

Berkshire Unitary Authorities

Local Aggregate Assessments 2014 and 2015 (2005-2014 & 2006-2015)

August 2016

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Final Report

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Glossary

Primary aggregates

These are aggregates produced from naturally occurring mineral deposits, extracted specifically for use as aggregate and used for the first time. They are produced either from rock formations that are crushed to produce 'crushed rock' aggregates, or from naturally occurring sand and gravel deposits.

Land-won aggregates

Primary aggregates won from land.

Marine aggregates

Primary aggregates dredged from the sea, almost exclusively sand and gravel.

Secondary aggregates

Aggregates derived as a by-product of other quarrying and mining operations or industrial processes, including colliery spoil, china clay waste, slate waste; power station ashes, incinerator bottom ashes and similar products.

Recycled aggregates

Aggregate materials recovered from construction and demolition processes and from excavation waste on construction sites.

Alternative aggregates

A grouping of secondary and recycled aggregates.

Acronyms and Abbreviations

Term	Meaning / Definition
AONB	Area of Outstanding Natural Beauty
AMRI	Annual Minerals Raised Inquiry
AMSURveys	Aggregates Monitoring Surveys
BGS	British Geological Survey
BOB	Berkshire, Oxfordshire and Buckinghamshire
BUAs	Berkshire Unitary Authorities
CDEW	Construction, Demolition and Excavation Waste
DCLG	Department for Communities and Local Government
GDP	Gross Domestic Product
GVA	Gross Value Added
LAA	Local Aggregates Assessment
MASS	Managed Aggregates Supply System
MPA	Mineral Planning Authority
NPPF	National Planning Policy Framework
NNR	National Nature Reserve
NUTS	Nomenclature of Units for Territorial Statistics
ONS	Office of National Statistics
PAMG	Planning for Aggregate Minerals Guidance
RBWM	Royal Borough of Windsor and Maidenhead
RMLP	Replacement Minerals Local Plan
SAC	Special Area of Conservation
SEEAWP	South East England Aggregates Working Party
SEERA	South East England Regional Assembly
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
WRAP	Waste and Resources Action Programme
WBC	West Berkshire Council

1. Introduction

Project Brief

- 1.1 Atkins Ltd has been commissioned by five of the Berkshire Unitary Authorities (BUAs), Bracknell Forest Borough Council, Reading Borough Council, Royal Borough of Windsor and Maidenhead, Slough Borough Council, and Wokingham Borough Council, working in conjunction with West Berkshire Council, to produce a Joint Local Aggregate Assessment for 2014 and 2015. This follows advice within the National Planning Policy Framework (NPPF), and Planning Practice Guidance set out on the Government website¹, dated 6th March 2014.
- 1.2 The National Planning Policy Framework 2012 (NPPF) states at paragraph 145 that minerals planning authorities should prepare:
- 'an annual Local Aggregate Assessment, either individually or jointly by agreement with another or other Mineral Planning Authorities, 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).'*
- 1.3 The BUAs have historically acted together in mineral planning matters, via the Joint Strategic Planning Unit. Following the closure of the JSPU in 2011, the BUAs continue to cooperate on minerals and waste matters. Although West Berkshire Council prepares its own LAAs (including a 2014 LAA and survey work for the 2015 LAA), this document takes into account data from West Berkshire. There is a clear relationship between the Berkshire Unitary Authorities LAA and the West Berkshire LAA in that they draw on many of the same sources.
- 1.4 The commission included updating the annual survey of aggregate sales and reserves in Berkshire covering quarries, rail depots and sites processing recycled aggregates to the end of 2015. The results of the survey update are presented in Appendix A. This report combines the results of the survey with information available for previous years supplied by the BUAs and considers how the current guidance on calculating Local Aggregate Assessments might be applied in Berkshire.

Purpose of the Assessment

- 1.5 Para 142 of the NPPF confirms that *'Minerals are essential to support economic growth and our quality of life. It is therefore important that there is sufficient supply of material to provide the infrastructure, buildings, energy and goods that the country needs'*. Mineral Planning Authorities are advised to *'plan for a steady and adequate supply of aggregates'* by, amongst other things, preparing a Local Aggregate Assessment (LAA).
- 1.6 The objectives of the LAA are to provide a robust evidence base for minerals planning in Berkshire, including development management decisions, the formulation of planning policy and responding to minerals issues in other local authority areas. Information in the LAA, as updated by annual reviews, is also relevant to the calculation of the landbank figure used for annual monitoring purposes and in the consideration of planning applications for mineral working during the plan period.

Background to the Managed Aggregate Supply System

- 1.7 The Managed Aggregate Supply System (MASS) is a process which was initially introduced following the recommendations in the 1976 report of the Advisory Committee on Aggregates chaired by Sir Ralph Verney. It seeks to assist in the planning of *'a steady and adequate supply of aggregates'* by addressing the significant imbalances in the occurrence of suitable natural aggregate resources in England and the areas where they are most needed.

¹ [http://planningguidance.planningportal.gov.uk/5125072\Berkshire Local Aggregate Assessment 2014 & 2015 FINAL REPORT rev.2R2](http://planningguidance.planningportal.gov.uk/5125072\Berkshire%20Local%20Aggregate%20Assessment%202014%20&%202015%20FINAL%20REPORT%20rev.2R2)

- 1.8 The Managed Aggregate Supply System section of the Planning for Aggregate Minerals Guidance (PAMG)² explains in para 060 that

'The Managed Aggregate Supply System seeks to ensure a steady and adequate supply of aggregate mineral, to handle the significant geographical imbalances in the occurrence of suitable natural aggregate resources, and the areas where they are most needed. It requires mineral planning authorities which have adequate resources of aggregates to make an appropriate contribution to national as well as local supply, while making due allowance for the need to control any environmental damage to an acceptable level'.

- 1.9 PAMG states that the Government is clear that every Mineral Planning Authority (MPA) is required to prepare a Local Aggregate Assessment on its own or jointly with one or more minerals planning authority, even if there is no aggregate extraction in a mineral planning area (para 067).

Methodology

- 1.10 The NPPF states that separate landbanks should be calculated and maintained for aggregate materials of a specific type or quality or which have a distinct and separate market. For each different type of aggregate, the landbank, and future provision calculations, should be based on a *'rolling average of 10 years' sales data and other relevant information and an assessment of all supply options, taking into account:*
- *the advice of the Aggregate Working Party; and*
 - *published National and Sub National Guidelines on future provision'.*
- 1.11 The PAMG makes it clear (in para. 079) that the advice of the National Aggregate Co-ordinating Group to each Aggregate Working Party may be a material consideration when preparing plans. The guidance also advises that *'while the mineral planning authority does not have to be bound by the advice of the Aggregate Working Party, the views of the Aggregate Working Party are still capable of being a material consideration in making decisions on individual planning applications, and should be taken into account in preparing mineral plans'* (para 076).
- 1.12 PAMG supports the approach to planning for aggregate mineral extraction under the NPPF. Paragraph 062 of that guidance says the LAA should also cover an assessment of the balance between demand and supply, and the economic and environmental opportunities and constraints that might influence the situation. As advised by Paragraph 063 of that guidance, Berkshire's Local Aggregate Assessment provides an assessment of the demand for and supply of aggregates based on the following supply options:
- recycled aggregates;
 - secondary aggregates;
 - marine sources;
 - aggregate imports into and exports out of the Mineral Planning Authority Areas; and
 - land-won resources.
- 1.13 The preparation of this LAA has taken account of practice guidance produced jointly by the Planning Officers Society (POS) and the Mineral Products Association (MPA) 'Practice Guidance on the Production and Use of Local Aggregate Assessments' April 2015.
- 1.14 In order to be used to monitor the need for provision for aggregate supply on an ongoing basis during the plan period, the LAA needs to be based on a methodology that can be updated annually. The Guidance strongly encourages Mineral Planning Authorities to include Local

² <http://planningguidance.planningportal.gov.uk/blog/guidance/minerals/planning-for-aggregate-minerals/the-managed-aggregate-supply-system/>

Aggregate Assessments in their Annual Monitoring Reports as part of their responsibility to keeping the demand and supply of aggregates under regular review.

Sources of Information

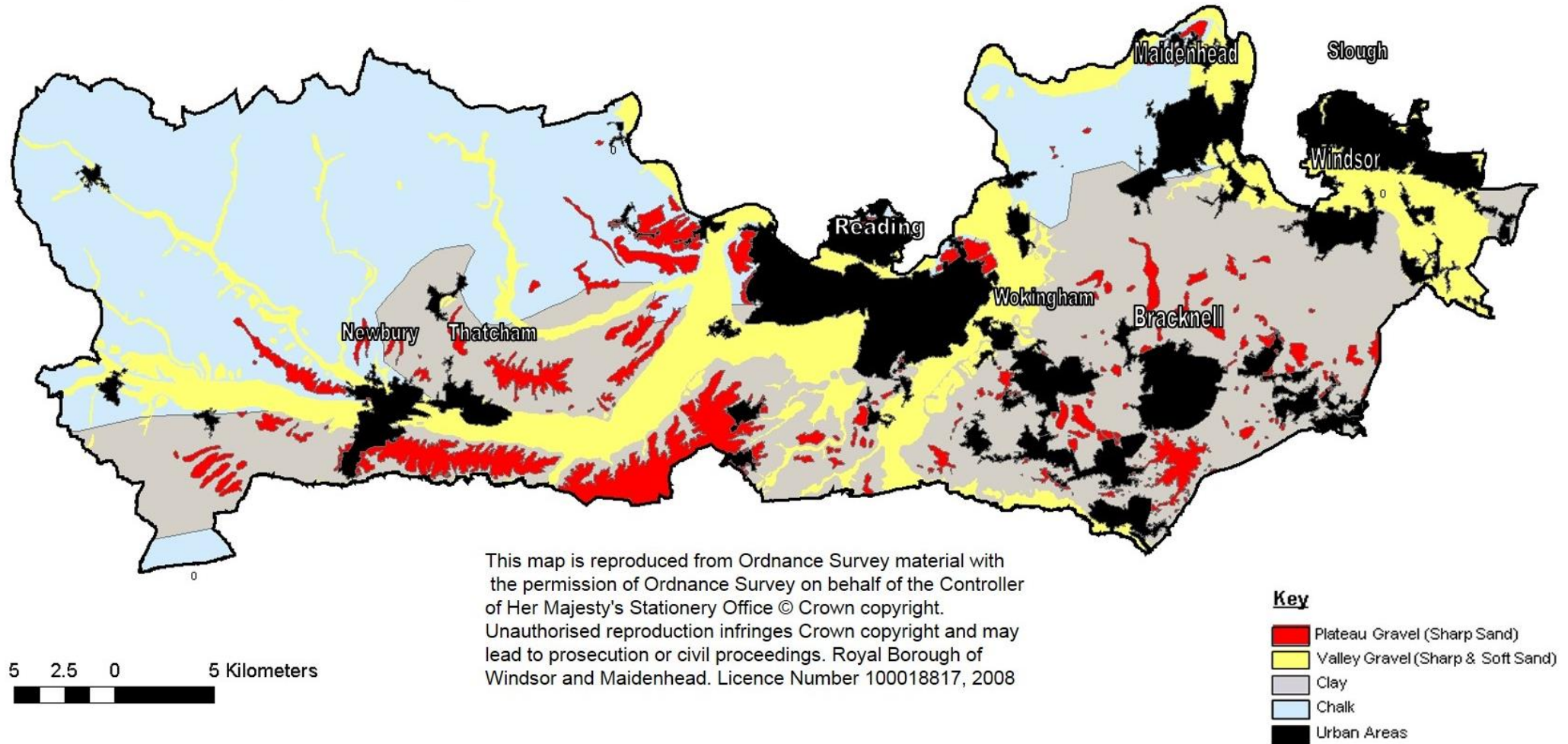
- 1.15 Reference has been made to the sources of information listed in the PAMG which are relevant to the preparation of Local Aggregate Assessments. This includes, but is not limited to:
- the Annual Minerals Raised Inquiry Survey, (AMRI) which sets out sales of each type of mineral in Great Britain; the latest available information is for 2014;
 - the four-yearly Aggregate Minerals Surveys on the sales, movement, consumption and permitted reserves of aggregate minerals; the latest available information on these surveys was for the year 2009. The report of the survey for the year 2014 (AM2014) is currently waiting for approval from DCLG for publication, therefore the results are not available to include in this LAA;
 - Survey data obtained direct from the operators as part of the South East England Aggregates Working Party (SEEAWP) Aggregates Monitoring Surveys;
 - the Annual Report of the Aggregate Working Party, which sets out sales of aggregates, aggregate mineral reserves, local information on Construction and Demolition waste, secondary aggregates, and planning permissions; the latest published report is AM2013, however a draft version of the AM2014-15 report has been used as a source of information for this LAA (it should be noted that the data used from this report is provisional);
 - any Annual Monitoring Reports prepared by Mineral Planning Authorities setting out the effectiveness of mineral policy and providing information to be used in reviewing and preparing new policies; and
 - data and information on mineral resources held by the British Geological Survey and the Crown Estate.
- 1.16 In the AMRI data Berkshire information is presented with many entries noted as confidential and this means that for some of the years out of the latest ten, no distinction can be made between sales of soft sand and sales of sharp sand and gravel.
- 1.17 As our survey data and that collected by other MPAs in the South East is obtained direct from the operators it is generally regarded as more reliable than AMRI data, therefore the analyses in this LAA are based on operator and SEEAWP data only, except for National data, for which information is only available from AMRI.
- 1.18 In addition there are some discrepancies between our survey data and the 2014 Aggregate Minerals Survey (AM2014 – awaiting publication) which in cooperation with the BGS we have sought unsuccessfully to resolve. This has been addressed within this report by using data from the surveys we carried out wherever relevant.
- 1.19 Other sources of information include:
- Construction forecasts and other national economic forecasts;
 - Records of past and anticipated future development rates in Berkshire;
 - Berkshire Economic Assessments and Local Investment Plan;
 - The study of Aggregate Wharves and Rail Depots in South East England Prepared for South East England Regional Assembly (SEERA) by MDS Transmodal Limited (2009);
 - Other public sources of information, e.g. Minerals UK and MPA web sites.

2. Aggregates in Berkshire

Geology of Berkshire and Current Mineral Working

- 2.1 Berkshire has been a significant producer of minerals for many years. The area is underlain by three main types of minerals – sand and gravel, chalk and clay – and each of these has been and continues to be extracted. There are no deposits that yield crushed rock aggregates. The extent of the deposits of sand and gravel, chalk and clay is shown in the simplified geological map (Figure 2.1 below). Further background information about minerals and minerals planning can be found on the British Geological Survey website at www.mineralsuk.com.
- 2.2 Until the 20th Century, chalk and clay were the main minerals produced in the area, generally to meet local needs. Chalk and clay continue to be extracted as a by-product at sand and gravel quarries, but on a very small scale now compared with previous times. The chalk is now mainly used as agricultural lime, and sometimes as ‘fill’ material in civil engineering projects. The clay was formerly used chiefly for brick and tile making, but today its main use is as part of the lining for waste landfill sites to prevent the spread of pollution and for other engineering applications.
- 2.3 Since the Second World War, the main type of mineral production in Berkshire has been of aggregates for the construction industry, which comprise sands and gravels. Substantial quantities of aggregate minerals are needed for all construction work – in the building or renovation of houses, schools, hospitals, roads, and so on.
- 2.4 Berkshire’s main aggregates deposit is sharp sand and gravel, suitable for most types of concreting purposes. There are also deposits of soft sand, suitable either as a fill material, or in limited circumstances as building sand for use in making mortar or plaster, or in asphaltting.
- 2.5 Geologically sharp sand and gravel is a very recent deposit, dating from the end of the last ice age (c.10,000 years ago). As shown in the geological map, sharp sand and gravel is predominantly found along the river valleys, notably the Kennet, Loddon and Thames. It is also found in the river terrace deposits (formerly called ‘plateau gravels’) which are the remnants of earlier abandoned floodplains raised by geological forces above the present course of the rivers.
- 2.6 The better quality sharp sand and gravel is mainly used for making concrete, and is referred to as ‘concreting sand’. Where the deposit contains clay and silt, it is not suitable for concreting and instead used as sub base in roads and hardstandings, or otherwise as a fill material. This poorer quality sharp sand and gravel is colloquially known as ‘hoggin’.
- 2.7 Soft sand is a much older deposit, dating from around 60 million years ago. In Berkshire, it principally occurs in the Reading Formation. The Reading Formation is a bedrock deposit, predominantly clay bearing, but also containing sand beds. It outcrops on the higher ground above the Kennet Valley, and in bands between Reading and Maidenhead.
- 2.8 Generally speaking bedrock deposits are thicker than the superficial sharp sand and gravel deposits, and hence the yield per hectare is higher.
- 2.9 Much of the northern area of West Berkshire, where the main deposits of soft sand occur, lies within the North Wessex Downs AONB. Whilst mineral extraction is not excluded from such areas, national planning policy is that in determining planning applications for major development in AONBs, National Parks and The Broads (including major mineral development) great weight should be given to the conservation of the landscape and scenic beauty, as well as conservation of wildlife and cultural heritage, and that permission should not be granted except in exceptional circumstances, and where it can be demonstrated to be in the public interest. The NPPF confirms that provision for landbanks of non-energy minerals should, as far as is practical, be maintained from outside such national level designations. Consideration of

Figure 2.1 – Simplified Geological Map of Berkshire



planning applications for major developments in AONBs should include assessment of the following:

- the need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy;
- the cost of, and scope for, developing elsewhere outside the designated area, or meeting the need for it in some other way; and
- any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.³

- 2.10 Past Minerals Plans for Berkshire, the latest of which is the Replacement Minerals Local Plan for Berkshire (RBMLP) adopted in 2001, recognised this policy position by restricting the annual combined output of soft sand from sites in the AONB to a maximum of 150,000 tonnes per annum, as well as scrutinising applications as set out above. The relevant policy was Policy 15.
- 2.11 The RBMLP also set out preferred areas within which planning proposals for extraction of sharp sand and gravel would be approved subject to detailed development control considerations.
- 2.12 Reflecting the proximity to urban areas, where the main demand for construction materials arises, quarrying of aggregates in Berkshire has been focussed on the sharp sand and gravel deposits along the Kennet valley, and between Reading and Newbury. Additionally there are concentrations of past and active workings north and south of Maidenhead and south of Slough. Most aggregate is processed by the operator, either on-site or at a central processing facility nearby and sold direct for use in the construction industry.
- 2.13 In addition, there is an established factory at Beenham in West Berkshire which manufactures roof tiles from aggregate and supplies a wide market in the south of England with its products. Its raw material is principally sand and gravel obtained locally, but the factory also uses recycled aggregate obtained by reprocessing its own non specification concrete tiles.
- 2.14 The quarries that have approved reserves for extraction of sharp sand in Berkshire that have operated in the last 10 years are listed in the tables below. The shading indicates the years that those quarries were operational. Quarries marked with an asterisk are now worked out. Craven Keep and Star Works are dormant / inactive, but retain approved reserves.

Table 2.1 – Sharp Sand and Gravel Quarries in Berkshire

Quarry	UA	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Horton Brook Quarry	RBWM										
Kingsmead Quarry	RBWM										
Sheephouse Farm Quarry	RBWM										
Bray Quarry	RBWM										
Riding Court Farm (inactive)	RBWM										
Eversley Quarry (also known as Fleethill Farm)	Wok										

³ NPPF paras 115 and 116 (following equivalent earlier guidance in PPS7 and MPS1)
5125072\Berkshire Local Aggregate Assessment 2014 & 2015 FINAL REPORT
rev.2R2

Quarry	UA	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Kennetholme Farm	WBC										
Hartshill Quarry	WBC										
Craven Keep (inactive)	WBC										
Lower Farm, Wasing (inactive)	WBC										
Woolhampton Quarry*	WBC										
Midgham Quarry Ph 5-8*	WBC										
Aldermaston Wharf*	WBC										
Raghill Farm / Quarry*	WBC										
Preferred Area 5*	WBC										
Theale Pit*	WBC										
Beenham Pit*	WBC										

Shading indicates the years that those quarries were operational.
* Denotes quarry is now worked out

Source: Annual Monitoring Reports

- 2.15 Poyle Quarry, located in the Royal Borough of Windsor and Maidenhead, hasn't been worked for approximately 10 years therefore has not been included in Table 2.1. The planning permission at this quarry expired in December 2015.
- 2.16 In 2013, West Berkshire Council granted planning permission for a new sharp sand and gravel quarry at Lower Farm, Wasing. The site is not yet in operation.
- 2.17 In August 2015 planning permission was granted for a quarry at Datchet's Riding Court Farm. The quarry, to be operated by CEMEX, is ready to commence production.
- 2.18 Bray, Sheephouse Farm and Horton Brook quarries are located in a Green Belt.
- 2.19 The equivalent soft sand quarries that have operated in the last ten years are listed in the table below. Old Kiln Farm and Copyhold Farm are within an AONB and Star Works is located in a Green Belt. The shading indicates the years that those quarries were operational. Copyhold Farm and Star Works have permitted reserves remaining, and Old Kiln Farm is now worked out.

Table 2.2 – Soft Sand Quarries in Berkshire

Quarry	UA	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Old Kiln Farm*	WBC										
Copyhold Farm (incl. extension)	WBC										
Star Works (inactive)	WoK										

Shading indicates the years that those quarries were operational.
* Denotes quarry is now worked out

Source: Annual Monitoring Reports

Assessment of Berkshire's Available Mineral Resources

- 2.20 PAMG advises that reference should be made to data and information on mineral resources held by the British Geological Survey (BGS) and that the contributions made by Mineral Planning Authorities to achieve a steady and adequate supply of aggregates for the construction industry should acknowledge environmental constraints.
- 2.21 The Review of Minerals Supply prepared for SEERA by the BGS in 2006 included assessments of the available resources (i.e. aggregate deposits that were not already sterilised by surface development) in each MPA area in the South East. The figures were categorised according to whether the resources fell within an area subject to one or more of the following national or international environmental designations which indicate special care is needed to avoid damaging the environment: SSSI, NNR, National Park, AONB, SPA or SAC. The resources that were not in any of these designated areas were referred to as 'unconstrained' reserves. The assessments were undertaken by reference to assumed depths of deposits interpreted from local and regional geological knowledge and other considerations as explained in more detail in the South East England Regional Assembly: South East Plan – Review of Mineral Supply and Demand – CR/06/147.
- 2.22 The resource assessments do not take account of other potential constraints on the availability of these resources for extraction, such as the physical constraints of access, air safety, air quality management areas, proximity to sensitive uses, local nature conservation interests, protected species, water interests, landscape impact, etc, or the practical constraints, such as quality of the reserve and distance from markets. Any conclusions drawn from this resource assessment therefore need to be treated with caution.
- 2.23 The assessments for Berkshire indicated the amounts of resources of concreting sand and gravel (sharp sand and gravel) and of soft sand, subject to or not subject to the national or international environmental designation constraints, as shown in the tables below.

Table 2.3 – Berkshire Sharp Sand and Gravel Resource Assessment (million tonnes)

Type of mineral/MPA	Not subject to environmental designation constraint	Subject to one environmental designation constraint	Subject to more than one environmental designation constraint
Bracknell Forest BC	12	0	17
Reading BC	15	0	0
Slough BC	14	0	0
West Berkshire C	312	348	36

Type of mineral/MPA	Not subject to environmental designation constraint	Subject to one environmental designation constraint	Subject to more than one environmental designation constraint
RBWM	195	0	2
Wokingham DC	177	0	0
Berkshire Total	725	349	56
NB. Totals may not sum due to rounding.			

Source: South East Plan - Review of Minerals Supply and Demand. BGS report CR/06/147 Table 5

Table 2.4 – Berkshire Soft Sand Resource Assessment (million tonnes)

Type of mineral/MPA	Not subject to environmental designation constraint	Subject to one environmental designation constraint	Subject to more than one environmental designation constraint
Bracknell Forest BC	0	0	0
Reading BC	23	0	0
Slough BC	5	0	0
West Berkshire C	321	983	23
RBWM	339	0	5
Wokingham DC	183	0	0
Berkshire Total	872	983	28
NB. Totals may not sum due to rounding.			

Source: South East Plan - Review of Minerals Supply and Demand. BGS report CR/06/147 Table 6.

Assessment of Available Mineral Resources in Berkshire's Neighbouring Areas

- 2.24 The following tables compare Berkshire's resource assessment against those of other MPA areas included in the BGS report for SEERA. Table 2.5 suggests that there are three MPA areas with more sharp sand and gravel resources than Berkshire; Buckinghamshire, Hampshire and Oxfordshire. These three MPA areas contain some 63% of the unconstrained concreting sand and gravel in the former region. Berkshire has just over 10%.
- 2.25 Table 2.6 suggests that Berkshire ranks third in its unconstrained soft sand resources after Hampshire, and Kent and Medway. Berkshire has about 16% of the unconstrained soft sand resources in the former region, and together with Hampshire and Kent and Medway this amounts to some 65% of the unconstrained soft sand resources in the former region.

Table 2.5 – Comparative Assessment of Sharp Sand and Gravel Deposits in SE England

County	Not subject to environmental designation constraint	Subject to one environmental designation constraint	Subject to more than one environmental designation constraint
Berkshire	725	349	56
Buckinghamshire	1,058	113	25
East Sussex	119	179	45
Hampshire	1,059	289	545

County	Not subject to environmental designation constraint	Subject to one environmental designation constraint	Subject to more than one environmental designation constraint
Kent and Medway	549	193	190
Milton Keynes	153	0	0
Oxfordshire	2,091	419	41
Surrey	495	66	64
West Sussex	401	178	23

Source: South East Plan - Review of Minerals Supply and Demand. BGS report CR/06/147

Table 2.6 – Comparative Assessment of Soft Sand Deposits in SE England

County	Not subject to environmental designation constraint	Subject to one environmental designation constraint	Subject to more than one environmental designation constraint
Berkshire	872	983	28
Buckinghamshire	285	0	0
East Sussex	10	1	0
Hampshire	1,022	317	1237
Kent and Medway	1,695	422	168
Milton Keynes	190	0	0
Oxfordshire	559	0	25
Surrey	461	1,486	487
West Sussex*	355	853	202

*NOTE; Figures for W Sussex may have changed following creation of South Downs National Park.

Source: South East Plan - Review of Minerals Supply and Demand. BGS report CR/06/147

Key Points

- 2.26 Berkshire's aggregate minerals are sharp sand and gravel and soft sand. Not all sharp sand and gravel is suitable for concreting, lesser quality material is used for fill. Soft sand also varies in quality, with the better deposits being used for building sand or asphaltting, and poorer material also used as fill.
- 2.27 Sharp sand and gravel is the main aggregate quarried in Berkshire, but many of the quarries that have operated during the last ten years are now worked out. At the end of 2015, seven quarries remain in operation (active), one of them produces soft sand, Copyhold Farm which is within an AONB. Permission has been granted for two new sharp sand and gravel quarries; one at Lower Farm, Wasing in West Berkshire and the other at Riding Court Farm in the Royal Borough of Windsor and Maidenhead (August 2015); both are yet to start operating.
- 2.28 West Berkshire, Royal Borough of Windsor and Maidenhead and Wokingham have been assessed in the 2006 Review of Minerals Supply prepared for SEERA by the BGS as the UAs with the highest amount of sand and gravel resources in Berkshire. There are roughly similar

amounts of sharp sand and gravel and soft sand deposits in Berkshire which are unconstrained by specified national level environmental designations.

- 2.29 According to a study undertaken by the BGS for DCLG in 2006, Berkshire has about 10% of the unconstrained sharp sand and gravel deposits in the former south east region, and about 16% of the unconstrained soft sand. The environmental designation constraint does not take account of physical and practical constraints such as poor access, proximity to sensitive land uses and distance from markets. The BGS study is a high level assessment of potential reserves based on a number of assumptions and therefore can only be considered an indicative, broad estimate, of potential reserves that does not account for a myriad of factors that may influence extraction.

3. Past and Current Supply of Aggregates in Berkshire

3.1 Berkshire's current sources of aggregates are:

- Primary aggregates – sharp sand and gravel, and soft sand;
- Imported aggregates; and
- Alternative sources of aggregates (recycled aggregates and secondary aggregates).

3.2 The following is a consideration of the past and current supply of aggregate from these sources, and their potential role in providing an adequate and steady supply of aggregates in Berkshire.

Sand and Gravel

Past Sales

3.3 As noted in Chapter 2, Berkshire has both sharp sand and gravel deposits and deposits of soft sand. The actual sales data for the two types of aggregate is confidential for commercial reasons, and for this reason it is not possible to calculate separate landbanks for each, even though it is recognised that they serve different markets. It is possible to report that generally sales of sharp sand and gravel in Berkshire are notably higher than sales of soft sand, with soft sand comprising less than about 8% of total sales for many years. This picture can also be deduced from the fact that there are fewer soft sand quarries, all of which are in the AONB and subject to an upper limit on the level of sales permitted.

3.4 Combined sales of sharp sand and gravel and soft sand from quarries in Berkshire for the period 2005 to 2014 are shown in Table 3.1 and the equivalent information for 2006 to 2015 is presented in Table 3.2, together with the 10 year averages.

Table 3.1 – Berkshire Combined Sales of Sand and Gravel and Soft Sand 2005 – 2014 (thousand tonnes)

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	10 year average
Combined sales (1,000 t)	1,055	645	615	755	840	886	1,127	865	792	1,080	866

Source: SEEAWP Aggregates Monitoring Surveys and 2014 Operator Survey

Table 3.2 – Berkshire Combined Sales of Sand and Gravel and Soft Sand 2006 – 2015 (thousand tonnes)

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	10 year average
Combined sales (1,000 t)	645	615	755	840	886	1,127	865	792	1,080	902	850.7

Source: SEEAWP Aggregates Monitoring Surveys and 2015 Operator Survey

3.5 Over the period 2006 to 2015, total combined sales of sand and gravel and soft sand steadily increased from 645,000 tonnes in 2006 to 1,127,000 tonnes in 2011, but then fell to 792,000 tonnes in 2013, the lowest figure since 2008. 2014 saw a sudden increase in sales with a figure of 1,080,000 tonnes and fell again to 902,000 tonnes in 2015. The ten year average of combined sales of sand and gravel and soft sand in Berkshire from 2006 to 2015 inclusive is 850,700 tonnes which is slightly lower than the 10 year average from 2005 to 2014 of 866,000 tonnes.

3.6 Data from AMRI indicates sales levels between 2005 and 2009 as being higher and more erratic than those collected for SEEAWP, but showing a steady decline since then to the 2014 figure (with the exception of 2013 where sales increased). According to AMRI, sales in 2011 and 2014 were considerably less than those recorded for SEEAWP and the Joint Berkshire LAA respectively.

Comparison with National Sand and Gravel Sales

3.7 Comparison with the national pattern of sales are made up to 2015. In all cases data for combined sales of sharp sand and gravel and soft sand are used, because they cannot be reported separately for Berkshire due to confidentiality. The combined sales figures for Great Britain between 2006 and 2015 are in the table below, together with the percentage change based on 2006. The percentage change for combined sales of sharp sand and gravel and soft sand in Berkshire are also provided.

Table 3.3 – GB Combined Sales of Sand and Gravel 2006 – 2015 (thousand tonnes)

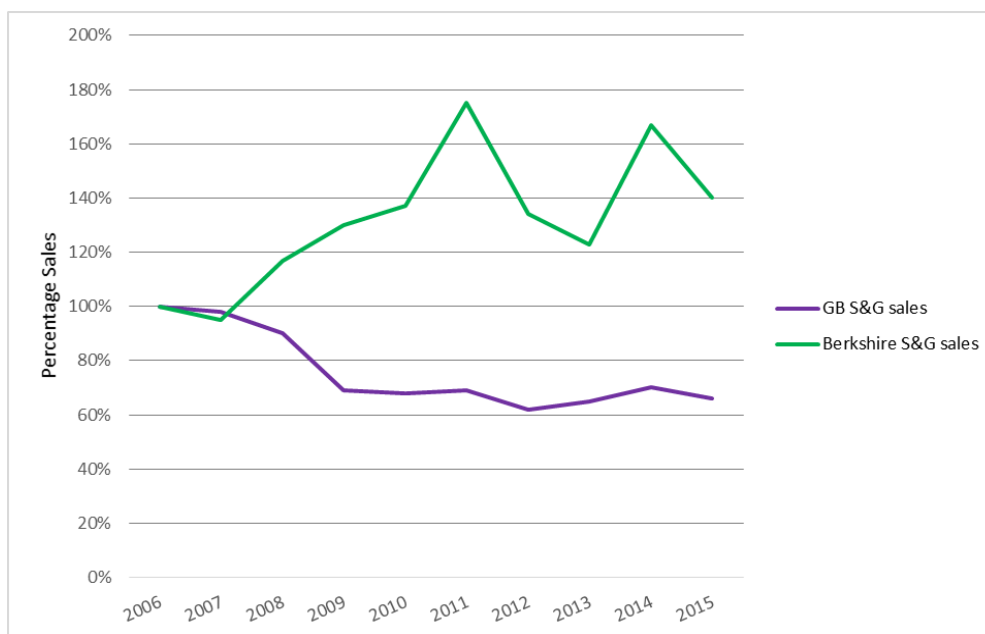
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
GB (1,000t)	80,242	78,501	72,127	55,709	54,330	55,015	50,044	51,925	56,129	52,721*
GB % sales	100%	98%	90%	69%	68%	69%	62%	65%	70%	66%
Berks % sales	100%	95%	117%	130%	137%	175%	134%	123%	167%	140%

Source: AMRI and SEEAWP Aggregates Monitoring Surveys (*the Statistics Portal)

3.8 Great Britain’s combined sales of sharp sand and gravel and soft sand showed a decline between 2006 and 2010, but then there was slight increase in 2011, reducing again in 2012 and increasing again to 2014. However sales in 2015 reduced again, which were 66% of the level recorded in 2006, a 34% drop.

3.9 The difference in the pattern of sales in Berkshire against that in Great Britain as a whole can be judged from the following graph which compares the percentage change in the rate of sales in Berkshire with that in Great Britain based on 2006.

Figure 3.1 - Comparison Between Percentage Sales Figures for Combined Sand and Gravel in Berkshire and Great Britain 2006-2015



3.10 It is to be expected that sales for Great Britain as a whole will follow a smoother pattern than that of any individual Mineral Planning Authority area, or even combined MPA areas such as

Berkshire, because the latter will have fewer quarries, which means either the closing or opening of any single quarry has a more significant impact on the overall level of sales. In Berkshire's case, the increase in sales in 2014 can largely be attributed to the re-opening of one of Berkshire's quarries that year.

Comparison with Sand and Gravel Sales in Neighbouring MPAs

3.11 Berkshire's immediate neighbouring authorities are Buckinghamshire, Hampshire, Oxfordshire, Surrey and Wiltshire. The sales figures of sand and gravel from 2006 to 2015 for these areas are shown in Table 3.4 and Figure 3.2 below:

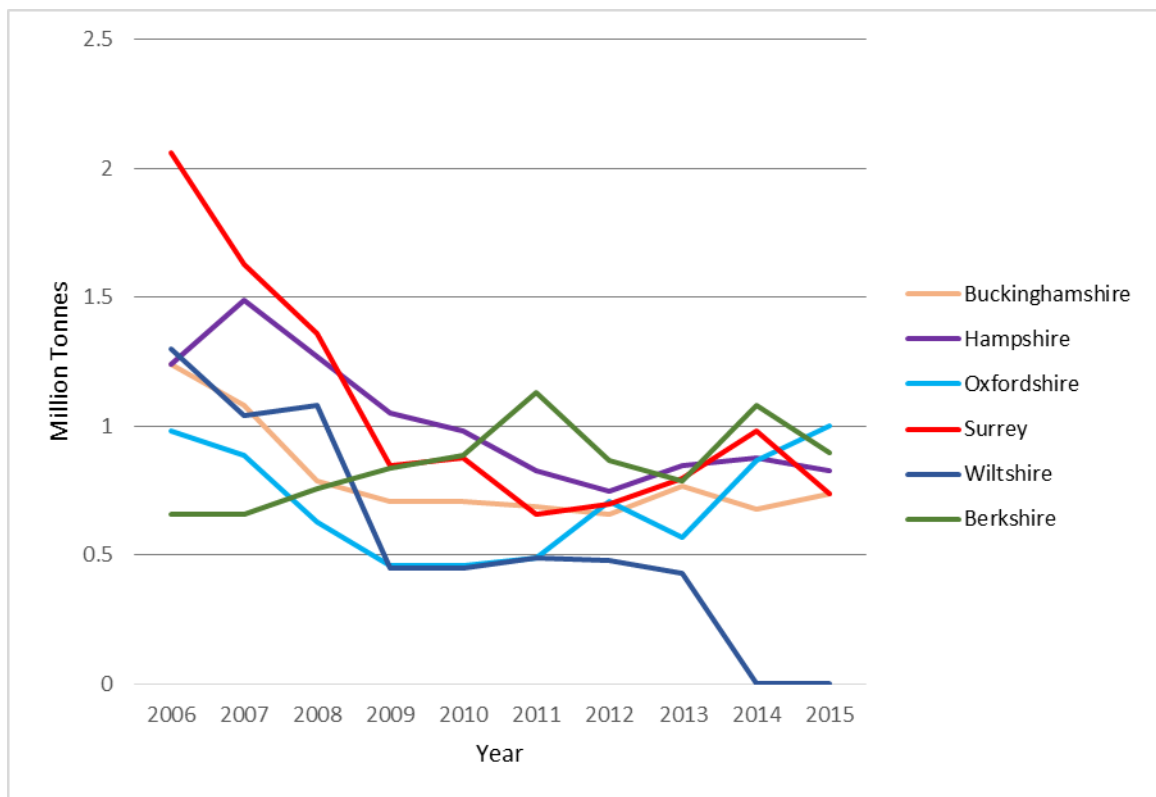
Table 3.4 - Sales of Sand and Gravel in Neighbouring MPAs 2006-2015 (Million tonnes)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Buckinghamshire	1.24	1.08	0.79	0.71	0.71	0.69	0.66	0.77	0.68	0.74
Hampshire	1.24	1.49	1.27	1.05	0.98	0.83	0.75	0.85	0.88	0.83
Oxfordshire	0.98	0.89	0.63	0.46	0.46	0.49	0.71	0.57	0.87	1.00
Surrey	2.06	1.63	1.36	0.85	0.88	0.66	0.70	0.80	0.98	0.74
Wiltshire	1.30	1.04	1.08	0.45	0.45	0.49	0.48	0.43	n/a	n/a

Sources: Annual Monitoring Reports/LAAs

3.12 The graph shows that Berkshire's sand and gravel sales have been more constant than those of its neighbouring counties, with peaks in 2011 and 2014. The neighbouring authorities have all showed an overall decline in sales over the past 10 years. As a result Berkshire has changed from having the lowest level of sales between 2006 and 2007, to having the highest in 2014 and the second highest in 2015.

Figure 3.2 - Comparison of Sales of Sand and Gravel in Berkshire and Neighbouring MPAs 2005-2014



Comparison between Past Sales and Sub-Regional Apportionment

- 3.13 Prior to the introduction of Local Aggregate Assessments through the NPPF in March 2012, the guidance on the provision for aggregates for which each region should plan was issued by Central Government. This regional level provision was subsequently sub-apportioned to Mineral Planning Authorities, latterly through the Regional Spatial Strategy. The apportionment figures were for total sand and gravel sales, and therefore related to sharp sand and gravel and soft sand combined.
- 3.14 Table 3.5 compares the combined sales of sand and gravel in Berkshire against the apportionment that applied for each year from 2006 to 2015. The apportionment was not a production target, but a guide to provision required. Sales in Berkshire have generally been below two thirds of the apportionment amount but were less than half between 2006 and 2008. Since 2009, when the apportionment level was reduced to 1.3 mtpa in the 'Proposed Changes' to Policy M3 of the South East Plan, combined sand and gravel sales have once more been about two thirds of the apportionment level, except in 2011, when sales were 85% of the apportionment.

Table 3.5 – Comparison of Berkshire’s Sales of Sand and Gravel and Apportionment 2006 – 2015 (thousand tonnes)

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Combined sales	645	615	755	840	886	1127	865	792	1,080	902
Berkshire apportionment	1570	1570	1570	1330	1330	1330	1330	1330	1330	1330
Sales as a % of Apportionment	41%	39%	48%	63%	67%	85%	65%	60%	81%	68%

Source: SEEAWP Aggregates Monitoring Surveys 2004 – 2013 and 2014/2015 Operator Surveys

- 3.15 With the revocation of the Regional Spatial Strategy (South East Plan) minerals policies in March 2013, the apportionment no longer applies, but if it had, 2014 and 2015 sales of sand and gravel would be 81% and 68% of the apportionment level respectively.

Current Supply (Sand and Gravel)

- 3.16 As at the end of 2015 there were eleven quarries with planning permission to extract sand and gravel in Berkshire. Information on these sites is summarised in the following table. The table includes information on the available reserves in each quarry and comments on production capacity. Production capacity is relevant as a large amount of reserve in a quarry with only a low production rate is notably less available to the local supply than equivalent reserves in a high producing quarry. It is notable that many of the larger quarries in Berkshire have production limits and some have limited reserves or are subject to approaching time limits.

Table 3.6 – Current Permitted Quarries in Berkshire, 2015⁴

Site Name	UA	Operator	Type of Deposit	Site Notes	Comments
Hartshill Quarry	WBC	Harleyford	Hoggin – lower quality sand and gravel used as fill and generally sold as dug	In recent years some production transported for processing at former Aldermaston Quarry site. In 2013, the Aldermaston Quarry plant was removed from site.	Small operation, intermittent production. Reserves remain. There is no tonnage limit on annual output, although there is a maximum number of HGV's (50 per day). Reserves of circa 300,000 tonnes remain (2014 - based on operator returns).
Kennetholme Farm	WBC	Grundon	Sharp sand and gravel	Material is processed at Colthrop processing plant adjacent, which is subject to limit on output. Preferred Area in RMLP 2001.	Planning permission granted 2002 for 900,000 tonnes. Production started in 2009 and continues. There is no tonnage limit on annual output (although there is a limit on the adjacent processing plant). There are circa 200,000 tonnes of reserves remaining (2014 - based on operator returns).
Copyhold Farm	WBC	Raymond Brown	Soft sand	In AONB. Granted consent on the basis that the majority of the mineral would supply the Marley tile factory, however it is unclear whether this remains the case. Mineral may be being sold to the general construction market.	Commenced production in 2006. Extension approved under RMLP policy 15 to provide materials for Beenham Tile Factory. Approximately 40,000 tonnes of reserves remain (2014 – based on operator returns). Conditions limit the production output to 60,000 tpa.
Craven Keep	WBC	Earthline	Sharp sand and gravel	Dormant / inactive site, but retains small reserves.	The operator has until 2042 to extract the remaining reserves; they have to complete the extraction within 2 years of commencing.
Lower Farm, Wasing	WBC	Marley/Lafarge Tarmac	Sharp sand and gravel	Site permitted but not yet operational	Extraction of 2.4 million tonnes of sharp sand and gravel at a rate of 200,000 tpa, once operational.
Bray Quarry	RBWM	Summerleaze Ltd	Sharp sand and gravel	Material was processed at Monkey Island processing plant adjacent, which was subject to HGV limit.	Became an inactive site in 2015 with a small reserve of 2,000 tonnes remaining.
Sheephouse Farm Quarry	RBWM	Summerleaze Ltd	Sharp sand and gravel		Site has a large reserve with low sales figures for 2014 and 2015.

⁴ There are some discrepancies between our survey data and the 2014 Aggregate Minerals Survey (AM2014) which in cooperation with the BGS we have sought unsuccessfully to resolve.

Site Name	UA	Operator	Type of Deposit	Site Notes	Comments
Horton Brook	RBWM	Aggregate Industries UK Ltd/Jayflex Aggregates Ltd	Sharp sand and gravel	Approved in 2008.	Large reserve.
Kingsmead Quarry	RBWM	CEMEX	Sharp sand and gravel	Two sites are present at this quarry.	Relative large sale of sand and gravel in both 2014 and 2015.
Riding Court Farm	RBWM	CEMEX	Sharp sand and gravel	Estimated 2,100,000 tonnes of sand and gravel.	Planning permission was granted in August 2015 and is ready to start operating.
Eversley Quarry (also known as Fleethill Farm)	Wok	Harleyford Aggregates	Sharp sand and gravel		Reserves have decreased considerably since 2014.

Source: Berkshire UAs

Reserves and Landbank

- 3.17 The landbank is a measure of the permitted reserves of mineral expressed in the number of years that the reserves would provide production for at the apportionment or other given rate. It is a theoretical measure of the life of the combined reserves since it assumes that they can be worked at a consistent rate across the period, whereas in practice reserves will be unevenly distributed between quarries and some quarries will run out of reserves before others. A large amount of reserve in a quarry with only a low production rate is notably less available to the landbank than equivalent reserves in a high producing quarry.
- 3.18 The NPPF requires MPAs to make provision for the maintenance of a landbank of at least seven years for sand and gravel. Reserves of sand and gravel in Berkshire with planning permission for extraction (permitted reserves) at 31 December 2015 are 9,691,000 tonnes. Star Works Quarry in Wokingham Borough had a reserve at the end of December 2015 of 196,000 tonnes, however the inactive quarry will require approval of working conditions before any extraction can proceed, and therefore it cannot be included in the total permitted reserves. Based on the average of the last 10 years, calculated as advised by PAMG (para 064), the sand and gravel landbank at the end of 2015 is 11 years (end of 2014 was 10 years).
- 3.19 The NPPF at para 145 requires MPAs in their planning for a steady and adequate supply of aggregates to (inter alia) ensure that large landbanks bound up in very few sites do not stifle competition. One quarry in Berkshire contains approximately a third of the total reserves in Berkshire, but its sales are only a small proportion of total sales. The latest survey shows that the quarry is now producing more, suggesting that a larger contribution to Berkshire's sand and gravel supply is beginning to be made, so it is not considered at this stage that this position does stifle competition.
- 3.20 In addition two sites, Lower Farm Wasing and Riding Court Farm, have large reserves but have not yet started operating. This together with the position that some other quarries have less than 2 years' operating life remaining, means that the calculation of the landbank as 11 years (2015) is not necessarily an accurate reflection of the ability of the quarries collectively to supply the construction industry in the following seven years.

Exports, Imports and Consumption of Primary Aggregates

- 3.21 Every county in the UK has to import aggregates from elsewhere because the geology means that no single county area produces exactly the profile of different types of aggregate in the exact amounts or proportions consumed therein. This is the key issue that PAMG seeks to address. Berkshire needs to import all its supplies of crushed rock, as there are no crushed rock deposits within the area. There will also be a cross boundary movements of sand and

gravel depending on the relationship between the location of specific quarries and of their current market areas.

3.22 All sales of aggregate are the result of commercial decisions by both buyers and sellers and the resulting movements reflect the relative locations of reserves and demand. Where these movements cross a county boundary, they are tracked in the four yearly Aggregates Minerals (AM) surveys, the latest available of which were in 2005 and 2009. The 2014 survey (AM2014) is currently waiting ministerial approval from DCLG and subsequent publication, therefore information on exports, imports and consumption is taken from AM2009. Overall information about aggregate cross boundary movements is crude, because:

- The survey is only undertaken at four yearly intervals, and at best it can only be regarded as a snapshot of a dynamic picture;
- The results from the different surveys are reported differently;
- Only direct sales from quarries are tracked and not subsequent movements after processing elsewhere or sales from merchants;
- Sales of soft sand and of sharp sand and gravel are combined; and
- In some cases the figures are reported in groups of areas which are generally larger than individual MPAs.

Any conclusions from these AM surveys therefore need to be treated with caution.

3.23 The reports provide information on sales of aggregates from MPA areas or groups of MPAs together with the destinations of those sales. The reports also show consumption of aggregates by MPA areas or groups of MPAs. Consumption of aggregates relates to all aggregates used in the subject area, a figure derived from collating the stated destinations of movements of aggregates between all areas.

3.24 Nationally, total consumption should be somewhat higher than total sales reported in the 4 yearly AM surveys because it includes imports from outside England and Wales. The most notable imports are crushed rock from Scotland, and marine sand. Total consumption also includes a small element of unallocated sales of unknown destination.

3.25 The AM2005 report combines consumption in Berkshire with that of Oxfordshire and Buckinghamshire (referred to as BOB). The AM2009 report lists these county areas separately, so it is not possible to discern any trends from the information, except to say that imports of marine sand into Berkshire increased from a very low figure in 2005 (only 1,000 tonnes imported into BOB) to 98,000 tonnes in 2009. Nevertheless, the 2009 figure is not considered significant as it only comprises 5.5% of Berkshires total consumption.

Imports and Consumption

3.26 The profile of imports and consumption of aggregates in Berkshire in 2009 are shown in the table below:

Table 3.7 - Consumption of Primary Aggregates in Berkshire, 2009 (Thousand Tonnes)

Berkshire	Land-won sand and gravel	Marine sand and gravel	Total sand and gravel	Crushed rock	Total primary aggregates
Imports	298	98	396	861	1257
Consumption	807	98	905	875	1780
Consumption%	45.3%	5.5%	50.8%	49.2%	100%
Imports/Consumption %	36.93%	100.00%	43.76%	98.40%	

Source: AM2009 Tables 10 and 11

3.27 The table shows that Berkshire's aggregate consumption in 2009 was almost exactly half sand and gravel and half crushed rock, and that in 2009 Berkshire imported some 43.8% of the sand and gravel that was consumed in the county (including marine sand and gravel), and all the

crushed rock (the small difference in the import and consumption amounts are not considered significant).

Sources

- 3.28 It is not possible to discern the sources of the aggregate imported into Berkshire from the information in AM2005 or AM2009. However, the BGS has provided some further information about the sources of aggregates consumed in Berkshire in 2009 which is set out in the following tables.

Table 3.8 – Sources of Sand and Gravel Consumed in Berkshire 2009

Source	Proportion	Tonnage, where known (1,000 t)
Berkshire	56%	507
Hampshire	15% - 10%	13.5 - 9.05
Greater London, Buckinghamshire, Surrey (Descending order)	Between 10% and 5% from each area	9.05 – 4.52 each
Wiltshire, Oxfordshire, Gloucestershire and Kent (Descending order)	Between 5% and 1% from each area	n/a
Hertfordshire, Dorset, Devon, West Sussex, Bedfordshire (Bedford and Central Bedfordshire) and Cambridgeshire (Descending order)	Less than 1% from each area	n/a

Source: BGS

Table 3.9 – Sources of Crushed Rock Consumed in Berkshire 2009

Source	Proportion	Tonnage, where known (1,000 t)
Somerset	83%	726.25
North Somerset	10% - 5%	87.5 – 43.75
Neath Port Talbot, Leicestershire, Outside England and Wales, Cornwall, South Gloucestershire, Yorkshire Dales NP, Oxfordshire and Powys (descending order)	Between 5% and 1% from each area	n/a
Devon (inc. Dartmoor NP), and Gloucestershire	Less than 1% from each area	n/a

Source: BGS

- 3.29 It is clear that in 2009 Berkshire produced just over half of the sand and gravel consumed in the county, and imported the rest from a range of different sources, of which the largest supplier was Hampshire, which supplied between 15% and 10%. Somerset, and North Somerset together provided almost all crushed rock imported into Berkshire.

- 3.30 Equivalent information from the AM2005 and AM2001 surveys are not available.

Exports

- 3.31 In terms of the destinations of aggregates sold in Berkshire, Berkshire is grouped with Oxfordshire and Buckinghamshire as a destination in the AM2005 report so it is not possible to disaggregate the amount that went to Oxfordshire and Buckinghamshire, but in the AM2009 report Berkshire sales are reported separately. The principal destinations of Berkshires sand and gravel in 2009 are shown in the following table:

Table 3.10 - Destinations of Berkshire's Sales of Sand and Gravel in 2009 (Thousand Tonnes)

Destinations	Berkshire	South East	Elsewhere	Unallocated	Total
Tonnes	509	234	92	5	840
Percentage	61%	28%	11%	1%	100%

Source: AM2009 Table 9b

- 3.32 Of the aggregates sold in Berkshire in 2009, 61% was consumed in Berkshire and the remainder 'exported', principally to destinations in the South East.

Imports of Crushed Rock by Rail

- 3.33 Most imports of sand and gravel are assumed to be by road. Crushed rock on the other hand is principally imported into Berkshire by rail (there are 2 rail depots at Theale that import aggregates and one at Colnbrook). SEERA commissioned a report on Aggregate Wharves and Rail Depots in South East England in 2007. However, for reasons of confidentiality, the report did not include any detailed information about capacities.

- 3.34 Similarly for reasons of confidentiality, figures for sales of crushed rock at rail depots in Berkshire collected for SEEAWP are reported together with sales from rail depots in Hampshire.

- 3.35 The amounts are shown in the table below:-

Table 3.11 - Sales from Berkshire and Hampshire Rail Depots 2006-2015 (Mt)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Berks and Hants Sales	1.7	1.9	1.4	1.1	1.1	1.2	1.2	1.1	1.2*	1.6*

Source: SEEAWP AM reports (*provisional data)

- 3.36 This shows that sales from the rail depots in Berkshire and Hampshire increased slightly in 2007 before falling between 2008 and 2010. There was an increase in sales in 2015, very similar to the sales figure in 2006.

- 3.37 This does not necessarily indicate that Berkshire's consumption of crushed rock has declined, because Hampshire imports a significant amount of its crushed rock by sea, and also some by road, so the decline could be due to changing patterns of supply to Hampshire. However as recent sales are so much lower than earlier amounts, it does demonstrate that there is adequate capacity for importation of crushed rock in the rail depots.

Recycled and Secondary Aggregates

- 3.38 The waste arising from construction, demolition and excavation activity comprises a range of materials, of which the 'hard inert' elements (e.g. concrete, bricks, stone, road planings, rail ballast and glass) can be recycled for use as aggregates. Secondary aggregates are aggregates derived as a by-product of industrial processes (e.g. blast furnace slag, incinerator bottom ash).

- 3.39 Recycled and secondary aggregates have a growing use in applications such as base layers for new developments and road construction.

- 3.40 The national surveys of Arisings and Use of Construction, Demolition and Excavation Waste (CDEW) and other materials in 2005⁵ suggested that the national production of recycled aggregates appeared to have increased slightly since a previous survey for 2003, and the recycling industry maintains that view. The figures are 39.60 Mt ±13% in 2003 and 42.07 Mt ±15% in 2005.

⁵ Survey of Arisings and Use of Alternatives to Primary Aggregates in England, DCLG 2005
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- 3.41 A subsequent national survey of arisings in 2008⁶ prepared for WRAP reports that the fall in construction activity that started in mid 2008 led to a fall in the national production of all types of CDEW. Overall, most of the difference can be accounted for in a reduction in the arisings of excavation waste. Arisings of 'hard inert' CDEW generating recycled aggregate rose between 2005 and 2008 by 3% from 42.07 Mt to 43.5 Mt. To date these 2005 and 2008 reports have not been updated.
- 3.42 The MPAs 'The Mineral Products Industry at a Glance' 2015 edition states that recycled and secondary materials now account for 29% of Great Britain's aggregates market. The share of recycled and secondary materials in the total GB aggregates market is also the highest share in Europe; the European average stands at about 10%.
- 3.43 The statistics at a regional level are regarded as less robust. The figures are collected via surveys carried out by the MPAs in the South East but the response rate for these surveys is low, and does not include recycling from mobile plant. The results should be treated with caution and provide no more than a 'reasonable indication' of what is taking place. The SEEAWP Aggregate Monitoring Reports started recording production of alternative aggregates in 2007. The available information is as follows:

Table 3.12 – Production of Alternative Aggregates in the South East 2008-2014 (Mt)

	2008	2009	2010	2011	2012	2013
South East	3.1	2.6*	2.9*	2.8*	2.5	3.3

Source: SEEAWP AM reports * includes secondary aggregates

- 3.44 There is no reliable and comprehensive data on production and use of secondary and recycled aggregates available for Berkshire. The only secondary aggregates produced in Berkshire are from the bottom ash produced by the Lakeside EfW plant. Approximately 16,000 tonnes was produced between April 2009 and March 2010 (the most up-to-date available information). Bottom ash is also produced by Chineham EfW plant in Basingstoke and Colnbrook EfW plant in Slough. Two further EfW plant have been granted planning permission recently. They are at Calvert in Buckinghamshire now in the process of being commissioned, and Ardley in Oxfordshire, which commenced operation in 2014.
- 3.45 The listed sites that are licensed to produce recycled aggregates for 2015 are set out in the table below.

Table 3.13 – Capacity for Production of Recycled Aggregates in Berkshire 2015⁷

Facility Name	Operational Status	Unitary Authority	Capacity*
Poyle Recycling Centre	Operational	Slough	No response
Simpson Way	Operational	Slough	No response
Colnbrook	Operational	Slough	75,000
Smallmead	Operational	Reading	6,000
Barton Court~	Operational	West Berkshire	5,000
Weirside, Green Lane	Consented / Non-operational	West Berkshire	20,000+
Hérons Nest WTS~	Operational	West Berkshire	100,000

⁶ Construction, demolition and excavation waste arisings, use and disposal for England WRAP 2008

⁷ There are some discrepancies between our survey data and the 2014 Aggregate Minerals Survey (AM2014) which in cooperation with the BGS we have sought unsuccessfully to resolve.

Facility Name	Operational Status	Unitary Authority	Capacity*
Copyhold WTS~	Operational	West Berkshire	75,000
Reading Quarry Recycling	Operational	West Berkshire	275,000
Old Stocks	Operational	West Berkshire	50,000
Whitehouse Farm	Operational	West Berkshire	100,000
Colthrop, Hadleys Avon site	Operational	West Berkshire	93,000
Colthrop, Grundons	Operational	West Berkshire	15,000
Theale Quarry WRTF	Consented	West Berkshire	150,000
Shorts Transfer Station	Operational	Windsor & Maidenhead	No response
Hindhay Quarry	Operational	Windsor & Maidenhead	50,000
Bray Quarry	Operational	Windsor & Maidenhead	150,000
Horwoods Yard	Operational	Windsor & Maidenhead	No response
Longshot Lane	Operational	Bracknell Forest	6,000
Planners Farm	Operational	Bracknell Forest	No response
<p>Note: West Berkshire capacity correct to 2014. Other UAs correct to 2015</p> <p>* see comments in para 3.47 re capacity figures.</p> <p>~ Temporary planning permission. Permanent permission has been granted for Theale Quarry WRTF, a replacement facility for Herons Nest on an adjacent site although it is currently under construction).</p>			

Source: Berkshire UAs.

3.46 The calculated combined capacity of the sites listed in Table 3.13 is approx. 945,000 tonnes per annum. It is also worth noting that the 'capacity' figures used in the table are the capacity figures for the site and therefore do not necessarily represent the capacity to produce recycled aggregates as such. This is because the capacity figure for many sites is taken from the EA permit for the site, which is recorded according to the fee band within which the site falls, rather than their actual operating capacity. In addition a number of the sites are 'skip waste facilities' and, as such, the production of recycled aggregates is one of a number of operations carried out under the overall 'capacity' umbrella.

3.47 Recent aggregates monitoring surveys have not received full responses from recycled and secondary aggregates site operators. The combined capacity of the sites from which replies were received to the 2015 survey is 945,000 tonnes. The information that is available is presented in the table below:

Table 3.14 – Production of Alternative Aggregates in Berkshire 2007-2015 (tonnes)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Berkshire	425,000	265,000	234,000	n/a	200,000	320,480	404,376	587,038	601,765
Notes	Partial return	Response from 7/18 sites	Response from 6/18 sites		Response from 11/23 sites	Response from 10/21 sites	Response from 12/21 sites	Response from 16/21 sites	Response from 16/21 sites

Source, Berkshire AM Reports

- 3.48 The amounts in the above table are believed to be significantly less than the total actual production of recycled aggregates; in particular it does not include construction and demolition waste recycled in-situ using mobile plant.
- 3.49 There is no data on exports, imports and consumption of secondary and recycled aggregates.

Key Points

- 3.50 Berkshire's aggregate sources are land won sand and gravel, and soft sand, which in 2009 together combined to provide about half of the primary aggregate consumed in Berkshire. Sand and gravel is also exported to other counties, principally in the South East. Berkshire also imports all the crushed rock used in the county, the main source being Somerset. This material is imported into rail depots at Theale and Colnbrook.
- 3.51 It is not possible to calculate separate landbanks for sharp sand and gravel and soft sand in Berkshire, because there are only two soft sand operators which raises confidentiality issues. Generally soft sand sales average up to about 8% of total sales over the last ten years.
- 3.52 In contrast to the experience of surrounding counties, levels of aggregate sales in Berkshire have recovered recently to approaching that recorded in the early years of last decade.
- 3.53 The amount of crushed rock being imported into Hampshire and Berkshire combined has remained at a similar amount over the last 10 years. This suggests that there is adequate capacity at rail depots for importation of crushed rock.
- 3.54 Supplies of recycled aggregate are variable principally according to the level of local activity in the construction industry. Berkshire's sites are currently producing well below the combined capacity of the sites licensed for processing of recycled aggregates, although some of this capacity is temporary. Berkshire has limited access to sources of secondary aggregates, although in the case of the regeneration of Bracknell Town Centre, material resulting from the demolition of buildings was crushed and re-used on the site.

4. Assessment of Future Supply and Demand

Introduction

- 4.1 Against this background, possible supply and demand related factors are addressed below. The supply related factors are the current operating quarries, their production capacity and reserves; availability of Berkshire's future aggregate resources, availability of imports and of recycled and secondary aggregates. The key likely demand related factors are considered to be population, housing completions and activity in the construction industry.

Supply Related Factors

Current Operating Quarries

- 4.2 As at the end of 2015 there were eleven quarries with planning permission to extract sand and gravel in Berkshire, of which seven were active during 2015. Their combined reserves as at the end of 2015 amounted to some 9,691,000 million tonnes (including Lower Wasing Farm and Riding Court Farm), which translates into a landbank of 11 years at the average of the last ten years sales. However, as pointed out in Chapter 3, one quarry in Berkshire contains approx. one third of the total reserves, although its sales are only a very small proportion of total sales. This means that there is effectively a 'throat' on the availability of these reserves to the market. So the calculation of the landbank as 11 years (2015) is not necessarily an accurate reflection of the ability of the quarries collectively to supply the construction industry in the following seven years, because of the limit on productive capacity that this position represents and because of the limits on the level of production at other quarries in Berkshire. This position will improve when extraction commences at the recently approved sites of Lower Wasing Farm and Riding Court Farm.

Availability of Future Aggregate Resources

- 4.3 Short term future aggregate resources are the remaining Preferred Areas identified in the adopted Replacement Minerals Local Plan. A few Preferred Areas have not yet been the subject of planning applications and it is not clear whether any of them will come forward. It is therefore important that provision for future extraction is made by the identification of further Preferred Areas to address this issue. The development of the West Berkshire Minerals and Waste Development Plan Document may also assist in the identification of new Preferred Areas within this area.
- 4.4 The availability of Berkshire's future aggregate resources for consideration as potential preferred areas is considered with reference to The Review of Minerals Supply prepared for SEERA by the BGS in 2006 from which Table 2.3 and Table 2.5 were derived, showing the calculated tonnage of deposits of sharp sand and gravel and of soft sand and whether or not the deposits are subject to any of the following environmental designations; SSSI, NNR, National Park, AONB, SPA or SAC.
- 4.5 The assessments show that Berkshire has 725mt of sharp sand and gravel that were not subject to any of the listed environmental constraints, and 349mt subject to one environmental constraint (AONB), of which all of the latter lie within West Berkshire. A further 56mt is subject to two of the listed environmental constraints.
- 4.6 The equivalent figures for soft sand were: 872mt in areas that were not subject to any listed environmental constraint; and 983mt subject to one environmental constraint and 28mt subject to two environmental constraints. Again the majority subject to environmental constraint lies in West Berkshire, the principal constraint being the AONB.

- 4.7 The resource assessments do not take account of other constraints on the availability of these resources for extraction, such as access, air safety, air quality management areas, proximity to sensitive uses, local nature conservation interests, protected species, water interests, landscape impact, and distance from markets etc.
- 4.8 It is beyond the scope of this report to assess the degree to which these constraints limit the future supply of aggregates in Berkshire. However, it is acknowledged that Berkshire is approaching the position whereby most of the less constrained sites have already been extracted and finding environmentally acceptable locations for future extraction is becoming increasingly challenging.
- 4.9 This challenge affects even unconstrained deposits of sharp sand and gravel deposits because they are shallower and therefore need more extensive areas to quarry than soft sand, making identification of sufficient suitable areas for extraction correspondingly more difficult. For soft sand, it seems that the better deposits of soft sand from the point of view of extraction are those that lie within the AONB that covers much of the area of West Berkshire north of the Kennet Valley. The NPPF advises that as far as is practical, local planning authorities should provide for the maintenance of landbanks of non-energy minerals from outside nationally protected areas, including AONBs. This raises further challenges for future supplies of soft sand.

Availability of Imports into Berkshire

- 4.10 Berkshire imports all types of aggregate, sand and gravel, soft sand and crushed rock.
- 4.11 The information on sources of sand and gravel derived from the 2009 AM survey by the BGS as presented in Table 3.8 shows that Berkshire derives some 56% of its sand and gravel (inc soft sand) from within its own borders, and the main source of imported sand and gravel (inc soft sand) is Hampshire, which supplies between 15% and 10%. After that sand and gravel comes from a wide range of sources of which the main ones, each supplying between 10% and 5%, are Greater London, Buckinghamshire and Surrey. Reference has been made to the LAAs of these and other neighbouring mineral authorities and the draft SEEAWP report for 2014-15 in the following assessment of the availability of sand and gravel resources for future importation into Berkshire.
- 4.12 In 2015 Hampshire's provisional reserves of sand and gravel were 11.51 Mt, representing 7.4 years landbank (provisional) based on the ten year average in their latest LAA⁸. In Greater London, reserves have declined from over 5 Mt to 1.4 Mt at the end of 2013⁹. Buckinghamshire's provisional approved reserves of sand and gravel were 9.04 Mt at the end of 2015, representing 10.6 years landbank (provisional) at the ten year average rate in their latest LAA¹⁰. Whilst Surrey reports a steady landbank for soft sand, total reserves declined by 51% from 12 Mt in 2004 to 6.13 Mt in 2013¹¹. The combined reserves of sharp sand and gravel at the end of 2013 were 6.125 Mt, a landbank of 4.4 years. However Surrey's provisional combined reserves increased considerably to 11.6 Mt in 2015, representing an 8.3 years landbank (provisional). Oxfordshire's provisional sand and gravel landbank at the end of 2015 is 11.7 years¹².
- 4.13 The picture from the main suppliers identified in the 2009 AM survey is therefore patchy, the main supplier Hampshire is well provided, but the position with Greater London and Surrey possibly indicates that the pattern of imports may change in future, with Buckingham and Oxfordshire playing a greater role. The awaited survey AM2014 may shed additional light on this.

⁸ Draft SEEAWP AM report 2014-15

⁹ London Aggregates Monitoring Report 2013. April 2014. Latest available information

¹⁰ Draft SEEAWP AM report 2014-15

¹¹ Surrey LAA. November 2014

¹² Draft SEEAWP AM report 2014-15

- 4.14 Berkshire's level of imported marine sand represents a further 5% of the amount consumed in 2009. Although the actual amount is confidential at this stage it can be reported that imports of marine sand into Berkshire in 2012 were higher than the level in 2009.
- 4.15 The information on crushed rock from the BGS as shown in Table 3.9 illustrates that Somerset is the dominant source of crushed rock for Berkshire. Somerset has some 451 Mt approved reserves of crushed rock (equivalent to 33.7 years landbank at the most recent sub regional apportionment rate)¹³. While not all the quarries in Somerset whose reserves are included in the landbank have rail connections, those that do form a significant proportion of the total. Provided Somerset maintains its productive capacity it is estimated that there are sufficient reserves available to supply ongoing market demand.
- 4.16 Other suppliers of crushed rock to Berkshire are:
- Neath Port Talbot, which supplies high specification aggregates (HSA), of which limited reserves remain¹⁴;
 - Leicestershire, which as at the end of 2011, the four active igneous rock quarries (which are all rail connected) had total reserves of some 306 million tonnes, a collective life of some 19 years based on the apportionment figure in the Regional Spatial Strategy¹⁵;
 - Outside England and Wales, which would be Scotland of which the main exporting quarry is Glensanda, which has extensive reserves¹⁶;
 - Cornwall, which also has extensive supplies¹⁷;
 - South Gloucestershire, which has a crushed rock landbank in excess of 30 years;¹⁸
 - Yorkshire Dales NP which has a crushed rock landbank of 26 years¹⁹;
 - Oxfordshire which has a crushed rock landbank of over 20 years²⁰; and
 - Powys where the crushed rock landbank in 2010 was 119 million tonnes representing more than 40 years landbank²¹.
- 4.17 Overall the availability of current reserves of crushed rock and soft sand in Berkshire's main sources of supply is good, but future supplies of sharp sand and gravel are less certain, and may require supplies to be sought from further afield, involving additional transportation which is less desirable, particularly if by road.
- 4.18 SEERA commissioned a report on Aggregate Wharves and Rail Depots in South East England dated 2007 which did not include any detailed information about capacities of either wharves or rail depots for reasons of confidentiality. The report noted that freight path capacity on the mainlines in the South East is likely to be the major factor restricting further supply of aggregates by rail freight into the region but concluded that the existing rail depot capacity in the South East is sufficient to handle the forecast growth in aggregates demand. This is confirmed by the finding that the depots have handled higher throughputs of material in the past than is the case more recently.
- 4.19 There is consequently no requirement, from a regional capacity perspective, to plan for additional rail depots across the South East or in Berkshire in particular. The operators of the rail depots at Theale and Colnbrook show no indication at present of seeking to increase their capacity.

¹³ Somerset LAA. September 2013.

¹⁴ Neath Port Talbot County Borough Council Local Development Plan Deposit August 2013, para 1.1.5

¹⁵ Leicestershire and Rutland LAA May 2013.

¹⁶ Wikipedia and Highland Council

¹⁷ Cornwall LAA March 2013

¹⁸ South Gloucestershire Council Monitoring report 2013

¹⁹ Yorkshire Dales Local Plan options consultation 2012

²⁰ Oxfordshire Minerals and Waste Monitoring Report 2012

²¹ South Wales RAWP, Regional Technical Statement Review 2013 - 2014

- 4.20 Nevertheless, the SEERA report recommended that policy documents should safeguard the current capacity to cater for ongoing demand and adopt suitable measures to permit the development of new wharves or rail served depots at suitable locations in the event that proposals are brought forward by operators in future. This will ensure and enhance the geographic choice across the South East.

Recycled and Secondary Aggregates

- 4.21 The Mineral Products Association reports that the use of recycled and secondary materials in the Great Britain aggregates market has increased rapidly, rising from 30 Mt per annum in 1990 to over 60 Mt in 2014. Although the amount had fallen in 2013 to 56 Mt, the proportion of total aggregates supplied from recycled and secondary sources has risen from 10% in 1990 to 29% in 2014 (source: MPA website²²).
- 4.22 The national forecasting model used to calculate the National and Regional Aggregate Provision Guidelines takes account of the anticipated contribution of alternative aggregates in its assessment of future need for total aggregates. The Draft Revised National and Regional Guideline for Aggregates Provision in England: 2005-2020 Consultation, April 2008, in its Table 7, forecasted a contribution to total aggregate demand of 58 Mt from secondary and recycled sources out of a total aggregate demand in England of 217 Mt in 2005, rising to 65 Mt out of a total of 259 in 2016, i.e. about 25%, with both overall aggregate demand and alternative aggregate demand remaining constant thereafter.
- 4.23 Generally rates of utilisation are regarded as good by the industry. The most recent national report on CDEW [Defra (undated)] estimated that around 45% of the total arisings have been recycled for aggregate use. The national demand forecast of 25% national market share in total aggregate supply by recycled and secondary aggregates²³ is three times higher than the European average, suggesting that the use of recycled and secondary aggregates in Britain may be close to full potential.
- 4.24 It is suggested by the industry that this forecast includes some recycled aggregate being used for purposes that primary aggregate would not be used for, such as landscaping or general fill. Furthermore, the industry reports that a high proportion of aggregates generated at construction sites are now re-used on site, so there is little potential to increase availability of this source of aggregates. That conclusion is also made in the 2008 CDEW report.
- 4.25 The local supply of alternative aggregates in Berkshire principally comprises recycled aggregates from construction and demolition.
- 4.26 The rate of production of recycled aggregates is difficult to gauge because such information is not well documented. The available information suggests that West Berkshire is the main processor of recycled aggregates, principally of material arising in Reading. However it is likely that there is unreported recycling of construction and demolition waste in the larger urban areas, principally Slough, with further supplies possibly being derived from London.
- 4.27 Production of recycled aggregates from the licensed sites that submitted returns is less than half their capacity, suggesting that there is sufficient capacity for current arisings. Several sites however operate under temporary planning permissions, so it is important to monitor the situation closely to ensure that adequate capacity is maintained.
- 4.28 As to the possible contribution that alternative aggregates can make to total consumption of aggregates in Berkshire, estimates of utilisation of recycled and secondary aggregate have to be treated with caution. Secondary and recycled aggregates do not currently substitute for primary aggregates in structural uses, only in lower specification construction uses like sub base in roads and car parks. Of particular relevance for Berkshire is that secondary and recycled aggregate do not generally provide a suitable alternative to sand and gravel aggregates, either sharp sand and gravel (particularly for concrete) or building sand. The main

²² http://www.mineralproducts.org/documents/Mineral_Products_Industry_at_a_Glance_2015.pdf

²³ National and Regional Guidelines for Aggregates Provision in England 2005-2020.
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use therefore is to provide a substitute for the lower quality fill sand and gravel produced in Berkshire.

- 4.29 It is not possible at this stage to anticipate what the effect of the change to aggregate tax to extend it to secondary aggregates will make on the pattern of sales of aggregates. As secondary aggregates play only a small part in Berkshire's supply, the effect can only be marginal at best. It is a point to be watched.

Demand Related Factors

National Background

- 4.30 It is logical that future demand will at least in part be a function of one or more variables in overall construction or economic activity, and the following forecasts were considered as possible indicators which may be useful in determining aggregate demand:

- National Infrastructure Delivery Plan
- Forecast contained in the Draft Revised National Guidelines for Aggregate Provision in England: 2005-2020 (DCLG April 2008);
- Construction Industry Forecasts;
- HM Treasury forecasts, as an indication of predicted general economic activity;
- PricewaterhouseCoopers (PwC) forecasts of GDP and inflation, as indicators of general economic activity;
- Predicted Gross Value Added (GVA); and
- Predicted housing completions and other developments planned in Berkshire.

- 4.31 Further details regarding the above are provided in Appendix B and considered below.

- 4.32 The latest available National Infrastructure Delivery Plan (NIDP) is for 2016-2021 which replaces the previous National Infrastructure Plan (NIP). The plan outlines details of £483 billion of investment in over 600 infrastructure projects and programmes in all sectors and spread across the UK to 2020-21 and beyond. As well as economic infrastructure, for the first time, this plan includes sections on how infrastructure will support large-scale housing and regeneration projects alongside key social infrastructure (schools, hospitals and prisons), in line with the government's £100 billion commitment. The NIDP sets out what will be built and where, focusing specifically on nearly £300 billion of the pipeline that will be delivered over the next 5 years to 2020-21.

- 4.33 Projects within 30-50 miles of Berkshire include a number of important construction projects in the National Infrastructure Delivery Plan, including Cross Rail 2, East West Rail, new airport infrastructure at Heathrow, Oxford Flood Alleviation, Bicester Garden Town and smart motorways on M3 (junctions 2 to 4A) and M4 (between Reading and London). A distance of 30-50 miles is suggested because this is the estimated distance over which the majority of the aggregate types produced in Berkshire are transported.

- 4.34 The NIDP will be monitored as an influence on demand for aggregates within the Berkshire Unitary Authorities and adjoining areas. However, its value in considering future aggregate requirements within the Berkshire Unitary Authorities is limited by its lack of detail on the scale and timing of development.

- 4.35 The other forecasts are considered useful as providing an overall contextual picture to give some outline indication of anticipated future aggregate demand, and in summary the findings are as follows:

- The forecasting model used to calculate the national and regional aggregate provision figures to 2020 indicates a small but steady rise in aggregate consumption over the period 2005 to 2015, levelling off thereafter at the 2015 level.

- The Construction Industry Forecasts indicate a recurring theme as growth continues and begins to broaden over the period to 2018. Short term activity is still led by private housing, infrastructure and commercial, and areas of public sector construction are showing the first signs of increasing strength, which is believed to continue through to 2018.
- The independent economic forecasts published by the HM Treasury and the forecasts of GDP produced by PricewaterhouseCoopers indicates no change in growth between 2015 and 2016 with UK GDP growth to average around 2.4% in both 2015 and 2016 (independent forecasts 2.5% in 2015 and 2.4% in 2016).
- Berkshire's GVA is projected to increase at a higher rate than the South East as a whole, maintaining Berkshire's position as one of the stronger economies in the South East.

4.36 The forecasts indicate a variety of trends, suggesting in general that economic activity will continue at a generally flat rate of growth.

4.37 A £1bn housing delivery fund, the 'New Communities Partnership', was launched in May 2016 to help the public sector build 10,000 new homes across the UK over the next 4 to 5 years. This inevitably will mean an increased aggregate demand to enable these new homes to be built.

Demand in Berkshire

4.38 PAMG advises that in the preparation of a LAA, MPAs should note the general trend of demand as indicated by the average 3 year sales as part of the consideration of whether it might be appropriate to increase supply (para 064). Recent 3 year averages for combined sales in Berkshire are shown below:

Table 4.1 – Recent Three Year Averages of Berkshire Combined Aggregate Sales

3 year averages	2009-2011	2010-2012	2011-2013	2012-2014	2013-2015
Combined sales (1,000 t)	951	959	928	912	925

Source: Table 3.2 above

4.39 The latest 3 year average of Berkshire's combined aggregate sales (925,000 tonnes) is higher than the current ten year average (850,700 tonnes).

4.40 The 3 year average for 2013-2015 has increased from the previous 3 year period 2012-2014. Sales in 2015 were 225,000 tonnes lower than the high of 1,127,000 tonnes in 2011, a fall of 20%. This is a significant fluctuation, so it is not immediately apparent whether the decrease will be sustained in future years. This will be monitored in future versions of the Berkshire LAA.

4.41 The key likely demand related factors for the longer term are considered to be population and activity in the construction industry. Construction of new homes, offices, industrial and other buildings and associated roads and other infrastructure requires large quantities of aggregates, particularly for foundations, concrete and road materials, in addition significant quantities of aggregates are used in maintaining and improving the existing built fabric of the area. However, the rate of consumption of aggregates per £1,000 spent in the construction industry has shown a continuous decline in past years²⁴ so future rates of use are not necessarily directly proportionate to development forecasts.

4.42 Table 4.2 shows past completions for each of the Unitary Authorities and totals for Berkshire, and Table 4.3 shows total projected future housing completions for the whole of Berkshire.

²⁴ BGS Mineral Planning Factsheet Construction Aggregates July 2013
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Table 4.2 – Past Housing Completions in Berkshire 2005 – 2015 (number of dwellings)

	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015
Bracknell Forest	267	131	501	467	325	410	264	390	314	376
Reading	656	637	837	782	693	321	312	474	361	635
Slough	393	409	849	595	275	249	246	107	371	598
West Berkshire	1071	1064	683	528	246	199	162	552	457	496
Windsor and Maidenhead	401	359	448	474	351	230	189	243	452	528
Wokingham	655	1018	488	368	226	220	273	401	488	454
TOTAL	3443	3618	3806	3214	2116	1589	1434	2192	2443	3087

Source: Berkshire UA Housing Trajectories, 2015

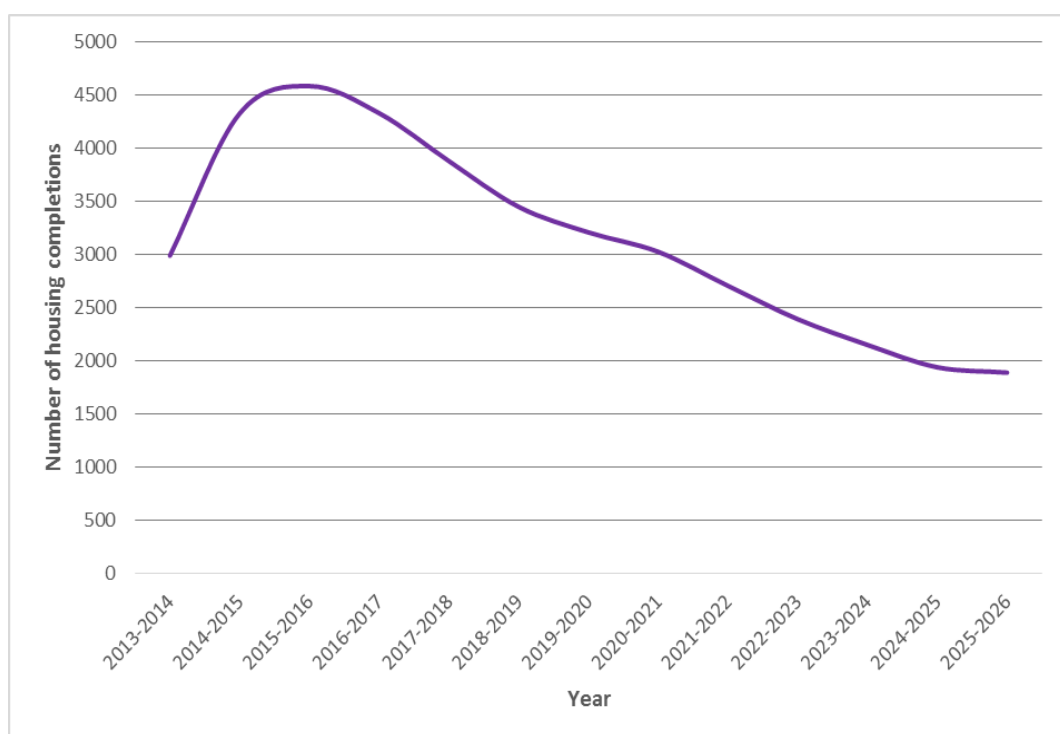
Table 4.3 – Projected Future Housing Completions in Berkshire 2015 - 2026 (number of dwellings)

2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026
4589	4334	3883	3452	3212	3029	2709	2395	2153	1943	1893

Source: Berkshire UA Housing Trajectories, 2015 (Figures from 1st April 2015)

4.43 The scale of housing completions shows a clear reduction in projected housing completions from 2016 to 2026, as demonstrated in the graph below. The level of completions is projected to gradually reduce over the next ten years to around 2,000 a year by 2026. It should be noted that these projected figures are based on housing targets that were not based on objective assessments of housing need. Results published in a recent SHMA suggest that the number of dwellings to be provided will need to increase further.

Figure 4.1 – Past and Projected Housing Completions in Berkshire 2013-2026



- 4.44 A number of housing led developments are due to take place. These include the following:
- South of the M4 SDL: Approximately 2,500 homes are planned for this SDL in the Core Strategy.
 - North Wokingham SDL: Around 1,500 homes are planned for this SDL in the Core Strategy.
 - South Wokingham SDL: Around 2,500 homes are planned for this SDL in the Core Strategy.
- 4.45 A range of transport infrastructure and commercial developments are planned to take place in Berkshire in the next few years, most of which will involve aggregate utilisation in their realisation. Crossrail, one of the largest construction projects in recent years, extends well into Berkshire, with the current terminus planned to be at Reading. Improvements to Newbury station, Newbury Racecourse station are also scheduled within the next few years.
- 4.46 A programme of improvements to the highway network is planned, many in Wokingham. Specific projects include the Arborfield Cross Relief Road (ACRR) which will enable the delivery of the Arborfield Garrison Strategic Development Location (SDL), the North Wokingham Distributor Road (NWR) which will enable the delivery of the North Wokingham SDL, South Wokingham Distributor Road (SDR) which will enable the delivery of the South Wokingham SDL and park and ride facilities at Coppid Beech, at Mere oak, at Thames Valley and at Winnersh Triangle. In West Berkshire several junction improvements are scheduled along the A339 in Newbury, at Monks Lane, at the A343 Andover Road, and at the A34 / A343 south interchange. The road programme includes relief roads at Arborfield, Shinfield, Wokingham and Winnersh.
- 4.47 A number of town centre developments are due to take place. These include the following:
- Arborfield Garrison Strategic Development Location (SDL): 3,500 homes planned for this SDL and associated facilities (shops, schools, open space, roads).
 - Major redevelopment of Bracknell Town Centre. Following demolition of buildings in the northern sector during 2013 construction of The Lexicon is progressing with shops, restaurants and a cinema due to open in Spring 2017. Work on the regeneration of Charles Square also started in 2015. This involves the construction of a new street of shops linking different parts of the Town Centre.
 - A major comprehensive mixed use redevelopment in central Slough comprising residential, offices (49,000 sq m), hotel, community space (6,000 sq m), retail and leisure uses; Areas allocated in Maidenhead Town Centre Area Action Plan comprising residential, retail (25,000 sq m), office (79,000 sq m), other employment (4,000 sq m), public transport interchange, other uses including leisure, culture etc;
 - Various schemes in Reading Town Centre capable of delivering up to 200,000 sq m of retail, leisure, office floorspace and new areas of public realm;
 - 15,000 sq m gross of floorspace as regeneration of Wokingham Town Centre (by 2018);
 - Queensmere and the Observatory Shopping centres, Slough; and
 - Regeneration of Thatcham Town Centre.
- 4.48 Commercial and industrial developments are planned at Arborfield Garrison; Green Park, Reading; the 360 site on the A33 Reading; Kennet Island, Reading and at Reading Southside. Also at Alma Road, Windsor; Shinfield Science Park; Slough Trading Estate; Toutley Depot and Worton Grange. A mixed use development scheme is underway at Newbury Racecourse.

- 4.49 In addition, social infrastructure projects are being progressed.
- Broadmoor, Crowthorne – a replacement hospital (56,000 sq m) is under construction. 270 housing units, a research park, care home, and the re-use of listed buildings are also planned.
 - Land at Transport Research Laboratory, Crowthorne – outline planning permission was granted in 2015 for 1,000 housing units, a primary school, neighbourhood centre, community centre, care home, and depot. The demolition of existing buildings is due to commence later in 2016.
 - Land at Blue Mountain, Binfield - a Learning Village, community facility, sports provision and 400 dwellings. Resolution to approve (2016) subject to the completion of a local agreement.
 - Land at Amen Corner South - a primary school, neighbourhood centre, employment uses, new spine road and 725 dwellings. Resolution to approve 550 of the dwellings and neighbourhood centre and primary school (2014) subject to the completion of a legal agreement.
 - Land at Amen Corner North – outline permission granted (2015) for 380 dwellings and a primary school (the latter has reserved matters approval).
 - Land at Warfield - 2 primary schools, community hub, neighbourhood centre, new north-south spine road and 2,200 dwellings in 4 Areas (Areas 1 and 3 are subject to discussions with developers, Area 2 is under construction and Area 4 has been completed).
 - Wexham Park Hospital - redevelopment of hospital for new hospital uses.

4.50 The housing in the above projects is included in the total projected housing numbers set out in Table 4.3.

4.51 Together these construction projects will require a range of aggregates, amounting to ongoing demand that will need to be met through the supply of sand and gravel, crushed rock and recycled aggregates in the years ahead. Together they confirm how the supply of aggregates is essential to support sustainable economic growth and our quality of life as advised in para 142 of the NPPF.

Key Points

4.52 Berkshire's landbank of sand and gravel is calculated for 2015 as 11 years at the rate of the average of sales over the last 10 years. However, a large proportion is contained in one quarry which has limited output, meaning that it may be increasingly difficult to maintain levels of output as quarries with low reserves become worked out, due to limits on the level of production at other operating quarries in Berkshire.

4.53 Although the opening of two new quarries, one approved in 2013 in West Berkshire and the other approved in 2015 in Royal Borough of Windsor and Maidenhead, will assist in maintaining supply levels, there is a need to carefully monitor production levels in order to check the local delivery of land won aggregates.

4.54 Overall the availability of future reserves of crushed rock and soft sand for importation into Berkshire is good, but future supplies of sharp sand and gravel are less certain, and may require supplies to be sought from further afield, involving additional transportation which is less desirable, particularly if by road.

4.55 Importing marine sand from neighbouring authorities is possible, preferably by rail. There is no identifiable need to increase the capacity of rail depots in Berkshire, although existing capacity should be safeguarded.

4.56 There is sufficient capacity for processing of recycled aggregates, although some is at sites with temporary planning permission.

- 4.57 A number of housing led developments are due to take place over the coming years and a further range of transport, commercial, industrial and social projects are planned throughout Berkshire. This may result in some recovery from the low sales levels experienced in the economic downturn, but it is not possible to conclude that future sales will mirror the relative levels of development, because of decreasing intensity of use of aggregates in construction generally.

5. Conclusions

- 5.1 The Planning for Aggregate Minerals Guidance (PAMG) issued by the DCLG advises in its Paragraph 062 that the forecast of the demand for aggregates in a Local Aggregate Assessment should be *'based on both the rolling average of 10 years sales data and other relevant local information'*.
- 5.2 The Guidance in its Paragraph 060 points out that the underpinning concept behind the Managed Aggregate Supply System is that *'Mineral Planning Authorities which have adequate resources of aggregate make an appropriate contribution to national as well as local supply, while making due allowance for the need to reduce environmental damage to an acceptable level. Furthermore, Government expects resource-poor areas to make some contribution to meeting local and national needs, where that can be done sustainably'*.
- 5.3 The NPPF requires Mineral Planning Authorities to plan for a steady and adequate supply of aggregates by, amongst other actions, *'making provision for the maintenance of 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. Longer periods may be appropriate to take account of the need to supply a range of types of aggregates, locations of permitted reserves relative to markets, and productive capacity of permitted sites'* (Bullet point 6 of para 145).
- 5.4 The previous chapters have reviewed the current and future position of aggregate supply to Berkshire and the overall picture of demand. Although there have been notable fluctuations in the level of sales of sand and gravel aggregates in Berkshire within the last ten years, the ten year average has advantages which are considered to make it the appropriate basis for making provision for future supply of sand and gravel as part of the overall supply of aggregate in Berkshire. Ten years is considered a suitably long period to allow the peaks and troughs of growth cycles to be smoothed out; the 10-year average sales approach provides a simple and transparent methodology that is easily calculated and is readily understandable by all interested parties. It is also considered appropriate to use the ten year average as an assessment of the adequacy of the current landbank and therefore as an indication of when further planning permissions for extraction are required.
- 5.5 The latest 10 year sales average of combined sales of sharp sand and gravel and soft sand in Berkshire for the period 2006-2015 is **850,700 tonnes per annum**. This figure is lower than the latest 3 year average of Berkshire's combined aggregate sales of 925,000 tonnes.
- 5.6 Permitted reserves as at the end of December 2015 were **9,691,000 tonnes**; this is sufficient for 11 years of supply at this average rate. Due to the identified 'throat' on production mentioned in para 4.2, it may be appropriate to adopt a longer period than the seven years landbank referred to in bullet point 6 of para 145 of the NPPF as to when further permissions for extraction are required.
- 5.7 There is sufficient capacity for processing of recycled aggregates, although some is at sites with temporary planning permission. There is no identifiable need to increase the capacity of rail depots in Berkshire, although existing capacity should be safeguarded.
- 5.8 This Local Aggregate Assessment and the appropriateness of the ten year average as the basis for assessing the landbank and making provision for future supply will need to be kept under review as information becomes available.

Appendix A

Results of the 2014 and 2015 Operator Surveys

Appendix A – Results of the 2014 and 2015 Operator Surveys

The following are the results of the 2014 Operator Survey that can be reported.

Topic	Amount in tonnes
Sales of Sand and Gravel 2014	1,079,753
Reserves at start of year	10,222,000
Reserves at end of year	8,618,500
10 year average of sales 2005-2014	866,000
Landbank at end of 2014	10 years @ 866,000 tpa
Sales of aggregates from rail depots 2014 (S&G and crushed rock)	1,008,950
Capacity of all licensed C&D Recycling Sites 2014	900,000
Sales of C&D recycled aggregates 2014	407,569
Capacity of responding C&D recycling sites 2014	900,000
New permissions granted in 2012	None
New permissions granted in 2013	Lower Wasing Farm 2.4 Mt to be worked over 12 years.
New Permissions granted in 2014	None

The following are the results of the 2015 Operator Survey that can be reported.

Topic	Amount in tonnes
Sales of Sand and Gravel 2015	901,816
Reserves at start of year	8,618,500
Reserves at end of year	9,887,000
10 year average of sales 2006-2015	850,700
Landbank at end of 2015	11 years @ 850,700 tpa
Sales of aggregates from rail depots 2015 (S&G and crushed rock)	1,103,176
Capacity of all licensed C&D Recycling Sites 2015	945,000
Sales of C&D recycled aggregates 2015	399,938
Capacity of responding C&D recycling sites 2015	945,000
New permissions granted in 2013	Lower Wasing Farm 2.4 Mt to be worked over 12 years.
New permissions granted in 2014	None
New Permissions granted in 2015	Riding Court Farm 2.1 Mt reserve.

The following are the active and *inactive* quarries in Berkshire with reserves remaining 2014

Site Name	UA	Operator	Type of deposit
Hartshill Quarry	WBC	Harleyford	Hoggin – lower quality sand and gravel used as fill and generally sold as dug.
Kennetholme Farm	WBC	Grundon	Sharp sand and gravel
Copyhold Farm	WBC	Raymond Brown	Soft sand
<i>Craven Keep</i>	<i>WBC</i>	<i>Earthline Ltd</i>	<i>Sharp sand and gravel</i>
<i>Lower Farm, Wasing</i>	<i>WBC</i>	<i>Marley/LafargeTarmac</i>	<i>Sharp sand and gravel</i>
Bray Quarry	RBWM	Summerleaze	Sharp sand and gravel
Sheephouse Farm Quarry	RBWM	Summerleaze	Sharp sand and gravel
Horton Brook	RBWM	Aggregate Industries UK Ltd/Jayflex Aggregates Ltd	Sharp sand and gravel
Kingsmead Quarry	RBWM	CEMEX	Sharp sand and gravel
Eversley Quarry (also known as Fleethill Farm)	Wok	Harleyford Aggregates	Sharp sand and gravel
<i>Star Works</i>	<i>Wok</i>	<i>Grundon</i>	<i>Soft sand</i>

The following are the active and *inactive* quarries in Berkshire with reserves remaining 2015

Site Name	UA	Operator	Type of deposit
Hartshill Quarry	WBC	Harleyford	Hoggin – lower quality sand and gravel used as fill and generally sold as dug.
Kennetholme Farm	WBC	Grundon	Sharp sand and gravel
Copyhold Farm	WBC	Raymond Brown	Soft sand
<i>Craven Keep</i>	<i>WBC</i>	<i>Earthline Ltd</i>	<i>Sharp sand and gravel</i>
<i>Lower Farm, Wasing</i>	<i>WBC</i>	<i>Marley/LafargeTarmac</i>	<i>Sharp sand and gravel</i>
Bray Quarry	RBWM	Summerleaze	Sharp sand and gravel
Sheephouse Farm Quarry	RBWM	Summerleaze	Sharp sand and gravel
Horton Brook	RBWM	Aggregate Industries UK Ltd/Jayflex Aggregates Ltd	Sharp sand and gravel
Kingsmead Quarry	RBWM	CEMEX	Sharp sand and gravel
<i>Riding Court Farm</i>	<i>RBWM</i>	<i>CEMEX</i>	<i>Sharp sand and gravel</i>
Eversley Quarry (also known as Fleethill Farm)	Wok	Harleyford Aggregates	Sharp sand and gravel
<i>Star Works</i>	<i>Wok</i>	<i>Grundon</i>	<i>Soft sand</i>

Appendix B

National and Local Economic Forecasts

B.1 National and Local Economic Forecasts

B.1.1 The following considers sources from which it may be possible to derive a general picture of future aggregate demand. The National Infrastructure Plan has been considered to have various other economic forecasts. Possible forecasts which have been found to be readily available and hence could be used as general indicators of potential future aggregate demand are:

- Draft Revised National Guidelines for Aggregate Provision in England: 2005-2020 shows a forecasted level of increase in demand;
- Construction Industry Forecasts and ONS Construction Bulletins;
- HM Treasury forecasts, as an indication of predicted general economic activity;
- PricewaterhouseCoopers (PwC) forecasts of GDP and inflation, as indicators of general economic activity; and
- Predicted Gross Value Added.

B.1.2 The figures produced by the model used to inform the National Guidelines for Aggregate Provision indicate anticipated aggregate demand. The other forecasts indicate anticipated levels of potential economic activity, typically in monetary terms over the respective forecast periods.

Draft Revised National Guidelines for Aggregate Provision in England: 2005-2020

B.1.3 The Revised National and Regional Guidelines for Aggregates Provision in England: 2005–2020 Consultation, April 2008, published forecasts for aggregate demand for the regions as summarised in the following table for England, the South East and other regions around Berkshire. Thus those forecasts can also be used as a general indicator of possible future demand for aggregates in Berkshire.

Table B.1 - Forecast of Aggregate Demand from Draft Revised National Guidelines for Aggregate Provision in England: 2005-2020

Year	South East	South West	East Midlands	West Midlands	England
2005	29	31	29	24	217
2006	32	32	29	24	224
2007	33	33	29	24	228
2008	33	33	29	25	231
2009	34	34	30	25	235
2010	35	35	30	26	239
2011	35	35	31	26	243
2012	36	36	31	27	247
2013	36	36	32	27	251
2014	37	37	32	28	255
2015	38	38	33	28	259
2016	38	38	33	28	259
2017	38	38	33	28	259
2018	38	38	33	28	259
2019	38	38	33	28	259

Year	South East	South West	East Midlands	West Midlands	England
2020	38	38	33	28	259
Total 2005-20	566	569	498	453	3925
Average 2005-09	32.2	32.6	29.2	24.4	227
Average 2005-20	35	36	31	28	245
Change from average of 2005-2009 to 2020	18.0%	16.6%	13.0%	14.8%	14.1%
Change from 2010 to 2020	8.6%	8.6%	10.0%	7.7%	8.4%
Effective Annual Change from 2010-2020	0.83%	0.83%	0.96%	0.74%	0.83%
Notes:					
1 Source: Draft Revised National and Regional Guidelines for Aggregates Provision In England: 2005–2020 Consultation, April 2008, Table 11: Demand arising within regions for total aggregates (September 2007).					
2 Values in millions of tonnes.					

- B.1.4 The indication from the regional forecasts, which take account of an assumed proportion of alternative aggregates to total consumption, is that growth in aggregate demand will occur, but will be under 1% per year on average.

Construction Industry Forecasts

- B.1.5 Construction Industry Forecasts provide an analysis of the changing pressures and influences facing the construction industry and their implications for construction activity over the next five years. However, the freely available version of the forecasts is only as a national forecast for the whole of Great Britain which covers the period to 2018. Other forecasts are available by subscription. The following press release summarises the latest statement (October 2014):

The construction industry will grow 23% by the end of 2018 and contribute £12 billion to the UK economy over the next two years alone, according to the latest Construction Products Association Autumn Forecasts.

Key highlights include:

Construction output will grow 4.8% in 2014 and 5.3% in 2015;

Private housing starts are expected to grow 18.0% in 2014 and 10.0% in 2015;

The private commercial sector is set to increase 3.7% in 2014 and 6.1% in 2015;

Roads construction will rise 46.1% by 2018

Energy infrastructure is anticipated to grow 118.2% by 2018.

Dr Noble Francis, Economics Director of the Association, commented: “Our Forecasts reflect a welcome, recurring theme as growth continues and begins to broaden. Short-term activity is still led by private housing, infrastructure and commercial, and areas of public sector construction are showing the first signs of increasing strength. We believe the expansion will continue through 2018.

“Recovery is not a foregone conclusion however, and several important risks remain, primarily around the strength of the UK and Eurozone economies, the policy outcomes following the 2015 General Election and the impact of any supply constraints such as the scarcity of labour and materials.

Dr Francis continued: “The private housing sector’s rapid growth since early 2013 has been sustained by consistent levels of demand, the general UK economy’s return to health and

government policies such as Help to Buy. We forecast starts to rise 18.0% in 2014 and 10.0% in 2015. In order for such projections to be met, however, increased capacity is necessary, particularly from SME house builders. In addition, there remain serious questions about affordability and higher mortgage repayment costs, together with uncertainty around the future of housing policies given the pending election. With this in mind, we forecast private housing growth will moderate in the longer term to 5.0% per year from 2016.

“Commercial, the largest sector, is expected to benefit from a pickup in consumer spending and business investment and drive growth in each year up to 2018. Output in the sector is forecast to reach £26.8 billion in 2018, but this remains 16.6% lower than the pre-recession peak in 2008.

“Offices is one sub-sector of commercial where demand is intensifying in regions beyond London and the South East. Given this, the Association expects new offices construction will expand by 10.0% in 2014 and 8.0% in 2015, followed by 7.0% in 2016.

“Other commercial sub-sectors also show signs of strength. The retail sub-sector remains exposed to the long-term trend away from the high street to internet shopping, and previous peak output levels are unlikely before 2018, but new, large developments should still support growth of 8.0% from 2015.

“Infrastructure output is forecast to rise by 8.2% per year, on average, over the next four years. Roads construction is forecast to increase by 10.0% in 2014 and a further 5.0% in 2015 due to growth in the Highways Agency’s capital funding. Rail output is forecast to rise 8.0% in 2014 and 2015, but from 2016, growth is anticipated to slow, reflecting uncertainty regarding funding.

“Main works at Hinkley Point C may start within 12-18 months as the European Commission stated in October that the ‘strike price’ does not constitute state aid. However, as there have been many delays with the project so far, further delays cannot be ruled out. The energy sub-sector is forecast to grow 10.0% in 2015 before work on Round 3 Offshore wind and Hinkley Point C leads to growth rates of 15.0% in 2016 and 2017 followed by 25.0% growth in 2018.

“Finally, austerity in the previous three years has meant that public sector construction has severely hindered overall construction recovery. In 2013/14, however, we saw the nadir of capital investment falls and consequent rises in funding for schools and hospitals are expected to lead to public sector construction growth averaging 2.6% per year between 2015 and 2018.”

Dr Francis concluded: “The Association’s central forecast estimates that construction output will rise 4.8% in 2014, a marginal change from the previous 4.7% estimate. Output is forecast to rise a further 5.3% in 2015, an upward revision from 4.8% growth in the Association’s Summer Forecast due to the continued strength of the UK economy.”

Source: Construction Products Association website:-

<http://www.constructionproducts.org.uk/news/press-releases/display/view/five-years-of-construction-growth-forecast-but-risks-remain/>

Office of National Statistics - Construction Industry Output

B.1.6 On 8th August 2014 the Office of National Statistics (ONS) issued a statistical bulletin entitled ‘Output in the Construction Industry, October 2015 and New Orders Quarter 3 (July to Sept) 2015’, key findings from which included the following:

- In October 2015, output in the construction industry increased by 0.2% compared with September 2015. All new work increased by 1.2% while all repair and maintenance decreased by 1.5%.
- Within all new work, there were increases in private commercial (4.1%) and private new housing (2.3%) while public new housing, private industrial, public other new work and

infrastructure reported decreases of 2.8%, 1.6%, 1.2% and 1.1% respectively. Within the repair and maintenance (R&M) category, there were falls in all work types, housing repair and maintenance decreasing by 2.4% and non-housing repair and maintenance decreasing by 0.6%.

- Compared with October 2014, output in the construction industry increased by 1.0%. All new work increased by 4.2% while there was a fall of 4.2% in repair and maintenance.
- The second estimate of gross domestic product (GDP) for Quarter 3 (July to Sept) 2015 published on 27 November 2015 included an estimate of construction which showed a decrease in output of 2.2% in Quarter 3 (July to Sept) 2015. This estimate has been revised upwards by 0.3 percentage points to a fall of 1.9% in this release, this has no impact on GDP to 1 decimal place.
- New orders for the construction industry in Quarter 3 (July to Sept) 2015 were estimated to have increased by 0.8% compared with Quarter 2 (Apr to June) 2015 and showed no growth compared with Quarter 3 (July to Sept) 2014. There were increases in public other new work (10.8%), private commercial (4.1%) and all other work (2.7%) in Quarter 3 (July to Sept) 2015.

Source: <http://www.ons.gov.uk/ons/rel/construction/output-in-the-construction-industry/october-2015/statistical-bulletin.html>

Independent Forecasts Published by HM Treasury

B.1.7 The HM Treasury publishes monthly 'Forecasts for the UK economy: a comparison of independent forecasts', compiled by its Macroeconomic Prospects Team, at the time of writing, the latest publication being No. 344 December 2015. This is a summary of published material reflecting the views of the forecasting organisations themselves and does not provide new information on the Treasury's own views. It contains 19 new medium-term projections for the calendar years 2015 to 2019, and the fiscal years 2015-16 to 2019-20. The following table summarises the independent average of forecasts for GDP growth and the GDP deflator. The GDP deflator measures the ratio of nominal (or current-price) GDP to the real (or chain volume) measure of GDP, i.e. GDP deflator equals nominal GDP divided by real GDP times 100.

Table B.2 - HM Treasury Published Average of Independent Forecasts for the UK Economy

Parameter	2015	2016	2017	2018	2019	2020
GDP Growth, %	2.5	2.4	2.4	2.3	2.2	
GDP Deflator, % change		2015-16 1.1	2016-17 1.7	2017-18 1.9	2018-19 2.0	2019-20 2.0
Domestic Demand, % change	2.4	2.6	2.4	2.3	2.3	

Notes: Values from Tables M1 and M2 of 'Forecasts for the UK Economy' No. 344.

Source: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/478521/PU797_Forecasts_for_UK_economy_343_Nov_2015.pdf

Forecasts by PricewaterhouseCoopers

B.1.8 PricewaterhouseCoopers provides short and long-term forecasts of GDP growth and inflation, available via <http://www.pwc.com/gx/en/issues/economy/global-economy-watch/projections.html> and summarised in the following table.

Table B.3 – PwC Forecasts (December 2015) for the UK Economy

Parameter	2015p	2016p	2017-2021p
Real GDP growth %	2.4	2.4	2.3
Inflation %	0.1	1.4	2.0

Source PwC

- B.1.9 This provides a forecast for GDP over a longer period than HM Treasury. The forecast suggests that growth in GDP will fall over the projected period.

Forecasts of Gross Value Added (GVA)

- B.1.10 Gross Value Added (GVA) measures the contribution to the economy of each individual producer, industry or sector in the United Kingdom, and is used in the estimation of Gross Domestic Product (GDP). GVA is a top down measure of economic performance at basic prices and at county level includes wages and profits. The intention is that GVA is a measure of production, and hence it was considered plausible that GVA may provide an indication of the possible demand for aggregate.
- B.1.11 Past GVA values are available from the ONS via its NUTS data. NUTS stands for 'Nomenclature of Units for Territorial Statistics' (NUTS) which is a geocode standard developed and regulated by the European Union for referencing the subdivisions of countries for statistical purposes. There are three levels of NUTS defined, with for England NUTS1 being for Government Office Regions, NUTS2 being for counties (some grouped) and inner and outer London, and NUTS3 being for upper tier authorities or groups of lower tier authorities e.g. unitary authorities or districts.
- B.1.12 The GVA Values are available from 1997 to 2011 for the economic activity as a whole or different sectors in the economy, including the construction industry, subdivided per region e.g. Berkshire, the South East and other counties. The GVA reflecting general economic activity is available via the NUTS3.1 table, which is titled 'Headline Gross Value Added (GVA) at current basic prices', whereas the GVA for the construction industry is available via the NUTS3.4 table which is titled 'Headline Gross Value Added (GVA) by 10 industries at current basic prices'.
- B.1.13 Separate Economic Assessments have been prepared for east and west Berkshire. Both draw on the forecast for the Berkshire economy provided by the Berkshire Observatory in August 2010. Under this forecast Berkshire's GVA is projected to increase from its 2006 level of £22,580 million (13% of South East GVA) to £35,307 million (20% of the South East's GVA by 2026) (East Berkshire Local Economic Assessment August 2011).

Findings

- B.1.14 In general the forecasts are considered useful as providing an overall contextual picture to give some outline indication of anticipated future aggregate demand, and in summary the findings are as follows:
- The forecasting model used to calculate the national and regional aggregate provision figures to 2020 indicates a small but steady rise in aggregate consumption over the period 2005 to 2015, levelling off thereafter at the 2015 level.
 - The Construction Industry Forecasts indicate a recurring theme as growth continues and begins to broaden over the period to 2018. Short term activity is still led by private housing, infrastructure and commercial, and areas of public sector construction are showing the first signs of increasing strength, which is believed to continue through to 2018.
 - The independent economic forecasts published by the HM Treasury and the forecasts of GDP produced by PricewaterhouseCoopers indicate that growth in GDP will fall over the projected period to 2021.
 - Berkshire's GVA is projected to increase at a higher rate than the South East as a whole, maintaining Berkshire's position as one of the stronger economies in the South East.

- The forecasts indicate a variety of trends, suggesting in general that economic activity will continue at a generally flat rate of growth.

