

Cambridgeshire and Peterborough Minerals and Waste Development Plan

Local Aggregate Assessment

December 2012

CONTENTS

1. INTRODUCTION.....	1
2. LOCAL AGGREGATES SUPPLY AND DEMAND IN CONTEXT.....	2
3. LOCAL AGGREGATES GEOLOGY AND PLANNING.....	4
4. CAMBRIDGESHIRE & PETERBOROUGH ASSESSMENT OF SAND AND GRAVEL SUPPLY AND DEMAND	10
5. CAMBRIDGESHIRE & PETERBOROUGH ASSESSMENT OF CRUSHED ROCK (Limestone) SUPPLY AND DEMAND	15
6. CAMBRIDGESHIRE & PETERBOROUGH ASSESSMENT OF RECYCLED AND SECONDARY AGGREGATES SUPPLY.....	18
7. CONCLUSIONS.....	21

1. INTRODUCTION

1.1 Minerals are important to the local and national economy and play an important part in our everyday lives. They have many uses, particularly for the provision of material for construction and for a wide variety of other industrial and commercial purposes, including the manufacture of bricks, blocks, tiles, paint, paper and toothpaste. The planning system has to ensure that sites are available to provide sufficient minerals to supply these industries. The recent adoption of the Cambridgeshire and Peterborough Minerals and Waste Core Strategy Development Plan Document (July 2011) and Site Specific Proposals Development Plan Document (February 2012) has put in place a series of policies and site allocations to enable this to happen locally in a clearly planned and transparent way. Minerals are essential to the growth agenda in which Cambridgeshire and Peterborough have an important role to play.

1.2 Aggregate minerals are those that are used by the construction industry, for example in road making, house construction, manufacture of concrete and railway ballast. Locally they include sand and gravel, crushed rock (limestone) and recycled and secondary aggregates. It is the provision of these minerals with which this assessment is concerned.

Background

1.3 The National Planning Policy Framework (NPPF) (March 2012) requires Mineral Planning Authorities to plan for a steady and adequate supply of aggregates by determining their own levels of aggregate provision. This should be assessed through the preparation of a Local Aggregate Assessment (LAA), which has to set out a rolling average of the previous 10 years sales data and include other relevant information. An assessment of all supply options should also be factored in, where appropriate. It is advised also that published National and Sub National Guidelines on future provision should be taken into account. These new guidelines mark a shift away from the existing system of apportionment undertaken within the Managed Aggregates Supply System (MASS).

1.4 This LAA sets out the current and future situation in Cambridgeshire & Peterborough in terms of aggregate supply and demand including sales data and aggregate apportionment levels to 2026, including a rolling average of ten years sales data. The LAA reports key information used to monitor the progress and effectiveness of the Cambridgeshire & Peterborough Minerals and Waste Development Plan Document's (DPD).

Economic Context

1.5 The economic situation in Cambridgeshire and Peterborough is influenced by the wider UK economy. Through out 2012 the UK economy stagnated, with GDP broadly unchanged since 2011. The IMF forecasts predicted a -0.4% contraction in the UK Economy for 2012 as a whole. The UK labour market however has shown positive signs with employment rising at one of the fastest year on year rates since the early 1980s. The construction industry has faced difficulties throughout the current recession and has been contracting since mid 2011. Data from the Office for National Statistics show that construction output fell 10% between September 2011 and September 2012.

1.6 At a local level short term economic indicators taken from the Local Enterprise Partnerships October 2012 Quarterly Economic Update suggest that the general economic situation in the Greater Cambridgeshire and Greater Peterborough Area is gradually improving. The official level of unemployment continued to fall; unemployment was at 6.6% (45,600) in the year to June 2012 in comparison to 7.2% in the year to June 2011. The Cambridgeshire Business Intelligence Summary reported in December 2012 that Cambridgeshire's top 100 companies enjoyed more than 10% growth during 2012, bucking the national trend of low/no growth. However the construction industry in the region continued to struggle.

1.7 The Cambridgeshire and Peterborough Minerals and Waste Development Plan documents are based on meeting the high levels of growth associated with the London-

Stansted-Cambridge-Peterborough growth corridor and the associated levels of housing delivery set out in the now revoked East of England Regional Spatial Strategy. For Cambridgeshire and Peterborough, provision was made for an annual equivalent of 5,290 net dwellings per annum. Since 2006, the net annual increase in dwellings in Cambridgeshire and Peterborough has ranged from 5188 completions in 2007/08 to 3172 completions in 2009/10, indicating that the annual equivalent rate has yet to be met in any year since the Plan began. Arguably the largest cited major infrastructure project(s) in the Plan area, which would have a significant call on local mineral reserves relates to the future improvements to the A14. The Cambridgeshire and Peterborough Core Strategy and Site Specific Proposals DPD's makes specific provision for this significant infrastructure project through sand and gravel and clay borrowpits close to the alignment of the road scheme. There has been no 'new' major infrastructure projects announced since the Plan was adopted in July 2011.

1.8 The Minerals Planning Authorities monitor the strength and scale of local economic growth via the planning application system, tracking changes in the number planning applications for a range of different land-uses and regular site monitoring of development proposals with planning permission to measure local economic activity. They also work closely with local planning authorities to understand the infrastructure requirements of growth which are also closely monitored.

1.9 Following the Plan's adoption in early 2012, the subsequent evidence concerning infrastructure project delivery and the national economic downturn, is not considered by the Minerals Planning Authorities to be sufficiently long-term in nature to warrant a review of the planned annual rates of provision set out in the Cambridgeshire and Peterborough Minerals and Waste Plan.

1.10 Even though the planned annual rates of mineral supply have exceeded the average sales rates for the past 3 and 5 years, the Mineral Planning Authorities do not consider it necessary to amend the Plan; it is important that the Plan's long-term objectives and the certainty it provides is maintained.

2. LOCAL AGGREGATES SUPPLY AND DEMAND IN A NATIONAL AND REGIONAL CONTEXT

2.1 This section of the assessment looks at the sales, consumption, import and exports of aggregates locally, within the national and regional context. The figures are taken from the 2009 Aggregate Minerals Survey, a four yearly survey produced by British Geological Survey on behalf of the Dept of Communities and Local Government (DCLG) which reports on the movement of aggregates between Mineral Planning Authorities (MPAs) and regions. The sales figures relate to the area in which the material was quarried and reflect weighbridge tonnages of materials leaving sites. More detailed sales figures for the 10 year period from 2002-2011 are shown in section 4.

England & Wales, East of England, and Cambridgeshire & Peterborough

Aggregates Sales 2009

2.2 Primary aggregates sales in England and Wales, comprised 31.4% (37.4mt) landwon and 9.2% (11.0mt) marine-dredged sand and gravel, with crushed rock making up the remaining 59.4% (70.7mt).

2.3 **Total sales** of primary aggregates produced in England and Wales, including marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales, were 119.1 mt in 2009.

2.4 For **landwon sand and gravel**, the highest proportion of sales, 26% (9.66mt) were recorded in the East of England. Of the East of England's share of sales, Essex, Southend & Thurrock jointly accounted for the highest proportion 29% (2.74mt); then Cambridgeshire and Peterborough accounting for 23% (2.14mt). This means Cambridgeshire & Peterborough accounted for 6% of total landwon sand and gravel sales in England and Wales.

2.5 Of the **marine-dredged sand and gravel**, only 3% (0.32mt) of total sales in England and Wales were from the East of England. No marine-dredged sand and gravel sales were reported in Cambridgeshire & Peterborough (sales are allocated to location of landing wharf), currently only the port of Wisbech has the potential capacity to achieve this within Cambridgeshire and Peterborough.

2.6 Of the **crushed rock sales** in England and Wales, the majority were within the East Midlands which accounts for 30% (21.4mt). By comparison the East of England accounts for less than 1% (0.29mt) of total crushed rock sales in England and Wales. Although a small proportion of the England and Wales total for crushed rock sales, some 76% of crushed rock (soft limestone) sales in the East of England were attributable to Cambridgeshire and Peterborough.

Aggregates Consumption 2009

2.7 **Consumption** - Total apparent consumption of primary aggregates (including unallocated sales) was 121.4 mt in 2009. Some 2.5 mt (or 2.1 per cent of total aggregates consumption) were imported into England and Wales from Scotland and Europe. Almost all of this was crushed rock (mainly igneous rock) imported into the South East and London principally from Scotland and Norway, but with small quantities from Northern Ireland, Ireland and France.

2.8 Total exports of primary aggregates were insignificant making **England and Wales combined a marginal net importer of primary aggregates***.

2.9 In 2009 within the East of England, the consumption of 8.41mt of landwon sand and gravel was marginally less than sales of 9.67 mt, indicating that the region is a net exporter. This was also the case for **Cambridgeshire and Peterborough, which is a net exporter of landwon sand and gravel.**

2.10 Landwon sand and gravel is both exported to other regions (export to other countries is insignificant) and imported from other regions. In 2009, the East of England region remained a net exporter (0.92mt) of landwon sand and gravel, primarily exporting to the East Midlands, London and the South East regions. The export of Cambridgeshire and Peterborough's landwon sand and gravel is primarily to the neighbouring East Midlands region.

2.11 Within the East of England the consumption of **marine dredged sand and gravel** was limited to less than 3% of total consumption; whilst there is no recorded consumption within Cambridgeshire and Peterborough in 2009.

2.12 Crushed rock consumption in England and Wales totalled 71.8mt, of which 6% (4.28mt) was consumed within the East of England. Within the region, Cambridgeshire and Peterborough consumed the highest proportion 35% (1.50mt). The figures indicate that both the East of England and Cambridgeshire and Peterborough are both significant **net importers of crushed rock.**

Aggregates Imports and Exports in 2009

2.13 The aggregates sales and consumption figures reveal that Cambridgeshire and Peterborough is:-

- a net exporter of sand and gravel (924,256mt)
- a net importer of crushed rock (1,308,000mt)
- not a supplier or consumer of marine dredged aggregates

Table 1 below sets out the tonnage of aggregates imported and exported into Cambridgeshire and Peterborough.

**Table 1:
Aggregate Imports and Exports in 2009**

	Sand and Gravel	Limestone
Imports	231,000	1,308,000
Exports	924,256	32,353
Difference	+ 693,256	- 1,275,647

Data taken from the 2009 Aggregates Mineral Survey conducted by the British Geological Survey.

2.14 Ensuring a steady and sufficient supply of minerals for the construction needs of the nation, can not be achieved on a regional or sub-regional self-efficiency basis, owing to the imperfect distribution of mineral reserves. However, the UK as a whole more or less meets its own aggregates needs. For this reason each sub-region must play its part in ensuring a continued supply, whilst taking account of alternative supplies (such as marine dredged aggregates) alternative materials (secondary and recycled aggregates) and environmental constraints, all of which can affect supply at the local level; and, substitute construction methods and materials such as glass, wood and plastics, which can affect future demand for landwon aggregates.

Marine Dredged Sand and Gravel

2.15 As outlined above marine dredged aggregates currently play no role in aggregates supply (production) or demand (consumption) in Cambridgeshire and Peterborough. Even within the East of England sales and consumption are limited to less than 3% of the aggregates sales and consumption totals.

2.16 Whilst there is undoubtedly opportunity to make greater use of marine aggregate supply in future years, the abundant land based sand and gravel reserves and their advantageous locations (closer proximity to demand points) means marine dredged alternatives remain economically unfavourable for the foreseeable future.

* - Substantial quantities (about 5.7 mt) of marine sand and gravel dredged from the UK Continental Shelf were landed at foreign ports in 2009. A further 4.5 mt of marine sand and gravel were used for contract fill and beach nourishment (Source: The Crown Estate). *These flows are not covered by Aggregate Minerals surveys.* Owing to the quantity of marine sand and gravel landed at foreign ports, **the UK is a net exporter of aggregates.**

3. LOCAL AGGREGATES GEOLOGY AND PLANNING

3.1 Mineral resources are natural concentrations of minerals or bodies of rock that are, or may become, of potential economic interest as a basis for the extraction of a commodity. That part of a mineral resource which has been fully evaluated and is commercially viable to work, is called a **mineral reserve**.

3.2 In the context of land-use planning, further terms are applied, namely 'allocated reserves' and 'permitted reserves'. The term '**allocated reserves**' relates to land that has been allocated in a Development Plan Document or a Local Plan. In Cambridgeshire and Peterborough that document is the Minerals and Waste Site Specific Proposals DPD, which most recently allocated land suitable for mineral extraction (February 2012). The term '**permitted reserves**', is further limited to those minerals for which a valid planning permission for extraction exists.

3.3 The economic potential of individual sites can only be proved by a detailed evaluation programme. Such an investigation is an essential precursor to submitting a planning application for mineral working.

3.4 The geology of primary interest for the Cambridgeshire & Peterborough local aggregate assessment relates to sand and gravel and crushed rock aggregate (limestone).

Sand and gravels in Cambridgeshire & Peterborough

3.5 Sand and gravel are defined on the basis of a particle size rather than composition. Commercially, the term 'gravel' is used for material that is coarser than 5mm, with a maximum size of 40mm, and the term sand for the material that is finer than 5mm, but coarser than 0.075mm. The principle uses of sand are as fine aggregate in concrete, mortar and asphalt. The main use of gravel is as a coarse aggregate in concrete. Substantial quantities of sand and gravel may also be used for constructional fill.

3.6 In Cambridgeshire and Peterborough (the Plan area) sand and gravel resources occur mainly within superficial or 'drift' deposits, subdivided into river sand and gravel, glacial deposits, head deposits and bedrock sand.

3.7 River sand and gravel (terrace and sub-alluvial deposits) – resources occur in both raised river terrace sequences flanking the modern floodplains and in floodplain terrace deposits associated with, and underlying, present day alluvium. The main sources of these materials in Cambridgeshire and Peterborough are Quaternary and Recent Age deposits in the valleys of the Nene, Ouse, Welland, Granta and Cam, where generally clean, well bedded sand and gravels rests on weathered bedrock or chalky till. The quality of these deposits can vary along the river valleys. Included within these resources are what are known as Fen Gravel or Fen Edge deposits which form a discontinuous spread at the edge of the Fens and extend up to the present day valleys.

3.8 The Fen Gravel/Fen Edge deposits are a good quality sand and gravel resource. The principal existing and allocated strategic sand and gravel sites are in areas with Fen Edge deposits. These sites will supply the majority of Cambridgeshire and Peterborough's Sand and Gravel needs.

3.9 Glacial sand and gravel deposits – In Cambridgeshire and Peterborough, the glaciofluvial deposits are mainly located in the southeast around Cambridge. Deposits are highly variable in nature and may appear as sheet or delta-like deposits or as elongate irregular lenses.

3.10 Head deposits – these comprise gravelly deposits that have been involved in mass movement downslope to their present position. Most deposits contain significant clay contents and many deposits can be worked as 'hoggin'. In Cambridgeshire and

Peterborough these deposits tend to be less economically significant, and are restricted to low quality isolated patches lying at heights between 35 to 60m OD.

3.11 Head deposits have low values and are generally only used as raised. Intense production of sand and gravel from these deposits is not required

3.12 Bedrock sand – these resources are mostly confined to the Woburn Sands Formation, which has a narrow outcrop across the county from Gamlingay to Ely and thins north-eastwards. Sand from this formation has been worked in the past but there is currently no extraction within the Plan area.

Crushed rock aggregates in Cambridgeshire and Peterborough

3.13 Cambridgeshire and Peterborough has limited resources of rock suitable for crushed rock aggregate. Higher quality aggregates are required for coating with bitumen for road surfacing, or for mixing with cement to produce concrete. For applications such as constructional fill and drainage media, with less demanding specifications, lower quality materials are acceptable.

3.14 Limestone – the Lincolnshire Limestone Formation (inferior oolite) crops out in the north-west of the Plan area, west and north west of Peterborough, where it forms part of a prominent limestone outcrop running south to north through Corby, Stamford, Grantham and Lincoln.

3.15 Currently none of the limestone is worked for building stone within the Plan area. It is worked to provide aggregates of relatively low strength and with poor resistance to frost damage, and therefore generally used as constructional fill or as sub-base roadstone material.

3.16 To the south of the Plan area closer to Cambridge the Upware Limestone is quarried on a small scale for use as an agricultural lime and asphalt filler.

Figure 1:
Cambridgeshire and Peterborough Minerals Key Diagram covering; Geology, Minerals Zones, Existing Facilities and Strategic Allocations

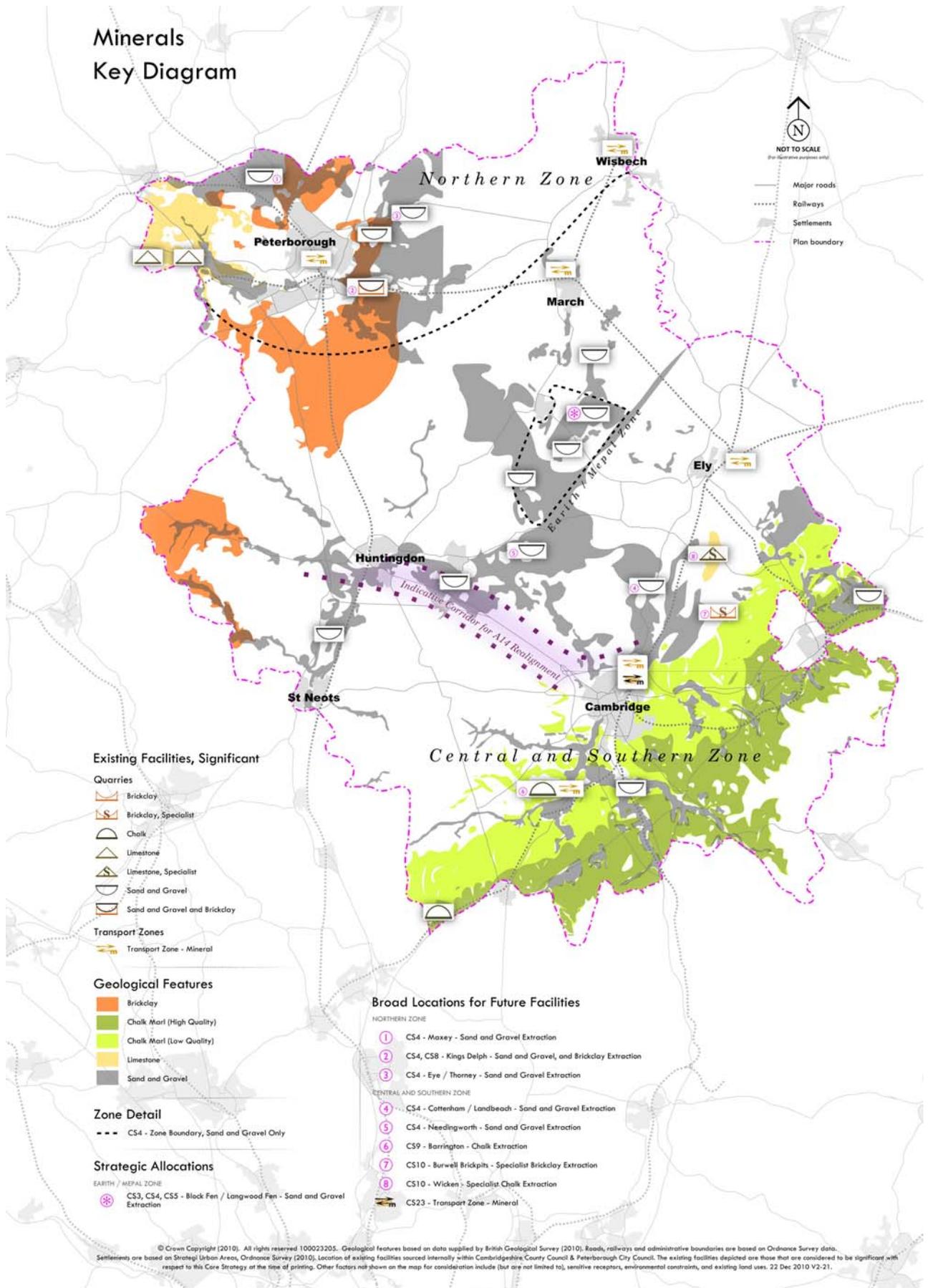
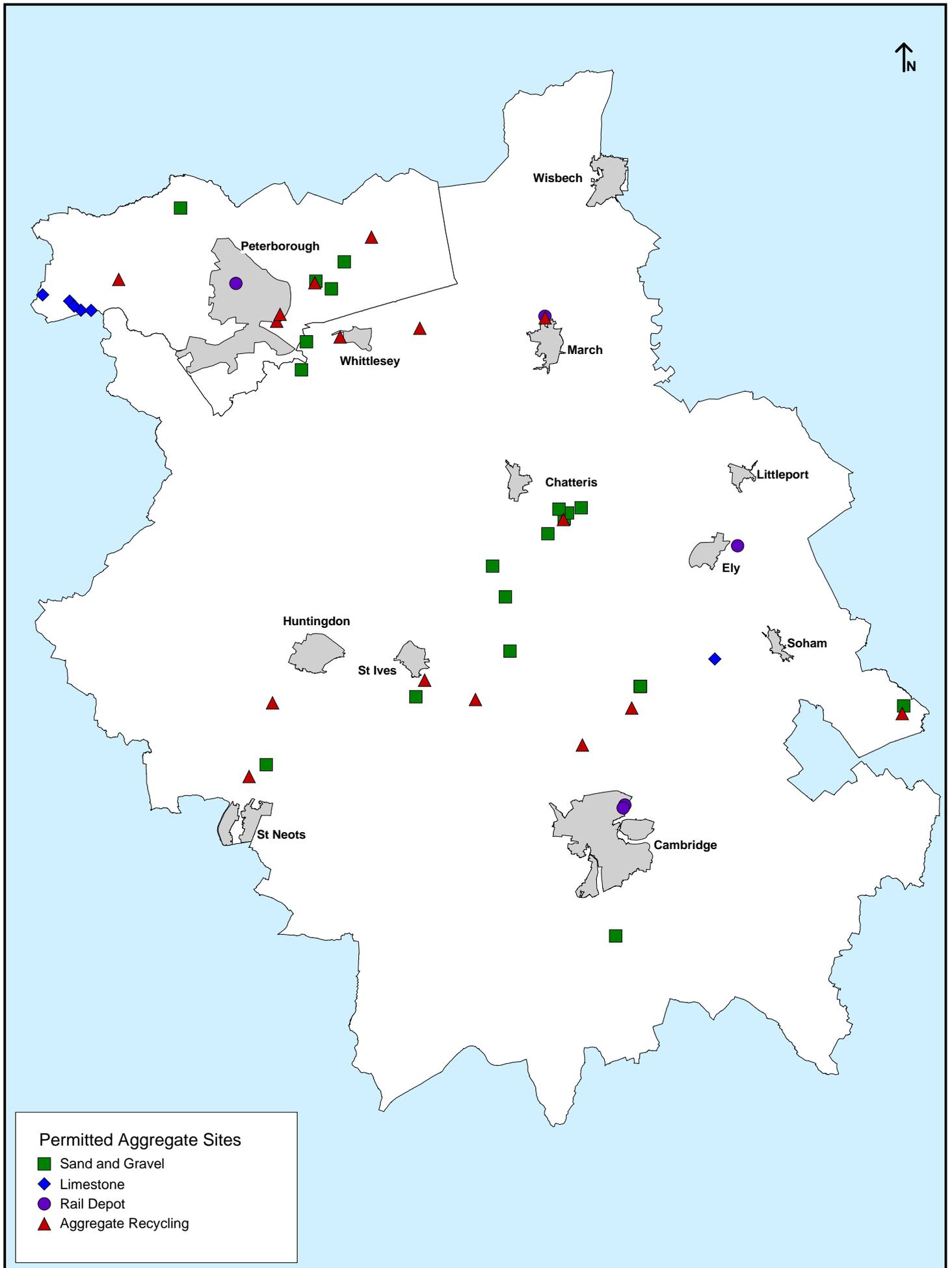


Figure 2:
Cambridgeshire and Peterborough Permitted Aggregate Sites



4. CAMBRIDGESHIRE AND PETERBOROUGH ASSESSMENT OF LOCAL SAND AND GRAVEL SUPPLY AND DEMAND - 2011

Current Supply

4.1 In Cambridgeshire & Peterborough there are currently 22 sand and gravel sites with planning permission of which 16 were active sites in 2011. The sites are listed in Table 2 below and illustrated in Figure 2.

**Table 2:
Permitted sand and gravel extraction sites in Cambridgeshire & Peterborough, 2011**

Site	Operator	Status
Northern Zone		
Briggs Farm Agric Reservoir, Peterborough	P J Thory	Active
Eyebury Quarry (Tanholt Farm), Peterborough	CEMEX UK Materials Ltd	Active
Elton Estate, Cambs	RJD Ltd	Active
Maxey Quarry, Peterborough	Tarmac Limited - Anglia and South East	Active
Must Farm Quarry, Cambs part only	Hanson Aggregates	Active
Must Farm, Peterborough Part only	Hanson Aggregates	Active
Pode Hole Quarry, Peterborough	Aggregate Industries UK Limited	Active
Bainton Pits, Peterborough	Lafarge Aggregates Ltd	Dormant, RoMP*
Earith / Mepal Zone		
Block Fen Quarry II, Cambs	Lafarge Aggregates Ltd	Active
Knobs Farm, Somersham, Cambs	Lafarge Aggregates Ltd	Active
Mepal Quarry, Cambs	Aggregate Industries UK Limited	Active
Mepal (Sutton Gault), Cambs	Frimstone	Active
Block Fen Quarry, Cambs	Hanson Aggregates	Inactive
Central and Southern Zone		
Dernford Farm, Cambs	Aggregate Industries UK Limited	Active
Float Fish Farm, Cambs	Mick George Ltd	Active
Kennett, Cambs	Mick George Ltd	Active
Needingworth Quarry, Cambs	Hanson UK	Active
Witcham Meadlands Quarry, Cambs	Aggregate Industries	Active
Cottenham / Landbeach, Cambs	Frimstone	Inactive
Little Paxton, Cambs	Aggregate Industries UK Ltd	Inactive
Marsh Lane, Cambs	Lafarge Aggregates Ltd	Inactive
Wimblington Quarry, Cambs	Hanson UK	Inactive

*RoMP – Subject to Review of Minerals Permission – site not worked for many years and can only commence extraction operations following a review of the old permission. ROMP Reserves are not included in landbank calculations.

4.2 Estimated permitted reserves of sand and gravel in Cambridgeshire and Peterborough total approximately 45.2 million tonnes.

4.3 This stock of reserves with planning permission is known as the landbank. Government policy requires landbanks to be maintained for all primary aggregate minerals, with a recommended landbank period for sand and gravel to be at least 7 years.

4.4 The supply duration or 'length' of the sand and gravel landbank relates to the planned rate of supply or debit which is referred to as the 'annual apportionment'. The recently adopted Cambridgeshire & Peterborough Minerals and Waste Core Strategy makes provision for an annual apportionment of 3.0mt. The current length of landbank can therefore be calculated as follows:-

Landbank of permissions =	45.2mt
Annual Apportionment =	3.0mt
Landbank period =	15.1 years

4.5 The scale and location of permitted reserves, together with the associated site production capacities across Cambridgeshire and Peterborough is sufficient to ensure the future provision of sand and gravel supply at levels above the minimum requirement, for each of the three production zones within the Plan area.

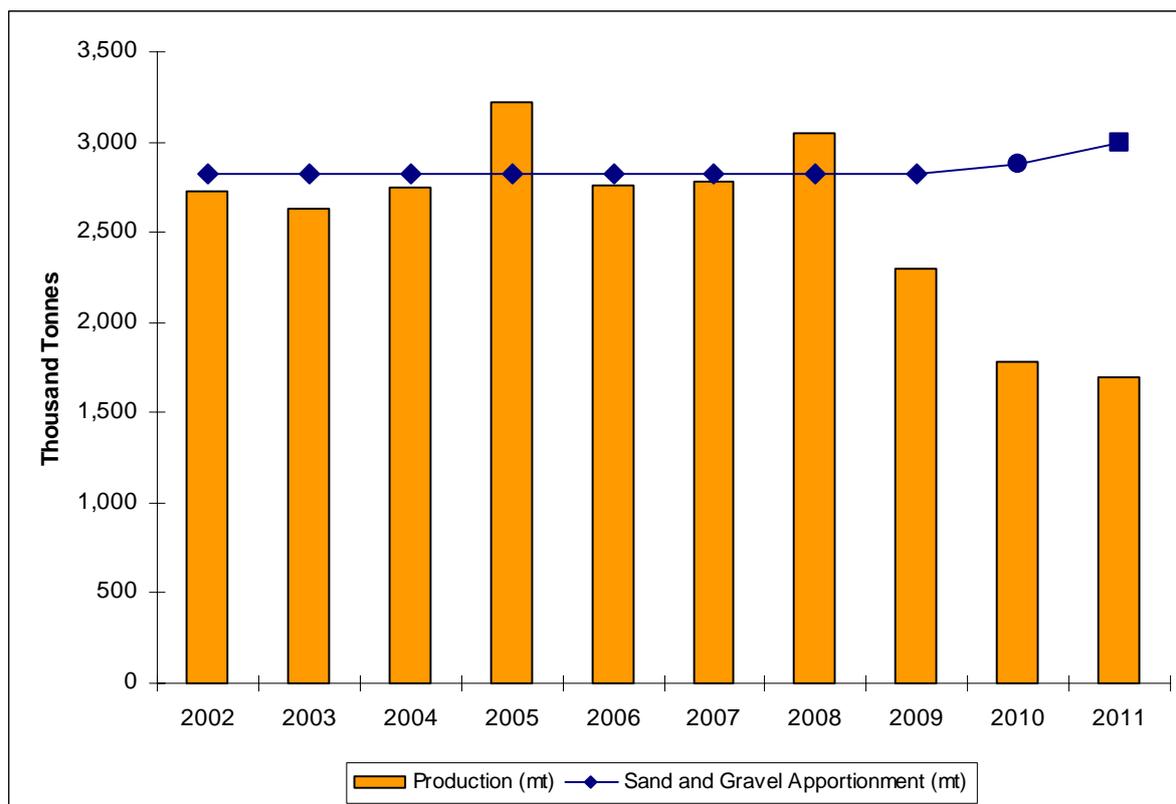
Future Provision of Sand and Gravel

4.6 To determine the future supply of sand and gravel, the previous 10 years sales need to be taken into account, together with published National and Sub National Guidelines, as well as any other relevant information. A ten year rolling average of sales is considered in the NPPF to be a valid approach for locally assessing an apportionment figure for two main reasons. Firstly, the time period is short enough so that overly historic sales are not taken into account (historic sales are more likely to be higher than more recent sales owing to improvements in construction technologies and a stronger focus on re-using recycled and secondary material). Secondly the period is also considered long enough to ensure that short-term fluctuations in sales do not mask a true evaluation of what is considered to be a suitable amount of mineral to provide.

4.7 This assessment takes the above factors into account along with the 10 years sales data provided below.

4.8 Sales of sand and gravel (which includes soft sand) for the ten year period between 2002 and 2011 are shown in Figure 3. Figures presented are for calendar years.

Figure 3:
Sales of sand and gravel in Cambridgeshire & Peterborough 2002 – 2011 in comparison with annual apportionment levels.



Annual Req.1: 2.82mtpa Based on revised national and regional guidelines for Agg Prov 2001-2016 published in 2003 and reflected in EoEPlan (May2008) (◆ markers)

Annual Req.2: 2.88mtpa Based on revised national and regional guidelines for Agg Prov 2005-2020 published in June 2009, and reflected in Draft EoEPlan 2031 (Feb2010) (● marker)

Annual Req.3: 3.0mtpa Based on C&PMWCS DPD July 2011 (■ marker)

4.9 Sand and gravel sales peaked in 2005 (3.2 million tonnes) and 2008 (3.1mt), at levels above the annual 2.82mtpa sub-regional apportionment requirement set in the East of England Plan (May 2008) in place at the time. However, it can be seen that throughout most of the period 2002-2011, that annual sales have been below but close to the 2.82mtpa apportionment level in place at the time, until 2009 when the impact of the current economic recession can clearly be seen.

4.10 To facilitate a steady supply of minerals across the Plan area, the Cambridgeshire and Peterborough Core Strategy took into account the need to maintain appropriate levels of production capacity in conjunction with a sufficient supply of permitted reserves. This is reflected in two ways – i) a sand and gravel apportionment of 3.0 mtpa which is marginally above the sub-regional apportionment level (see para 4.12) and ii) the sub-division of the Plan area into three zones – Northern, Central/Southern and Earith/Mepal, the coverage of these zones is illustrated in Figure 1.

4.11 The annual apportionment for the Plan area has accordingly been divided between the three zones based on growth areas (Peterborough and Cambridge) and the location of strategic mineral resources (Earith/Mepal). The sales for each zone in 2011 are detailed in Table 3 below:

Table 3: Sand and Gravel sales by zone in 2011 in comparison with annual apportionment levels.

Zone	Sales (mtpa)	Apportionment (mtpa)
Northern Zone	0.426	0.75
Earith / Mepal Zone	0.369	1.4
Central and Southern Zone	0.923	0.85
Total	1.7	3.0

4.12 The figures above provided a more detailed understanding of mineral production across the MPA's during 2011. The figures illustrate that while the overall sales total was below the apportionment level, production in the Central and Southern Zone exceeded its apportionment level.

4.13 The sales figures are purely reflective of product demand. There have been no insuperable environmental / planning constraints on production capacity to report for any of the three production zones during the reporting period.

Annual Apportionments

4.14 The current sand and gravel apportionment as set out in the Cambridgeshire & Peterborough Minerals and Waste **Core Strategy** is **3.0 million tonnes per annum (mtpa)**. This has been set so as to include a margin for flexibility above the apportionment level of 2.8mtpa as it is known, for example, that major infrastructure improvements may be required throughout the period to 2026, including improvements to the A14 in Cambridgeshire.

4.15 In June 2009 revised national and sub-national guidelines for aggregates apportionment were issued by the Department for Communities and Local Government (DCLG) to replace those published in 2003. In December 2009 the East of England Regional Aggregates Working Party (EMRAWP) agreed on a new sub-regional apportionment for Cambridgeshire & Peterborough, based on the DCLG guidelines. The new annual apportionment for sand and gravel was **marginally increased** from 2.82mt to **2.88mt**.

4.16 This figure was to have been taken forward through the Regional Plan process, and was reflected in the Draft East of England Plan 2031 (published Feb 2010). However, the Government has abolished regional planning bodies and is in the process of revoking all regional strategies. Figure 3 illustrates the small differences between the historic and existing regional apportionment figures.

4.17 The publication of the NPPF guidelines introduces an alternative way of planning to ensure future need is met, based on the calculated rolling average of 10 years sales data becoming the 'annual requirement' on which to roll forward plans. This new method calculates an annual apportionment of **2.58mtpa**.

Landbanks

4.18 Estimated sand and gravel reserves in Cambridgeshire and Peterborough (as of 31 December 2011) are 45.2mt. This figure is based on reserve information provided by site operators in response to the 2011 Annual Minerals Survey (where a nil return was made, a calculation of reserves was made using previous years information/planning application information). Table 4 sets out calculations for the sand and gravel landbanks based on the different apportionment rates for Cambridgeshire & Peterborough, using the 2011 permitted reserves total.

Table 4: Sand and gravel landbank calculations for Cambridgeshire & Peterborough, 2011

Cambridgeshire and Peterborough	
Sand and gravel sales 2011 estimate (mt)	1.70
Permitted reserves 31/12/2011 (mt)	45.25
Measure 1	
EoEAWP sub-regional apportionment (mtpa)	2.88
Landbank based on EoEAWP sub-regional apportionment (Years)	15.7yrs
Measure 2	
Cambridgeshire & Peterborough Core Strategy Provision (mtpa)	3.0
Landbank based on Core Strategy Provision (Years)	15.1yrs
Measure 3	
Rolling average of 10 Years Sales (2002-2011)	2.58
Landbank based on rolling 10 years sales average (Years)	17.5yrs

5. CAMBRIDGESHIRE AND PETERBOROUGH ASSESSMENT OF LOCAL LIMESTONE SUPPLY AND DEMAND -

Current Supply

5.1 In Cambridgeshire & Peterborough there are currently six limestone sites with planning permission. The details of these are presented in Table 5 below and illustrated in Figure 2 above.

Table 5: Permitted crushed rock quarries in Cambridgeshire & Peterborough, 2011

Site	Operator	Status
Cambridgeshire		
Dimmocks Cote Quarry, Cambs	Francis Flower Ltd	Active
Peterborough		
Cross Leys Quarry, Peterborough	Mick George Ltd	Active
Thornhaugh II Quarry, Peterborough	Aggregate Industries UK Ltd / Mick George Ltd	Active
Thornhaugh I, Peterborough	Augean PLC	Active
Cook's Hole, Peterborough	Augean PLC	Inactive
Thornhaugh IIB Quarry, Peterborough	Bullimore	Inactive

5.2 In order to be able to release figures for limestone and not prejudice commercial confidentiality the Dimmocks Cote Quarry in Cambridgeshire has been included in this section, although in practice it produces a small amount of limestone for agricultural/asphalt use.

5.3 Estimated permitted reserves of limestone in Cambridgeshire and Peterborough total approximately 4.25 million tonnes.

5.4 This stock of reserves with planning permission is known as the landbank. Government policy requires landbanks to be maintained for all primary aggregate minerals, with a recommended landbank period for limestone (crushed rock) to be at least 10 years.

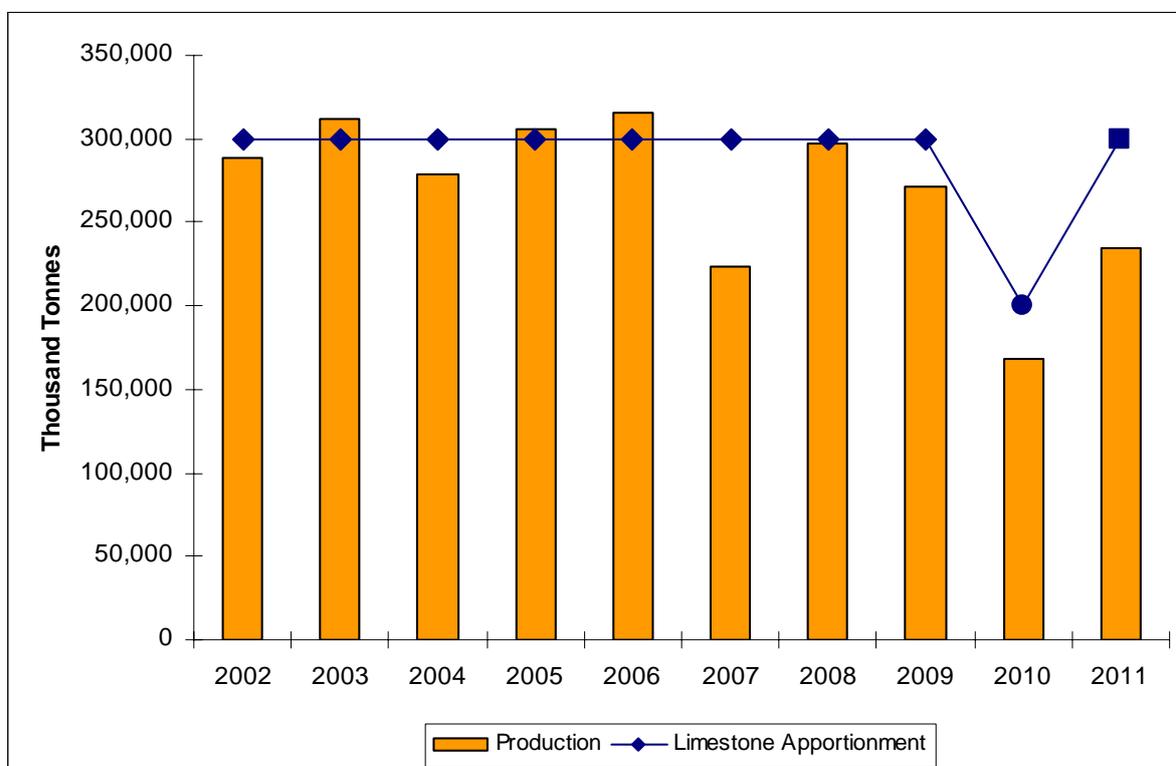
5.5 The supply duration or 'length' of the limestone landbank relates to the planned rate of supply or debit which is referred to as the 'annual apportionment'. The recently adopted Cambridgeshire & Peterborough Minerals and Waste Core Strategy makes provision for an annual apportionment of 0.3mt. The current length of landbank can therefore be calculated as follows:-

Landbank of permissions =	4.25mt
Annual Apportionment =	0.3mt
Landbank period =	14.2 years

Future Provision of Limestone

5.6 Sales of limestone for the ten year period between 2002 and 2011 are shown in Figure 4. Figures presented are for calendar years.

Figure 4:
Sales of limestone in Cambridgeshire & Peterborough 2002 – 2011 and comparison with annual apportionment levels.



Annual Req.1: 0.3mtpa Based on revised national and regional guidelines for Agg Prov 2001-2016 published in 2003 and reflected in EoEPlan (May2008) (◆ markers)

Annual Req.2: 0.2mtpa Based on revised national and regional guidelines for Agg Prov 2005-2020 published in June 2009, and reflected in Draft EoEPlan 2031 (Feb2010) (● marker)

Annual Req.3: 0.3mtpa Based on C&PMWCS DPD July 2011 (■ marker)

5.7 Throughout the period 2002 – 2009 the sales of limestone have remained relatively stable averaging almost 300,000 tonnes per annum; close to the 0.3mtpa apportionment level in place at the time. Only in 2007 did sales dip below 250,000 tonnes per annum. However, since 2008 the trend has been sharply downwards with only around 175,000 tonnes being sold in 2010. The level increased to almost 250,000 tpa in 2011.

5.8 Figure 4 provides a comparison of Cambridgeshire & Peterborough's total limestone sales over the period 2002 to 2011 set against the apportionment during this period. The Cambridgeshire and Peterborough Minerals and Waste Core Strategy policy CS6 seeks to maintain a limestone landbank of at least 10 years, to meet the requirement to supply 300,000 tonnes of limestone per annum.

Annual Apportionments

5.9 The current limestone apportionment as set out in the Cambridgeshire & Peterborough Minerals and Waste **Core Strategy** is **0.3 million tonnes per annum (mtpa)**.

5.10 In June 2009 revised national and sub-national guidelines for aggregates apportionment were issued by the Department for Communities and Local Government (DCLG) to replace those published in 2003. In December 2009 the East of England Regional Aggregates Working Party (EoERAWP) agreed on a new sub-regional apportionment for

Cambridgeshire & Peterborough, based on the DCLG guidelines. The new annual apportionment for crushed rock was **reduced** from 0.3mt to **0.2mt**.

5.11 This figure was to have been taken forward through the Regional Plan process, and was reflected in the Draft East of England Plan 2031 (published Feb 2010). However, the Government has abolished regional planning bodies and is in the process of revoking all regional strategies. Figure 4 illustrates the differences between the historic and existing regional apportionment figures.

5.12 The publication of the new NPPF guidelines introduces an alternative way of planning to ensure future need is met, based on the calculated rolling average of 10 years sales data becoming the 'annual requirement' on which to roll forward plans. This new method results in an annual limestone apportionment of **0.27mtpa**.

Landbanks

5.13 Estimated limestone reserves in Cambridgeshire and Peterborough (as of 31 December 2011) are 4.25mt. This figure is based on reserve information provided by site operators in response to the 2011 Annual Minerals Survey (where a nil return was made a calculation of reserves was made using previous years information/planning application information). Table 6 sets out different calculations for the Limestone landbank based on the different apportionment rates for Cambridgeshire & Peterborough, using the 2011 permitted reserves total.

Table 6:
Landbanks for crushed rock (limestone) in Cambridgeshire & Peterborough in 2011

Cambridgeshire and Peterborough	
Limestone sales 2011 estimate (mt)	0.20
Permitted reserves 31/12/2011 (mt)	4.25
Measure 1	
Most recent EoEAWP sub-regional apportionment (mtpa)	0.2
Landbank based on EoEAWP sub-regional apportionment (Years)	21.25yrs
Measure 2	
Cambridgeshire & Peterborough Core Strategy Provision (mtpa)	0.3
Landbank based on Core Strategy Provision (Years)	14.2yrs
Measure 3	
Rolling average of 10 Years Sales (2002-2011) (mtpa)	0.27
Landbank based on rolling 10 years sales average (Years)	15.7yrs

Crushed Rock Imports

5.14 Cambridgeshire and Peterborough are dependent on imports of crushed rock to meet demand that cannot be met locally. Crushed rock is imported into the region via rail heads in Peterborough, Cambridge, Ely and March from quarries in the East Midlands. Supplies are then distributed by road.

5.15 Quarries exporting crushed rock into Cambridgeshire and Peterborough have permitted reserves of at least 20 years, based on current production rates. Operators have advised the MPA's that there are no constraints to the continued supply of crushed rock into the area provided they are still able to access and operate at rail heads; the only other potential constraints would be large scale changes to the rail system or changes in the planning status of quarries, both of which are unlikely to happen.

6. ASSESSMENT OF RECYCLED AND SECONDARY AGGREGATES

6.1 Along with primary aggregates (which are minerals extracted directly from the ground), there are also secondary and recycled aggregates.

6.2 **Recycled aggregates** are those derived mainly from construction and demolition projects. Examples include the re-use of brick and concrete, being reprocessed to be used in new developments, rather than being disposed of in a landfill site.

6.3 **Secondary aggregates** are created as a by-product of a construction or industrial process. Examples include power station ash resulting from combustion (fly ash) which can be turned into bricks and cement. In Cambridgeshire and Peterborough one of the main sources of secondary aggregates is derived from the brick making industry at Fletton which makes use of the by-products of the clay extraction process to complement the manufacture of breeze blocks. The recycling of imperfect bricks from the post kiln process is also used to produce recycled aggregates.

6.4 The benefits for maximising the use of both secondary and recycled aggregate are two-fold. Firstly, the use of these aggregates reduces the need to extract primary material, leading to a reduction in the need for new quarries. Secondly, the re-use of aggregate reduces the amount of waste that needs disposal, thereby reducing the need for landfill sites. Such a reduction in the need for quarry and landfill sites has clear economic, environmental and social benefits.

6.5 Increasingly in Cambridgeshire and Peterborough recycled aggregate is being processed in conjunction with projects involving demolition, redevelopment and construction. This can involve stand-alone permanent facilities on industrial estates, or co-located facilities at waste management sites (landfill or other); or temporary inert recycling facilities located at strategic development areas (eg urban extensions), major demolition sites; or within existing quarries that remain operational until such a time that quarrying or landfilling ceases.

Local Target for Recycled and Secondary Aggregates

6.6 The Cambridgeshire and Peterborough Minerals and Waste Core Strategy takes account of the National and Sub National aggregate apportionment figures for the period 2005-2020, which propose that the East of England region should provide 117 million tonnes of alternative aggregate materials between 2005 and 2020, equating to 31% of the region's total aggregate supply. This guideline has been applied in the Plan area and extended to 2026. If the overall aggregate figures for sand and gravel and crushed rock match or exceed the planned levels, the Core Strategy makes an important assumption that there will need to be an increase in the target level for the recycling of construction waste from 50%, to 70% by the end of the planned period (2026).

6.7 There is no direct apportionment for recycled/secondary aggregates at regional level, although the East of England as a whole is expected to contribute to the 117mt figure. However, this expectation has meant that the apportionment figures for primary landwon aggregates have been set at a lower level than they otherwise would have been.

Current Supply

6.8 In Cambridgeshire & Peterborough in 2011, there were sixteen known permanent or long-term temporary sites with planning permission for inert recycling activity. The sites are listed in Table 7 below and illustrated in Figure 2 above.

Table 7: Sites with Recycled and Secondary Aggregate Production Capacity in Cambridgeshire & Peterborough, 2011

Sites with Recycled Aggregate Production Capacity in Cambridgeshire and Peterborough at 2011	Status	Operator
Buckden Waste Recycling and Composting Facility, Cambridgeshire	Active	Acorn Plant Hire Ltd
Dane Hill Road, Cambridgeshire	Active	D Haird and Co
Eaton Tractors, Little Paxton, Cambridgeshire	Active	Eaton Tractors
Eldernell Lane, Coates, Cambridgeshire	Active	PJ Thory
Eyebury Quarry, Peterborough	Active	Biffa Waste Services Ltd
Fengate, Peterborough	Active	Apex Plant Hire
Histon Road, Cottenham, Cambridgeshire	Active	Cottenham Skips
Meadow Lane, St Ives Cambridgeshire	Active	Mick George Ltd
Middle Watch, Swavesey, Cambridgeshire	Active	Dawson Plant Hire
Must Farm Quarry, Whittlesey, Cambridgeshire	Active	Hanson
Padholme Lane East, Peterborough	Active	Rose & Sons Ltd
Soil Washing Plant, Block Fen, Cambridgeshire	Active	Mick George Ltd
Southorpe Quarry, Peterborough	Active	Mick George Ltd
Station Road, Thorney, Peterborough	Active	The Concrete Company Ltd
Waste Management Park, Waterbeach, Cambridgeshire	Active	AmeyCespa Ltd
Whitemoor Rail Yard, March	Active	Network Rail Ltd

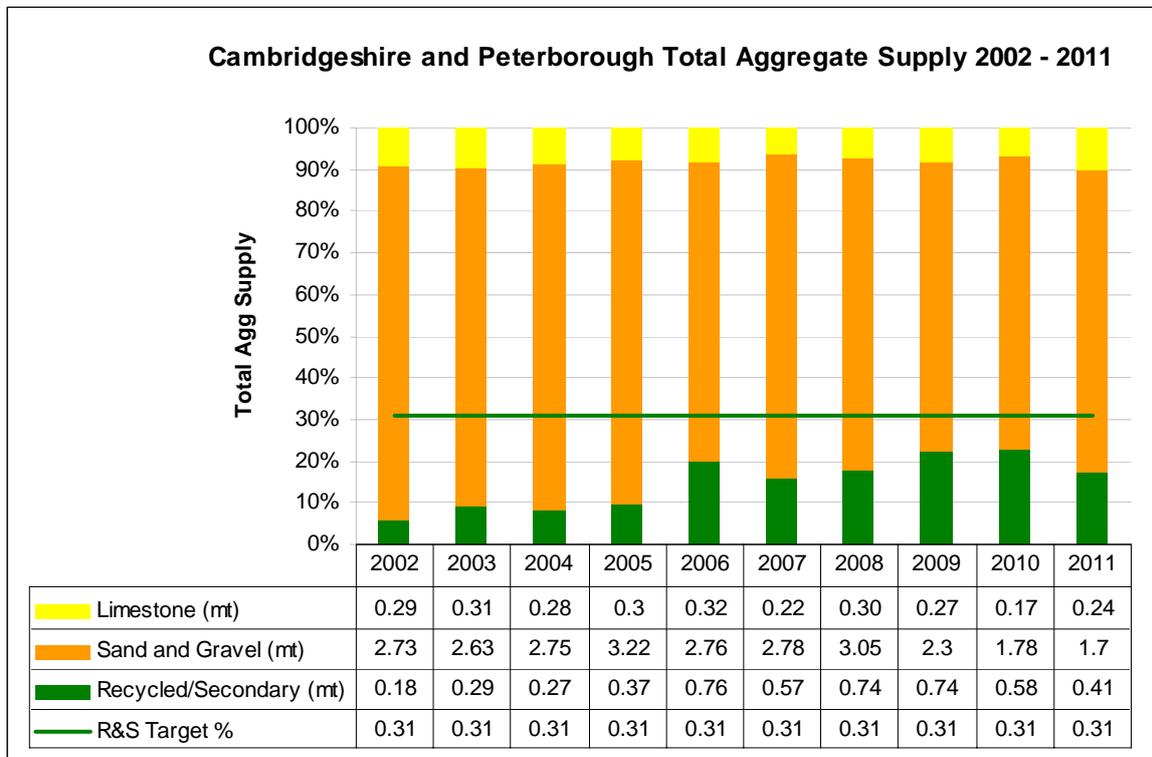
6.9 Information on sales of secondary and recycled aggregates in Cambridgeshire and Peterborough is difficult to obtain. At best the figures can be described as indicative; they are not consistent or reliable. The issues are further compounded by the fact that an important source of material for recycled aggregates has for many years been classified as 'exempt wastes', meaning that they are exempt from the need to report to the Environment Agency (EA), how much is being handled and moved. Nevertheless, the information gathered through the Environment Agency's Waste Interrogator Database and the annual monitoring survey is currently the best available. Recent changes in the EA's exemptions system (April 2010) may in the near future be reflected in more accurate data.

6.10 In 2011, the survey return from owners and operators of recycled and secondary aggregate production capacity in Cambridgeshire and Peterborough has been particularly poor (less than 25%).

6.11 It is acknowledged that a proportion of recycled aggregate is provided through mobile plant on redevelopment sites which is difficult to capture information about. In practice, the Cambridgeshire and Peterborough information only represents facilities that have been permitted by the two authorities as Minerals and Waste Planning Authorities. Use of Mobile Plant (often regulated in Cambridgeshire by District Councils) is not included in these figures, therefore they represent an underestimate of recycled aggregate production.

6.12 Figure 5 below provides an indication that the recorded level of recycled and secondary aggregate production in Cambridgeshire and Peterborough has remained consistently below the 31% target level.

**Figure 5:
Recycled and Secondary Aggregates Supply as a Proportion of Total Aggregate Supply**



6.13 It is clear that further effort is needed to understand and quantify recycled and secondary aggregate production, consumption and uses within Cambridgeshire and Peterborough.

6.14 In a bid to partially address this data issue, the MPAs have jointly contributed to the recent East of England Waste Technical Advisory Body commissioned study 'Study into Exempt Waste Sites' by Sacks Consulting, March 2012. However, the conclusion of the study only served to confirm the difficulties expressed above.

7. CONCLUSIONS

7.1 From the evidence set out in this assessment the Cambridgeshire and Peterborough Minerals Planning Authorities jointly conclude that the provisions set out in the recently adopted Minerals and Waste Core Strategy DPD (July 2011) and the Minerals and Waste Site Specific proposals DPD (February 2012) make satisfactory provision for the steady and adequate supply of aggregates to meet the needs of the construction industry.

7.2 The National Planning Policy Framework decentralised the responsibility for providing a steady and adequate supply of aggregates to Mineral Planning Authorities. To ensure supply meets strategic requirements each MPA is required to participate in an Aggregate Working Party; Cambridgeshire and Peterborough are members of the East of England Aggregate Working Park (EoEAWP). As members Cambridgeshire and Peterborough will submit a draft copy of the Local Aggregate Assessment to the EoEAWP for comments. This process will help ensure that each MPA is planning for adequate provision to meet local and national demands. As part of the process of ensuring a steady and adequate supply of aggregates the MPA members of the EoEAWP agreed in April 2012 to maintain mineral provision at the level set out in the last mineral apportionment derived through MASS.

Sand and gravel

7.3 The Core Strategy's provision for 3.0mtpa is above the 10 year sales average (2.58mtpa). The MPAs consider the Core Strategy annual apportionment level to remain the most appropriate, as this provides for flexibility in the Plan period including some potential for sand and gravel production to address any shortfall in the production of recycled and secondary aggregates.

7.4 Applying the Core Strategy annual apportionment level, at 2011, the sand and gravel landbank is 15.1 years. This is notably above the 7 year NPPF requirement and will provide sufficient aggregate to the end of the Core Strategy Plan period in 2026, and just beyond. As allocated sites in the Minerals and Waste Site Specific Proposals DPD come forward (currently without permission and therefore not included in the assessment figures) provision will extend well beyond 2026.

Limestone

7.5 The Core Strategy's provision for 0.3mtpa is above the 10 year sales average (0.27mtpa). The MPAs consider the Core Strategy annual apportionment level remains appropriate, as this provides flexibility for crushed rock (limestone) to address any shortfall in the production of recycled and secondary aggregates.

7.6 Applying the Core Strategy annual apportionment level, at 2011, the limestone landbank duration is 14.2 years. This is above the 10 year NPPF requirement and will provide sufficient aggregate until the final year of the Core Strategy plan period in 2026. Unlike for sand and gravel (and other minerals) the Minerals and Waste Site Specific Proposals DPD did not allocate any sites for limestone as it was not possible for the MPAs to satisfy themselves that identified environmental constraints could be satisfactorily overcome.

7.7 In national terms, Cambridgeshire and Peterborough contribute less than 1% of the nation's crushed rock supply. However, at the regional level the supply is significant, as the source of crushed rock is geologically limited to two relatively small geographical locations i.e. north Norfolk and north west of Peterborough. The MPAs jointly recognise that the relatively poor quality of the limestone limits it to low grade specification uses. These factors were considered by the East of England Aggregates Working Party, and also taken into account by DCLG in the publication of the National and Sub National Aggregate Apportionment figures for the period 2005-2020, and are reflected in the reduced annual apportionment for crushed rock from 0.3mtpa to 0.2mtpa.

7.8 The Core Strategy sets out a criteria based policy for the provision of future limestone sites, which will be applied in conjunction with this and future local aggregates assessments and the NPPF when determining future planning applications.

Recycled and Secondary Aggregates

7.9 There is an apparent shortfall of recycled and secondary aggregates supply when compared with the Plan target level of 31% of all aggregates supply. It is recognised that the apparent shortfall may be owing to poor or limited data availability. The MPAs have jointly agreed to work towards improving this situation. The implications for total aggregate supply are not considered to be of sufficient concern to warrant more than a 'watching brief' at this time.

Future review of the Minerals and Waste

7.10 The current Cambridgeshire and Peterborough Minerals and Waste Core Strategy covers the period up to 2026. The Local Aggregates Assessment, Annual Monitoring Report and East of England Aggregate Working Party Annual Survey will assess how successfully the Core Strategy is meeting its objectives. The annual LAA will draw attention to any increase or decrease in aggregate demand. Taken together these documents will highlight, on an annual basis, areas of the Core Strategy that could potentially need to be reviewed.

7.11 Cambridgeshire's five district councils are currently producing new local plans that will set out planned housing and employment growth for Cambridgeshire up to at least 2031. These plans are steadily progressing through the plan making process and will begin to be adopted over the coming 12 months. Dependent upon the type, location and scale of growth planned for in the district local plans it may be appropriate to review the Cambridgeshire and Peterborough Minerals and Waste Core Strategy to take into account the potential impact on aggregate supply of the planned development.

7.12 The current Cambridgeshire and Peterborough Minerals and Waste Core Strategy apportionment level is set at a level to be flexible enough to meet demand should planned large scale infrastructure projects, such as improvements to the A14, come forward. However, given the increased focus on infrastructure projects as a means for encouraging economic growth the number, timeframe, scale and location of projects may change. In due course it may become necessary to review the Core Strategy to take into account changing infrastructure plans and priorities.