserves within the West Midlands Metropolitan Area are located, and the constraints to working the resource within Walsall.

5.1.17 The results of the 2014 national aggregates survey show that sales from sites in Solihull continued to be around 0.50 million tonnes per annum. This has also been confirmed in the West Midlands AWP AM 2016 and 2017 Annual Reports (see Table 5.2) below.

Table 5.2 Sales of Sand and Gravel for Aggregate Purposes, West Midlands Conurbation (million tonnes)

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total 10-year sales (2008-2017)	Average 10-year sales (2008-2017)
0.61	**0.5**	**0.38**	**0.45**	**0.40**	**0.46**	**0.49**	**0.5**	**0.53**	**0.58**	**0.48**	**4.77**	**0.48**

Source: West Midlands AM 2016 Annual Report, Table 3; West Midlands AM 2017 Annual Report, Table 3

5.1.18 Based on the sales figures in Table 5.2 above, an annual requirement of 0.50 million tonnes (from the LAA) or 0.55 million tonnes (the apportionment of the 2005 – 2020 regional guidelines) still appear to be a reasonably accurate reflection of the requirement position in the West Midlands Metropolitan Area assuming demand remains broadly similar to what it has been over the last 10 years. These annual requirement figures result in a requirement for the West Midlands Metropolitan Area of between 10 and 11 million tonnes for the 20-year period 2018 to 2038 (the Black Country Plan period). Maintaining a landbank of seven years at the end of the plan period would require an additional 3.50 to 3.85 million tonnes. Thus, the total West Midlands

Metropolitan Area requirement for the 20-year plan period 2018-2038 plus the 7 years to provide the landbank required by the NPPF is between **13.5 million tonnes** and **14.85 million tonnes** of sand and gravel (see Table 5.3).

5.1.19 An assessment of the impact of net housing and employment growth in the Black Country on the current requirements for aggregates has been carried out and are presented in Section 11 of this report.

Table 5.3 Sand and Gravel Landbank Requirements for the Black Country Plan Period

West Midlands Metropolitan Area – Sand and Gravel Supply Requirements 2018-2038	**Total Requirements (million tonnes)**
Sand and Gravel Supply Requirements Scenario 1: Local Plan 'Apportionment' (BCCS 2011 – Policy MIN1 and Solihull Local Plan 2013 – Policy P13)	
Indicative Annual Production Requirements	0.55
Requirement for Plan Period 2018-2038 i.e. 20 years	11.00
7 Year Landbank Requirements	3.85
Total Requirements 2018-2038 including Landbank Scenario 1 (20 years + 7 years = 27 years)	***14.85***
Sand and Gravel Supply Requirements Scenario 2: Average (mean) 10-year Sales 2004-2013 (2015 West Midlands Metropolitan Area LAA)	
Indicative Annual Production Requirements	0.50
Requirement for Plan Period 2018-2038 i.e. 20 years	10.00
7 Year Landbank Requirements	3.50
Total Requirements 2018-2038 including Landbank Scenario 2 (20 years + 7 years = 27 years)	***13.50***
Sand and Gravel Supply Requirements Scenario 3: Average (mean) 10-year Sales 2008-2017 (West Midlands AM 2017 Report)	
Indicative Annual Production Requirements	0.48
Requirement for Plan Period 2018-2038 i.e. 20 years	9.60
7 Year Landbank Requirements	3.36
Total Requirements 2018-2038 including Landbank Scenario 2 (20 years + 7 years = 27 years)	***12.96***

Source: Black Country Core Strategy 2011 – Policy MIN2, Solihull Local Plan 2013 – Policy P13, West Midlands Metropolitan Area Local Aggregates Assessment (LAA) 2015, Tables 3.1 and 4.3, West Midlands AWP AM 2017 Report, Table 1.

5.1.20 The West Midlands AWP Annual Monitoring Report for 2016 identifies permitted sand and gravel reserves of 5.86 million tonnes for the Metropolitan Area as at 31 December 2016, equating to a landbank of 11.98 years, based on 10 years average sales., or 11.58 years using the apportionment figure.

5.1.21 The latest West Midlands AWP Annual Monitoring Report for 2017 identifies a reduction in permitted sand and gravel reserves of 3.99 million tonnes[41] for the Metropolitan area as at 31 December 2017, equating to a reduced landbank of 8.31 years, based on 10 years average sales[42] 2008 – 2017 (0.48 million tonnes per annum), or 7.25 years using the apportionment figure (0.55 million tonnes per annum). Table 5.4 provides an overview of consented (unworked) sand and gravel deposits in the West Midlands Metropolitan Area.

Table 5.4 Sand and Gravel Deposits in the West Midlands Metropolitan Area (as at end December 2017)

West Midlands Metropolitan Area – Potential Sand and Gravel Supply Available	**Estimated Consented Deposits (as at end December 2017) (million tonnes)**
Permitted Reserves (end December 2017)	
Walsall	0
Solihull	3.99
Total permitted reserves	*3.99*
Local Plan Allocations (end December 2017)	
Resources in Walsall Areas of Search[43]	6.20
Resources in Solihull (Local Plan Review November 2016)[44]	2.50
Total other resources	*8.70*
Total Supply	**12.69**

Source: West Midlands AWP AM 2017 Report, Table 3, Walsall SAD 2019 Table 9.2 (N.B. resource figure has been adjusted to take account of reduction in estimated resource at Branton Hill), Solihull Local Plan Review – Draft Local Plan (November 2016), Policy P13: Minerals.

5.1.22 Taking into account the 3.99 million tonnes of permitted reserves at the end of 2017 (all of which were in Solihull), and assuming the same proportional split between Solihull and Walsall of 90% and 10%, then the 'supply gap' that needs to be planned for over the plan period 2018 to 2038 is between **8.97 million tonnes** and **10.86 million tonnes** as set out in Table 5.5.

[41] The reserve figure in the West Midlands AM 2017 Report does not include the recently consented extension to Branton Hill Quarry in Walsall (1.028 million tonnes). However, this will be included in the AM 2018 Report when published.
[42] West Midlands AM 2017 Annual Report, tables 4 and 5
[43] This includes unworked resources in Birch Lane AoS which are not permitted and unworked resources in Branton Hill AoS which are now permitted as of August 2018 (i.e. around 1 million tonnes within Branton Hill Quarry Extension).
[44] The Draft Plan only quantifies the resources within the Preferred Areas identified on the draft Policies Map at Marsh House Farm, Hornbook Farm and west of Berkswell Quarry. It is assumed that these are unpermitted rather than permitted reserves. The draft plan does not include an estimate of the unpermitted resources in the wider Areas of Search identified. The line of HS2 also goes through the Preferred Areas and is likely to sterilise the identified resources. From the information available it is not possible to quantify the available resources in Solihull that would not be affected by HS2.

Table 5.5 West Midlands Metropolitan Area – Comparison of Sand and Gravel Landbank Requirements (as at end December 2017)

West Midlands Metropolitan Area – Landbank Requirements and Current Supply (as at end December 2017)	Total Requirement / Supply (million tonnes)	Indicative Requirement / Supply – Solihull (90%) (million tonnes)	Indicative Requirement / Supply – Walsall (10%) (million tonnes)
Scenario 1: Local Plan Apportionment (0.55 tonnes per annum)			
Total landbank requirement 2018-2038 + 7 years	14.85	13.37	1.49
Permitted reserves (end December 2017)	3.99	3.99	0
Supply Gap – Scenario 1	*-10.86*	*-9.38*	*-1.49*
Scenario 2: 10 Year Average Sales 2004-2013 (0.50 tonnes per annum) (2015 West Midlands Metropolitan Area LAA)			
Total landbank requirement 2018-2038 + 7 years	13.50	12.15	1.35
Permitted reserves (end December 2017)	3.99	3.99	0
Supply Gap – Scenario 2	*-9.51*	*-8.16*	*-1.35*
Scenario 3: 10 Year Average Sales 2008-2017 (0.48 tonnes per annum) (West Midlands AM 2017)			
Total landbank requirement 2018-2038 + 7 years	12.96	11.66	1.30
Permitted reserves (end December 2017)	3.99	3.99	0
Supply Gap – Scenario 3	*-8.97*	*-7.76*	*-1.30*

Source: Black Country Core Strategy 2011 – Policy MIN2, Solihull Local Plan 2013 – Policy P13, West Midlands Metropolitan Area Local Aggregates Assessment (LAA) 2015, Tables 3.1 and 4.3, West Midlands AWP AM 2017 Report, Table 1.

Solihull Context

5.1.23 The Solihull Local Plan (2013) sets out how Solihull will contribute to the requirements for sand and gravel. The Local Plan provides for a maximum of 500,000 tonnes per annum from sites within Solihull. At the end of December 2017 Solihull had three operational sand and gravel sites – Berkswell Quarry (permission expiry date September 2022), Stonebridge Quarry (permission expiry date June 2027), and Meriden Quarry (permission expiry date December 2021). A review of the Local Plan has commenced, and a Draft Local Plan was published in November 2016. Draft Policy P13 retains a commitment to help meet the requirement for sand and gravel for the West Midlands Metropolitan Area over the plan period (to 2033) through the identification of three preferred areas (2.5 million tonnes) and two areas of search, in addition to the already consented and operational sites.

5.1.24 The published route of the proposed HS2 passes through areas of known sand and gravel resources. The railway line and proposed Birmingham Interchange Station affect two of the sand and gravel quarries that were active in 2017 (Berkswell and Stonebridge) and areas identified for further sand and gravel extraction in the emerging local plan. The project will therefore have a significant impact on these sand and gravel resources and will affect the ability of Solihull to continue to make the same level of contribution to future requirements. Solihull Metropolitan Borough Council has granted permission for two sites in advance of HS2 to avoid sterilising mineral resources. A small extension to Stonebridge Quarry to allow extraction of 180,000 tonnes was granted permission on 25 June 2015 (ref PL/2015/50745/MAJFOT) but the site closed in 2018. Consent was also granted in October 2016 (ref PL/2015/52804/MWMAJ for the extraction of 1.8

million tonnes from land at Common Farm and Warren Farm, Middle Bickenhill, which is within one of the Preferred Areas identified for sand and gravel extraction in the Draft Solihull Local Plan (November 2016). However, according to the AWP AM 2017 report, no working took place at this site during 2017 and permission has not been sought to discharge the pre-commencement conditions[45]. Any unworked resources within these sites will be sterilised by HS2 if it goes ahead, and it is also likely to be compromise if not sterilise other unworked resources within the Preferred Areas and Areas of Search identified in the emerging local plan.

Black Country Context

5.1.25 There is no specific apportionment requirement for the Black Country. However, recognising that Walsall has sand and gravel resources, the Black Country Core Strategy makes a modest contribution towards the West Midlands sand and gravel requirement, with an indicative sand and gravel production target of 50,000 tonnes per annum included in Policy MIN2 (and reiterated in the 2015 LAA).

5.1.26 The recently approved extension to Branton Hill Quarry provides for 1.028 million tonnes of sand and gravel. This figure is equivalent to a landbank of 20 years based on the indicative production target in the Black Country Core Strategy. The site's production capacity of approximately 120,000 tonnes per annum is well in excess of historic sales levels from within the Black Country and also the contribution to the West Midlands sand and gravel requirement in the current Core Strategy. The Branton Hill Quarry extension would enable the Black Country indicative production target to be met until 2027, when minerals extraction at the site is required to cease.

5.1.27 Walsall is the only Black Country authority that has contributed to the sub-regional sand and gravel requirements. The Black Country Core Strategy states that this position is not expected to change as there is no evidence that the other authorities have viable sand and gravel resources. There is no recent evidence to suggest any change to this position.

Sand and Gravel – Conclusions

5.1.28 Recent production figures indicate that the annual requirement for the West Midlands Metropolitan Area of 0.5 to 0.55 million tonnes is still reasonable, and that the majority of this requirement will continue to be supplied from sites in Solihull, although it is acknowledged that these sites are to be significantly affected by HS2 should it go ahead. The Black Country has sufficient permitted reserves and production capacity to continue with the current contribution of 50,000 tonnes per annum, at least up until 2027. The Black Country Plan period extends to 2038 and as such, to maintain the 50,000 tpa from the Black Country beyond 2027 will require the release of additional sand and gravel reserves in the latter part of the plan period.

5.2 Ceramic Production in the Black Country

5.2.1 In accordance with the NPPF (paragraph 208) consideration needs to be given to ensuring a steady and adequate supply of industrial minerals and advises that this is achieved through a number of measures including:

- maintaining a stock of permitted reserves to support the levels of investment required in plant and equipment, which should be at least 25 years for brick clay,
- encouraging safeguarding or stockpiling so that important minerals remain available for use; and

[45] The permission is subject to a condition requiring the development to commence within three years (i.e. by 20 October 2019).

- taking account of the need for provision of brick clay from a number of different sources to enable appropriate blends to be made.

5.2.2 MPAs are also expected to *"provide for coal producers to extract separately, and if necessary, stockpile, fireclay so that it remains available for use"* (NPPF, paragraph 209).

5.2.3 This section provides an overview of the clay resources in the Black Country, including a review of permitted clay extraction sites and the areas of search that have been included in the current Black Country Core Strategy and the Walsall Site Allocations Document, provides information on production and reserves and indicates where a shortfall in supply may arise.

Methodology and Approach

5.2.4 A review of permitted brick clay extractions sites in the Black Country was undertaken using information available from the AMRI returns, as well as information held by the planning authorities.

Production and Reserves

5.2.5 Most brickworks use a variety of types of clays which are blended to create bricks of different colours and textures. There are two basic colours of clay used in brick manufacture, red clays (e.g. Etruria Marl, Mercia mudstones) and buff clays (fireclays). As the only type of clay being produced in the Black Country is Etruria Marl, this means that all of the other clays used by Black Country brickworks have to be imported. A number of brickworks also import Etruria Marl to supplement local supplies, including from Essington in Staffordshire.

5.2.6 The Coal Measures include seams of fireclay, which is also an important raw material for brick manufacture, in particular buff coloured bricks. Some brickworks use fireclay, and this has to be imported from sites outside the Black Country. The main sources of fireclay for the brickworks are stockpiles at Caughley (Shropshire) and Donington Island (Leicestershire). Caughley Quarry in Shropshire is the only active fireclay production site in the West Midlands and its future is uncertain as set out in Section 9 of this report. Fireclay is confined to the coal bearing strata and in the future, the economic extraction of fireclay is only likely to be viable when worked concurrently with surface coal extraction, which tends to be a relatively short-lived operation. There are no current proposals for such extraction in the West Midlands. Unless new sources of fireclay come forward, there are likely to be issues with continuity of supply for all brickworks towards to the end of the plan period in 2038.

Brickworks and Ceramic Sites

5.2.7 There are five brickworks within the Black Country and one site producing other ceramic based products.

Atlas Brickworks

5.2.8 Atlas Brickworks, within Walsall, is operated by Ibstock Brick Ltd and produces approximately 40 million bricks per annum, including Class B engineering bricks and red facing bricks. The Brickworks is supplied with brick clay/marl from the adjacent Atlas Quarry, which provides approximately 97% of its supply (around 120,000 tonnes per annum), with approximately 3% (around 3,000 tonnes per annum) being imported from other sources to produce bricks of different colour/specification[46]. The brickworks is permitted to import 30% of its clay requirements from other sources.

[46] Supporting statement for planning application 14/0619/CM

5.2.9 In February 2017, an extension to Atlas Quarry was granted planning permission, which provided Atlas Brickworks with a 25-year supply of clay. Taking account of production since that date and if no imports are assumed, it is estimated that, as at March 2018, there is just under a 25-year supply.

5.2.10 The 2017 permission is subject to a S106 agreement covering provision of replacement habitats on two sites to compensate for the loss of Stubbers Green SINC. In the event of non-compliance with the S106 agreement, the permission would fall away. This would have significant implications for the long-term supply of clay to both Atlas and Aldridge Brickworks.

Aldridge Brickworks

5.2.11 Aldridge Brickworks, within Walsall, is operated by Ibstock Brick Ltd and produces approximately 27 million bricks per annum, including red, buff, and quality facing bricks. There is not a dedicated brick clay quarry associated with the brickworks; it relies on brick clay/marl imported from Atlas Quarry and other sites outside of the Black Country. The Brickworks imports approximately 75,000 tonnes per annum of clays and fireclays.

5.2.12 The extension granted to Atlas Quarry in 2017 provided Aldridge Brickworks with a 25-year supply of clay. Taking account of production since that date and if no imports are assumed, it is estimated that, as at March 2018, there is just under a 25-year supply.

Sandown Brickworks

5.2.13 Sandown Brickworks, within Walsall, is operated by Wienerberger Ltd and produces approximately 73 million bricks per annum, including facing and engineering bricks. The Brickworks is heavily reliant on imports of clay to supplement the remaining reserves at Sandown Quarry. In 2015 it was estimated that the remaining life of Sandown Quarry was 8 years, based on it supplying 35% of the Brickworks material[47]. In 2017, planning permission was granted to increase the proportion of imported clay from 65% to 95% to supplement the reserves at Sandown Quarry. This equates to around 199,500 tonnes of the total 210,000 tonnes of clay required per annum, with the remaining 10,500 tonnes per annum being supplied by Sandown Quarry. Based on this proportion of imported material being maintained, reserves at Sandown Quarry would represent in excess of a 25-year supply, but only on the basis that up to 95% of the brickworks clay requirements will be imported from elsewhere. Clays are mainly imported from Staffordshire but also from Shropshire, Leicestershire, and Warwickshire. Further information on clay supplies from these areas is provided in Section 9.3 of this report.

Cradley

5.2.14 Cradley Brickworks in Sandwell is operated by Forterra Building Products Limited (Cradley Special Brick Co Ltd) and is a specialist brickworks with a productive capacity of 1 million bricks per annum producing a broad range of 'special' shaped bricks. It is solely reliant on imports of clay.

Dreadnought

5.2.15 Dreadnought Brickworks is the only operational Brickworks in Dudley and has an estimated annual clay consumption of 40,000 tonnes. Information from the operator (Hinton Perry and Davenhill (HPD)) provided in 2015 indicated that 50% of total clay used is from their nearby Ketley Quarry in Kingswinford along with other clays imported from further afield to achieve the necessary mix of clay for production purposes and that Ketley Quarry was anticipated to only supply clay for around 5 years at present rates of usage (and assuming clay continues to be additionally supplied from elsewhere, mainly south Staffordshire). This reduction in the life of this quarry was due to the

[47] Supporting information for planning application 15/0303/FL

amount of unwanted material to be moved in order to then extract the Etruria Marl clay and the effects this would have on its viability. This position was further updated by the operator in 2017, indicating that, as at 31 March 2017, the supply from Ketley Quarry would last for around 2 ½ years based on current rates of usage, however an ongoing supply of brick clay from Staffordshire had been secured[48].

Swan Works

5.2.16 Swan Works, operated by Potters Clay & Coal Company Ltd, supplies pottery clay blends to hobby potters, artisan potters, schools and colleges etc. Their requirements for clay are very small with an annual requirement of approximately 2,000 tonnes. There are no current restrictions on the importation of clay to Swan Works. There is a stockpile of fireclay at the now closed Birch Coppice in Walsall which is the main source of supply for the Swan Works and a small amount of clay is also imported from its parent company site in Stoke on Trent.

Permitted Sites

Atlas Quarry

5.2.17 Atlas Quarry lies to the south west of Atlas Brickworks and extracts brick clay/marl from the Upper Carboniferous Etruria Formation. In February 2017 planning permission was granted for an extension to the site, allowing mineral extraction to continue until March 2049. This permission increased reserves to approximately 5.1 million tonnes. Taking account of production, it is estimated that the site has approximately 4.66 million tonnes of reserves as at March 2018[49]. Based on an annual production figure of around 200,000 tonnes to supply both Atlas and Aldridge Brickworks, the site is likely to provide just under 25 years of supply for both Brickworks, assuming no imports.

Sandown Quarry

5.2.18 Sandown Quarry is located on the northern side of Stubbers Green Road and extracts Etruria Marl which supplies the adjacent Sandown brickworks. The current working plan (August 2015) shows that the remaining reserves will be worked at a rate of 10,500 – 11,000 tonnes per annum over 5 phases, up to 2042, when extraction will cease.

Ketley Quarry

5.2.19 Until recently, Ketley Quarry within Dudley supplied Etruria Marl to the nearby Dreadnought Brickworks. Information from the operator in 2018 indicated that as at the end of March 2018 there are no remaining permitted reserves and no further brick clay extracted is expected to take place at the quarry. Any remaining stockpiles of clay were exhausted by the end of 2018. Restoration of the quarry remains ongoing[50].

Highfields North

5.2.20 Highfields North is a site with a dormant planning permission located to the north of the A461 in the Shelfield area of Walsall. Extraction cannot commence until an up to date set of planning

48 Holly Bank Quarry in Essington, South Staffordshire was purchased by HPD in April 2017 to secure the long-term future of manufacturing at Dreadnought Brickworks (Dudley AMR 2017). From January 2019 onwards, the only source of raw material suppled to Dreadnought Brickworks will be clay from Holly Bank Quarry (Dudley AMR November 2018 update).
49 Based on information in application 14/0619/CM, assuming an annual production of 0.12mtpa pre decision and 0.2mt post decision
50 Information supplied by the operator in November 2018 to inform the Dudley MBC Annual Monitoring Report 2018 (still to be published)

conditions have been approved by Walsall Council. The vast majority of the permitted extraction area is within the Jockey Fields Site of Special Scientific Interest (SSSI). Estimated reserves within the dormant planning permission are 4.94 million tonnes[51]. However, the site has a complex geology and hydrology which has the potential to affect the feasibility and the viability of extraction given the mitigation measures that are likely to be required to address impacts on the SSSI, as well as other factors such as residential amenity and highways.

Oak Farm Quarry

5.2.21 Oak Farm Quarry is a site within Dudley where Etruria Marl was extracted until recently. An extension to the working area was granted consent in January 2017. The information submitted in support of the planning application stated that 270,000 tonnes could be supplied to the Sandown Brickworks over a two-year period. Under the terms of the permission, extraction can continue until 2042, although the information submitted in support of the planning application indicates that the extension area would be worked within two years. In November 2017, the operator informed that the clay has now been extracted, that no clay reserves remain, that landfill operations are ongoing, and that Oak Farm's full restoration will likely be completed during 2019[52].

Birch Coppice

5.2.22 Birch Coppice is a partially restored site subject to fireclay and coal extraction between the 1950s and early 1980s under an old mineral permission approved on appeal in 1955 (EB233), which also covers the Brownhills Common site (see below). About two thirds of the site has been restored as an area of woodland. Extracted clay is stockpiled on the unrestored part of the site and supplies the adjacent Swan Works (operator Potters Clay & Coal Company Ltd). A representation on the Publication Walsall Site Allocation Document by Potters Clay & Coal Ltd in May 2016 stated that the existing stockpiles are expected to last for approximately 15 years, suggesting that at the end of March 2016, there would have been around 30,000 tonnes of reserves remaining, assuming an annual consumption rate of 2,000 tonnes per annum (2,000 tonnes x 15 years = 30,000 tonnes). Assuming production has remained at 2,000 tonnes per annum, reserves at March 2018 would be approximately 26,000 tonnes, equating to a 13-year supply to the Swan Works.

Brownhills Common

5.2.23 This is a 'dormant' permission for fireclay clay and coal extraction on part of Brownhills Common in Walsall and has the same permission (EB233) as that which covers the Birch Coppice site. Brownhills Common is an extensive area of lowland heathland that extends beyond the borough boundary into Staffordshire. The area that includes the permitted site has been designated as a SINC (Brownhills Common and The Slough) and the area immediately to the north has been designated as a SSSI (Chasewater and Southern Staffordshire Coalfield Heaths). As such, the 'dormant' site falls within the Chasewater and Southern Staffordshire Coalfield Heaths SSSI Impact Risk Zone. It is also Registered Common Land.

5.2.24 An application for modern working conditions to be applied to the Birch Coppice and Brownhills Common sites was submitted in 1997 (BC48813P) but the application remains in abeyance as the proposal was determined to be EIA development and no environmental statement has ever been provided by the applicant. According to the working programme provided with the application for working conditions, the site contains around 200,000 tonnes of clay and around 30,000 tonnes of coal. However, evidence presented by the applicant's agent at the Black Country Core Strategy

[51] Information submitted as part of a working plan, approved 1977 (BA5827). Walsall SAD & AAP Minerals Project Report, Assessment Pro-Forma (2015) explains that the approved working plan gives the reserves in Imperial measurements (cubic yards and tons), thus formulae have been applied to convert the figures into metric.
[52] Dudley MBC Annual Monitoring Report 2016/17 paragraph 20

Examination in 2010 suggested that there are around 0.27 million tonnes of fireclay within the site – this was stated to be based on more recent investigations and to be more accurate than the information previously provided. As the current consumption rate of Swan Works is just 2,000 tonnes per annum, the permitted reserves within this site would provide well in excess of a 25-year supply, and there would be scope to supply other ceramic producers subject to the material being suitable for their needs.

5.2.25 Brownhills is the only area of Walsall where coal and fireclay extraction could take place on any scale during the plan period, because it is the only part of the surface coal resource area not already sterilised by urban development.

Development Plan Allocations

Walsall Site Allocations Document

Stubbers Green Area of Search

5.2.26 The Walsall Site Allocations Document identifies one area of search at Stubbers Green (MXA3), in Policy M7. Within this area of search there are very few areas that have not already been previously worked. The main remaining area with potential clay/marl resources was the area subject to application 14/00619/CM which now has planning permission. The potential reserve within the Area of Search therefore equates to that available within the permitted sites – Atlas Quarry and Sandown Quarry.

Black Country Core Strategy (2011)

Himley / Oak Farm Area of Search

5.2.27 This Area of Search (MA3) is within Dudley MBC area. The brick clay resource in this area is restricted and constrained by the proximity of proposed housing and employment development in the 'Regeneration Corridor 10 – Pensnett' in the Dudley Borough Development Strategy. This an employment led corridor and most of the areas surrounding the resources are to be retained in employment use, which need not be incompatible with mineral working. Nevertheless, potential conflicts with neighbouring uses need to be minimised if mineral working is to continue.

Ketley Area of Search

5.2.28 This Area of Search (MA4) within Dudley is like the Himley / Oak Farm Area of Search constrained by the proximity of proposed housing and employment development in the 'Regeneration Corridor 10 – Pensnett' in the Dudley Borough Development Strategy.

5.2.29 Fireclay is confined to the coal bearing strata and the economic extraction of fireclay is only likely to be viable when worked concurrently with surface coal extraction.

5.2.30 A summary of clay supplies to Black Country Brickworks is set out in Table 5.6.

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Table 5.6 Supply of Clay to Black Country Brickworks (as at December 2018)

Brickworks/ceramic production sites	Authority	Operator	Current Status	Average clay consumption (tonnes pa)	Supply site linked to brickworks	Source of supply	Current supply category	Maximum imports permitted
Aldridge	Walsall	Ibstock	Operational	80,000	No	Atlas Quarry, (Walsall), Staffordshire	2	100%
Atlas	Walsall	Ibstock	Operational	120,000	Yes	Atlas Quarry, (Walsall)	2	30%
Cradley	Sandwell	Cradley Special Brick or Forterra?	Operational	7,000	No	Imports from East Midlands	4	100%
Dreadnought	Dudley	Hinton Perry & Davenhill Ltd	Operational	40,000	No	Ketley Quarry* (Dudley), Holly Bank Quarry (Staffordshire)	3 / 4	100%
Sandown	Walsall	Wienerberger	Operational	210,000	No	Sandown Quarry (Walsall); Shropshire; Staffordshire; Warwickshire; Leicestershire	4**	95%
Swan Works	Walsall	Potters Clay ad Coal Company Ltd	Operational	2,000	Yes	Birch Coppice (stockpile) located adjacent to the factory	3	100%

Notes:
Category 1 = 25 years +; Category 2 = 15-24 years supply; Category 3 = less than 15 years; Category 4 = no local supplies – supplied entirely by imports or stockpiles
* At the end of December 2018 any supplies from Ketley Quarry would have been from the remaining stockpiles only because the quarry had closed by then.
**Sandown Brickworks does have a local supply which can provide a supply for at least 25 years but only on the basis of the quarry supply 5% of requirements, with 95% of requirements being imported. Further details on clay supplies to this factory are outlined in Section 9.3 of this report.

Source: BCA supplied data (June 2019)

5.3 Secondary and Recycled Aggregates Production

5.3.1 The West Midlands AWP Annual Report 2017 provides information on secondary and recycled aggregate facilities. The Annual Report presents information on sales and capacity rather than consumption. Information for Dudley is taken from the Council's Annual Monitoring Report (AMR) 2016/17.

5.3.2 A brief overview for each of the Black Country Authorities is set out below, with any figures relating to capacity at fixed sites only. Further details about the sites referred to below is provided in Section 7 of this report, specifically Table 7.1.

Dudley

5.3.3 In 2016 there were two fixed construction, demolition and excavation wastes recycling sites, at Ketley Quarry and M & A Doocey Ltd. The Energy from Waste (EfW) plant at Lister Road also produces a secondary aggregate in the form of furnace bottom ash. The three facilities produced just under 50,000 tonnes of secondary/recycled aggregates during 2016 (an estimate was assumed for one of the facilities).

Sandwell

5.3.4 The most significant site in Sandwell is the Bescot Rail Depot, which in 2015 dealt with 135,012 tonnes of recycled and reprocessed track ballast. The ballast is exported for off-site use in other parts of the UK. A further site in Sandwell that may be producing secondary aggregates is the Wednesbury Asphalt Plant.

Walsall

5.3.5 There are six sites within Walsall with permission for the production of aggregates from construction and demolition waste and industrial by-products, but only four of them were operating in 2017. Of the operational sites, one is a coating plant which is not likely to be producing any aggregates for off-site sales. Total capacity of the non-operational sites is estimated to be around 35,000 tonnes per annum, and total annual capacity of the operational sites (excluding the coating plant) is estimated to be around 75,000 tonnes per annum. Sales of material are estimated to have been approximately 40,000 tonnes for aggregate use during 2017 (mostly for construction fill) and approximately 10,000 tonnes for recycled soils. No information is available on actual production in 2017 but production for aggregate use is likely to have been similar to that in 2016.

Wolverhampton

5.3.6 There are five secondary and recycled aggregates production sites in Wolverhampton. Information on throughput is only available for two of the sites, indicating a capacity of 130,000 tonnes per annum.

5.3.7 In summary, across the Black Country in 2017 capacity for secondary and recycled aggregates was as follows:

- Operational capacity of 415,000 tonnes per annum;
- Non-operational capacity of 35,000 tonnes per annum; and
- Overall capacity of 445,000 tonnes per annum.

6. Current Consumption of Minerals and Mineral Products

6.1 Introduction

6.1.1 The main minerals and mineral products consumed in the Black Country are aggregates (sand and gravel, crushed rock, secondary and recycled products), brick clay, fireclay and key mineral products (e.g. concrete, cement, coated products, bricks, tiles and blocks). This section provides information on current annual consumption patterns of minerals and mineral products.

6.2 Methodology

6.2.1 There are a number of national and regional surveys undertaken that provide information on the consumption of minerals and minerals products.

Aggregates Minerals Survey for England and Wales

6.2.2 These surveys aim to provide comprehensive data for monitoring and facilitating aggregates provision at local, regional and national level. The output is used mainly by Government; MPAs; industry and environmental interest groups.

6.2.3 The survey for England and Wales provides information on the national and regional sales, inter-regional flows, transportation, consumption and permitted reserves of primary aggregates in England and Wales. The latest surveys relate to the years 2009 and 2014. The introductory text to the report for the 2014 survey notes that the rate of return of the survey forms was high and so the proportion of estimates made by minerals planning authorities or Aggregate Working Party Secretaries was very low.

6.2.4 There are some limitations to these surveys however:

- The latest available figures relate to the year 2014;
- The figures are only available at West Midlands Conurbation level which includes Birmingham, Solihull and Coventry as well as the four Black Country authorities (referred to as the 'Remainder of West Midlands' in the survey);
- Data relating to an individual quarry are normally considered to be confidential and generally any figure disclosed includes at least three companies' interests unless all the parties involved have given prior approval to release the information. Not all companies participating in the survey gave such approval and the survey results therefore includes a degree of confidentiality and figures that cannot be published.
- There is a proportion of 'unallocated sales' of unknown destination[53] which is due to a number of factors, including the complex requirement for sub-regional flows and also stricter confidentiality rules in carrying out the survey that did not allow unallocated sales to be followed up directly with companies.

[53] Such destinations could be both within and outside the Black Country.

Aggregate Working Party Annual Surveys

6.2.5 The West Midlands Aggregate Working Party carries out an annual survey on sales and reserve data for land won and marine sand and gravel, crushed rock, and secondary and recycled aggregates and presents the information in an annual report. The annual reports have been prepared for a number of years and so it is possible to establish trends in sales. Points to note about the survey are:

- The latest available figures relate to the year 2017;
- It is subject to the same confidentially requirements as referred to above which limits the extent of figures that can be published;
- It includes information on sales and not consumption of minerals – these are not necessarily the same; and
- The figures are only available at West Midlands Conurbation level which includes Birmingham, Solihull and Coventry as well as the four Black Country authorities.

West Midlands Metropolitan Area Local Aggregate Assessment

6.2.6 National policy guidance requires MPAs to plan for a steady and adequate supply of aggregates and to prepare an annual LAA to provide an assessment of the demand for and supply of aggregates.

6.2.7 The LAA for the West Midlands Metropolitan Area covers the area administered by the seven unitary authorities of Birmingham, Coventry, Dudley, Sandwell, Solihull, Walsall and Wolverhampton. The LAA was originally produced as a Draft in November 2015 and was formally endorsed by the West Midlands Aggregates Working Party (AWP) on 21 March 2016. The information used in the report mainly relates to the period up to the end of the 2013 calendar year.

6.2.8 To date, only the one LAA has been produced, although the BCAs have collated sales and landbank data for the West Midlands Metropolitan Area for the years up to 2017 which was provided for this report.

Annual Mineral Raised Inquiry Survey

6.2.9 The annual minerals raised inquiry (AMRI) survey results are derived from a survey of mineral operators carried out by the Office for National Statistics. The survey provides data on non-energy mineral production in Great Britain and, in particular, data on extracted sales of chalk, clays, crushed rock, dolomite, granite, limestone, peat, ore minerals, salt, sandstone, sand and gravel, slate and other minerals, together with employment for each quarry type. The information is by Government, planning authorities and industry to assist land use planning and decision-making for the supply of minerals in Great Britain.

6.2.10 The latest survey was for the year 2014, which is the last survey of this kind to be undertaken. This had a 90% response rate and includes estimates for non-responses where appropriate.

6.2.11 This survey is subject to the same sort of limitations as referred to above:

- The figures are only available at the West Midlands level which includes Birmingham, Solihull and Coventry as well as the four Black Country authorities;
- The survey is subject to confidentially requirements.

Monthly Statistics of Building Materials and Components

6.2.12 The monthly statistics of building materials and components are collated by the Department for Business, Energy & Industrial Strategy (BEIS). These provide quarterly data on sand and gravel sales at a national, regional and sub-regional level. Crushed rock sales are not covered.

6.2.13 There are some limitations with these statistics, namely:

- Some figures are omitted from the sub-regional data to maintain confidentiality (e.g. where less than 3 sites are operating in a particular area) and thus figures for the West Midlands (conurbation) are incomplete;
- Total annual sand and gravel sales figures are only provided at a Great Britain level. To obtain annual sales for England and the West Midlands region it is necessary to add up quarterly figures for each year;
- It is understood that from time to time historic figures are adjusted and it is therefore difficult to be sure that the most up to date figures for each year have been collated.

UK Manufacturers Sales by Products Survey

6.2.14 The UK manufacturers' sales by product (ProdCom) presents annual statistics on the value and volume of products manufactured in the UK. The survey covers UK businesses active in the mining, quarrying and manufacturing sectors. Since 2015, following the cancellation of the AMRI surveys, it has collected data for "other mining and quarrying". The information supplied feeds into the National Accounts and the Producer Price Index (which is a primary measure of inflation). The statistics have a variety of uses such as policymaking and assessing trends in certain product sectors.

6.2.15 There are some limitations to the survey:

- It does not cover recycling products;
- The survey is subject to confidentiality requirements and does not disclose information about individual businesses; and
- Information is reported at national/England level.

6.3 Aggregate Minerals

Primary Aggregates

6.3.1 The main source of information on consumption of aggregates – crushed rock and sand and gravel – is the Aggregate Mineral (AM) survey for England and Wales. The 2009 and 2014 AM surveys indicate that the West Midlands Metropolitan Area (WMMA) is consuming around 1.3 million tonnes (mt) of sand and gravel and around 1 million tonnes of crushed rock per annum. However, given that there are quantities of aggregate minerals which are recorded within the AM survey as 'destination within the region unknown' it is likely that these figures are on the conservative side and that in actual fact consumption of sand and gravel with the WMMA could be between 1.6-1.9 mt and between 1-1.3 mt of crushed rock. With sand and gravel sales at just under 0.5 million tonnes, it is apparent that the West Midlands Metropolitan Area is reliant on imports for crushed rock (there are no such resources in the area) as well as sand and gravel.

6.3.2 An estimation of how much of the consumption in the West Midlands Metropolitan Area is likely to have been in the Black Country has been based on the population of the Black Country as a

percentage of the population of the West Midlands Metropolitan Area[54], This suggests that nearly 50% of the sand and gravel and crushed rock consumption in the West Midlands Metropolitan Area was in the Black Country.

6.3.3 With all sand and gravel production in the West Midlands Metropolitan Area taking place in Solihull (as set out in Section 9 of this report), it is apparent therefore, that all primary land-won aggregates consumed in the Black Country are currently being imported.

Secondary and Recycled Aggregates

6.3.4 The national and regional guidelines 2005 – 2020 (2009) assume that 25% of the total aggregates supply in England and 27% of the total aggregates supply in the West Midlands over the guideline period will be from 'alternative' materials, i.e. secondary and recycled aggregates[55].

6.3.5 The recent MPA report on recovery and recycling of aggregates 'From Waste to Resource' (2019) states that around 30% of the UK's aggregate demand is now supplied from "non-primary sources, mainly recycled materials". The report estimates that around 108 million tonnes of construction, demolition and excavation (CD&E) waste is produced in the UK per annum (excluding spoil from navigational dredging) based on 2014 data, and that around 76% of this is recycled or "beneficially used in the 'chain of utility'". Around 54.9 million tonnes of this is 'hard' construction and demolition waste, of which 90% is recycled, and around 53.4 million tonnes is excavation waste, of which 56% is 'beneficially used' mainly to spread on land as part of remediation schemes. Around 24% of all CD&E waste is disposed of to landfill. It is understood that the underlying MPA data has informed the latest Defra UK Statistics on Waste covering the period up to 2016 (March 2019)[56].

6.3.6 The 92% recovery rate achieved in 2016 in England for non-hazardous construction and demolition waste (see Table 5 of 2019 UK Statistics on Waste) appears to be a significant improvement on the situation in 2005 (the date of the last national survey of use and production of secondary and recycled aggregates), when around 69% of CD&E waste was recycled or 'beneficially used' on land[57].

6.3.7 In a largely urban area such as the Black Country where a lot of development activity takes place, but no primary aggregates are being produced, aggregates from 'non-primary' or 'alternative' sources are likely to make up a higher proportion of total supply than the national average. The national and regional guidelines reflected this and assumed that the proportion of supply to be met from 'alternatives' in the West Midlands would be higher than the proportion in England. It can be inferred from this that more than 30% of the Black Country's aggregates supply will be met from secondary and recycled sources, and an approximate figure for recycled aggregates could be extrapolated from the estimated consumption of primary land won aggregates based on this (see above).

6.3.8 At a local level, the evidence for aggregates production and consumption of recycled aggregates is limited. The evidence for use or consumption of recycled/ secondary products below national or regional level is not very good. The figures from the 2005 Capita Symonds reports are for Birmingham and the Black Country (referred to as the West Midlands Excluding Coventry & Solihull) and relate to production rather than consumption. The figures for recycling are also not

[54] Using Office of National Statistics Mid-Year Estimates (ONS MYE)
[55] West Midlands guideline 2005 – 2020 assumes 100 million tonnes of 'alternatives'/ 370 million tonnes of total aggregates supply = 27%.
[56] https://www.gov.uk/government/statistics/uk-waste-data
[57] Capita Symonds Ltd/ WRc plc (February 2007), *Survey of Arisings and Use of Alternatives to Primary Aggregates in England, 2005: Construction, Demolition and Excavation Waste*, Table 7.1. This estimated that in 2005, England generated around 42.07 million tonnes of recycled aggregate + 4.36 million tonnes of recycled soils + 15.55 million tonnes of waste 'beneficially used' on land = 62.98 million tonnes/ 89.63 million tonnes of estimated CD&E waste = 69.1%.

considered reliable, because the recycling data related to where mobile crushers were based which was not necessarily the same as where the recycling took place.

Construction, Demolition and Excavation (CD&E) waste

6.3.9 The only study into CD&E waste recycling and recovery in the West Midlands Metropolitan Areas has been the 2006 WRAP study[58]. Although the data is probably too old to use, the study highlighted the barriers to optimal use of this waste and are still considered relevant.

6.3.10 It is even more challenging to estimate consumption of secondary aggregates in the Black Country. The tonnages of secondary aggregates (= industrial by products used as aggregates) produced in the Black Country are limited and probably haven't changed significantly from the estimates identified in the 2005 national survey for Birmingham and the Black Country (see 7.2.1 of study) and in the 2015 LAA (see Appendix D).1 Here is a breakdown of the little we know.

Incinerator Bottom Ash (IBA)

6.3.11 The 2005 national survey identified that Birmingham and the Black Country produced around 150,000 tonnes of IBA, of which around 80,000 tonnes was used as aggregate and around 60,000 tonnes was 'potentially available.' As this includes IBA generated by the Tyseley EfW in Birmingham (which has an operational throughout capacity of 350,000 tpa), production in the Black Country would have been less than this. There are two EfW facilities in the Black Country at Dudley and Wolverhampton which have a combined operational throughput capacity of 210,000 tpa. Using the total operational throughput capacity of three EfW facilities (i.e. 560,000 tpa), it can be established that the IBA capacity in the Black Country is 37.5% of the total. Based on this percentage, approximately 56,000 tonnes of IBA was produced in the Black Country and around 30,000 tonnes used as aggregate in the Black Country in 2005

Rail Ballast

6.3.12 The 2005 national survey identified that Birmingham and the Black Country produced around 130,000 tonnes of spent rail ballast of which around 110,000 tonnes was used as aggregate. Although the production site was not identified in the study, the only known production site is Bescot Sidings in Sandwell. Spent ballast (and graded recycled aggregates) are being offered for sale at the Bescot Depot[59] and are likely to be 'consumed' locally, although the quantities cannot be quantified. Any usable rail ballast is re-used on the rail network and could thus be consumed anywhere on the network.

Waste Glass

6.3.13 The 2005 national survey identified that around 80,000 tonnes of waste glass was produced in Birmingham and the Black Country, none of which was used as aggregate. There are still no known facilities specialising in the processing of waste glass 'cullet' for use as aggregate in the Black Country. Waste glass is collected from households by the BCAs as part of co-mingled household waste collections. The Black Country also has two specialist commercial glass waste transfer stations[60]. However, it is considered that the final fate of most of this material (where not contaminated with other wastes) is likely to be recycling into new glass rather than re-use as aggregate.

[58] WRAP (2006), The Sustainable Use of Resources for the Production of Aggregate in England.
[59] https://railwayrecycling.co.uk/depots/
[60] URM (UK) Ltd in Oldbury (Sandwell) https://www.urmgroup.co.uk/ and JME Glass Ltd, Willenhall (Wolverhampton) https://jme-glassrecycling.co.uk/

Spent Foundry Sand

6.3.14 The 2005 national survey identified that around 1 million tonnes of spent foundry sand was produced in England, of which only around 30,000 tonnes was used as aggregate. The survey was unable to disaggregate these figures below the national level. It identified that the cast iron industry was in decline, and that there was a general trend towards more and longer recycling of sand within the industry.

6.3.15 This was confirmed by a telephone survey of foundries in Walsall in 2013, as reported in the 2015 LAA, which found that they recycle a lot of their sand and slag back into the process, and the amount of residual material is negligible. What does arise tends to be treated as a 'waste' and disposed of (often through a broker) rather than being sold direct to an end user.

6.3.16 There is a very small secondary aggregates screening facility in Willenhall, Walsall (SGM 2003 Ltd T/A G & BG Morris) which handles spent foundry sand and other industrial by-product materials. Its annual throughput capacity is less than 5,000 tpa with around 60% of its material is being sold within the West Midlands Metropolitan Area. The remainder serves nationwide markets. The small quantities and wide distribution of the sales suggests this has to be a special product, such as spent foundry sand.

6.3.17 The Black Country's three coating plants are using spent foundry sand as well as recovered asphalt planings (RAP) (see below) although it cannot be established exactly how much of either material is being used. Given that the Black Country foundries are producing very little, the coating plants may be importing a lot of the spent foundry sand they use.

Recovered Asphalt Planings (RAP)

6.3.18 The 2005 national survey identified that around 5 to 6 million tonnes of RAP was produced in England. In 2005 most of the RAP used as aggregate was thought to be used as granular fill, although some was used ex-situ at coating plants to manufacture new asphalt. It was not possible to disaggregate the figure below the national level.

6.3.19 The 2005 national survey indicated that in 2004, less than 10% of the new asphalt produced in the UK contained RAP. It is known that the Black Country's three coating plants are using RAP as well as spent foundry sand (see above), although it is not possible to establish exactly how much of this they use or how much of what is used has arisen locally.

6.3.20 Road planings from public highways are typically managed under Council highway maintenance contracts. Walsall's current contract is with Tarmac, suggesting that road planings from Walsall's highways are probably being recovered for use as aggregate at the nearest Tarmac National Road Planning facility in Birmingham. Information on the arrangements for recovering this material for the other BCAs has not been identified at the time of writing. The Tarmac website indicates that recycled tarmac is sold to various end users including MQP and Aggregate Industries. It is likely therefore, that the three coating plants in the Black Country are using some material that has arisen locally.

Street Sweepings and Gully Waste

6.3.21 Street sweepings and gulley wastes were not identified as a secondary aggregate in the 2005 national survey. These types of waste are typically managed under short-term local authority waste contracts. In the Black Country, Sandwell has a contract with Weir Waste (Sandwell) (now part of Biffa) and Walsall has a contract with William Gilder (Toddington Treatment Centre in Gloucestershire). Information for Dudley and Wolverhampton could not be established at the time of writing. None of this waste is likely to be used as aggregate in the Black Country in that the contractors' facilities for processing these materials are located elsewhere.

6.3.22 However, there is one facility in the Black Country which receives street sweepings and gulley wastes and processes them into useable aggregates. This is the SUEZ Environmental facility at Neachells Lane in Wolverhampton, which is receiving around 25,000 to 30,000 tonnes of this waste annually, based on inputs recorded in 2015-2017 Waste Data Interrogator (WDI). This is being used to manufacture concrete blocks as well as for other uses[61]. SUEZ Environmental also have another similar facility near Coleshill in Warwickshire.

Conclusions

6.3.23 The available evidence suggests that consumption of secondary aggregates in the Black Country is limited. Most of what is currently produced is graded aggregates from spent rail ballast, which are being offered for general sale at Bescot Sidings in Sandwell. Apart from this, spent foundry sand and RAP are being used at coating plants, and aggregates recovered from street sweepings and gulley wastes are being used to produce concrete blocks at a specialist facility in Wolverhampton.

Future Consumption

Increase in House Building

6.3.24 Development plans are seeking to significantly boost the rate of house building in line with Government priorities and local need. The housing need figures for the Black Country have been calculated according to the final standard method published by the Ministry for Housing, Communities and Local Government (MHCLG) in February 2019 which have been incorporated into the National Planning Practice Guidance (NPPG)[62]. The new Black Country Plan will seek to meet the housing need and housing requirement for the plan period. Further details are set out in Section 11 of this report.

6.3.25 The examination of the Birmingham Development Plan confirmed that there is a shortfall of 38,000 homes arising from Birmingham's needs to 2031 that cannot be accommodated within the City. Meeting this shortfall implies a need to increase the requirements for housing in other local authority areas, both within and outside of the West Midlands Metropolitan Area. If allowance is made for the Birmingham shortfall, planned future provision within the Black Country would further increase.

6.3.26 It is clear that the direction of travel is towards much higher levels of housing development, which is likely to bring with it some increase in demand for aggregates.

Infrastructure Projects

6.3.27 The Local Aggregate Assessments and AWP Annual Reports indicate that there are a number of major infrastructure developments, particularly associated with the High Speed 2 (HS2) rail link and other transport infrastructure projects, that will have implications for demand for materials. It is difficult to quantify this given that there is scope for excavated material to be used in the construction of HS2 and for surplus materials to be used for local construction projects and there may be the use of borrow pits specifically for the projects.

Estimating Future Consumption

6.3.28 The evidence outlined above indicates that planned housing and infrastructure requirements for the Black Country are likely to be much higher over the next 10 to 15 years than in the last 10 years.

[61] See: https://www.suez.co.uk/en-gb/our-offering/businesses/what-are-you-looking-for/recycling-and-waste-management/products/concrete-blocks

[62] MHCLG (July 2019), National Planning Practice Guidance: Housing and economic land availability assessment

However, the relationship between construction activity and aggregate requirements is not straightforward and forecasting based on estimates of future construction activity is difficult.

6.3.29 As set out in Section 2.1 of this report, over 70 million tonnes of materials from a range of sources are re-used in the Great Britain aggregates market and 90% of these recycled materials are sources from construction activity, following demolition work and road repairs.

6.3.30 While there is a welcome focus on reducing construction waste, construction in built-up areas and on brownfield sites (as is the case in the Black Country) invariably involves demolition and generates waste materials such as brick and concrete which are re-used in aggregates markets. Similarly, asphalt removed during road maintenance work is all re-used.

6.3.31 Government data and research by the MPA indicates that virtually all potentially re-usable materials are now used in the aggregates market. As such, the scope for increasing the use and share of recycled materials in aggregates markets is likely to be incremental and linked largely to the amount of construction and demolition work carried out in the future.

6.3.32 Information in the 2015 LAA suggests that new house building and related infrastructure accounts for only around 15% of the aggregates market, which in turn suggests that a significant increase in housing requirements may not translate into as significant an increase in the demand for aggregates. Making a link between planned levels of development and aggregate requirements is further complicated as aggregates are not necessarily used in the same area where they are produced. Information set out in Section 9 (Cross Boundary Mineral Issues) of this report indicates that most of the aggregate minerals used in the West Midlands Metropolitan Area are sourced from within the West Midlands or the East Midlands regions. It will therefore be important to ensure that sufficient supplies of aggregate minerals are planned for to support the levels of growth anticipated in the Black Country between now and 2038, not only within the Black Country, but also across this wider area.

6.4 Brick Clay

6.4.1 There are five brickworks within the Black Country and one site producing other ceramic based products. Table 6.3 sets out their annual requirements for clay.

6.4.2 In 2014, the West Midlands Conurbation produced 179,000 tonnes of clay/shale[63]. This was used to manufacture bricks, pipes and tiles. All of this production would have been in Dudley and Walsall in that none of the other authorities in the West Midlands Conurbation had any active clay pits.

6.4.3 Although AMRI has ceased, brick clay production is still being monitored at a national level but no longer at a regional level. The latest national data is published by the BGS in their *United Kingdom Minerals Yearbook 2018* (2019)[64]. This data has been obtained from the British Ceramic Federation and ONS and is not directly comparable to the AMRI data up to 2014. With so many figures being withheld for reasons of confidentiality, the regional and sub-regional brick production data in the Monthly Statistics of Building Materials and Components cannot be relied on either.

[63] Mineral extraction in Great Britain 2014, Table 8.
[64] https://www.bgs.ac.uk/downloads/browse.cfm?sec=12&cat=132 (pages 24-25)

Table 6.1 Black Country Brickworks Clay Requirements

Brickworks	Annual clay requirements (tonnes)	Annual brick production
Atlas	120,000	40 million
Aldridge	80,000	27 million
Cradley	7,000	1 million
Dreadnought*	40,000	not known
Sandown	210,000	73 million
Swan Works**	2,000	n/a

Source: planning application information

* Dreadnought Works manufactures roof tiles as well as bricks.

** Swan Works does not produce bricks, it supplies pottery clay blends, mainly using fireclay.

7. Mineral Production and Distribution Capacity

7.1 Introduction

7.1.1 When planning for future aggregate supplies, the NPPF requires MPAs to "so far as practicable, take account of the contribution that substitute or secondary and recycled materials and minerals waste would make to the supply of materials, before considering extraction of primary materials" (NPPF paragraph 204). It is also assumed in the *'National and regional guidelines for aggregates provision in England 2005 – 2020'* (2009) that a proportion of the requirements over the guideline period will be met from 'alternatives' to primary land-won and marine-dredged aggregates. Secondary aggregates are aggregates produced as a by-product of another industrial process. Recycled aggregates are produced primarily through the recycling of construction, demolition and excavation (CD&E) waste and indications are that recycled aggregates are a more significant supply than secondary aggregates[65]. Information on secondary and recycled aggregates is difficult to obtain due to a lack of regular and recent monitoring, although indications are that this source makes an important contribution to aggregate supply within the West Midlands Metropolitan Area[66].

7.1.2 Although the Black Country is not a large producer of primary aggregates, it does have a number of sites manufacturing building products from aggregates that play an important role in the supply of materials for the construction industry.

7.2 Secondary and Recycled Material

7.2.1 Current data indicates that aggregates produced through the recycling of CD&E waste are a more significant supply of recycled aggregates than secondary aggregates. Nevertheless, both secondary and recycled materials are relevant to the Black Country.

7.2.2 The 2015 LAA estimated that the production of secondary materials in Birmingham and the Black Country in 2005 was 0.22 million tonnes[67]. The LAA 2015 estimated that the West Midlands Metropolitan Area had around 0.4 million tonnes of capacity for recovery and processing of secondary aggregates as at the end of 2013, including six facilities within the Black Country[68]. The main sources of secondary aggregates produced in the West Midlands Metropolitan Area are industrial by-products (including incinerator bottom ash), road planings, and rail ballast. The LAA identifies that local plans are likely to have an important role to play in safeguarding industrial land, ensuring that a supply of industrial by-products can be sustained for as long as the relevant industries remain viable, and in ensuring that existing production facilities can be safeguarded, and that there are opportunities to develop new production facilities where there is an identified demand.

7.2.3 In 2016, the Black Country produced 639,395 tonnes of CD&E waste and managed 1.33 million tonnes[69]. In 2017 these figures had increased slightly with the Black Country producing 720,792 tonnes of CD&E waste and managing 1.43 million tonnes[70].

[65] Survey of Arisings and Use of Alternatives to Primary Aggregates in England 2005" - Construction, Demolition and Excavation Waste and Other Materials (February 2007), Capita Symonds in association with WRc plc for CLG
[66] Paragraph 4.4.21 West Midlands Metropolitan Area LAA 2015
[67] Table 4.4 West Midlands Metropolitan Area LAA 2015
[68] Table 4.5 West Midlands Metropolitan Area LAA 2015
[69] West Midlands AWP Report 2016
[70] West Midlands AWP Report 2017

7.2.4 The BCAs have produced their own estimates of inert/C&D waste received at permitted waste sites in the Black Country (2015-2017) and inert/C&D waste from the Black Country received at permitted sites in England and Wales using the information in the relevant Waste Data Interrogators (WDIs). However, the analysis of the WDI data is not considered to provide a complete picture for the production and secondary and recycled aggregates for the following reasons:

- The WDIs only record waste received at permitted waste sites and not all sites that produce aggregates from waste or by-products have waste permits. Some are 'Part B' installations, others are 'exempt,' and a lot of recycling also takes place on the development sites where the waste arises;
- A high proportion of waste recorded in the WDIs is not coded to a specific origin or destination WPA, or only to the originating region, and there is no way of knowing for sure how much of this arose in the Black Country;
- A high proportion of the 'inert/C&D' waste recorded in the WDI is likely to be residual waste left over from on-site/ex situ recycling operations, consequently a lot of it is likely to be unsuitable for further processing to produce aggregates.

7.2.5 The BCAs figures for inert/C&D waste generated in the Black Country have included an estimate of the tonnages of 'not codeable' waste likely to have arisen in the Black County. This has involved the apportioning of the waste origin 'West Midlands WPA Not Codeable' and 'West Midlands Estimate' to the Black Country based on population using ONS MYE population figures.

7.2.6 The Black Country has a number of fixed secondary and recycled aggregate sites. Permitted facilities in the Black Country are set out in Table 7.1 below. There are also onsite recycling facilities, ready-mix concrete plants and coating plants.

Table 7.1 Sites producing recycled/secondary aggregates in the Black Country (as at December 2018)

Site	Authority	Operator	Throughput (tonnes)	Comments
Bell Recycling Centre Oak Lane, Kingswinford	Dudley	Bell Recycling Ltd	9,000tpa?	Operational No apparent planning permission for recycling on the site.
Bloomfield Recycling Bloomfield Road, Tipton	Dudley	AB Waste Management Ltd	45,000tpa	Operational Mainly accepts CD&E waste but not all throughput is thought to be recovered as re-usable aggregate.
Waste Care, Lister Road Energy from Waste Plant Lister Road Council Depot, Netherton	Dudley	MES Environmental Limited	105,000tpa (operational capacity 99,000tpa)	Dudley MBC does not sell the furnace bottom ash – the contractor operating the facility is responsible for its removal.
Oak Farm Quarry Oak Farm Clay Pit (Quarry), Crooked House Lane, Himley	Dudley	Himley Environmental Ltd	150,000tpa	Site closed in May 2019 with only soils imported for restoration after that time. Produced recycled aggregates from imported CD&E wastes, on-site excavated material and potentially imported commercial and industrial

Site	Authority	Operator	Throughput (tonnes)	Comments
				wastes under planning permission P13/1264 which runs until 2042.
Oak Lane Kingswinford	Dudley	M & A Doocey Ltd	20,000tpa?	Planning permission (ref P13/0893) was granted retrospectively during January 2014 to produce recycled aggregate from imported waste (excavated road stone from road repairs etc) to then use on-site in producing concrete used as road sub base.
Pegasus Grab Hire Land South of Bott Lane, Lye, Stourbridge	Dudley	Pegasus Grab Hire Limited	15,000tpa	Planning permission for aggregates recycling granted in 2018. Operator proposing to relocate to this site from site north of Bott Lane which does not have planning permission for aggregates recycling use.
Regen R8 Limited Timmis Road, Stambermill Estate, Lye, Stourbridge	Dudley	Regen R8 Limited	10,000tpa	Operational Mainly accepts inert and CD&E waste, but not all throughput thought to be recovered as re-useable aggregate.
Bescot Rail Depot Sandy Lane, Wednesbury	Sandwell	Network Rail	150,000-175,000tpa	Operational The site deals with recycled and reprocessed track ballast, which is used on the national rail network. In April 2017 Network Rail announced that Bescot Sidings is its preferred location for development of a new rail sleeper production facility involving the production of new concrete sleepers and the grading of old sleepers for reuse. Public information events were held in January and March 2018 and a scoping opinion was issued in December 2018. A planning application for a sleeper factory was submitted in 2019 *ref DC/19/63378) and permission was refused by Sandwell MBC in December 2019.
Wednesbury Asphalt Plant Smith Road, Wednesbury	Sandwell	MQP	Up to 55,000tpa	Operational Coating plant, producing full range of asphalt products for construction of roads and other paved areas. MQP website indicates that their asphalt plants use secondary materials. Products are therefore made partly from secondary materials, but no information is provided on annual production or whether any of the secondary aggregates are produced on-site or are sold off-site.
Former Hanson Site (West Bromwich) Grice Street, West Bromwich	Sandwell	Unknown	25,000tpa general recycling 100,000tpa CD&E waste recycling	Planning permission for inert waste recycling facility on the site. Site operated by Recycled Aggregates Midlands Ltd until 2017 who has now gone into liquidation. Operational status now unclear; appears operational with Google Maps and Street View (2019) showing crushing and screening being carried out on site.
Branton Hill Quarry Off Chester Road, Aldridge	Walsall	Jack Moody Group	100,000 tpa	Closed Former recycling facility at sand and gravel quarry which was operating under CLEUD issued in 2000 (BC61721P). Quarry operations ceased in 2013. An application for a new quarry haul

Site	Authority	Operator	Throughput (tonnes)	Comments
				road and relocation of the recycling area was approved in 2013 (11/0943/FL). Permission was subsequently granted in May 2018 for a quarry extension and final restoration of the previously worked areas, including the site to be used for recycling. This permission is subject to a S106 requiring the use of the new access road. The new haul road has been partly built, but the relocation of the recycling area has not yet been implemented and the quarry has not re-opened. Application details indicate the new recycling facility will have an annual throughput capacity of 100,000tpa of CD&E waste, a significant increase on the former 25,000tpa throughput of the former CLEUD site.
Former Bace Groundworks Coppice Lane, Aldridge	Walsall		78,000 tpa imported waste and 10,000 tpa stored materials	Closed Former open-air CD&E waste recycling site which was operated by demolition contractor between 2008 and 2011. Planning permission for aggregates recycling use was granted in 2008 (07/2477/FL/E6). After the site closed it remained vacant for several years before being re-occupied by a haulage contractor (DE O'Reilly) in 2016. No recycling is currently taking place at the site and no planning application has been received for change of use to a haulage depot. D E O' Reilly took over the adjacent Interserve Site Services MRF in 2019 and are now (October 2019) running it as a non-hazardous waste transfer station. See Interserve Site Services site below for further details.
Bescot Triangle South Off Bescot Road, Walsall	Walsall	AB Waste Management Ltd	50,000tpa	Operational Site has permission for aggregates storage and recycling granted in 1992 (BC34476P). The original operator, demolition contractor DSM Demolition (based in Birmingham), only used the site intermittently as an 'overspill' site. AB Waste relocated their (unlawful) aggerates recycling operations to the site in 2014. The annual throughput capacity of the site is not known for certain but is estimated to be around 50,000tpa, based on information provided with the original planning application. The site is identified as a Strategic Waste site in the Walsall SAD.
Interserve MRF Brickyard Road, Aldridge	Walsall	Interserve Construction Ltd	20,000 tpa	Operational Material recycling facility (MRF) developed by Interserve to process waste negated by Interserve in 2012 to recover value from C&D and C&I waste generated by Interserve Group's construction projects and other operations in the Midlands. Changed to non-hazardous waste transfer station (WTS) in 2019. Planning permission was granted for MRF in 2010 with modifications approved in 2011 (09/1823/FL and 11/0493/FL) and the facility become fully operational in 2012. The

Site	Authority	Operator	Throughput (tonnes)	Comments
				estimated capacity in the planning application was 50,000tpa of C&D waste. Annual inputs recorded in the Waste Data Interrogator (WDI) 2012-2017 indicate an annual throughput capacity of around 40-50,000tpa in total and that nearly all of the waste received was inert C&D waste. In 2019 this site was taken over by haulage contractor D E O' Reilly who occupy the adjacent Former Bace Groundworks site. It is now a general non-hazardous WTS and no longer specialises in recovery of aggregates from construction and demolition waste. The operator's website indicates that the new facility has an annual throughput capacity of up to 250,000 tpa which is significantly higher than the Interserve facility. A press report in October 2019 indicates that the WTS will be sorting and segregating cardboard, plastic and polythene for recycling, and the residual waste will be used for 'biofuel.' The operator's website also mentions hardcore recycling and aggregate sales, indicating that some aggregates recycling is still taking place. The throughput for aggregates recycling is now estimated to be around 20,000 tpa based on half of previous throughput in the absence of any further evidence, although actual operational throughout may be confirmed through future monitoring.
Willenhall Trading Estate Off Eastacre, Willenhall	Walsall	G & B G Morris	5,000tpa	Operational Very small secondary aggregates processing operation within an industrial estate, operating under 2003 planning permission (02/2344/FL/M1). Specialises in the recovery of aggregates from industrial and quarry wastes. The production capacity is very small and limited by the constraints of the site.
Noose Lane, Willenhall	Wolverhampton	Dismantling and Engineering Services	unknown	Recycling facility and depot operated by demolition contractor specialising in demolition and industrial dismantling of all types of buildings and structures and related works. Main recycling activity appears to be on-site concrete crushing using mobile plant.
McAuliffe Recycling Facility and Depot McAuliffe House, Northcote Road, Wolverhampton	Wolverhampton	McAuliffe Engineering	80,000 tpa	Operational Recycling facility and depot operated by demolition contractor carrying on-site and off-site recycling for developer clients. According to their website McAuliffe have support from WRAP to invest in specialist recycling plant and machinery and WRAP has assisted with the specification of their recycled products. Evidence from Birmingham Plan indicates end products are capping materials (6F2 and 6F1) and granular fill ('vibrostone' 50-90mm aggregate).

Site	Authority	Operator	Throughput (tonnes)	Comments
Neachells Lane Transfer Station 30 Neachells Lane., Wolverhampton	Wolverhampton	Suez Recycling and Recovery UK Ltd	25,000	Operational Waste transfer station (WTS) with specialist facility for recovery of street sweepings for use in manufacture concrete blocks established in 2015 (see Suez website). Site was identified in BCCS as a Strategic Waste Site (WSWo2) and site for potential expansion (WP7) on the basis of consultation with the operator. However, operational capacity does not appear to have increased to the extent envisaged in the BCCS (up to 60,000tpa). Site is still permitted as a non-hazardous WTS, but permit number changed in 2015 coincident with the change to street sweepings recovery - inputs recorded in WDI prior to 2015 were under reference GP3597FB (42805). Inputs since 2015 suggest an operational capacity of around 25-30,000 TPA. Suez website indicates that this facility and a similar facility in Coleshill together process around 70,000 tonnes of street sweepings per annum and there is a 100% recovery rate.
Ettingshall Recycling Facility Millfields Road, Ettingshall	Wolverhampton	Tarmac	100,000tpa	Operational Recycling plant although waste permit is no longer in place and no exemptions are registered to this facility but facility still operating. Inputs only recorded into this site in WDI 2012 to 2014.

Source: West Midlands AWP Annual Monitoring Report 2016 West Midlands AWP Annual Monitoring Report 2017; WDI (2017), BCA supplied data (June 2019) and officer knowledge.

7.3 Manufacturing Building Products

7.3.1 As stated above, the Black Country also has a number of sites manufacturing building products from aggregates. The 2015 LAA notes that there is likely to be increasing pressure for housing development on industrial land within the West Midlands Metropolitan Area in the future, which could put some of these facilities at risk and that local plans will need to ensure that the role of the existing network of manufacturing plants and distribution facilities is recognised and that where appropriate, they are identified and safeguarded.

7.3.2 There are three coating plants in the Black Country (see Table 7.2), each of which has on-site facilities for recovery of aggregates from secondary materials. Furthermore, there are nine ready mixed concrete plants (Table 7.3), three dry silo mortar (DSM) plants (Table 7.4) and two aggregate depots (Table 7.5), one of which is rail linked. The 2015 LAA assumes that most of the end products are used on-site within the coating plants and states that it is not known whether any of the plants generate any surplus material offered for sale.

Table 7.2 Coating Plants in the Black Country (as at December 2018)

Site	Authority	Operator	Throughput (tonnes)	Comment
Wednesbury Asphalt Plant Smith Road, Wednesbury	Sandwell	Midland Quarry Products (MQP) Ltd	n/a	Operational Site includes on-site recycling facility with a Waste Permit for Physical Treatment (A16) and Registered Exemptions for on-site screening, recovery and treatment of waste, cleaning waste, use of waste in construction and secure storage of waste. Inputs of waste have only been recorded in the WDI since the new facility (adjacent to coating plant (DC/14/57687) became operational in 2016. Annual throughput recorded so far has averaged around 35,000tpa, significantly lower than the 100,000tpa throughput indicated in the planning application.
Express Asphalt Darlaston Units 6 and 7, 70 Downs Road, Willenhall	Walsall	Aggregate Industries	n/a	Operational 1999 planning permission BC53350P Minerals imported are crushed rock (most likely from Shropshire and/or Leicestershire) and silica sand. Also has an onsite recycling facility which is believed to produce aggregates from recycled waste as well as from secondary (by-product) materials.
Ettingshall Asphalt Plant Spring Road, Ettingshall	Wolverhampton	Midland Quarry Products (MQP) Ltd	n/a	Operational Company website indicates that all their plants use waste resin sands in dense base asphalts sourced from foundries in the West Midlands as well as recycled aggregate planings. However, there is no indication of annual consumption rates of these materials. Secondary aggregates used are processed on-site, which has registered Waste Exemptions for screening and blending waste, using waste to manufacture finished goods, cleaning, washing, spraying or coating relevant waste and use of waste in construction.

Source: WMLAA (2015) and BCA data (June 2019)

Table 7.3 Ready Mix Concrete Plants (as at December 2018)

Site	Authority	Operator	Throughput (tonnes)	Comment
Accumix Concrete West Midlands Depot, Oakdale Trading Estate, Ham Lane, Kingswinford	Dudley	Accumix Concrete Limited	n/a	*From WMLAA 2015* Operational
Breedon Dudley (Brierley Hill) Concrete Plant Delph Road, Brierley Hill	Dudley	Breedon Group	n/a	*From WMLAA 2015* Operational

Site	Authority	Operator	Throughput (tonnes)	Comment
Dudleymix Concrete Peartree Lane, Brierley Hill	Dudley	Dudley Mixed Concrete Ltd	n/a	*From WMLAA 2015* Operational
Oak Lane CBM Site Yard 2 Oak Farm Brickworks, Dudley	Dudley	S W Jackson Aggregates Ltd	n/a	Operational
Anytime Concrete Kelvin Way, West Bromwich	Sandwell	Anytime Concrete (UK) Ltd	n/a	Operational
CEMEX Oldbury Plant Cemex House, Wolverhampton Road, Oldbury	Sandwell	Cemex UK Materials Ltd	n/a	*From WMLAA 2015* Operational
Breedon Oldbury Concrete Plant Engine Street, Oldbury	Sandwell	Breedon Group	n/a	*From WMLAA 2015* Operational
Hanson Ready Mix Concrete (Oldbury) Roway Lane, Oldbury	Sandwell	Hanson	n/a	Operational
Metamix Batman's Hill Industrial Estate, Purdy Road, Tipton	Sandwell	Metamix Ltd	n/a	Operational
Tarmac Concrete Walsall (Fenchurch Close)	Walsall	Tarmac	n/a	Operational Imports lime/cement, silica sand, high quality aggregates from Derbyshire
Breedon Concrete Plant – Walsall Midland Yard, Fairground Way	Walsall	Breedon Group	n/a	*From WMLAA 2015* Aggregates distribution depot, planning permission for RMX plant
Aggregate Industries Wolverhampton Manfield Road	Wolverhampton	Aggregate Industries	n/a	*From WMLAA 2015* Operational
Britannia Onsite Concrete Oxford Street / Culcan Road, Bilston	Wolverhampton	Gill Group	n/a	Operational

Site	Authority	Operator	Throughput (tonnes)	Comment
Concrete Wolverhampton Unit 1a Thomas Street	Wolverhampton	G&L Ready Mix Concrete Ltd	n/a	*From WMLAA 2015* Operational
Hanson Ready Mix Concrete (Wolverhampton) Fox's Lane, Wolverhampton	Wolverhampton	Hanson	n/a	Operational
Landywood Concrete Neachells lane, Wednesfield	Wolverhampton	Landywood Concrete Products Ltd	n/a	Operational
S S Concrete Price Street, Bilston	Wolverhampton	S S Concrete Mix Ltd	n/a	Operational
Tarmac Concrete Ettingshall Millfield Road, Ettingshall	Wolverhampton	Tarmac	n/a	Operational

Source: WMLAA (2015) and BCA data (June 2019)

Table 7.4 Dry Silo Mortar (DSM) Plants (as at December 2018)

Site	Authority	Operator	Throughput (tonnes)	Comment
Tarmac Birmingham Mortar Engine Street, Oldbury	Sandwell	Tarmac	n/a	Operational
CPI Mortars (Wolverhampton) Springvale Ind Est, Bilston	Wolverhampton	CPI Mortars Ltd	n/a	Operational
Premier Mortars (Wolverhampton) Chillington Works Ind Est, Cross Street, Eastfield	Wolverhampton	Marshalls Mono Ltd	n/a	Operational

Source: WMLAA (2015) and BCA data (June 2019)

Table 7.5 Aggregates Depots (as at December 2018)

Site	Authority	Operator	Throughput (tonnes)	Comment
Bescot LDC Depot Sandy Lane, Wednesbury	Sandwell	Network Rail Infrastructure Limited	n/a	Rail-linked aggregates depot operated by Network Rail, part of a larger site that includes rail sidings and on-site recycling facility.
Walsall Cement & Aggregates Depot Fairground Way, Walsall	Walsall	Breedon Group	330,000	Rail-linked Cement/Aggregates Distribution Depot and RMX Plant, importing lime/cement, silica sand, high quality aggregates from Derbyshire

Source: WMLAA (2015) and BCA data (June 2019)

8. Planned Minerals Projects

8.1 Minerals Infrastructure Projects Relevant to Study Area

8.1.1 Table 8.1 is a schedule of minerals infrastructure projects with extant planning permission that are considered to be of relevance to the study. This relevance is established in the following ways:

- It is located in the Black Country; or
- It is located within the area within which cross boundary minerals movements in and out of the Black Country have been identified in the minerals baseline; or
- It is located outside this area but is of a size or nature that suggests a regional significance that could impinge upon the Black Country.

8.1.2 There are no known planned mineral projects within the Black Country, other than those mineral sites and brickworks already identified elsewhere in this report. The projects listed in Tables 8.1 and 8.2 are projects which could contribute to the Black Country's future requirement for minerals.

Table 8.1 Mineral Projects outside the Black Country*

Authority	Application ref.	Site	Mineral type & tonnage	Status (i.e. still pending/refused/approved) *
Staffordshire	L.14/03/817 MW	Alrewas Quarry	4.2 mt Sand and gravel	Approved – dependent upon conditions
Staffordshire	L.15/04/805-808 MW	Hints/Hopwas	1.8 mt Sand and gravel	Approved – with conditions
Staffordshire	L.16/05/809 MW	Shire Oak	1.6 mt Sand and gravel	Approved – with conditions
Staffordshire	L.15/15/802 MW	Cranebrook	0.75 mt Sand and Gravel	Approved – with conditions
Worcestershire	09/000085/CM	Strensham	430,000 tonnes Sand and gravel	Withdrawn 19/10/17
Warwickshire	RBC/16CM004	Brinklow Quarry	3.4 mt Sand and gravel	Approved
Derbyshire	CM9/1215/122	Swarkestone	2.5 mt Sand and gravel	Approved – with conditions
Derbyshire	CM1/0315/159	Ashwood Dale	5 mt Limestone	Pending - discussions
Derbyshire	CM5/0416/4	Whitwell	4.7 mt Dolomite including 1.54 mt of aggregate	Approved – with conditions
Peak District	NP/DIS/1017/1078	New Pilhough	89,330 tonnes. Gritstone	Approved – with docs containing partly discharged conditions
Peak District	NP/DDD/0606/0613	Dale View	1,009,728 tonnes. Gritstone	Approved - conditionally
Peak District	NP/HPK/0814/0882	Topley Pike	390,000 tonnes. Limestone	Approved (revised working)
Peak District	NP/HPK/0216/0075	Chinley Moor	3,500 tonnes. Gritstone	Approved - with conditions

* Information taken from most recent AWP reports (as a December 2018)

Table 8.2 New Mineral Applications outside the Black Country (as at December 2018)

Authority	Application ref	Site	Mineral type & tonnage	Status (i.e. still pending/refused/approved) *
Staffordshire	SS.15/13/627 M	Seisdon Quarry	Sand and gravel Extension of time only until 31 July 2019	Approved – continue use
Staffordshire	ES.17/11/502 M	Barton Quarry	6.3mt sand and gravel, 650,000 tonnes pa	Pending (extension)
Staffordshire	SS.18/06/602 MW	Saredon Quarry	Sand and gravel, 500,000m^3 over 3 years	Approved (extension)
Staffordshire	SS.16/09/608B MW	Hollybank Quarry, Essington	-	Determination of Scheme of Conditions under Environment Act 1995 - Periodic Review of mineral planning permission SS.13/06/608B MW – Pending (ROMP)
Shropshire	17/05303/MAW	Shipley	3.5 mt Sand and gravel over 14 years 70% would go to the West Midlands conurbation	Pending (new site – replacement for Seisdon Quarry)
Shropshire	17/04868/MAW	Bayston Hill Quarry	130,000 tonnes Sand and gravel	Granted (small extension to avoid sterilisation from plant relocation)
Shropshire	17/02833/MAW	Condover Quarry	2,854,000 tonnes Sand and gravel 200,000 tonnes pa	Pending (extension)
Derbyshire	CM1/0618/23	Mouselow Quarry	Upper shale for use at Denton brickworks 850,000 tonnes Current output is 45,000 tonnes pa, future output anticipated as 54,000 tonnes Would give a total of 23 years' worth of reserves. Denton brickworks produces 50 million bricks pa but has capacity to produce 64 million per annum	Pending (extension)
Derbyshire	R1/1017/33 & CM1/1017/58	Downlow Quarry	Limestone 4.9 mt but would not lead to an overall increase in the amount of rock extracted (addresses a discrepancy in the extraction limit area)	Pending (extension and review of permissions)
Derbyshire	CM3/0817/40	Slinter Top Quarry	Vein mineral and limestone	Pending (extension)
Peak District	NP/DDD/0317/0204	Burntwood Quarry, Beeley Moor	Extend mineral extraction – sandstone (specific for Chatsworth House)	Pending

* As at December 2018.
NB: Relevant applications referred to in Section 9 of this report but not listed in this table may have come forward since the latest AWP reports.

8.2 Nationally Significant Infrastructure Projects

8.2.1 Responsibility for determining applications for Nationally Significant Infrastructure Projects (NSIPs) rests with the Planning Inspectorate (PINS). Details of development consents granted and current applications for NSIPs are published on the PINS website.[71]

8.2.2 The BCAs have reviewed the projects identified on the PINS website. There are presently no applications for minerals related NSIPs near the Black Country.

8.2.3 Nevertheless, due consideration does need to be given to projects such as the High Speed 2 (HS2) rail link, the West Midlands Interchange, the M54 to M6 Link Road, and M42 Junction 6 Improvements and their demand for construction materials. For the latter three NSIPs applications for consent have been submitted to PINS; at the time of writing this report (December 2019), this is not yet the case for HS2.

8.2.4 HS2 will be a key infrastructure project in the West Midlands over the next 5 to 10 years. Work on phase 1, linking London to Birmingham has commenced and is expected to be complete by 2026. Phase 2 will run from the West Midlands to Manchester in the west and Leeds in the East, with work on this phase due to be completed by 2033. Tarmac are working closely with potential Tier 1 contractors on the detail development work associated with the HS2 scheme and initial indicators are that requirements for aggregates and aggregate products within the West Midlands area, to be predominantly sources from local quarries, are: 4.5 million tonnes (mt) concrete aggregates; 4.5mt asphalt and Type 1 sub base materials; and 15mt aggregates for fill materials[72].

8.2.5 These high levels of aggregates will be required within a 5-year time frame, 2019 to 2024 and is likely to sterilise significant tonnages of minerals thereby limiting the already limited supplies of aggregates available in the West Midlands.

71 https://infrastructure.planninginspectorate.gov.uk/projects/
72 West Midlands AWP Annual Monitoring Report 2017

9. Cross-Boundary Minerals Issues

9.1 Introduction

9.1.1 The duty to cooperate between MPAs for plan making is set out in in Section 33A of the Planning and Compulsory Purchase Act 2004 and within the Localism Act 2011. It places a legal duty on local planning authorities to 'cooperate' with each other on the preparation of development plan documents in relation to strategic cross boundary planning matters. Sub-section (4) defines what the duty relates to: the sustainable development or use of land that has or would have a significant impact on at least two planning areas, and/or on an issue that falls within the remit of a county council (i.e. matters such as waste and minerals).

9.1.2 The preparation of local plan policies for minerals is therefore a strategic matter requiring cooperation with other planning authorities if there is evidence that the policies could be having a significant impact on them. Certain other public bodies are also subject to the duty to cooperate and are required to cooperate with local planning authorities.

9.1.3 The NPPF advises that, in order to demonstrate effective and on-going joint working, strategic policy-making authorities should prepare and maintain one or more statements of common ground, documenting the cross-boundary matters being addressed and progress in cooperating to address these (paragraph 27). The Planning Practice Guidance includes advice on maintaining effective cooperation and preparing statements of common ground.

9.1.4 As minerals can only be worked where they are found and not necessarily where they are required, a geographical imbalance can arise. Although the Black Country possesses a diverse range of mineral resources, the only mineral currently being worked is brick clay, so there is still cross boundary movement, with the Black Country being a net importer of construction aggregates and other minerals.

9.1.5 Although legislation requires cooperation where there is a 'significant impact', there is no definition of 'significant impact' in the legislation or national policy guidance. One way of identifying significant impacts is by analysing cross-boundary movements of minerals to identify whether there is large reliance on other areas for the supply of minerals. This section of the report therefore considers existing cross boundary movements of minerals that could have significant impacts on the Black Country or other areas. This will be augmented by a consideration of Nationally Significant Infrastructure Projects or facilities of potential 'regional' importance. It makes recommendations on the type and scale of impacts that would require engagement with other authorities under the duty to cooperate requirement, whether there is a need to prepare a statement of common ground, and if so, what the approach to that would be.

9.2 Aggregate Minerals

9.2.1 The national aggregates minerals surveys provide data on the production and consumption of aggregate minerals in the West Midlands and its sub regions including the West Midlands Metropolitan Area. This data does however not extend down to Black Country level. The two latest surveys cover the years 2009 and 2014.

9.2.2 Tables 9.1 and 9.2 as well as Figures 9.1 and 9.2 set out the quantities of primary aggregates produced, imported and consumed in the West Midlands Metropolitan Area in 2009 and 2014. It should be noted however, that the consumption figures for the WMMA in Table 11 of the 2009 and 2014 collation reports are almost certainly under-estimates because they don't take into account

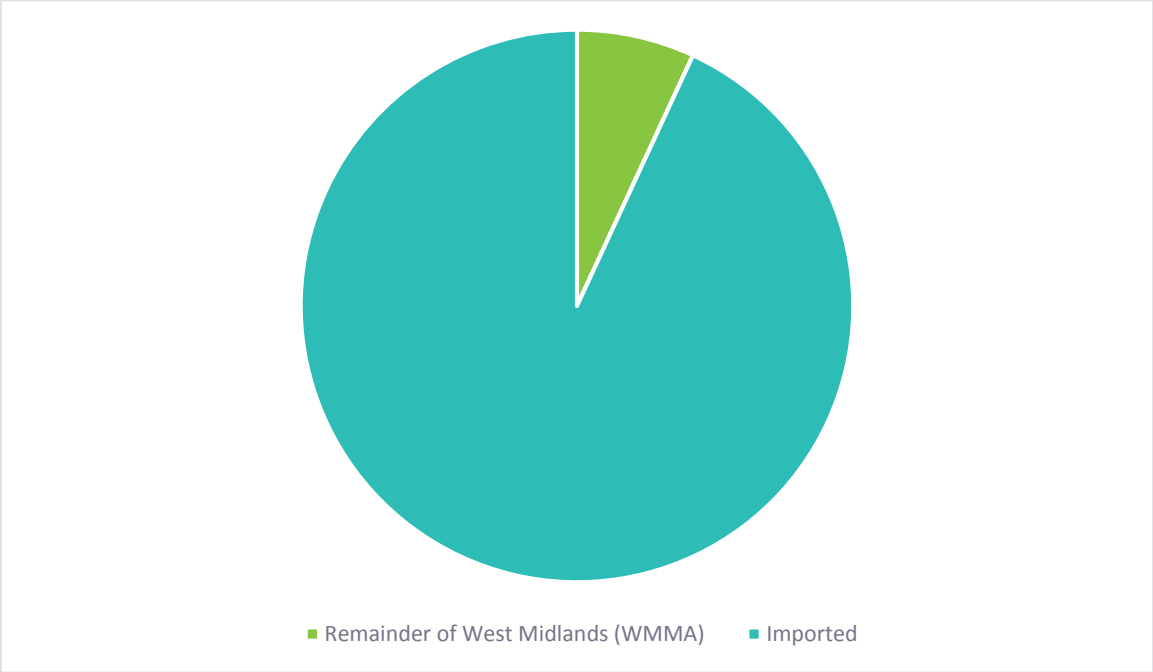
aggregates whose destination was 'unknown in the West Midlands'. The scale of recent development within the WMMA, means that it is likely that a significant proportion of the aggregates whose destination was 'unknown in the West Midlands' were sold/ consumed in the WMMA.

Table 9.1 Production, Consumption and Imports of Sand and Gravel 2009 and 2014, West Midlands Metropolitan Area (tonnes)

Year	Sales	Consumption	Imports
2009	375,000	1,319,000	1,228,000
2014	499,000	1,346,000	1,065,000

Source: AM Surveys 2009 and 2014, tables 9f, 10 and 11
Figures in tonnes

Figure 9.1 Sand and Gravel Consumption, West Midlands Metropolitan Area, 2009



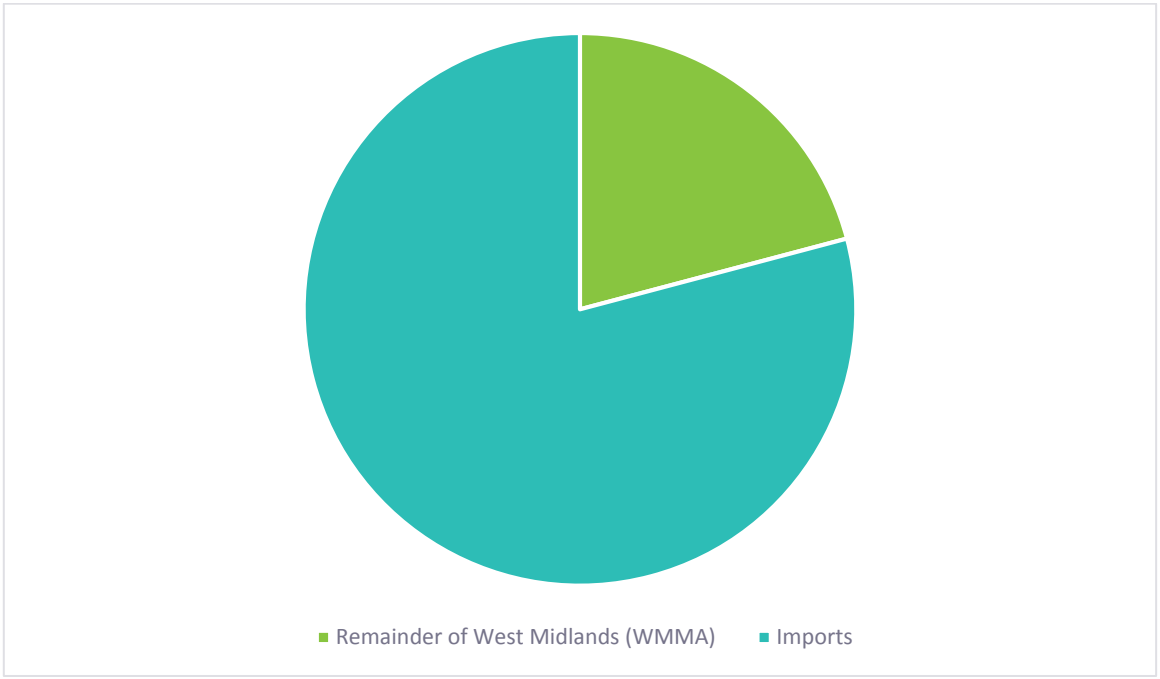
Source: AM Survey 2009, Tables 9f, 10 and 11

Table 9.2 Production, Consumption and Imports of Crushed Rock 2009 and 2014, West Midlands Metropolitan Area (tonnes)

Year	Sales	Consumption	Imports
2009	0	903,000	903,000
2014	0	1,053,000	1,053,000

Source: AM Surveys 2009 and 2014, tables 9f, 10 and 11
Figures in tonnes

Figure 9.2 Sand and Gravel Consumption, West Midlands Metropolitan Area, 2014



Source: AM Survey 2014, Tables 9f, 10 and 11

9.2.3 It is clear that the West Midlands Metropolitan Area is dependent on imported aggregates to meet its needs. However, it should be noted that the West Midlands Metropolitan Area also exports a proportion of its sales. In 2009, 75% of sand and gravel sales were to areas beyond its boundaries (mainly from sites in Solihull) although these exports from Solihull had decreased to 42% by 2014.

9.2.4 The information on the origin of the imported material from the national aggregates surveys is lacking in detail but gives a broad indication of the main sources of supply. The 2015 LAA provides an indication of the main sources of imported material in 2009 from the Collation report, supplemented by underlying data provided by BGS to the West Midlands AWP. This information is shown in Tables 9.3 and 9.4. Similar information is presented for 2014 in Tables 9.5 and 9.6.

Table 9.3 Imports of Crushed Rock 2009

Source	% of supply	Approximate tonnage
Leicestershire	60-65%	542,000 – 587,000
Derbyshire	20-25%	181,000 – 226,000
Shropshire	5-10%	45,100 – 90,300

Source: WMMA LAA 2015 paragraph 3.6.6

Table 9.4 Imports of Crushed Rock 2014

Source	% of supply	Approximate tonnage
Leicestershire	60-70%	631,000 – 737,000
Derbyshire	1-10%	53,000 – 105,300
Shropshire	5 – 10%	10,500 - 53,000

Source: Walsall Duty to Co-operate Statement

Table 9.5 Imports of Sand and Gravel 2009

Source	% of supply	Approximate tonnage
Staffordshire	65%	857,000
Warwickshire	15-20%	198,000-264,000
WMMA (Solihull and Walsall)	5 – 10%	66,000 – 132,000

Source: WMMA LAA 2015 paragraph 3.6.5

Table 9.6 Imports of Sand and Gravel 2014

Source	% of supply	Approximate tonnage
Staffordshire	40-50%	538,000 – 673,000
Warwickshire	1-10%	14,000 - 135,000
WMMA (Solihull and Walsall)	20-30%	269,000 – 403,000

Source: Walsall Duty to Co-operate Statement

9.2.5 Whilst there are differences between the 2009 and 2014 surveys in terms of material exported, the same authorities remained as the main sources of supply.

9.2.6 The main areas where the West Midlands Metropolitan Area sources its aggregates minerals from are Derbyshire (crushed rock) and Leicestershire (crushed rock), Staffordshire (sand and gravel), Shropshire (crushed rock), Warwickshire (sand and gravel). It is assumed that the Black Country has a similar imports profile.

9.2.7 There were however some significant changes to the sources of supply of construction aggregates to the West Midlands Metropolitan Area between 2009 and 2014, the main points of note being:

- While Staffordshire was still the main supplier of sand and gravel to the West Midlands Metropolitan Area in 2014, there was a significant increase in the proportion of supply from within the West Midlands Metropolitan Area (i.e. Solihull) compared to 2009 and a corresponding decrease in supplies from Staffordshire;
- In 2014, Solihull was second only to Staffordshire in the scale of its contribution. Supplies from Warwickshire declined significantly largely due to the closure of several sites in the late 2000s;
- This level of production in Solihull is unlikely to be sustained over the long-term because of HS2 sterilising most of the existing permitted reserves and it remains to be seen whether resources in the wider Areas of Search not affected by HS2 will come forward;
- While Leicestershire was still the main supplier of crushed rock to the West Midlands Metropolitan Area in 2014, there was a significant decrease in the proportion of supply from Derbyshire in 2014 compared to 2009, when it had been the second biggest supplier; and
- There was an increase in the proportion of crushed rock supply from Leicestershire and Shropshire between 2009 and 2014; consequently, Shropshire changed places with Derbyshire in 2014 as the West Midlands Metropolitan Area's second biggest supplier.

Crushed Rock

Derbyshire

9.2.8 The East Midlands AWP Annual report identifies that Derbyshire and Peak District National Park (PDNP) are significant net exporters of aggregate grade crushed rock to other areas and Derbyshire has significant resources of hard rock compared to many other areas in the country and it will be important, therefore, to maintain this level of supply. The Annual Report acknowledges that Derbyshire and the PDNP are likely to continue to be significant net exporters and ongoing cooperation between neighbouring authorities will therefore be essential to ensure adequate reserves are provided in the future.

9.2.9 The Joint LAA 2017 (Derbyshire County Council Derby City Council, PDNP) identifies that the majority of its sites are likely to continue to operate throughout the plan period (to 2030), thus ensuring continuity of supply. Aggregate reserves were estimated at over 853 million tonnes, equating to a landbank of over 90 years, based on the current provision rate of 9.34 million tonnes per annum equating to the 10 years sales average over the period 2007 – 2016. The LAA states that it is clear from the size of the landbank that it will be able to continue to supply its export markets as required at least over the timescales covered by the authorities Development Plans, even allowing for a progressive reduction of aggregate supply from the PDNP.

9.2.10 A new Minerals Local Plan is being prepared for Derbyshire and Derby (outside the Peak District National Park). A Duty to Co-Operate report was published in December 2017. This acknowledges that a number of other authorities rely on its crushed rock exports and identify that it will be necessary, through engagement, to determine how much of Derbyshire's crushed rock they will require. Walsall MBC has been identified as one such authority.

Leicestershire

9.2.11 The West Midlands Metropolitan Area had a large reliance on crushed rock from Leicestershire in both 2009 and 2014.

9.2.12 The East Midlands AWP Annual Report 2016 identifies that there are sufficient permitted crushed rock reserves within Leicestershire to meet requirements to 2031, and that if production at any existing active site cannot be maintained, it may be possible to maintain production levels by increasing production capacity at currently inactive sites. The Annual Report acknowledges that Leicestershire is a large exporter, that this is likely to continue and ongoing cooperation between neighbouring authorities will therefore be essential to ensure adequate reserves are provided in the future. However, the Annual Report states that there remain concerns over the medium to long term future supplies of igneous rock from Leicestershire, in view of the nationally strategic and uncertain nature of the Leicestershire resources beyond the existing permissions.

9.2.13 The 2016 LAA for Leicestershire concludes that the production guidelines should be based on the 10-year average sales, equating to 13.44 million tonnes per annum. This figure includes an element of supply to the West Midlands Metropolitan Area. The LAA also concludes that there will be more than sufficient reserves to meet requirements to 2031 and the ability to increase production at other sites, although none of the inactive sites are, or could, be rail linked. Around 3.4% of the crushed rock imported to the West Midlands in 2014 came by rail[73].

9.2.14 The adopted Leicestershire Minerals and Waste Local Plan (September 2019) states that the level of permitted reserves in Leicestershire is sufficient for around 30 years based on average sales over the last 10 years. which includes an element of supply to the West Midlands Metropolitan Area. Policy M4 of the Submission Minerals and Waste Local Plan makes provision for the extraction of

[73] Table 8, 2016 Leicestershire LAA

some 231 million tonnes over the plan period 2017-2031, based on an annual requirement of 13.6 million tonnes.

Shropshire

9.2.15 Both the Shropshire LAA 2016/17 and the West Midlands AWP Annual Report 2016 identify that the area administered by Shropshire and Telford & Wrekin Councils is currently responsible for producing over half of the regional requirement for crushed rock, with around one quarter of this coming from one site. The latest available data indicates that crushed rock production in 2016 was significantly above the 10-year trend (2.39mt) but below the 3-year trend (2.86mt). However, the landbank in 2016 remained significantly above the required minimum, being equivalent to almost 48 years' production. The LAA does not identify any quality or capacity issues with crushed rock supplies. The LAA concludes that active and on-going engagement with neighbouring MPAs suggests that the current general pattern of aggregate imports and exports can be expected to continue, although the progressive exhaustion of permitted reserves in south-west Staffordshire may start to result in additional demand from sites in eastern Shropshire and Telford & Wrekin.

9.2.16 The Shropshire Local Plan was adopted in 2011. Policy CS20 establishes that Shropshire will provide for an appropriate contribution to the sub-regional apportionments and proposes to maintain the current level of production and current percentage regional contribution, unless robust evidence indicates that higher levels of production are required. The Local Plan identifies that there are sufficient resources already available from permitted sites and does not make provision for further reserves. A partial review of the Local Plan has commenced. At present minerals does not appear to be within the scope of the review, indicating that the current position relating to aggregate supply in the adopted Local Plan remains relevant.

Sand and Gravel

Staffordshire

9.2.17 The Staffordshire Mineral Local Plan sand and gravel requirement is based on maintaining a production capacity of 5 million tonnes, which is based on the 10 years sales average for the years 2004 – 2013. The 2017 Staffordshire LAA considered that this level of provision remains relevant and includes an element of supply to the West Midlands Metropolitan Area. The Minerals Local Plan allocates extensions to 11 sites as well as an area of search for sand and gravel.

9.2.18 The 2017 LAA identifies that reserves as at 1 January 2017 were 63.632 million tonnes. The landbank was 14.2 years based on the 10-year sales average for 2007-2016, or 12.7 years based on the provision in the Minerals Local Plan. Table 2 of the LAA identifies a small shortfall of permitted reserves over the Local Plan of 2.17 million tonnes (taking account of reserves permitted since January 2017). Since the LAA was published, planning permission has been granted for a further 7.15 million tonnes[74]. The LAA (table 2) also identifies that there are 29.25 million tonnes associated with extensions to 11 sites identified in the Minerals Local Plan, although planning permission was granted for extensions to three of these sites during 2017/18, representing 9.75 million tonnes[75].

9.2.19 The LAA considers that production capacity of 5 million tonnes per annum should be maintained during the Plan period (to 2030).

[74] Staffordshire County Council Annual Monitoring Report 2016/17
[75] Staffordshire County Council LAA 2017 paragraph 11

Warwickshire

9.2.20 The West Midlands AWP Annual Report 2016 identifies that there continues to be very low level of sales for sand and gravel in 2016, at just 0.33 million tonnes. Only two sites were producing in 2016, although a third site was due to re-open. Based on the 10-year average (and including the recent Brinklow permission) the landbank was approximately 13 years.

9.2.21 The Warwickshire LAA 2017 also acknowledges the low level of sales over recent years and attributes this to a reduction in the number of active sites. The sand and gravel landbank was estimated to be 13 years in 2017, based on the 10-year average sales figure of 0.508 million tonnes and that 70% of the landbank is located at one site which has limitations on supply. The LAA states that Warwickshire will plan to produce 0.508 million tonnes of sand and gravel per annum during the Local Plan period (and that this figure includes an element of supply to the Metropolitan Area. It concludes that Warwickshire's sand and gravel sales are declining; numerous sites have closed in the last five years and currently there are only three active sand and gravel sites in the County. Additionally, it appears that some parts of the minerals industry are not putting enough sites forward for future development, with possible reasons being that the quality of the material is not economically viable.

9.2.22 Work on the Warwickshire Minerals Local Plan is underway, with the Publication Draft Plan being consulted on between October to December 2018. This shows an overall plan requirement of 6.525 million tonnes over the Plan period 2017-2032 (based on a 10-year sales average of 0.508 million tonnes) and aims to meet this requirement from within Warwickshire rather than relying on imports. A key issue identified is to address the shortfall in sand and gravel, noting that without adequate supply there will not be enough to serve the construction industry in the County and the sub-region, including the Metropolitan Area. The Publication Draft Plan identifies 9 sites with a total potential reserve of 7.51 million tonnes.

Summary of Aggregate Imports

9.2.23 Although it is not possible to obtain a breakdown of imports into the Black Country, it is assumed that the reported position for the West Midlands Metropolitan Area will be similar.

9.2.24 There will be a continued need to import crushed rock as there are no viable resources remaining within the Black Country or the wider West Midlands Metropolitan Area. All three source authorities are basing their future provision on the 10 years sales average, which includes an element of supply to the West Midlands Metropolitan Area. Shropshire and Derbyshire (including the Peak District National Park) have large landbanks of crushed rock and recent LAAs and AWP annual reports do not raise any particular issues about continuity of supply to other areas.

9.2.25 The authorities from where sand and gravel are imported to the West Midlands Metropolitan Area also base their future provision on the 10 years sales average, which includes an element of supply to the West Midlands Metropolitan Area. Recent LAAs and AWP Annual reports do not raise significant concerns about supply from Staffordshire. Production within Warwickshire has declined over the last few years, but the emerging Local Plan seeks to address the shortfall in sand and gravel through the identification of additional sites. However, this does require operators to come forward with planning applications in order to realise this resource. In 2014, only a relatively small amount of sand and gravel was imported to the West Midlands Metropolitan Area from Warwickshire. Since then, planning permission has been granted for an extension to Branton Hill Quarry in Walsall (2018), with a production capacity of 120,000 tonnes per annum which has the potential compensate for any potential supply issues from Warwickshire at least in the short term.

9.3 Brick Clay and Fireclay

9.3.1 The NPPF specifically acknowledges the need for cooperation with neighbouring and more distant authorities to ensure an adequate provision of industrial minerals to support manufacturing processes, and that account is taken of the need for provision of brick clay from a number of different sources to enable appropriate blends to be made (paragraph 208).

9.3.2 There are five brickworks within the Black Country and one site producing other ceramic based products. All these works rely on imports to a greater or lesser extent, either for their main supply of clay or to supplement a dedicated source in order to produce bricks of different quality/colour. The main sources of imports are Staffordshire, Shropshire, Warwickshire and Leicestershire[76].

Leicestershire

9.3.3 Information submitted with a planning application to increase imports of brick clay to Sandown Brickworks in Walsall (15/0303/FL) confirmed that Leicestershire is one of the sources of imported clay, specifically Donington Island Clay Stocking Site.

9.3.4 Triassic Mercia Mudstone is the principal source of brick clay in Leicestershire. At the end of 2018 there were four active brick clay extraction sites in the county (Desford Quarry, Ellistown Quarry, Leicester Quarry and Duckery Quarry). Information in the adopted Leicestershire Minerals and Waste Local Plan (2019) indicates that Leicester Quarry, which supplies the adjacent Ibstock Brickworks and Ellistown Brickworks, has significant permitted reserves of clay. The remaining clay reserves to be worked are sufficient to maintain production at the current rate for 26 years, and the operator has also identified other clay reserves within the current site which would provide reserves up to 2059. However, the current working conditions for the site approved in 2015 (2015/0262/07) do not allow exports to other factories, which would prevent the site from exporting clay to any of the brickworks in the Black Country.

9.3.5 Leicestershire has been an important supplier of fireclay where the remaining source are stockpiles at Donington Island. The adopted Leicestershire Minerals and Waste Local Plan (2019) notes that a substantial amount of fireclays are exported to regional and national markets in addition to supporting local works. In May 2016, planning permission was granted to retain the southern section of the site for clay stocking until the end of 2032, to provide a long-term resource for the Forest Works in Blackfordby, and to a number of other national clayware manufacturing companies dependent on the facility. The tonnage of fireclay stock exported from the site is approximately 70,000 tonnes per annum and demand for fireclay is around 70,000 tonnes per annum.[77]

9.3.6 Leicestershire has five brickworks of which four are supplied from adjacent clay and one will use imported material following cessation of extraction operations at the adjacent site. The adopted Leicestershire Minerals and Waste Local Plan (2019) states that whilst indications are that an adequate supply of brick clay can be maintained over the plan period to 2031, there may be a need to release additional reserves to meet potential shortfalls in landbank for particular brickworks over this period. Policy M5 prioritises extensions to existing sites with associated brickworks.

Shropshire

9.3.7 Information submitted with a planning application to increase imports of brick clay to Sandown Brickworks in Walsall (15/0303/FL) confirmed that Shropshire is one of the sources of imported clay, specifically from Caughley Quarry.

[76] Based on information within the most recent planning applications.
[77] Information submitted in support of application 2015/0991/07 submitted to Leicestershire County Council

9.3.8 Caughley Quarry has been producing fireclays, brick clays and associated coals for over 60 years and has historically been a major supplier of brick and fireclay to local brick/ceramic works. With the demise of surface coal mining in the area, the site was an important supplier of buff-firing fireclays to brickworks and is currently operating under the terms of a planning permission granted in 2004. At the time of this application, it was expected that extraction would take place over a 26-year period, to 2032. However, in 2008, the operator indicated that there had been a substantial draw down of the permitted mineral reserves, and this together with a marked increase in demand for the clays, resulted in a fall in the projected life of the current operation to less than 10 years[78].

9.3.9 More recently, the operator confirmed that the remaining coal and clay resource is significantly less than was originally assumed, due to the extent of past working and geological factors which have led to a deterioration in the amount and quantity of remaining mineral. Given these factors, the operator considered that it is not economic to recover the additional remaining clays having regard also to current market conditions. However, if market conditions improve the remaining clay would become available for future working. At present all workable clays and coals within the site have been worked and either removed from site or placed within a stockpile to be sold[79].

Staffordshire

9.3.10 Information submitted with a planning application to increase imports of brick clay to Sandown Brickworks in Walsall (15/0303/FL) confirmed that Staffordshire is one of the sources of imported clay, specifically Chatterley Quarry (referred to as 'Kimberly (Stoke)') which only has a limited life remaining. The operator of Dreadnought Brickworks in Dudley has indicated that they are also reliant on supplies from sites within Staffordshire.

9.3.11 Information submitted as part of a 2014 Review of Old Mineral Permissions (ROMP) of Redhurst Quarry in Essington (ref. SS.14/08/608A MW) stated that some clay was being exported to Aldridge Brickworks in Walsall. However, this site may no longer be supplying Aldridge Brickworks in that Atlas Quarry in Walsall is now supplying Etruria marl to this factory.

9.3.12 Clay sites in Staffordshire with planning permission and permitted reserves are set out in Table 9.7 below.

Table 9.7 Staffordshire Clay Sites

Site	Operator	Cessation Date	Commentary (as appropriate)
Kingsley	Tarmac Cement and Lime Limited	2042	
Apedale South	Land Improvement/Landmatch Ltd	2042	'Phase 1 Active' site but not operational; ROMP (ref. N/SR/1/211 MW) has 'stalled'
Chatterley	Joseph Kimberley and Sons Ltd	2030	Application to postpone ROMP (ref. N.19/03/217 MW) submitted because the site only has a limited life left.
High Carr	Cherry Hill Skip Hire/Rossisle Development Co Ltd	2019	Site has been worked out and is no longer operating.
Keele	Tarmac Cement and Lime Limited	2043	Supplies Keele tileworks and Chesterton and Parkhouse Brickworks

[78] supporting statement to accompany planning application ref SC/MB/2008/0726/BR
[79] Officer appraisal report, planning application 17/00871/AMP

Site	Operator	Cessation Date	Commentary (as appropriate)
Knutton	Ibstock Brick Ltd	2042	Supplies Keele tileworks and Chesterton and Parkhouse Brickworks
Rufus/Bradwell Wood	Ibstock Brick Ltd	2041	
Campions Wood	Booth Ventures Ltd	2033	2010 ROMP application (ref. SS.09/08/611 M) indicated that the Etruria Formation clays present here are difficult to work, and probably only suitable for bulk fill. However, notifications to Staffordshire CC in 2016 in compliance with conditions have confirmed that the clay has been successfully test fired at Dreadnought and Kingsbury Brickworks. It was estimated that the site had reserves of around 1 million tonnes of Etruria Marl.
Cheslyn Hay/Rosemary Works	BMI Redland	2042	Clay is being used to manufacture tiles and is being exported to tile works outside of Staffordshire.
Essington	JPE Holdings Ltd	2042	
Himley Road North and South	Wienerberger Ltd	2042	
Hollybank	Hinton, Perry and Davenhill (HPD) Ltd	2030	Supplies Dreadnought Works (bricks and tiles). Site acquired by HPD in 2017 to supply Dreadnought Works. Site currently has end date of 2030 for working and therefore does not provide a 25-year supply. There is a current ROMP application. The supporting information (which pre-dates acquisition by HPD) indicates it is not an easy site to work and probably has limited winnable reserves remaining.
Redhurst and Essington	Ibstock Brick Ltd	2042	Supplies Lodge Lane Brickworks in Cannock Has also supplied Aldridge Brickworks but may not be anymore.
Walkmill Lane	n/a	2042	Not listed as an operational site in the Staffordshire AMR 2017/18.
Warstones	Mar City	2035	Not operational; subject to 'dormant' permission for clay extraction and brickworks (ref. SS.0021/94)
Wilnecote	Forterra Building Products Ltd	2035*	Supplies Wilnecote Brickworks

Sources: Staffordshire Minerals Local Plan and Local Plan Appendix 2, February 2017, Staffordshire County Council AMR 2017/18
*Application ref T.16/02/905 MW providing for a further 12-13 years extraction has been approved subject to the completion of a S106 agreement.

9.3.13 The Staffordshire Minerals Local Plan (2017) acknowledges that clay from the Etruria Formation within Staffordshire is also used at works outside Staffordshire and it is known that clay from quarries in south Staffordshire (with long term permissions) is used to supply works in Walsall (and Warwickshire) and this is likely to continue during the Plan period. The Minerals Local Plan does

not make any planned provision for works outside the County but does commit to liaising with relevant neighbouring MPAs including Walsall to monitor cross border requirements for clay.

Warwickshire

9.3.14 Information submitted with a planning application to increase imports of brick clay to Sandown Brickworks in Walsall (15/0303/FL) confirmed that Warwickshire is one of the sources of imported clay, specifically Kingsbury Quarry. An application has recently been submitted (October 2019) for an extension to Kingsbury Quarry (ref. NWB/19CM020). The supporting information indicates that the permitted reserves of Etruria Marl are low (only around 0.2 million tonnes) and that the extension would provide a further 5.6 million tonnes, sufficient for 33 years' supply to Kingsbury Brickworks and allow for some exports. Assuming that permission is granted and allows for clay to be exported to Sandown Brickworks, this is a potentially important long-term source of supply to the factory.

9.3.15 The Publication Minerals Local Plan (2018) states that Etruria Marl from Kingsbury Quarry supplies the Kingsbury Brickworks but is also known to support clay product manufacturing at Sandown Brickworks in Walsall. The Plan identifies a mineral safeguarding area for this source of clay, but does not allocate any sites for extraction, with any planning applications for new mineral sites or extensions to sites to be assessed through the general Local Plan policies. Warwickshire County Council intends to monitor the export of clays as part of on-going co-operation with other MPAs.

Summary of Brick Clay Imports

9.3.16 There seems to be an explicit acknowledgement through adopted and emerging minerals local plans in Staffordshire and Warwickshire that brickworks within the Black Country rely on brick clay supplied from sites within these areas. Leicestershire County Council did not make any comments on the planning application to increase imports to Sandown Brickworks, nor did they raise any representations on the Walsall Site Allocation Document.

9.4 Major Infrastructure Projects

9.4.1 Major infrastructure projects or facilities of potential 'regional' importance may require significant quantities of minerals that may affect the "usual" demand and supply position. A review of the Aggregate Working Party annual reports and LAAs of neighbouring authorities has been undertaken and a summary is provided below.

High Speed 2 (HS2) Rail Link

9.4.2 HS2 will affect a number of different authorities, notably Birmingham and Solihull in that the new rail link will go through these authority areas. A new station is planned at Curzon Street in Birmingham and the new HS Birmingham Interchange station is to be built in Solihull. The latter will sterilise most of Solihull's permitted sand and gravel reserves.

Black Country

9.4.3 There are a number of major infrastructure projects in the Black Country, including the Wolverhampton Interchange, which is currently underway, and the M6 Junction 10 improvement in Walsall.

Birmingham

9.4.4 Other than the new HS2 station planned at Curzon Street, the most significant infrastructure project underway in Birmingham is the Commonwealth Games Village.

Coventry

9.4.5 There are two significant infrastructure projects underway in Coventry. These are the Coventry Rail Station Masterplan and City Centre South, 560,00 square feet mixed used development.

Solihull

9.4.6 In 2018 Solihull was awarded funding for a package of transport improvements to be progressed ahead of the new HS2 Birmingham Interchanges station, including a new integrated transport hub in the town centre.

Shropshire

9.4.7 Although the Shropshire LAA 2016/17 does not identify any known national or strategic infrastructure projects which are likely to increase demand for aggregate minerals, the North West Relief Road project is now underway.

Warwickshire

9.4.8 Warwickshire LAA 2017 notes that large scale development is proposed in all Districts and Boroughs in the county including major developments at the Masts site in Rugby and a potential new settlement at Gaydon in Stratford District. There are also large-scale developments proposed to the south of Leamington, to the north of Nuneaton and to the south of Coventry at the Warwick Gateway site. The largest infrastructure project planned in the county is the High Speed 2 (HS2) Rail project from London to Birmingham whose route, runs through the county. The LAA states that there has been no indication that any minerals sites in Warwickshire will be required for the construction process as the information provided to the Council is that the sand and gravel for the construction project will be sourced from quarries predominantly in the south east, although the LAA highlights that this situation might change once construction gets underway, for instance borrow pits may be required in the future near the route.

9.4.9 Other projects include the M42 Junction 6 Improvements (NSIP) and the proposed duelling of the A5 between Dordon and Atherstone.

Staffordshire

9.4.10 Staffordshire 2017 LAA also identifies HS2 as a major project and identifies that the scheme includes proposals for borrow pits within Staffordshire. The LAA identifies two road improvement schemes to start 2018/19 and a new link road that is planned.

9.4.11 Other projects include the M54 to M6 Link Road (NSIP), the West Midlands Interchange (NSIP), and the Lichfield Southern Bypass which is in the final phase.

Herefordshire

9.4.12 There are two main schemes planned in Herefordshire. These are the Hereford City Centre Transport Package, which is already underway, and the South Wye Transport Package.

Worcestershire

9.4.13 A number of infrastructure projects being planned include: the A4440 Worcester Southern Link Road improvements; the A38 Bromsgrove Improvement; the Pershore Infrastructure Improvement Scheme; and the Churchfields Urban Highway Improvement Scheme in Kidderminster.

9.5 Duty to Cooperate Requirements

Despite the diverse range of mineral resources in the Black Country, many of these resources are sterilised given the urban nature of the area and therefore it is evident that the Black Country is a net importer of minerals, predominantly from the wider East and West Midlands area. It is important therefore that the BCAs continue to liaise with local planning authorities in these areas as part of the duty to cooperate to plan for a steady and adequate supply of minerals through bodies such as the AWP.

10. Key Issues for Delivery of Mineral Development

10.1.1 The following key issues for delivery of mineral development in the Black Country have been identified following a review of the evidence base for minerals:

- There is a need to continue to safeguard existing mineral and mineral infrastructure sites and resources in the Black Country.
- Aggregates – There is a need to plan for a greater demand for aggregate minerals due to planned housing growth and infrastructure projects. The recently granted permission for sand and gravel extraction at Branton Hill in Walsall is likely to be able to meet demand in the short to medium term based on the current 0.55 million tonnes per annum apportionment for the Black Country. Nevertheless, this permission is only until 2027/8 and there is some concern therefore that demand for aggregates in the latter part of the plan period may not be met.
- Brick Clay – There are insufficient brick clay supplies to enable a 25-year supply at each of the Black Country's brickworks. Other than Cradley, the supply of brick clay to other Black Country brickworks does not quite meet the 25-year supply requirement as set out in the NPPF. Dreadnought and Sandown are reliant on brick clay imports from Staffordshire, Shropshire, Leicestershire and Warwickshire. Aldridge and Atlas brickworks rely on Etruria Marl from Atlas quarry as well as imports of other clays from outside the Black Country.
- There is a need for a balanced approach between safeguarding mineral resources and pressures from housing and economic growth. Consider adopting approach similar to other urban areas (Birmingham, Greater Manchester, and Telford & Wrekin) to identifying more defined MSAs (similar to approach already adopted in Walsall SAD) with a greater emphasis on prior extraction, especially in areas outside these MSAs, to prevent unnecessary sterilisation of mineral resources.

Part 2: Review of MSAs and Future Minerals Supply Requirements

This section seeks to review the Mineral Safeguarding Areas in the Black Country and identify the future mineral supply requirements.

11. Review of Mineral Safeguarding Areas and Future Mineral Supply Requirements

11.1 Need for Other Development

Context

11.1.1 Minerals provide the raw materials to enable development and therefore it is important to understand what development is likely to take place in the Black Country in the period to 2038 and what impact this will have on the demand for minerals and the extent to which the identified needs will be met in the Black Country and/or from outside the Black Country.

11.1.2 During the plan period to 2038, the Black Country Plan will need to plan to meet the identified need for additional housing, employment land, town centre developments and transport infrastructure. Land supply in the Black Country is finite and a significant proportion of the acknowledged BCAs development needs will need to be met beyond the Black Country boundary. Within the Black Country, the challenge is to achieve a balance between development to protect what is most useful, provide development where it is most appropriate whilst arbitrating between land uses where conflicts could arise. This includes the need to safeguard mineral resources (both of local and national importance) and minerals infrastructure and prevent the unnecessary sterilisation of minerals resources by other development.

Household Growth

11.1.3 There are three housing growth scenarios that have been modelled for the purpose of this study as part of the new Black Country Plan. The housing need figure used in the projections has been calculated according to the final standard method published by the Ministry for Housing, Communities and Local Government (MHCLG) in February 2019 which have been incorporated into the National Planning Practice Guidance (NPPG)[80]. These scenarios relate to the extent to which the Black Country plans to meet its net housing need over the plan period and whether it seeks to meet a proportion of the residual requirement of Birmingham. The standard method only provides an indication of housing need for the next 10 years, so it is necessary to annualise and extrapolate the figures to provide an estimate of need for longer periods as required for local plan production. The annualised net housing 'need' figures for the Black Country stated below are the sum of the annualised net housing 'need' figures for each authority, however, due to rounding, these figures differ slightly from the Black Country annualised net housing 'need' figures as stated in Housing Baseline Information provided by BCAs in May 2019.

Housing Growth Scenario 1 (Baseline)

11.1.4 This relates to the annualised total housing 'need' for the Black Country. This equates to:

- Actual net completions of 5,471 dwellings 2016/17 – 2017/18;
- A total 'need' for 75,040 net additional dwellings for the for the rest of the plan period 2018/19to 2037/38, which equates to an average (mean) of 3,752 dwellings per annum; and

[80] MHCLG (July 2019), National Planning Practice Guidance: Housing and economic land availability assessment

- A further total 'need' for 37,520 net additional dwellings for the next 10 years beyond the plan period 2038/39 to 2047/48 (assumed to be the same as the plan period pro rata), which equates to an average (mean) of 3,752 dwellings per annum.

11.1.5 The total housing need under the baseline scenario is therefore 80,511 net additional dwellings 2016/17 – 2037/38 and 118,031 net additional dwellings 2016/17 – 2047/48 (see Table 11.1).

Housing Growth Scenario 2 (Birmingham Plus)

11.1.6 This relates to the annualised total housing 'need' for the Black Country under Scenario 1, plus an additional 3,000 net dwellings to help meet the shortfall in Birmingham's needs. It has been agreed to 'test' the potential to accommodate this within the Black Country over the plan period 2018/19 to 2037/38. This equates to:

- Actual net completions of 5,471 dwellings 2016/17 – 2017/18;
- An increased total 'need' for 78,046 net additional dwellings for the rest of the plan period 2018/19 to 2037/38, which equates to an average (mean) of 3,903 dwellings per annum;
- A further total need for 37,520 net additional dwellings for the next 10 years beyond the plan period 2038/39 to 2047/48 as for Scenario 1, which equates to an average (mean) of 3,752 dwellings per annum.

11.1.7 The total housing 'need' under Scenario 2 is therefore 83,531 net additional dwellings 2016/17 to 2037/38 and 121,031 net additional dwellings 2016/17 – 2047/48 (see Table 11.1)

Housing Growth Scenario 3 (Black Country Minus)

11.1.8 This relates to the annualised total housing 'need' for the Black Country under Scenario 1, but with the provision of 7,000 net dwellings outside of its boundaries over the plan period 2018/19 to 2037/38. This equates to:

- Actual net completions of 5,471 dwellings 2016/17 to 2017/18;
- A reduced total 'need' for 68,500 net additional dwellings in the Black Country for the rest of the plan period 2018/19 to 2037/38, which equates to an average (mean) of 3,425 dwellings per annum; and
- A further total need for 37,520 net additional dwellings for the next 10 years beyond the plan period 2038/39 to 2047/48 as for Scenario 1, which equates to an average (mean) of 3,752 dwellings per annum.

11.1.9 The total housing 'need' under Scenario 3 is therefore 73,971 net additional dwellings 2016/17 to 2037/38 and 111,491 net additional dwellings 2016/17 – 2047/48 (see Table 11.1).

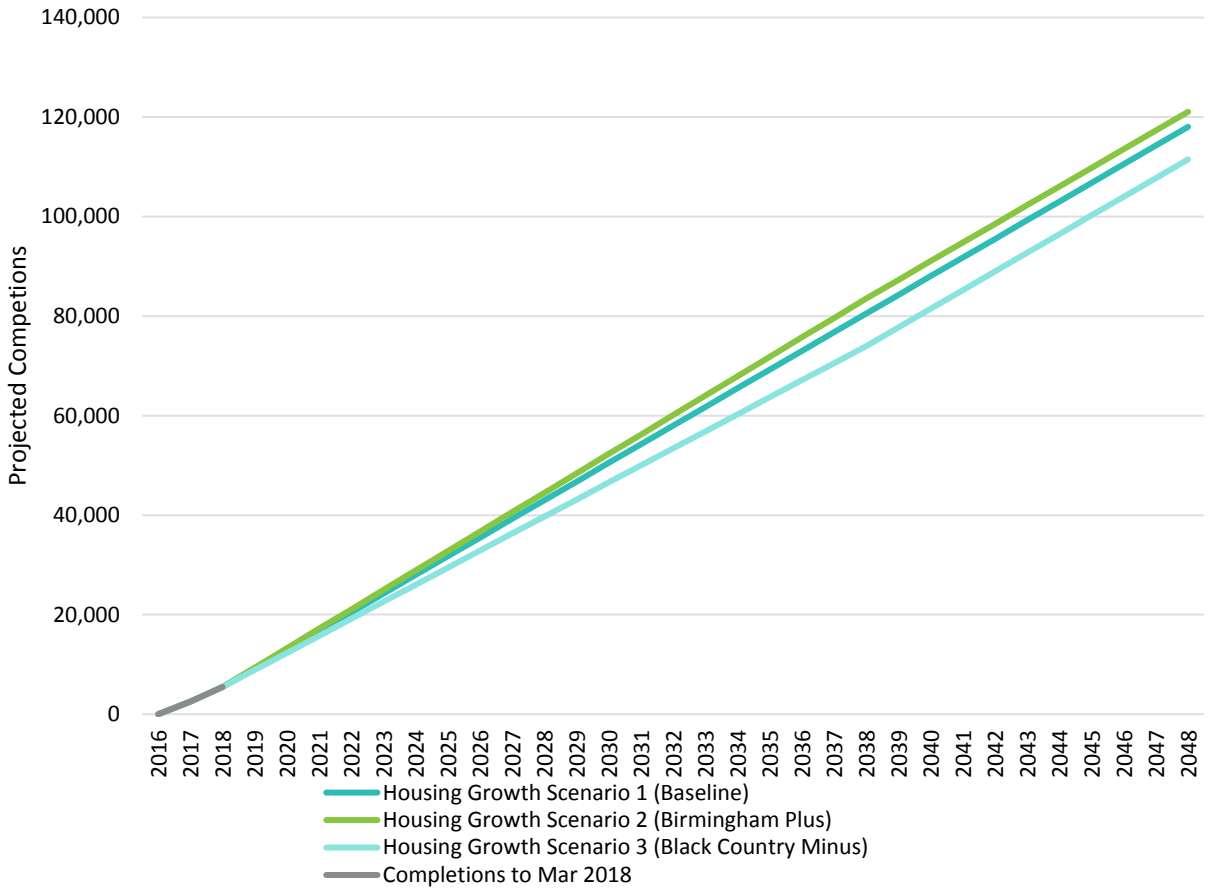
11.1.10 Table 11.1 and Figure 11.1 summarise these scenarios, with Table 11.1 showing 5-yearly cumulative totals for the plan period 2016 to 2038 and the 10 years beyond the plan period 2038 to 2048.

Table 11.1 Housing Growth Scenarios (cumulative net housing need/growth (net dwellings) 2016 – 2048

Scenario / Authority	Completions 2016 - 2018	Required 2018/19 - 2022/23	Required 2023/24 - 2027/28	Required 2028/29 – 2032/33	Required 2033/34 – 2037/38	Required 2038/39 – 2042/43	Required 2043/44 – 2047/48
Housing Growth Scenario 1 (Baseline)							
Dudley	1,323	6,423	11,523	16,623	21,723	26,823	31,923
Sandwell	1,557	6,172	10,787	15,402	20,017	24,632	29,247
Walsall	1,218	6,698	12,178	17,658	23,138	28,618	34,098
Wolverhampton	1,373	4,938	8,503	12,068	15,633	19,198	22,763
TOTAL	**5,471**	**24,231**	**42,991**	**61,751**	**80,511**	**99,271**	**118,031**
Housing Growth Scenario 2 (Birmingham Plus)							
Dudley	1,323	6,603	11,883	17,163	22,443	27,543	32,643
Sandwell	1,557	6,257	10,957	15,657	20,357	24,972	29,587
Walsall	1,218	7,103	12,988	18,873	24,758	30,238	35,718
Wolverhampton	1,373	5,023	8,673	12,323	15,973	19,538	23,103
TOTAL	**5,471**	**24,986**	**44,501**	**64,016**	**83,531**	**102,291**	**121,051**
Housing Growth Scenario 3 (Black Country Minus)							
Dudley	1,323	6,003	10,683	15,363	20,043	25,143	30,243
Sandwell	1,557	5,982	10,407	14,832	19,257	23,872	28,487
Walsall	1,218	5,753	10,288	14,823	19,358	24,838	30,318
Wolverhampton	1,373	4,858	8,343	11,828	15,313	18,878	22,443
TOTAL	**5,471**	**22,596**	**39,721**	**56,846**	**73,971**	**92,731**	**111,491**

Source: Black Country Authorities

Figure 11.1 Housing Growth Scenarios



Employment Growth

11.1.11 There are three employment growth scenarios that have been modelled as part of the new Black Country Plan. These all respond to the estimates annualised/ total employment land requirement for the Black Country over the plan period in the Stage 1 Employment Development Need Assessment (EDNA) which is the basis for the supply requirement identified at 3.24 of the Issues & Options Report (July 2017). These scenarios relate to the extent to which the Black Country plans to meet its employment land requirement within its own boundaries of the extent to which demand is met in South Staffordshire.

- Employment Growth Scenario 1 (Baseline). This relates to the annualised total employment land demand within the Black Country. This equates to:
  - A total provision of 880 hectares for the period 2016/17 to 2037/38; and
  - A further provision for 400 hectares for the period 2037/38 to 2047/48.
- Employment Growth Scenario 2 (Minimum Supply Export). This relates to the annualised total employment land demand for the Black Country but with a 'minimum' proportion of the land supply (90 hectares) provided outside its boundaries. This represents the bottom end of the range of provision outside the Black Country identified in the Issues & Options Report (2017). This equates to:
  - A provision of 790 hectares for the period 2016/17 to 2037/38; and with further provision for 400 hectares for the period 2037/38 to 2047/48; and

- A balancing provision of 90 hectares for the period 2018/19 to 2037/38 in South Staffordshire.

- Employment Growth Scenario 3 (Maximum Supply Export). This relates to the annualised total employment land demand for the Black Country but with a greater 'maximum' proportion of the land supply (300 hectares) provided outside its boundaries. Although this is higher than the upper end of the provision identified in the Issues & Options Report (2017), it represents the BCAs' current thinking on the maximum provision likely to be identified outside the Black Country based on ongoing discussions with neighbouring authorities. This equates to:
  - A provision of 580 hectares for the period 2016/17 to 2037/38 with further provision of 400 hectares for the period 2037/38 to 2047/48; and
  - A balancing provision of 300 hectares for the period 2018/19 to 2037/38 in South Staffordshire.

11.1.12 These provisions and their apportionment between the BCAs are shown in Table 11.2, as 5-yearly cumulative totals.

Table 11.2 Employment Growth Scenarios (cumulative net employment need/growth 2016 – 2048)

Scenario / Authority	Estimated Growth 2016 - 2018	Required 2018/19 - 2022/23	Required 2023/24 - 2027/28	Required 2028/29 – 2032/33	Required 2033/34 – 2037/38	Required 2038/39 – 2042/43
Employment Growth Scenario 1 (Baseline)						
Dudley	16.9	59.1	101.3	143.5	185.8	228.0
Sandwell	8.8	30.8	52.8	74.9	96.9	118.9
Walsall	41.4	144.9	248.4	351.9	455.4	558.9
Wolverhampton	12.9	45.2	77.4	109.7	142.0	174.2
TOTAL	**80.0**	**280.0**	**480.0**	**680.0**	**880.0**	**1,080.0**
Employment Growth Scenario 2 (Minimum Supply Export)						
Dudley	15.0	52.5	89.9	127.4	166.8	209.0
Sandwell	7.8	27.4	46.9	66.4	87.0	109.0
Walsall	36.7	128.6	220.4	312.3	408.8	512.3
Wolverhampton	11.5	40.1	68.7	97.4	127.5	159.7
TOTAL	**71.0**	**248.5**	**426.0**	**603.5**	**790.0**	**990.0**
Employment Growth Scenario 3 (Maximum Supply Export)						
Dudley	10.6	36.9	63.3	89.7	122.4	164.7
Sandwell	5.5	19.3	33.0	46.8	63.9	85.9
Walsall	25.9	90.6	155.2	219.9	300.1	403.6
Wolverhampton	8.1	28.2	48.4	68.6	93.6	125.8
TOTAL	**50.0**	**175.0**	**300.0**	**425.0**	**580.0**	**780.0**

Source: Black Country Authorities

Implications for Minerals Demand

11.1.13 It is difficult to quantify what the projected housing and employment growth mean in terms of the amount of mineral that needs to be planned for, specifically construction aggregates. Nevertheless, it is clear the projected growth will impact on mineral consumption.

11.1.14 In their report *'The Need for Indigenous Aggregates Production in England'* (2008), the BGS estimated that each new house built in England requires 60 tonnes of aggregates (or three lorry loads). If all roads and utilities are included, the requirement can increase to as much as 400 tonnes of aggregates per house (or twenty lorry loads). More recently, in their *'Profile of the UK Mineral Products Industry (2018 Edition)'*, the Mineral Products Association (MPA) estimated that in the UK in 2016 aggregates production per capita was around 4 tonnes and that a typical home uses 200 tonnes of aggregates to build. Using these figures an estimate of likely construction aggregate requirements to meet the Black Country housing projections is set out in Table 11.3.

Table 11.3 Estimated Construction Aggregates Requirements to meet Black Country Housing Projections

Housing Growth Scenario	Housing need 2016/17 to 2037/38	Construction Aggregates Needed*	Housing need 2037/38 to 2047/48	Construction Aggregates Needed*
Scenario 1 – Baseline	80,511	4.8mt 16.1mt 32.2mt	37,520	2.3mt 7.5mt 15.0mt
Scenario 2 – Birmingham Plus	83,531	5.0mt 16.7mt 33.4mt	37,520	2.3mt 7.5mt 15.0mt
Scenario 3 – Black Country Minus	73,971	4.4mt 14.8mt 29.6mt	37,520	2.3mt 7.5mt 15.0mt

* Top figure reflects estimated construction aggregates needed per house using 60 tonnes of aggregates, the bottom figure reflects estimated construction aggregates per house if roads and utilities are included, i.e. 400 tonnes of aggregates. The middle figure reflects the more recent MPA estimated construction aggregates needed to build a house of 200 tonnes of aggregates.

11.1.15 Given that the Black Country has limited economically viable mineral resources, there is an inherent reliance on the supply of minerals from outside the Black Country but also to safeguard those mineral resources within the Black Country and prevent their sterilisation by non-mineral development through prior extraction, where practical and environmentally feasible to do so.

11.2 Review of Mineral Safeguarding Areas

Context / Background

11.2.1 As set out elsewhere in this report (see Sections 4, 5 and 6), the Black Country is an area rich in mineral resources given its complex underlying geology as illustrated in Figure 2.1. Many of these mineral resources have been sterilised by urban and industrial development in the Black Country. As a result, potentially viable mineral resources are confined to the sand and gravel resources in Walsall (Sherwood Sandstone outcrops), the Etruria Marl brick clays in Walsall and Dudley, and the fireclays in Walsall.

11.2.2 The minerals industry in the Black Country only makes a relatively small contribution to the local economy, but nevertheless provides employment as well as building materials (e.g. construction aggregates, bricks, etc.) that are essential to the delivery of new development and engineering projects. Extraction is now confined to north west fringes of the Black Country in Walsall at Atlas

Quarry (brick clay) and Sandown Quarry (brick clay). In addition to these sites, there are a number of other sites in the Black Country involved in mineral processing, storage and distribution as illustrated in Figure 4.1.

Mineral Safeguarding Areas

11.2.3 The existing BCCS through Policy MIN1 identifies a Minerals Safeguarding Area (MSA) covering the whole of the Black Country and is defined on the Proposals Maps for each BCA, which seeks to protect those minerals resources within the MSA from other non-mineral development, i.e. to prevent their sterilisation. Separate maps showing the extent of the mineral commodity are also provided and the policy expectation is that the mineral commodity areas may be further refined and developed in other development plan documents such as Site Allocations Documents (SADs) and Area Action Plans (AAPs).

11.2.4 Options for possible additional/alternative Areas of Search (AOS) in Walsall were identified and evaluated on the Walsall SAD & AAP Minerals Study (2015), but the concluded there was insufficient evidence to designate new AOS in the SAD. Consequently, the adopted SAD only identifies the boundaries of the two AOS for sand and gravel identified in the BCCS (MA1: Birch Lane – reduced in extent to address concerns about proximity to existing residential areas; and MA2: Branton Hill), and the AOS for brick clay (Etruria Marl) in the BCCS (MA5: Stubbers Green). The AOS for fireclay identified in the BCCS (MA6: Yorks Bridge) was not carried forward into the Walsall SAD because there was considered to be insufficient evidence to support such a designation, although an MSA for fireclay is identified in the SAD which includes this as well as other potentially winnable fireclay resources in the surrounding area. Two further Areas of Search for brick clay have also been identified in Dudley, in accordance with BCCS Policy MIN3, and are shown on the Proposals Map for the Dudley Borough Development Strategy (2017). These are illustrated in **Figure 11.2**.

11.2.5 Although a further AOS for fireclay was also considered in the preparation of the Walsall SAD, it has not been identified in the SAD given the uncertainties of the economic viability of that resource being extracted.

11.2.6 As previously sets out, many of the mineral resources in the Black Country have been sterilised due to urban and industrial development. This brings into question whether the existing MSA as set out in BCCS Policy MIN1 is still applicable going forward and if not, what alternative approach to mineral safeguarding would be appropriate in a predominantly urban area such as the Black Country.

11.2.7 In reviewing the available evidence, the following factors have been taken into account:

- The latest version of the NPPG on Minerals (2014) advises that when defining MSAs, mineral planning authorities should use *"the best available information"* on the location of mineral resources in their area, and should consult with the minerals industry (ID: 27-003-20140306[81]);
- The NPPG signposts to current best practice guidance by the BGS (2001), which advises that the BGS and Coal Authority digital mineral resource mapping is 'adequate' *"if no other information is available"*. However, the guidance also cautions that some of the information on which the maps were based may have changed, and that other data should be incorporated where available (Minerals Safeguarding in England: Good Practice Advice (2001), Section 4.1); and
- During the consultation on the BCCS in 2007, mineral industry representatives expressed the view that there should be separate areas defined for each mineral commodity and that these should be refined in consultation with them (BCCS Minerals Background Paper 2 (2010), Black

[81] NPPG online https://www.gov.uk/guidance/minerals#minerals-safeguarding

Country Authorities, Section 2.1). Similar representations were also made in their representations on the Walsall SAD.

11.2.8 The review of the BGS mineral resource mapping and available evidence on mineral resources has established that due to the limitations on the evidence base and lack of more detailed resource information such as readily available borehole logs, it has not been possible to further refine the BGS mineral resources areas. Figures 4.1 to 4.4 illustrate how the mineral resources areas relate to permitted mineral sites (as identified in Tables 3.1 and 3.2) for sand and gravel and brick clay, respectively. An overview of the geological and mineral resource information is provided for each of the key minerals in the Black Country, as set out in Sections 5.1 (sand and gravel) and Section 5.2 (brick clay) of this report.

Review Findings

11.2.9 Table 11.4 sets out those MSAs/AOSs as identified in the Black Country in extant policy documents, the known mineral resource within those areas and seeks to evaluate these against any known development pressures.

Table 11.4 Review of Existing MSAs/AOSs in the Black Country

Mineral Safeguard Areas / Areas of Search	Source	Commentary	Is future safeguarding required?
Black Country MSA	BCCS (Policy MIN1)	MSA covers the whole of the Black Country. However, many mineral resources in the area have now been sterilised due to urban and industrial development.	Given the predominantly urban nature of the Black Country, it would be more pertinent to safeguard known areas of mineral resources.
MSAs – sand and gravel, brick clay, dolerite, limestone, fireclay and surface coal	Walsall SAD (Policy M1, Map 9.4)	Separate MSAs (with buffers) identified for each mineral commodity in the borough (sands and gravels, brick clay, dolerite, limestone, fireclay and surface coal).	Continued need to safeguard these areas of mineral resources.
Birch Lane Area of Search – sand and gravel	BCCS (Policy Min2) Walsall SAD (Policy M4 and Policy M5)	Estimated winnable sand and gravel resources total approximately 5.2mt. Includes Aldridge (Birch Lane) Quarry, currently closed and awaiting restoration.	Continued need to safeguard this known sand and gravel resource.
Branton Hill Area of Search – sand and gravel	Walsall SAD (Policy M5)	Winnable sand and gravel reserves approximately 1.028mt. Permission for extension to Branton Hill Quarry was granted in August 2018. No further resource has been identified.	All identified sand and gravel resources within this AOS are now permitted. However, extraction at the Branton Hill Quarry Extension is yet to commence and therefore this resource needs to be safeguarded.
Stubbers Green Area of Search – brick clay	BCCS (Policy MIN3) Walsall SAD (Policy M7)	Very few areas within the AOS have not already been previously worked. Permission for extension to Atlas Quarry granted in February 2017. Potential reserve within AOS equates to that available within permitted sites – Atlas Quarry and Sandown Quarry.	All identified brick clay resources within this AOS are now permitted but have not yet been exhausted. The existing quarries and their permitted reserves should be safeguarded.

Mineral Safeguard Areas / Areas of Search	Source	Commentary	Is future safeguarding required?
Himley / Oak Farm Area of Search – brick clay	BCCS Area of Search MA3	Brick clay resource restricted and constrained by proximity of proposed housing and employment development in 'Regeneration Corridor 10 – Pensnett' in the Dudley Borough Development Strategy, an employment led corridor. Potential conflict with neighbouring uses needs to be minimised if mineral working is to continue. Little known interest from minerals industry to pursue mineral extraction in this area. All permitted clay has now been extracted at Oak Farm Quarry and no clay reserves remain.	All permitted brick clay resources in this AOS have now been extracted and no clay reserves remain. No future safeguarding is therefore required.
Ketley Area of Search – brick clay / fireclay	BCCS Area of Search MA4	Brick clay resource restricted and constrained by proximity to proposed housing and employment development in 'Regeneration Corridor 10 – Pensnett' in the Dudley Borough Development Strategy, an employment led corridor. Permitted reserves at Ketley Quarry have been exhausted since March 2018 and restoration of the quarry is ongoing. Fire clay confined to coal bearing strata and economic extraction of fireclay only likely to be viable when worked concurrently with surface coal extraction.	All permitted brick clay resources in this AOS have now been extracted and no clay reserves remain. Economic extraction of fireclay is only likely to be viable when worked concurrently with surface coal extraction, which is unlikely in this location given proximity to housing and employment development.
Yorks Bridge Area of Search – fireclay	BCCS (Policy MIN3 and Policy MIN4)	Estimated fireclay resource is 1.63 mt based on information provided to BCCS Examination (see Justification to BCCS Policy MIN4).	Continued need to safeguard these areas of mineral resources. Walsall SAD approach of safeguarding via a MSA only is considered more appropriate than identifying an AOS as per the existing BCCS.

11.3 Projected Mineral Supply Requirements

11.3.1 As set out in Section 11.1, the projected housing and economic growth for the Black Country will have an impact on mineral consumption, not least to provide the raw materials to support this growth. In terms of minerals supply, through the high-level assessment of minerals resources it has been established that viable mineral resources in the Black Country are limited and there is little interest from the industry to bring forward further sites. Furthermore, those areas where mineral resources are found are further constrained by both exclusionary and/or discretionary environmental constraints.

11.3.2 In the *'Profile of the UK Mineral Products Industry (2018 Edition)'* produced by the Mineral Products Association (MPA) it is estimated that in the UK in 2016 aggregates production per capita was around 4 tonnes per capita and that a typical home uses 200 tonnes of aggregates to build. Using the latter figure, if housing growth is estimated to be between 74,000 and 84,000 net dwellings

(rounded) by the end of the plan period (depending on the housing growth scenario), then between 14.8 and 16.7 million tonnes of aggregate would be required and would need to be sourced from both primary as well as secondary and recycled sources.

11.3.3 The MPA has estimated that in 2016 secondary and recycled aggregates account for 29% of total aggregates supply in Great Britain[82]. Applying this figure to the Black Country, then between 4.3 and 4.9 million tonnes of secondary and recycled aggregate would be required to support the projected housing and economic growth over the plan period. (i.e. 29% of between 14.8 and 16.7 million tonnes of aggregates as set out in the previous paragraph).

11.3.4 Raw materials to support the projected housing growth and increased need for employment land will need to come from outside the Black Country. How this is met in terms of mineral supply will need to be discussed at the regional level through the LAA process and/or forums such as the regional Aggregate Working Party.

11.4 Potential Changes to Existing Mineral Production Capacity

Aggregates

11.4.1 There is only one remaining sand and gravel quarry in the Black County, namely the recently approved Branton Hill Quarry Extension. As established in Section 5, the approved sand and gravel reserves at this site enables the Black Country to meet its indicative production target until 2027 when minerals extraction at the site is required to cease.

11.4.2 It has been established in Section 6 that future consumption of aggregate minerals will be influenced by planned housing and infrastructure requirements for the Black Country, which are likely to be higher over the next 10 to 15 years than in the last 10 years.

11.4.3 The Black Country as part of the West Midlands Metropolitan Area is a net importer of crushed rock and this will continue through the plan period as there are no crushed rock resources in the Black Country.

Ceramics

11.4.4 Of the five brickworks in the Black Country, only Cradley has identified/secured sufficient brick clay supplies for at least 25 years. Whilst Aldridge and Atlas are the only brickworks being supplied with locally sourced Etruria Marl from Atlas Quarry, supplies at Atlas Quarry are just under 25 years and both brickworks also rely on imported clays from outside the Black Country. Dreadnought and Sandown both rely solely on imported brick clays and as set out in Sections 5 and 9 of this report, although supplies have been secured, these are not sufficient to meet at least 25 years as set out in the NPPF.

11.5 Potential Changes to Future Minerals Supply Requirements

11.5.1 Potential changes to future minerals supply requirements in the Black Country are likely to be influenced by a number of policy issues, at a national level, in neighbouring minerals planning authorities, and other local Black Country policy. These are discussed below.

[82] Profile of the UK Minerals Products Industry (2108 Edition), Mineral Products Association https://www.mineralproducts.org/18-release21.htm

National Policy

11.5.2 Through the NPPF and the national guidelines on future aggregate provision, there continues to be a need to plan for an adequate and steady supply of aggregates as well as safeguarding mineral resources. As a result, these issues need to be taken into account by mineral planning authorities in policy formation, such as the emerging Black Country Plan.

11.5.3 Section 33A of the Planning and Compulsory Purchase Act 2004 and the Localism Act 2011 places a legal duty on local planning authorities to 'cooperate' with each other on the preparation of development plan documents in relation to strategic cross boundary planning matters. This is of particular importance for the Black Country for a number of reasons. Firstly, the Black Country is a net importer of crushed rock and therefore reliant on other mineral planning authorities to plan accordingly to ensure crushed rock imports can be sustained into the future. Secondly, although the Black Country does have sand and gravel resources, the permitted reserves at the Branton Hill Quarry Relocation site are expected to be exhausted before the end of the Black Country Plan period and will therefore reliant on imported sand and gravel after 2027. Thirdly, the majority of the Black Country brickworks are either wholly or partially reliant on imported brick clay from outside the Black Country and thus reliant on other relevant mineral planning authorities to plan accordingly to ensure brick clay import can be sustained into the future.

11.5.4 The growth agenda in the Black Country, in terms of housing and employment (and any associated building standards and revisions thereof), will see increasing demands on aggregate minerals, from both primary, and secondary and recycled sources. This coupled with key infrastructure projects, notably HS2 (see Section 8.2), is expected to result in an increased demand for aggregates over the period to 2038.

Neighbouring Minerals Planning Authorities

11.5.5 Despite the diverse range of minerals resources in the Black Country, it is a net importer of aggregates. Section 9 of this report has looked in detail at the various cross boundary movements of minerals from other parts of the East and West Midlands into the Black Country. Through the examination of extant and emerging development plan documents, it has been established that appropriate provision has been made in the mineral planning authority areas of Derbyshire, Leicestershire, Shropshire, Staffordshire, and Warwickshire to continue to supply aggregates (sand and gravel as well as crushed rock) as well as brick clay to the Black Country.

11.5.6 With regards to sand and gravel, it was noted that in Warwickshire sand and gravel production has declined over the last few years but that the emerging Local Plan seeks to address this shortfall through the identification of additional sites. However, this does require operators to come forward with planning application in order to realise this resource. Sand and gravel imports from Warwickshire have been relatively small and it is considered that the recently approved Branton Hill Quarry Extension in Walsall has the potential to compensate for any potential supply issues from Warwickshire in the short term.

11.5.7 Aggregate landbanks are not being replenished at the rate they are being depleted, a point which has been highlighted by the Mineral Products Association on numerous occasions (MPA, AMPS 2018)[83]. Furthermore, if other areas are becoming increasingly reliant on the crushed rock resources in the East Midlands, this is not going to be sustainable in the long-term. Competing demand for these resources from very large infrastructure projects such as HS2 (which is already sterilising sand and gravel resources in Solihull) could also impact on supplies to other projects if annual production is unable to increase to meet the additional demand.

[83] https://mineralproducts.org/documents/7th_AMPS_Report_2018.pdf

11.5.8 It is important therefore that the BCAs, through the AWP and LAA continue to liaise with neighbouring mineral planning authorities, not least as part of their duty to cooperate, to ensure future mineral supply requirements for the Black Country can be meet from these areas.

11.6 Black Country Plan Minerals Supply Requirements

11.6.1 There are increasing pressures on mineral resources in the Black Country, in particular for this land to be used for other development. Mineral supply requirements for the Black Country are discussed below.

Sand and Gravel

11.6.2 Sources of sand and gravel supply in the Black Country are confined to those in Walsall, as set out in Table 6.1.

11.6.3 Walsall is the only Black Country authority that has contributed to the sub-regional sand and gravel requirements and this position is not expected to change as there is no evidence that the other authorities have viable sand and gravel resources.

11.6.4 Sand and gravel supply requirements for the West Midlands Metropolitan Area have been calculated to be between 0.5 and 0.55 million tonnes per annum based on recent production figures and it has been established that the majority of this requirement will continue to be supplied from sites in Solihull, although it is acknowledged that these sites are to be significantly affected by HS2 should it go ahead. It has been established that the Black Country has sufficient permitted reserves and production capacity for sand and gravel (at Branton Hill Quarry in Walsall) to continue with the current contribution of 50,000 tonnes per annum, at least until 2027 when minerals extraction at Branton Hill Quarry is required to cease.

11.6.5 It has been established through the review of mineral resources as part of this study that beyond 2027 the only accessible viable sand and gravel resources in the Black Country are those identified within the Birch Lane Area of Search in the Walsall SAD (2019). However, there is a lack of viable extraction sites coming forward from industry. This means that minerals supply after 2027 tails off in the Black Country and it will no longer be able to continue meeting its 50,000 tonnes per annum contribution. Thus, there is a need for the BCAs to renegotiate their contribution to the West Midlands sub-regional sand and gravel requirements through the LAA process and/or regional Aggregates Working Party beyond 2027.

Brick Clay

11.6.6 The main source of brick clay resources in the Black Country is Etruria Marl which is found in Walsall, Dudley and to a lesser extent in Sandwell, whilst fireclay resources are confined to the coal bearing strata in Walsall. There are only two active brick clay quarries in the Black Country, namely Atlas Quarry and Sandown Quarry in Walsall. The extraction of fireclay is only likely to be economically viable when worked concurrently with surface coal extraction, which is considered unlikely during the Black Country Plan period.

11.6.7 Of the 5 brickworks in the Black Country, only Aldridge Brickworks and Atlas Brickworks are supplied from brick clay resources in the Black Country (i.e. Atlas Quarry), the other brickworks all rely on imported supplied of brick clay from elsewhere in the East and West Midlands – Staffordshire, Shropshire, Leicestershire and Warwickshire. It has been established that all 5 brickworks are not quite able to meet the 25-year supply requirements set out in the NPPF, whether this is from brick clay resources from within the Black Country or imported sources. Thus, there is a need for the BCAs to continue to liaise with those authorities in the East and West

Midlands to ensure brick clay supply requirements can continue to be met as part of their Duty to Cooperate requirements.

Mineral Products/ Infrastructure

11.6.8 As set in Section 11.3 above, the projected housing and economic growth for the Black Country will have an impact on mineral consumption, not least to provide the raw materials to support this growth, including the provision of construction aggregates. As well as having to be sourced from primary aggregates, these will also need to be sources from secondary and recycled aggregates. It is important therefore that sufficient provision is made in the Black Country for appropriate mineral infrastructure sites. As well as existing 'fixed' mineral infrastructure sites, provision also needs to be made for temporary (mobile) aggregate recycling facilities especially within larger construction sites where demolition is required.

11.6.9 As set out in Section 7.2 of this report, in 2016 the Black Country produced just under 640,000 tonnes of CD&E waste and managed 1.33 million tonnes, whilst in 2017 this had increased to 720,800 tonnes and 1.43 million tonnes respectively. Throughput capacity of existing permitted mineral infrastructure site (secondary and recycled aggregate facilities, coating plants, and aggregates depots as set out in Tables 7.1 to 7.3) exceeds 2 million tonnes per annum.

11.6.10 Paragraph 11.3.3 above estimates that between 4.3 and 4.9 million tonnes of secondary and recycled aggregates are likely to be required to support the projected housing growth in the Black Country over the plan period.

11.6.11 This would suggest that there is insufficient capacity within the Black Country to provide for the projected supply of secondary and recycled aggregates over the plan period. This study has sought to assess existing mineral infrastructure sites and the capacity for any potential expansion, and this is presented in Part 3. Should additional capacity be required in the form of new sites, reference should be made to the work undertaken as part of the Black Country Waste Study which has sought to identify areas suitable for waste uses. Such uses could include mineral infrastructure sites such as secondary and recycled aggregate facilities.

11.6.12 Thus, there is a need to safeguard existing mineral sites as well as mineral infrastructure sites to ensure existing capacity is retained within the Black Country. Existing mineral infrastructure sites should be identified on the Black Country Plan Policies Map.

385000 390000 395000 400000 405000 410000

305000 300000 295000 290000 285000

MA6
MA1
MA5
MA2
MA3
MA4
Wolverhampton
Walsall
Sandwell
Dudley

Key

Authority boundaries

Minerals Safeguarding Area (BCCS Policy MIN1)

Minerals Areas of Search

Sand and Gravels (BCCS Policy MIN2, Walsall SAD)
MA1: Birch Lane
MA2: Branton Hill

Brick Clay (BCCS Policy MIN3)
MA3: Huntley/Oak Farm
MA4: Ketley

Brick Clay (BCCS Policy MIN 3, Walsall SAD)
MA5: Stubbers Green

Minerals Safeguarding Area

Fireclay (Walsall SAD, BCCS Policy MIN 3)
MA6: Yorks Bridge

0 1 2 3 4 5 6 km
Scale at A3: 1:100,000

Black Country Minerals Study

Figure 11.2
Existing Minerals Safeguarding Area and Areas of Search

January 2020

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Part 3: Revised MSAs and Delivering the Black Country's Future Mineral Supply Requirements.

This section sets out the revised Mineral Safeguarding Areas and identifies how the Black Country's future mineral supply requirements can be delivered through the Black Country Plan.

12. Revised Mineral Safeguarding Areas and Delivering Future Mineral Supply Requirements

12.1 Policy Options for Minerals

12.1.1 Minerals can only be worked where they are found and in seeking to plan for a steady and adequate supply, provision must be made in the Black Country Plan to not only safeguard mineral resources areas, but also to deliver mineral sites and associated mineral infrastructure sites.

12.1.2 The regeneration area to diversify employment, reverse population decline and impact the environment of the Black Country all imply greater challenges to the retention or provision of increasingly non-conforming uses. If the Black Country Plan is to ensure provision to meet the ongoing and emerging requirements for minerals supply and mineral infrastructure capacity identified in this report, then effective policies to arbitrate between different land uses are required.

12.1.3 This section seeks to support policy formulation by providing evidence to understand the forces that influence land use change and the re-use of sites. Whilst quantification of these forces is difficult, appreciation can be gained through evidence of development interest and other 'market signals'. In this way, the extent to which regeneration poses a threat to traditional employment areas in general and existing mineral and mineral infrastructure uses in particular, can be evaluated.

12.1.4 This appreciation is gained in the following ways:

- By understanding the nature of the Black Country and the environmental and policy constraints that apply to development in general and mineral supply in particular. This has been addressed through the application of a Geographical Information System (GIS) based approach to exclude areas where development would be inappropriate;
- By understanding the behaviour of the local development market in respect of the general conditions that promote interest in the redevelopment and land and how this is being presently translated in the context of the Black Country. This has been addressed through a combination of publicly available data and research, evidence of development activity obtained from each of the BCAs and consultation with developer stakeholders;
- By applying the above findings to an assessment of all known mineral infrastructure sites as agreed with the BCAs. This has been addressed through a combination of the GIS mapping of publicly available evidence and desk study validated through site visits as appropriate;
- By understanding the generic development and planning costs that are likely to apply to mineral infrastructure proposals of various scales and complexities and those influenced by specific site sensitivities that may apply.

12.1.5 Taken together, these tasks serve to identify what are the likely to be the best sites for future mineral supply capacity and the extent to which these may be threatened by past, present or proposed development activity. This prompts consideration of potential approaches to safeguarding existing uses and potential allocations as well as measures and indicators to monitor the effectiveness of any safeguarding policy.

12.2 Minerals Safeguarding

Mineral Safeguarding Areas

12.2.1 In terms of safeguarding mineral resources, the following policy options for the Black Country Plan have been identified:

- Maintain the status quo and apply a single MSA across the whole of the Black Country;
- Not have any MSAs in the Black Country; and
- Adopt more tightly defined MSAs for both sand and gravel and brick clay focussed on the mineral resource in Walsall.

12.2.2 Each of these options is discussed in turn below.

Single MSA for the Black Country

12.2.3 The existing BCCS through Policy MIN1 identifies a single MSA covering the whole of the Black Country. As set out elsewhere in this report, although the Black Country has a diverse range of minerals, many of these have been sterilisation by urbanisation and development. The key minerals resources identified are the sand and gravels in Walsall and brick clays predominantly in Walsall and some in Dudley and Sandwell. It is considered that a blanket application of an MSA across the plan area devalues the policy to safeguard mineral resources. A more targeted approach would seek to protect those mineral resources areas that would genuinely stand a chance of being exploited within the plan period or beyond. As such, the application of a single MSA across the whole of the Black Country is considered inappropriate in seeking to safeguard the key minerals resources identified.

No MSAs

12.2.4 This safeguarding option would be contrary to national planning policy as set out in NPPF, notably paragraph 204, which outlines that planning policies should *"safeguard mineral resources by defining Mineral Safeguarding Areas; and adopt appropriate policies so that known locations of specific minerals resources of local and national importance are not sterilised by non-mineral development where this should be avoided (whilst not creating a presumption that the resources defined will be worked)"*. It has been established that the key minerals resources in the Black Country are the sand and gravels in Walsall and brick clays predominantly in Walsall and some in Dudley and Sandwell. As such, not identifying any MSAS is therefore not considered a realistic option for the Black Country Plan.

More Tightly Defined MSAs

12.2.5 The review of the mineral resource information (see Section 11.2) has established that the key minerals resources in the Black Country are the sand and gravels in Walsall, and brick clays predominately in Walsall and some in Dudley and Sandwell. Resources in the latter two areas have all been exhausted and/or sterilised by urbanisation. As such, in terms of minerals safeguarding, the focus should be on safeguarding those economically viable resources. For the Black Country, this means the sand and gravel as well as brick clay resources in Walsall as well as seeking to safeguard existing mineral sites and mineral infrastructure sites. Due consideration should also be given to safeguard fireclay resources in Walsall.

Recommendation

12.2.6 It is recommended that rather than have a single MSA covering the whole of the Black Country, more tightly defined MSAs are identified for sand and gravel, brick clay and fireclay focussed on the mineral resources in Walsall.

12.2.7 As set out above, the key minerals resources in the Black Country are the sand and gravels in Walsall and brick clays predominantly in Walsall and some in Dudley and Sandwell. It is important therefore that these resources are safeguarded through the identification of more tightly defined MSAs. As such, the adoption of more tightly defined MSAs is considered the preferred mineral safeguarding option for the Black Country Plan. This option is discussed in further detail in Section 13.7 below.

Other Mineral Safeguarding Options

12.2.8 As well as seeking to safeguard mineral resources through the identification of MSAs, consideration needs to be given to policy provision to enable prior extraction of minerals, where practical and environmentally feasible, to prevent the unnecessary sterilisation of mineral resources by non-mineral development in accordance with NPPF paragraph 204. Extant BCCS Policy MIN1 already provides for this and such a policy should continue to be included in the emerging Black Country Plan.

12.2.9 The safeguarding of existing mineral extraction and mineral infrastructure sites should include an appropriate 'buffer zone', in accordance with good practice and similar to that adopted in the Walsall SAD, to ensure a consistency of approach. The application of such a buffer zone, or stand-off distance (drawn from the site boundary), seeks to provide an additional level of certainty to ensure existing mineral and mineral infrastructure sites are not adversely affected or prejudiced by proposed non-mineral development. This is of particular relevance for the Black Country, a predominantly urban area, with increasing competition for land to support the project growth and development in the area.

12.2.10 Thus, the following other mineral safeguarding policy options for the Black Country Plan have been identified and further discussed in Section 12.7 below:

- Make policy provision to enable prior extraction of minerals within the MSAs, where feasible and economically viable, to prevent the unnecessary sterilisation of mineral resources by non-mineral development; and
- Safeguard existing mineral and mineral infrastructure sites and include an appropriate 'buffer zone', in accordance with good practices and ensure a consistency of approach.

12.3 Identification and Assessment of Mineral Options – Mapping Constraints

12.3.1 The applied methodology seeks to identify deliverable mineral infrastructure sites that are available, suitable and feasible now or in the near future. Although the focus has been on existing mineral infrastructure sites, the applied methodology is consistent with that used for the Black Country Waste Study to ensure a consistent approach.

Sources of Guidance

12.3.2 The methodology is objective based. Assessment criteria are expressed as a specific objective founded in policy and 'best practice' that focuses upon the implementation of legislation of policy principles. These have been derived through a review of the following:

- National planning policy and other policy to identify Government objectives; (e.g. the National Planning Policy Framework;
- Reference to the policies of the existing policies of the BCCS as well as the findings of the review of these policies set out in Section 3 of this report; and
- Operational, technical and deliverability considerations (e.g. site size, configuration, highway infrastructure etc).

Site Assessment Methodology

Defining the Study Area

12.3.3 The study area relates to the existing settlement boundaries within the administrative area of the BCAs. Areas of Green Belt within and outside these areas are considered where amendments to these boundaries are being considered prior to possible revisions in the Black Country Plan.

Assessing the Study Area

12.3.4 A Geographical Information System (GIS) based approach is used to 'filter out' unsuitable areas through the application of defined constraints. As well as this top down assessment of constraints, a bottom up approach also identifies site opportunities. The methodology and the mapping of constraints comprises three distinct stages:

- **Stage 1** – The identification and mapping of preferred locations for mineral infrastructure uses. These are referred to as *Positive Locational Objectives*.
- **Stage 2** – The identification and mapping of constraints that rule out development as a matter of policy. These are referred to as *Spatial Exclusionary Objectives*; and
- **Stage 3** – The identification and mapping of constraints that may rule out development as a matter of policy. These are referred to as *Spatial Discretionary Objective*.

12.3.5 As the methodology is objective based, this facilitates a consistent approach across the study area.

Stage 1 Positive Locational Objectives – Potential Areas

Definition of Assessment Areas

12.3.6 Within the defined area of search, the example sites to be assessed are identified through reference to:

- Areas within existing industrial / employment land allocations;
- Individual sites appearing in the evidence base and call for sites in November 2018;
- Other sites or areas not included in the evidence base through:
  - Within the settlement boundary, the identification of under-used, vacant identified through site visit informed by detailed examination of desk and web-based resources;
  - Within and outside of the settlement boundary, areas of search defined by access to the major highway network motorway junctions and the primary road network (PRN); and
  - Areas where site opportunities exist close to clusters of existing mineral infrastructure uses.

Sources of Site Data

12.3.7 Digitised layers of all potential sites were made available from the sources in Table 12.1. Note that nomenclature differs across the authorities and that Table 12.1 references the names of the GIS layers provided.

Table 12.1 Stage 1 – Sources of Information Used to Map Positive Locational Objectives

Source	Data Obtained and Source
Dudley MBC	Development Sites, employment areas and allocations, area action plan sites, opportunity sites, strategic waste sites, existing waste uses (point data) all obtained digitally from BCAs.
Sandwell MBC	
Walsall MBC	
Wolverhampton CC	

Stage 2 – Screening against Spatial Exclusionary Objectives

12.3.8 Against the guidance in the NPPF and the environmental designations protected by local policy, Spatial Exclusionary Objectives are areas unacceptable in principle for development and hence discounted from the area of search. Table 12.2 sets out the constraints that apply to the Black Country.

Table 12.2 Stage 2 – Screening Criteria for Spatial Exclusionary Objectives

Screening Criteria	Data Obtained and Source
Land Use	
Site allocations in adopted SADs, AAPs and 'saved' UDP policies	Digitised data obtained from BCAs
Water Environment	
Surface water bodies	Environment Agency / Canals and Rivers Trust / Ordnance Survey
Groundwater Source Protection Zones (SPZs), I (Inner Zone)	Environment Agency
Undefended Flood Zone 3/3b	Environment Agency
Internationally & Nationally Important Sites for Nature Conservation	
Special Areas for Conservation (SAC)	Natural England
Sites of Special Scientific Interest (SSSI)	Natural England
National Nature Reserves (NNR)	Natural England
Ancient Woodland	Natural England
Internationally & Nationally Important Sites for Cultural Heritage	
Scheduled Ancient Monuments (SAMs)	Historic England
Grade I or II* Listed Buildings/Registered Parks and Gardens	Historic England

12.3.9 The outcome of this stage of the methodology is a narrowed study area and is depicted in **Figure 12.1**.

Stage 3 – Screening against Spatial Discretionary Objectives

12.3.10 Areas of Discretionary Objectives are identified where development is not unacceptable in principle, but which should be avoided to respect the reasons for which it was designated unless sites unconstrained by these objectives are not identified. Table 12.3 sets out the constraints that apply.

Table 12.3 Stage 3 – Screening Criteria for Spatial Discretionary Objectives

Screening Criteria	Data Obtained and Source
Land Use	
Green Belt*	Digitised data obtained from BCAs
Designated Open Space	Digitised data obtained from BCAs
Grades 1, 2 and 3a Agricultural Land	Natural England
Water Environment	
Source Protection Zones (SPZ) II (Outer Zone)	Environment Agency
Undefended Flood Zone 2	Environment Agency
Sites of Importance for Nature Conservation / Geological Conservation	
Global Geopark	Natural England
Sites of Interest for Nature Conservation (SINC)	Digitised data obtained from BCAs
Sites of Local Interest for Nature Conservation (SLINC)	Digitised data obtained from BCAs
Local Nature Reserves (LNRs)	Natural England
Wildlife Corridors	Digitised data obtained from BCAs
Mineral Safeguarding Areas	Digitised data obtained from BCAs
Sites of Importance for Cultural Heritage	
Grade II Listed Buildings/Registered Parks and Gardens	Historic England
Conservation Areas	Digitised data obtained from BCAs
Archaeological Priority Areas	Digitised data obtained from BCAs
Locally Listed Buildings	Digitised data obtained from BCAs
Historic Environment Record (HER) sites	Digitised data obtained from BCAs
Other Constraints	
Air Quality Management Area (AQMA) – NO_2 Areas of Exceedance	DEFRA
Noise Action Plan 'Important Areas'	DEFRA
Minerals Safeguarding Areas	Digitised data obtained from BCAs

* see paragraph 12.2.11 below

12.3.11 Green Belt would normally be treated as an exclusionary constraint as it is unsuitable for development that does not retain its openness. However, the evidence of need for significant housing and employment growth over the new plan period implies altering Green Belt boundaries and this may offer the opportunity to provide waste facilities to meet new needs especially where there are currently relative gaps in provision

12.3.12 The outcome of this stage of the methodology is a refined study area is depicted in **Figure 12.2** within which the provision of mineral supply capacity would be preferred, and minerals options identified for assessment.

12.4 Identification and Assessment of Mineral Options – Competition for Sites

12.4.1 Having ruled out areas of policy and environmental constraint, site potential is now narrowed down to those areas suitable for development and within which, mineral supply capacity must be provided together with competing development needs. Hence, and before assessing the potential specific mineral site options unaffected by these constraints, it is important to consider the forces that influence the competition for urban land where this is in limited supply.

12.4.2 Fundamentally, and as any developer or landowner will seek to maximise development value, this competition is commonly articulated around the land value that the end use can command.

12.4.3 As residential land values are consistently and significantly higher than those for employment uses, they present a threat to ongoing land supply for jobs. This is especially the case where employment land in sub-prime market areas accommodates industrial uses of local importance or mineral / mineral infrastructure use that yield lower returns.

12.4.4 This section seeks to evaluate the degree to which existing mineral and mineral infrastructure uses can be said to be directly or indirectly threatened by higher value development that prejudices minerals and its contribution to the local economy and the extent to which plan policy can protect these areas.

Theoretical Basis

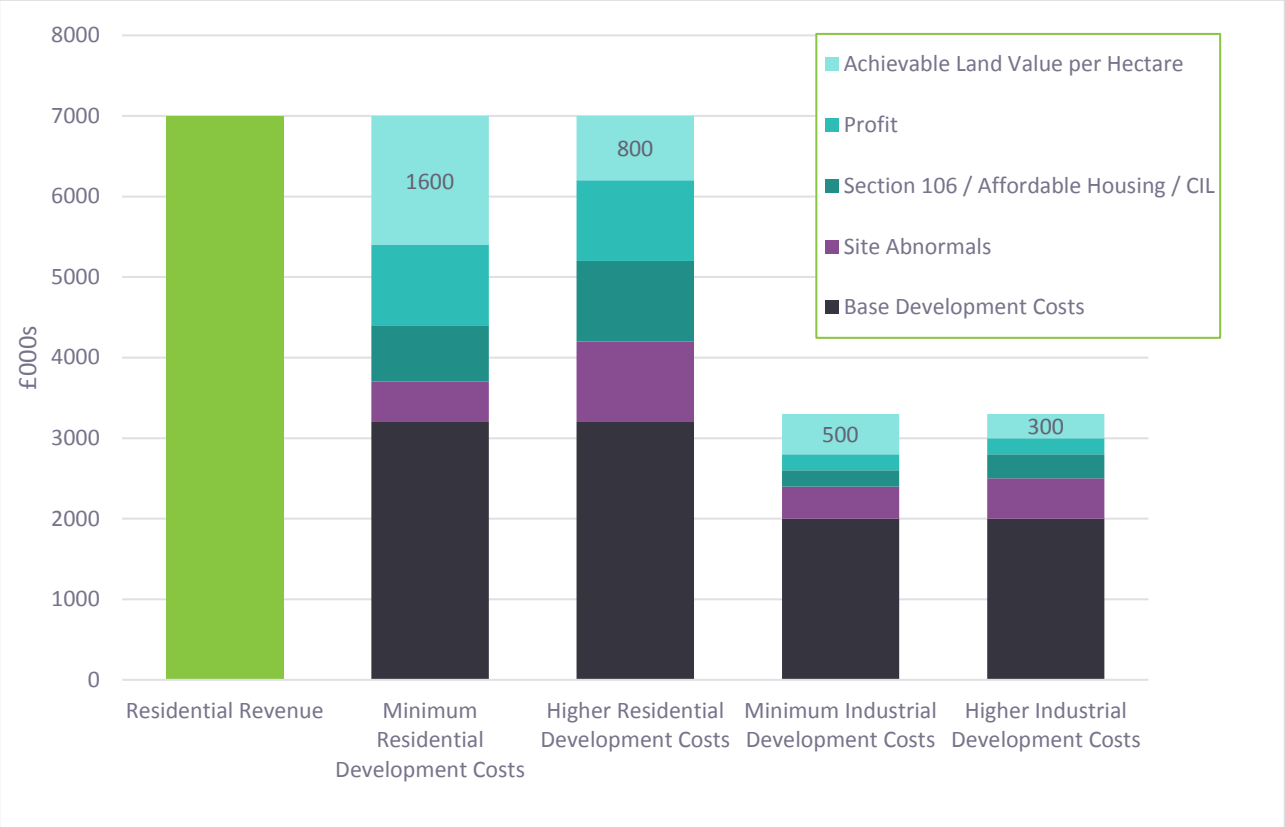
12.4.5 There are a number of elements to the assessment of site viability. **Figure 12.3** outlines the basic theoretical relationship between its elements. These are:

- Residential Revenue. This is the value of the sales that are generated from a site (for instance, 35 dwellings each sold at £200 000 will generate a scheme revenue of £7m);
- Base development costs associated with the construction of scheme including materials as well as fees for architects, engineers etc;
- Site specific abnormal costs to enable the site to be developed for its end use such as remediation, the creation of development platforms on steep sites, access requirements or the mitigation of environmental effects from neighbouring uses;
- Often known as the Site Residual Value, this is an amount that is available to 'share around' as a benefit of the development taking place. These elements all vary according to circumstance but includes:
  - Developers profit margin which is normally is the order of 15%;
  - Benefit to the planning authority in the form of Section 106 or Community Infrastructure Levy contributions; and
  - Finally, and crucially, the amount that is paid to the landowner to buy the land. Unless this value meets the expectations of the owner then the site is unlikely to be available for development. These expectations may be based upon knowledge of the values secured by other landowners. In some cases, longstanding option (or legal) agreements may exist that have set the parameters of any payment to the landowner and these may hamper delivery where economic conditions change, or unexpected development costs emerge.

12.4.6 These three elements of the Site Residual Value are all variable and will be subject to negotiation. However, for a site to be viable, the sum of all three cannot exceed the difference between the development revenues and costs and this may only vary where a developer is willing to accept less than a 15% profit margin.

12.4.7 In the case of the theoretical examples in Figure 12.3 these demonstrate the relative residential and industrial land values that are broadly representative of the Black Country in May 2017 for unconstrained 'clean' sites and the impact that higher development costs and policy requirements could have upon the sum ultimately paid to the landowner.

Figure 12.3 Theoretical Relationship between Development Revenues, Costs and Land Values



12.4.8 Although the relative attraction of land values is clear, housing would present a theoretical threat only where the following circumstances apply:

- where there is a good housing market where land values are attractive or where this is expected to emerge;
- where site conditions are such that remediation costs are not so significant housing that is unviable; and
- where existing 'bad neighbour' uses would be incompatible.

Available Evidence

12.4.9 Sources of data to aid this evaluation are problematic. Whilst industrial areas facing encroachment from housing are easily identified, there is little available published information and what is available is for the most part, generalised or out-of-date.

12.4.10 The following section details the available sources. However, sources of relevance have been identified in respect of land values and remediation costs.

Comparative Land Values

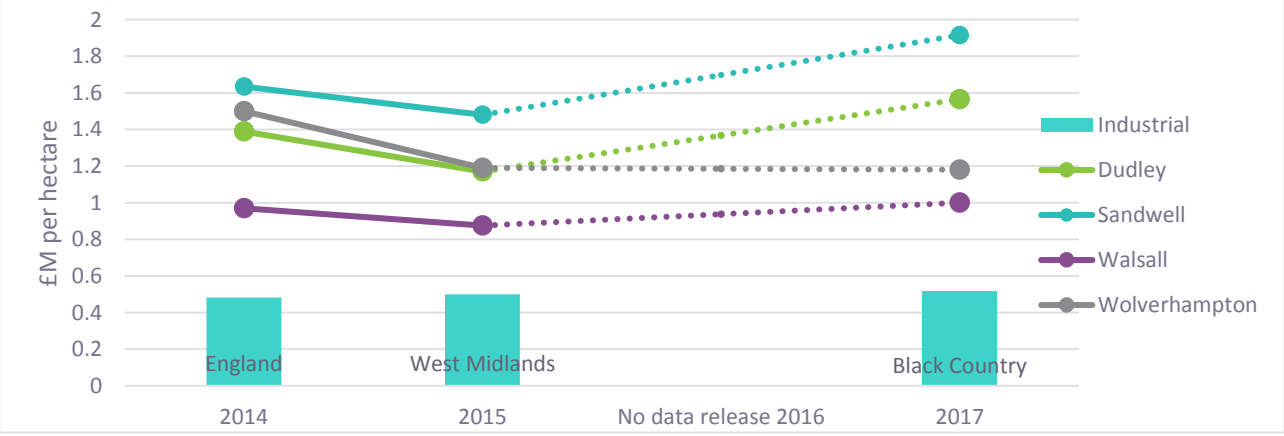
12.4.11 The extent of the disparity between land values is evident from the Government's periodic statistical releases that give comparative land values for a variety of proposed end uses. The latest of these was issued by the Valuations Office Agency (VOA) related to values in May 2017. Table 12.4 tracks changes in the value transactions since 2014 comparing residential values in each of the BCAs with those for industrial uses at the most appropriate geography. These are also depicted graphically in Figure 12.4.

Table 12.4 Comparative Land Values 2014 – 2017 (£M per hectare)

End Use	Geography	2014[84]	2015[85]	2016	2017[86]
Residential	Dudley	1.39	1.17	n/a	1.57
	Sandwell	1.64	1.48	n/a	1.92
	Walsall	0.97	0.88	n/a	1.00*
	Wolverhampton	1.50	1.19	n/a	1.18
Industrial	Black Country LEP	n/a	n/a	n/a	0.52
	West Midlands	n/a	0.50	n/a	0.55 to 1.00
	England	0.48	0.51	n/a	n/a

* Identified in the source as "Walsall West". There is no explanation as to why it is the only entry in 326 councils qualified in this way so may be a drafting error

Figure 12.4 Comparative Land Values 2014 – 2017



[84] Department for Communities & Local Government, Land Value Estimates for Policy Appraisal, February 2015
[85] Department for Communities & Local Government, Land Value Estimates for Policy Appraisal, December 2015
[86] Valuations Office Agency Ministry of Housing, Communities & Local Government, Land Value Estimates for Policy Appraisal (May 2017 Values), May 2018

12.4.12 It is important to note that the reported figures are averages and hypothetical. Hence direct comparison is only possible if it is assumed that particular policy requirements or site 'abnormals' are removed from consideration.

12.4.13 In respect of residential land, the VOA states that *"The values here assume nil Affordable Housing provision in order to give pure residential use value, rather than market value. In reality we expect the market value of land to reflect the cost of affordable housing provision";* and that

12.4.14 *"The value estimates for industrial land can be used to proxy alternative use value for developments on brownfield land. These are provided for hypothetical sites in England assuming:*

- *A typical urban, brownfield location, with nearby uses likely to include later, modern residential developments;*
- *All services are assumed available to the edge of the site;*
- *Use is restricted to industrial/warehouse and full planning consent is in place;*
- *There are no abnormal site constraints or contamination and/or remediation issues"*

12.4.15 Although these values clearly do not reflect local requirements for affordable housing nor the degree to which the legacy of past contaminative uses need to be addressed, they do provide some basis for the assessment.

Abnormal Costs

12.4.16 Abnormal costs are site specific and any attempt to predict them or provide a 'rule of thumb' is fraught with difficulty. However, and last issued in 2008, best practice issued by English Partnerships[87] indicates the range of potential remediation costs per hectare at a 2007 cost base. Table 12.5 updates these costs to a 2017 cost base to reflect likely current costs.

Table 12.5 Range of potential remediation costs per hectare of contaminated land according to site conditions, end uses and risk to ground or surface water – updated 2017 cost base (£000s)[88]

Water Risk	End Use	Site Category A	Site Category B	Site Category C	Site Category D
		Industrial / colliery spoil, factories and 'works'	Garages, pitheads, railways, textiles, timber treatment and sewage works	Metal workings, scrap yards, paint and solvents	Gas, iron and steel works, chemical works, ship breaking yards
Low Risk	Residential	102 – 271	339 – 847	407 – 983	441 – 1,118
	Employment	68 – 169	271 – 576	339 – 779	407 – 881
High Risk	Residential	237 – 542	474 – 1,220	712 – 1,932	949 – 2,338
	Employment	169 – 339	339 – 847	678 – 1,627	712 – 1,627

[87] English Partnerships Best Practice Note 27 (revised February 2008) Contamination and Dereliction Remediation Costs, Table 1
[88] Royal Institution of Chartered Surveyors, Building Cost Information Service, All-in Tender Price Index, Quarter 1, 2017

12.4.17 The site categories in Table 12.5 are 'bracketed' and there is some overlap between their costs. Given the absence of previous large steel and chemical works in the study area, it is likely that previous uses and costs in the Black Country will fall within those in Categories A, B and C. Additionally, and as the vast majority of the Black Country falls within low water risk areas (that is away from inner and outer source protection zones SPZ 1 and 2) it is likely that remediation costs per hectare will fall within the range of the upper to lower values in the highlighted cells in Table 12.5.

Planning Costs

12.4.18 A further aspect is that the costs of obtaining planning consent can vary significantly and this may be relatively important where development revenues are lower. Due to their nature, mineral applications can be contentious, require a more detailed and comprehensive application, and are more likely to cross the thresholds of the Environmental Impact Assessment (EIA) Regulations. Housing applications are unlikely to require EIA unless they are extremely large (which is unlikely in urban areas) or involve particularly sensitive receptors or site conditions.

12.4.19 The scope and costs of any planning application can only be defined through reference to the specific circumstances of the proposed and the interplay between the:

- nature of the proposal in terms of its type (recycling, treatment etc), the proposed technology and the tonnage to be managed;
- presence of environmental assets and their particular sensitivities to, for example, noise, dust or pollution to water;
- presence of sensitive receptors such as housing and the need to demonstrate that the proposal would not be detrimental to amenity, safety or health; and
- need for measures to make the proposal acceptable in planning terms through, for instance, access measures or off-site works.

12.4.20 Notwithstanding these difficulties, Table 12.6 sets out what are considered to be rough order costs subject to the following assumptions:

- That the application would be for full consent;
- That the scope reflects the core requirements of a planning authority in determining a mineral use; and
- That the costs are considered the likely market response given the need to provide commercial offers to a developer.

Table 12.6 Rough Order Planning Costs for Assessed Sites with Potential for Minerals

Development Type	Likely Scope of Planning Application	Potential Costs*	Exclusions / Assumptions
EIA Development **Mineral Extraction Site and any Associated Development requiring EIA**	**Rough Order Total** Environmental Impact Assessment assuming full suite of environmental assessments as follow: Screening, scoping and management Noise and Vibration Air Quality Water Environment (hydrology and hydrogeology, flood risk assessment and drainage strategy) Cultural Heritage Ecology Phase 1 with species specific surveys as required Phase 1 Site Report (contamination and stability) Landscape and Visual Socio and Economic Transport Assessment Public Consultation Event Planning Statement and Application Discharge of Conditions	**£200k to £300k**	• Design costs not included • LPA Determination fee not included • Access and junctions assumed to be acceptable and no design work is required • Assumes the use of an existing access with no design or implementation costs • Excludes intrusive site investigation that may be necessary to support design and inform Environmental Impact Assessment • Excludes other assessments e.g. Health Impact Assessment that may be requested by LPA or third parties.
Non-EIA Development **Associated Minerals Developments (i.e. mineral infrastructure sites – aggregates recycling, batching plant, coating plant etc)**	**Rough Order Total** Noise Air Quality Ecology if adjacent to designated site, wildlife corridor, vegetated land or vacant buildings Flood Risk Assessment and Drainage Strategy Transport Statement Planning Application Discharge of Conditions	**£55k to £85** £8k £8k £6k to £25k £6k to £9k £6k £10k £10k to £20k	As for EIA Development above Upper end of range includes reporting of protected species Dependent upon complexity Dependent upon number and complexity
Non-EIA Development **Housing**	**Rough Order Total** Noise and Air Quality (if bad neighbour use present) Ecology if adjacent to designated site, wildlife corridor, vegetated land or vacant buildings Flood Risk Assessment and Drainage Strategy Transport Statement (if warranted by scheme size) Planning Application Discharge of Conditions Mineral Impact / Mineral Resource Assessment where site falls within an MSA	**£140k to £175k** £8k £8k £6k to £25k £6k to £9k £6k £10k £10k to £20k £5k	As for EIA Development above Upper end of range includes reporting of protected species Assumes typical 8-10ha site (costs dependent on site size) and subject to availability of existing borehole information
Other Housing Specific Costs	Community Infrastructure Levy S106 Costs	£58k £30k	Assumes £15/m^2 for 40 dwellings Rough order assumption for travel plan and limited highway works

* All total figures are rounded to the nearest £5,000

Local Market Consultation

12.4.21 As the available data is so problematic, consultation has been undertaken with three housing developers that have been active, to varying degrees, in the Black Country over the past five years. This has been done to gain a broad understanding of the market and the extent to which this may present a threat to existing uses of lower value proposals. These discussions have yielded the following views:

- The economics of residential development in the Black Country has steadily improved over the last five years to the extent that major developers are more open to considering sites in the Black Country. One stated that a previous decision to concentrate on more buoyant areas in the Region is now being reviewed;
- Although the published VOA land values were viewed as too high, there was general agreement that Sandwell and areas in Dudley are the most buoyant areas, with parts of western Walsall and eastern Wolverhampton being the weakest. One stated that it was not surprising that only Sandwell and the peripheral parts of Dudley can yield CIL contributions.
- Remediation costs can be very significant and will 'make or break' a site. One developer quoted a remediation cost of nearly £0.75M per hectare which cannot be sustained without a high-density scheme. Sites are approached very cautiously and on an individual basis;
- It is felt that Affordable Housing Registered Providers (RPs) are also wary of the Black Country. One developer stated that the amount of interest in sites is unpredictable and that RPs will only offer around 50 to 55% of open market value (OMV) for the dwellings. Hence developers will seek to drive a hard bargain to reduce the affordable element;
- Taken together, tight margins, abnormal costs and risks mean that a deliverable planning permission takes time. Negotiations tend to be contested and lengthy and where the resultant land values do not meet landowner expectations this will also cause delay or potentially postpone the scheme;
- One consultee stated that there is a high degree of hope value in parts of the local market and that this is not confined to the Black Country. It is probable that in the 'more marginal areas' of interest for housing that commercial and industrial uses are more viable especially where remediation standards can be relaxed.

Conclusions

12.4.22 In summary, there is insufficient available information to quantify the potential impact of other development pressures upon mineral development. The interplay of location, legacy costs, policy requirements and landowner expectations mean that the feasibility of development can only be assessed on a site by site basis.

12.4.23 Notwithstanding, stakeholder consultation has broadly confirmed the presented evidence in respect to relative – although not absolute – land values and the likely range of site abnormal costs.

12.4.24 Given the generally more favourable development market in Sandwell and Dudley, it could be expected that residential development might present more of a risk to lower end value uses than would be the case in areas of Wolverhampton and Walsall. This relative ability of individual Councils to apply the CIL Regulations across the Black Country was seen as reflective of this position.

12.4.25 Even in the more buoyant areas, sites can present significant challenges and risks that mean that planning permission and implementation can be difficult and lengthy. Consequently, it may not be

the case that sites identified through the call for sites necessarily present a threat to an existing mineral use although they will likely preclude any further development for lower value end uses.

12.4.26 These conclusions serve to confirm the views expressed by industry that housing is being proposed into areas where viable schemes were previously difficult to achieve. Areas of land previously considered secure for potential mineral use are being encroached upon and existing mineral supply capacity is being threatened. This is seen by the mineral sector as a national trend but there is ample evidence to demonstrate that this also applies in the Black Country where the minerals sector is comparatively more important than in England as a whole.

12.5 Identification and Assessment of Mineral Options – Site Assessments

12.5.1 Within the refined study area, area and sites for potential assessment are identified and agreed with the relevant BCAs as representative of the opportunities presented across the study area.

12.5.2 These were primarily identified through desk study (maps, aerial photos and on-line web tools) to identify established areas subject to employment policy where mineral or industrial uses are already present and included vacant or underused land and buildings or opportunity sites. The selected areas were confirmed and further defined through consultation with the relevant planning authority.

12.5.3 In addition, the BCAs also identified additional sites located outside the refined study area in the Green Belt for assessment. These were identified through the 'call for sites' exercise which was open from 3 July 2017 to 1 June 2019 or identified as part of the Employment Development Need Assessment.

12.5.4 The existing mineral infrastructure sites were then subjected to the further stages of assessment, namely:

- **Stage 4** – The identification of positive locational factors that would favour mineral uses such as good highway access, potential rail connection or brownfield opportunities within industrial areas. These are referred to as *Positive Locational Objectives*; and
- **Stage 5** – The identification of constraints and opportunities relating to the site itself, neighbouring uses and its locality. This is referred to as *The Detailed Non-Spatial Assessment of Sites*.

Stage 4 – Positive Locational Assessment

12.5.5 This stage assesses the degree to which each site possesses the opportunity to support the positive planning objectives in Table 12.7 in respect of the re-use of land, co-location with complementary uses and taking advantage of existing transport infrastructure and proximity to access to the motorway network.

Table 12.7 Stage 4 – Positive Locational Factors

Assessment Criteria	Data Obtained and Source
Land Use	
Brownfield Sites Existing Industrial Areas Co-location with Existing Waste Facilities or re-use of Former Waste Facilities Existing Infrastructure	All data obtained in digitised form from BCAs and validated through desk-based sources and aerial photographs
Traffic and Transportation	
Located within 5 minute drive time from Motorway Junctions at peak times Connected / close to Strategic Highway Network / Key Route Network Located to offer potential to access strategic freight site or rail head on freight line	Digitised data obtained from BCAs Accessibility isochrones obtained from ArcGIS online

Stage 5 – Detailed Non-Spatial Assessment of Sites

12.5.6 As constraints can be specific to sites and cannot be modelled spatially, this stage assesses the degree to which each site is constrained by on-site issues and off-site influences that prejudice its feasibility or viability for waste development. This process is undertaken through a combination of desk study and site visits where access or visibility is possible as set out in Table 12.8.

Table 12.8 Stage 5 – Detailed Non-Spatial Assessment of Sites

Assessment Criteria	Data Obtained and Source
Site Constraints	
Sites in Excess of 1 hectare Site Configuration Constraining Infrastructure Requirement for Remediation	Desk assessment following site visit Desk assessment following site visit Desk assessment and site visit Indicated by site visit
Economic	
High Quality Employment Land where waste would be inappropriate	Desk assessment and site visit
Traffic and Transportation	
Accessibility from adopted highway with good quality highway frontage Sensitive land uses at or along site accesses / local roads Public Rights of Way	Desk assessment and site visit Desk assessment and site visit Desk assessment and site visit
Amenity	
Land Uses sensitive to noise/vibration, odour, nuisance, dust and emissions within 250m	Desk assessment and site visit
Nature Conservation	
Tree Protection Orders (TPOs) Likely presence of protected species and/ or priority habitats	Indicated by site visit Indicated by site visit
Landscape and Visual	
Highly visible sites Important gateway sites	Site visit Site visit

Form of Assessment

12.5.7 For each assessment criterion within each objective, indicators and thresholds of concern or opportunities are identified. These can be either negative or positive in nature depending upon whether the objective is to prevent or encourage an event happening. The scale of effect for the spatial and non-spatial objectives can then be assessed through applying the following grading system:

A. locating a facility at this location would move significantly towards an objective;

B. locating a facility at this location would move marginally towards an objective;

C. locating a facility at this location would have no effect (or a neutral effect) on the objective;

D. locating a facility at this location would move marginally away from an objective; and

E. locating a facility at this location would move significantly away from an objective.

Assessment Outcomes

12.5.8 Following the application of the site assessment methodology, assessment summaries are set out in Table 12.9 for mineral infrastructure sites and Table 12.10 for mineral sites, specifically identifying which sites have the potential to expansion and which are under threat from non-mineral development(s). Site assessment proformas and supporting figures for all of these sites are included in **Appendix C**.

Table 12.9 Mineral Infrastructure Sites Assessment Summaries

Authority (Fig No)	Site	Site Type	Potential for Expansion?	Under Threat?	Assessment / Safeguarding Rationale
Dudley (C10)	Accumix Concrete	Concrete Batching Plant	No	No	To be safeguarded. A very small operation on a tightly defined site with no scope for expansion but within an area of complementary industrial uses. HGV access is poor, and the site is currently operational. Although not under direct threat of encroachment, the Oak Lane area accommodates a cluster of mineral infrastructure uses and is threatened by encroachment at its western extent.
Dudley (C10)	Bell Recycling Centre	Aggregates Recycling	No	No	To be safeguarded. A small operation accepting around 10Ktpa within an area of complementary industrial uses with no apparent scope for expansion. HGV access is acceptable. It is located within 100m of a travellers' site to the north but is not otherwise under threat from sensitive receptors. However, the Oak Lane area accommodates a cluster of mineral infrastructure uses and is threatened by encroachment at its western extent.
Dudley (C13)	Breedon Dudley (Brierley Hill) Concrete Plant	Concrete Batching Plant	No	Yes	At risk. A small batching plant located adjacent to housing with no scope for expansion. HGV access is poor, and it is not clear if the site is currently operational – it does not appear on the Breedon website. Recent housing to the west on Anchor Hill may well compromise its ongoing use.

Authority (Fig No)	Site	Site Type	Potential for Expansion?	Under Threat?	Assessment / Safeguarding Rationale
Dudley (C12)	Dudleymix Concrete	Concrete Batching Plant	No	No	Could be safeguarded. A small site small thought to be serving the local market located within a traditional industrial area and well away from sensitive receptors or housing proposals. It is not under immediate threat although recent higher quality employment uses to the south may imply more sensitive receptors over the longer term.
Dudley (C10)	Oak Lane Aggregates Recycling Site	Aggregates Recycling	No	Yes	To be safeguarded. The site has no potential for expansion and is under threat from housing development on Oak Lane and Stallings Lane. It forms part of a cluster of minerals infrastructure uses around Oak Lane which could be subject to a safeguarding policy.
Dudley (C10)	SW Jackson Aggregates	Concrete Batching Plant	No	Yes	To be safeguarded. The site has no potential for expansion and is under threat from housing development on Oak Lane and Stallings Lane. It forms part of a cluster of complementary uses around Oak Lane which could be subject to a safeguarding policy.
Dudley (C14)	Pegasus Grab Hire	Aggregates Recycling	No	Yes	At risk. A depot recently re-located from the northern side of Bott Lane. The site is directly under threat from housing proposals as part of a much wider scheme that extends for a significant distance to the east of the A4036 Dudley Road. Subject to these proposals going ahead, the current use will be extinguished.
Dudley (C14)	Regen R8 Limited	Aggregates Recycling	No	Yes	At risk. A small WTS which includes on-site recycling of inert waste with no scope for expansion. Located at the edge of an industrial area but close to recently cleared land to the east that is subject to housing proposals. If successful, this may create conflicts with the existing operations and compromise its ongoing use.
Sandwell (C26)	Anytime Concrete	Concrete Batching Plant	No	No	Plant with no potential for expansion located within a traditional industrial area between A4182 and the elevated M5. This area is not under threat and may be unsuitable for housing.
Sandwell (C23)	Bescot LDC - Depot	Rail-linked Aggregates Depot	No	No	Depot located adjacent rail ballast facility on a narrow site. Potential to expand would be at the potential for expansion could only be secured through realignment of sidings. The site is located close to the M6, is unsuitable for housing and unlikely to be threatened by alternative uses.
Sandwell (C23)	Bescot LDC - Rail Ballast Facility	Aggregates Recycling	No	No	Rail ballast facility located adjacent to an aggregates depot on a narrow site. Potential to expand could only be secured through realignment of sidings. The site is located close to the M6, is unsuitable for housing and unlikely to be threatened by alternative uses.

Authority (Fig No)	Site	Site Type	Potential for Expansion?	Under Threat?	Assessment / Safeguarding Rationale
Sandwell (C27)	Breedon Oldbury Concrete Plant	Concrete Batching Plant	No	No	At risk. Plant with no potential for expansion located on the edge of a traditional industrial area between an abandoned railway line and the Titford Canal. This area is under threat from housing proposals approximately 50m to the south with the canal potentially offering further attraction to development.
Sandwell (C27)	CEMEX Oldbury Concrete Plant	Concrete Batching Plant	No	No	Plant with no potential for expansion located within a traditional industrial area adjacent to Junction 2 of the elevated M5. This area is unsuitable for housing and unlikely to be threatened by alternative uses.
Sandwell (C26)	Former Hanson Site (West Bromwich)	Aggregates Recycling	No	No	Plant with no potential for expansion located within a traditional industrial area adjacent to the elevated M5. This area is unsuitable for housing and unlikely to be threatened by alternative uses.
Sandwell (C25)	Hanson Ready Mix Concrete (Oldbury)	Concrete Batching Plant	No	No	To be safeguarded. A substantial site within a traditional industrial area. Although not under threat recent higher quality employment uses to the south across Roway Lane may imply more sensitive receptors over the longer term.
Sandwell (C24)	Wednesbury Asphalt Plant	Coating Plant	Yes	No	Site is located well away from sensitive receptors and, subject to land availability, mineral uses could be expanded into the area to the east.
Walsall (C22)	Bescot Triangle South	Aggregates Recycling	No	No	Could be safeguarded. A small operation with little infrastructure located within 100m of mature housing. Unlikely to be threatened between railways and elevated M6.
Walsall (C18)	Branton Hill CLEUD Relocation Site	Aggregates Recycling	Yes	Yes	To be safeguarded. High specification 'gated' housing has been built 150m to the east although layout suggests that this is unlikely to encroach further.
Walsall (C21)	Breedon Walsall Cement and Aggregates Depot	Rail-Linked Aggregates Depot	No	No	To be safeguarded. Although not threatened by development this is an extremely valuable resource.
Walsall (C21)	Breedon Concrete Plant Walsall	Concrete Batching Plant	No	No	To be safeguarded. Located adjacent to, and has synergies with, the rail linked depot.
Walsall (C20)	Express Asphalt (Walsall)	Coating Plant	No	No	To be safeguarded. There has been no nearby recent development although the green area across the railway line could pose a threat if developable.

Authority (Fig No)	Site	Site Type	Potential for Expansion?	Under Threat?	Assessment / Safeguarding Rationale
Walsall (C16)	Interserve Site Services	Aggregates Recycling	No	No	To be safeguarded. Former MRF specialising in recovery of aggregates from construction and demolition waste. The site is now used as a general non-hazardous WTS with some aggregates recycling still taking place. Located well away from sensitive uses between a haulier's yard and a brickworks. While nearby canal could be attractive to housing development, the risk of encroachment is low in practice because of the surrounding land uses, including an active quarry (Sandown) and a large hazardous waste facility (Empire Works). The area around the site is also affected by historic mining and quarrying.
Walsall (C19)	Tarmac Concrete Walsall (Fenchurch Road)	Concrete Batching Plant	No	Yes	To be safeguarded. Recent housing development has encroached to 100m from the north east and the site could be threatened should further development occur on Cable Drive.
Wolverhampton (C3/C4)	Aggregate Industries (Wolverhampton)	Concrete Batching Plant	No	No	To be safeguarded. Located within a traditional industrial area with no nearby housing proposals.
Wolverhampton (C8)	Britannia Onsite Concrete	Concrete Batching Plant	No	No	Could be safeguarded. A small operation that has now ceased and located within a poor and partly derelict industrial area. Safeguarding could likely impede wider regeneration but would assist in protecting waste uses to the north.
Wolverhampton (C7)	CPI Mortars (Wolverhampton)	Dry Silo Mortar Plant	No	Yes	To be safeguarded. The employment area is regenerating, and the facility appears as a non-conformant adjacent to Hill and Smith and Utopia Furniture.
Wolverhampton (C4)	Dismantling & Engineering Services	Aggregates Recycling	No	Yes	Could be safeguarded. A small use housed within a building. The recent development of Middleton Foods across Noose Lane would restrict any further use to an indoor facility.
Wolverhampton (C7)	Ettingshall Asphalt Plant	Coating Plant	Yes	Yes	To be safeguarded. A cluster of facilities with land for possible expansion or land efficiencies with recycling facility and batching plant. However, the area is regenerating, and the facilities will become increasingly non-conformant with the higher quality Tarmac offices and Pallett Track premises and significant recent housing development in the area.
Wolverhampton (C7)	Ettingshall Recycling Facility	Aggregates Recycling	Yes	Yes	To be safeguarded. A cluster of facilities with land for possible expansion or land efficiencies with the coating and batching plant. However, the area is regenerating, and the facilities will become increasingly non-conformant with the higher quality Tarmac offices and Pallett Track premises and significant recent housing development in the area.

Authority (Fig No)	Site	Site Type	Potential for Expansion?	Under Threat?	Assessment / Safeguarding Rationale
Wolverhampton (C6)	G L Ready Mix Concrete	Concrete Batching Plant	No	Yes	Could be safeguarded. A small operation within a well-established and reasonably well occupied industrial area. The area has seen some renewal and the rear of St John's Retail Park extends to within 100m of the site.
Wolverhampton (C2)	Hanson Ready Mix Concrete (Wolverhampton)	Concrete Batching Plant	No	No	To be safeguarded. Although the wider area is regenerating with some housing, the site is defensibly located between two railway embankments and bordering a scrapyard.
Wolverhampton (C3)	Landywood Concrete Products Ltd	Concrete Batching Plant	No	Yes	To be safeguarded. Located within a regenerating employment area with an emphasis upon light industry, business with some landmark buildings and public art. A motor trade showroom with forecourt display has recently been consented to the west.
Wolverhampton (CC3/C4)	Neachells Lane Transfer Station	Specialist facility for manufacture of concrete blocks from recovered street sweepings	No	No	To be safeguarded. One of two specialised street sweeping facilities in the West Midlands. The area is suitable and not subject to development pressure for housing.
Wolverhampton (C5)	Premier Mortars (Wolverhampton)	Dry Silo Mortar Plant	Possible	No	To be safeguarded. Located within a traditional industrial area with no nearby housing proposals. An area of vacant land lies adjacent to its southern boundary.
Wolverhampton (C8)	S S Concrete	Concrete Batching Plant	No	Yes	Could be safeguarded. A small facility located at the edge of an area of heavy industry and too the rear of long-established housing. A more recent care home is 100m to south and housing is being promoted 150m to the north east.
Wolverhampton (C7)	Tarmac Concrete Ettingshall	Concrete Batching Plant	Yes	Yes	To be safeguarded. A cluster of facilities with land for possible expansion or land efficiencies with recycling facility and coating plant. However, the area is regenerating, and the facilities will become increasingly non-conformant with the higher quality Tarmac offices and Pallett Track premises and significant recent housing development in the area.

Table 12.10 Mineral Sites Assessment Summaries

Authority / Fig No	Site	Mineral / Use	Potential for Expansion?	Under Threat?	Assessment / Safeguarding Rationale
Dudley (C11)	Dreadnought Brickworks	Brickworks	No	Yes	To be safeguarded. Operational brickworks. New housing development to the north of the site by Taylor Wimpey (on former Ibstock Brick site) with further proposed housing/regeneration proposed. Derelict area previously used for car parking immediately adjacent to the south of the site.
Dudley (C11)	Ketley Quarry	Brick Clay	No	Yes	There are no remaining permitted reserves and no further extraction is expected from the site. Restoration of the site is ongoing. Thus, there is no need to further safeguard this site. It is located in close proximity to an employment led corridor, 'Regeneration Corridor 10 – Pensnett', with the quarry site being prompted for housing through the BCP Call for Sites (24).
Sandwell (C28)	Cradley Special Brick	Brickworks	No	Yes	To be safeguarded. Operational brickworks located within an established industrial estate but residential to the east. Recent permission granted for B2/B8 commercial and industrial use immediately to the south of the brickworks. This same site is also being promoted for employment use and housing through the BCP Call for Sites (93).
Walsall (C16)	Aldridge Brickworks	Brickworks	No	No	To be safeguarded. Operational brickworks adjacent to quarry which has now closed.
Walsall (C17)	Atlas Brickworks	Brickworks	No	No	To be safeguarded. Operational brickworks adjacent to Atlas Quarry.
Walsall (C17)	Atlas Quarry	Brick Clay	No	No	To be safeguarded. Active site and a quarry extension permitted in 2017. Located within the Green Belt. Site adjacent to the quarry extension is being promoted for housing through the BCP Call for Sites (436). Another site to the rear of the quarry was proposed as a Walsall SHLAA site (HO1456: Barn Farm) but has not been submitted through the BCP Call for Sites.
Walsall (C15)	Birch Coppice	Coal and Fireclay	No	Yes	To be safeguarded. Although the site is inactive, clay is still being stockpiled on part of the site. Located in the Green Belt.
Walsall (C18)	Branton Hill Quarry & Branton Hill Quarry Extension	Sand	No	Yes	To be safeguarded. Working ceased in main quarry in 2013 but restoration of worked phases is incomplete but due to be completed in 2019 according to the approved phasing plan. Permission for quarry extension granted in 2018 but not yet fully operational. Located in the Green Belt. Various sites to the north (Little Aston Road), south east and south west (Chester Road) being promoted for housing and leisure uses through the BCP Call for Sites (173, 107, 172, 307). High specification 'gated' housing has been built 150m to the east although layout suggests that this is unlikely to encroach further.

Authority / Fig No	Site	Mineral / Use	Potential for Expansion?	Under Threat?	Assessment / Safeguarding Rationale
Walsall (C16)	Highfields North	Brick Clay	Yes	Yes	To be safeguarded. Dormant permission. Located in the Green Belt. Brick clay resources to the north of the site but constrained by Jockey Fields SSSI and complex geology and hydrology. Site being promoted for housing through two BCP Call for Sites submissions – 60 covers part of the site, whilst 291 covers the whole of the site. The promoters have expressed the view that the SSSI designation is incompatible with mineral extraction, and that allocation of the site for residential use would facilitate repair and restoration of part of the SSSI. There is also a 'BCP Call for Sites submission for various alternative land uses (including minerals) on adjacent land off Greenfields Road and Green Lane (434).
Walsall (C15)	Land at Brownhills Common	Coal and Fireclay	No	Yes	To be safeguarded. Dormant permission located within the Green Belt. Land to the north west being promoted for housing through the BCP Call for Sites (220). To the west is the 'Yorks Bridge' site which was previously been promoted for fireclay extraction by the applicant of the dormant permission (Potters Clay & Coal Company Ltd) and Little Wyrley Estate. Another site called 'Land at Yorks Bridge' being promoted for housing development through the BCP Call for Sites (152 and 338) lies some distance to the south west and is considered unlikely to have any direct impact on the dormant site. Site is Registered Common Land, is designated a SINC (Brownhills Common & The Slough) and is part of the Chasewater and Southern Staffordshire Coalfield Heaths SSSI Impact Risk Zone.
Walsall (C17)	Sandown Brickworks	Brickworks	No	Yes	To be safeguarded. Operational brickworks. Located in the Green Belt.
Walsall (C17)	Sandown Quarry	Brick Clay	No	Yes	To be safeguarded. Operational quarry. Located in the Green Belt.
Walsall (C15)	Swan Works	Manufacture and supply of pot clay blends	No	Yes	To be safeguarded. Operational works located in the Green Belt. Various smaller parcels of land to the south being promoted for housing including proposed Walsall SHLAA HO1565 and HO1559 to the south and HO1224 to the west.

12.6 Non-Mineral Options Impact Assessment

12.6.1 It is important to seek to identify where there are development pressures on minerals resource areas and existing sites from non-mineral development such as employment and/or housing. An assessment has been made using information from the Call for Sites (CFS), EDNA (Employment Development Need Assessment) and submission from developers that feature in the SHLAA (Strategic Housing Land Availability Assessment) as part of the preparation of the Black Country Plan.

12.6.2 As a result, a number of sites in Walsall have been identified where mineral resources could be under pressure from potential non-mineral development. Table 12.11 provides a summary of these sites and what impact the potential development of these may have on mineral resources in the Black Country. A more detailed assessment is set out in **Appendix D**.

Table 12.11 Non-Mineral Development Assessment

Mineral Resource	Site / Cluster Name(s)	Proposed Land Use	Commentary
Sand and gravel	Columbia Park	Housing / Open Space / Community/ Leisure	Two CFS (116, 185) being promoted for housing in an area of known sand and gravel resource. Consideration should be given to the feasibility of prior extraction.
Sand and gravel	Erdington Road	Housing	Site (307) being promoted for housing to the south west of Branton Hill Quarry. Consideration should be given to the feasibility of prior extraction.
Sand and gravel	Chester Road, Streetly	Housing / Retail / Leisure / Open Space	Five CFS (46, 107, 172, 222, 355) being promoted predominantly for housing to the south west of Branton Hill Quarry. Consideration should be given to the feasibility of prior extraction.
Sand and gravel	Little Aston Road, Aldridge	Housing / Open Space	Two CFS (173, 332) located within close proximity to Branton Hill Quarry. Consideration should be given to the feasibility of prior extraction.
Sand and gravel	Chester Road, Aldridge	Housing	Site (317) falls within an area of known sand and gravel resources and is located to the north of Branton Hill Quarry and the Branton Hill AOS in the Walsall SAD. Consideration should be given to the feasibility of prior extraction.
Sand and gravel	Back Lane and Wyevale, Aldridge	Housing / Employment / Offices	Two CFS (182, 239) being promoted for housing on land to the south of an area of known sand and gravel resource (Birch Lane AOS in the Walsall SAD) and the nearby Aldridge Quarry. Consideration should be given to the feasibility of prior extraction.
Sand and gravel	Stonnall Road, Aldridge	Housing	Site (162) falls within the Birch Lane AOS is immediately adjacent to Aldridge Quarry. Consideration should be given to the feasibility of prior extraction.
Sand and gravel	Lazy Hill and Castlehill, Walsall Wood	Housing / Open Space / Nature Conservation / Residential Home / Mixed Use / Employment/ Waste/ Minerals/ Community/ Leisure	Six CFS (148, 210, 277, 238, 285, 440) being promoted predominantly for housing on land to the north west of an area of known sand and gravel resource (Birch Lane AOS in the Walsall SAD) and the nearby Aldridge Quarry. Consideration should be given to the feasibility of prior extraction at all sites, specifically at CFS 440 Greenwood Road where mineral extraction is identified as a possible option.

Mineral Resource	Site / Cluster Name(s)	Proposed Land Use	Commentary
Sand and gravel	Sandhills	Housing	Site (131) promoter acknowledges site falls within MSA but has submitted information concluding the site in not considered suitable for mineral extraction because it is in a 'sensitive location' near to a school, residential properties and a canal corridor (see Appendix D).
Brick clay	Walsall Wood	Housing	Site (159) lies to the north of the dormant Highfields North site in a known area of brick clay resource. It is surplus land, near to the current Walsall Wood (Green Lane) Sewage Treatment Works but is not considered to directly impact on the continued operation of the sewage treatment works.
Brick clay	Highfields North	Housing / Employment / Waste / Minerals / Open Space / Community / Leisure	Three CFS (60, 291, 434) being promoted, including one which covers the whole of the dormant Highfields North minerals site. As well as brick clay, these sites are also constrained by the SSSI (Jockey Fields), with one promoter stating that clay extraction and safeguarding of the SSSI are totally incompatible. Sites are being promoted as a way to safeguard the SSSI. Of the sites identified, only CFS 434 Greenfields Road identifies mineral extraction as an option. As such, consideration should be to the feasibility of prior extraction at this site.
Brick clay	Coronation Road and Mob Lane, Pelsall	Housing / Open Spaces	Three CFS (213, 279, 266) being promoted, two on the same site, to the north west of the dormant Highfields North minerals site.
Fireclay	Yorks Bridge	Housing / Open Spaces / Retail / Community	Two CFS (152, 338) are being promoted on the same site, Yorks Bridge, which falls within a known area of fireclay as acknowledged by the site promoters who have undertaken an initial mineral viability assessment which concludes the site is unfeasible, environmentally unacceptable and commercially unviable for mineral extraction (see Appendix D). Concern that the analysis presented by the site promoters focuses only on the feasibility of mineral working within the proposed site. It does not address the possibility that other development on the site could compromise mineral working nearby, such as the adjacent 'Yorks Bridge' site which Potters Clay & Coal Company and Little Wyrley Estate have an interest in.
Fireclay	Yieldfields Farm, North Bloxwich	Housing/ Retail/ Community	Large part of the submitted site (106) falls outside the Walsall boundary in South Staffordshire District. No recognition in the submitted information about the underlying geology or mineral resources present. Nor is it acknowledged that the site is affected by historic coal mining or how any 'legacy' issues will be dealt with.

12.7 Recommended Preferred Policy Options

Mineral Safeguarding Areas

12.7.1 As set out in Section 11.2, a review has been undertaken of the Mineral Safeguarding Area in the adopted BCCS under Policy MIN1 as well as the Areas of Search identified in the Dudley Borough Development Strategy (2017) and Walsall SAD (2019). The review established that the key mineral resources in the Black Country are the sand and gravels in Walsall, and brick clays predominantly in Walsall and some on Dudley and Sandwell, with resources in the latter two areas having all been exhausted and/or sterilised by urbanisation. Furthermore, there are also fireclay resources in Walsall. As such, the focus in terms of minerals safeguarding should be on safeguarding those economically viable resources. For the Black Country this means the sand and gravel, brick clay as well as fireclay resources in Walsall, as well as safeguarding existing mineral sites and mineral infrastructure sites.

12.7.2 As well as taking into account those AOSs identified in the Dudley Borough Development Strategy and Walsall SAD, due consideration has been given to other known mineral resources areas for particularly sand and gravel and brick clay taken from available information sources such as the BGS as well as that which informed the BCCS and local development plan documents. It is recommended that three Mineral Safeguarding Areas for sand and gravel, brick clay and fireclay in Walsall are taken forward in the Black Country Plan as illustrated in **Figure 12.5**.

12.7.3 It is apparent from the Site Assessments and Non-Mineral Options Impact Assessment that there is pressure for non-mineral development to take place in the recommended MSAs. Advice in the NPPF advises that councils should *"adopt appropriate policies so that known locations of specific minerals resources of local and national importance are not sterilised by non-mineral development where this should be avoided"* (NPPF paragraph 204). However, it is clear from the review of the Call for Sites (CFS) sites that most land promoters do not consider minerals safeguarding as an issue, and those that do are arguing that prior extraction is not feasible.

12.7.4 The good practice guidance on minerals safeguarding produced by the MPA and Planning Officer Society (POS) in April 2019[89] recommends that Mineral Resource Assessments should be required with planning applications for non-mineral development in an MSA to establish whether prior extraction is feasible. Where the BCAs are considering allocating non-mineral sites in one of the recommended MSAs, it is recommended that they approach to site promoters with a request to provide a Mineral Resource Assessment showing whether prior extraction would be feasible on all or part of the site. Where the site promoter is unable to provide such as assessment before the plan is examined, it is considered reasonable for the site allocation policy to require the submission of such an assessment with a planning application. It is further recommended that a similar requirement is included within the safeguarding policy that will apply to unallocated sites that come forward in an MSA.

Other Mineral Safeguarding Options

12.7.5 It is apparent from the Site Assessments and Non-Mineral Options Impact Assessment that many areas of the Black Country are facing transformation through site regeneration and that many traditional areas of employment where mineral infrastructure sites have operated successfully and without conflict are fewer in number.

12.7.6 As mineral infrastructure sites are an essential part of the total infrastructure of an area, it is not only important that they are appropriately located but also that policy protection is applied to areas

[89] Minerals Safeguarding Practice Guidance (April 2019), MPA and POS https://mineralproducts.org/news_publications01.htm

suitable for mineral uses to help maintain an adequate and steady supply of minerals and associated infrastructure. This is already a concern in the adopted BCCS Policy MIN1.

12.7.7 A more useful approach would be to consider:

- define consultation zones drawn to a specified distance (for example, between 100-150 m) to the boundary of existing mineral and mineral infrastructure uses to help ensure their longevity. Such consultation zones should not rule out potentially incompatible development per se, rather they should require that special attention be given to development within these zones and if a case can be made for the proposed development to be located close to the protected development, then this must be demonstrated; and/or
- define consultation zones around areas currently suitable for new mineral uses. In reality, these will likely already accommodate existing mineral infrastructure sites, but protection could be extended into areas within the same estate or into other areas assessed as holding, as yet unrealised, potential; and
- require a mineral viability assessment to be submitted by the applicant for any housing and non-conforming use, especially where the proposed non-mineral development falls within an MSA.

12.7.8 Whatever approach to their definition is adopted, the policy requirement would be that the relevant BCA is consulted on a specified range of proposed non-mineral development within these areas. This process should be precautionary but not unreasonably impede regeneration or the development of other much needed or otherwise suitable proposals. A suggested approach might be that:

'proposals which are considered to have the potential to adversely impact on the operation of a safeguarded mineral site or minerals infrastructure site or Plan allocations are unlikely to be opposed where:

- *a temporary permission for a mineral use has expired, or the mineral use has otherwise ceased, and the site or infrastructure is considered unsuitable for a subsequent mineral use; or*
- *redevelopment of the mineral site or loss of the mineral infrastructure would form part of a strategy or scheme that has wider environmental, social and/or economic benefits that outweigh the retention of the site or the infrastructure for the mineral use, and alternative provision is made for the displaced mineral use as appropriate; or*
- *a suitable replacement site or infrastructure has otherwise been identified and permitted'*.

12.7.9 Given the wide range of proposals that require planning permission, a large number will not need to be consulted upon, so a schedule of development excluded from safeguarding provisions should be drawn up. This would comprise applications that do not entail new built development such as Listed Building Consents, advertisements, Reserved Matters, Certificates of Lawfulness, minor works or demolition as well as development that introduces new population but can be reasonably accepted, such as:

- Local Plan allocations where the plan took account of mineral safeguarding requirements except where development would be at a higher density or demonstrably different in nature to that envisaged in the Local Plan;
- Infilling within a settlement;
- Converted buildings adjacent to an existing dwelling;
- Changes of use;

- Development within the curtilage to an existing dwelling;
- Amendments to current permissions (with no additional land take involved);
- Temporary development (for up to five years).

Recommended Preferred Mineral Policy Options

12.7.10 The following preferred policy options for minerals in the Black Country Plan are identified:

- Adopt more tightly defined MSAs for sand and gravel, brick clay, and fireclay focussed on the mineral resources in Walsall;
- Make policy provision to enable prior extraction of minerals within the MSAs, where feasible and economically viable, to prevent the unnecessary sterilisation of mineral resources by non-mineral development; and
- Safeguard existing mineral and mineral infrastructure sites and include an appropriate 'buffer zone', in accordance with good practices to ensure a consistency of approach.

12.8 Monitoring

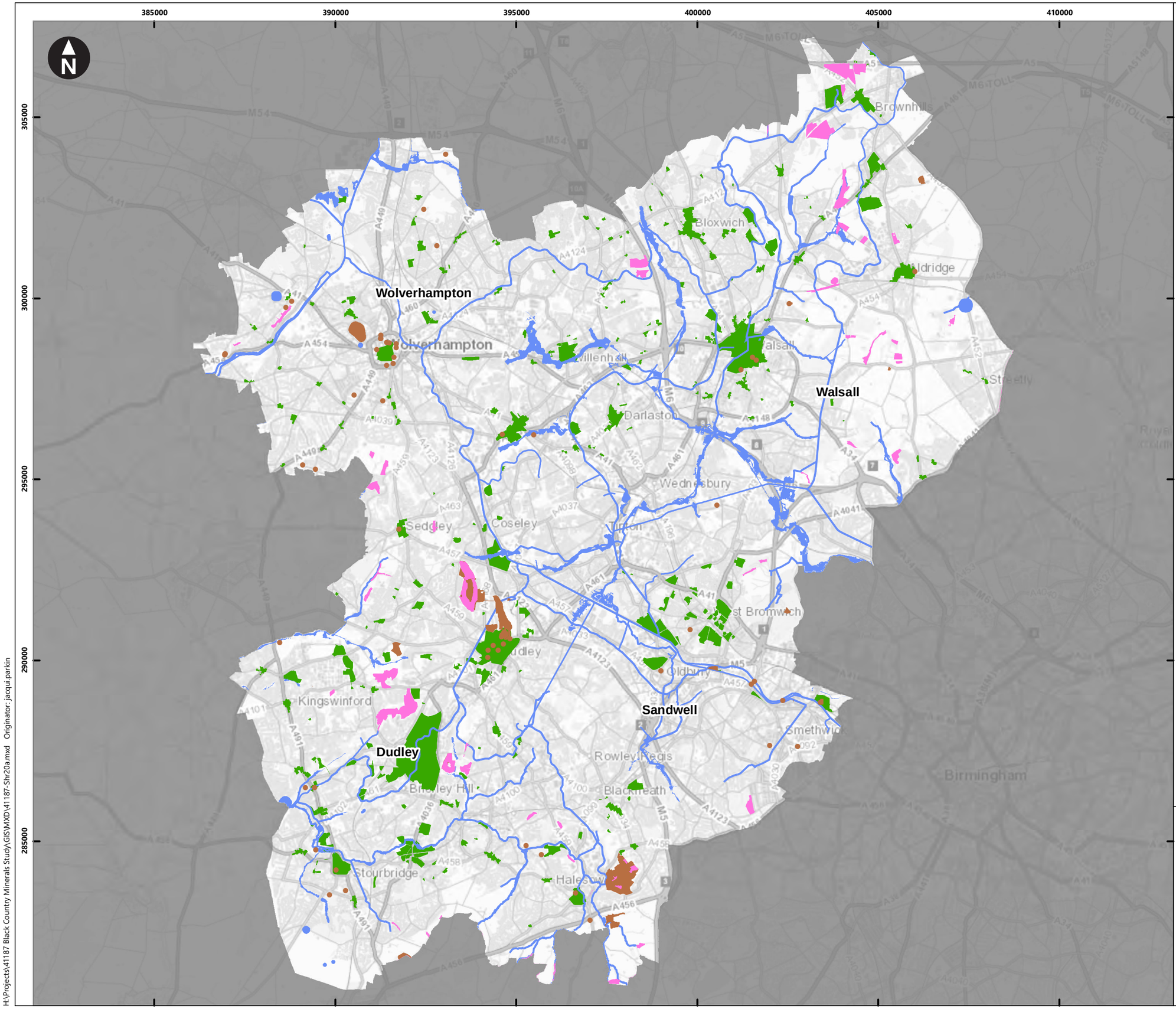
12.8.1 Monitoring the effects of the BCP policies will be important. This is to ensure that policies are having their intended effects and to identify whether any review is required. To do this, a monitoring framework should be prepared to set out how this is to be measured, the action required and the threshold of concern that would prompt an audit of decisions and consideration of whether action or review of the policy is required.

12.8.2 Drawn from recent examples produced by other mineral planning authorities and based upon on a current understanding of the likely scope of the re-cast of mineral policies of the BCCS, Table 12.12 suggest a broad framework for consideration.

Table 12.12 Potential Monitoring Framework for Mineral Policies

Objective/Policy Consideration	Indicator	Target (where applicable)	Method	Threshold of Concern	Action if Threshold Crossed
Maintain steady and adequate supply of minerals (sand and gravel)	Annual sales of sand and gravel Reserves of sand and gravel Sales of and capacity to produce recycled/secondary aggregates Maintain co-operation on cross border issues for aggregates supply	Sales of sand and gravel to meet planned level of provision 100% attendance at AWP/RTAB meetings	Annual monitoring including data received from AWP surveys and presented in Annual Monitoring Reports and Local Aggregate Assessments. Attendance at AWP/RTAB meetings	Maintain current level of production and Black Country's percentage regional contribution	Consideration of release further sand and gravel resources where available. Consider need for review of relevant policy and initiate review if appropriate
Mineral safeguarding	Extent of MSAs sterilised by non-mineral	No sterilisation of mineral resources contrary to policy requirements	Monitoring of planning application, annual monitoring	If more than one proposal is approved goes against policy	Consider need for review of relevant policy and initiate

Objective/Policy Consideration	Indicator	Target (where applicable)	Method	Threshold of Concern	Action if Threshold Crossed
	development granted permission Number of mineral infrastructure sites adversely affected by non-mineral development	No loss of mineral infrastructure sites contrary to policy			review if appropriate
Managing development and operation of mineral sites	Number of planning consents in which relevant policy is referenced in planning conditions consistent with policy criteria	-	Monitoring of planning applications, annual monitoring	Decision making that does not reflect policy criteria	Consider need for review of relevant policy and initiate review if appropriate
Local amenity and cumulative impacts	Percentage of approved development proposals meet criteria of policy	100% of approvals that may impact on local amenity and business are consistent with policy	Monitoring of planning applications within Consultation Areas for minerals, annual monitoring	If more than 3 proposals approved in any one year goes against this policy	Consider need for review of relevant policy and initiate review if appropriate



Key

Land Use

Land use allocations
Development sites
Regeneration sites
District/town/local centres

Water Environment

Flood Zone 3
SPZ 1 - Inner Zone
Water bodies
Rivers & canals

Nature Conservation

Special Areas of Conservation
National Nature Reserves
Site of Special Scientific Interest
Ancient Woodland

Cultural Heritage

Scheduled Monuments
Historic Parks & Gardens I & II*
Listed Buildings I & II"

0 1 2 3 4 5 6 km

Scale at A3: 1:100,000

Black Country Minerals Study

Figure 12.1
Spatial Exclusionary Constraints

January 2020

wood.

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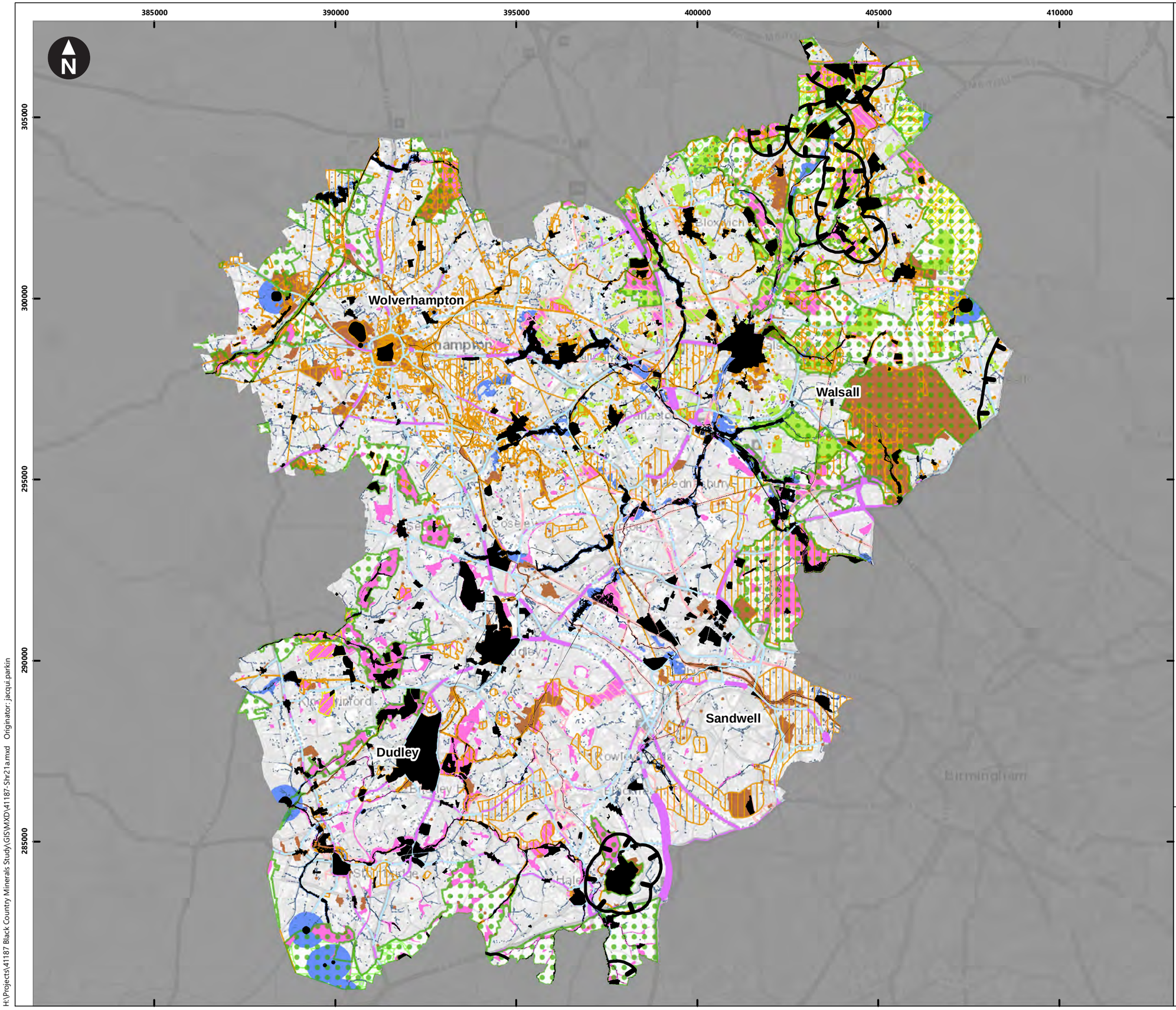

Key

Exclusionary criteria

Land Use

Green Belt

Open Spaces

Agricultural land grades 1, 2 & 3a

Water Environment

Flood Zone 2
SPZ2 Outer Zone

Risk of Flooding from Surface Water - Extent - 1 in 30 year event

Nature Conservation

Local Nature Reserve
SLINC
SINC

Wildlife Corridor

SSSI Impact Risk Zone

Cultural Heritage

Historic Parks & Gardens II
Listed Buildings II
Conservation Areas

Locally Listed Buildings
HER Mon Records
Areas of Potential Archaeological Importance

Other

Noise Action Plan Important Areas

Air Quality NO_2 Exceedance Areas

Mineral Areas of Search

0 1 2 3 4 5 6 km

Scale at A3: 1:100,000

Black Country Minerals Study

Figure 12.2
Spatial Discretionary Constraints

January 2020

wood.

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400000
402000
404000
406000
408000
306000
304000
302000
300000

Brownhills Common
Swan Works
Former Birch Coppice
Highfields North
Aldridge Factory
Sandown Quarry
Sandown Works
Atlas Factory
Atlas Quarry
Branton Hill Quarry

Key

- Authority Boundaries
- Permitted Mineral Extraction Sites
- Brickworks

Mineral Safeguarding Areas

- Brick Clay
- Fireclay
- Sand and Gravels

0 250 500 750 1,000 1,250 1,500 1,750 M

Scale at A3: 1:30,000

Black Country Minerals Study

Figure 12.5
Recommended Mineral Safeguarding Areas

January 2020

wood.

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400000 402000 404000 406000 408000

306000 304000 302000 300000

Brownhills Common

Swan Works

Former Birch Coppice

Highfields North

Aldridge Factory

Highfields South

Aldridge Quarry

Sandown Quarry

Sandown Works

Atlas Factory

Atlas Quarry

Branton Hill Quarry

Key

- Authority Boundaries
- Permitted Mineral Extraction Sites
- Site promoted through SHLAA
- BCP Call for Sites
- Brickworks

Mineral Safeguarding Areas

- Brick Clay
- Fireclay
- Sand and Gravels

0 250 500 750 1,000 1,250 1,500 1,750 M

Scale at A3: 1:30,000

Black Country Minerals Study

Figure 12.6
Sites Promoted for Non-Mineral Development in Recommended Minerals Safeguarding Areas

January 2020

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13. Findings and Conclusions

13.1 Findings

13.1.1 Minerals are essential to the national economy by providing jobs, markets for other goods and services stimulating economic activity, and raw materials to support growth and development whether that be infrastructure, buildings, energy or goods. The economic importance of minerals is recognised in national planning policy, with the NPPF setting out a requirement to ensure a steady and adequate supply of aggregates and industrial minerals.

13.1.2 The Black Country is rich in mineral resources given its complex underlying geology. The main minerals present being sand and gravel, brick clays (Etruria marl), dolerite, limestone, building stone, coal and associated fireclay, some of which are of national importance. The minerals industry only makes a relatively small contribution to the local economy, but nevertheless provides employment as well as building materials (e.g. construction aggregates, bricks, etc.) that are essential to the delivery of new development and engineering projects. Urban development has sterilised much of the mineral resources in the Black Country. Extraction (brick clay, sand and gravel) is now confined to the fringes of Walsall. In addition, there are several mineral infrastructure sites in the Black Country involved in mineral processing, storage and distribution.

Mineral Supply Requirements

13.1.3 The Black Country, which has no crushed rock mineral resources, will continue to rely on imports of crushed rock.

13.1.4 Sources of sand and gravel supply are confined to those in Walsall and as such, Walsall is the only Black Country authority that has contributed to the sub-regional sand and gravel requirements and this position is not expected to change as there is no evidence that the other authorities have viable sand and gravel resources.

13.1.5 Sand and gravel supply requirements for the West Midlands Metropolitan Area have been calculated to be between 0.5 and 0.55 million tonnes per annum based on recent production figures and it has been established that the majority of this requirement will continue to be supplied from sites in Solihull, although it is acknowledged that these sites are to be significantly affected by HS2 should it go ahead. It has been established that the Black Country has sufficient permitted reserves and production capacity for sand and gravel (at Branton Hill Quarry in Walsall) to continue with the current contribution of 50,000 tonnes per annum, at least until 2027 when minerals extraction at Branton Hill Quarry is required to cease. Although further sand and gravel resources are identified in the Birch Lane Area of Search in the Walsall SAD (2019), proposals for the extraction of these resources have yet to come forward.

13.1.6 Although sand and gravel resources in the Black Country will be safeguarded by the recommended MSA, it has been established through the review of mineral resources as part of this study that beyond 2027 (when extraction at Branton Hill is due to cease) the only accessible viable sand and gravel resources in the Black Country are those identified in the Birch Lane Area of Search in the Walsall SAD (2019). However, there is a lack of viable extraction sites coming forward from industry. This means that minerals supply after 2027 tails off in the Black Country and consequently it will no longer be able to continue meeting its 50,000 tonnes per annum contribution. Thus, there is a need for the BCAs to renegotiate their contribution to the West Midlands sub-regional sand and gravel requirements through the LAA process and/or regional Aggregates Working Party beyond 2027.

13.1.7 The main source of brick clay resources in the Black Country is Etruria Marl which is found in Walsall, Dudley and to a lesser extent in Sandwell, whilst fireclay resources are confined to the coal bearing strata in Walsall. The economic extraction fireclay is only likely to be viable when worked concurrently with surface coal extraction, which is considered unlikely during the Black Country Plan period. There two active brick clay quarries in the Black Country, namely Atlas Quarry and Sandown Quarry, both in Walsall.

13.1.8 Of the 5 brickworks in the Black Country, only Atlas Brickworks and Aldridge Brickworks are supplied from brick clay resources in the Black Country (i.e. Atlas Quarry), the other brickworks all rely on imported supplied of brick clay from elsewhere in the East and West Midlands – Staffordshire, Shropshire, Leicestershire and Warwickshire. It has been established that, other than Cradley, the remaining 4 brickworks will be unable to meet the 25-year supply requirements set out in the NPPF, whether this is from brick clay resources from within the Black Country or imported sources.

Mineral Safeguarding

13.1.9 Minerals can only be worked where they are found and in seeking to plan for a steady and adequate supply, provision must be made in the Black Country Plan to not only safeguard mineral resources areas, but also to deliver mineral sites and associated mineral infrastructure sites. The key mineral resources in the Black Country are the sand and gravels in Walsall and brick clays predominantly in Walsall and some in Dudley and Sandwell, with resources in the latter two areas having all been exhausted and/or sterilised by urbanisation. Furthermore, there are also fireclay resources in Walsall. As such, the focus in terms of minerals safeguarding should be on safeguarding those economically viable resources. For the Black Country this means the sand and gravel, brick clay as well as fireclay resources in Walsall through the identification of appropriate Mineral Safeguarding Areas (MSAs), as well as safeguarding existing mineral sites and mineral infrastructure sites. Furthermore, policy provision should be made to enable the prior extraction of minerals within the MSAs, where feasible and economically viable, to prevent the unnecessary sterilisation of mineral resources by non-mineral development.

13.1.10 Housing and employment land demand are projected to increase in the Black Country as regeneration of the urban area progresses. The need to plan for an adequate and steady supply of minerals and needs of minerals infrastructure will need to be balanced with those of housing and employment for suitable development sites. In seeking to identify development sites for minerals infrastructure, priority needs to be place upon safeguarding existing sites for continued use and retaining the potential of the areas in which they occur.

13.1.11 The Black Country retains large areas identified as existing employment uses in adopted plans. However, the regeneration agenda to diversify employment, reverse population decline and improve the environment of the Black Country all imply greater challenges to the retention or provision of increasingly non-conforming uses.

13.1.12 All other things being equal, development for housing and high-quality employment will always yield greater revenues. Whilst viable development depends on the interplay of location, abnormal development costs, policy requirements and landowner expectations that can only be evaluated on a site by site basis, there are significant areas where land uses has changed to housing development and there is ample evidence of an ongoing trend through planning applications and site promotion.

13.1.13 As mineral infrastructure facilities are an essential part of the total infrastructure of an area, it is not only important that they are appropriately located but also that policy protection is applied to areas suitable for mineral uses to help achieve the objectives of maintaining an adequate and steady supply of minerals. A policy response to safeguard capacity could consider:

- the definition of consultation zones drawn to a specified distance (say between 100-150m) to the boundary of existing mineral and mineral infrastructure uses and endure should the existing use cease; and/or
- the definition of consultation zones around areas currently suitable for new mineral uses into areas assessed as holding, as yet unrealised, potential; and
- require a mineral viability assessment to be submitted by the applicant for any housing and non-conforming use, especially where the proposed non-mineral development falls within an MSA.

13.1.14 Whatever approach to their definition is adopted, the policy requirement would be that the relevant BCA is consulted on a specified range of proposed non-mineral development within these areas. This process should be precautionary but not unreasonably impede regeneration or the development of other much needed or otherwise suitable proposals.

13.1.15 Monitoring the effects of the policies of the BCCS will be important to ensure that the policies are having their intended effects and to identify whether any review is required.

Bibliography

As well as setting out the documents referred to in this report, the following sets out a bibliography of the key background documents which have informed the Black Country Minerals Study. This is not intended to be an exhaustive list. The document and web links (where appropriate) were up-to-date at the time the report was written in December 2019 but may be subject to change.

Document Title	Web Link (where available)
National Planning Guidance	
National Planning Policy Framework (NPPF) (February 2019), HCLG	https://www.gov.uk/government/publications/national-planning-policy-framework--2
National Planning Policy for Waste (NPPW) (October 2014), CLG	https://www.gov.uk/government/publications/national-planning-policy-for-waste
National and Regional Guidelines for Aggregates Provision in England 2005-2020 (June 2009), CLG	https://www.gov.uk/government/publications/national-and-regional-guidelines-for-aggregates-provision-in-england-2005-to-2020
National Planning Practice Guidance (NPPG) – online resource	http://planningguidance.planningportal.gov.uk/blog/guidance/minerals/
Development Plans for Minerals – West Midlands Metropolitan Area	
Black Country Core Strategy (2006-2026) (adopted February 2011)	http://blackcountrycorestrategy.dudley.gov.uk/
Black Country Core Strategy Review: Issues and Options Consultation Report (July 2017)	http://blackcountrycorestrategy.dudley.gov.uk/
Solihull Local Plan: Shaping a Sustainable Future (adopted December 2013)	http://www.solihull.gov.uk/resident/planning/appealsenforcement/planmaking/ldf/localplan
Solihull Local Plan Review: Draft Local Plan (December 2016)	http://www.solihull.gov.uk/lpr
Birmingham Development Plan 2031 (adopted January 2017)	http://www.birmingham.gov.uk
Coventry Local Plan 2018 (adopted December 2017)	https://www.birmingham.gov.uk/directory_record/1360/environment_and_sustainability
Development Plans for Minerals – West Midlands other	
Shropshire Local Development Framework – Adopted Core Strategy (adopted February 2011)	https://shropshire.gov.uk/planning-policy/local-planning/core-strategy/
Shropshire Site Allocations and Management of Development (SAMDev) Plan 2006 – 2026 (adopted October 2015)	https://shropshire.gov.uk/planning-policy/local-planning/samdev-plan-2006-2026/the-plan/
Shropshire Local Plan Partial Review 2016 – 2036	https://shropshire.gov.uk/planning-policy/local-planning/local-plan-partial-review-2016-2036/
Minerals Local Plan for Staffordshire (2015 – 2030) (adopted February 2017) N.B. This plan does not include City of Stoke-on-Trent	https://www.staffordshire.gov.uk/environment/planning/policy/thedevelopmentplan/mineralslocalplan/mineralsLocalPlan.aspx https://www.staffordshire.gov.uk/environment/planning/policy/thedevelopmentplan/mineralslocalplan/Minerals-Local-Plan-document-library.aspx

Document Title	Web Link (where available)
Telford & Wrekin Local Plan 2011 – 2031 (adopted January 2018)	http://www.telford.gov.uk/info/20172/planning_policy_and_strategy/1229/telford_and_wrekin_local_plan_2011-2031
Draft Warwickshire Minerals Plan – Submitted for Examination (November 2019)	https://www.warwickshire.gov.uk/mdf
Emerging Minerals Core Strategy for Worcestershire: Submitted for Examination (December 2019)	http://www.worcestershire.gov.uk/info/20652/emerging_minerals_local_plan/726/emerging_minerals_local_plan_where_we_are_now http://www.worcestershire.gov.uk/info/20015/planning_policy_and_strategy/17/emerging_minerals_local_plan_background_documents
Herefordshire Minerals and Waste Draft Local Plan (MWLP) – (January 2019)	https://www.herefordshire.gov.uk/info/200185/local_plan/280/minerals_and_waste_local_plan/1
Stoke-on-Trent City Council and Newcastle-under-Lyme District Council Joint Local Plan Preferred Options (February 2018)	https://www.stoke.gov.uk/directory_record/333205/joint_local_plan_preferred_options_consultation_document/category/361/preferred_options_consultation
Minerals Core Strategy – Revised Spatial Options (February 2009), Warwickshire County Council	http://www.warwickshire.gov.uk/mdf
Development Plans for Minerals – East Midlands	
Derby and Derbyshire Minerals Local Plan (adopted April 2000 and amended in 2002)	https://www.derbyshire.gov.uk/environment/planning/planning-policy/minerals-waste-development-framework/minerals-and-waste-planning-policy.aspx
Emerging Derby and Derbyshire Minerals Plan (in preparation): Towards a Minerals Local Plan Spring 2018 Consultation (N.B. includes Derby City but does not include Peak District National Park)	https://www.derbyshire.gov.uk/environment/planning/planning-policy/minerals-waste-development-framework/minerals-plan/minerals-local-plan.aspx
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Northamptonshire Minerals and Waste Local Plan (adopted July 2017)	http://www3.northamptonshire.gov.uk/councilservices/environment-and-planning/planning/planning-policy/minerals-and-waste-planning-policy/Pages/update-of-the-adopted-minerals-and-waste-local-plan.aspx
Nottingham Local Plan Part 2: City Land and Planning Policies Document (LPPD) – Submission (April 2018)	https://www.nottinghamcity.gov.uk/planning-and-building-control/planning-policy/the-local-plan-and-planning-policy/
Nottinghamshire Minerals Local Plan (adopted November 2005) N.B. Does not include Nottingham City	http://www.nottinghamshire.gov.uk/planning-and-environment/minerals-local-plan/adopted-minerals-local-plan
Nottinghamshire New Minerals Local Plan: Publication (August 2019) N.B. Does not appear to include Nottingham City	https://www.nottinghamshire.gov.uk/planning-and-environment/minerals-local-plan/new

Document Title	Web Link (where available)
Rutland Local Development Framework – Core Strategy (adopted July 2011)	https://www.rutland.gov.uk/my-services/planning-and-building-control/planning/planning-policy/local-plan/
Rutland Local Plan Review 2016 – 2036 – Consultation Draft Plan (July 2017) Additional consultation published in August 2019	https://www.rutland.gov.uk/my-services/planning-and-building-control/planning/planning-policy/local-plan-review/ https://www.rutland.gov.uk/my-services/planning-and-building-control/planning/planning-policy/local-plan-review/
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Wolverhampton Area Action Plans (adopted September 2014): • Bilston Corridor • Stafford Road • Wolverhampton City Centre	http://www.wolverhampton.gov.uk/aap
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West Midlands Aggregates Working Party Annual Monitoring Reports 2009 - 2017	https://www.gov.uk/government/collections/aggregates-working-parties-annual-reports#2013

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West Midlands Metropolitan Authorities Local Aggregates Assessment 2013 (November 2015)	https://go.walsall.gov.uk/evidence#Minerals
Shropshire Local Aggregates Assessment 2016-17	https://shropshire.gov.uk/planning-policy/monitoring-and-site-assessment/local-aggregates-assessment/
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Walsall Site Allocation, CIL Deliverability and Viability Study (September 2015), DTZ – Part 2 and Appendices 2a – 2c cover the employment land portfolio and Part 3 and Appendix 3 consider potential waste sites	https://go.walsall.gov.uk/evidence#DeliveryViability
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Brick Clay Supply in the West Midlands - Tables (March 2016) and Map (May 2016), West Midlands Non-Aggregate Minerals DTC Group	
Black Country Geological Society website - see in particular summary of Black Country geology and geological leaflets and guides for important sites and areas.	http://bcgs.info/pub/local-geology/black-country-geology/ http://bcgs.info/pub/local-geology/geological-leaflets-and-guides/
Geology Matters website – website showcasing the geology of the Black Country, managed by Black Country Geological Society and Dudley, Sandwell and Wolverhampton Museums, includes high quality images of geological specimens	http://geologymatters.org.uk/
Coal Authority Interactive Map Viewer – includes surface coal resource areas and mapping of recorded historic coal mining	http://mapapps2.bgs.ac.uk/coalauthority/home.html
Coal Authority mapping metadata	https://www.gov.uk/government/collections/coal-mining-data
Minerals Information Online, British Geological Survey	http://mapapps2.bgs.ac.uk/geoindex/home.html?topic=Minerals
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Oil and Gas Authority Interactive Map – Onshore Oil & Gas Activity	https://www.ogauthority.co.uk/onshore/interactive-map-and-co-ordinates-system/
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