

26<sup>th</sup> September 2013

Central Bedfordshire, Bedford Borough and Luton Borough

# Local Aggregate Assessment 2013



26<sup>th</sup> September 2013

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## **Section one: Background**

### **Introduction**

Aggregate Minerals are needed to sustain the economy, providing the raw materials for built development, construction, maintenance and utilities. However, they are a finite resource and can only be worked where they are found. It is therefore essential that they are used prudently. As stated in the National Planning Policy Framework:

*“Minerals are essential to support sustainable economic growth and our quality of life. It is therefore important that there is a sufficient supply of material to provide the infrastructure, buildings, energy and goods that the country needs. However, since minerals are a finite natural resource, and can only be worked where they are found, it is important to make best use of them to secure their long-term conservation.” NPPF paragraph 142.*

The Government recognises the importance of maintaining sufficient aggregate production and as such has set a requirement for Mineral Planning Authorities to produce a Local Aggregate Assessment (LAA) on an annual basis. The purpose of the LAA is to monitor aggregate production and facilitate the steady and adequate supply of aggregates.

This is the first LAA produced on behalf of the Central Bedfordshire, Bedford Borough and Luton Borough Councils. It should be noted that whilst this LAA relates to the Plan area, mineral extraction only takes place within the Bedford Borough and Central Bedfordshire administrative areas.

The document meets the requirements of Chapter 13, paragraph 145 of the NPPF and the DCLG 2012 Technical Guidance as:

- It includes a forecast of demand for aggregates based on existing reserves and the agreed apportionment.
- It assesses whether a 7 year landbank for sand and gravel has been met and whether it is likely to be maintained in the future.
- It provides information on existing sites, strategic sites and the geology of the area.
- It considers other potential sources of aggregates including recycled and secondary aggregates, and
- Looks at the importation of aggregates not found within the Plan area.

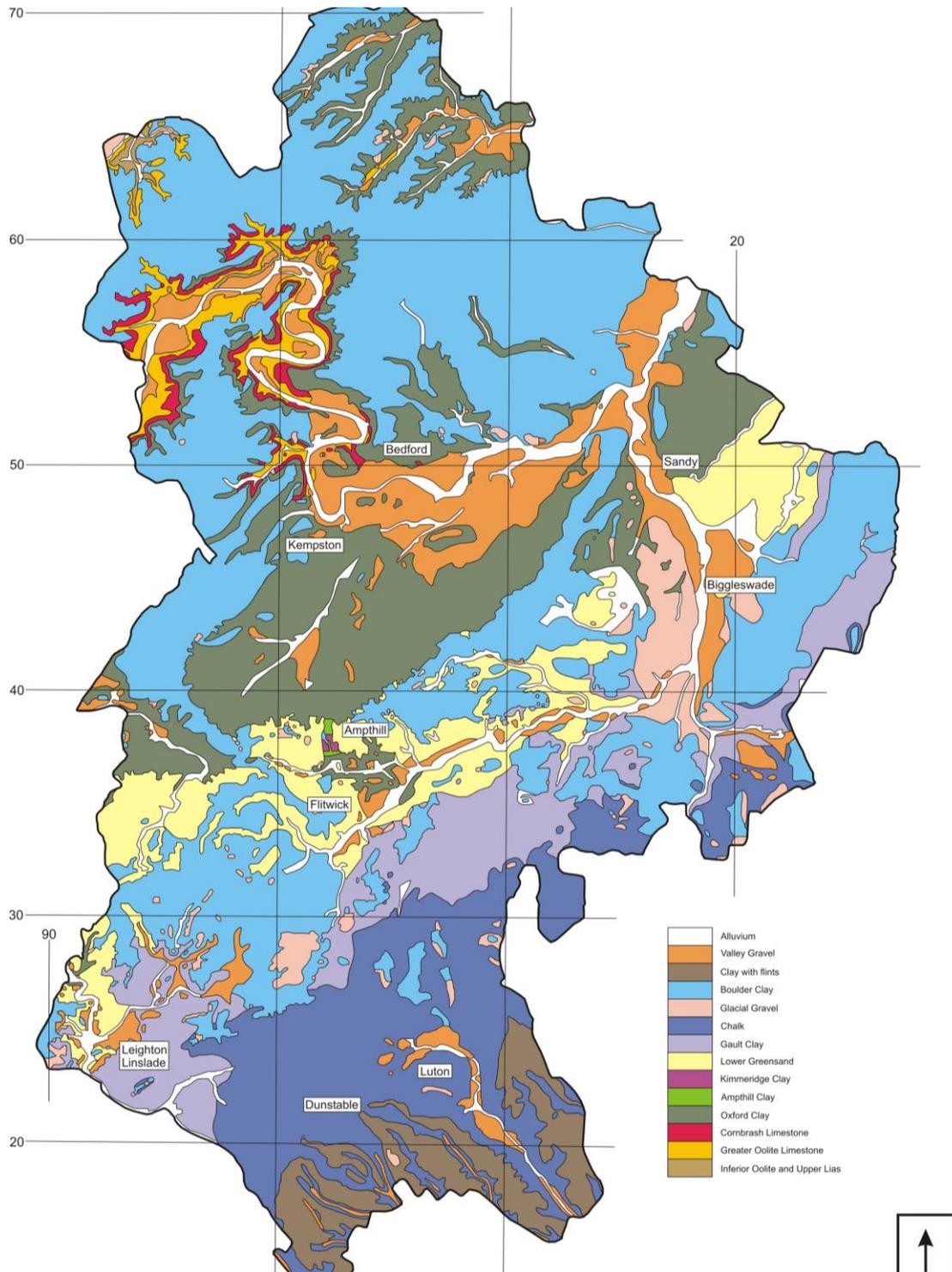
The NPPF (paragraph 143) also requires LPAs to take account of the contribution that substitute or secondary and recycled minerals waste can make to the supply of materials, before considering extraction of primary materials.

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## **Geology of Central Bedfordshire, Bedford Borough and Luton Borough**

The Plan area has a rich and varied geology. The most significant minerals found in the Plan area are;

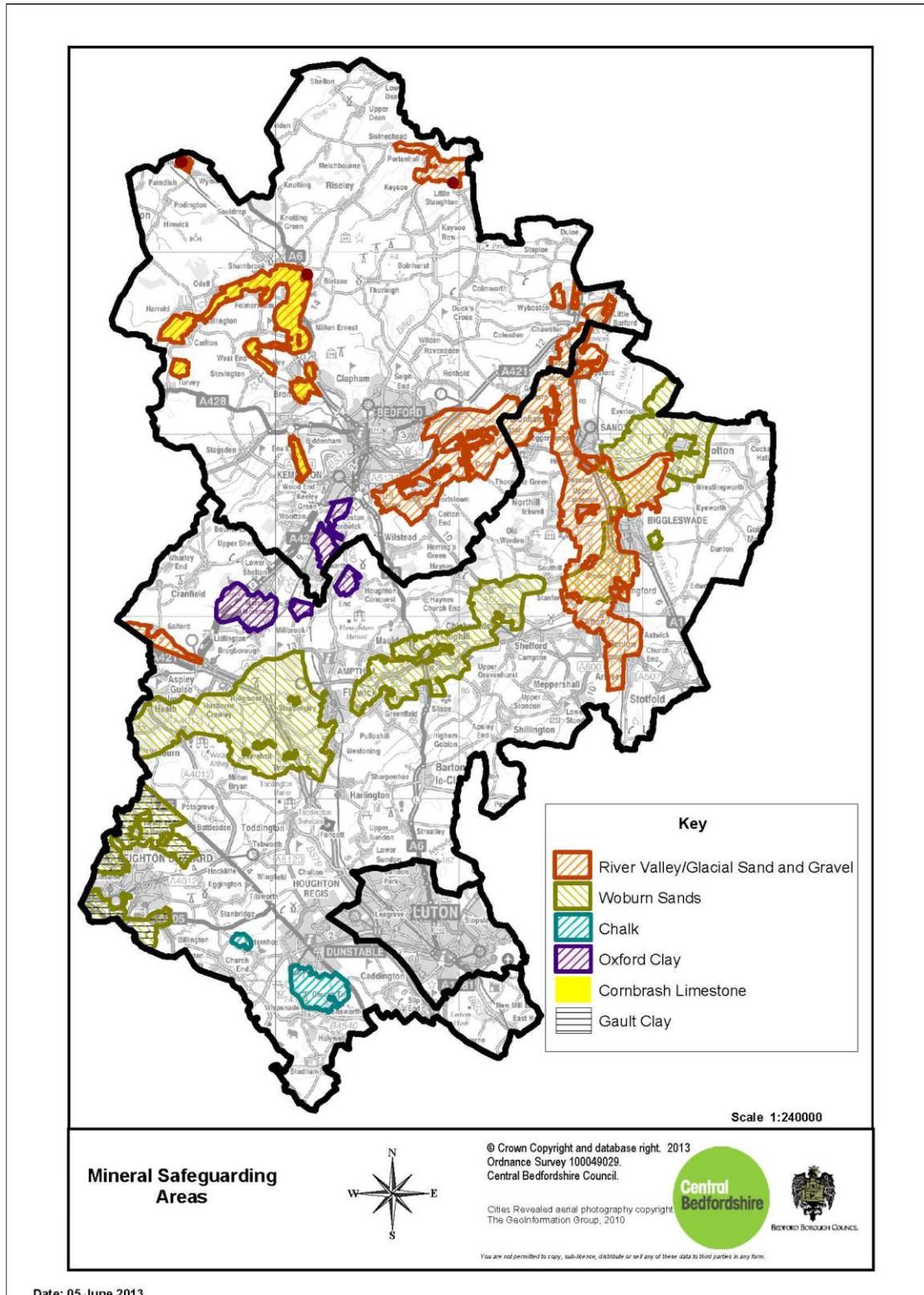
- River Valley/ Glacial Sand and Gravel
- Woburn Sands
- Chalk
- Oxford Clay
- Gault Clay
- Cornbrash Limestone



Due to the economic importance of these minerals six mineral safeguarding areas (MSAs) have been identified in the Minerals and Waste Local Plan: Strategic Sites and Policies Local Development Document. These MSAs, in conjunction with Mineral Strategic Policy MSP11: Mineral Resource Assessment, will ensure that potentially important minerals are safeguarded

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from needless sterilisation by surface development. The extent of the MSAs is shown on the following map.



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### River Valley/ Glacial Sand and Gravel

The Plan area contains significant reserves of aggregate sand and gravel, the majority of which originate from the river valley/glacial sand and gravel deposits found south of the A421 and west of the A1.

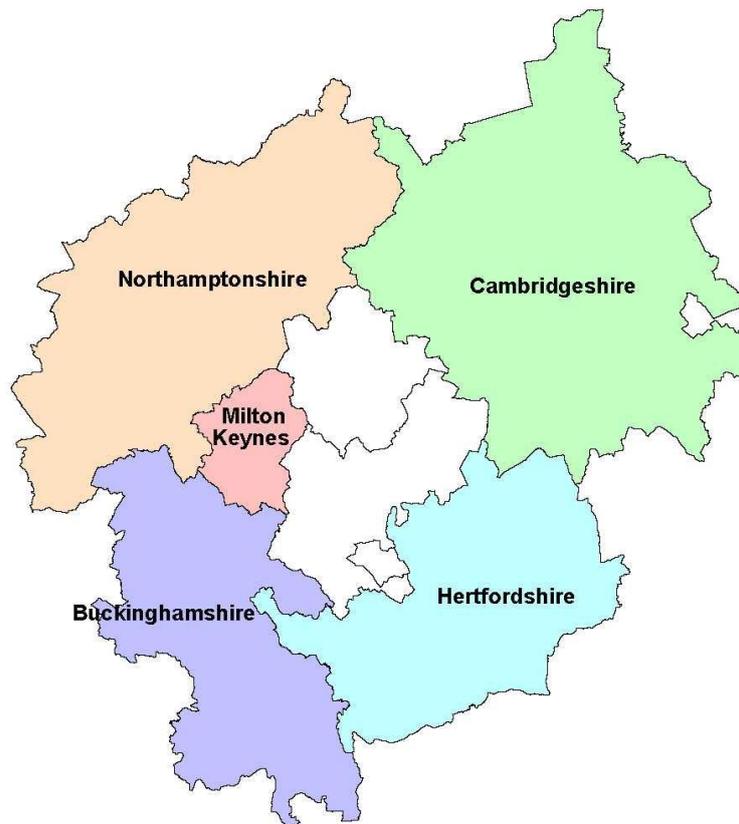
### Woburn Sands

The Woburn Sands which stretch diagonally across the Plan area also provide an important source of aggregate sand, and in the area near Leighton Buzzard, silica sand (specialist sand).

### Marine dredged and marine borne Aggregates

Whilst the Plan area contains significant reserves of aggregate sand and gravel, the Plan area is land locked and as such contains no areas suitable for the dredging of marine aggregates.

The Plan area also contains marine borne minerals in the form of Chalk, Limestone and Clay which could be used as an alternative to aggregate. However, chalk extracted within the plan area is currently only used for cement works in Rugby and small scale building repair works, while clay extraction ceased a number of years ago.



## **Section two: Aggregate Sand and Gravel**

Paragraph 145 of the NPPF states that; *“Minerals planning authorities should plan for a steady and adequate supply of aggregates by:*

*preparing 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);*

This section contains factual information concerning existing mineral sites, current reserves and annual sales. It includes an assessment of aggregate sand and gravel provision and considers whether there is a surplus or shortfall in aggregate sand and gravel within the Plan area.

Existing sites

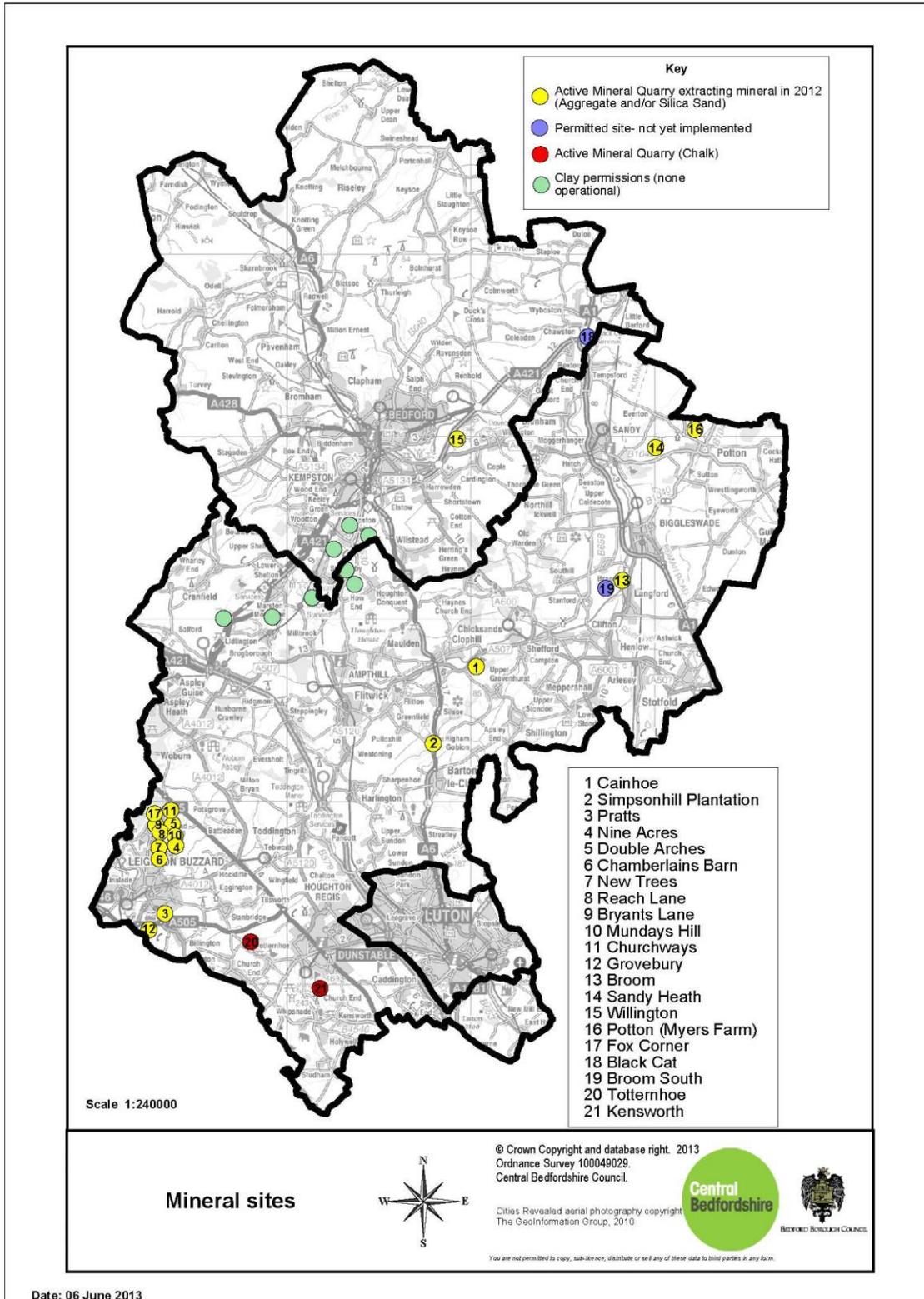
At the end of the calendar year 2012 seventeen active aggregate sand and gravel sites were operating within the Central Bedfordshire and Bedford Borough Council administrative areas. An additional two sites- Broom South and Black Cat had an extant planning permission for mineral extraction, but had yet to start extraction. Table 1 below lists these sites and states the operator, mineral type and the status of each site; while the map titled “mineral sites”, illustrates the approximate locations each site.

**Table 1: Land-won mineral sites**

Operator	Number on Minerals sites map	Site	Mineral type	Status
Thomas Bros	1	Cainhoe	Aggregate	Operational
Hanson Building Products Ltd	2	Simpsonhill Plantation	Building/soft sand.	Operational
Sibelco	3	Pratts	Mainly silica sand, small proportion of aggregate sand	Operational
	4	Nine Acres	100% silica sand	Operational
	5	Double Arches	Approximately 50% aggregate, 50% silica sand	Operational
	6	Chamberlains Barn	Approximately 50% aggregate, 50% silica sand	Operational, but with limited output due to operational constraints
	7	New Trees	100% silica sand	Operational
LB Silica Sands	8	Reach Lane	Approximately 30% aggregate	Operational
	9	Bryants Lane	Approximately 30% aggregate	Operational
Aggregate Industries	10	Mundays Hill	66% aggregate, 33% silica sand	Operational
	11	Churchways	50% aggregate, 50% silica sand	Operational

	12	Grovebury	50% aggregate, 50% silica sand	Operational
LafargeTarmac	13	Broom	100% aggregate	Operational
	14	Sandy Heath	100% aggregate	Operational
Hope Construction Minerals	15	Willington	100% aggregate	Operational
	16	Potton (Myers Farm)	100% aggregate	Operational
Mr Standing	17	Fox Corner	33% aggregate 67% silica sand	No survey returned. Application states that extraction and restoration expected to be completed by 2014.
Lafarge Tarmac	18	Black Cat	100% Aggregate sand and gravel	Non-operational
LafargeTarmac	19	Broom South	100% aggregate	Non-operational in 2012 (permission implemented 2013).

\*Sales and reserves for individual sites could not be provided for confidentiality reasons.



Annual sales and reserves

The results from the Aggregates Working Party (AWP) survey suggest that at December 2012 permitted reserves at active sites totalled **13,452,951 tonnes** while aggregate sand and gravel sales for that year totalled **1,086,227 tonnes**.

However, a number of operators (LB Silica Sand, Hanson, D B Standing and Cemex) failed to submit a return to the survey. Using information contained in the Questa study, case officer knowledge, information accompanying planning applications and the results from earlier MPA surveys, the Shared Minerals and Waste Planning Service estimate an additional **1,787,000 tonnes** of permitted reserves may exist at 31<sup>ST</sup> December 2012 and **110,400 tonnes** of sales could have occurred over the calendar year.

As noted earlier two sites within the Plan area have an extant permission for mineral extraction which had yet to be implemented at 31<sup>st</sup> December 2012. Reserves available at these two sites total **6,460,000 tonnes** (Broom South (5,400,000 tonnes) and Black Cat (1,060,000 tonnes)).

Combining the results from the AWP survey, estimated sales and reserves for sites without a survey return, and permitted but not yet active sites suggest that aggregate sand and gravel reserves may total **21,700,000 tonnes** at 31<sup>st</sup> December 2012 while annual sales may total **1,197,000 tonnes**.

The table below states the aggregate sand and gravel annual sales and reserves over the last 10 years.

**Sales data (000 tonnes)**

2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1,663	1965	1,683	1,487	1,612	1,016	944	1,040	115	<b>1,197</b>

The NPPF encourages MPAs to base their LAA on a rolling average of 10 years sales data and other relevant information.

The graph below illustrates the trends in aggregate sand and gravel sales. It shows that the 10 year sales average of 1,372,000 tonnes is 468,000 tonnes lower than the 1,840,000 tonnes agreed apportionment figure.

Therefore if the current 10 year sales average was used to calculate the sand and gravel landbank for the Plan area, rather than the apportionment figure

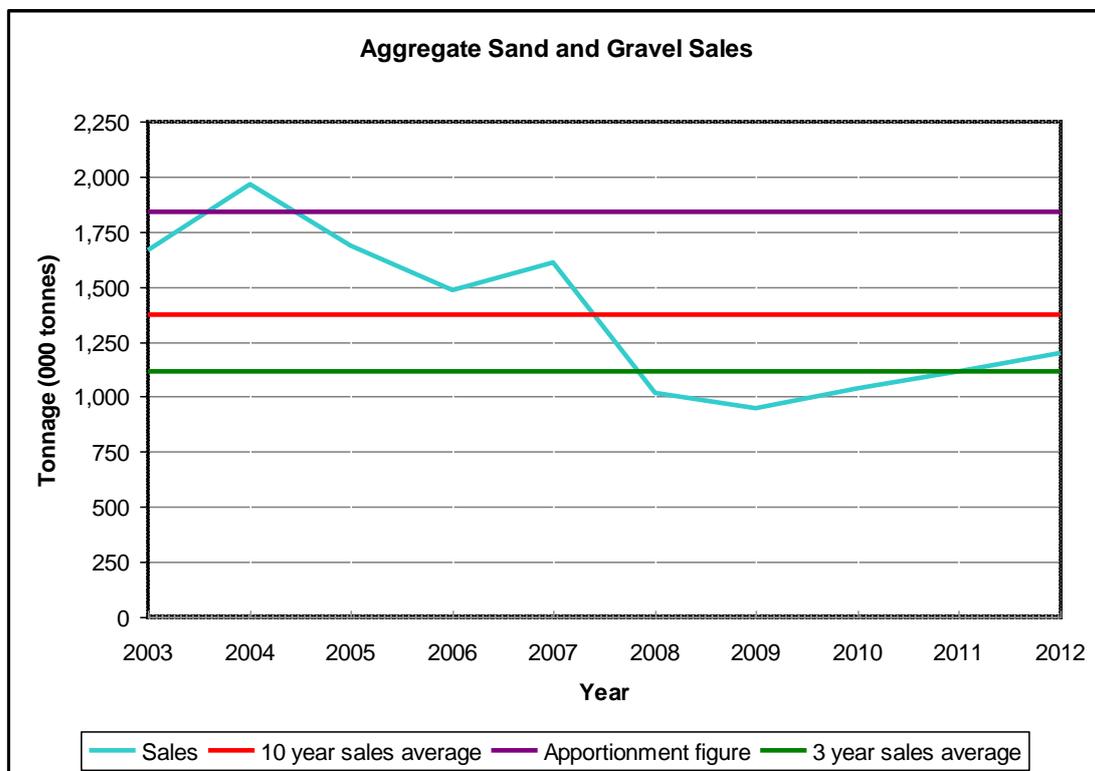
the result would be a 3,276 tonne reduction in provision\*. However, this figure will change each year as it is based on a rolling average of sales data. It would appear that sales are increasing following a significant reduction in sales between 2008 and 2011 and, if this trend continues the disparity will decrease.

Three year sales average

The 2012 DCLG document Guidance on the Managed Aggregate Supply System document advises Mineral Planning Authorities to look at the average 3 year sales to identify the general trend of demand as part of the consideration of whether it might be appropriate to increase supply.

The difference between the 1,840, 000 agreed apportionment figure and the three year average is 372,000 tonnes.

Sales in aggregate sand and gravel over the last three years have been low due to the recent economic climate, however, they now appear to be increasing. If the Mineral Planning Authorities base the landbank on the three years average the result could be under-provision, placing additional pressure on neighbouring MPAs to meet the shortfall, should the demand for aggregates continue to increase.



\* 1.84mt X 7years minus 1.372mt X 7years = tonnes

### Significant construction projects.

The strategic planning documents for Central Bedfordshire, Bedford Borough and Luton make provision for over 10,000 new in the homes between 2011 and 2026.\*<sup>1</sup>

In addition to the aggregates required for the construction of the new housing, the Woburn Wood Centre Parcs which is currently being built also requires significant aggregates.

### Reserves

The table and graph below shows trends in aggregate sand and gravel reserves over the last 10 years.

#### Reserves data (000 tonnes)

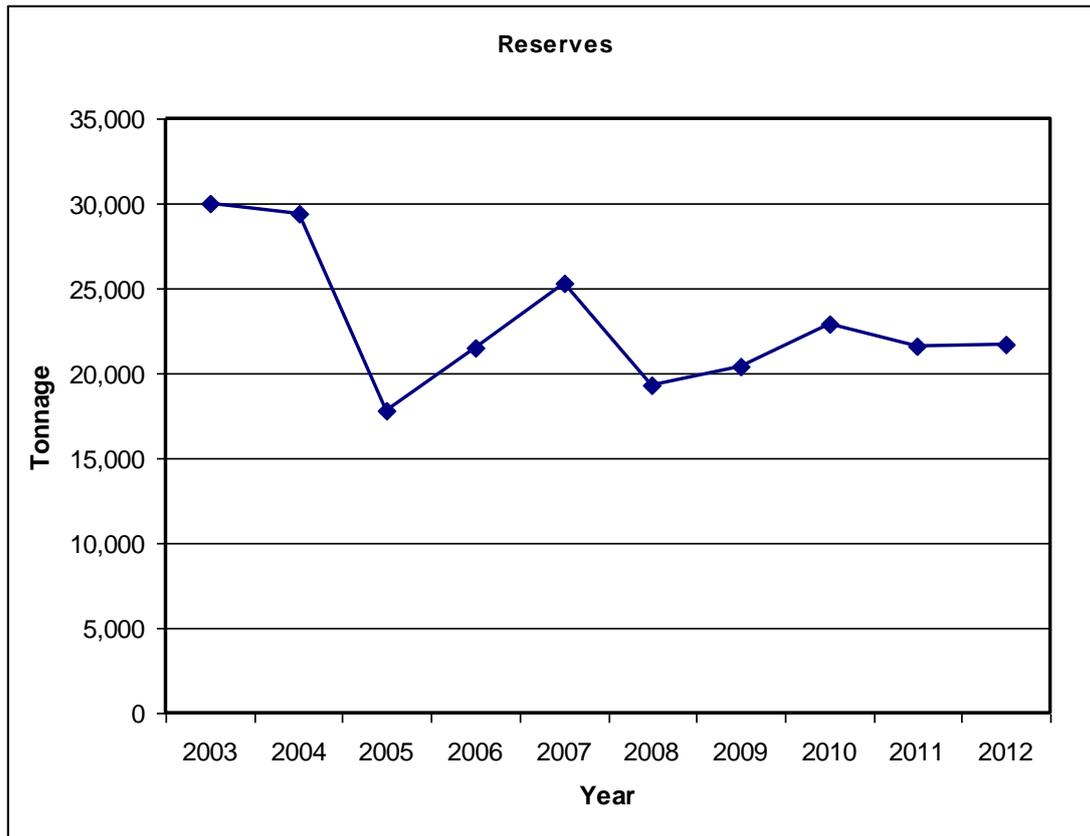
2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
30,004	29,450	17,787	21,492	25,341	19,334	20,364	22,898	21,573	<b>21,700</b>

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<sup>1</sup> 4,878 between 2011 and 2026 within the CBC North area (see Central Bedfordshire North Site Allocations document).

6,026 new homes between 2011/12 and 2026/27 within CBC South area and Luton (see Core Strategy Housing Trajectory 2011 document).

10,060 new homes between 2011 and 2021 within Bedford Borough (see Bedford Borough Core Strategy Rural Issues Plan).



Landbank: Analysis of demand and supply

Paragraph 145 of the NPPF states that Minerals Planning Authorities should prepare an annual Local Aggregate Assessment based on a rolling average of 10 years and other relevant information. Using the 10 year sales average of 1,372 tonnes Central Bedfordshire and Bedford Borough has a landbank of **16 years** (21.7mt / 1.372mt) or **12 years** based on the agreed apportionment (21.7mt / 1.84mt).

East of England Aggregates Working Party and aggregate provision

The 2009 DCLG national and regional guidelines for aggregates provision in England replace those published in 2003. The new guidelines take account of a revised target of 64 million tonnes per annum by 2015 for alternative materials. The document apportioned 236 million tonnes of land-won sand and gravel and 8 million tonnes of land-won crushed rock to originate from the East of England between 2005 and 2020.

The sub-regional apportionment for Plan area was subsequently set to 1,840,000 tonnes per annum- an amount the MPAs have made provision for within the emerging Minerals and Waste Local Plan. The Regions have now

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been abolished; nevertheless the government recognises the need for Mineral Planning Authorities to co-operate on strategic aggregate minerals planning.

The 2012 DCLG Guidance document advises Mineral Planning Authorities to consider and seek the technical advice from the relevant Aggregates Working Party (AWP). The East of England AWP recognises the effect of the economic down-turn on mineral production and encourages each Mineral Planning Authority to maintain the agreed apportionment figure. For the Central Bedfordshire, Bedford Borough and Luton MPAs this means maintaining an aggregate sand and gravel provision of 1,840,000 tonnes per annum. Using the agreed apportionment figure Plan area has a landbank of **12 years** as stated earlier.

The NPPF requires Mineral Planning Authorities to maintain a landbank of at least 7 years for sand and gravel. The MPAs have therefore succeeded in meeting this requirement and intends to maintain the rolling requirement for the Plan period (2028).

#### Meeting the agreed apportionment

The Mineral and Waste Local Plan: Strategic Sites and Policies LDD (The Plan) has identified seven strategic minerals sites to ensure that the apportionment figure of 1.84 million tonnes per annum will be maintained for the Plan period (until 2028).

The strategic sites have been selected according to a sequential test:

- Extensions to existing mineral sites
- “Satellite” extraction sites serving an existing processing plant site
- New sites not connected with any existing operation.

Allocations

The Plan: Strategic Sites and Policies LDD identifies seven strategic sites, six which contain significant aggregate sand and gravel reserve, and one with reserves of silica sand. These are:

Operator update as per list above	Site	Mineral type	Potential yield (tonnes)
Lafarge Aggregates	Willington Lock	Aggregate sand and gravel	830,000 – 1,180,000
Lafarge Aggregates	Blunham/ Roxton	Aggregate sand and gravel	2,950,000 – 3,550,000
Lafarge Aggregates	Black Cat (unpermitted area)	Aggregate sand and gravel	670,000 – 770,000
Lafarge Aggregates	Willowhill Farm	Aggregate sand and gravel	250,000 – 950,000
Lafarge Aggregates	Bridge Farm	Aggregate sand and gravel	250,000 – 950,000
Tarmac Ltd	Land south of Broom Village (unpermitted area)	Aggregate sand and gravel	4,000,000*
Sibelco Uk	Land at Clipstone Brook	Silica sand	

**Imports and exports**

According to the results of the 2009 BGS aggregates mineral survey, the East of England, to which the Bedfordshire authorities belongs, generated sales of 10,278,000 tonnes of aggregate sand and gravel and consumed 13,024,000 tonnes.

95% of aggregate minerals produced within the Plan area were used within the Plan area in 2009, while 2% was exported to other Mineral planning authorities within the East of England while 2% was exported to authorities outside the East of England.

The BGS collation document also includes information on primary aggregate imports. According to the document Central Bedfordshire, Bedford Borough and Luton imported 338,000 tonnes of land-won sand and gravel, 3,000 tonnes of marine sand and gravel and 570,000 tonnes of crushed rock in 2009.

### **Section three: Recycled and secondary aggregates**

Secondary and recycled aggregates help to reduce the rate at which primary aggregate resources are depleted. Their use is encouraged through the NPPF. According to the BGS document, "Aggregate resource alternatives: Options for future aggregate minerals supply in England", the quantity of recycled and secondary aggregates produced in the Great Britain increased by 107% between 1990 and 2005.

The National and Regional guidelines for aggregate provision 2005-2020 assumes that 117million tonnes of alternative materials will be produced. This means the guidelines for land-won production have been reduced to 236 million tonnes and 8 million tonnes for land-won sand and gravel and crushed rock respectively as shown in the table below.

#### **National and regional guidelines for aggregate provision in England 2005-2020 (million tonnes).<sup>\*2</sup>**

New regions	Guidelines for land-won production		Assumptions		
	Land-won sand and gravel	Land won Crushed rock	Marine sand and gravel	Alternative materials	Net imports to England
East of England	236	8	14	117	7
England	1,028	1,492	2,59	993	136

#### **Recycled aggregates**

Recycled aggregates are sourced from construction, demolition and excavation wastes (C,D, E).

The Plan area contains a number of Aggregate recycling facilities which process Construction, Demolition and, Excavation wastes. Their permitted capacities and approximate locations are shown on the table and map below. According to the 2013 aggregate recycling survey **16,473 tonnes** of aggregate was processed in five aggregates recycling sites (a number of operators failed to submit a return). This means it is likely that the more aggregate was recycled in the Plan area in 2012 than the survey results indicate.

<sup>2</sup> Based on a table in the June 2009 DCLG document: National and regional guidelines for aggregate provision in England 2005-2020.

A number of sites whilst do not recycle aggregates, do effectively sort and separate aggregates from other types of waste (usually non-hazardous). These facilities then send the separated aggregate to specialist recycling facilities for processing. Whilst these facilities do not recycle aggregates they perform an important element in the recycling of aggregates and as such have been included on the table and map below.

### Aggregates recycling facilities

Number shown on Plan	Site	Operator	Type of facility	Permitted capacity
1	North End Farm	C Jackson and Sons	Aggregates recycling	10,000
2	Willington Quarry	Lafarge Aggregates	Aggregates recycling	50,000
3	Land to the North of Barford Road	Acorn Transport and Plan Hire	Aggregates recycling	Certificate of lawful use, so no limit.
4	Cainhoe quarry	Thomas Bros Exc Ltd	Aggregates recycling	125,000
5	Land adjacent to A507	Winton Haulage	Aggregates recycling	Certificate of lawful use, so no limit.
6	Unit 16, Harmill Industrial Estate	JP Callanan and Son Ltd	Aggregates recycling	75,000
7	Heron's Farm	Mr G Sayers	Aggregates recycling	Certificate of lawful use, so no limit.
8	Gorerong Farm	Stable Hire	Aggregates recycling	5,000 (applying to increase tonnage to 10,000).
9	Old Sand quarry, Haynes	Mr Bradshaw	Aggregates recycling	7,500

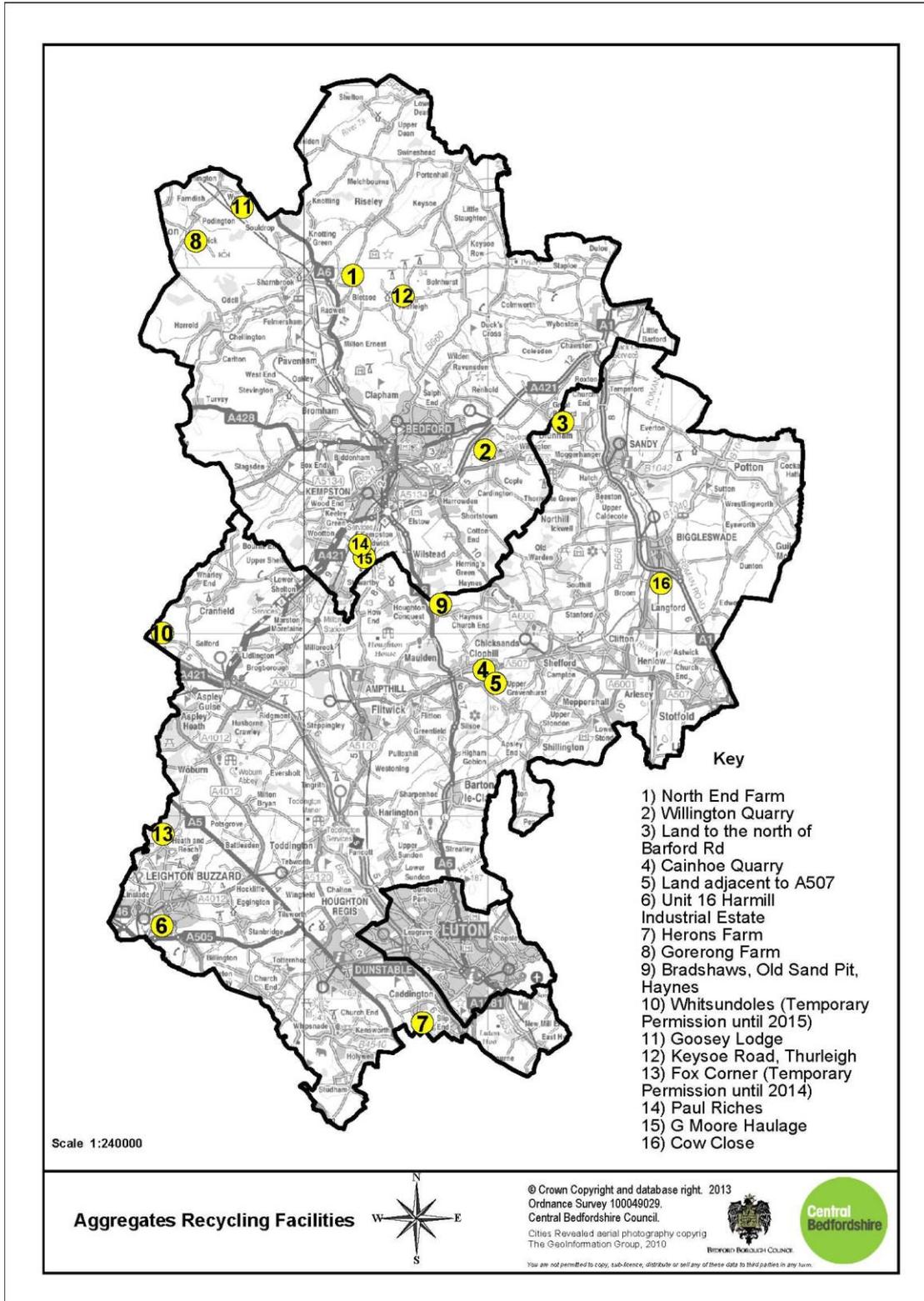
**Aggregates recycling facilities (continued)**

Number shown on Plan	Site	Operator	Type of facility	Permitted capacity
10	Whitsundoles (temporary permission until 2015)	Smith Construction	Aggregates recycling	30,000
11	Goosey Lodge	Wykes Engineering	Aggregates recycling	105,000
12	Keysoe Road, Thurleigh	C Jackson and Sons	Aggregates Recycling	1,900
13	Fox Corner	D B Standing and Sons	Aggregates recycling (until 2014)	
14	Paul Riches Skips, Kempston Court, Manor Road	Paul Riches Skips	Transfer and Aggregates Recycling	75,000 (mixed waste)
15	G Moore Haulage, Kempston Court, Manor Road	G Moore Haulage	Transfer and Aggregates Recycling	75,000 (mixed)
16	Cow Close	FD O'Dell and Sons Ltd	Transfer and Aggregates Recycling	25,000
<b>Total capacity</b>				<b>589,400</b>

<sup>1</sup> The table above reflects the permitted capacity of aggregate recycling sites within Central Bedfordshire, Bedford Borough and Luton Borough Councils at 31<sup>st</sup> December 2012. It does not include any information pertaining to Environment Agency requirements.

Please note a number of sites have permission to accept a variety of waste-streams. This means some of the sites have the flexibility to import different types of waste, and may therefore choose not to recycle aggregate on site for commercial reasons.

The tonnage of aggregate recycled in 2012 at each site has not been recorded for confidentiality reasons.



### Secondary aggregates

Secondary aggregates are sourced from industrial wastes, such as glass, ash, railway ballast, fine ceramic waste and scrap tyres; and industrial and minerals by-products, notably waste from china clay, coal and slate extraction and spent foundry sand.

The Plan area contains no china clay, coal or foundries and is not industrial in nature. Its ability to produce secondary aggregates is therefore limited. The main sources of secondary aggregates from the Plan area may include bottom ash from the Rookery Pit Resource Recovery Facility (a Development Order Consent has been issued, though construction has not started) and from the Stewartby aggregates railhead facility which specialises in railway ballast. Unfortunately no figures for secondary aggregate production from within the Plan are available.

No figures for secondary aggregate production from within the Plan area are currently available.

## **Section four: Imports and exports**

### Hard/crushed rock imports for aggregate uses

Hard/crushed rock has to be imported from outside the Plan. The majority of crushed rock used within the Plan area is imported from Leicestershire. The Plan area currently benefits from four aggregate railhead facilities. These are situated at Elstow, Stewartby, Leagrave Luton and Crescent Road, Luton.

<b>Site</b>	<b>Handling activity</b>	<b>OS Grid reference</b>	<b>Source of material</b>	<b>Tonnage of aggregate imported in 2012 (via rail)</b>
Elstow	Receiving depot	TL041 457	Mount Sorrel, Leicestershire	253,500 tonnes
Luton Crescent Road	Receiving depot	TL 097 215	Mount Sorrel, Leicestershire	50,700 tonnes
Limbury Sidings, 519 Leagrave Road	Receiving depot	TL075 229	Greenwich Hither Green, London (marine dredged).	Approximately 20,000 -25,000 tonnes

### Railhead facilities Imports/exports

Whilst Central Bedfordshire and Bedford Borough have significant reserves of aggregate sand and gravel it is deficient in crushed rock. As a result it is reliant of authorities outside the Plan area, most notable Leicestershire, for crushed rock. Crushed rock is imported into the plan area via three aggregate railhead facilities- Elstow, Leagrave Road and Crescent Road, while the Stewartby railhead facility import ballast for use by network rail.

## **Section five: Conclusion**

### Land –won aggregates

The Plan area contains significant deposits of aggregate sand and gravel. At 31<sup>st</sup> December 2012 estimates permitted reserves totalled 21,700,000 tonnes. The aggregate sand and gravel landbank for Central Bedfordshire, Bedford Borough and Luton equate to 11.8 years (based on the 1,840,000 tonnes per annum, agreed apportionment) or 16 years if based on the 10 year average sales. The 3 year sales average for aggregate sand and gravel stands at 1,057,000 at December 2012. If the MPA use the 3 year sales average to calculate the landbank, the landbank would total 20.5 years. The Shared Service is therefore confident that the 7 year aggregate sand and gravel landbank required by the NPPF has been met.

The emerging Minerals and Waste Local Plan Strategic Sites and Policies LDD includes a number of mineral policies and six strategic aggregate sand and gravel sites which together will ensure that the 7 year landbank will continue to be maintained for the plan period.

The Plan area contains no deposits of marine dredged or marine borne aggregates. There are currently no sites from which crushed rock can be sourced and as such it is necessary to continue to rely of sites outside the Plan area for these minerals.

### Secondary and recycled aggregates

At the end of the calendar year 2012 eleven permitted aggregate recycling sites and five aggregate transfer stations operated within the plan area. It is likely that secondary aggregate is produced from the plan area but figures are unavailable.

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The next Central Bedfordshire, Bedford Borough and Luton Borough Local Aggregates Assessment will publically available in 2014.

### **Data sources**

- National Planning Policy Framework
- 2013 AWP Survey
- Goodquarry.com Quarry Fines and Waste British Geological Survey
- DCLG Mineral extraction in Great Britain 2011: Business Monitor PA1007
- DCLG National and regional guidelines for aggregates provision in England 2005-2020 2009 Guidelines
- DCLG, BGS and Welsh Assembly document October 2011: Collation of the results of the 2009 aggregate minerals survey for England and Wales.
- Local Plan Minerals Technical Evidence Papers.