Fourth Local Aggregate Assessment for Kent

November 2016

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AA	Appropriate Assessment
AMR	Authority Monitoring Report
AONB	Area of Outstanding Natural Beauty
CD&E	Construction, Demolition and Excavation (waste materials arising from this sector)
C&D (Recycling)	Construction & Demolition (Recycling)
C&I	Commercial and Industrial (waste materials arising from this sector)
CPRE	Campaign to Protect Rural England
DCLG	Department for Communities and Local Government
DEFRA	Department for Environment, Food and Rural Affairs
EA	Environment Agency
EfW	Energy from Waste (this includes direct combustion of waste to produce heat to drive a steam turbine, also this can be associated with gasification and pyrolysis plants that treat waste to produce fuels for heat production so that energy generation via a steam turbine can be achieved)
EIA	Environmental Impact Assessment
ESCC	East Sussex County Council
EU	European Union
HRA	Habitat Regulations Assessment
HWRC	Household Waste Recycling Centre
KCC	Kent County Council
KJMWMS	Kent Joint Municipal Waste Management Strategy
KWP	Kent Waste Partnership
LAA	Local Aggregate Assessment
LEP	Local Enterprise Partnership
LNP	Local Nature Partnership
LNR	Local Nature Reserve
LPA	Local Planning Authority

Abbreviations

MMO	Marine Management Organisation
mt	Million Tonnes
mtpa	Million Tonnes Per Annum (as in Million Tonnes Per Year)
MPA	Minerals Planning Authority
MRF	Material Recycling Facility
MSW	Municipal Solid Waste - see Box 1 in chapter 3.3. for further explanation
MWDF	Minerals and Waste Development Framework
MWDS	Minerals and Waste Development Scheme
MWLP	Minerals and Waste Local Plan
NDA	Nuclear Decommissioning Authority
NPPF	National Planning Policy Framework
NNR	National Nature Reserve
PROW	Public Rights Of Way
RSPB	Royal Society for the Protection of Birds
RSS	Regional Spatial Strategies
SA	Sustainability Appraisal
SEEAWP	South East England Aggregate Working Party
SEWPAG	South East Waste Planning Advisory Group
SPA	Special Protection Area
tpa	Tonnes Per Annum (that is Tonnes Per Year)
UK	United Kingdom
WCA	Waste Collection Authority
WDA	Waste Disposal Authority
WDI	Waste Data Interrogator
WMU	Waste Management Unit (for Kent)
WPA	Waste Planning Authority

WRAP	Waste and Resources Action Programme

Abbreviations

i.0.1 The Kent Authority Monitoring Report (AMR) documents the progress made in preparing the Kent Minerals and Waste Local Plan 2013-30 (Kent MWLP) against the timetable set out in the Kent Minerals and Waste Development Scheme (MWDS) and monitors the data that forms the basis for Kent's emerging mineral and waste planning policies and planning decisions. The Kent MWLP was adopted in July 2016 but this eleventh AMR covers the period prior to this event, between 1st April 2014 until the 31st March 2015. The subsequent AMR (2015/16) will monitor the effectiveness of its policies. This AMR will discuss the following which was pertinent up until the end of the monitoring period in 2015:

- The progress of the Kent Minerals and Waste Local Plans against the latest MWDS timetable;
- The mineral and waste activity data for Kent; and
- The co-operation on plan making activities with other local authorities and prescribed bodies.

Mineral Activity Monitoring

i.0.2 The Aggregate Monitoring aggregate sales data in Kent during 2014 (the data is always a year in arrears) from all primary land-won sources amounted to approximately 1.3mt, with 673,410 tonnes of secondary and recycled aggregates also sold, giving an overall total of 2.0 million tonnes. Compared to the previous AMR this is a decrease of 0.42mt from the 2013 figure of 2.42mt (1.582 mt land-won aggregates and 0.836 mt of secondary and recycled aggregates). This fall is attributed to the fact that land-won aggregate sale have reduced whilst the sale of secondary aggregates has not significantly decreased. This is evidenced in the land-won sands and gravels as in 2013 sales were approximately 0.859 mt but in 2014 they fell to 0.564 mt, a drop of 34%. The sales of land-won crushed rock slightly increased from 0.723mt in 2013 to 0.767mt in 2014 (a rise of 5.7%).

i.0.3 It is clear that land-won sand and gravels to meet aggregate demand showed significant contraction. Importation of aggregates (marine dredged sands and gravels and land-won materials from elsewhere) showed an increase from the tonnages recorded in 2013. With 3.05mt being imported in 2014 as opposed to 2.66mt in 2013. Significant additional Kentish Ragstone (crushed rock) reserves were permitted during the previous monitoring period through an extension to an existing site. This more than secures the ability of Kent to maintain a 10 year landbank of reserves at any one time over the life of the Kent MWLP 2013-30.

i.0.4 The NPPF (section 145, page 34) is clear that if there are defined markets for different types of land-won aggregates separate landbanks will need to be maintained. The sharp sands and gravels have limited remaining reserves and the required maintained landbank of 7 years (5.67 mt at any one time) is not currently being achieved. The current permitted reserves amount to less than 2.64mt, sufficient for only some 4.90 years at a rate of extraction of 0.70mtpa (the 10 years average

sales figure).The soft or building sands of the Folkestone Formation is a distinctly different aggregate mineral and thus requires to be separately planned for. The building sands landbank situation is less acute. Permitted reserves form a landbank of 8.04mt, to maintain a 7 year landbank 4.21mt of reserves is required. Therefore the current reserves meet the NPPF landbank requirement.

i.0.5 Kent has an array of non aggregate minerals. There are four permitted reserves of clay and brickearth with remaining reserves in Kent. These have a combined landbank of over 25 years, meeting national policy requirements. One of the three Kent silica sand sites does not currently meet the requirement of maintaining a 10 year landbank of reserves per existing sites, although a late representation to the Kent MWLP 2013-30 Examination states that most of the 4mt reserves at the Aylesford site is now unviable.

i.0.6 The indicative Kent landbank of chalk is estimated to be around 39 years according to 2014 sales rates, or 22 years at the four year average sales rates. It should be noted that one site is currently due to cease extraction by 31 December 2016.

Waste Activity Monitoring

i.0.7 There has been again minor increase in the arisings of Municipal Solid Waste (MSW) (2.30%) (now Local Authority Collected Waste (LACW)) for the second consecutive monitoring period, in contrast to the downward trend seen from 2009/10 to 2012-3. The dominant methods of management for MSW continued to be recycling (28.9%), composting (18.6%) and energy recovery (40.7%). Diversion of MSW from disposal to landfill continued to increase, reaching its highest level to date at 89% (82.5% in 2013-14) of all MSW being elevated to higher parts of the defined Waste Hierarchy. In 2013, the County Council had already met the updated targets of the Kent Joint Municipal Waste Management Strategy (KJMWMS) for recycling/composting rates of at least 45% and is making very good progress towards the future 2015/16 LACW landfill diversion target of 90%, given that for 2014/15 the diversion rate was 48.4%.

i.0.8 There is no regular data available on the annual arisings of Construction, Demolition and Excavation (CD&E) or Commercial & Industrial (C&I) materials. For purposes of the preparation of the Kent MWLP it is assumed that no growth occurs in CD&E waste arisings. This is in line with past forecasting and national guidance, and more reliable data will not be available until the national survey of 2005 is revised. The most recent national survey of C&I waste arisings was conducted in 2009 for DEFRA. Estimates of C&I waste arisings will be produced on an annual basis in the future to support the monitoring requirements of the Plan.

i.0.9 The waste import and export levels in Kent were notably affected by the Crossrail Tunnel Project in London. Over a million tonnes of London waste arising from the tunnelling operations were imported to a temporary transfer station in Northfleet, with significant amounts of this material recorded as being exported for recovery at a site in Essex in 2013-14. This operation ceased in late 2014 and thus

1.2 million tonnes of inert waste transfer capacity has only *apparently* been lost given the temporary time frame of the activity and did not reflect Kent's permanent waste transfer permitted capacity. Movements of waste continued between Kent and London (reduced), the south-east (reduced) and the east of England (significantly increased), with increased proportions travelling further afield to other Waste Planning Authorities (WPAs) in England and Wales. Overall, Kent is still a net importer of waste but it is progressing towards a balanced position. In terms of Kent's LACW, only 11.7% of Kent's MSW arisings were managed outside of the county in 2014/15. All of Kent's energy recovery is managed in Kent and high proportions of green waste and landfill waste are managed within the county, 99.8% and 73.9% respectively. The LACW tonnages diverted from landfill in Kent in 2014/15 are also the highest to date at 89.02% (634,580 tonnes). Diversion from landfill rates have steadily increased and have nearly tripled since 2005/06.

i.0.10 Capacity for waste management within the County increased during the monitoring period with an additional 9 planning permissions for waste management development. Permitted non landfill capacity decreased by 14% (2.1 million tonnes), providing some 12.9mt active waste management (non landfill) capacity within the county in 2014/15. Notably, there were modest increases in capacity towards the top of the waste management hierarchy in composting/anaerobic digestion and MSW and C&I recycling, plus a significant decrease in waste transfer capacity due to the cessation of the Crossrail project wastes, though this was artificially high and did not reflect Kent's long term permitted transfer capacity. There were marginal increases in the capacity of CD&E Recycling/Aggregate Recycling and a modest (10%) increase in Incineration/Energy Recovery capacity. These are not considered significant enough to affect Kent's ability to manage waste arisings and imports.

i.0.11 The landfill capacity in Kent has seen a significant decrease with the closure of sites such that capacity is now at 9.5 million cubic metres, a drop of 41% from 16.3 million cubic metres in 2013-14. The majority of site closures are inert landfill, this is somewhat offset by the increase in C,D&E waste treatment capacity observed in 2014-15 and may relate more to waste soil fraction of this waste stream than recoverable materials.

Kent Minerals and Waste Local Plans Progress

i.0.12 Following the public hearings on the Kent MWLP in April and May 2015, KCC has undertaken further work on the Plan, including two stages of modification. The first modification consultation on the Kent MWLP (Proposed Modifications) 2013-30 ran for an 8 week period from August to October 2015. The second set of proposed modifications consultation commenced in January 2016 and ended in early March 2016. The representations received were relayed to the Inspector for his consideration. The Inspector's report was received in April 2016 (outside this AMR monitoring period) recommending adoption of the Plan, as modified, by the County Council. The recommendation for the Plan's adoption was reported to the Full Council of the County Council on the 14th July 2016. Formal adoption occurred after the 6 week period allowing for legal challenge. This period elapsed without any such challenge. This has allowed work on the Waste and Minerals Sites Plans to

recommence. This will require an additional 'Call for Sites' to refresh this work that was initially undertaken in 2012. This change has been included in the revised Minerals and Waste Development Scheme.

i.0.13 The County Council has continued to comply with the requirements under the Localism Act's Duty to Co-operate (DtC) by actively engaging and working with key stakeholders in the development of the Kent MWLP. This has been mainly through the formal consultation on the Pre-Submission (January 2014), Submission (July 2014) and Proposed Modifications drafts of the Plan. Further details are set out in the Council's MWLP Duty to Cooperate report [(1)].

i.0.14 Engagement with other local authorities and key groups on cross boundary minerals and waste issues has continued through participation in working group meetings, including the South East England Aggregate Working Party (SEEAWP), South East Waste Planning Advisory Group (SEWPAG), Nuclear Legacy Advisory Forum (NuLeAF). The South East 7 group has not held any meeting since the AMR of 2013-14. Proactive targeted engagement on specific issues also took place with East Sussex and Essex County Councils. Survey work on cross boundary movements of minerals and waste was finalised, concluding that there was no major supply or capacity issues.

Conclusion

i.0.15 Overall, the monitoring data illustrates the aggregate supply and waste management capacity within the County for 2014/15. Aggregate supply, particularly for landwon sharp sands and gravels remains limited and is increasingly reliant on recycling/secondary sources and marine imports; this trend is anticipated to continue into the future. Waste management capacity for inert landfill has fallen significantly. Overall Kent remains a net waste importer but is slowly moving towards a balanced position. The landfill diversion rate for local authority collected waste (LACW) is now almost 90% of all arisings. The annual monitoring report (AMR) will continue to form the basis for Kent's adopted mineral and waste planning policies in terms of their future monitoring and the need for any subsequent Plan review.

1 http://consult.kent.gov.uk/portal/mwcs/mwlp-eip/eip-library/ see documents KCC/4 and KCC/34

1.1 Introduction

The Kent Minerals and Waste Local Plan

1.1.1 Kent County Council (KCC) is responsible for waste management and minerals planning in the Kent administrative area (i.e. excluding the Medway Council area); the County Council is required to produce a new Minerals and Waste Local Plan to progressively replace the saved policies of the existing Minerals and Waste Local Plans. The new Kent Minerals and Waste Local Plan will consist of three spatial planning documents: the lead strategic document of the Kent MWLP 2013-30, the Kent Minerals Sites Plan and the Kent Waste Sites Plan.

1.1.2 The Kent MWLP 2013-30 was formally submitted to the Secretary of State for Independent Examination on 03 November 2014 and the public hearings on the Independent Examination of the Kent MWLP 2013-30 (the Plan) commenced in April and finished in May 20015. The Inspector came to the view that the Plan was sound subject to modification (main and additional or minor). There were two rounds of modification consultation on the Proposed Modifications to the Plan that ran for an 8-week period from August to October 2015 and January to March 2016. The Inspectors report was received in 26th Aprils 2016 and the county Council formally adopted the Plan in July 2016. The period for challenge by Judicial Review elapsed without and such challenge being lodged in the high Court. The plan is now fully adopted. In accordance with the Direction issued by the Secretary of State in September 2007, the remaining saved planning policies of the former minerals and waste local plans are listed within the appendices of the KMWLP.

The Kent Minerals and Waste Authority Monitoring Report

1.1.3 Monitoring is an important aspect of evidence-based policy making and a statutory requirement of all Local Planning Authorities and Minerals and Waste Planning Authorities. According to the National Planning Policy Framework (NPPF) each LPA should ensure that their Local Plan is based on adequate, up-to-date and relevant evidence about the economic, social and environmental characteristics and prospects of the area.[(2)]

1.1.4 The Kent AMRs document the progress made in preparing Kent's Minerals and Waste Local Plans against the timetable set out in the Kent Minerals and Waste Development Scheme (MWDS) and monitors against the data which forms the basis for Kent's emerging minerals and waste planning policies. Once the new Plans are adopted, the Kent AMR will also monitor the effectiveness of their policies.

1.1.5 This is the eleventh Kent AMR for minerals and waste planning in Kent, covering the period 2014/2015. This period is prior to the adoption of the KMWLP in 2016, and this AMR is limited to reporting, on the best available information, the following matters:

2 National Planning Policy Framework (2012), para. 158

- the progress of the Kent's Minerals and Waste Local Plans against the latest MWDS timetable, up to the end of December 2015;
- the minerals and waste indicator data for Kent for the 2014 calendar year or the 2014/15 financial year (as available); and
- A summary of the co-operation on plan making activities with other local authorities and prescribed bodies, up to the end December 2015.

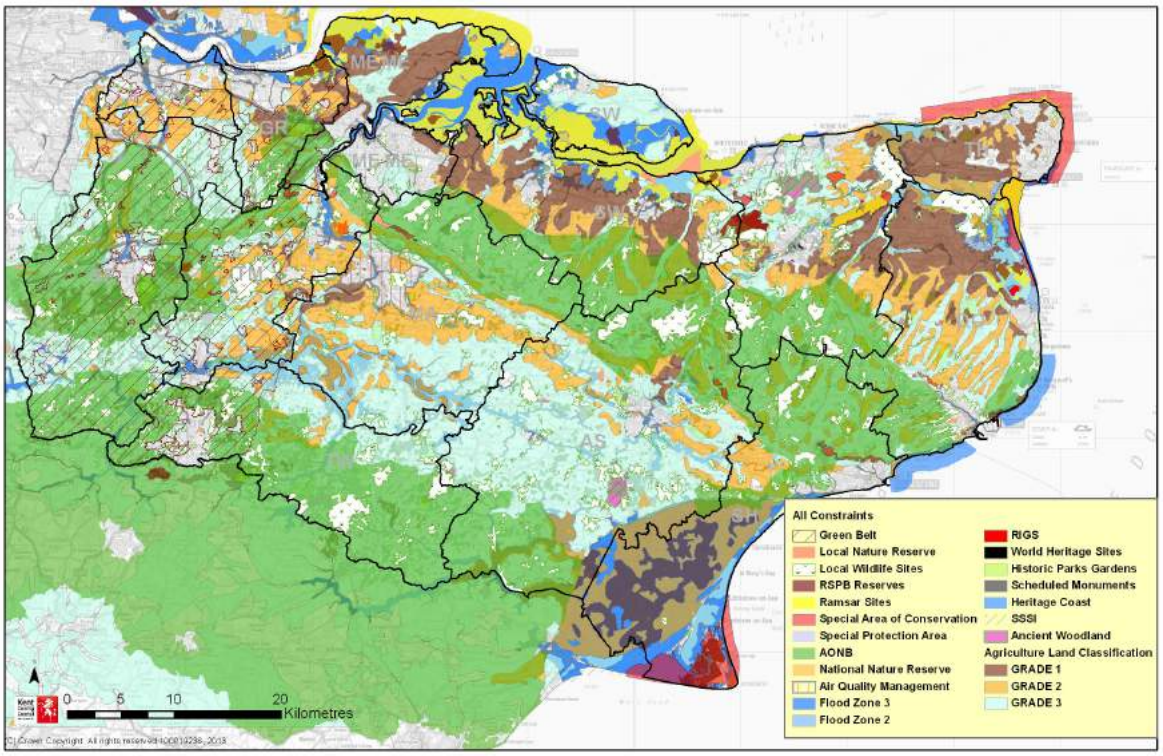
1.1.6 In accordance with Regulation 35 (1.) of The Town and Country Planning (Local Planning) (England) Regulations 2012, all published AMRs are available to view online,[3] and hard copies are available for inspection during normal office hours by appointment with the Minerals and Waste Planning Policy Team, based at Invicta House in Maidstone.

1.2 County Context

1.2.1 The administrative area covered by Kent is estimated to have a population of approximately 1,510,400 people (Office for National Statistics (ONS) estimate for 2014). The County is subject to a number of planning and environmental constraints; 20% is covered by sites that are internationally or nationally important for their nature conservation value and one third of the area is covered by the Kent Downs or High Weald Areas of Outstanding Natural Beauty (AONB). There are significant areas within coastal or fluvial flood plains and land of high (best and most versatile) agricultural quality. Figure 1 shows the planning and environmental constraints within Kent.

3 Available at: http://www.kent.gov.uk/about-the-council/strategies-and-policies/environment-waste-and-planning-policies/planning-policies/minerals-and-waste-local-plan/annual-monitoring-reports.

Figure 1 Planning and Environmental Constraints in Kent



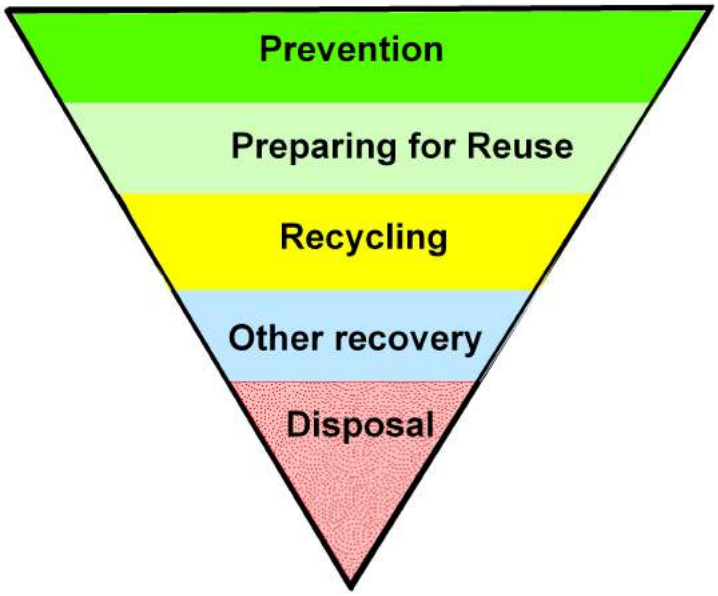
1.2.2 Kent is rich in minerals including chalk, clays, brickearth, ragstone, and a variety of sand and gravels including silica sand. Construction aggregates (sand, gravel and ragstone) are the main types of economic mineral found and extracted in Kent. In addition, significant proportions of the minerals used in Kent are imported via rail and wharf facilities. Minerals imported into Kent also serve the market in London and elsewhere in the south east. A significant proportion of Kent's construction aggregate need is met by the recycling or re-use of wastes, such as that arising from construction and demolition waste. Ensuring that appropriate provision is made for land-won, imported and secondary and recycled minerals is a key objective for the County Council as the Mineral Planning Authority (MPA) to meet Kent's current and future needs.

1.2.3 Large volumes of waste are produced in Kent, of which the majority falls within the Construction, Demolition and Excavation (CD&E) waste stream. Local Authority Collected Waste (LACW), which includes household waste, [(4)] makes up a significantly smaller proportion of the overall waste produced and has seen a decrease in arisings in recent years. Waste requires careful management and treatment in an environmentally sustainable manner, taking into account national policy requirements such as the waste hierarchy (see Figure 2) and the need to maintain net self-sufficiency in managing the county's own waste. Kent already has a wide range of waste management facilities, from non-hazardous and inert landfills to recycling and composting facilities to energy from waste facilities. While a proportion of Kent's waste is currently sent for treatment, reprocessing or disposal

4 Referred to as Municipal Solid Waste (MSW) in this report, see Box 1 in Chapter 3.3.1 for an updated definition of MSW.

outside of the county, the amount of waste imported into Kent is greater, thus net self sufficiency in waste management is not as yet being achieved. Though the ratio of imported and exported wastes is slowly drawing closer to a 1:1 pattern. The target of reaching net self-sufficiency in waste management (and the provision of waste management facilities further up the waste hierarchy) are key objectives for the County Council as the Waste Planning Authority (WPA) for Kent.

Figure 2 Waste Hierarchy



1.3 Existing Development Plan

1.3.1 Saved policies of the following existing Minerals and Waste Local Plans currently apply to Kent until they are replaced by the new Minerals and Waste Local Plans:

- Kent Minerals Subject Plan: Brickearth (adopted May 1986), covering the period to 2001.
- Kent Minerals Local Plan: Construction Aggregates (adopted December 1993), covering the period to 2006.
- Kent Minerals Local Plan: Chalk & Clay/Oil & Gas (adopted December 1997), covering the period to 2011.
- Kent Waste Local Plan (adopted March 1998), covering the period to 2011.

1.3.2 In March 2007 the County Council applied to the Secretary of State for Local Plan policies to be saved beyond the initial three year period set out under the transitional arrangements accompanying implementation of the Planning and Compulsory Purchase Act 2004 (2004 Act). In September 2007 a Direction from the

Secretary of State approved the saving of the majority of these policies. Schedules of the policies now saved are available online.[5] All other policies within the Kent Minerals and Waste Local Plans are no longer operative as of September 2007.

1.3.3 The 2009 Regional Spatial Strategy (RSS) for the south-east (the South East Plan) no longer forms part of the development plan for Kent. The revocation process, as established by the enactment of the Localism Act on 15 November 2011, was formally completed on 25th March 2013.[6] This regional plan was revoked with the exception of Policy NRM6 which concerns new residential development near the Thames Basin Heaths Special Protection Area (SPA), which is not within Kent. However, as the RSS policies and it's evidence base were tested for soundness through an Examination in Public (EIP), it does where relevant still form part of the evidence base for the Kent MWLP.

5 See the relevant links from the following webpage: http://www.kent.gov.uk/environment_and_planning/planning_in_kent/minerals_and_waste/existing_plans.aspx

6 Regional Strategy for the South East (Partial Revocation) Order 2013 (S.I. 2013/427)

2.1 Development Scheme

2.1.1 A LPA's monitoring report must[7] contain the following for each of local plans or supplementary planning documents specified in the local planning authority's local development scheme:

- the timetable for the document's preparation;
- the stage the document has reached in its preparation; and
- the reasons for any delay in document preparation according to the specified timetable.

The Kent Minerals and Waste Development Scheme (MWDS)

2.1.2 The Minerals and Waste Development Scheme (MWDS) is a public statement of the County Council's programme for the production of Minerals and Waste Local Plans and supporting documents. It sets out the stages against which the County Council monitors progress in its AMRs, as well as information on the status of the existing 'saved' policies from the Minerals and Waste Local Plans that remain in force.

2.1.3 A revised Kent MWDS 2010-16 was bought into effect in July 2014.[8] The new Development Scheme altered the timetable of the previous scheme by:

- Moving future programme dates back by approximately 12 months;
- Adding a further 'call for sites' stage to the development of the Minerals and Waste Site Plans;

2.1.4 A further revision of the MWDS has been approved in July 2016.[9] [10]

2.1.5 The MWDS 2010-16 (July 2014) sets out the timetable for the preparation of the three Kent Minerals and Waste Local Plans and a Safeguarding SPD. The programme dates and the progress on plan preparation during the monitoring period are set out in Chapters 2.2 and 2.3.

7 According to Regulation 34 (1) of The Town and Country Planning (Local Planning) (England) Regulations 2012.

8 Available from: http://www.kent.gov.uk/about-the-council/strategies-and-policies/environment-waste-and-planning-policies/planning-policies/minerals-and-waste-local-plan/development-scheme

9 http://www.kent.gov.uk/about-the-council/strategies-and-policies/environment-waste-and-planning-policies/planning-

10 policies/minerals-and-waste-local-plan/development-scheme

2.2 Minerals and Waste Local Plan 2013-30

2.2.1 The Kent Minerals and Waste Local Plan 2013 - 2030 (Kent MWLP) is the lead strategic document which describes the vision, objectives and delivery strategy for a steady and sustainable provision of minerals and waste management capacity in Kent. It includes development management policies against which proposals for minerals and waste developments will be determined and also identifies certain strategic minerals and waste sites essential for the delivery of the strategy, though it will be dependant on the sites to be identified in the dedicated waste and minerals sites plans for full implementation of the strategy.

2.2.2 The dates for the progression of the Plan are set out in Table 1.

Progress on Plan Preparation during Monitoring Period

Public Hearing: April - May 2015

2.2.3 The public hearing on the Examination of the Plan commenced on Tuesday 14 April 2015 and initially ran for a six days over a two-week period. Due to the hearings overrunning, it was necessary for the Inspector to reconvene the hearings on 26 May 2015 for a further three days.

2.2.4 The hearings were attended by some of the parties that had made formal representations on the soundness of the Submission version of the Kent MWLP (published for consultation in July 2014). The Kent MWLP, supporting evidence and the formal representations received were reviewed and discussed with the Inspector and the representors in attendance.

2.2.5 During the course of the Independent Examination, a number of main modifications to the Plan were discussed with the Inspector, cumulating in a further round of consultation detailed in the following paragraphs.

Consultation on the Proposed Modifications

2.2.6 The Council published the Proposed Modifications document for consultation on 17 August 2015. The consultation ran for an eight week period, closing on 12 October 2015. Comments were invited on the proposed main and additional (minor) modifications to the Plan.

2.2.7 Due to the Plan being at an advanced stage, the Council specifically invited comments that related to issues of legal compliance and 'soundness', i.e. whether the Kent MWLP met the four soundness tests by being positively prepared; justified; effective; and consistent with national policy, as set out at paragraph 182 of the National Planning Policy Framework (NPPF). All formal representations received were summarised by the Council and sent to the Inspector for consideration prior to the publication of the Inspector's Report.

2.2.8 The Inspector came to the view that the Kent MWLP required main and additional (or minor) modification in the summer of 2015 to make the Plan sound. The consultation for these modifications ran from the 17th August to 12th October 2015. Furthermore, in December 2015 the Inspector subsequently came to the view that further modification (main and additional) was also required. The County Council placed the second round of modifications into public consultation on the 8th January to run to the 4th March 2016. After this date the County Council summarised all representations received and sent them to the Inspector so that his report could be finalised.

Publication of the Inspector's Report and Adoption of the Kent MWLP

2.2.9 While these events occurred beyond the time frame of this AMR the following can be reported. The publication of the Inspector's Report occurred on the 26th April 2016. The Report recommended Adoption of the Kent MWLP 2013-30 (as modified) to the County Council as a sound plan. The County Council formally adopted the Plan on 14th July 2016, Table 1 below gives a brief overview of the Plan's progress from the Independent Examination stage to date.

Table 1 MWLP 2013-30 Programme

No	Stages	Scheme Dates	Monitoring Review: Dates Achieved/Status
1	Examination in Public	April - May 2015	14 - 23 April 2015 and 26 - 28 May 2015
2	Proposed Modifications Consultation	August - October 2015	17 August 2015 - 12 October 2015
3	Proposed Modifications Consultation	January - March 2016	8 January - 4 March 2016
4	Inspector's Report	April 2016	Recommended adoption of the modified Plan by the County Council
5	Adoption	July 2016	Cabinet resolved to adopt the KMWLP 2014-30

2.3 Kent Minerals and Waste Site Plans

2.3.1 The Kent Mineral Sites Plan will identify mineral sites and locations for mineral extraction, processing and importation including safeguarding provisions that reflect the principles and strategy of the Kent MWLP 2013-30 . This Mineral Sites Plan will identify mineral sites that align with the adopted Plan and will include sites for sand and gravel (including building sand), and secondary and recycled aggregate processing but not specifically for crushed rock, silica sand, brickearth, chalk, clay and secondary and recycled aggregate processing as these latter mineral types either already have extensive permitted landbanks sufficient for the Plan period or are mineral where specific targeted landbank quantities are not required. Any applications that arise for such minerals will be determined on their merits according to national and local planning policy and all other material planning considerations.

2.3.2 Similarly the Kent Waste Sites Plan will identify suitable locations for a range of waste management development based on the strategy and principles set out in the Kent MWLP 2013-30 to manage waste streams.

Progress on Plan Preparation during Monitoring Period

2.3.3 The majority of plan making activity over the monitoring period focused on the progression of the strategic plan, the Kent MWLP 2013-30. On adoption, the Kent MWLP 2013-30 sets out the level of resources/capacity required for the Plan period. It was acknowledged that a Second Call for Sites would be necessary as part of the with this exercise scheduled to progress towards the end of the monitoring period.

2.3.4 The July 2014 Development Scheme recognised that a new 'call for sites' would be needed before the Sites Plans are progressed, given the some time that has elapsed since the initial Call for Sites in 2010 and the subsequent change that has occurred the UK economic climate. The Development Scheme dates for the Sites Plans was revised in 2016.[(11)]

11 http://www.kent.gov.uk/about-the-council/strategies-and-policies/environment-waste-and-planning-policies/planning-policies/minerals-and-waste-local-plan/development-scheme

3.1 Introduction

3.1.1 Prescriptive guidance on LPA monitoring and use of national data indicators, including the requirement to submit AMRs to the Secretary of State, were withdrawn under the Localism Act 2011. It is now down to each LPA to decide what to include in their monitoring reports, whilst ensuring that they are prepared in accordance with the relevant UK and EU legislation. This remains the case at the present time.

3.1.2 KCC still attaches importance to the former national indicators[12] used as the basis for minerals and waste monitoring in previous years, in addition to KCC's own 'local' indicators, and will continue to monitor and report on these sources of information.

3.1.3 The data indicators reported on in this AMR are set out in Table 3.

Future Data Monitoring

3.1.4 Chapter 8 of the Kent MWLP sets out a monitoring and implementation framework of the Plan's policies. The framework identifies what are considered to be the appropriate data indicators to monitor the effectiveness of Plan's policies and to determine whether there is any need to undertake a review of the Plan.

Table 2 Minerals and Waste Annual Monitoring 'Indicators'

Data Indicator	Source	Former National Indicator Number (for information)
Production of Primary Land-won Aggregates	Annual Aggregates Monitoring Survey [1]	Core Output Indicator 5A
Production of Secondary/Recycled Aggregates	Annual Aggregates Monitoring Survey	Core Output Indicator 5B
New Mineral Reserves	KCC Planning Permissions	Local Output Indicator 1
Construction Aggregate Landbank	Annual Aggregates Monitoring Survey	Local Output Indicator 1
Other Mineral Landbanks	Annual Aggregates Monitoring Survey	Local Output Indicator 3
Mineral extraction other than aggregates	Mineral extraction in Great Britain 2013[2]	Not directly applicable

12 DCLG (July 2008) National Indicators for Local Authorities and Local Authority Partnerships

Data Indicator	Source	Former National Indicator Number (for information)
Wharves and Rail Depots Safeguarding	Annual Aggregates Monitoring Survey	Local Output Indicator 4
Sales of Construction Aggregates at Wharves and Rail Depots	Annual Aggregates Monitoring Survey	Local Output Indicator 5
Capacity of New Waste Management Facilities by Type	KCC Planning Permissions/ Environment Agency	Core Output Indicator 6A
Municipal Waste Arisings by Management Type	KCC Waste Management Unit	Core Output Indicator 6B
Waste Growth Rate	KCC Waste Management Unit	Local Output Indicator 6
Exports and Imports of Waste	Environment Agency	Local Output Indicator 7
Capacity for Managing Waste Materials in Kent	Environment Agency/ KCC planning permission and monitoring data	Local Output Indicator 8

1. Co-ordinated and published by South England Regional Aggregates Working Party (SEERAWP), conducted by Kent County Council
2. Published in February 2015 data is for 2013 and thus is not applicable to AMR 2014-15 but is indicative of mineral extraction activity in Kent

3.2 Mineral Indicators

3.2.1 Production of Aggregates

This chapter reports on the aggregate (soft sand, sand & gravel and crushed rock) production (sales) from land-won and secondary/recycled sources.

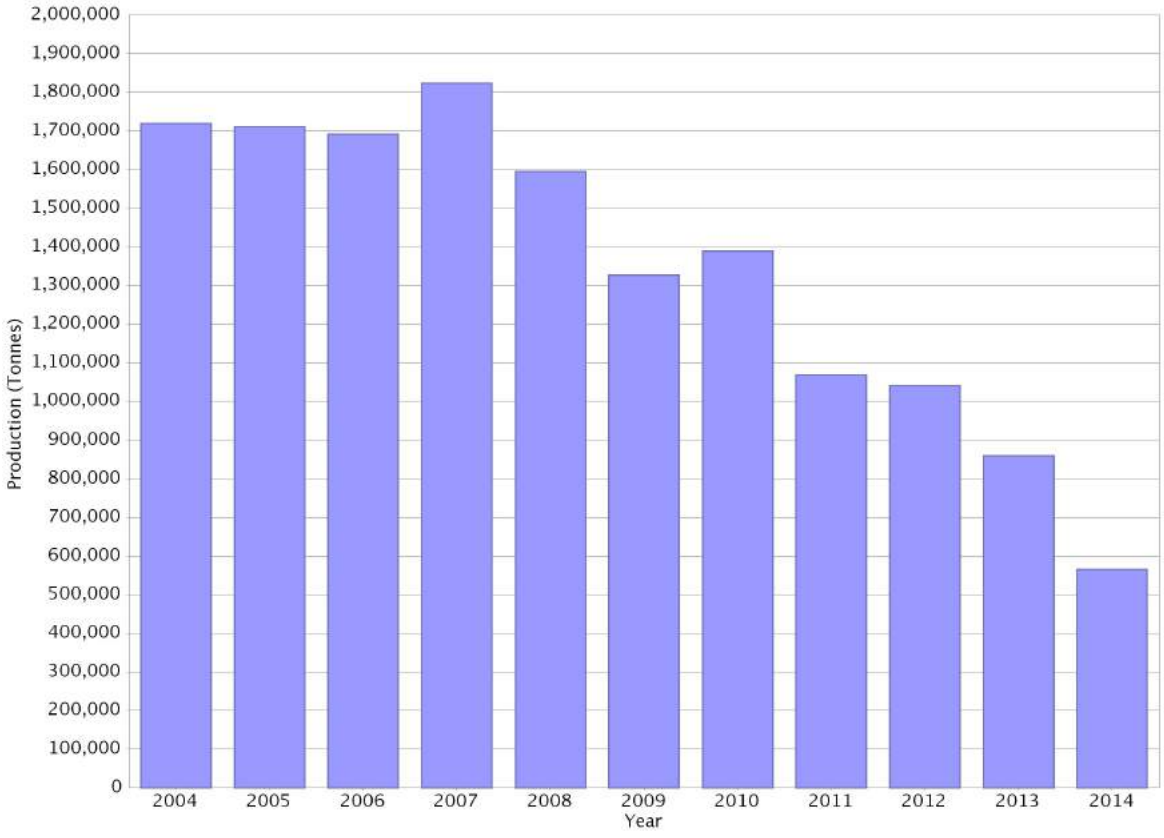
Production of Primary Land-won Aggregates

3.2.1.1 The annual production (sales) of primary land-won aggregate in Kent for the calender 2014 was approximately 1.3 mt for all sand, gravel and crushed rock,[13] a decrease of around 428,093 tonnes from the position in 2013 (1.8 mt).

3.2.1.2 The NPPF requires Mineral Planning Authorities (MPA) to plan for a steady and adequate supply of aggregates through preparing an annual Local Aggregates Assessment (LAA) from which future provision should be derived based on a rolling average of 10-years aggregates sales data and an assessment of all supply options (including marine dredged, secondary and recycled sources), and other relevant local information. [14]

3.2.1.3 Figure 3 shows the trend in annual land-won sand and gravel sales in Kent over the last 10 years. This combines data for both soft sand and sharp sand and gravel into one data set per year. The sales figures for land-won crushed rock for Kent are not published in this report as there are only two sites producing crushed rock in the county; the total sales data from three or more sites are required in order to protect commercial confidentiality.

Figure 3 Land-won Sand and Gravel Sales 2004-2014



13 Figures rounded to preserve confidentiality of crushed rock figures.
14 DCLG (2012) National Planning Policy Framework, para.145

3.2.1.4 Figure 3 shows a generally stable trend in land-won sand and gravel sales between 2004 and 2007 followed by a steady decrease in sales, which continued into 2014; sand and gravel sales decreased by 25.3% from the 2013 sales figures. Although the initial fall was assumed to be attributed to the ongoing economic downturn in the UK, it remains the County Council's view that the lower sales for land-won sand and gravel in recent years could be partly attributed to a growing preference for imported sand and gravel (see *Chapter 3.2.3 Wharves and Rail Depots* for imported aggregate sales figures). It is important to note that since 2011 operations at one of the largest sand and gravel quarries in Kent moved across the county boundary into a neighbouring authority (East Sussex); whilst production is continuing at that site, the aggregates produced are not extracted in Kent and therefore not counted in the Kent primary aggregate sales data. Table 3 shows the average sand and gravel sales (building/asphalting soft sands and the sharp or flint sands and gravels combined) over the last three, five and ten years. The figures clearly show decline in land-won sales of these primary aggregates in recent time frames.

Table 3 - Average Sales of Land-won Sand and Gravel: Kent Area

Average	Tonnes
Last 3 years (2012 - 2014)	831,460
Last 5 years (2010 - 2014)	984,435
Last 10 years (2005 - 2014)	1,307,119

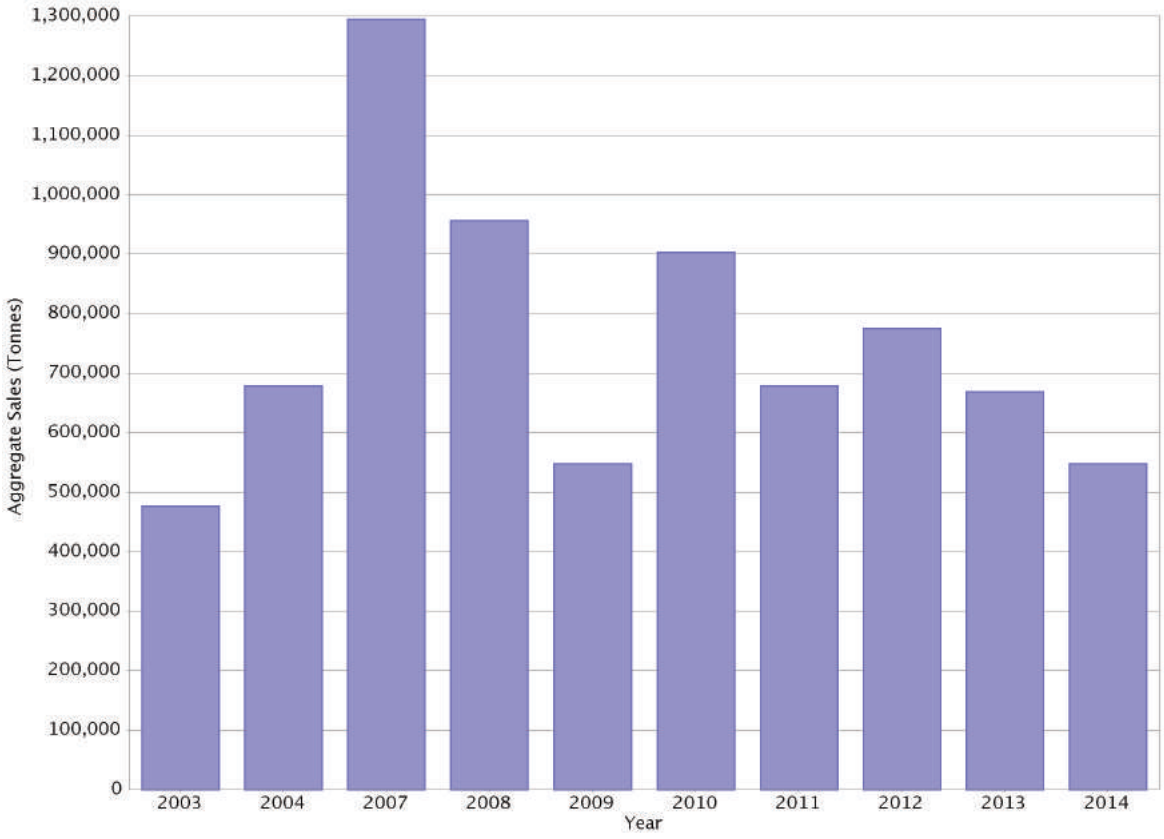
Production of Secondary/Recycled Aggregates

3.2.1.5 According to the NPPF[15] Local Authorities should, as far as practicable, take account of the contribution that substitute or secondary and recycled materials and minerals waste would make to the supply of materials.

3.2.1.6 Figure 4 shows that, aside from some minor annual variation, secondary and recycled aggregate sales have stabilised since 2010 with sales reported to be 0.84mt. Future monitoring of this indicator will be necessary to confirm this trend. The importance of maintaining supply from this source is recognised in Policy CSM 8: Secondary and recycled Aggregates which seeks to maintain and increased production capacity.

15 DCLG (March 2012) National Planning Policy Framework, para. 143.

Figure 3 Secondary and Recycled Aggregates Sales 2003-14



3.2.1.7 The consented secondary and recycled aggregate production capacity operating within Kent has been assessed to be in excess of 2.7mt, 0.63mtpa of which is identified as temporary capacity. While sites with permanent consent are safeguarded under Policy CSM 7, to compensate for the loss of capacity located on temporary sites, sites are to be identified in the Minerals Sites Plan to ensure processing capacity is maintained to allow the production of at least 2.7mtpa of secondary and recycled aggregates, throughout the Plan period.

3.2.2 Land-won Mineral Reserves

New Mineral Reserves

3.2.2.1 During the 2014 calendar year there were six minerals related planning applications granted planning permission. Of the six, four were Section 73 applications to vary conditions on existing planning permissions but none of the applications altered the reserves. Full planning permission was granted to extend the height of equipment on an existing site, again this application did not alter the reserves. The final planning application was for the extraction of shingle to be used as part of a flood defence strategy.

Construction Aggregate Landbank

Recorded landbank figures are as of 31st December 2014 and are based on the returns for the Aggregate Monitoring Survey for the 2014 calendar year.

3.2.2.2 The annual LAA requirement is in place of the mineral apportionments from the partially revoked Regional Spatial Strategy, otherwise called the the South East Plan. This plan's Policy M3 on Construction Aggregates requires the supply of land-won sand and gravel maintained at 1.63mtpa and 0.78mtpa of crushed rock respectively until 2026, while maintaining at least 7 (sands and gravels) and 10 (crushed rock) year landbanks. Although the NPPF has retained the requirement for MPAs to make provision for the maintenance of landbanks 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 aggregates, locations of permitted reserves relative to markets and productive capacity of permitted sites.

Land-won Sand and Gravel Landbank

3.2.2.3 The reserves of land-won sand and gravel for aggregate use (excluding hoggin)[16] in Kent stood at approximately 13.54mt on the 31st December 2014, comprised of 2.64mt of sharp (or flint) sands and gravel and 10.04 mt of soft or building sands and asphalt sands. Total permitted reserves in the County is variable, in that even without new planning permissions re-evaluation of what are economic reserves at permitted sites can alter the reserves base from year to year.

3.2.2.4 The National Planning Practice Guidance on minerals (updated October 2014) details how the Managed Aggregate Supply System (MASS) should be applied. MASS has been in existence for some 36 years, the underlying methodology is to ensure sufficient materials can be brought into the market to meet both local and national needs. It makes clear that where there are distinct mineral markets, separate landbanks should be assessed by MPAs.

3.2.2.5 The NPPF requires the sand and gravel landbanks to be based on the latest rolling 10 year sales average. The annual Aggregate Monitoring Survey collects data on sales of sand and gravel by use; this collection of data by use category[17] enables the calculation of separate sales and reserve data for soft sand and sharp sand and gravel.

3.2.2.6 The estimated Kent sand and gravel landbanks according to the past 10 years of average sales are shown in Table 4. The 7 year maintained landbank represents the amount of reserve of the particular aggregate type required to be maintained to accord with the requirements of the NPPF. The data shows that Kent's permitted reserves of sharp sands and gravels fall short of providing a simple 7 year landbank by 2.26 mt as of the end of 2014.

16 Hoggin is a compactable ground cover composed of a mixture of clay, sand and gravel, an engineering grade material often used for bulk fill applications and has to be extensively processed to yield an aggregate grade sand and gravel

17 The use categories are soft sand, sharp sand and gravel, and sand and gravel or hoggin for constructional fill.

3.2.2.7 The soft sands reserves are sufficient to maintain a simple[18] 16.70 year landbank, this exceeds the period of the adopted Plan, though a 10 year average sales based rate of extraction of 0.601 mtpa may change through time as can the calculated reserves base by re-evaluation of economic potential of permitted reserves. The Kent land-won primary aggregate supply from the land-won sands and gravels is constrained in that it is not being replenished by new reserves at this time in that it does not match the life of the KMWLP 2014-30.

Table 4 :Kent's Land-won Sands and Gravel Landbanks

Type	Total Permitted Reserves as of end of 2014	10 Year Average Sales Figure	Simply Landbank Duration at the end of 2014[19]
Sharp Sand and Gravel	2.64 mt	0.70 mtpa	3.77 years
Soft Sand	10.04 mt	0.601 mtpa	16.70 years

Land-won Crushed Rock Landbank

3.2.2.8 National minerals policy guidance in the NPPF requires the maintenance of a landbank of at least 10 years for crushed rock. As there are only two operating crushed rock (ragstone) quarries in Kent, precise landbank figures cannot be stated due to commercial confidentiality. Therefore, using the assumed 10 year rolling average sales figure of 0.78mtpa over the period to the end of 2030 as the average extraction rate, the existing reserves would provide a remaining landbank of over 50 years. Due to the need to maintain commercial confidentiality the 10 year average sales figure is not published. The 0.78mtpa from the partially revoked RSS apportionment figure is taken as a substitute for landbank calculation purposes. This has been agreed by the South East England Aggregates Working Party (SEEAWP), use of this figure as an appropriate proxy for monitoring purposes is the approach taken to the crushed rock landbank calculation in the third Kent LAA (November 2015).

Land-won Other (Non Aggregate) Mineral Landbanks

3.2.2.9 Permitted reserves and production rates for other (non-aggregate) minerals are not monitored in the same way as construction aggregates. The County Council conducted its own extensive Non-Aggregates Mineral Surveys in 2008 and 2011 as part of the evidence gathering for the Kent MWLP, with annual updates for the latest figures (where provided) in 2012 and 2013. However, unlike the Aggregate Monitoring

18 A simple landbank is one where the total reserve life, normally in years, can be estimated by dividing it by the average extraction rate per annum, as opposed to a maintained landbank where a defined quantum of reserve is to be maintained in any year for a given period

19 Based on average sales figures from AM data

Survey conducted by the SEEAWP, the County Council's own surveys do not benefit from the support of trade associations and as such they don't achieve a full response rate. The information obtained from this survey has therefore been combined with estimates of reserves and production rates drawn from previous survey returns, planning applications and other publicly available documents.

Brick and Tile Making from Clay or Brickearth

3.2.2.10 The NPPF[20] requires MPAs to maintain landbanks of brickclay (including brickearth) of at least 25 years and to take account of the need for provision of brick clay from a number of different sources to enable appropriate blends to be made.

3.2.2.11 Brickwork closures in recent years have had a substantial impact on the capacity in Kent and on the distance that material extracted from currently consented sites travels within the county. Whilst there are currently no operational brickworks in Kent which use clay as a raw material, there is a tile manufacturer (Babylon Tile Works) in the Weald of Kent south of Maidstone, which makes Kent peg tiles from clay reserves adjacent to the works. The permitted reserves at this site meet the requirements within the NPPF for brick clay (at least 25 years) but the existing planning permission requires extraction to cease by April 2022 and for Kent peg manufacture to cease a year latter.

3.2.2.12 In 2014-15 there were four separate, permitted landbanks of clay and brickearth in Kent which all together have a landbank of over 25 years of reserves (see Table 6).

20 DCLG (2012) National Planning Policy Framework, para. 146

Table 5 - Clay and Brickearth Landbanks at Active Brick and Tile Works

Name of Works	Operator	Source	Estimated Length of Supply
Babylon Tile Works, Maidstone (Kent peg tile manufacturer)	V&M Gash	Weald Clay	Over 25 years
Hempstead House, Sittingbourne[21]	Ibstock Brick Ltd	Brick Earth	Less than 10 years
Smeed Dean Brickworks, Sittingbourne (Orchard Farm)[1]	Wienerberger Ltd	Brick Earth	3 years
Pluckley Quarry, Ashford	Korex Limited	Brick (Weald Clay)	Over 25 years supply.

1. initial site works are taking place at the present (Jan 2016) with an aim to start extraction in the Spring 2016 the site has an estimated three years of reserves at the company's anticipated extraction rates

Silica Sand

3.2.2.13 National minerals policy guidance on silica sand requires MPAs to plan for a steady and adequate supply of industrial minerals by the provision of a stock of permitted reserves of silica sand. This should be of at least 10 years for individual existing sites and for at least 15 years for sites where significant new capital is required.[22]

3.2.2.14 In 2013 Aylesford Quarry near Maidstone, Addington (Wrotham) Sand Pit and Nepicar Farm Sand Pit were producing silica sand. The estimated term of supply at these sites, as indicated in Table 6, was calculated from 2013 sales rates. Currently two sites meet the required 10 year minimum landbank for existing sites. Aylesford Quarry remains inactive (save some extraction of the remaining soft sand reserves) and there is doubt that the remaining silica sand reserves below the water table are economically viable for extraction in todays market conditions and uses of the sand. It is possible that both the economics of extraction for existing markets and the emergence of new markets for silica sands could emerge through time.

3.2.2.15 The duration of supplies are approximate estimates only as the rate of extraction of silica sand can be dependent upon the products produced by the site, the length of the planning permission and the location of silica sand reserves in relation to the other sand reserves within a site.

21 After the factory closure in 2008 the production of the yellow Faversham stock bricks using brickearth from north Kent has now moved to Ibstock's brick works in Ashdown in East Sussex.

22 Communities and Local Government (2012) National Planning Policy Framework, para. 146

Table 6 - Landbanks at Silica Sand Quarries in Kent

Site	Operator	Length of Supply
Addington (Wrotham) Quarry, Addington, West Malling ME19 5DL	Hanson Aggregates	Less than 3 years
Aylesford Sand Pit, Rochester Road, Aylesford ME20 7DX	CEMEX/Aylesford Heritage Limited(1)	Over 15 years
Nepicar Sand Quarry, Maidstone Road, Wrotham HeathTN15 7SR	J Clubb	Over 15 years

1. Operations ceased during 2012. Aylesford Heritage Ltd took over the site on 01 November 2013. The viability of the remaining reserves of silica sand have been questioned by the new owners of the site in a letter to KCC Jan 2015 and a late representation on the matter of continued viability and the need to safeguard the reserves was made on Kent Minerals and Waste Local Plan 2013-30 Submission Document.

Cement Making Materials

3.2.2.16 National minerals planning guidance in the NPPF requires MPAs to maintain landbanks of permitted reserves of raw materials for cement plants. These landbanks should include the industry's primary materials (chalk and limestone) and also secondary materials (clay and shale). Landbanks should collectively be calculated on a per site basis and new sites should have a stock of permitted reserves to last more than 25 years for cement's primary and secondary materials to support a new kiln.[23]

3.2.2.17 There are currently no active cement quarries in Kent. There are significant amounts of consented reserves of chalk and clay for cement manufacture adjacent to the permitted, but not yet built, Holborough Cement Works, as detailed in Table 8.

Table 7 - Chalk and Clay Landbanks at Cement Works in Kent

Name of Site	Operator	Length of Supply
Holborough Cement Works	Lafarge Cement UK	Not yet constructed – Over 25 years at planned consumption rate

23 DCLG (2012) National Planning Policy Framework, para. 146.

Chalk and Clay for Agricultural and Engineering Uses

3.2.2.18 Chalk is used in agriculture and engineering in Kent, as well as being used in the production of bricks, tiles and cement and some engineering processes. While chalk for engineering and agricultural use is not covered specifically in current national minerals policy guidance (the NPPF), the former South East Plan Policy M4: Other Minerals required MPAs to make future provision for chalk as a regionally significant mineral of national importance.

3.2.2.19 A survey of land-won chalk extractors in Kent undertaken in 2011 indicated that sales were considerably higher than previously estimated due to a large volume of sales from one site, producing total sales of 203,500 tonnes of land-won chalk from six operational sites. On the basis of the 2011 production rates (203,480 tonnes) it was estimated that the remaining chalk reserves would be sufficient for 13 years. However the 2011 higher rates of sales did not continue, with the total sales in 2012 being 100,933 tonnes and 2013 sales dramatically falling to 27,436 tonnes. Only 13.5% of the 2011 total. The 2014 sales showed a partial recovery to some 38,810 tonnes.

3.2.2.20 The indicative Kent landbank of chalk is given in Table 8. The landbank was estimated to be around 39 years according to 2014 sales rates, or 22 years at the four year average sales rates. It should be noted that one site is currently due to cease extraction by 31 December 2016.

Table 8 Chalk Landbank 2014

Total Estimated Reserves at the end of 2014	Total Sales 2014	Average Sales (2011-14)
1,515,785 tonnes (29% reduction since 2011)	38,810 tonnes	69,955 tonnes
Landbank of Reserves based on Past Sales	39 years	22 years

3.2.2.21 Kent has a number of freestanding clay working permissions with significant deposits of consented clay. However, only one of these sites remains active. The reserves tied to the other sites have not been worked for many years, or are dormant Interim Development Order sites and therefore cannot be realistically included in the current landbank.

3.2.2.22 Whilst this AMR cannot report on sales from individual sites due to commercial confidentiality, it can be reported an average of 27,400tpa of clay from land-won sources was sold in the years between 2000-2009 for which data is available. More recently there has been activity to supply 25,000 tonnes sea defence engineering clay (via a temporary permission now expired), and some 64,000 tonnes of materials for construction material manufacture in 2014/15.

3.2.3 Wharves and Rail Depots

Safeguarding

3.2.3.1 National minerals policy requires all MPAs to safeguard existing, planned and potential sites which can accommodate railheads, wharfage and associated storage, handling and processing facilities for the bulk transport by rail, sea or inland waterway of minerals.[24]

3.2.3.2 KCC worked jointly with Medway Unitary Authority to produce joint Kent and Medway Imports Survey reports. An updated report was published as part of the evidence base for the Kent Minerals and Waste Local Plan - Strategy and Policy Directions consultation in May 2011.[25] The Imports Survey reiterated the importance of continuing a steady supply of both marine dredged aggregates from the dredging grounds around the coast and crushed rock from continental Europe as land-won resources of aggregates are further depleted.

3.2.3.3 The Kent MWLP includes both strategic and development management policies to safeguard wharves and rail depots and associated mineral and waste management infrastructure on-site, including:

- Policy CSM 6: Safeguarded Wharves and Rail Depots
- Policy CSM 7: Safeguarding Other Mineral Plant Infrastructure
- Policy CSW 16: Safeguarding of Existing Waste Management Facilities
- Policy DM 7: Safeguarding Mineral Resources
- Policy DM 8: Safeguarding Minerals Management, Transportation & Waste Management Facilities[26]

3.2.3.4 At the end of 2014 there were 12 active wharves, one inactive though may become active immanently (Ramesgate New Port, Ramesgate) and one potential wharf (Old Sun Wharf, Gravesham)[27] and three active rail depots in the county.

Sales of Construction Aggregates at Wharves and Rail Depots

Wharves :

3.2.3.5 The construction aggregate sales (from both land-won and marine sources) at Kent's wharves in 2014 were as follows:

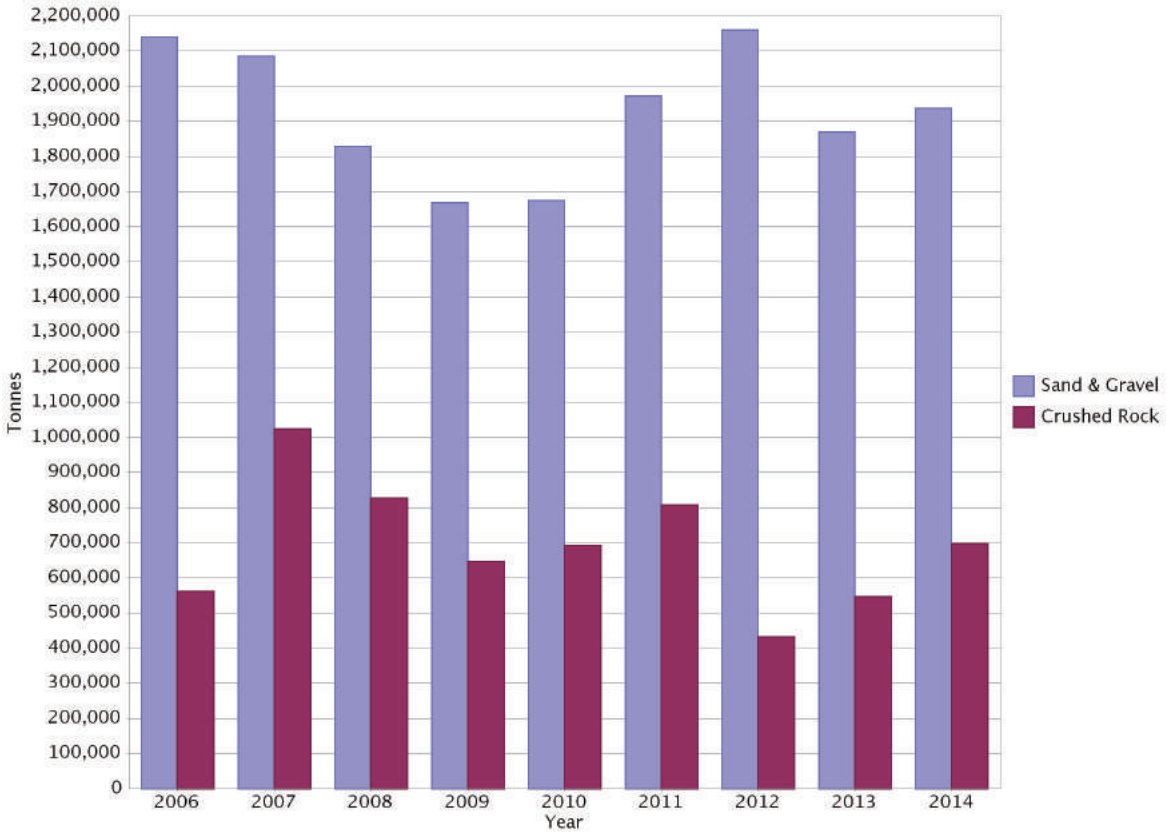
24 DCLG (March 2012) National Planning Policy Framework, para. 143
25 Kent County Council and Medway Council (May 2011) Kent and Medway Imports Study
26 Secondary and recycled aggregate production as well as mineral imports will be increasingly important in maintaining a ready supply of aggregates from these non-primary sources in Kent
27 Two of the wharves (at Ridham and Robins Wharf Northfleet) have two operators.

- 1.94 million tonnes of sand and gravel (11.5% increase from 2013)
- 0.70 million tonnes of crushed rock (22% increase from 2013).

3.2.3.6 Compared to 2013, in 2014 imports of crushed rock has shown a marked increase while sands and gravel imports via Kent's wharves have shown only a slight increase since 2013. The total amount of primary aggregates imported via wharves in Kent in 2014 was 2.64 million tonnes, which is an overall increase of nearly 0.35 million tonnes from 2013 (a 13.26% overall increase).

3.2.3.7 Figure 5 shows the aggregates sales at Kent's wharves between 2007 and 2014. Sales of both sand and gravel and crushed rock from Kent's wharves declined between 2007 and 2009; potentially due to reduced UK demand resulting from the recorded economic recession in 2008/09. Despite the reduction in sand and gravel imports in 2013, there has been a general increase in sales since 2010 including. In 2014 the sales recovery may indicate that the diminishing volumes for land-won sand and gravel (see Production of Primary Land-won Aggregates in Chapter 3.2.1: Production of Aggregates) into the overall aggregate supply in the County. Thus highlighting the importance of the wharves in meeting Kent's needs.

Figure 4 Sales of Construction Aggregates at Wharves 2006 - 2014



Rail Depots:

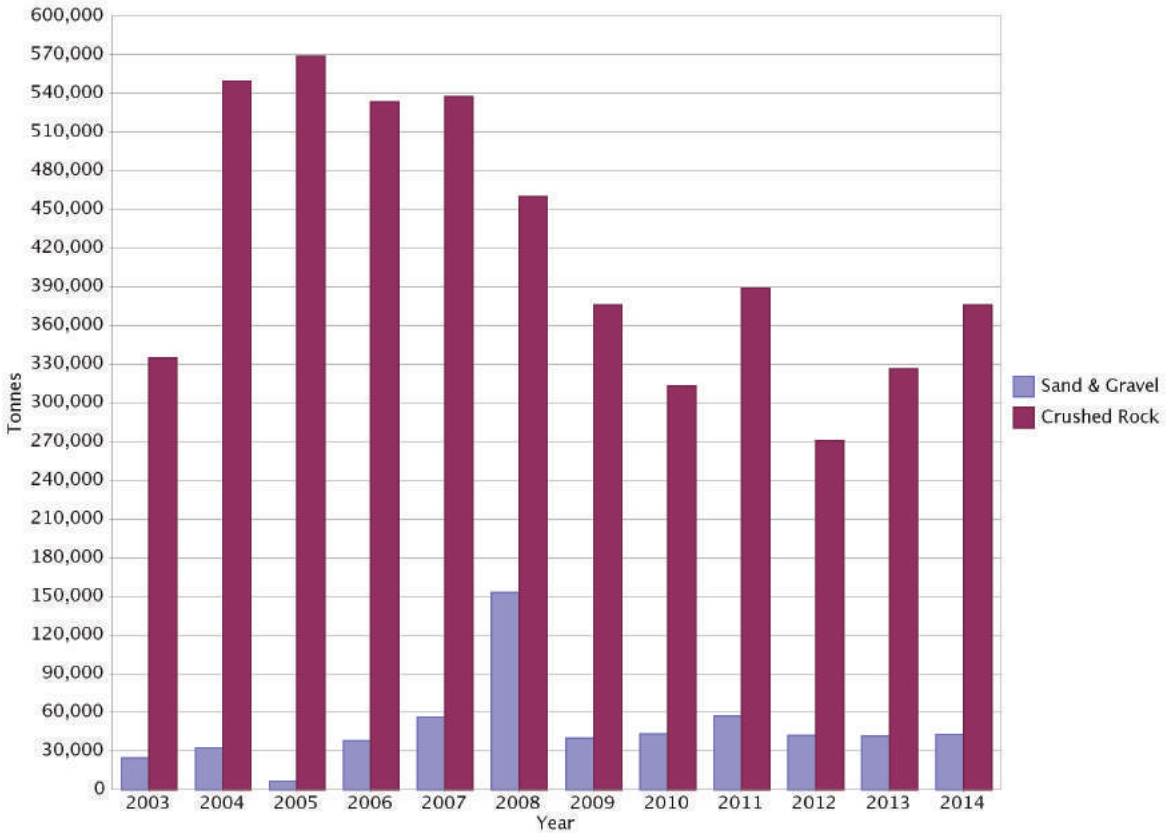
3.2.3.8 Construction Aggregate sales (from both land-won and marine sources) at Kent's rail depots in 2014 were as follows:

- Approximately 42,892 tonnes of sand and gravel (approx. 2.3% increase from 2013).
- 375,938 tonnes of crushed rock (13% increase from 2013).

3.2.3.9 The total sales of construction aggregates sold from Kent's rail depots in 2014 was therefore 418,830 tonnes, an overall increase of 50,422 tonnes (12%) from sales in 2013. A degree of care should be exercised while considering this data, as it may be the case that some of the aggregate material extracted from quarries or landed at wharves in Kent may be transported to a Kent railhead and then recorded as an new aggregate sale, effectively introducing a degree of double counting in the aggregate sales data for Kent. The annual Aggregate Monitoring survey, where this data originate from, does not investigate this possibility, therefore it could be a factor in these apparent increases in imported tonnages.

3.2.3.10 Figure 6 shows that sales of construction aggregates at rail depots have followed similar trends to sales at Kent quarries and wharves, with sales generally decreasing between 2008 and 2010 (possibly due to the effects of the economic decline) with some indication of recovery in 2011. It could be speculated that the continued trend in sales recovery of rail imports in 2014 may be a result of increased demand due to a return of growth in the economy.

Figure 5 Sales of Construction Aggregates at Rail Depots in Kent 2003 - 2014



3.2.4 Construction Aggregate Summary

3.2.4.1 Table 9 below demonstrates that sales from Kent's wharves and rail depots slightly increased from the previous monitoring period (though aggregate data is in calendar years rather than the AMR financial year format), while land-won primary aggregate sales fell by 16.1%. Demonstrating that imported aggregates are the main contributor to Kent's supply of aggregate minerals. Imported sales remained significantly higher than the contributions from both land-won and secondary and recycled sources and showed significant recovery over 2013.

Table 9 - Construction Aggregate Sales Summary 2014

Aggregate Source	2014 Sales (tonnes)
Land-won Aggregate(1)	Approx 1.375mt (decrease of nearly 0.26mt tonnes or some 16.1% from 2013)(2)
Secondary/Recycled Aggregate	548,004 tonnes (17.9% decrease from 2013)
Wharves and Rail Depots(3)	2.98mt (16.8% increase on 2013)
Total: 4.903mt (approx.) compared to 4.907mt in 2013 a 0.08% decrease	

1. of all primary types
2. Approximate values due to commercial confidential of crushed rock figures
3. of all primary types

3.3 Waste Indicators

3.3.1 Box 1 relates to the waste indicator information in this chapter.

Box 1

Definition of Municipal Solid Waste (MSW)

The term Municipal Solid Waste (MSW) was previously synonymous with waste collected by local authorities. However, in 2010 the UK expanded its definition to include waste from other sources similar in nature and composition to align with the EU definition.

The term “Local Authority Collected Waste”(LACW) is now used to distinguish between that waste that was formerly known as MSW and the new wider municipal solid waste ('LACW plus'). LACW includes waste produced by householders collected from their homes (collected household waste) waste deposited at Household Waste Recycling Centres (HWRCs) (total household waste) plus commercial waste collected by district councils, street sweepings, litter and fly tipped materials. In general, the non-household waste fraction of LACW represents less than 5% of total collected arisings.

For ease of comparison with previous AMRs, MSW has been taken to mean LACW.

3.3.1 Municipal Waste Arisings by Management Types

3.3.1.1 Collected MSW in Kent in 2014/15 was recorded at 712,858 tonnes according to the KCC Waste Management Unit, representing an increase of 2.25% from the 2013/14 monitoring year.

3.3.1.2 The 2014/15 tonnages, proportions by management type and the percentage change from the previous monitoring year (based on actual tonnage) are set out in Table 10. The data shows that collected MSW sent to landfill has continued to decline, whilst management by energy recovery and composting has increased. Although there has been fluctuation within each management type, the pattern of management remains similar with the dominant methods of management continuing to be recycling and composting (combined total of 48.4%) and energy recovery (40.7%) of total collected MSW.

3.3.1.3 The continued decline in MSW sent to landfill is a result of the commitment by Waste Collection Authorities and the Waste Disposal Authority to divert waste though recycling and treatment at the Allington Energy from Waste (EfW) plant.

3.3.1.4 The objectives of the Waste Management Plan for England (Defra, December 2013) include measures to be taken by 2020 so that at least 50% by weight of waste from households (or the target materials-glass, paper, plastic and metal) is prepared for re-use or recycled. Management of Kent's collected MSW continues to progress towards this target, and to continue to divert biodegradable waste from landfill as required by the EU Landfill Directive.

3.3.1.5 The Kent Joint Municipal Waste Management Strategy (KJMWMS) adopted by the collection and disposal authorities of Kent (Kent Waste Partnership) in 2007 set a target of a minimum level of 40% recycling and composting of household waste in Kent by 2012/13. The data in this chapter shows this target has been exceeded and sustained since 2008/9. The work of the Partnership has been taken on by the Kent Resource Partnership that have updated the targets of the KJMWMS as follows for household waste:

- recycling/composting rates of at least 45% by 2015/16;
- landfilling no more than 10% by 2015/16;
- recycling/composting rates at least 50% by 2020/21; and
- landfilling no more than 5% by 2020/21.

3.3.1.6 The latter targets reflect the ambition to get as close to zero untreated household waste to landfill as possible by 2020/21. In 2014/15 the 2015/16 target for recycling/composting rates was already achieved and good progress is being made towards the 2015/16 landfill diversion target.

Table 10 Quantities of MSW Managed in Kent by Management Type in 2014/15

Management Type	Tonnes (t)	Percentage of Total MSW (%)	Landfill Diversion Rate	Change from 2013/14	
				Tonnes (t)	Percent (%)
Recycling	212,482	29.8%	89%	201,231 tonnes	+5.59
Composting	132,311	18.5%		119,017 tonnes	+11.17
Energy Recovery	289,787	40.7%		254,857 tonnes	+13.71

Management Type	Tonnes (t)	Percentage of Total MSW (%)	Landfill Diversion Rate	Change from 2013/14	
				Tonnes (t)	Percent (%)
Landfill	78,278	11.0%	0%	121,712 tonnes	-35.69
Total	**712,858**	100%	**89%**	**696,816** tonnes (increase of 16,042 tonnes)	+2.25

3.3.1.7 Figures 7 and 8 below and overleaf illustrate the trends in the management of collected MSW in Kent between 2008/09 and 2014/15, shown in both tonnage (Figure 7) and percentage (Figure 8).

Figure 7 Collected MSW by Management Method 2009/10 to 2014/15 (Tonnes)

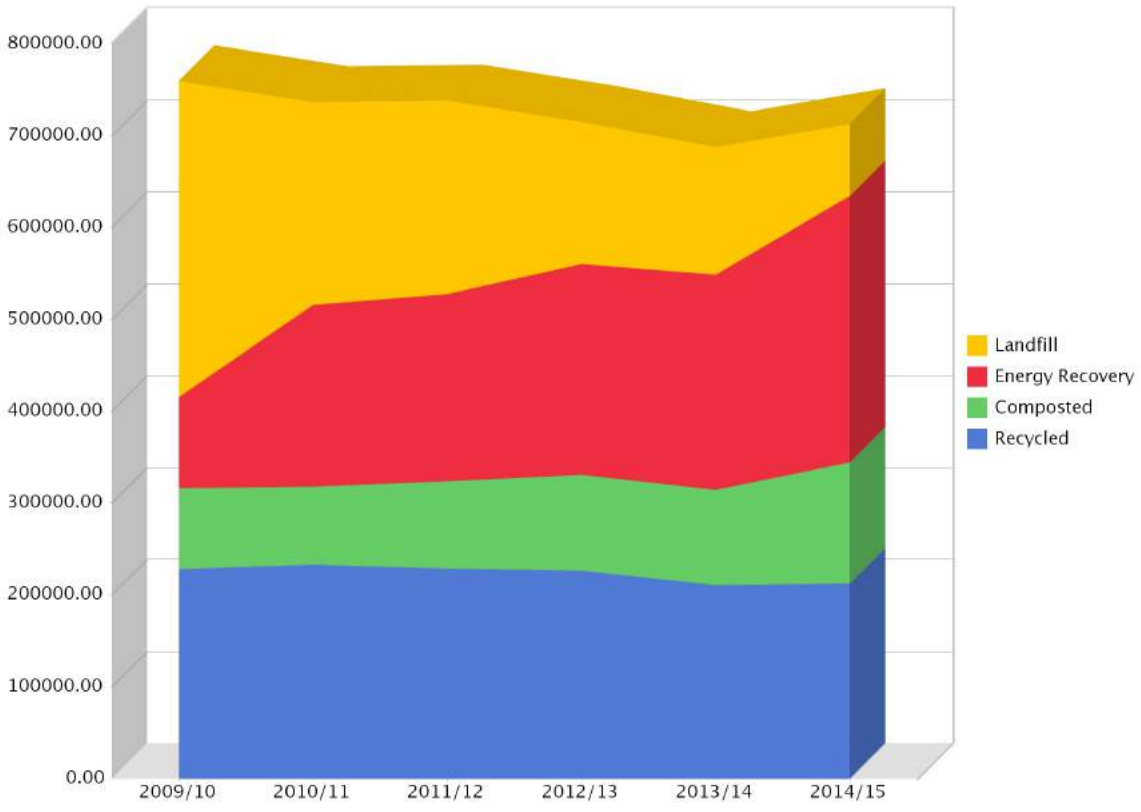
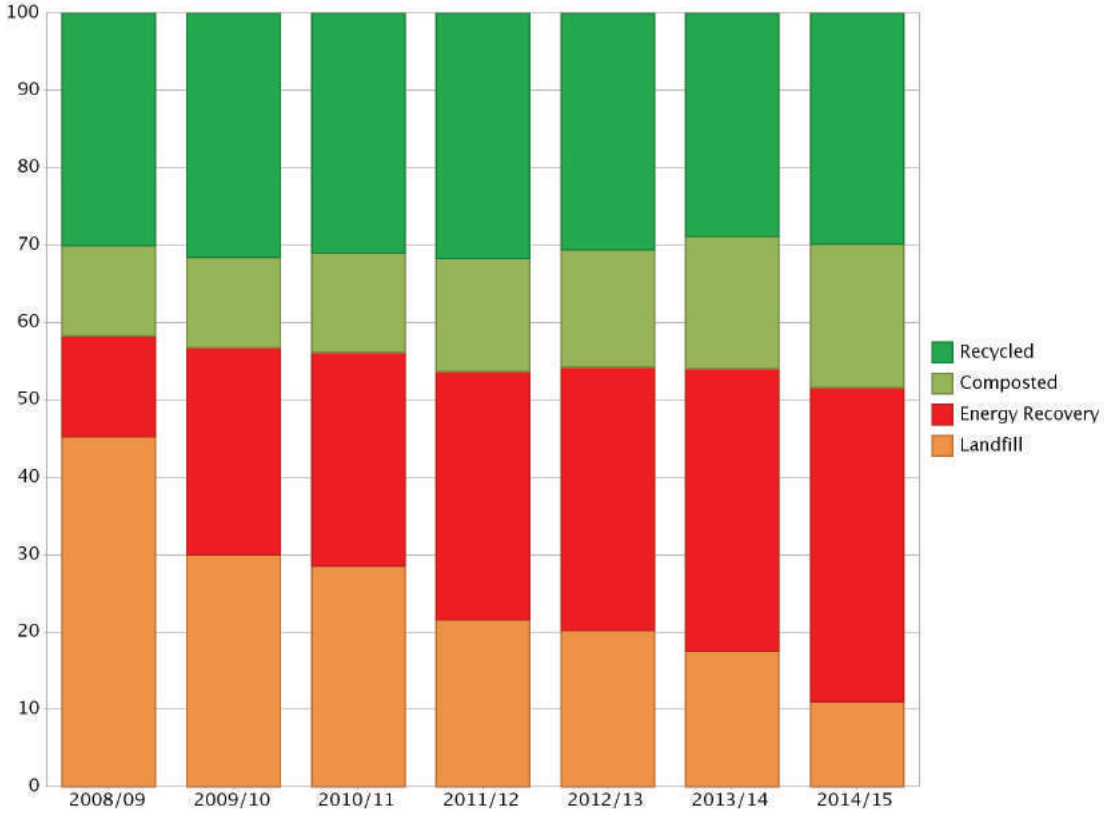


Figure 8 Collected MSW by Management Method 2008/09 - 2014/15 (Percentages)



3.3.1.8 Over the monitoring period between 2009/10 to 2014/15 a trend in both the decreasing levels of collected MSW going to landfill (29.5% down to 17%) as well as increases in the amount of collected MSW sent for energy recovery (26% to 37%) was observed. Recycling continues to makes a steady contribution to the management of collected MSW in Kent at approximately 29.8% of the total collected arisings. Composting levels have also been observed to have increased, the overall contribution to the management of MSW has increased from approximately 12% to 18.6% between 2008/09 and 2014/15.

3.3.1.9 Table 12 below demonstrates the proportions of collected MSW diverted from landfill (managed by other types of waste management facility) from 2006/07 to 2014/15. In 2014/15, some 712,858 tonnes of collected MSW was managed in Kent (a growth of 2.3% compared to 2013/14). It was recorded that 634,580 tonnes was diverted from landfill, an increase of 59,475 tonnes from 2013/14 (a 9.4% increase in the diversion rate). The 2014/15 landfill diversion rate of 89.02% (634,580 tonnes) is the highest recorded to date.

Table 11 - MSW Diverted from Landfill in Kent 2005/06-2013/14(1)

Year	Percent Diverted from Landfill (%)
2006/07	44.4

Year	Percent Diverted from Landfill (%)
2007/08	44.6
2008/09	54.8
2009/10	70.0
2010/11	69.0
2011/12	78.4
2012/13	79.8
2013/14	82.5
2014/15	**89.02**

1. Source: KCC Waste Management Unit

3.3.2 Waste Generation Growth Rates

Municipal Solid Waste (MSW)

3.3.2.1 The amount of MSW in 2014/15 was 712,858 tonnes as discussed in Chapter 3.3.1: Municipal Waste Arisings by Management Types.

3.3.2.2 During the 2014/15 monitoring period there was growth in MSW stream arisings, with a growth rate of 2.25%. This indicates a rising trend following a downturn in 11-12 and 12-13, as shown in Table 12.

Table 12 MSW Arising in the KCC Area 10/11 - 14/15

	10-11	11-12	12-13	13-14	14-15
Total MSW (tonnes)	738,535	715,259	687,978	696,816	712,858
Rate of growth	0.26%	-3%	-3.8%	1.3%	2.25%

Commercial & Industrial (C&I) Waste

3.3.2.3 The most recent national survey of C&I waste arisings was conducted for the year of 2009 for DEFRA.[28] This data has been used to estimate the amount of C&I waste produced in Kent during the MWLP period based upon the business mix in the Kent economy in 2009[29]. The more recent DEFRA Digest of Waste and Resources Statistics-2015 of January 2015 does not detail individual waste planning authority areas.

28 DEFRA (May 2011) Survey of Commercial and Industrial Waste Arising 2010
29 Jacobs (January 2012) Need Assessment 2011 Update

Table 13 Modelled C&I Arising in Kent

Year	Source	Estimate (tonnes)[1]
2009	Needs Assessment[2]	961,000 per annum

1. Rounded to 1,000 tonnes
2. Jacobs (2009) Waste Management Statistical Basis for the Kent County Council Minerals and Waste Development Framework Assessment Modelling Technical Report

3.3.2.4 The C& I waste arisings growth projections from the Kent Minerals and Waste Topic Report 3[30] is shown in Table 15 below.

Table 14 Annual C& I Waste Arisings Growth Rates (2011 projections)

	2010	2015	2020	2025	2030
C&I Low Growth	0%	0%	0%	0%	0%
C&I High Growth	2.5%	2.0%	1.5%	1.0%	1.0%

3.3.2.5 The ONS Economic Review revealed that the recovery from the economic recession in 2008-09 has not been as robust as expected [31]. Given that GDP growth throughout 2015 remained lower than those seen in 2014 it may be reasonable to conclude that the 2009 based estimate for C&I arisings coupled with the waste growth rates shown above, is higher than actual. ONS data shows that GDP (in January 2016) was 6.% higher than pre-downturn levels (2008/9 recession) thus if GDP is coupled with C&I growth rates current arisings in this sector may be in the order of 1.27 mtpa in calender years 2015/16.

Construction, Demolition & Excavation (CD&E) Waste

3.3.2.6 The most recent national study on inert CD&E waste arisings was conducted in 2005 for DCLG.[32] This data was disaggregated to estimate the waste arisings in Kent alone based upon the relative populations of Kent and Medway in 2005.[33] This method generated an estimate of the amount of inert CD&E waste that arose in Kent in 2005 of 2.6mt.

30 Kent Minerals and Waste Plan 2013-30 evidence base, Waste Topic Report 3: Commercial & Industrial (C&I) and Municipal Solid Waste (MSW), May 2011https://shareweb.kent.gov.uk/Documents/environment-and-planning/planning- and-land-use/Preferred%20Options%20consultation/Evidence%20base/WTR3%20MSW%20and%20CI%20Combined%20-%20updated.pdf

31 It has been shown GDP grew by 0.4% in the third quarter of 2015, revised down from the previously published estimate of 0.5%. Growth averaged 0.5% during the first three quarters of 2015, compared to growth of 0.7% per quarter during 2014 - http://www.ons.gov.uk/ons/dcp171766_429935.pdf

32 Capita Symonds (February 2007) Survey of Arisings and Use of Alternatives to Primary Aggregates in England, 2005: Construction, Demolition and Excavation Waste

33 Jacobs (January 2012) Need Assessment 2011 Update

3.3.2.7 In April 2010, the Waste and Resources Action Programme (WRAP) published a study[34] on the national arisings of CD&E both for the inert and non-inert fractions of that waste stream. At a national level it showed a decrease in inert CD&E arisings nationally of 7%. This study does not disaggregate the national survey to regional or county levels, so the 2005 estimate for inert CD&E arisings in Kent is considered to be the more reliable baseline figure. In 2010 DEFRA estimated arisings in the CD&E sector, again this was a national estimate without disaggregation to waste planning authority area for any given proxy, such as population etc.[35]

3.3.2.8 The forecast for future waste provision from the Kent Waste Needs Assessment Study (May 2010)[36] was based on the 2005 study and does not use any factor for growth. The National Planning Practice Guidance for Waste (Updated October 2014)[37] also advises that Waste Planning Authorities should start from the basis that net arisings will remain constant over time. Therefore, the forecast used in the Kent MWLP 2013-30 assumes no growth in this waste stream. However, the estimate of 2.6mt remains the more reliable figure until more detailed national survey work is conducted again to replace the 2005 national study.

3.3.3 Exports and Imports of Waste

Waste Movements by Waste Type

3.3.3.1 Information concerning the quantities, origins and destinations of waste is published annually in the Environment Agency's Waste Data Interrogator (WDI). The classification of waste management routes shown and discussed in this chapter are based on the classification of sites used in the WDI. It should be noted that the data is indicative.

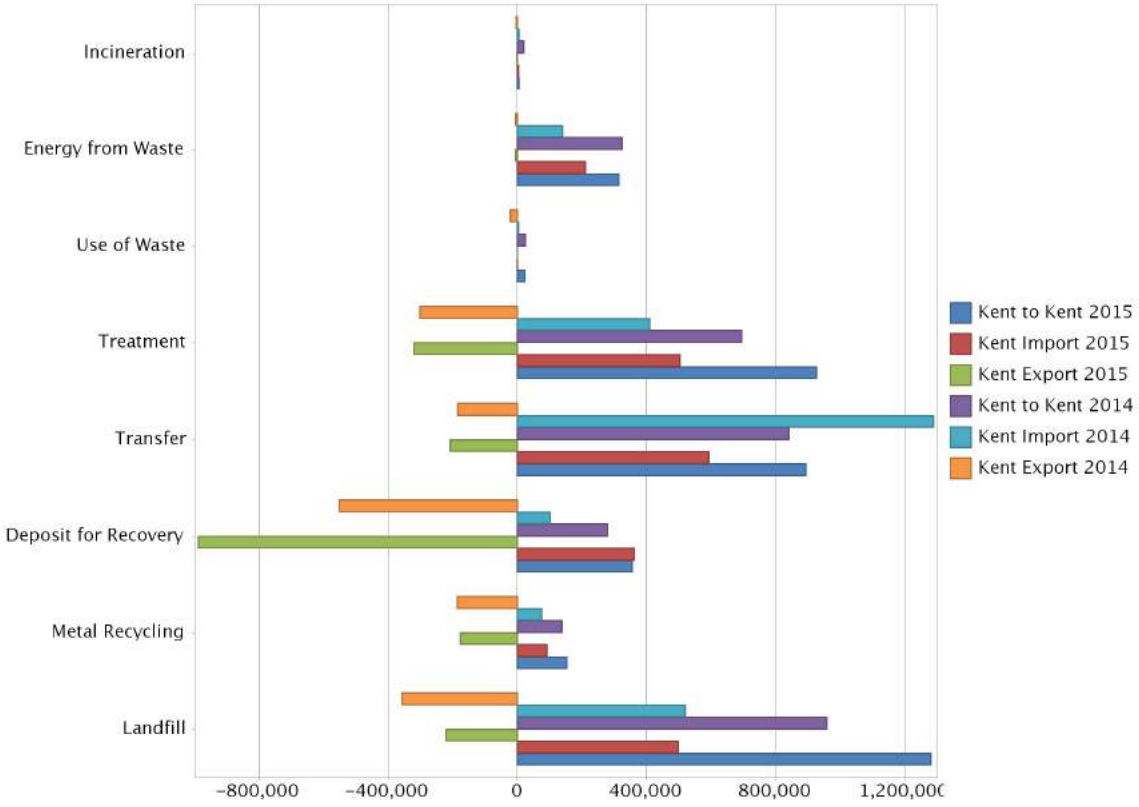
3.3.3.2 Figure 9 depicts the waste arisings by their management route in Kent and their movements; it shows the tonnage of waste arising and managed in Kent (*Kent to Kent*), the waste arisings received for management in Kent (*Kent Import*) and the wastes arising in Kent sent out of the county for management (*Kent Exports*). In 2014 there was a notably large amount of waste imported into Kent for transfer; this figure is skewed by over a million tonnes of London waste arising from the tunnelling operations of the Crossrail project imported to a temporary transfer station in Northfleet.[38] Operations at the site have now ceased.

3.3.3.3 Figure 9 overleaf shows the majority of wastes from each management type is of *Kent to Kent* movement, with the exception of deposit for recovery where exports are higher than the *Kent to Kent* and *Kent Import* figures. This *Deposit for Recovery* category includes inert wastes being used in land reclamation and

34 Construction, Demolition and Excavation Waste Arisings, Use and Disposal for England 2008, WRAP, April 2010
35 http://www.defra.gov.uk/statistics/environment/waste/wrfg09-condem/
36 Jacobs (May 2010) Need Assessment Modelling Technical Report
37 DCLG (updated 16 October 2014) National Planning Practice Guidance for Waste, para. 33
38 Excavated material was transported by rail to Northfleet for onward transportation by ship to Wallasea Island, Essex, where it is being used to create a wildlife habitat and wetlands reserve.

engineering projects including the Crossrail waste transferred from Northfleet to Essex . Waste imports from and exports to other Waste Planning Authority (WPA) areas in England are an inevitable part of the operation of the waste management markets, and do not necessarily represent an indication of a capacity deficit in Kent or other WPA areas. In 2014 there was 140 other WPAs linked to Kent by either import or export.

Figure 9 Kent Waste Import/Export Balance by Management Type Monitoring Period 2014/15



Municipal Solid Waste (MSW)

3.3.3.4 A much greater level of detail on the movement of Kent collected MSW is available since the County Council is responsible for its management. Table 15 overleaf details the recorded tonnages of arisings, export or remain proportion of the differing management processes that make up the whole collected MSW in Kent. It is of note that overall only 11.7% (83,262 tonnes) of Kent's collected MSW were managed outside of the county in the financial year 2014/15 as opposed to 14.5% (101,045 tonnes) recorded in the previous monitoring period 2013/14.

Table 15 : Kent MSW Arisings as Managed within Kent (1)

	Monitoring Period 2013/14			Monitoring Period 2014/15		
Materials	**Tonnage MSW Exported**	**Total MSW tonnage managed by KCC**	**Percentage of Waste Stream Exported (Ex) and Remained (Re)**	**Tonnage MSW Exported**	**Total MSW tonnage managed by KCC**	**Percentage of Waste Stream Exported (Ex) and Remained (Re)**
Green Waste	484	119,017	Ex 0.41% Re 99.59%	23	132,311	Ex 0.02% Re 99.98%
Recyclates	65,265	201,231	Ex 32.43% Re 67.57%	62,805	212,482	Ex 29.56% Re 70.44%
Residual (landfill)	35,296	121,712	Ex 29.00% Re 71%	20,434	78,278	Ex 26.10% Re 73.90%
Energy Recovery	0	254,857	0%	0	289,787	0%
Total	**101,045**	**696,816**	**Ex 14.50% Re 85.50%**	**83,262**	**712,859**	**Ex 11.68% Re 88.32%**

1. Source: KCC Waste Management Unit

3.3.3.5 The MSW export data for 2014/15 shows some positive change from the previous AMR as the trend to manage more of the collected MSW in Kent, rather than export it, has continued. The overall amount of MSW collected within Kent increased by 2.3% (16,042 tonnes) from the previous monitoring year and 88.32% was managed in the county during 2014/15 compared to some 85.5% previously. The collected green waste managed in Kent has now reached almost 100%, indicating there is now sufficient capacity in operation to enable self sufficiency to be achieved. Recycling of the collected MSW has shown a slight increase in the 2014/15 monitoring period, though the change is marginal overall with a ratio of approximately 3:7 between export and that which is ultimately reprocessed in Kent. The recorded tonnages are also similar for both monitoring periods. The residual collected MSW stream sent to landfill showed a significant decrease of almost 36% (a recorded reduction of 14,862 tonnes) compared to that in 2013/14; with exports of residual landfill wastes dropping from almost 30% to 26.1% (a decrease of 43,434 tonnes). In 2013/14 AMR, for every tonne of collected MSW exported out of Kent, 6.9 tonnes was managed within Kent, this ratio increased to 1 tonne of MSW exports to 8.6 tonnes of MSW managed within Kent for 2014/15.

Kent Waste Management by Region of Origin (Imports) & Destination (Exports)

3.3.3.6 Figure10 displays the waste imports and exports by region of origin/destination for the calender years 2013 and 2014 as per the EA's WDI, the recorded tonnages are shown in Table 16 below.

Figure 10 Kent Waste Import/Export balance by Region of Origin and Destination in 2013 and 2014

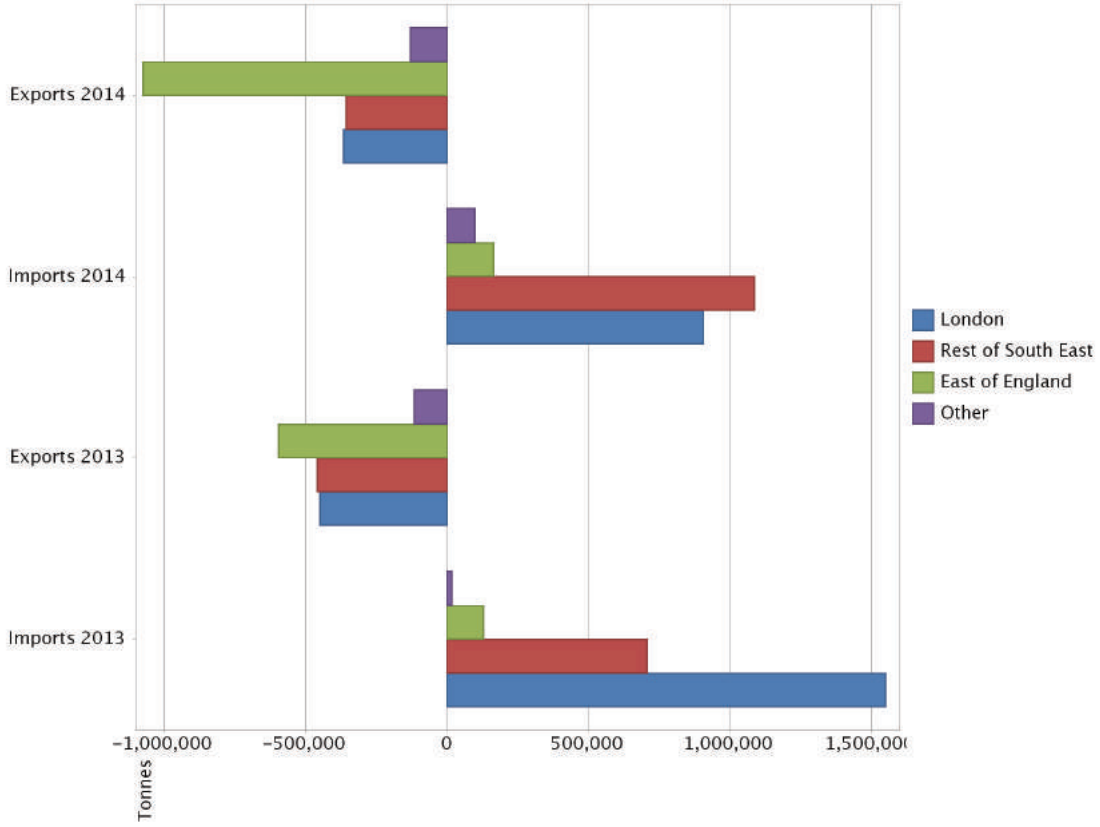


Table 16 : Imports and Exports of waste in Kent by Region of Origin Comparing 2013 and 2014

	Imports 2013 tonnes	Exports 2013 tonnes	Imports 2014 tonnes	Exports 2014 tonnes
London	1,550,783 (64.47%)	-447,534 (27.73%)	906,097 (40.13%)	-365,192 (19%)
Rest of South East	706,815 (29.39%)	-458,038 (28.38%)	1,086,853 (48.13%)	-355,011 (18.47%)
East of England	129,626 (5.39%)	-593,303 (36.77%)	166,367 (7.37%)	-1,072,869 (55.82%)
Other	18,072 (0.75%)	-114,790 (7.11%)	98,700 (4.37%)	-128,812 (6.70%)
Total	2,405,298	-1,613,665	2,258,019	-1,921,887

3.3.3.7 In 2013 significant quantities of waste was imported into Kent from London with over 1.5mt received (representing 65% of total imports for that year). This fell dramatically in 2014 with less than 1mt recorded (0.906mt or some 40% of all imports). The explanation for these quantities (considered as artificially high) as being due to the wastes received for transfer from the construction of the Crossrail project at that time in London, which ceased in late 2014. Exports to London from Kent remained at broadly similar levels in both years (0.447mt and 0.365mt for 2013 and 2014) though the proportionality changed from almost 28% of all imports to 19% in 2014.[39]

3.3.3.8 Imports from the south east into Kent rose from 0.707mt in 2013 (almost 30% of imports) to 1.09mt in 2014 (48% of imports) but exports to the rest of the south east declined with some 0.458mt recorded in 2013 (28.4% of all exports) to 0.355mt (18.5% of all exports) in 2014. It may be inferred that Kent is becoming increasingly important destination for managing waste arisings from the south east. The imports from the East of England increased from 0.129mt recorded in 2013 to 0.166 tonnes in 2014 (an increase of some 22%). Exports to the East of England also rose from 0.127mt in 2013 to 1.07mt in 2014. This growth in 2014 (some 55.8% of all exports in 2014) may well be linked to the transfer of Crossrail project related materials from Kent into Essex, that ceased during 2014.

3.3.3.9 Imports from other WPAs in regions further afield in England and Wales increased from 18,072 tonnes in 2013 to 98,700 tonnes in 2014 indicating that Kent's wider importance is increasing while exports to the wider area from Kent have remained essentially static at 0.114mt to 0.129mt in 2013 and 2014 respectively.

39 A total of 1.412 million tonnes (though not in any one year of the monitoring period) of material passed through the Northfleet 42 Wharf to Wallasea Island in Essex.

3.3.3.10 The export/import ratio in Kent during 2013 was 1:1.49 meaning for every tonne of waste exported 1.49 tonnes were imported. In 2014 the ratio was 1:1.17, meaning for every tonne of waste exported 1.17 tonnes were imported. A decrease of 32 tonnes of imports for every tonne of waste exported. This emphasised that Kent is continuing to move towards net self sufficiency and whilst also having a more significant role in the wider South East and beyond with regard to waste management.

3.3.4 Capacity for Handling Waste Materials in Kent

New Waste Capacity

3.3.4.1 Between April 2014 and March 2015 the County Council determined a total of 36 planning applications for waste management related development. The locations of the applications were distributed across the county; 9 in Swale, 7 in Tonbridge & Malling, 5 in Dartford, 2 each in Ashford, Shepway, Gravesham and Dover, and 1 each in Tunbridge Wells, and Sevenoaks, 5 in Canterbury and 4 in Maidstone. Thanet was the only district to have no waste related planning applications determined between April 2014 and March 2015.

3.3.4.2 Eleven of the 36 waste planning applications were granted planning permission. The majority of the additional capacity granted applies to waste management facilities located towards the top of the waste hierarchy; recycling, recovery and preparing for re-use. The permitted additional capacity is located both at existing sites and at new locations in Kent. Details of the planning applications approved can be found in Appendix A.

3.3.4.3 The additional capacity permitted in 2014/15 has been incorporated into Kent's existing waste management capacity, shown in Table 17 overleaf by facility type.

Kent's Waste Management Capacity

Table 18 shows the estimated capacity of facilities by waste management type in Kent permitted at the end of March 2015 (landfill capacity only until end of 2014). Following a review of how waste management capacity information is categorised and presented, a direct comparison with the previous year's data is not always possible.

The figures in Table 18 show the maximum permitted capacity for non landfill facilities allowed by the environmental permit, if permitted. If the site does not benefit from an environmental permit, then the estimated annual capacity submitted with the planning application has been applied. For landfill sites, the data in Table 18 is the void space remaining at 31 December 2014 as provided by the Environment Agency, which is based upon operator returns submitted as a requirement of the environmental permit. Landfill void data has been supplemented by KCC planning application monitoring information.

There were increases in capacity towards the top of the waste management hierarchy in composting/ anaerobic digestion and MSW & C&I recycling. The most significant change has been a moderate 7% increase in recycling (CD&E waste processing) capacity of inert waste materials suitable to form substitute aggregate materials.

In 2014/15, Kent had just over 12.9 million tonnes of non landfill waste management capacity; a decrease of 2.14 million tonnes on the previous monitoring year. This has been due to closures, mainly of sites with temporary planning permission, without their capacity being replaced with new sites coming on stream.

The decline in total remaining landfill capacity in Kent (for all waste types) is continuing. The county had 16,128,502 cubic metres of consented capacity at the end of 2013 and this is recorded as 9,531,493 cubic metres at the end of 2014. There are now 9 operational inert waste landfill sites, while previously there had been 12 such sites previously. Hazardous waste landfill sites (unrestricted as well as those described as merchant sites) have reduced from 5 to 4 operational sites. The restricted hazardous waste landfill sites have reduced from 2 to 1. These closures have resulted in a reduction of 41% in overall landfill capacity in Kent. The main category of loss is landfill receiving waste arising from the construction, demolition and excavation (C,D&E) waste stream. The monitoring period 2014/15 has also seen an increase in consented C,D&E recycling capacity within the County area, compensating for the reduction in consented inert landfill void and assisting in diverting elements of the inert waste stream from landfill.

A full list of the individual facilities that contribute to the capacity shown in Table 20 can be found in Appendix B. Their distribution is shown on maps in Appendix C.

Table 17 - Waste Management Capacity in Kent

Type of Facility	Total Capacity 2014/15	Total Capacity 2013/14	Change	Comment
Non Landfill Waste Management Facilities (t)				
Composting/ Anaerobic Digestion	590,808	572,398	+3%	Small growth
MSW and C&I Recycling[(1)]	1,755,946	1,719,346	+2%	Small Growth
C,D&E Recycling/ Aggregate Recycling	2,731,195	2,546,195	+7%	Moderate growth
Metal/ End of Life Vehicle Facility	1,074,879	1,074,879	0%	Static
Treatment	Allocated elsewhere	Allocated elsewhere		Treatment has been divided down into the waste stream specific categories i.e.

Type of Facility	Total Capacity 2014/15	Total Capacity 2013/14	Change	Comment
				Composting/ Recycling/ C&D Recycling
Incineration/ Energy Recovery inc. RDF[2] production	1,443,620	1,313,620	+10%	Moderate growth
Transfer	2,563,270	3,763,270	-32%	Significant contraction due to 1.2 million tonnes for temporary site at Northfleet ceasing operation
Inert Waste Recovery[40]	1,831,973 (Assumed Static)	1,831,973		No change assumed
Landfill Void (m^3)				
Inert Landfill	5,814,956	11,928,615 [3]	-51%	Reduction from12 sites to 10
Non-Hazardous Landfill	2,998,392	3,305,138	-9.3%	Moderate decrease in overall capacity
Hazardous Landfill (merchant)	360,300	468,300	-23%	Significant decrease in capacity
Hazardous Landfill restricted access	357,845	396,820	-9.8%	Moderate decrease in overall capacity
Specialist Capacity (t)				
Mobile Plant	Unknown (Assumed Static)	1,000,000	N/A	Assumed static

40 Deposit for recovery sometimes consented by Districts and Boroughs

Type of Facility	Total Capacity 2014/15	Total Capacity 2013/14	Change	Comment
Wastewater Treatment	421,823	421,300	0.1%	Negligible change
Dredging Disposal	Unknown (Assumed Static)	250,000	N/A	Assumed static
Clinical & Hazardous Waste	Unknown (Assumed Static)	551,449	N/A	Assumed static
Total Specialist	2,223,272	2,222,749	0%	Static
Totals				
Total landfill capacity (m^3)	9,531,493	16,128,502	**-41%**	**Significant reduction in landfill capacity**
Total capacity per year of facilities other than landfill (t)	12,916,486	15,044,430	**-14%**	**Moderate reduction in overall waste management capacity**

1. Including civic amenity site
2. Refuse Derived Fuel
3. Excludes land recovery/re-contouring

4.0.1 The NPPF sets out the need to have regard to the conservation of mineral resources, paragraph 142 states;

- *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.*

4.0.2 To ensure this occurs and the County Council's plans accord with national planning policy the emerging KMWLP 2014-30 Policy CSM 5 defines both Mineral Safeguarding Areas (MSA) and Mineral Consultation Areas (MCA) and has other policies that flow from these designations. Their purpose is to conserve the recognised important economic mineral types, by preventing sterilisation of the mineral deposits from non-mineral development over the plan period and beyond.

4.0.3 The MSA in the Kent MWLP identifies the important geological units (both superficial and crustal) in Kent. The base data comes from the British Geological Survey (BGS) coverage and is not produced or monitored by the County Council. These areas form the MCAs of the Kent MWLP. This defines the area over which consultation between the County Council and the Kent borough and district shall occur, it also covers the area outside the MSA at the Strategic Site for the Medway Works (cement manufacture) at Holborough. The Chalk is considered to be such a massive geological formation (as is the London Clay in Kent), specific safeguarding as an economically important mineral is required although it is not deemed appropriate by the BGS. The MSA do not presume that the minerals present will ever be worked nor do they convey a presumption that planning permission for the extraction of minerals will be granted. Their role is to highlight that economically important type minerals are present and should be taken into account.

4.0.4 The NPPF also sets out the need to ensure mineral importation infrastructure is also safeguarded, paragraph 143 states that local plans should;

- *safeguard:— existing, planned and potential rail heads, rail links to quarries, wharfage and associated storage, handling and processing facilities for the bulk transport by rail, sea or inland waterways of minerals, including recycled, secondary and marine-dredged materials; and — existing, planned and potential sites for concrete batching, the manufacture of coated materials, other concrete products and the handling, processing and distribution of substitute, recycled and secondary aggregate material.*

4.0.5 To ensure the Kent MWLP is in accordance with national planning policy all the extant, planned and potential wharfs, railheads and associated operational areas for handling and processing mineral importation activity are identified and safeguarded in the Kent MWLP (Policies CSM 6 and CSM 7).

4.0.6 The Waste Management Plan for England (2013) and the National Planning Policy for Waste (2014) set the planning policy context for waste management. Whilst the NPPF does not contain policies specific to waste, its principles remain relevant. This includes maintaining the thrust to increased sustainability of the planning and development of communities. Therefore, to ensure that the waste management capacity is safeguarded to enable sustainable waste management to occur the Kent MWLP seeks to safeguard the existing waste management facilities. Policy CSW 16 safeguards waste sites with permanent planning permission, or are allocated in the any Kent waste sites plan. The policy goes on to set out the parameters on when other development (proposed at or close by to waste facilities) will require consultation of the County Council before determination of the application.

4.0.7 The County Council has prepared a Supplementary Planning Document (SPD) on safeguarding during the Hearings for the submission of the Kent MWLP. This document includes a consideration of waste management infrastructure, minerals importation infrastructure and all the economic land-won minerals in Kent. Given the need to prevent sterilisation of the important mineral deposits to non-mineral development a significant proportion of the SPD is devoted to this. The intention of the final adopted document is to further develop and define the way in which minerals and waste safeguarding is to be achieved, in accordance with the local plan policy in Kent over the coming years.

4.1 Minerals and Waste Safeguarding Monitoring

4.1.1 The Mineral Safeguarding Areas in Kent are defined in the Kent MWLP as proposals maps for each district and borough council. The base data on the economic geology is derived from the BGS. This is monitored independently from the County Council and if revisions of the data are available the proposals maps would be revised. This is not anticipated to be a frequent event given that the area's geology (both superficial and crustal) is well understood which the utility of minerals changes through time, a significant change in the understanding of what constitutes an economic mineral is unlikely to occur for both aggregates or industrial minerals represented in Kent now and into the foreseeable future.

4.1.2 The Kent MWLP defines in Policy DM 7 where exemptions from the need for land-won mineral safeguarding can occur in relation to non-mineral development proposals. This includes exemption of the main urban areas in Kent, allocations for non-mineral development in adopted local plans and mineral sites that are now exhausted of mineral reserves. The policy has other clauses that relate to minor development proposals, proposals where prior extraction ahead of non-mineral development is possible and practicable and temporary non-mineral development that does not result in mineral sterilisation. It is assumed that the sterilisation of economic minerals would occur where it has been found to be acceptable in terms of justified need, or that the minerals are in fact absent or of little economic utility.

4.1.3 Therefore, in the passage of time the base plans will become progressively out of date as permitted sites are worked out and restored, non-mineral development proposals with mineral assessments may define those areas where the indicated minerals are not present, or if so, are of little of no economic value such that they can become sterilised by other development.

4.1.4 Monitoring of the effect of the policy on the base safeguarding proposals plans will form part of the formal AMR process. The trigger point for when the adopted Plan's safeguarding base data needs revision is not defined by national planning policy or advice, specifically. The Government's online Planning Practise and Guidance on local plan preparation and monitoring at Paragraph: 008 Reference ID: 12-008-20140306 states:

- *To be effective plans need to be kept up-to-date. Policies will age at different rates depending on local circumstances, and the local planning authority should review the relevance of the Local Plan at regular intervals to assess whether some or all of it may need updating. Most Local Plans are likely to require updating in whole or in part at least every five years. Reviews should be proportionate to the issues in hand. Local Plans may be found sound conditional upon a review in whole or in part within five years of the date of adoption.*

4.1.5 Given the above guidance, the data relating to the safeguarding issues raised above should be gathered continuously and the safeguarding proposals maps be updated to reflect these matters at least every 5 years. It may be the case that certain areas of Kent will require more frequent updating where non-mineral development pressure is more pronounced, or where local plan adoption coverage becomes more complete.

4.1.6 With regard to monitoring waste capacity safeguarding success there is the normal AMR analysis on whether net self sufficiency in waste capacity exists and if waste generated by Kent is being managed close to the source. Loss of capacity in Kent from year to year leading to loss of net self sufficiency and poor import/export balance in wastes managed can be determined without an additional tool being devised to illustrate these criteria.

5.1 Introduction

5.1.1 An annual monitoring report needs to details of the co-operation undertaken with other LPAs and the prescribed Duty to Co-operate (DtC) bodies.[41]

What is the Duty to Co-operate (DtC)

5.1.2 The Localism Act 2011 amended the PCPA 2004 by introducing Section 33a which introduces the DtC. The Duty applies to all LPAs, and prescribed bodies and requires that they actively co-operate with each other to maximise the effectiveness with which development plans are prepared and implemented.

5.1.3 The Duty requires that engagement occurs constructively, actively and on an on-going basis during the plan making process and beyond and that regard be given to the activities of other authorities where these are relevant to the LPA in question. For Kent this represents the districts and boroughs within the county of Kent, planning authority areas bordering Kent and other local authorities linked to Kent by movements of mineral aggregates and waste (imports/exports).

5.1.4 Town and Country Planning (Local Planning) (England) Regulations 2012,[42] set out the bodies (in addition to Local Planning Authorities and County Councils) subject to the Duty to Co-operate.

5.1.5 Engagement with all of the prescribed bodies should be proportionate in level of co-operation and engagement should be tailored according to where they can maximise the effectiveness of plans.

5.2 Co-operation in Monitoring Period

5.2.1 The DtC related activity undertaken by the County Council during the monitoring period 2014-15 was considered by the Inspector as part of the Independent Examination of the Kent MWLP. The November 2014 Duty to Co-operate document comprehensively sets out the evidence gathered as part of this duty to comply with the Duty to Co-operate obligation required to ensure the submitted plan was sound being compliant with the relevant provisions of the Localism Act 2011. [43]

41 According to Regulation 34 (6) of The Town and Country Planning (Local Planning) (England) Regulations 2012.

42 As amended by The National Treatment Agency (Abolition) and the Health and Social Care Act 2012 (Consequential, Transitional and Saving Provisions) Order 2013.

43 Kent County Council (November 2014) Duty to Co-operate. Available from: http://consult.kent.gov.uk/file/3259821

Formal Consultation

5.2.2 Throughout the preparation of the Kent MWLP the County Council has actively invited all relevant key stakeholders to comment at each stage of the formal consultation process; the same approach was taken to the Submission version of the Plan (published for consultation in July 2014) [(44)]. These consultations are outlined in more detail under Chapter 2.2: *Progress of the Minerals and Waste Local Plan*.

5.2.3 Groups invited to comment on the consultation included the Kent district authorities, neighbouring authorities and prescribed bodies under the Duty, as well as parish councils, non-statutory interest and local groups, local businesses, minerals and waste industries and related interest groups and interested members of the public. The Examination hearings were attended by some of the parties who had made formal representations on the soundness of the Submission version of the Plan.

5.2.4 The Submission consultation included a question on whether the Plan is considered to comply the Duty; it should be noted that none of the representors stated that it did not, and positive responses to this question were received from: Shepway District Council, Surrey County Council, Thames Water Property Services, Port of London Authority, The Coal Authority, CPRE Protect Kent, Nature After Minerals and minerals and waste industry representatives.

5.2.5 During the monitoring period, the County Council has worked with a number of key partners as part of the plan making process. This included SEEAWP, a technical working group that advises the government, Mineral Planning Authorities and the minerals industry on matters concerning mineral aggregates supply; SEWPAG, the regional working group of waste planning authorities and the Environment Agency, which share an understanding of cross boundary waste movements of waste in the region, ideas and best Practice and provide a consistent evidence base; NULEAF, which advises on radio-active waste matters; South East 7, a partnership between 7 South east Waste Disposal Authorities and neighbouring planning authorities. Further details are set out in the DtC 2014 document examined by the Planning Inspector.

5.2.6 SEEAWP also advises on the adequacy of the County Council's (as the relevant MPA for Kent) Local Aggregate Assessment (LAA) which sets out the current landbank and future supply situation of all aggregate (both primary, recycled/secondary and imports via wharves and railheads) types in Kent and how there may changes ij the pattern of supply and the potential remedies for any identified shortfalls. The 2014 Kent LAA was considered by SEEAWP on the 5th November 2015 and confirmed on the 20th as an acceptable statement on aggregate supply for Kent and the wider region of the South East.

5.2.7 In addition, during the monitoring period, discussions took place with representatives of the Kent downs AONB Unit regarding:

44 Available online from: http://consult.kent.gov.uk/portal/mwcs/mwlp-submission

- splitting sharp sand and gravel and soft sand land-banks
- changes to policy and text to reflect the importance of landscape and AONB and its setting
- concerns with the SA

5.2.8 The Kent Downs AONB highlighted the need to split sharp and gravel and soft sand land-banks to reflect the latest National Planning Practice Guidance on Minerals; the result of this co-operation was the alternation of the approach to and content of the Kent MWLP 2013-30 Policy CSM2: Supply of Land-won Minerals in Kent. As a result, the Kent MWLP ensures provisions will be made for landbanks of land-won aggregates of seven years for sharp sand and gravel and a rolling landbank of at least seven years for soft sand. Co-operation also resulted in amendments to Policy DM2: Environmental and Landscape Sites of International, National and Local Importance (in particular section two) and the supporting text in order to reflect the importance of the AONB and its setting. The content of the Plan's Sustainability Appraisal was also amended to reflect these changes. However, it should be noted that Policy CSM2 is now the subject of a main modification as part of the independent examination of the Kent MWLP 2013-30.

Monitoring the Progress of the Kent Minerals and Waste Local Plan and the Duty to Co-operate (2015)

6.0.1 Excellent progress was made on the preparation of the Kent MWLP 2013-30 (the Plan) during the monitoring period, cumulating in the Submission of the Plan to the Secretary of State for Examination on 03 November 2014. The Plan has been subject to an Independent Examination and the Local Development Scheme has been revised to reflect adoption and a new Call for Sites exercise. The Independent examination ran from April to May 2015 (just outside the monitoring period) and the Hearings once conducted, were followed by two sets of both main and additional (minor) modification 8 week consultation events. Once these were completed and the summarised representations were sent to the Inspector. This enabled the Inspector to finalise his report that in April 2016, the County Council considered his conclusions that the Plan was sound as amended, and in July 2017 resolved to adopt the Plan. The judicial review elapsed without a challenge being lodged and the Kent Minerals and Waste Local Plan 2013-30 is now fully adopted allowing work on the minerals and waste sites to progress.

6.0.2 The next programme stages for the Kent Minerals Sites Plan and the Kent Waste Sites Plan will be a new 'Call for Sites' exercise in accordance with the revised Development Scheme. The previous exercise being in 2012 is now considered out of date given that sites considered deliverable at this time may no longer be and those sites not proposed that may be acceptable and deliverable can be now. The exercise is currently ongoing and will end on the 23rd March 2017.

6.0.3 The County Council has continued to comply with the requirements under the Localism Act's DtC by actively engaging and working with key stakeholders in the development of the Kent MWLP during the 2014/15 period. This was through the formal consultation on the pre-submission (January 2014) and submission (July 2014) drafts of the Plan. Representations were invited from a wide range of stakeholders including Kent district authorities, neighbouring authorities, parish councils and prescribed bodies under the DtC, as well as a range of statutory interest and local groups, local businesses, minerals and waste industries and related interest groups and interested members of the public in the run up to submision of the Plan.

6.0.4 The adoption of the Plan post the Independent Examination in July 2016 has occurred though this has not mean DtC has ceased. The Plan will now move towards the post adoption monitoring phase where issues of relevancy will be continuously examined. To this end ongoing engagement with other local authorities and key groups on cross boundary minerals and waste issues has occurred and will continue through participation in working group meetings including the SEEAWP, South SEWPAG, NuLeAF, and the SE7 when convened. Proactive, targeted engagement on specific issues has taken place with East Sussex (mineral cross border movements) and Essex County Council (mineral supply via wharves to Essex and any cross border waste issues) and other teams within the County Council on strategic matters such as the Growth Infrastructure Framework being developed by the County Council.

Mineral Indicator Monitoring

6.0.5 The overall aggregate sales in Kent during 2014 from all sources amounted to some 4.903mt (approx.) compared to 4.907mt in 2013, a 0.08% decrease. This apparent slight decrease masks the significant overall decline in land-won aggregate sales (in 2014 there was a decrease of nearly 0.26mt tonnes or some 16.1% compared to 2013) with the difference being made up by and crushed rock sales at wharves (0.70 million tonnes 22% increase from 2013) and a notable and continued recovery of and rail depots (326,578 tonnes of crushed rock a 13% increase in comparison to the 2013 monitoring year).

6.0.6 However, when compared to the previous monitoring year sales at secondary and recycled aggregate sites continue to fall, the 2014 recorded figure of 548,004 tonnes (17.9% decrease from the 668,574 tonnes in 2013, which in turn fell by 14% from the 2012 figure of 774,607 tonnes) is the lowest since 2009 when again production was approximately 0.55mt. Though overall, the trends in aggregate sales seen in recent years have continued; in that sales of primary land-won sand and gravel in Kent continues to decline (as they have over the last ten years) due to a lack of additional reserves replenishing those extracted, with an increasing proportion of Kent's aggregate needs met by sales of imported minerals via its safeguarded wharves and railheads.

6.0.7 The permitted Kentish Ragstone reserves (that were permitted during 2013 through an extension to an existing site) continue to more than secure the ability of Kent to maintain a 10 year landbank of crushed rock at any time over the life of the now adopted Kent MWLP 2013-30. Overall, Kent meets the national planning policy requirements for construction aggregates landbanks for crushed rock (at least 10 years) and soft sands (at least 7 years). Though fails to do so for sharp (or flint) sands and gravels.

6.0.8 With regard to the other land-won minerals of importance in Kent the following position can be reported:

6.0.9 Brickearth

- There are four permitted landbanks of clay and brickearth with remaining reserves in Kent. These sites have a combined landbank of over 25 years, meeting national planning policy requirements.

6.0.10 Silica Sand

- In terms of silica sand. Only one of the three Kent silica sand sites does not currently meet the requirement of maintaining a 10 year landbank per site at existing sites. One silica sand site has since been declared by the owner as now containing unviable reserves. This was considered further at the Plan's examination.

6.0.11 Chalk

- While there are no active quarries to supply minerals for cement production in Kent, there is a consented quarry with over 25 years of reserves adjacent to the permitted, but implemented Holborough Cement works.

- Kent's chalk reserves for agriculture and engineering purposes, on the basis of the 2013 rate of sales at five active sites, have an indicative permitted landbank of 19.4 years of chalk reserves at the end of 2013; alternatively a calculation based on the average rate of chalk sales between 2011 and 2013 would indicate a landbank figure of 14.5 years.

Waste Indicator Monitoring

6.0.12 There has been a minor increase in the arisings of MSW (2.25%) (now Local Authority Collected Waste (LACW)) for the first time in recent years. The dominant methods of management for MSW continued to be recycling and composting (48%) and energy recovery (41%), whilst diversion of MSW from landfill continued to increase, reaching its highest level to date at 82.5% of all MSW. In 2013, KCC have already met the updated targets of the KJMWMS for recycling/composting rates of at least 45% by 2015/16 and is making good progress towards the 2015/16 landfill diversion target of 90% by attaining a rate of 89% in 2014/15.

6.0.13 As there is no regular data available on the annual arisings of CD&E, Kent MWLP 2013-30 assumed that no growth occurred in CD&E waste arisings, in line with past forecasting and national guidance. The most recent national survey of C&I waste arisings was conducted for the year of 2009 for DEFRA. Estimates of C&I waste arisings will be produced on an annual basis in future years to support the monitoring requirements of the Plan.

6.0.14 The waste import and exports levels in Kent in monitoring period 2014/15 were notably affected by over a million tonnes of London waste arising from the tunnelling operations of the Crossrail project imported to a temporary transfer station in Northfleet, with half of this material recorded as being exported for recovery at a site in Essex. Otherwise movements of waste continued between Kent and London, the south-east and the east of England, with much smaller proportions travelling further afield to other WPAs in England and Wales. Overall Kent is still a net importer of waste with imports nearly 800,000 tonnes higher than exports in 2013/14.

6.0.15 The export/import ratio in Kent during 2013 was 1:1.49 meaning for every tonne of waste exported 1.49 tonnes were imported. In 2014 the ratio was 1:1.17, meaning for every tonne of waste exported 1.17 tonnes were imported. A decrease of 32 tonnes of imports for every tonne of waste exported. This emphasised that Kent is continuing to move towards net self sufficiency and whilst also having a more significant role in the wider South East and beyond with regard to waste managements.

6.0.16 There were 36 new planning application determinations in the monitoring period. Eighteen of the waste planning application permissions provided additional capacity for waste management within Kent. There were increases in capacity towards the top of the waste management hierarchy in composting/ anaerobic digestion and MSW & C&I recycling. The most significant change has been a moderate 7% increase in recycling (CD&E waste processing) capacity of inert waste materials suitable to form substitute aggregate materials.

6.0.17 In 2014/15, Kent had just over 12.9 million tonnes of non landfill waste management capacity; a decrease of 2.14 million tonnes on the previous monitoring year. This has been due to closures, mainly of sites with temporary planning permission, without their capacity being replaced with new sites coming on stream.

6.0.18 The decline in total remaining landfill capacity in Kent (for all waste types) is a continuing trend in Kent. The county had 16,128,502 cubic metres of consented capacity at the end of 2013 and this is recorded as 9,531,493 cubic metres at the end of 2014. There are now 9 operational inert waste landfill sites, while previously there had been 12 such sites previously. Hazardous waste landfill sites (unrestricted as well as those described as merchant sites) have reduced from 5 to 4 operational sites. The restricted hazardous waste landfill sites have reduced from 2 to 1. These closures have resulted in a reduction of 41% in overall landfill capacity in Kent. The main category of loss is landfill that is receiving waste arising from the construction, demolition and excavation (C,D&E) waste stream. However, the monitoring period 2014/15 has also seen an increase in consented C,D&E recycling capacity within the County area. This is compensating for the reduction in consented inert landfill void and assisting in diverting elements of the inert waste stream from landfill.

Conclusion and Next Steps

Overall, the monitoring data illustrates the aggregate supply and waste management capacity within the county for 2014/15. It formed part of the evidence base for the adopted policies of the Kent Minerals and Waste Local Plan 2013-30 and planning decisions . The AMR also tracks plan making progress against the latest minerals and waste timetable and the co-operation on plan making activities with other local authorities and stakeholders.

6.0.19 Next year's AMR (for the monitoring period 2015/16) will report on the sites plan preparation progress in accordance with the revised programme dates to be brought into effect by an updated Development Scheme. Future editions of this report will change once the Kent MWLP 2013-30 is adopted, the focus will be on monitoring and reporting on the implementation and effectiveness of adopted plan policies.

Appendix A: Minerals and Waste Planning Applications

Kent County Council usually determines between 50 and 100 minerals or waste related planning applications every year. In 2014/15 KCC granted 36 minerals and waste permissions, the schedule below (Table 18) details those that are considered as significant in type that gave rise to additional significant capacity in terms of increased in permitted mineral reserves/mineral importation or production and waste management capacity. While Table 19 details other applications for both minerals and waste management development that improved the overall efficiency of site operations or increased environmental controls to reduce impacts on the wider area.

Significant minerals and waste applications:

Table 18 - Significant minerals and waste applications permitted during the monitoring period

Ref	Operator	Location	Application
CA/14/502218	SWEEEP Kuusakoski Ltd	Gas Road, Sittingbourne	Proposed additional storage for Waste Electronic Equipment Material in connection with waste electrical and electronic equipment recycling activities
DA/14/1259	Sheerness Recycling Ltd	Land to the South of Manor Way, Swanscombe, Kent,	Operation of an aggregates recycling facility to accept 150,000tpa of construction and demolition waste including a fixed processing plant to utilise certain fractions of the recovered materials in order to produce hydraulically bound materials
DA/14/1532	Wash Mills Recycling Centre	Eastern Quarry, Watling Street, Swanscombe, Dartford	Variation of planning application DA/13/1491 (Temporary consent (5 years) for the operation of a construction and recycling facility for concrete and road/base planings and ancillary plant storage areas, reception weighbridge office and parking) to amend conditions 2 (development to be built in accordance with approved details), 4 (Hours of operation), 5 (increase in maximum throughput per annum) and 6 (increase in maximum HGV movements)
DA/14/1533	Lafarge tarmac Cement and Lime Ltd	South Pit, Manor Way, Swanscombe	Construction and operation of a Leachate Disposal Plant (LDP) at South Pit Landfill to enable raw leachate to be collected and managed so that it can be disposed of to sewer or tankered off site

Ref	Operator	Location	Application
DO/15/28	Bakkavor Group Ltd	Tilmanstone Salads, Pike Road Industrial Estate, Millyard Way, Eythorne, Dover, Kent	Section 73 application to vary condition 2 of planning permission DO/11/612 to allow the addition of one clean water storage tank to the existing scheme and within the development footprint
DO/14/1036	Augean plc	East Kent Waste Recovery Facility, Discovery Park, River Road, Sandwich, Kent	A scheme of landscape maintenance submitted pursuant to condition (5) of DO/14/1036 (change of use of the land to extend the waste storage facilities)
TM/14/573	Gallagher Aggregates Limited	Hermitage Quarry, Hermitage Lane, Aylesford, Kent	Section 73 application to vary condition 11 of Annex A2 (original quarry) of planning permission TM/10/2029 granted on 11 July 2013
TM/14/1815	Cleansing Service Group Ltd	Mills Road, Quarry Wood Industrial Estate, Aylesford, Kent	Extension of hazardous waste treatment plant by the addition of 2no vertical treatment tanks and associated bunding
TM/14/2728	Robert Body Haulage Ltd	Borough Green Landfill Site, Wrotham Road, Borough Green, Kent	Application to relocate and raise the ground level for the recycling operations and for the permanent presence of recycling plant in the recycling area
TM/14/3991	Southern Water Limited	Ham Hill Wastewater Treatment Works, Brook Lane, Snodland, Kent	application to vary condition (4) and (5) of planning permission TM/14/3991 to increase volume of liquid to be treated and associated vehicle numbers

Ref	Operator	Location	Application
SH/14/751	J Taylor & Son	Hope Farm, Crete Road East, Folkestone, CT18 7EG	Extension to the existing Hope Farm Composting Facility along with the variation of conditions to planning permission reference SH/14/751 in respect of the inclusion of Bank Holiday deliveries of waste, removal of restriction on sources of material, increase in waste throughout, utilisation of processed material on other surrounding farms and increase in current restriction on vehicle movements
SW/13/1542	Countrystyle Recycling Ltd	Countrystyle Recycling Ltd, Ridham Dock Road, Iwade, Sittingbourne, Kent	Section 73 application to amend conditions, (1) - site layout, (8) - delivery hours, (17) - vehicle movements and (24) - waste throughput of planning permission SW/12/445
SW/14/501576	FCC Environment (UK) Ltd	Norwood Quarry and Landfill Site, Lower Road, Brambledown, Minster on Sea, Sheerness, Kent	pplication under section 73 of the Town and Country Planning Act 1990 (as amended) for non compliance with planning conditions 4 and 11 of planning permission SW/05/744 to allow import and disposal of Incinerator Bottom Ash (IBA) from Allington Energy from Waste (EFW) Facility and erection of temporary IBA reception bay at Norwood Quarry and Landfill site
SW/14/502215	SWEEEP Kuusakoski Ltd	SWEEEP Kuusakoski Ltd, Gas Road, Sittingbourne, Kent	Retrospective planning permission for WEEE recycling storage buildings in connection with waste electrical and electronic equipment recycling activities granted under SW/11/1227
SW/14/502217	SWEEEP Kuusakoski Ltd	Proposed change of use of Pioneer Building from storage to production in connection with WEEE waste electronic equipment	Section 96A application for a non-material amendment for minor adjustments to site layout (moving plant 3m to the east) within the existing and approved application boundary

Ref	Operator	Location	Application
		recycling plus recladding the building	
SW/14/502218	SWEEEP Kuusakoski Ltd	SWEEEP Kuusakoski Ltd, Gas Road, Sittingbourne, Kent	Proposal Proposed additional storage for Waste Electronic Equipment Material in connection with waste electrical and electronic equipment recycling activities

Changes to permitted minerals and waste management capacity:

Table 19 - Planning applications involving relatively minor changes to permitted mineral related activity and waste management facilities during the monitoring period

Ref	Operator	Location	Description of application
AS/14/159	Southern Water Services	High Halden WTW, off Wrens Nest Lane, High Halden, Ashford, Kent	Motor Control Centre Kiosk within High Halden Wastewater Treatment Works
AS/14/725	Kent County Council, Ashford Household Waste Recycling Centre	Kent County Council Waste Transfer Station, Cobbs Wood Industrial Estate, Brunswick Road, Ashford, Kent	Proposed relaxation of condition (26) of planning permission AS/12/813 to allow the hours of working for the Waste Transfer only to be extended to run from 0900 to 1600 hours on a limited number of Sundays and to allow no more than a maximum of 3 deliveries (6 movements) during each extended period
CA/13/2055	Starnes (Canterbury) Ltd	Oldridge Wood Lagoons, Swanton Lane, Off Canterbury Road, Littlebourne, Canterbury, Kent	Variation of conditions 2 (restoration period), 10 (hours of HGV movements) and 11 (traffic management) of planning permission CA/12/606 for the infilling of open lagoons formally used for the disposal of tannery wastes
DA/14/1126	Pinden Ltd	Pinden Quarry, Green Street, Green Road, Dartford, Kent	Renewal and replacement of waste recycling and transfer station equipment
DA/14/1512	Lafarge Tarmac Cement & Lime Ltd	Broadness Percolate Treatment Compound, Manor Way, Swanscombe, Kent	Section 73 application to amend condition 2 of planning permission DA/06/200 to upgrade the existing percolate management system

Ref	Operator	Location	Description of application
GR/14/615	Brett Aggregates Limited	Alpha Lake & Chalk Lake, North Sea Terminal, Salt Lane, Cliffe, Kent	Proposed ecological and landscape enhancement of Alpha Lake and Chalk Lake, such enhancement to include re-profiling and creation of new island features using imported inert materials
GR/14/617	R S Skips Ltd	Unit 4, Apex Business Park, Queens Farm Road, Shorne, Gravesend, Kent	for the erection of a permanent single-storey office building at the existing waste transfer station to replace portacabin accommodation
MA/14/688	Brett Aggregates Limited	Shepherds Farm Quarry at Lenham Quarry, Forstal Road, Lenham, Kent	Section 73 application to vary conditions of permission MA/08/45 regarding revised proposals for phase 1 slope remediation
MA/13/2191	Pinden Limited	Units 6, 13, 14 and Adjacent Unit, Detling Aerodrome Industrial Estate, Detling, Maidstone, Kent	Submission of a landscape strategy and planting specification pursuant to condition (3), a scheme of external lighting pursuant to condition (4), a drainage scheme pursuant to condition (5) and details of ground conditions pursuant to condition (6) of planning permission MA/13/2191 for a waste management facility
MA/14/689	Brett Aggregates Limited	Shepherds Farm Quarry at Lenham Quarry, Forstal Road, Lenham, Kent	Application to vary condition 2 (working and restoration scheme) of MA/09/1013/MR108, as well as a request for a temporary relaxation of condition 5 (extent of area outside agricultural use at any one time), accompanied by schemes submitted pursuant to conditions 14 (diversion of watercourse),

Ref	Operator	Location	Description of application
			23 (archaeological work), 25 (compensatory habitat) & 29 (restoration and aftercare)
TM/14/3339	Lafarge Tarmac Trading Limited	Ham Hill Quarry, Snodland, Kent	Extension to the height of the existing asphalt plant emissions stack
TM/14/532	New Earth Solutions (Kent) Ltd	Blaise Farm Composting Plant	Proposal Section 73 application to vary condition 2 of planning permission TM/13/1299 to align the operational timeframe of the established enclosed composting facility granted under planning permission TM/13/1299 to that of the consented anaerobic digestion facility granted under planning permission TM/12/2549
TM/14/ 1442	Robert Body Haulage Ltd	Borough Green Quarry, Wrotham Road, Borough Green, Sevenoaks, Kent	Additional use of existing secure compound for parking of 12 No HGV lorries and a low loader
SE/14/1680	Terrestria Ltd	Squerryes Sand Pit at Covers Sandpit, Westerham, Kent	Application to vary condition (ii) of planning permission SE/83/1511 to enable an extension of time to restore the sandpit formerly known as Squerryes Sandpit until 31st October 2015
SH/11/852	EDF Energy Nuclear Generation Ltd	Dungeness Borrow Pit, Dungeness, Romney Marsh, Kent	Shingle recycling for the purpose of flood defence

Ref	Operator	Location	Description of application
TW/14/ 501345	Piper Farms Energy Ltd	Location Conghurst Farm, Conghurst Lane, Hawkhurst, Cranbrook, Kent	Section 96A application for a non-material amendment for minor adjustments to site layout (moving plant 3m to the east) within the existing and approved application boundary
SW/13/ 1495	SITA UK Ltd	Unit 15B, Ridham Dock Industrial Estate, Ridham Dock Road, Ridham, Sittingbourne, Kent	Variation of condition 9 of planning permission SW/11/548 (use of building 15B to install and operate materials recycling facility (MRF) and a refuse derived fuel (RDF) facility and to use existing weighbridge, weighbridge office, site office and washroom/toilets to the south of building 15a) to allow an increase of HGV movements from 58 to 98 (49 in and 49 out) for a temporary period of 12 months
SW/14/76	MVV Environment Ltd	Land at Ridham Dock, Iwade, Sittingbourne, Kent	Revised surface water drainage scheme
SW/14/99	MVV Environment Ltd	Land adjacent to Thamesteel, Ridham Dock	Variation of conditions 6 and 9 of planning permission SW/10/774 revised water draiange scheme
SW/14/191	Countrystyle Recycling Ltd	Countrystyle Recycling, Ridham Dock Road, Iwade, Kent	Extension to existing HGV fitters shed plus small additional storage building

Other applications determined:

There were a further minerals and waste planning applications permitted during 2014/15 which did not alter waste management capacity or minerals reserves. Many of these involved minor amendments to infrastructure or conditions.

All of the sites listed here are displayed on maps in Appendix C.

Note: Sites in *italics* have planning permission but were inactive during the monitoring period.

Construction Aggregate Sites (See Map 1)

Table 20 Sand and Gravel Sites[(1)]

Ref	Site Name	Operator	District
Building Sand			
23	Charing Quarry	Brett Aggregates Ltd	Ashford
15	Lenham Quarry (Shepherds Farm)	Brett Aggregates Ltd	Maidstone
30	Sevenoaks Quarry (Greatness)	Lafarge Tarmac Limited	Sevenoaks
155	Aylesford Quarry	Ayesford Heritage Ltd	Tonbridge & Malling
53	Ightham Sand Pit	H&H (Celcon) Ltd	Tonbridge & Malling
21	Nepicar Sand Pit	J Clubb Ltd	Tonbridge & Malling
94	Addington Sand Pit (Wrotham Quarry)	Hanson Aggregates	Tonbridge & Malling
34	Borough Green Sand Pit	Borough Green Sandpits Ltd	Tonbridge & Malling
Sand and Gravel			
131	Conningbrook Quarry	Brett Aggregates Ltd	Ashford
100	Faversham Quarry	Brett Aggregates Ltd	Swale
50	Joyce Green Quarry	Hanson Aggregates	Dartford
126	*Allens Bank*	*Brett Aggregates Ltd*	*Shepway*
133	Scotney Court Quarry (Lydd Quarry)[(2)]	Brett Aggregates Ltd	Shepway

Ref	Site Name	Operator	District
143	Denge Quarry	CEMEX UK	Shepway
81	East Peckham Quarry	J Clubb Ltd	Tonbridge & Malling
55	*Stonecastle Farm*	*Lafarge Tarmac Limited*	*Tonbridge & Malling*

1. Site categories reflect the dominant mineral type at the site.
2. Extraction of sand and gravel has moved into East Sussex.

Table 21 Crushed Rock Sites

Ref	Site Name	Operator	District
163	Blaise Farm Quarry	Hanson Aggregates	Tonbridge & Malling
36	Hermitage Quarry	Gallagher Aggregates Ltd	Tonbridge & Malling

Secondary and Recycled Aggregate Sites (See Map 2)

Table 22 Secondary and Recycled Aggregate Sites

Ref	Site Name	Operator	District
Quarry			
131	Conningbrook Recycling Centre	Brett Aggregates Ltd	Ashford
114	Shelford Landfill	Viridor Waste Management	Canterbury
32	Pinden Quarry	Pinden Ltd	Dartford
42	*Greatness Integrated Waste Management Facility*	*Cory Environmental*	*Sevenoaks*
100	Faversham Quarry	Brett Aggregates Ltd	Swale
81	East Peckham Quarry	J Clubb Ltd	Tonbridge & Malling
870	Ham Hill Quarry	Tarmac Ltd	Tonbridge & Malling
159	Borough Green Sandpit	Borough Green Sand Pits Ltd	Tonbridge & Malling
43	*Borough Green Landfill*	*CEMEX UK*	*Tonbridge & Malling*
36	Hermitage Quarry	Gallagher Aggregates Ltd	Tonbridge & Malling

Ref	Site Name	Operator	District
81	East Peckham Quarry	J Clubb Ltd	Tonbridge & Malling
Wharves and Rail Depots			
230	*Sevington Rail Depot*	*Brett Aggregates Ltd*	*Ashford*
357	Hothfield Works	Tarmac Ltd	Ashford
88	Allington Recycling	Hanson Aggregates	Maidstone
259	Ridham Dock	Ballast Phoenix	Swale
Other			
359	Manor Way[(45)]	Lancebox Ltd	Dartford
355	FM Conway Works	F M Conway Ltd	Dartford
245	Tilmanstone Works	R H Ovenden	Dover
604	Richborough Hall	Thanet Waste Services	Dover
495	*Stonelees Golf Course*	*Ovenden Earth Moving Company*	*Thanet*
865	Land at Sanderson Way	Sheerness Recycling Ltd	Tonbridge & Malling
893	Land south of Manor Way	Sheerness Recycling Ltd	Dartford

Wharves and Rail Depots (See Map 3)

Table 23 Wharves

Ref	Site Name	Operator	District
Crushed Rock			
586	East Quay Whitstable	Brett Aggregates Ltd	Canterbury
579	Robins Wharf	Aggregates Industries Ltd	Gravesham
499	Red Lion Wharf	Stema Shipping (UK) Ltd	Gravesham
582	Ridham Dock, East Quay	Brett Aggregates Ltd	Swale
584	Ramsgate New Port	Brett Aggregates Ltd	Thanet
Marine Dredged Sand and Gravel			

45 Pending formal Planning Application decision

Ref	Site Name	Operator	District
580	Johnsons Wharf	Lafarge Aggregates Ltd	Dartford
583	*Dunkirk Jetty, Dover Harbour*	*CEMEX UK*	*Dover*
577	Northfleet Wharf Botany Marshes	CEMEX UK	Gravesham
578	Robins Wharf	Brett Aggregates Ltd	Gravesham
575	Denton Wharf (Denton Marine Terminal)	J Clubb Ltd	Gravesham
582	Ridham Dock, East Quay	Brett Aggregates Ltd	Swale
581	Ridham Dock	Lafarge Tarmac Limited	Swale
Cement			
585	Wharf 42 - including Northfleet Cement Works	Lafarge Cement UK	Gravesham

Table 24 Rail Depots

Ref	Site Name	Operator	District
357	Hothfield	Tarmac Ltd	Ashford
230	*Sevington*	*Brett Aggregates Ltd*	*Ashford*
88	Allington Depot	Hanson Aggregates	Maidstone
81	East Peckham Rail Siding and Depot	J Clubb Ltd	Tonbridge & Malling

Other (Non Aggregate) Minerals (See Map 4)

Table 25 Brickearth Sites

Ref	Site Name	Operator	District
182	Claxfield Farm	Weinberger Ltd	Swale
209	Hempstead House	Ibstock Building Products	Swale

Table 26 Clay Brick/Tile Sites

Ref	Site Name	Operator	District
211	Babylon Tileworks	Havenworld (KPT) Ltd	Maidstone

Table 27 Chalk Cement Sites

Ref	Site Name	Operator	District
191	*Holborough Quarry and Cement Works*	*Lafarge Cement UK*	*Tonbridge & Malling*

Table 28 Chalk Sites

Ref	Site Name	Operator	District
7	Crundale Quarry	C Peach	Ashford
194	Hegdale Quarry	R H Ovenden Ltd	Ashford
196	Beacon Hill Quarry	John Bourne & Co Ltd	Ashford
203	Darenth Road Quarry	J Clubb Ltd	Dartford
32	Pinden Quarry	Pinden Ltd	Dartford
198	Rowling Chalk Pit	R H Ovenden Ltd	Dover
193	Detling Quarry	John Bourne & Co Ltd	Maidstone

Table 29 Shingle beach Feeding

Ref	Site Name	Operator	District
892	Dungeness Borrow Pit	EDF Energy Nuclear Generation Ltd	Shepway

Table 30 Clay Sites

Ref	Site Name	Operator	District
112	Norwood Quarry	FCC Environment (UK) Ltd	Swale

Table 31 Industrial Sand

Ref	Site Name	Operator	District
21	Nepicar Sand Pit	J Clubb Ltd	Tonbridge & Malling
94	Addington Sand Pit (Wrotham Quarry)	Hanson Aggregates	Tonbridge & Malling
155	*Aylesford Quarry*	*CEMEX UK*	*Tonbridge & Malling*

Recycling Sites, Household Waste Recycling Centres (HWRCs), Composting and Anaerobic Digestion (See Map 5)

Table 32 Recycling Sites Construction and Demolition Waste

Ref.	Site Name	Operator	District
372	Hersden MRF, Canterbury Industrial Park, Hersden	Viridor Waste (Kent) Limited	Canterbury
624	Lakesview Business Park, Hersden	Ling UK Holdings Ltd	Canterbury
425	Riverdale Industrial Estate	Ling UK Holdings Ltd	Canterbury
32	Pinden Quarry MRF, Longfield	Pinden Ltd	Dartford
385	Lee's Yard, Old Rochester Way	Easy Load Limited	Dartford
883	Swanscombe Works, Manor Way	Recresco Ltd	Dartford
381	Unit 9 Swanton Farm, Lydden	Envirocycle	Dover
605	Richborough Hall Waste Transfer And Recycling Centre	Thanet Waste Services Ltd	Dover
652	Temp. Wood Storage & Shredding Red Lion Wharf	G I Hadfield & Son Ltd	Gravesham
647	Countrystyle Depot, Lenham	Countrystyle Recycling Ltd	Maidstone
645	Teardrop Centre,Swanley	Ideal Waste Paper Company Ltd.	Sevenoaks
379	Ross Depot, Shornecliffe	Shepway District Council	Shepway
860	Callington Court Farm	Moores Turf & Topsoil Ltd	Shepway
651	*Otterpool Quarry*	*Countrystyle Recycling Ltd*	*Shepway*
493	Ridham Dock MRF	Countrystyle Recycling Ltd	Swale
382	Gas Road, Sittingbourne	Sweeep Ltd	Swale
882	*Materials Recycling Facility, Land within Ridham Dock*	*SITA UK*	*Swale*
862	Unit 15A Ridham Dock Industrial Estate	SITA UK	Swale

Ref.	Site Name	Operator	District
863	Unit 15B Ridham Dock Industrial Estate	SITA UK	Swale
486	Dane Valley Road Industrial Estate	J C Skips	Thanet
646	Westwood Industrial Estate	M P L Waste Management	Thanet
405	Royal British Legion Industrial Estate, Aylesford	MDJ Light Brothers	Tonbridge & Malling
88	Allington EfW plant MRF	Kent Enviropower Ltd	Tonbridge & Malling
865	Land at Sanderson Way	Sheerness Recycling	Tonbridge & Malling

Table 33 Household Waste Recycling Centres (HWRC)

Ref	Site Name	Operator	District
504	Vauxhall Road, Canterbury HWRC	Kent County Council Waste Management	Canterbury
8	Studd Hill, Herne Bay HWRC	Kent County Council Waste Management	Canterbury
500	Pepperhill HWRC	Waste Recycling Ltd	Dartford
286	Dartford Heath HWRC	Kent County Council Waste Management	Dartford
252	Richborough HWRC	Kent County Council Waste Management	Dover
6	Southall Road, Deal HWRC	Kent County Council Waste Management	Dover
507	Whitfield HWRC	Viridor Waste (Kent) Limited	Dover
511	Tovil HWRC	Kent County Council Waste Management	Maidstone
512	Dunbrik HWRC	S I T A Environment Limited	Sevenoaks
496	Pedham Place, Swanley HWRC	Kent County Council Waste Management	Sevenoaks
508	Shornecliffe HWRC	Kent County Council Waste Management	Shepway

Ref	Site Name	Operator	District
232	Hawkinge HWRC	Viridor Waste (Kent) Limited	Shepway
623	New Romney HWRC	Kent County Council Waste Management	Shepway
503	Church Marshes HWRC	Kent County Council Waste Management	Swale
502	Stoneyard HWRC	Kent County Council Waste Management	Swale
9	Preston Forge HWRC	Kent County Council Waste Management	Swale
5	Manston Road, Margate HWRC	Kent County Council Waste Management	Thanet
251	North Farm HWRC	Kent County Council Waste Management	Tunbridge Wells
501	Ashford HWRC	Kent County Council Waste Management	Ashford

Table 34 Composting and Anaerobic Digestion (AD)

Ref	Site Name	Operator	District
114	Composting Facility, Shelford Landfill Site	Shelford Composting Limited	Canterbury
604	Richborough AD	Thanet Waste Services Ltd	Dover
868	Former Corporation Yard, Western Road, Deal	EH Churley	Dover
287	Dunbrik Composting	Waste Recycling Group (Central) Limited	Sevenoaks
42	Greatness Quarry Composting	Cory Environmental	Sevenoaks
206	Hope Farm, Folkestone	J Taylor & Son	Shepway
651	Otterpool Quarry AD	Countrystyle Recycling Ltd	Shepway
493	Ridham Dock composting	Countrystyle Recycling Ltd	Swale
869	Kemsley Paper Mill AD	DS Smith Paper Ltd	Swale

Ref	Site Name	Operator	District
163	*Blaise Farm Quarry, West Malling*	*New Earth Solutions*	*Tonbridge & Malling*
238	Conghurst Farm, Hawkhurst	Piper Farms	Tunbridge Wells

Energy from Waste and Waste Treatment Facilities (Map 6)

Table 35 Energy from Waste Facilities

Ref	Site Name	Operator	District
88	Allington EfW plant	Kent Enviropower Ltd	Maidstone
389	Kemsley Mill CHP Phase II extension	Powergen CHP Ltd	Swale
855	*Sustainable Energy Plant Kemsley Mill*	*DS Smith & EON Energy from Waste Ltd*	*Swale*
399	Ham Hill WWTW CHP Plant Brook Lane	Southern Water	Tonbridge & Malling
871	Biomass Plant, adj. Thamesteel, Ridham Dock	M V V Environment Ltd	Swale

Table 36 Treatment Sites

Ref	Site Name	Operator	District
367	Unit 2 Joseph Wilson Ind. Estate, Whitstable	Stephen Betts & Sons Ltd	Canterbury
485	Unit 7 Westbrook Industrial Estate, Herne Bay	Graham Smith Silver Services	Canterbury
484	Unit 1, Joseph Wilson Industrial Estate, Whitstable	All Waste Matters Ltd	Canterbury
406	Manor Way, Swanscombe	Veka Recycling Ltd	Dartford
638	Harringe Court Farm Biodiesel	Aeolus Partnership	Shepway
271	West Hythe Soil treatment centre	Hydrock	Shepway
376	Shed 3 & 4, Ridham Dock	Gypsum Recycling International	Swale
483	Rushenden Road, Queenborough	Sheppy Limited	Swale

Ref	Site Name	Operator	District
392	The Oil Storage Installation	Anthony Jenkins Fuel Oil Limited	Thanet
632	Ham Hill L W T	Viridor Waste Management	Tonbridge & Malling
459	Unit 7, Larkfield Mill	SRCL Ltd	Tonbridge & Malling
395	Mills Road, Aylesford	Cleansing Service Group Ltd	Tonbridge & Malling
876	Building 17 Ridham Dock	Countrystyle Recycling Ltd	Swale

Waste Transfer and Metal/ End of Life Vehicle Facilities (See Map 7)

Table 37 Transfer Stations

Ref	Site Name	Operator	District
881	*Waste Transfer Station, Unit 2 Cobbswood Industrial Estate*	*Ball Contractors*	Ashford
880	*Waste Transfer Depot, Land at Woodleas Farm*	*R H Butler Ltd (Skip Hire)*	*Ashford*
373	Unit 1 Ashford Industrial Centre	Ashford Recycling Centre Ltd	Ashford
375	Austen House, Kingsnorth Industrial Estate	P H S Group Plc	Ashford
374	Ashford Transfer Station Brunswick Road,	Viridor Waste Kent Limited	Ashford
398	Units 1&2 Willesborough Industrial Estate	Cannon Hygiene Limited	Ashford
653	Leacon Road Fairwood Industrial Est	P. H. S. Group Plc	Ashford
230	*Sevington Waste Transfer station*	*Robert Brett & Sons Ltd*	*Ashford*
368	Hersden Waste Transfer Station	Viridor Waste (Kent) Ltd	Canterbury
369	Kingsmead Depot	Serco Ltd	Canterbury
601	Kemberland, Fox Hill Herne Bay Road	W M G Environmental (Weemix Group)	Canterbury
500	Pepperhill WTS	Waste Recycling Ltd	Dartford

Ref	Site Name	Operator	District
384	Manor Way Business Park	Crossways Recycling Ltd	Dartford
386	Winchester W TS 2 -8 Little Queen Street	A Winchester & Sons	Dartford
478	Littlebrook Oil Management Unit	National Grid Electricity Transmission Plc	Dartford
404	*Maronvale Yard, Rochester Way*	*A Selby*	*Dartford*
605	Richborough Hall Waste Transfer And Recycling Centre	Thanet Waste Services Ltd	Dover
248	Aylesham Industrial Estate	Clearers (South East) Ltd	Dover
487	Shipyard Port Site, Sandwich	Half Skips	Dover
440	Camp Site Back Lane, West Hougham	Taylors Skips Ltd	Dover
507	Whitfield WTS	Viridor Waste (Kent) Limited	Dover
245	Pike Road Industrial Estate, Eythorne	R H Ovenden Ltd	Dover
509	Richborough HWRC Dover Bulking Station	Dover District Council	Dover
387	Waste Transfer Station, Wharf Road, Off Mark Lane, Denton	Gurbinder Sall	Gravesham
868	Former Corporation Yard	EH Churley	Dover
650	Apex Business Park	R.S. Skips	Gravesham
430	11 Heronden Rd, Parkwood Industrial Estate	Rentokil Initial Services Ltd	Maidstone
400	Unit 6 Detling Aerodrome Industrial Estate	D&D Waste Recycling Ltd	Maidstone
637	Bircholt Road Parkwood Industrial Estate	E D F Energy Networks Ltd	Maidstone
393	Land At United House, Goldsell Road, Swanley	United House Group Limited	Sevenoaks
127	*Sevenoaks Household Waste Recycling Centre & Transfer Station*	*Darenth River Ballast Company Ltd*	*Sevenoaks*
573	Old Powder Mills, Nr. Leigh	Glaxo Smith Kline R&D Ltd	Sevenoaks

Ref	Site Name	Operator	District
403	Park Farm Close, Folkestone	Countrystyle Recycling Ltd	Shepway
377	Unit Q, Newington Industrial Estate	T J Skips	Swale
388	Units 5 And 6, West Lane, Sittingbourne	S I T A Environment Limited	Swale
503	Church Marshes WTS	Kent County Council Waste Management	Swale
882	*Waste Transfer Station, Land within Ridham Dock*	*SITA UK*	*Swale*
875	Ridham Dock Road	Countrystyle Recycling Ltd	Swale
378	Manston Road Depot	Thanet District Council	Thanet
391	The Lodge, Sacketts Hill, Broadstairs	W Brazil & Brothers	Thanet
622	Land adjoining The Bungalow, Queensdown Road, Woodchurch, Birchington	Reclamet Limited	Thanet
459	Unit 7, Larkfield Mill	SRCL Ltd	Tonbridge & Malling
446	Lake Road, Quarrywood Industrial Estate	Safetykleen UK Limited	Tonbridge & Malling
395	Mills Road,Quarry Wood Industrial Estate	Cleansing Service Group Limited	Tonbridge & Malling
371	Sandhurst Road Tunbridge Wells	Southern Gas Networks Plc	Tunbridge Wells
251	North Farm W T S Dowding Way	S I T A Environment Limited	Tunbridge Wells
397	Site 'B' North Farm Lane	Weald Waste Ltd	Tunbridge Wells

Metal/ End of Life Vehicle (ELV) Facilities

Ref	Site Name	Operator	District
416	Kilndown, Marten Lane, High Halden	Ashford Vauxhall Spares	Ashford
417	Bridge End Farm, Little Chart	BMW Spares	Ashford

Ref	Site Name	Operator	District
480	Henwood Industrial Estate, Ashford	Alpha Fry Ltd	Ashford
411	Rowling Street, Bilsington	H Ripley & Co	Ashford
409	Laurenden, Cranbrook Road, Tenterden	Paul Chapman	Ashford
410	Ellingham Farm Industrial Estate	H Ripley & Co	Ashford
450	The Potteries, Further Quarter, High Halden	G M Woodgate & Son	Ashford
619	ELV Granary Court Road	JF & RE Tanner	Ashford
648	Unit 18 Henwood Ind Est Ashford	Auto Economics Ltd	Ashford
425	Riverdale Industrial Estate, Canterbury	Ling UK Holdings Ltd Ltd	Canterbury
426	Canterbury Industrial Park, Hersden	Brown Commercials	Canterbury
624	*Plots D and E, Lakesview Business Park, Hersden*	*Ling UK Holdings Ltd*	*Canterbury*
479	Plot 16 Manorway Business Park, Manor Way, Swanscombe	Ace Car Breakers	Dartford
418	78 Dartford Road, Dartford	Erith Commercials	Dartford
431	Oakdene, Watling Street, Bean	Bean Breakers	Dartford
432	Hawley Road, Dartford	J C Autobreakers	Dartford
489	Ramsgate Road, Sandwich	Copart Limited	Dover
439	Richborough Castle Road, Sandwich	Zen Car Factors	Dover
441	Ellens Road, Walmer, Deal	The D I Y Motorist	Dover
433	Denton Industrial Estate, Gravesend	Gravesend Metals And Recycling Limited	Gravesham
412	Bentletts Yard, Claygate Road, Laddingford	Commercial Motor Services	Maidstone
419	The Scrap Yard, Old Tovil Road, Maidstone	James Hunt (Maidstone) Limited	Maidstone
448	Units 8, 9 &10, Detling Aerodrome	Detling Autobreakers	Maidstone
394	Hartley Bottom, Hartley	Hartley Bottom Car Breakers	Sevenoaks

Ref	Site Name	Operator	District
421	Aerodrome Industrial Complex, Hawkinge	Hawkinge Vehicle Services	Shepway
482	Dengemarsh Rd, Lydd	Lydd Car Breakers	Shepway
885	Units A & B Highfield Industrial Estate	Cube Metal Limited	Shepway
422	Units D9 & D9(3), Eurolink Industrial Estate, Sittingbourne	London & Kent Metals	Swale
370	Sheppey Way, Bobbing	Bobbing Car Breakers	Swale
413	Unit 1, Sheppey Plant Estate, Queenborough	Queenborough Car Breakers	Swale
414	Gas Road, Milton Regis	Kent Auto Salvage	Swale
427	Halfway Rd, Sheerness	Monkey Farm Car Breakers	Swale
380	Rushenden Rd, Queenborough	Sheppey Motor Salvage	Swale
435	Ridham Dock	Mayer Parry Recycling Limited	Swale
423	Woodchurch Road, Woodchurch	Reclamet Limited	Thanet
424	Unit 4-10 Dane Valley Industrial Estate, Broadstairs	B.G.Motors	Thanet
420	67 Hereson Road, Ramsgate	Ford-it-spares	Thanet
442	Upper Dumpton Park	Christopher Parker	Thanet
622	The Recycling Centre, Woodchurch Rd, Birchington	Reclamet Recycling Ltd	Thanet
449	Fre-mell Farm, Comp Lane, Offham	Steven Green & Steven Williams	Tonbridge & Malling
447	Mill Hall Yard, Aylesford	Aylesford Metal Company (1984) Limited	Tonbridge & Malling
445	G P Petrol Station, London Road, Hildenborough	Alba Transport Services	Tonbridge & Malling
859	Former SCA Packaging Site New Hythe Lane Larkfield	Aylesford Metals Company	Tonbridge & Malling

Ref	Site Name	Operator	District
415	North Farm Industrial Estate, Tunbridge Wells	Mid Kent Car Breakers	Tunbridge Wells
472	Oast House Farm, Brenchley	J R Car Spares	Tunbridge Wells
428	Ledger Works, Paddock Wood	Commercial Motor Services (Kent) Ltd	Tunbridge Wells
408	Willow Lane, Paddock Wood	Charles Trent Ltd	Tunbridge Wells
471	Longfield Farm Brenchley	Charles Trent Ltd	Tunbridge Wells
877	Unit 1 Park Farm Close	Johnson's Recycling Ltd	Shepway

Waste Water Treatment Sites (Map 8)

Table 38 Wastewater Treatment Sites

Ref	Site Name	Operator	District
429	Ashford Wastewater Treatment Works & Sludge Treatment Centre	Southern Water	Ashford
402	Tenterden WWTW	Southern Water	Ashford
401	Reading Street WWTW	Southern Water	Ashford
454	Biddenden WTW, Biddenden	Southern Water	Ashford
474	Small Hythe Place	Southern Water	Ashford
456	Whittersham WWTW	Southern Water	Ashford
548	Appledore WWTW	Southern Water	Ashford
542	Egerton WWTW	Southern Water	Ashford
541	Charing WWTW	Southern Water	Ashford
533	Brook WWTW	Southern Water	Ashford
532	Wye WWTW	Southern Water	Ashford
568	Newenden WWTW	Southern Water	Ashford
569	Rolvenden WWTW	Southern Water	Ashford
571	Stone Green WWTW	Southern Water	Ashford

Ref	Site Name	Operator	District
545	Hamstreet WWTW	Southern Water	Ashford
543	Westwell WWTW	Southern Water	Ashford
547	Bilsington WWTW	Southern Water	Ashford
528	Chilham WWTW	Southern Water	Ashford
549	Woodchurch WWTW	Southern Water	Ashford
546	Warehorne WWTW	Southern Water	Ashford
550	High Halden WWTW	Southern Water	Ashford
552	Smarden WWTW	Southern Water	Ashford
551	Bethersden WWTW	Southern Water	Ashford
437	Canterbury W WTW	Southern Water	Canterbury
457	Swalecliffe WWTW	Southern Water	Canterbury
525	Herne Bay Old Works WWTW	Southern Water	Canterbury
524	Newnham Valley WWTW	Southern Water	Canterbury
520	Westbeare WWTW	Southern Water	Canterbury
530	Chartham WWTW	Southern Water	Canterbury
529	Chartham WWTW	Southern Water	Canterbury
455	Long Reach WWTW	Thames Water	Dartford
458	Broomfield Bank	Southern Water	Dover
407	Felderland Lane	Southern Water	Dover
521	Dambridge WWTW	Southern Water	Dover
531	Betteshanger WWTW	Southern Water	Dover
573	Pfizer WWTW Stonar	Pfizer Global Research	Dover
362	Gravesend WWTW	Southern Water	Gravesham
361	Northfleet WWTW	Southern Water	Gravesham
460	Coxheath WWTW	Southern Water	Maidstone
556	Sutton Valence WWTW	Southern Water	Maidstone
558	Linton WWTW	Southern Water	Maidstone

Ref	Site Name	Operator	District
538	Leeds WWTW	Southern Water	Maidstone
539	Harrietsham WWTW	Southern Water	Maidstone
540	Lenham WWTW	Southern Water	Maidstone
554	Staplehurst WWTW	Southern Water	Maidstone
557	Ulcombe WWTW	Southern Water	Maidstone
555	Headcorn WWTW	Southern Water	Maidstone
443	Edenbridge Waste Water Treatment Works	Southern Water	Sevenoaks
590	Chiddingstone Hoath WWTW	Southern Water	Sevenoaks
602	Penshurst WWTW	Southern Water	Sevenoaks
451	Sellindge Wastewater Treatment Works	Southern Water	Shepway
462	West Hythe WWTW	Southern Water	Shepway
452	New Romney Water Treatment Works	Southern Water	Shepway
440	Dymchurch WWTW	Southern Water	Shepway
572	Ivychurch WWTW	Southern Water	Shepway
570	Hartfield WWTW	Southern Water	Shepway
544	Lydd WWTW	Southern Water	Shepway
434	Queenborough Waste Water Treatment Works	Southern Water	Swale
436	Sittingbourne Sewage Treatment Works	Southern Water	Swale
534	Teynham WWTW	Southern Water	Swale
535	Eastchurch WWTW	Southern Water	Swale
527	Boughton WWTW	Southern Water	Swale
526	Faversham WWTW	Southern Water	Swale
463	Weatherlees Hill WWTW	Southern Water	Thanet
517	Margate WWTW	Southern Water	Thanet
519	Minster WWTW	Southern Water	Thanet
518	Broadstairs	Southern Water	Thanet
444	Tonbridge Sewage Treatment Works	Southern Water	Tonbridge & Malling

Ref	Site Name	Operator	District
396	Aylesford Wastewater Treatment Works	Southern Water	Tonbridge & Malling
399	Ham Hill Sewage Treatment Works	Southern Water	Tonbridge & Malling
464	Blackmans WWTW	Southern Water	Tonbridge & Malling
559	East Peckham WWTW	Southern Water	Tonbridge & Malling
536	Wouldham WWTW	Southern Water	Tonbridge & Malling
537	Ditton WWTW	Southern Water	Tonbridge & Malling
444	Tonbridge WWTW	Southern Water	Tonbridge & Malling
560	Paddock Wood WWTW	Southern Water	Tunbridge Wells
465	Smiths Lane WWTW	Southern Water	Tunbridge Wells
466	Sissinghurst WWTW	Southern Water	Tunbridge Wells
461	Bidborough WWTW	Southern Water	Tunbridge Wells
467	Tunbridge Wells North WWTW	Southern Water	Tunbridge Wells
591	Brenchley WTW	Southern Water	Tunbridge Wells
468	Lamberhurst WWTW	Southern Water	Tunbridge Wells
469	Kilndown WWTW	Southern Water	Tunbridge Wells
476	Horsmonden WWTW	Southern Water	Tunbridge Wells
562	Underhill WWTW	Southern Water	Tunbridge Wells
563	Cherry Gardens WWTW	Southern Water	Tunbridge Wells

Ref	Site Name	Operator	District
564	Tunbridge Wells South WWTW	Southern Water	Tunbridge Wells
565	Hawkhurst South WWTW	Southern Water	Tunbridge Wells
566	Hawkhurst North WWTW	Southern Water	Tunbridge Wells
553	Frittenden WWTW	Southern Water	Tunbridge Wells
470	Pembury WWTW	Southern Water	Tunbridge Wells
561	Cranbrook WWTW	Southern Water	Tunbridge Wells
567	Sandhurst WWTW	Southern Water	Tunbridge Wells
891	South Pit, Manor Way WWTW	Southern Water	Dartford

Incinerators, Animal and Pet Crematoria, Dredging Sites (Map 9)

Table 39 Waste Incinerators

Ref	Site Name	Operator	District
481	Ashford Clinical Incinerator	SRCL Limited	Ashford
599	Dungeness A Power Station	Dungeness A Power Station	Shepway

Table 40 Dredging Sites

Ref	Site Name	Operator	District	NGR
453	*Rushenden Marshes Dredgings Disposal Site*	*Peel Ports Limited*	*Swale*	*TQ 900 709*

Table 41 Animal and Pet Crematoria/ Cemetery

Ref	Operator	Site Name	District
600	Cherry Tree Farm, High Halden	David Funnell's Casualty Services	Ashford
490	Howletts Wild Animal Park	Howletts & Port Lympne Estates Ltd	Canterbury

Ref	Operator	Site Name	District
438	Pets County Crematorium Long Lane Farm, Shepherdswell	Jeremy Stattersfield	Dover
475	Port Lympne Wild Animal Park	Howletts & Port Lympne Estates Ltd	Shepway
635	Great Bayhall Farm, Pembury	Bowman Brothers	Tunbridge Wells
473	Badsell Park Farm, Matfield	Orchard Pet Cemetery Ltd	Tunbridge Wells

Landfill Sites (Map 10)

Table 42 Inert Landfill Sites

Ref	Site Name	Operator	District
194	Hegdale Quarry	R H Ovenden	Ashford
890	Stone Pit 1	CLC Construction Ltd	Dartford
187	Stone Pit 2	Stone Pit Restoration Limited	Dartford
15	*Lenham Quarry (Shepherds Farm)*	*Robert Brett & Sons Ltd*	*Maidstone*
126	*Allens Bank*	*Brett Aggregates Ltd*	*Shepway*
100	Ham Farm	Brett Aggregates Limited	Swale
494	*Stonelees Golf Course (Inert Landfill)*	*Ovenden Earthmoving Co Ltd*	*Thanet*
36	Hermitage Quarry	Gallagher Materials Limited	Tonbridge & Malling
43	Borough Green Landfill	Cemex UK Operations Ltd	Tonbridge & Malling
34	Borough Green Sandpit	Borough Green Sandpits Ltd	Tonbridge & Malling
159	Borough Green Sandpit (Platt)	Borough Green Sandpits Ltd	Tonbridge & Malling
81	East Peckham Quarry/Arnolds Lodge Landfill-+	J Clubb Limited	Tonbridge & Malling

Ref	Site Name	Operator	District
878	Stangate Landfill	Infinis Plc	Tonbridge & Malling
894	Alpha Lake& Chalk Lake	Brett Aggregated Ltd	Gravesham

Table 43 Non-Hazardous Landfill

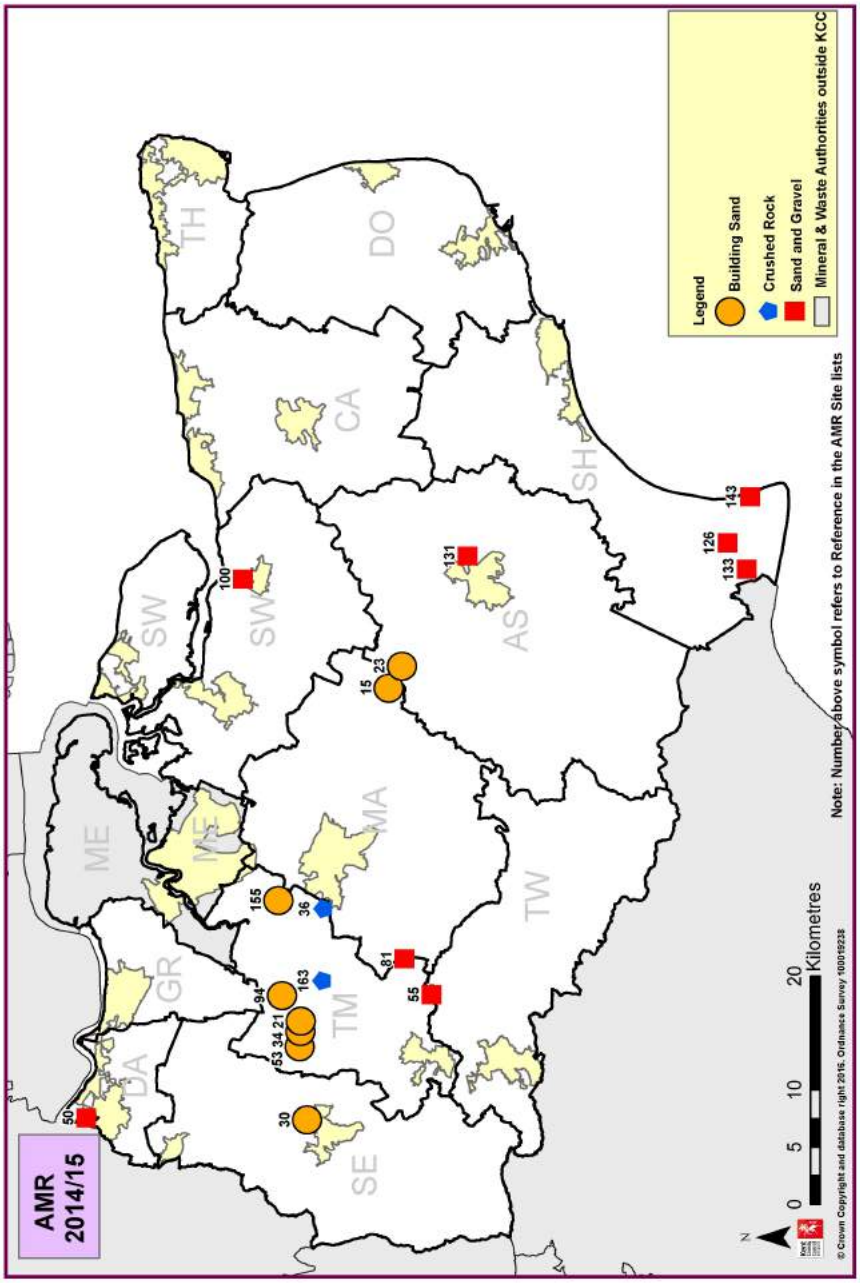
Ref	Site Name	Operator	District
114	Shelford Landfill Site	Viridor Waste (Kent) Limited	Canterbury
42	Greatness Quarry Landfill	Cory Environmental	Sevenoaks

Table 44 Hazardous Landfill

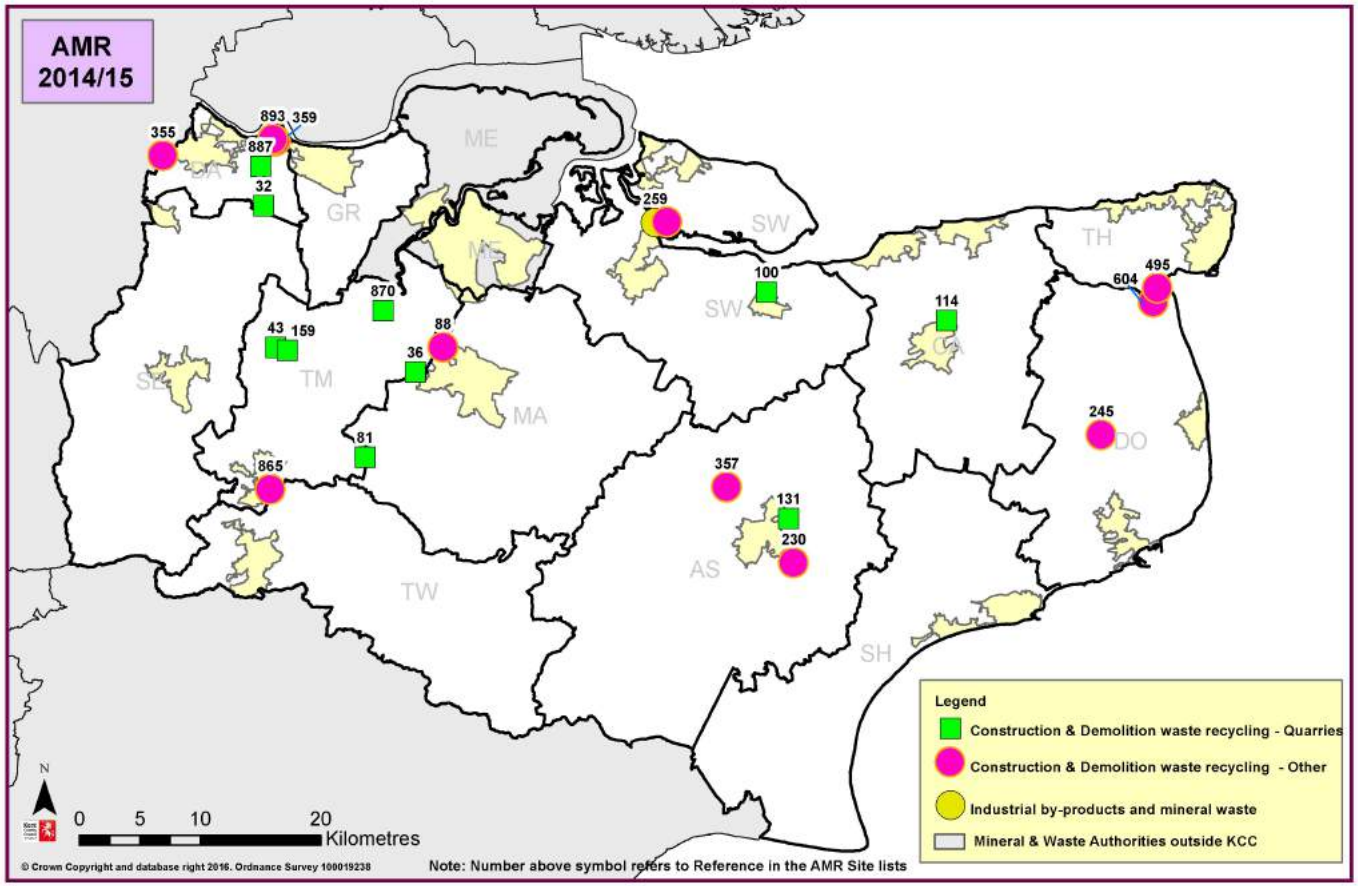
Ref	Site Name	Operator	District
32	Pinden Quarry Hazardous landfill, Longfield	Pinden Ltd	Dartford
112	Norwood Farm, Isle of Sheppey	FCC Environment (UK) Ltd	Swale
192	Margett's Pit, Burham	Aylesford Newsprint Services Limited	Tonbridge & Malling

Appendix C: Maps of Minerals and Waste Sites

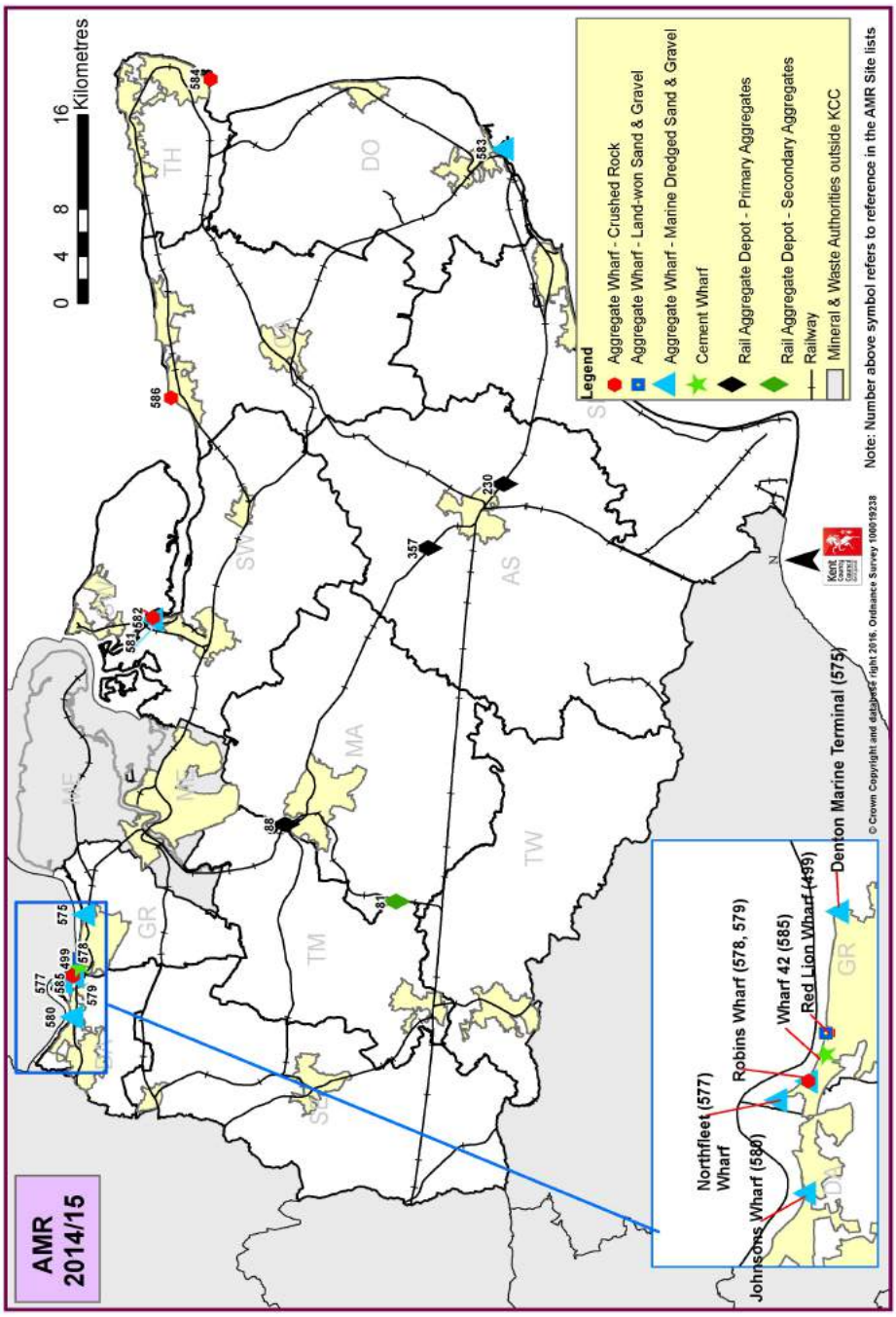
Map 1 Construction Aggregates



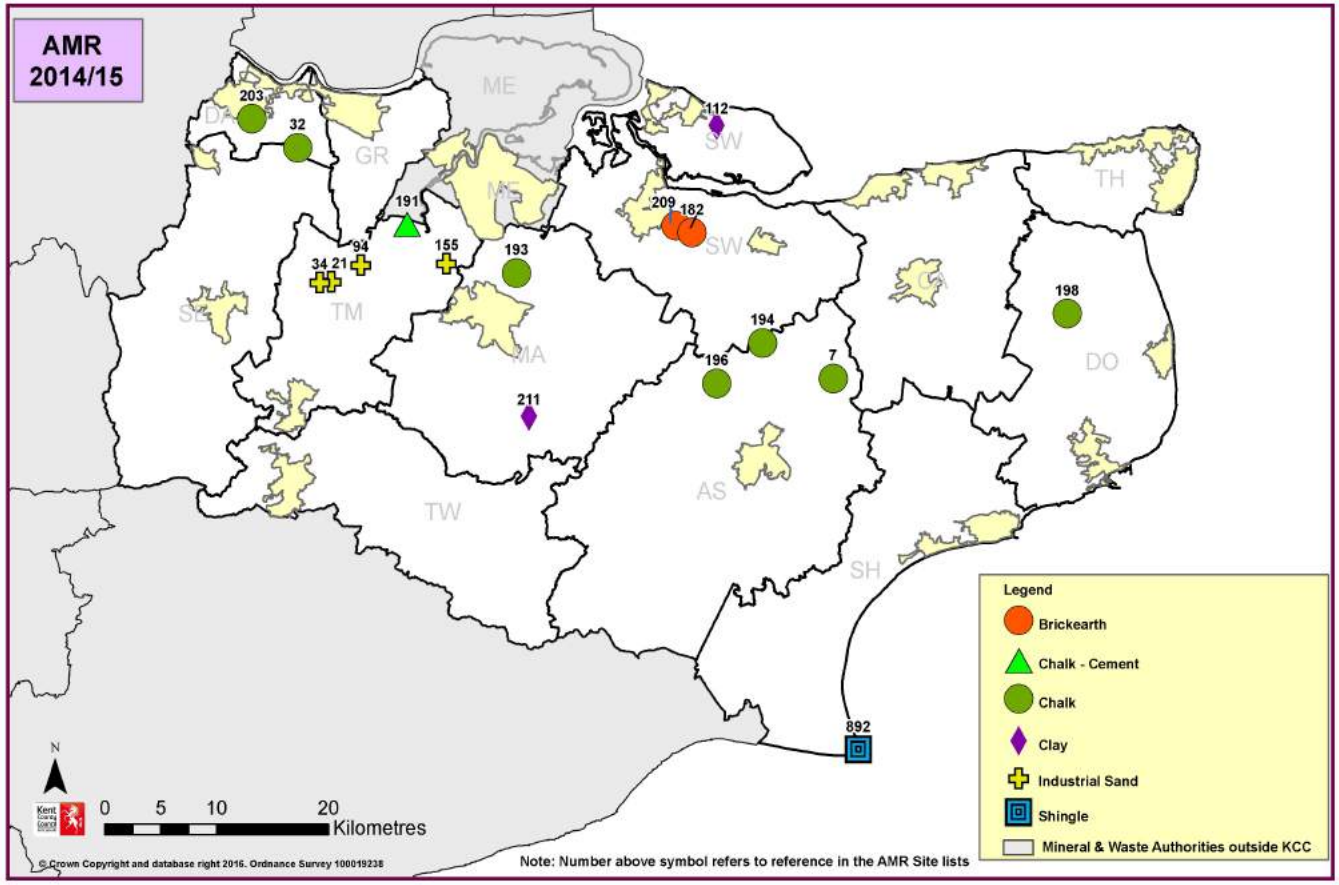
Map 2 Secondary and Recycled Aggregates



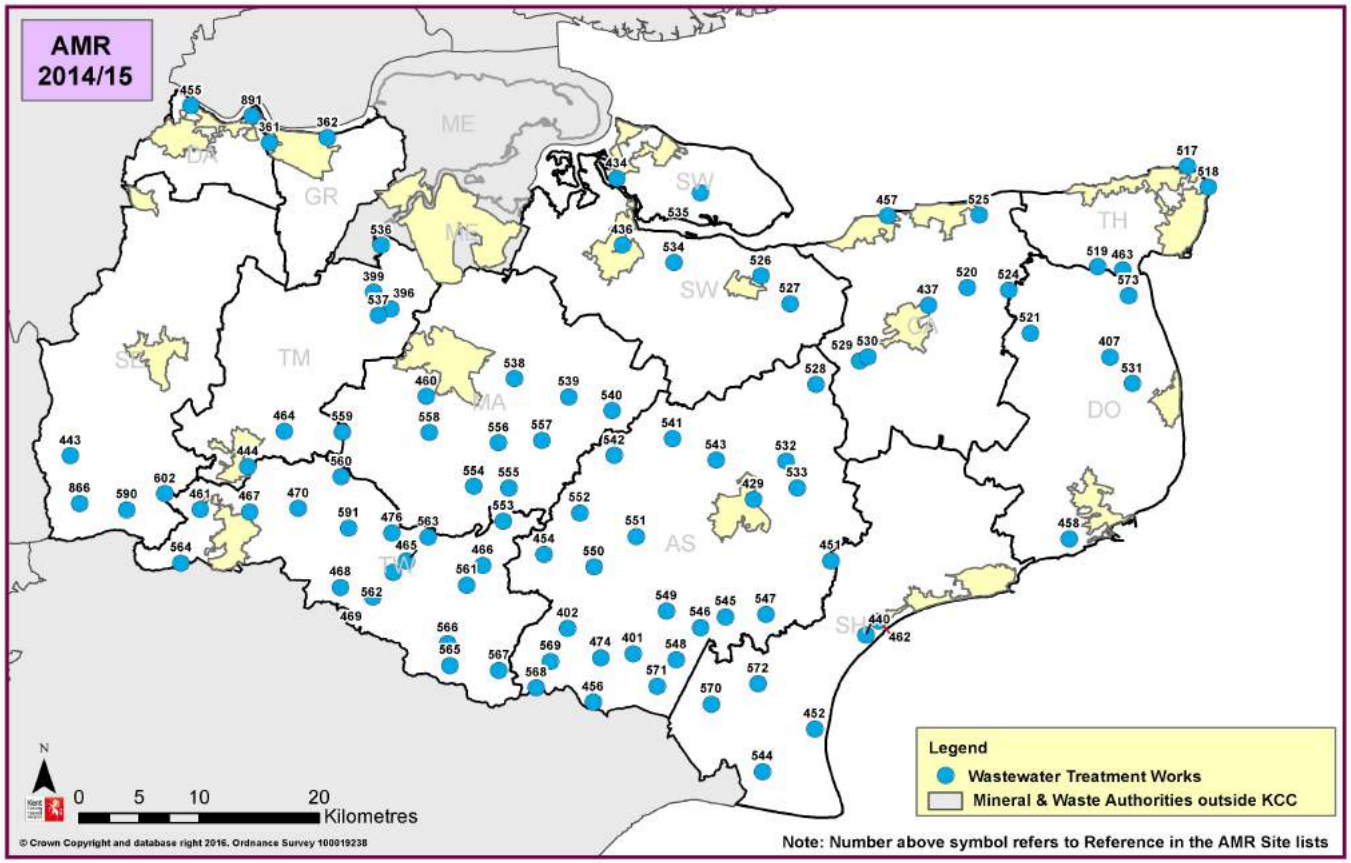
Map 3 Wharves and Rail Depots



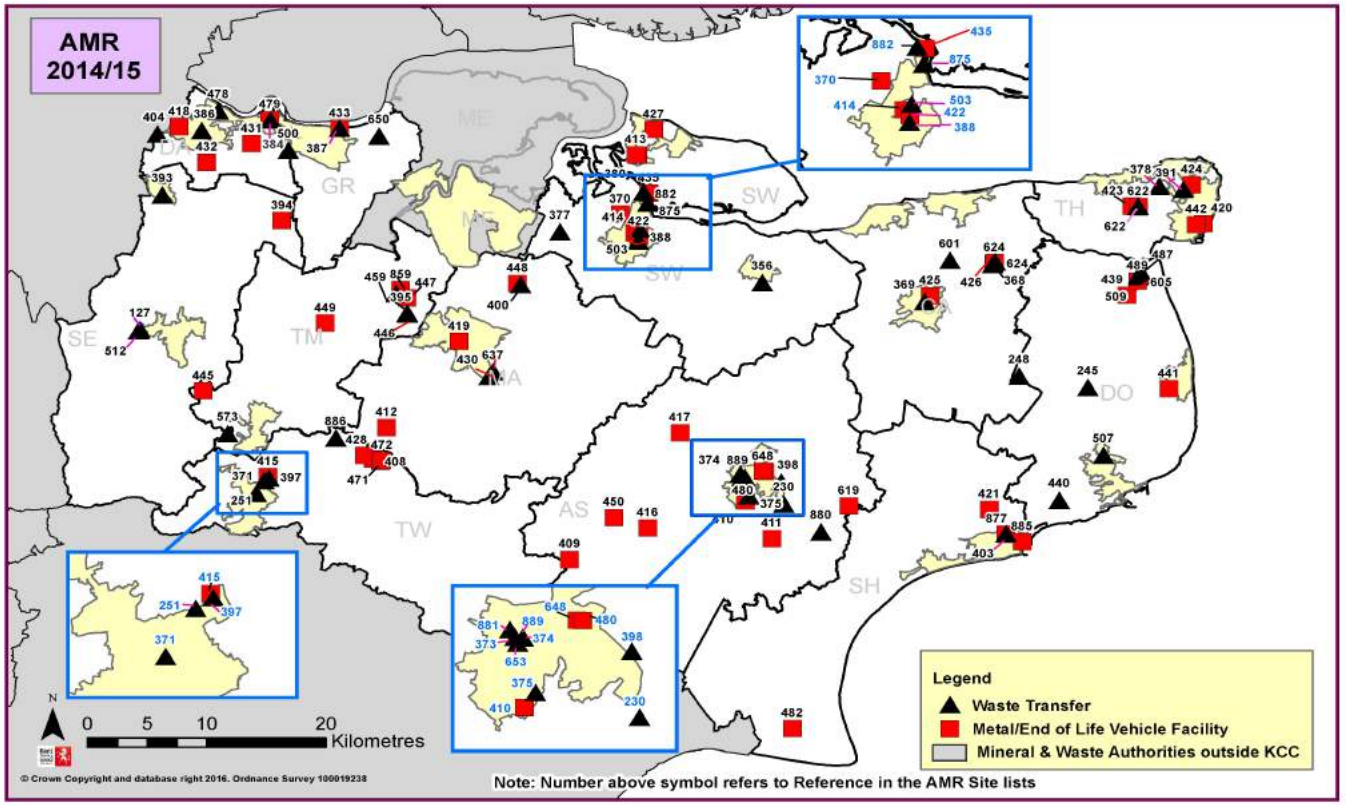
Map 4 Other (Non-Aggregate) Land-won Minerals



Map 5 Waste Water Treatment Sites

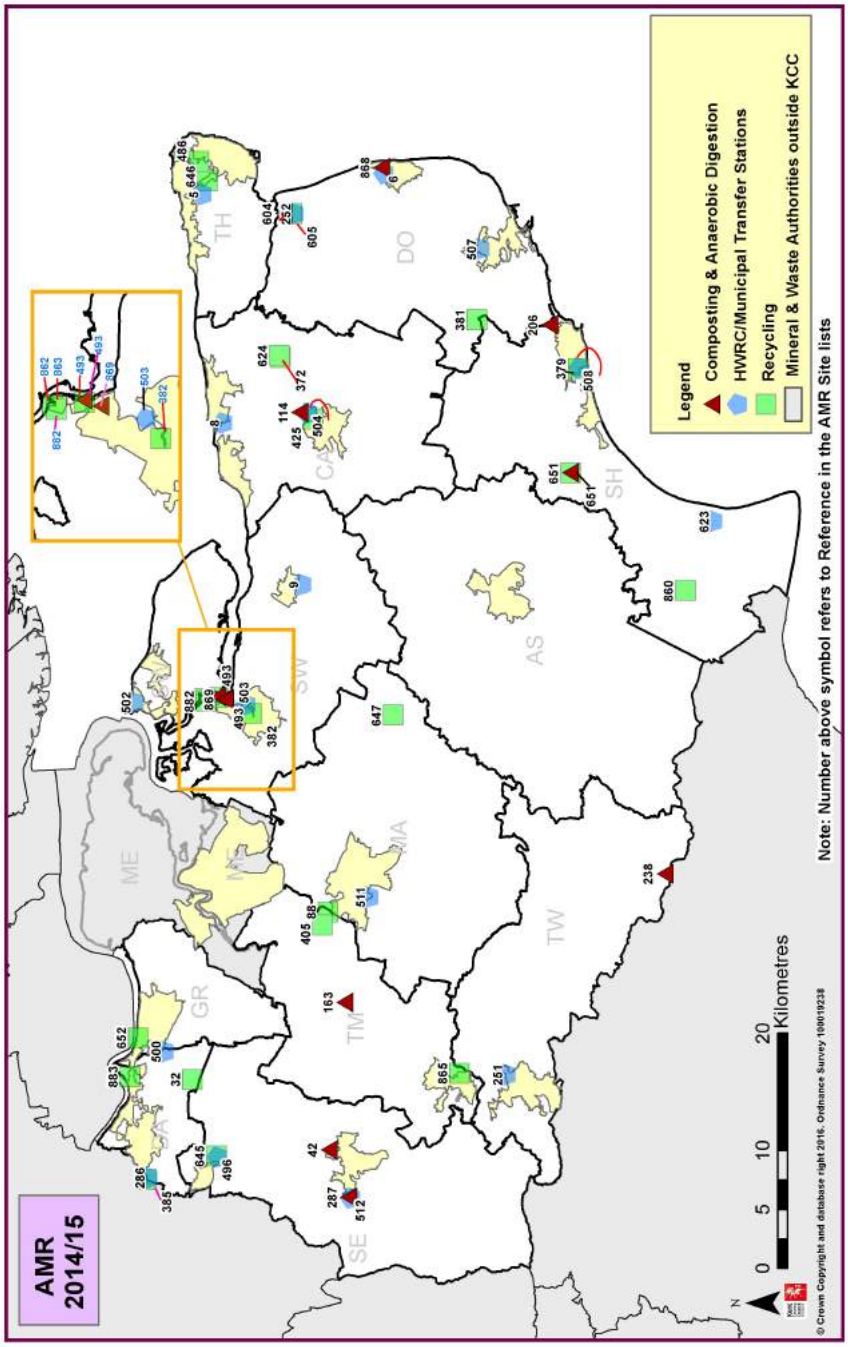


Map 6 Waste Transfer and Metal/End of Life Vehicle facilities

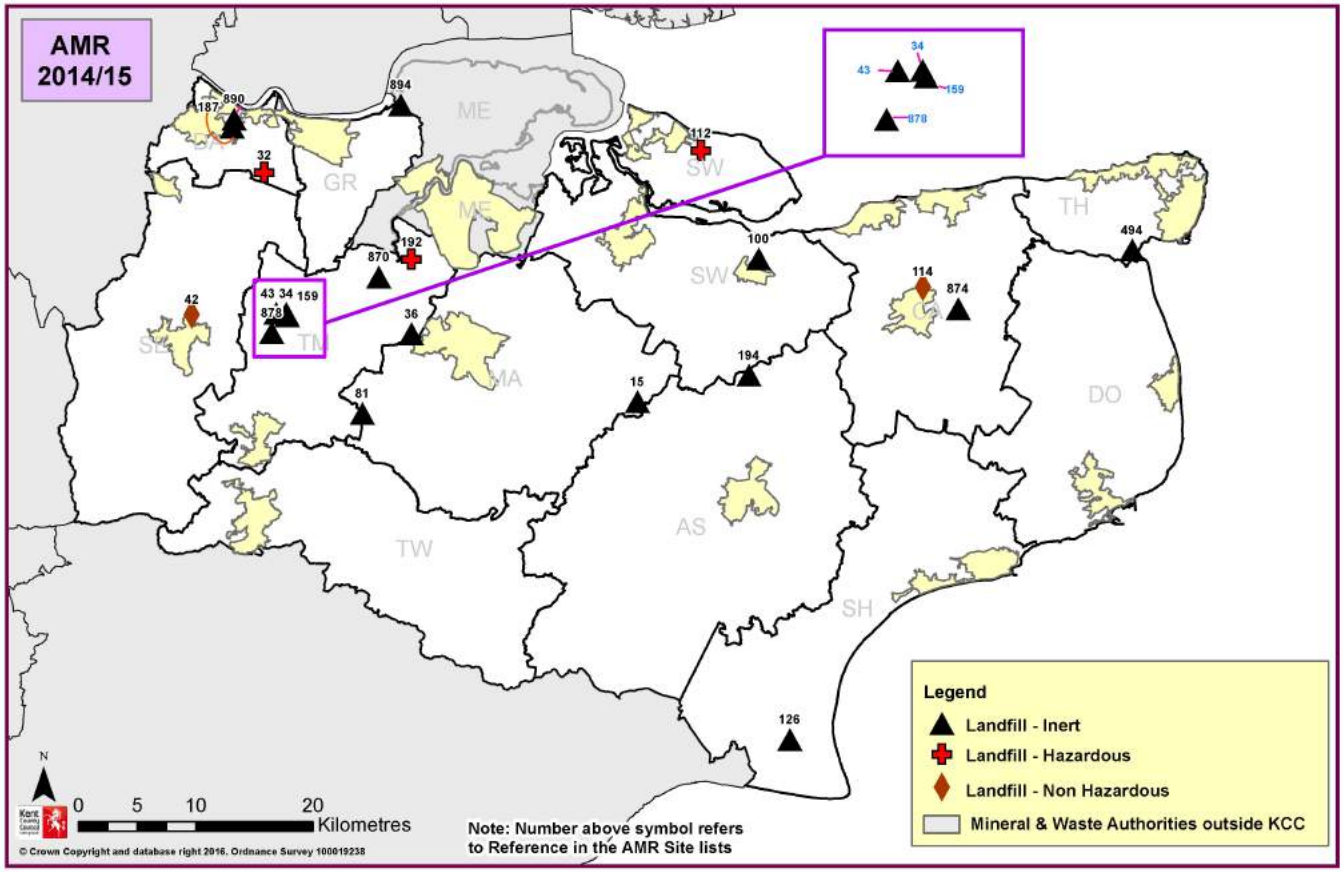


Appendix C: Maps of Minerals and Waste Sites

Map 7 Recycling Composting HWRC and Anaerobic Digestion



Map 8 Landfill sites including Inert, Hazardous and Non-Hazardous



D.1 Letter from SEEAWP regarding the 2014 draft LAAs, 5th November 2015

Picture 1 ww

SEEAWP South East England Aggregates Working Party

Technical Secretary: Richard Read BA, MRTPI .

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Brian Geake
Principal Planning Officer
Kent County Council

20 November 2015

Dear Bryan

Kent Local Aggregate Assessment (LAA)

SEEAWP thanks you for consulting its members on the draft LAA for 2015. At its meeting on 10 November this was one of eight LAAs considered at the meeting.

The evidence from the LAAs 2015 so far submitted to SEEAWP clearly indicates that the south east was continuing to make an appropriate contribution to aggregate supply regionally and nationally.

During the discussion at the meeting some general points arising from the LAAs were made. An issue was that south east England would in due course depend increasingly on alternatives to local extraction. This matter stressed the need to safeguard appropriate infrastructure. Additionally some mineral planning authorities would require more supply from its neighbours and this need to be taken into account in mineral plans. Finally, it was recognised that the supply of soft sand was becoming a challenge as significant proportion of the resource is within designated land.

It was also agreed that once all the LAAs had been submitted a short summary would be provided by the Secretary on all the key statistics to provide an overall picture for the south east of England

Additionally some specific comments arising from your authority's LAA were recorded in the Minutes that have now been circulated. I trust that these will be taken into account by you when you draft your Authority's LAA for next year.

Nevertheless, the Kent LAA was agreed. .

Yours sincerely

Tony Cook

SEEAWP Chairman

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i Abbreviations and Glossary of Terms

AM	Aggregate Monitoring
AMR	Annual Monitoring Report
AWP	Aggregate Working Party
BGS	British Geological Survey
CD&E	Construction, Demolition and Excavation originated waste materials
DCLG	Department for Communities and Local Government
EA	Environment Agency
EiP	Examination in Public
FBA	Furnace Bottom Ash
IBA	Incinerator Bottom Ash
LAA	Local Aggregate Assessment
KCC	Kent County Council
LEPs	Local Enterprise Partnerships
MASS	Managed Aggregate Supply System
MMO	Marine Management Organisation
MPS	Minerals Policy Statement
MPA	Mineral Planning Authority
mt	Million Tonnes
mtpa	Million Tonnes Per Annum
NPPF	National Planning Policy Framework
PPG	Planning Practice Guidance
tpa	Tonnes Per Annum
RSS	Regional Spatial Strategy
SEA	Strategic Environmental Assessment
SEEAWP	South East England Aggregates Working Party

'simple' landbank	A 'simple' landbank comprises of sufficient permitted reserves to last at least 7 years at a determined extraction rate per annum, normally equal to the last ten year average annual extraction rate calculation.
Maintained landbank	A maintained landbank is that which can be said to be maintained in any one year at a certain level of reserves. For example a maintained 7 year landbank means for any one year there is 7 years of productive capacity, in that reserves are being drawn down at a steady predictable rate (normally expressed as an average extraction rate from calculated from past production records) and that for each year of the Plan period 7 years of production is possible.

1 Executive Summary

1.0.1 In compliance with the National Planning Policy Framework (NPPF) Kent County Council (KCC) has produced a Local Aggregate Assessment (LAA) for 2016 using data from the latest Aggregate Monitoring (AM) survey for 2015, and is accurate up until the end of 2015 in terms of landbanks. A key purpose of the LAA is to set out how aggregate needs and supply are changing on an annual basis in the County and to inform aggregate supply policy. The LAA has analysed relevant up-to-date data on recycled (where supplied by the industry), secondary and landwon aggregate sales, permitted reserves and potential new resources together with importation infrastructure capacity. This document provides an understanding of how the area will maintain a steady and sustainable supply of construction aggregates to meet local demand. It is a technical document that will explicitly inform policy for aggregates supply, which is a role of the adopted Kent Minerals and Waste Local Plan 2013-30 at this time.

1.0.2 In Kent the three main landwon minerals extracted for aggregate use are:

- Soft Sands
- Sharp Sands and Gravel
- Crushed Rock

1.0.3 The current permitted reserves and potential future supply for these materials are as follows:

- the soft sands permitted landbank, at the end of 2015 was 8.18mt (a slight increase over 2014 due to new reserves being permitted). This would maintain a 7 year landbank of at least 4.16mt of permitted reserves in any one year, with an extraction rate equal to the 10 year average sales figure of 0.594mt, until 2016/17, some 13 years before the end of the Plan period. A 'simple' landbank would last almost 14 years based on the ten year sales average, and would take reserves availability up to 2018. With the anticipated[(1)] additional reserves coming on stream (that may be sustainably extracted) there be sufficient material to meet the maintained landbank requirement. for the whole of the adopted plan period. The potential for interchangeability between silica and soft sands at the currently permitted reserves sites is not occurring and the permitted landbank data appears accurate as being the soft sand available reserve in Kent.

- the sharp sands and gravel landbank, at the end of 2015 was 3.79mt. The re-calculation of existing permitted reserves across the sites in Kent has increased this from the previous reserve figure of 2.64mt in 2014. However, this does not give a 'simple' 7 year landbank based on the 10 year average sales

1 meaning the potential reserves identified in the Minerals Sites Plan Preferred Options Consultation document of 2012

data for Kent at 2016. given the current permitted reserves of only 3.79mt an additional 0.51mt is required to give the 'simple' 7 year type landbank. Moreover, this would be depleted at an anticipated rate of 0.61mtpa based on the last 10 year sales averages. To have a maintained or rolling 7 year landbank would require significant amounts of new permitted reserves to come forward. Those that are identified in the Kent Minerals and Waste Local Plan Preferred Options Consultation (May 2012)[2] sites, at the maximum resource estimation, would provide for a maintained or rolling landbank until 2024, some 6 years short of the end of the Plan period. Alternatively a 'simple' landbank of 18 years (until 2034) could be provided. Though this is not currently considered as a likely as none of these replenishment sites are coming forward at this time.

- the hard rock permitted landbank at the end of 2015 was in the order of 47-48 mt. This would maintain a 10 year landbank of 7.8mt (or more) of permitted reserves in any one year, with an extraction rate equal to the proxy for the 10 year average sales figure (0.78 mt) beyond 2030. The reserves, when considered as a 'simple' landbank would last into the 2070's with the accepted proxy draw down rate of 0.78 mtpa. Clearly hard rock reserves in Kent will be sufficient for the adopted Plan period until 2030.

1.0.4 It is clear to the County Council that the landwon aggregate supply is tenuous, with particular regard to future sharp sands and gravels supply. This mineral reserve will increasingly need be substituted in the supply chain by both alternative aggregates from the recycling and secondary aggregate sector and the overall importation capacity of the area's wharves and railheads. Moreover, there is good indication that sources of aggregate supply from outside Kent in the wider UK (and further abroad) are reliable in terms of future availability. Taking the two alternative sources of supply it has been found that:

- Secondary and recycled aggregate productive capacity in the County is in the order of 1.9mtpa.

- Wharf capacity in the County overall is an estimated 7.65 mtpa and railhead estimated capacity is in excess of 2.7 mtpa.

1.0.5 When considered together these alternatives to landwon sharp sands and gravel could provide over 12.25 mtpa of aggregate supply. This is more than adequate to meet Kent's needs at this time, this being 0.61mtpa, and continue to provide those exports to other areas outside Kent that are currently part of the existing overall

2 The weight that can be afforded to these potential replenishing reserves may be considered as reducing in that their assessment of acceptability and deliverability was last done in 2012, and may be regard as increasingly out of date. Notwithstanding this they currently represent the only assessed potential new reserves that have been assessed to a Preferred Options consultation in accordance with Regulation18 of the local planning regulations for England of 2012. The current Call for Sites exercise (late 2016) has not yet progressed to a comparable state

import/export balance. Although there is a current underutilisation of the capacity across Kent's wharves and railheads, the capacity remains fragile and at risk from other development. The loss of one or more importation sites to other development could make a significant reduction to the current surplus of capacity. This apparent surplus now will become increasingly important through time. Therefore the ongoing safeguarding of the importation infrastructure will be imperative in securing Kent's aggregate needs into the future.

1.0.6 The Local Aggregate Assessment (LAAs) for the South East area county councils and unitary planning authorities are required to be ratified by the South east England Aggregate Working Party (SEEAWP). Kent County Council's LAA was shared and agreed in draft form with the Aggregate Working Party (AWP) for evaluation and comment. Government will expect AWPs to assess all respective LAAs in their area to determine if overall demand is being met sub-regionally that accords with the national guidelines that sets out the sub-regional requirements. This in turn will enable the National Aggregate Co-ordinating Group (who monitor annual reports produced by each AWP, with particular emphasis on the landbank position) to then report back to Government for national monitoring on the level of aggregate supply being achieved nationally.

2 Introduction

2.0.1 This is the fourth LAA that Kent County Council has produced. Is a technical monitoring document to inform mineral planning policy. The County Council has now adopted (July 2016) the Kent Minerals and Waste Local Plan 2013-30 (Kent MWLP) that sets the overarching requirements for both naturally occurring landwon aggregate supply and the proportion of which recycled and secondary resources can contribute to meeting overall aggregate needs. The requirement of the LAA to assess aggregate supply annually enables the local plan to be reviewed to ensure that they remain up to date and relevant to evidence-led decision making. This is in addition to other monitoring work such as the Annual Monitoring Report (AMR).

2.0.2 Aggregate forming materials are predominantly naturally occurring geological deposits, taken from the earth's crust. Unconsolidated sands and gravels come from deposits considered as 'superficial' in that they rest on the surface overlaying the more massive geological makeup below. These superficial deposits on the land surface and the sea bed are a significant source of aggregates supply. In addition, the main geological units that form an area's geological crustal history are important; these materials are generally referred to as hard rock resources.

2.0.3 In Kent these main geological units supply building sands (largely unconsolidated sands of the Folkestone Formation) and hard rock (limestone the Kentish Ragstone of the Hythe Formation); the latter can be crushed to form sized aggregates. In addition aggregates can be formed by re-using and recycling materials, and as a new use for a material derived from another unrelated (to quarrying and construction) activity. Furnace bottom ash (FBA), for example, from the power generation sector can be used as an aggregate, often called a secondary aggregate that is, in effect, a substitution for primary or naturally derived aggregates. The value to society of all aggregate materials is in their use as a construction material for such products as structural concrete for major works, asphalts for road building and maintenance and bulk fill for engineering projects and land stabilisation (e.g beach replenishment).

2.0.4 In addition to acting as an indicator as to when mineral and waste local plan policies may need review, the main purpose of this LAA is to further the understanding of both the current local demand for and supply of aggregates in the area, to help inform decision making for planning applications and objectively assessed mineral plan policy formulation. This changes with time. It should also help inform the minerals industry in their investment decision making and the wider community on future supply of aggregates.

2.0.5 This technical monitoring document is evidence to support planning policy formulation, it is a technical monitoring document and contains the following elements:

- a forecast of the demand for aggregates based on both the rolling average of 10-years sales data and other relevant local information;

- an analysis of all aggregate supply options, as indicated by existing landbanks, mineral plan allocations and capacity data e.g. marine licences for marine aggregate extraction, recycled and secondary aggregates and the potential throughputs from wharves and railheads. The analysis of these elements should be informed by planning information held by the authority, the aggregate industry and other bodies such as Local Enterprise Partnerships; and

- an assessment of the balance between demand and supply and the economic and environmental opportunities and constraints that might influence the situation in Kent. In conclusion it considers shortage and/or surplus in supply of the varying aggregate types, and where there is a defined shortage how this should be addressed.

3 Policy Context

3.1 Localism Act 2011

3.1.1 Nationally there are guidelines that apportion to the regional areas the amounts of aggregates (of the various types) that are required to meet England's overall need for the period 2005-20 (as set out in Table 1). This has not changed since the previous Kent LAA was produced and is still relevant. The sub-regional apportionments were formulated primarily for use by the now abolished regional assemblies taking into account advice from the respective MPAs and mineral operators.

3.1.2 The guidance is still in place, and the National Aggregate Co-ordinating Group exists to monitor the overall provision of aggregates in England, and to provide timely advice to Government and individual Aggregate Working Parties (AWP) examining any significant difference between individual Aggregate Working Party (AWP) reports and the relevant National and Sub-National Guideline figure. This national coordinating group exists in order to understand the reason for any such difference, and whether it raises issues of concern about ensuring a steady and adequate provision of aggregates in England. The National Aggregate Co-ordinating Group shares its findings with both the individual AWPs and Government as necessary. The national body also has the role of providing guidance to Government on future National and Sub-National requirements for aggregates supply. This will include whether, and when, it needs to review National and Sub-National guidelines for aggregate provision in England.

3.1.3 MPA's produce both AMR and LAA documents, which are informative to the AWPs who in turn inform the National Aggregate Co-ordinating Group and ultimately the Government.

Table 1 National and Regional Guidelines for Aggregates Provision in England 2005-2020 (mt) June 2009

New Regions	Guidelines for Landwon Production		Assumptions (these resources are less certain in terms of their potential overall quantum over the guideline time span than landwon resources)		
	Land-won Sand & Gravel	Land-won Crushed Rock	Marine Sand & Gravel	Alternative Materials	Net Imports to England
South East England	195	25	121	130	31
London	18	0	72	95	12

New Regions	Guidelines for Landwon Production		Assumptions (these resources are less certain in terms of their potential overall quantum over the guideline time span than landwon resources)		
	Land-won Sand & Gravel	Land-won Crushed Rock	Marine Sand & Gravel	Alternative Materials	Net Imports to England
East of England	236	8	14	117	7
East Midlands	174	500	0	110	0
West Midlands	165	82	0	100	23
South West	85	412	12	142	5
North West	52	154	15	117	55
Yorkshire & the Humber	78	212	5	133	3
North East	24	99	20	50	0
England	**1028**	**1492**	**259**	**993**	**136**

3.2 Local Aggregate Assessment Requirement of Mineral Planning Authorities

3.2.1 The NPPF came into force in March 2012 replacing most of the previous planning policy statements and guidance documents that had been in force, e.g. Planning Policy Statement 1: Planning and Minerals (13th November 2006). To address overall mineral supply, as opposed to that that meets a defined local need, the NPPF states that MPAs should plan for a steady and adequate supply of aggregates by (amongst other matters) taking account of published National and Sub National Guidelines on future provision which should be used as a guideline when planning for the future demand for and supply of aggregates.[3] The NPPF also states that the MPA, alone or jointly, should prepare an annual LAA based on averaged 10 years past sales data and "other relevant local information", assessing all the supply options (including marine dredged, secondary and recycled sources).

3 National Planning Policy Framework March 2012, Para. 145, page 34.

The online Governmental Planning Practice Guidance of March (PPG) 2014 [4] essentially reinforces the requirements of an LAA as set out in the NPPF. Paragraph 062 sets out what a Local Aggregate Assessment should contain.

3.3 Managed Aggregate Supply System

3.3.1 PPG published March 2014, (part 7 guidance) details the Managed Aggregate Supply System (MASS) process and how it should be applied to the process of determining a steady and sustainable source of aggregates.[5].

3.3.2 MASS as a systematic approach is not a new approach to aggregate provision, as it has been in existence for over 35 years. The underlying methodology is to ensure sufficient materials can be identified and brought to the market to meet identified local and national need through the planning system. This gives that the extractive industry confidence that investment plans are realistic while the environmental concerns often directly associated with aggregate mineral exploitation are mitigated or otherwise minimised to an acceptable level. The current MASS retains this core set of principles while decentralising more power to the Mineral Planning Authorities (MPA) in accordance with a more localist approach to planning as required by the Localisim Act 2011.

3.3.3 The key element of the reformed MASS system is the LAA, where each MPA is expected to prepare an assessment of the demand for and supply of aggregates, addressing:

- a forecast of the demand for aggregates based on the average of 10 years of past sales data and any other relevant local information on demand, this may include elements from the National Infrastructure Plan that may be pertinent in the MPA area

- an analysis of all supply options to meet the demand, as indicated by the permitted and remaining landbank of reserves, any mineral plan allocations that may be reasonably expected to come forward and contribute to supply and capacity data for importation through wharves and railheads and the marine licences for marine aggregate extraction. This analysis should be informed by planning information, the industry and other bodies such as Local Enterprise Partnerships (LEPs)

- an assessment of the balance between demand and supply, and the economic and environmental opportunities and constraints that might influence the situation in the relevant MPA area. It should conclude if there is a shortage or surplus of supply to meet the anticipated demand, and if there is a deficit, how this is to be addressed

4 http://planningguidance.planningportal.gov.uk/blog/guidance/minerals/planning-for-aggregate-minerals/local-aggregate-assessments/

5 Online at: http://planningguidance.planningportal.gov.uk/blog/guidance/minerals/planning-for-aggregate-minerals/the-managed-aggregate-supply-system/

3.3.4 The aggregate material supply options to be assessed include:

- recycled aggregates (including those from construction, demolition and excavation wastes)
- secondary aggregates (industrial wastes such as glass, ash, spent railway ballast etc, and mineral extraction by-products such as china clay and colliery spoil)
- marine sources from licensed dredging areas within territorial waters (the Marine Management Organisation (MMO) will be producing marine plans for the future licensing provisions)
- imports and exports balance via wharves and railheads
- landwon supply of sand and gravel and crushed rock from within the MPA's areas of economic geology

3.3.5 A LAA must consider other relevant local information in addition to the arithmetic approach of the 10 year rolling average sales based supply when looking ahead at future demand. This could include levels of planned house building in their areas and other planned construction. MPAs should also investigate average sales over the last three years to identify any recent new trends that would indicate increased supply would be appropriate. Unlike the previous Kent LAAs, landbank calculation assessments will be made for the distinctly different aggregate types in Kent, given that combining soft sands of the Folkestone Formation with the sharp or flint superficial sand and gravel deposits would not accord with either the NPPF or the online guidance (see paragraph 066 of the PPG). The hard rock assessments were hitherto and will continue to be assessed as a separate aggregate type.

3.3.6 There is no maximum landbank (7 years is the minimum that should be sought) to be provided for aggregate minerals, essentially these landbanks and other supply factors need to be understood by the MPA in order for informed decisions on planning applications for new aggregate supply. There may be justifiable reasons to permit new supplies of aggregates when the calculated landbank is considered adequate. These can include:

- significant future increases in demand that can be forecast with reasonable certainty;
- the location of the consented reserve is inappropriately located relative to the main market areas;
- the nature, type and qualities of the aggregate such as its suitability for a particular use within a distinct and separate market; and
- known constraints on the availability of consented reserves that might limit output over the plan period.

3.3.7 Government advice makes clear that where there is a distinct market for a specific type or quality of aggregate (such as high specification rock, or sand used for concrete or sand for asphalt), a separate landbank calculation based on provision to that market may be justified. This is because materials of different physical properties and quality are often needed to meet different end uses, and the scope to substitute one aggregate material for another can be limited. The County Council has considered that this is a justified approach in Kent in the second and third LAA for the area and continues this into the fourth LAA for Kent. It is clear that the building sands of the Folkestone Formation serve a different construction material market than either the hard rock of the Hythe Formation (Kentish Ragstone) or the superficial alluvial and terrace sands and gravel deposits.

3.4 South East Aggregate Working Party

3.4.1 The MASS system is intended to work in tandem with the Aggregate Working Party (AWP) system. Each draft LAA is considered by the respective AWP secretariat for technical assessment so that it is 'fit-for-purpose' and comprehensive in terms of a robust evidence base. Thus fulfilling the duty placed on MPAs to co-operate on strategic aggregate minerals planning. AWPs are composed of representatives of the component sub-regional MPA, aggregate industrial representation and the MMO where necessary. In the South East of England the AWP is the South East England Aggregate Working Party (SEEAWP). This is an ongoing arrangement.

3.4.2 It is expected by Government that AWPs will assess all the respective LAAs in their area to determine if *overall* demand is being met sub-regionally (in accordance with the national guidelines that set out the requirements for the sub-regions) to enable the National Aggregate Co-ordinating Group (who monitor annual reports produced by each AWP, with particular scrutiny of the landbank position) to report back to Government for national monitoring of the necessary level of aggregate supply. This is an additional responsibility of the AWPs to the conducting of annual aggregate monitoring surveys that provide the base data for MPAs to produce their LAA in the first instance. This process ensures local data is used to inform the sub-regional and ultimately national supply needs in a transparent manner as the data flows up the monitoring hierarchy.

3.4.3 Appendix E. includes the letter ratifying the fourth Kent LAA and signed by the SEEAWP Technical Secretary. In relation to the comments referred to, at the meeting in November 2016 it was suggested that an alternative interpretation of considering local circumstances could be explored in the future. The AWP was of the view that the NPPF's requirement to consider 'local considerations' in LAAs are more appropriately confined to matters such as quarries being mothballed and thus restricting supply.

4 Aggregate Sources of Supply in Kent

4.1 Aggregate Sources of Supply in Kent

4.1.1 Kent has a varied geology with several economically important naturally occurring aggregate forming mineral deposits. The most recent of which is the post glacial (Pleistocene epoch some 10,000 years ago) outwash (alluvial) river valley and terraced sand and gravels and storm beach sands and gravels. The extensive soft sand ancient beach deposit (Folkestone Beds) is somewhat older, being part of the Lower Greensand Group of the Lower Cretaceous epoch (some 100-140 million years old). Hard rock is also present in Kent, in the form of a significant thickness of a complex estuarine limestone formation. This rock can yield important building materials and when crushed to form an aggregate (Kentish Ragstone). This material is also part of the Lower Greensand Group, forming part of what is called the Hythe Formation which was laid down prior to the Folkestone Formation, though still being within what is called the Lower Cretaceous epoch.

4.1.2 Importation into Kent is extensive, with significant capacity in wharfage (mostly located along the northerly coastline of the county) complimented by some rail head facilities. The requirements of the construction world are complex and although Kent has important economic geology, there is still a need for materials that are of a certain specification and quantity which the market requires and cannot be entirely met from local land-won resources (e.g. crushed granite for railway ballast). Heightened environmental awareness and policy, climate change legislation and virgin aggregate taxation have led to an increasing contribution to the overall aggregate supply from recycled and secondary sources. Kent is no exception to this trend and the sector is an important contributor. In line with the requirements of the LAA process and the MASS guidance, Kent's sources of aggregate supply are to be assessed based on the following supply options.

4.2 Recycled and Secondary Aggregates

4.2.1 Kent has undertaken a study of the specific capacity and arisings of the activities of the recycling and secondary aggregate sector in the county. This produced information for the first Kent LAA (ratified in December 2012 though not revised in 2013). For the second LAA (ratified in February 2015 based on 2014 data) a programme of site visits (including permanent, semi-permanent and temporary sites) was undertaken during February 2012 to March 2013 covering the whole of Kent. The aim of this survey was to establish the overall capacity in the sector. The survey site visits examined plant capacity, sales data and the Environment Agency licence provisions.

4.2.2 This data formed the basis for the estimate of maximum production capacity. Table 29 in Appendix D details the findings of the survey. This should be viewed alongside the findings of the January 2012 study undertaken by consultants Jacobs

to assess waste arisings and needs across all of Kent's waste streams[6]. For construction, demolition and excavation (CD&E) waste the recorded overall permitted capacity to manage this material was and is expected to remain at some 1.9 mtpa (both temporary and permanent capacity)[7]. This capacity will include that which manages material from this sector that is incapable of being processed to form recycled aggregate materials. Soils and excess excavation rock spoil from the chalk would be examples of such materials. This being the case the overall recorded quantity of available materials from this waste sector is greater than that which can be processed to form recycled and secondary aggregates.

4.2.3 The vast majority of the sites surveyed were processing materials from the CD&E waste stream and producing recycled aggregates. Of the secondary aggregate production activity in Kent this has significantly reduced with the closure of the Thamesteel steel manufacturing plant at Sheerness in 2012. The furnace bottom ash (FBA) produced a marketable aggregate. The only other current source of material is bottom ash (IBA) from the municipal waste management plant (Kent Enviropower) at Allington near Maidstone. The plant receiving the IBA (Ballast Phoenix at Ridham Dock) has a capacity of some 60,000 tonnes per annum. The mechanically processed IBA is used to produce drainage materials, concrete and bituminous coated products as an aggregate substitute. This operator presently continues to produce and market these materials.

4.2.4 Permanent sites are those that are reasonably anticipated to be operational well into the future. While those that are classified as semi-permanent are of a more limited, but not insignificant, life span. Temporary permissions are dependent on the productive life of the respective quarries where they are located and are not expected to remain over the next plan cycle in Kent.

4.2.5 The study is considered to have yielded indicative results of the productive capacity of the sector, rather than those that could be considered as definitive or absolute in type, given that there are temporary and semi-permanent mobile operations as well as permanent fixed sites. The survey period showed approximately 1.2 mt produced by the sector, though this is possibly an underestimate given that not all sites visited had data to share and the secondary aggregate production at Ridham (Ballast Phoenix Limited) was not part of the survey at the time.

4.2.6 Of the sites with permanent planning permissions, where there is available data, some 1.04 mtpa permitted capacity was recorded. The true figure would be higher as there were data gaps(exemplified, at the time, by four of the permanent sites visited being unable to supply meaningful data). It is also of note that there are often semi-permanent sites operating mobile plant at any one time linked to

6 Waste Management Statistics Basis for Kent County Council Minerals and waste Development Framework, Addendum to the Needs Assessment Modelling Technical Report, Needs Assessment 2011 Update, Para 3.6 page 17. Evidence base ref. KCC/MWLP/CS/033

7 In January 2015 capacity grew by 7.8%. with an application for 150,000tpa being permitted, boosting overall capacity to 2.15mtpa

development projects that are not the subject of specific planning permissions or formal EA licensing requirements. This leads to data gaps in the overall amount of material produced by the construction and demolition sector.[4.1]

4.2.7 The past sales data for secondary and recycled aggregates for the annual aggregate monitoring (AM) exercise is tabulated below in Table 2. By interpreting the data of the permitted capacity and EA licence provisions, where they are available, it is considered that Kent's overall permanent permitted capacity to generate secondary and recycled aggregates is still in the order of at least 1.0 mtpa, with high probability that the true figure is well over a 1.0 mtpa, as evidenced by the peak figure in 2006, which showed a production level approaching 1.3 mtpa. Since 2006 production fell and has started to rise again, with a production figure of 728,714 in 2014 and the 2015 production (sales) figure of 844,946. The productive capacity of the sites in Kent to produce secondary and recycled aggregates is an estimation of the total amount any one site could theoretically produce. In 2014 this figure was given as 1.3 mtpa, while in 2015 this has significantly increased to 3.44 mtpa. The difference may well represent investment changes to site productive infrastructure. However, It should be noted that again certain operators have not returned their production figures for this LAA, and one of which has not participated in AM data sharing for several years. Therefore, the conclusions on Kent's production capacity of recycled aggregates can only be seen as indicative.

Table 2 : Secondary and Recycled Aggregate sales in Kent 2002-2014[1]

Year	Recycled Secondary Aggregate	Recycled Secondary Aggregate industrial by-products	Totals	As a % of all aggregate materials produced in Kent (primary, secondary and recycled combined)
2002	340,025	135,025	475,050	475,050/6,218,861=7.6%
2003	511,888	157,333	669,221	669,221/6,444,618=10.34%
2004	ND	ND	ND	ND/2,287,026 (limited data)
2005	ND	ND	ND	ND/5,745,105 (limited data)
2006	1,181,412	113,224	1,294,636	1,294,636/7,546,311=17.15%
2007	794,026	162,257	956,283	956,283/6,662,722=14.35%
2008	475,163	72,841	548,004	548,004/6,232,065=8.80%
2009	843,974	59,237	903,211	903,211/5,778,744=15.60%
2010	657,987	51,934	709,921	709,921/5,551,743=12.78%
2011	686,329	88,278	774,607	774,607/5,247,569=14.80%

Year	Recycled Secondary Aggregate	Recycled Secondary Aggregate industrial by-products	Totals	As a % of all aggregate materials produced in Kent (primary, secondary and recycled combined)
2012	643,577	24,997	668,574	668,574/4,696,273=14.24%
2013	660,642	81,824	836,462	836,462/ND
2014	673,410	55,304	728,714	728,714/4,381,964=16.63%
2015	804,645	40,301	844,946	844,946/5,092,037[(2)]=16.59%
Totals 2006-15	7,421,165	750,197	8,265,358	-
Average pa 2006-15	0.742mtpa	0.075mtpa	0.827mtpa	range 8.8% to 17.15%

1. Recycled aggregates are of construction,demolition and excavation waste in origin, and secondary aggregates are from materials of industrial process origin, ND denotes no data
2. hard rock estimated as 0.78mt

4.2.8 The important conclusions that can be drawn from these figures are:

- the sector remains quite volatile, changing markedly from year to year and the only possible 'trend' that can be deduced is that there was a general tendency to increase output till 2006, with a decline since that date that may be recovering again as can be seen in the AM 2014 and 2015 figures.
- the average sales from the 2006 recorded peak (of 1.3 mtpa) for the last 10 years has been approximately 824,536mtpa for the secondary and recycled aggregates combined. As of 2015 the overall proportion of the secondary and recycled aggregate sector has not markedly increased, in that the landwon faction of supply to the market has marginally risen to 5.09 mt in 2015 to that of 4.7 mt in 2014, with the secondary and recycled aggregate sector at present being 16.59% of overall aggregate supply. This is slightly down from recorded 16.63% in 2014.

4.2.9 The role of secondary and recycled materials that can give rise to future supply is less certain than the primary aggregates where geological reserves can be calculated with a greater degree of certainty. The construction and demolition cycle is not a definitive or predictable activity. Also industrial processes that can give rise to secondary materials, and can similarly vary in response to changing economic circumstances, globally as well as locally. At present it can be reasonably stated that potentially between 10% to 16% of all aggregate need could be supplied by the secondary and recycled aggregates sector in Kent into the foreseeable future.

4.3 Marine Sources

4.3.1 Aggregates from the sea bed (of the North Sea and the English Channel) are an increasingly important aggregate resource. The material is derived mainly from the flint content of the Chalk (deposited in a extensive shallow tropical continental sea during the Upper Cretaceous epoch 90-79 million years ago) that was eroded by glacial melt water action and then deposited on an expansive fluvial continental plain (Doggerland). The deposition occurred as part of meandering river channel and outwash fan processes in the extensive and undulating tundra type landscape then existing. As the Pleistocene Epoch Ice Age event came to an end there was a resulting increase in sea level that inundated this low lying continental plain to form the North Sea and the English Channel. These aggregate resources are now classified as marine aggregate materials that are exploited from the sea bed today.

4.3.2 These deposits are not being replenished by new marine sedimentary system inputs from elsewhere. The English Channel and North Sea are defined sedimentary basins and have a significant, but finite, resource similar in that regard to landwon resources. It can reasonably be anticipated that they will be available for the life of the KMWLP (2013-30) and beyond. The Crown Estate, who are responsible for licensing extraction operations, commented on Kent's Mineral Sites Plan, Preferred Options Consultation May 2012, and the following text is taken from its comments:

- *Over 900 million tonnes of marine sand and gravel (aggregate) has been dredged from offshore seabed over the last 50 years and at least 1,250 million tonnes is available for sustainable supply of construction aggregate over the next 50 years and beyond. Currently marine sand and gravel supply some 20% of the county's demand.*

- *The marine aggregate resource available in the East Coast, Thames Estuary and East English Channel areas and which are used to supply Kent wharves is 994 million tonnes of which 31.25 million tonnes is permitted for extraction per annum. Kent wharves only received some 1.3 million tonnes (4.2% of total permitted per annum) in 2010, but increased in 2011 with 1.55 million tonnes*

(5%). There is therefore a long term viable and sustainable supply of marine dredged aggregate both for construction uses and for direct beach nourishment by vessel delivery.

- *The current rate of extraction by all companies to all marine aggregate wharves in the UK and on the European mainland is some 45% of the quantities permitted per annum thus reinforcing the sustainability and long term viability and requirement of marine aggregate wharves in Kent.*

4.3.3 The imports into Kent are running at an average (taken between 2006 and 2015) of just over 1.8 mtpa. Table 3 below details the landings in Kent during 2006-2015 recorded by yearly aggregate monitoring survey with the wharf operators in Kent. The differences between the Crown Estate figures above and those in Table 3 reflects the more detailed and very probably more accurate nature of the aggregate monitoring process (an average is calculated between 2006 and 2015 only due to poor data prior to 2006).

Table 3 Landings of Marine Dredged Sand and Gravel at Kent Wharves 2005-15 (thousands of tonnes per annum) (1)

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Average 2006-15
ND	1950	1870	1670	1730	1524	1844	2014	1743	1938	1874	1816

1. ND denotes no data

4.3.4 The wharves located in Kent (including those within Medway Council's control) have been jointly surveyed for their capacities in 2006 and in 2010; Table 4 below shows the comparative change between 2006 and 2010 of wharves in Kent. This has been changed as of April/May 2015 when during the Kent Minerals and Waste Local Plan 2013-30 Independent Examination a further potential wharf site was identified as one that can be re-activated for mineral importation (Old Sun Wharf), that is currently being used as a land served concrete products production facility in Gravesham Borough Council's administrative area. As of the AM 2016 data there has been a reduction in overall capacity by 0.1 to 0.35 mtpa with the loss of one aggregate wharf in the Dover harbour area.

Table 4 Kent and Medway Wharf Facilities(1) (2)

Site	Operator	Site size 2006 survey	Site size 2010 survey	Change between 2006-10
Ridham Dock	Tarmac PLc	Medium	Large	Increased capacity

Site	Operator	Site size 2006 survey	Site size 2010 survey	Change between 2006-10
Ridham Dock	Brett Aggregates Ltd	Medium	Medium	No change
Johnson's Wharf	Lafarge PLc	Medium	Large	Increased capacity
Robins Wharf	Aggregate Industries PLc	Medium	Medium	No change
Denton Wharf	Clubb Ltd	Large	Major	Increased capacity
Cliffe	*Brett Aggregates Ltd*	*Major*	*Major*	*No change*
East Quay Whitstable	Brett Aggregates Ltd	Medium	Medium	No change
Eurowharf Frindsbury	*Hanson PLc*	*Large*	*Major*	*Increased capacity*
Red Lion Wharf	Stema PLc	Large	Major	Increased capacity
Old Sun Wharf	Fleetmix Limited	Small	Small	No change (potential wharf re-activation site)
Isle of Grain	*Aggregate Industries PLC*	*Major*	*Major*	*No change*
Ramsgate New Port	Brett Aggregates Ltd	Small	Small	No change
Robins Wharf Northfleet	Brett Aggregates Ltd	Medium	Large	Increased capacity
42 Wharf (Northfleet)	Lafarge PLc	N/A	Small	New facility (not yet operational)
Dunkirk Jetty, Dover	Cemex PLc	Medium	Medium	No change (no longer operational as of 2015)
Sheerness	Aggregate Industries Ltd	N/A	Small	New site (no longer operational as of August 2012)
Botony Marshes	Cemex PLc	Large	Major	Increased capacity

1. Small-up to 0.1 mtpa, Medium-0.1 to 0.35 mtpa, Major-0.75 plus mtpa

2. Entries in italics represent those wharves in the Medway Council administrative area

4.3.5 The 2010 survey demonstrated that several wharf operators (7 out of 17) had invested in increasing the capacity of their sites since 2006, resulting in an excess of 2 mtpa new importation capacity (estimated). A combined capacity of some 4.65 plus mtpa (estimated) was extant in 2010. The changes included new processing and conveyor plant, as well as 'value addition' facilities such as concrete batching plants. One site (small capacity of up to 0.1 mtpa) ceased operating in 2012, this has been followed in 2015 by Dunkirk Jetty (medium capacity of 0.1 to 0.35 mtpa) at Dover.

4.3.6 The very significant increased capacity event in recent years is the planning permission to use 42 Wharf at Northfleet for aggregates following the closure of the onsite cement works. Planning permission for up to 3 mtpa aggregate importation was granted in 2011. The site has been utilised for the Cross Rail project. This has now ceased, thus allowing cement and aggregates importation and handling to come on stream, although this is yet to occur as of 2015. Overall Kent wharves have a total combined capacity in the order of some 7.65 mtpa (estimated).

4.3.7 The Kent and Medway 2010 wharf survey was conducted on the basis that the individual wharf operators would provide KCC with data as long as it was not reported in a manner that would enable individual wharf capacity to be apparent, as this would be a breach of the confidentiality so agreed between the parties. The existing overall wharf capacity (railhead capacity will be examined under the following import and export balance section) is greater than the operational throughputs that have been recorded by the annual aggregate monitoring surveys to date. Therefore, if increased importation of both marine and landwon sands and gravels and crushed rock via the area's wharfs (excluding Medway) is increasingly required in the future, additional capacity will be available. This is provided that there are no significant losses of wharf infrastructure to other development or operational requirements/restrictions imposed on the operators that result in the abandonment of wharf sites. The safeguarding of wharves is required by the NPPF and the County Council considers this capacity as essential to maintaining the long term steady and sustainable supply of aggregates into Kent.

End Notes

4.1 Further work in support of the KMWLP's Examination in 2015 was done to provide an assessment of the secondary and recycled aggregate productive capacity operating within Kent in 2014. This included processing plant based on landfills used to produce materials that may be used on the landfill sites for restoration or engineering purposes. A value of circa 2.7 mtpa overall was calculated, and split between 2.1 mtpa of permanent capacity and 0.63mtpa temporary capacity. Given that significant tonnages of processed material would be utilised on-site, the actual sales figures captured by the Annual Monitoring exercise would be expected to be significantly lower. This 'snapshot' value is considered to provide a useful indicator of activity overall

5 Import and Export Balance

5.1 Import and Export Balance

5.1.1 The 2009 Aggregate Mineral Survey for England and Wales (AM2009) undertaken by British Geological Survey(BGS) on behalf of DCLG [8] provided an in-depth understanding of regional and national aggregate sales, inter-regional sales, transportation and consumption of all the primary aggregate streams, another such study is currently being undertaken for AM2014. However at the time of writing the inter and intra regional flows of aggregate imports/exports are not available from the BGS. Therefore, this LAA will continue to take the position as found in AM2009 as indicative of the situation in 2014, until such time as revised data is available prior to ratification of the fourth Kent LAA by the AWP.

5.1.2 The survey was only a 'snapshot' in time, and with Kent and Medway's statistics being combined such that they cannot be seen in isolation, this limits the usefulness of survey for the Kent area. The inherent value of these more in-depth surveys is that they have been conducted at four yearly intervals since 1973 and afford a national and regional analysis of long-term trends. The yearly aggregate monitoring has less scope and thus is of more local and regional value. Table 5 details the available information taken from the yearly AM and annual monitoring reports (AMR). This was then further extrapolated to gain an understanding of the import and export balance of Kent and Medway.

5.1.3 The data from the import/export data of the AM2009 collation (that details the information for the AM2009 report)[9]report shows Kent and Medway is a net exporter of the landwon sand and gravel aggregate resource, though it is not marked at 13.4% of the overall landwon sand and gravel production achieved. Marine sands and gravels landed (imported)in Kent and Medway show a similar pattern, as 20.7% were exported out of the joint survey area, see Table 5 row B.

5.1.4 For the landwon hard rock there is a marked contrast between the two areas. Medway has no hard rock geology so all of the crushed rock recorded is imported, some possibly consumed while a significant amount of the 1.86 mt recorded sales in 2009 were in all probability exported. Kent has substantial landwon resources in addition to that which is also imported by sea and rail. Overall consumption of this material in the combined areas was recorded as 52.9%.

5.1.5 Taking all primary aggregates together Kent and Medway in 2009 some 8.25 mt was produced within the two areas, with total consumption being 5.7mt or 69.2% of the production achieved. Exports were calculated to be 2.6 mt or 31% of the overall primary aggregate production. This demonstrates that the majority of primary aggregates both produced and imported into the Kent and Medway areas were used

8 Online at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6366/1909597.pdf

9 Collation of the results of 2009 aggregate minerals survey for England and Wales, Second edition October 2011, this report has been produced by the British Geological Survey under a contract with the Department for Communities and Local Government

within these administrative areas. Table 5 below details the importation, exportation and consumption of aggregates in Kent and Medway combined as detailed in the collation report of the 2009 aggregate minerals survey for England and Wales. It is of note that the Kent and Medway figures are significantly affected by the Grain deep water terminal aggregate importation wharf.

Table 5 Imports, Exports and Consumption of Primary aggregates in Kent and Medway in 2009 (quantitative data in thousands of tonnes)

	Landwon Sand and Gravel Kent and Medway (1)	Marine Sands and Gravel Kent and Medway	Crushed Rock(2)	All primary aggregates production
A. Overall aggregate generated(3) in Kent and Medway as expressed as sales	1362	2825	3760	7947
B. Exported out of Kent and Medway (assumed as A-C)	183 or 13.4% of all material generated by area	585 or 20.7% of all material generated by area	1770 or 47% of all material generated by area	2580 or 32.5% of all material generated by area
C. Consumption in Kent and Medway *(4)*	*1179*	*2542*	*1990*	*5710*
D. Imported into Kent and Medway (*data from the same source as row C. above*)	*79*	*186*	*340*	*602*
E. Total overall consumption in Kent and Medway (C+D)	1258	2728	2330	6312

	Landwon Sand and Gravel Kent and Medway (1)	Marine Sands and Gravel Kent and Medway	Crushed Rock(2)	All primary aggregates production
Overall Import (-ve) and export (+ve) balance in tonnes (x 1,000)	+104 7.64% of all material generated was not consumed in the area 92.36% was consumed in area	+399 12.76% of all material generated was not consumed in the area 87.24%was consumed -in area	+1430 38% of all material generated was not consumed in the area 62% was consumed in area	+1937 23.48% of all material generated was not consumed in the area 76.52% was consumed in area

1. Minimal landwon sand and gravel production in Medway (9,900 tonnes) for 2009
2. Crushed rock imports and landwon combined were 1.9 mt in Kent and 1.86 mt imports into Medway for 2009
3. The term generated includes all materials that are imported and have arisen from extraction of the area's indigenous geology
4. Figures taken from Collation of the results of the 2009 aggregate minerals survey for England and Wales

5.1.6 Examining the recorded destinations of the landwon and marine dredged sand and gravels and crushed rock sales for Kent (the AM2009 collation report does give this information for Kent separate from Medway) demonstrates that Kent does indeed consume most of the production (81% and 86% for the landwon and marine sands and gravels respectively) and makes a significant contribution to the rest of the South East (6% landwon sands and gravels, 3% marine dredged sands and gravels and 2.9% for hard rock). Though a greater amount of sands and gravels travel out of the region to elsewhere than are consumed as exports to the South East Region. Table 6 [10]details the 2009 sales destination findings for Kent.

10 SEEAWP technical Secretary communicated the following to KCC *"the crushed rock sales for Kent in the AM reports for the SE region have been recorded as confidential over the last 10 years because there have been only one or two quarries operating. However, if the figure for Oxfordshire is subtracted from the published totals, and in the knowledge that sales in the Isle of Wight and West Sussex are very small, I agree that it is reasonable for you (KCC) to draw the conclusion that sales in Kent have reflected the SE Plan apportionment"* this figure being 0.78 mt pa

Table 6 : Primary Landwon and Marine Aggregates Destinations when Sold from Kent (quantitative data in thousands of tonnes)

Destination	Landwon Sand and Gravel	%	Marine dredged Aggregates	%	Land-won Crushed Rock	%
Kent	1103	81%	1442	86%	True figure confidential 780 used in lieu of actual production figure	86.4%
Rest of South East	75	6%	55	3%	26	2.9%
Elsewhere	177	13%	171	10%	0	0%
Unallocated	8	>1%	0	0%	97	10.7%
Total	1362	-	1668	-	883	-

5.1.7 The above data demonstrates that the predominance of Kent's landwon and marine primary aggregates remained in Kent and was consumed locally in 2009. The wharves in Kent and Medway are used for the importation of materials other than marine dredged aggregates from the sea floor (including land-won aggregates from elsewhere, cement and recycled and secondary materials that may yield aggregates but also include such materials as waste glass, plastics and paper), and Kent's railheads also have significant capacity that is used to supply aggregate needs as imports. Table 7 demonstrates the historic combined wharf and rail imported supply into Kent.

Table 7 Aggregate Railhead Imports and Wharf Landings Combined in Kent

Year	Soft Sands[11]	Sharp Sands and Gravel[12]	Crushed Rock[13]	Secondary Aggregate	Recycled Aggregate	Total
2003	8,685	1,732,535	1,404,980	ND[14]	ND	3,146,200
2004	15,400	1,848,597	1,434,911	ND	ND	3,298,908
2005[15]	ND	1,669,000	1,980,000	ND	ND	Limited data
2006	11,659	2,165,293	1,094,716	ND	ND	3,271,668
2007	13,794	2,127,547	1,561,169	ND	ND	3,702,510
2008	9,668	1,972,253	1,284,977	ND	ND	3,266,898
2009	14,922	1,761,062	1,023,748	ND	ND	2,799,732
2010	18,200	1,674,408	1,006,309	ND	ND	3,228,203
2011	15,950	2,013,624	1,196,379	ND	ND	2,890,571
2012	23,069	2,180,090	703,263	ND	ND	2,906,422
2013	15,214	1,769,325	873,119	ND	ND	2,657,658
2014	9,798	1,970,900	1,073,359	ND	ND	3,054,057
Last 3 years average 2012-14	16,027	1,973,438	883,247	ND	ND	2,872,712

13 Landwon in origin from outside Kent including that sold for engineering bulk fill purposes
12 Landwon and marine in origin for aggregate use
11 Landwon and marine sources outside Kent
14 ND indicates no data available
15 Kent and Medway combined data in SEERAWP Annual Report 2005

Year	Soft Sands[11]	Sharp Sands and Gravel[12]	Crushed Rock[13]	Secondary Aggregate	Recycled Aggregate	Total
Last 7 years average 2008-14	15,260	1,624,666	1,023,022	ND	ND	2,971,934

5.1.8 The data for Table 7 was taken from past AM (including AM2014) surveys collated in an aggregated form. The importance of the importation capacity in Kent to meet the overall need is well demonstrated by the data. In 2012 approximately 2.90 mt of primary aggregates was imported into Kent via wharves and railheads. In 2013 the figure dropped to 2.65 Mt, and then it has risen to 3.05 mt in 2014. In 2015 the figure had risen again to 3.3mt demonstrating the overall importance to total aggregate supply (some 5.1mt as of 2015). Total aggregate sales in Kent of all types and via all means (including secondary and recycled materials) amounted to 4.4mt in 2012 and 4.6mt in 2013. The average for the past 7 years has been almost 3.0mtpa.

5.1.9 Thus imports via wharves and railheads represented some 66% and 57.6% of Kent's overall aggregate supply in 2012 and 2013 respectively. In 2015 importation accounted for some 60% of Kent's supply. Although Kent is a limited net exporter of aggregate materials (based on the AM2009 data), the role of importation via wharves and railheads in meeting the county's own needs remain significant. Full details of all aggregate sales was not known at the time of writing given incomplete returns from the secondary and recycled materials producers. Though it is anticipated that the share of imports in Kent's overall needs is may have increased, as per the trend identified between 2012 and 2013. This conclusion is given added emphasis given reductions in recent landwon aggregate (sand and gravel) production and the observed rise of imports showing a 19% increase sine 2013.

5.2 Future Import Supply Security into Kent

5.2.1 The reliability of supply from other areas outside Kent was examined in the second Kent LAA. Although the actual details are confidential the 'spread of data' accrued from discussions with other MPAs which export aggregates into Kent and suppliers was informative. Though this exercise has not been updated to any marked extent the relationship with Essex County Council, as given in the Statement of Common Ground in Appendix C remains in place. Many of the operators who import to Kent own and operate quarries internationally, as well as the importation infrastructure in Kent. The international import materials come from Denmark, France,

13 Landwon in origin from outside Kent including that sold for engineering bulk fill purposes
12 Landwon and marine in origin for aggregate use
11 Landwon and marine sources outside Kent

Ireland, Norway and the Netherlands. The majority of these aggregate imports are crushed rock, though land-won sand and gravel is also represented. Elements of Norwegian and Danish supply have reserves that are substantial; being in the order of 70 plus years and at least 49 years respectively. Not all of the international importers confirmed the permitted life of the supplying quarries. Internal imports, (i.e. those supplies from other parts of the United Kingdom into Kent) are again dominated by crushed rock. The materials originate from the Cornwall, Scotland, the Mendips (Somerset) and Wales. Many of the respective quarries have planning permissions that will last into the 2040's.

5.2.2 East Sussex County Council confirmed that landwon sand and gravel extraction at Scotney Court Quarry, Lydd had moved into its administrative area in 2013. This remains to be the case in 2015 where the remaining reserves in Kent are below the processing plant within the site. The original planning permission straddled the administrative areas of both East Sussex and Kent, the majority being in Kent. However, the extraction of the aggregate materials has now moved from Kent to East Sussex. The processing plant site is, as it is stated, in Kent. For AM purposes the site produces an East Sussex production figure and an importation figure into Kent. In addition, some marine dredged sand is leaving East Sussex and being imported into Kent.

5.2.3 The situation in West Sussex is that since 2009 aggregate materials in the order of 10-15,000 tonnes were imported into Kent. Monitoring data will confirm if this is a new trend over the next few years. What is apparent is that sand and gravel importation is a minor element of Kent's imports that are dominated by crushed rock.

5.2.4 Overall it can be concluded that the limitations of land-won sands and gravels can be offset by marine resources; section 4 above details they are available to Kent, in relative abundance. With regard to crushed rock, Kent has an abundance of landwon supply, though this material is supplemented by significant imports to meet the range of technical specification requirements of construction activity. It is a reasonable assumption that this pattern will continue into the foreseeable future.

6 Sub-regional Land-won Primary Aggregate Apportionment and Comparison with the NPPF 10-year Rolling Average in Kent

6.1 Sub-regional Land-won Primary Aggregate Apportionment and Comparison with the NPPF 10 year Rolling Average in Kent

6.1.1 The national and regional guidelines in 2003 aggregated Kent and Medway together into the South East England Region. The government issued revised guidelines in 2009 these were lower than the 2003 for the South East England Region. The provision indicated 195 mt of landwon sand and gravel and 25 mt of crushed rock per annum in the period 2005-2020. The Regional Spatial Strategy (RSS) which was called the South East Plan, apportioned these guideline quantities sub-regionally; initially both Kent and Medway were combined in Policy M3. The guidelines remain in force at this time though the RSS is now substantially revoked with no mineral policies remaining in force. The following gives a historical perspective only, the RSS requirements are not longer effective, though the reasoning behind them in terms of availability of materials is of value to the LAA system that has replaced the RSS in terms of aggregate provision in Kent.

6.1.2 Policy M3 of the RSS was subject to an early partial review in 2009 leading to an Examination in Public (EiP). The EiP's Panel proposed changes to the Secretary of State, who published his findings in 2010. The Panel recommended that the apportionment figure for the South East of England region be 11.12 mtpa for sand and gravel and 1.44 mtpa for crushed rock, both from land-won resources. The Panel went on to conclude that the apportionment to the sub-regions should reflect the option (several were considered) that provided a balance between the demands for and the presence of the resource with regard to the environmental factors and constraints "*capable of assessment consistently across the region at a level of detail commensurate with the purpose of a regional spatial strategy*".

6.1.3 Consistent with this approach the sub-regional apportionments for Kent were 1.63 mtpa for sand and gravel and 0.78 mtpa for crushed rock from the land resource. The Panel's recommendations were accepted by the Secretary of State and Kent County Council raised no objection in responding to the following consultation on the RSS's proposed changes as set out in Table 8 below.

Table 8 : Primary Aggregates Apportionment in Kent in South East England Regional Spatial Strategy

Land-won Resources	South East Plan	South East Plan; Early Partial Review (2010)
Sand and Gravel	2.53 mtpa[(1)]	1.63 mtpa
Crushed Rock (ragstone)	1.2 mtpa	0.78 mtpa

1. Includes Medway

6.2 Kent Land-won Sands and Gravels

6.2.1 Production of all landwon sand and gravel in Kent has averaged 0.807mtpa over the last 5 years, and 1.21 mtpa over the past 10 years, see Table 9 (further per year table in Appendix D, Table 30). In 2014 the LAA demonstrated a 10 year average of 1.40 mtpa for all landwon sands and gravels. This represents a falling in sales 2015 of 0.19 mt, greater than the drop in sales observed in 2014 of 0.16 mtpa compared to 2013 sales. It is considered likely that the 10-year rolling average figures for landwon sand and gravel in Kent will continue to fall annually into the future. With consecutive loss of output post 2011 due to one of Kent's significant sand and gravel quarries having moved its production across the administrative boundary into East Sussex, thereby reducing overall output in Kent and depressing the 10 year average calculation from 2011 onwards.

Table 9 Kent all Landwon Sand and Gravel Aggregate Sales 2005-15

Year	Tonnes
Average sales 2012-15 (3 years)	0.646 mtpa
Average sales 2011-15 (5 years)	0.807 mtpa
Average sales 2006-15 (10 years)	1.209 mtpa

6.2.2 Bulk engineering fill aggregates and Hoggin sales are considered as a more marginal (though not always insignificant) use of resources. Sales of this material are variable and may be said to have a distorting effect on the analysis of land won sand and gravel demands. Table 10 below shows the County's recorded sales of Hoggin, it is apparent that this materials demand is volatile and likely to be very different from other aggregate materials.

Table 10 Kent Landwon Hoggin Sales 2005-14

Years	Sales in tonnes	Averages
2005	ND	2012-14 lack of meaningful data
2006	310,657	
2007	63,780	
2008	12,460	
2009	ND	2010-14 2,758[(1)]
2010	3,802	
2011	9,759	

Years	Sales in tonnes	Averages
2012	228	
2013	0	
2014	ND	2005-14 40,069 tonnes
2015	37,292	

1. tonnes unrepresentative due to a lack of meaningful data

6.3 Kent Land-won Crushed Rock (Ragstone)

6.3.1 As reported in the second LAA, after 2001 the requisite number of operational hard rock quarries in Kent fell below the number that ensured a degree of confidentiality in any figures if openly reported. Therefore, an alternative approach was taken in the second Kent LAA that was significant in that the KMWLP 2013-30 was going through its Independent Examination at the time (Hearings held in April/May 2015) and some form of figure had to be devised.

6.3.2 The position has not changed, thus Kent's fourth LAA has adopts the same approach as detailed in Table 11 below. The sales data since 1998 to 2001 for Kent is shown. The confidentiality of sales first kicked in in 2002, given that only two sites operate in Kent as of 2002. As indicated in Table 11 below the Technical Secretary of SEEAWP confirmed that it is reasonable for KCC to conclude that land-won crushed rock sales in Kent have reflected the revised South East Plan Policy M3 apportionment of 0.78 mtpa. As of 2015 this arrangement has not altered.

Table 11 Kent Landwon Crushed Rock sales 1998-2015(1)

Year	Thousand Tonnes
1998	700
1999	700
2000	954
2001	1,240 (figure rounded to preserve confidentiality)
2002 through to 2015	**C**
Average 2002-15	**C** a working figure being 0.78 mtpa is being advocated for plan monitoring purposes

1. **C** denotes restricted data

6.3.3 In the absence of a 10 year average, the 0.78 mtpa RSS apportionment figure will continue to act as a substitute to the 10 year average sales figure normally required by the NPPF for LAA purposes.

6.4 Past Land-won Aggregate Sales Data for Kent

6.4.1 Tables 12 and 13 below detail the past sales data for the sharp sands and gravel and the soft sands from the landwon resource in Kent. These aggregates have different markets; soft sands are used in mortar and asphalt products and sharp sands and gravel in concrete and concrete related products (such as pre-cast structural concrete components). Table 12 (a full demonstration of how the yearly sales average would configure against the current reserves and those that are anticipated to be replenishments are to be found in Appendix D Table 29) below shows the sales data for sharp sands and gravels. There are reductions since 2010 that are anticipated to continue given the reduction of production output in Kent to East Sussex at Scotney Court Quarry at Lydd, as the quarry's operational area has crossed the administrative boundary[16].

Table 12 Kent Landwon Sharp Sand and Gravel Sales 2005-15

Year	Tonnes
Average sales 2013-15 (3 years)	0.23 mtpa
Average sales 2011-15 (5 years)	0.39 mtpa
Average sales 2006-15 (10 years)	0.61 mtpa

6.4.2 The 10 year rolling average has reduced from 0.70mtpa (based on AM 2014 data) to 0.61mtpa, and it may decline further through time.Given that the last three years average sales indicates a potential trend of continued reduced output (from 0.51 mtpa in the LAA for 2013 to 0.42mtpa in Kent's fourth LAA) to only 0.23 mtpa in 2015. It might have been reasonable to assume that a general economic recovery after the 2008-09 recession would have the affect of increasing yearly output and raise the 10 year rolling average figure. This appears to have not occurred as sales have declined, and continue to do so. Reductions in the overall proportion of aggregates from the landwon resource may well account for this observation.

6.4.3 Table13 below shows the sales data from AM surveys for Kent's soft sands(a full demonstration of how the yearly sales average would configure against the current reserves and those that are anticipated to be replenishments are to be found in Appendix D Table 30).

16 SEEAWP report for AM2013 reflects the shift of sales data at Lydd to East Sussex and has split the overall production from this site as 50% Kent and 50% East Sussex, how this relationship has changed in 2014 will be considered in AM2014 when published

Table 13 Kent Landwon Soft Sand Sales 2005-15

Year	Tonnes
Average sales 2013-15 (3 years)	0.42 mtpa
Average sales 2011-15 (5 years)	0.41 mtpa
Average sales 2006-15 (10 years)	0.60 mtpa

6.4.4 The pattern of past soft sand sales show a recent decline, the last three year sales average show production is well below the 10 year average. Though the quantities are of a lower magnitude of the sharp sands and gravels sales, a similar pattern can be observed. The effects of the economic recession from 2008 to 2009 no doubt continues to have some depressive effect on the 3 and 5 year average sales calculations for both aggregate types, possibly to a greater proportion than the 10 year sales average figure. The 10 year average for 2015 is 0.01 mtpa lower than the same average calculated on 2014 data, a 1.6% overall reduction in soft sand sales. Given the greater permitted reserve base (to be more fully considered next in section 7) for the soft sands than the sharp sands and gravels this reduction may be considered more reliable reflecting prevailing economic conditions acting to reduce demand.

7 Assessment of Permitted Reserves in Kent

7.1 Assessment of Permitted Reserves in Kent

7.1.1 Aggregate reserves constitute the physical quantities of materials that are identified by an extant planning permission that can be identified as remaining at any given point in time. Data for this can come from the mandatory annual monitoring exercises undertaken by the County Council as the mineral planning authority in Kent. Aggregate resources relate to the estimated (in most cases) geological extent of potentially economic mineral deposits present in an area, generally free of major planning constraints.

7.1.2 Permitted reserves can include dormant and currently non-working sites. Also, inactive and dormant sites that have been agreed by the industry as unlikely to ever be worked again are to be excluded from landbank calculations. Table 14 below details the extent of Kent's landbank of permitted aggregate reserves in the AM2015 survey data, which records data of the previous 12 months sales. Though no new planning permissions have been granted as of the end of that year (2015) the reserves have changed since the previous AM period in 2014. There has been a increase in reserves from the recorded 2.64mt in 2014 to 3.79mt in 2015. There has been a degree of re-surveying of permitted reserves, this has lead to a recorded increase in the overall reserve base for the sharp sands and gravels.

7.1.3 Soft sand reserves increased as a result of new planning permissions in 2015, though the increase was not significant at 1.7% of the 2014 reserve base. The hard rock reserves are commensurate with what is understood to be the yearly draw down proxy figure of 0.78 mtpa. This means only a very modest reduction in reserves of Kent's hard rock (some 1.56% to 1.95%) reserves compared to that which existed at the end of 2014.

Table 14 Permitted Reserves: Construction Aggregates as End of 2015

Type	Total Permitted Reserves (mt)
Sharp Sand and Gravel (including sandstone gravels)	3.79mt
Sand and Gravel or Hoggin[1] For use as construction bulk fill	Not comprehensively monitored
Soft Sands[2]	8.18mt (two new permissions in 2015)
Hard Crushed Rock (Kentish Ragstone)	Current reserves confidential though estimated to be in the region of 40-50 mt

1. Hoggin is a compactable ground cover that is composed of a mixture clay, sand and gravel. It is an engineering grade mineral often used for bulk fill, and is unsuitable for other applications without extensive processing
2. no longer including reserve figure for Aylesford Sandpit

8 Kent Landbank Calculations

8.1 Kent Sharp Sands and Gravels

8.1.1 If both soft sands and sharp sands and gravels are combined, the overall permitted sand and gravel reserves in Kent are substantial. Considered in this way permitted reserves amount to 11.969mt (as of the end of 2015, down 0.71mt from the total 12.68mt in 2014). A simple landbank calculation based on the reserve figure divided by the 10 year average gives some 9.8 years of reserves, some 1.98 years greater than a 7 year landbank. Table 15 below details these calculations:

Table 15 Soft and Sharp Sands and Gravel Combined Landbank in Kent 2015

10 Year Sales Average 2006-15 (A)	1.220mtpa
Permitted Reserves as End of 2015 (B)	11.969mt (excluding Hoggin materials)
Current Landbank Duration (B divided by A)	9.8 years
Maintained Landbank Required by NPPF (1.220 mtpa being maintained held at a quantum equal to 7 years average production)	8.54mtpa
Current landbank 11.969mt, 8.54mt for a 7 year landbank	NPPF compliant landbank of at least 7 years

8.1.2 However, the two geologies are distinctly different. Soft sands are a crustal sequential unit (the Folkestone Beds) of Kent's stratigraphy with more than a superficial occurrence. They form an important part of the county's geological structure. The sharp sands and gravels have a superficial occurrence, in that they are surface deposits of geologically recent processes and have significantly different characteristics to the soft sands. As a result of their inherent differences both serve essentially different markets (i.e mortar and concrete products). While the national and regional aggregate guidelines do not differentiate between the different types of sands and gravel. The DCLG planning policy guidance issued in March 2014 requires MPAs to calculate and maintain separate landbanks for aggregate materials of a specific type or quantity which have a distinct and separate market. The online guidance states:

" For some types of aggregate (such as high quality polished stone value, concreting sand and building sand), it will be necessary to carry out a separate assessment for different types of aggregate in preparing a Local Aggregate Assessment. This is critical to ensure that the quality of aggregate is appropriate for its intended use, since not all aggregates can be used for all construction purposes."

8.1.3 The second Kent LAA (in 2014 and ratified in early 2015 by the AWP) did not differentiate between the sand and gravels available in Kent. At the time the Council was reliant on the national and regional guidelines and the NPPF. Neither differentiate between the different types of sands and gravel. The situation for the Kent 2015 LAA is that Government guidance now allows for separate landbanks for distinctly different aggregate mineral types to be considered.

8.1.4 Therefore, the current simple landbank position with regard to the sharp sands and gravel in Kent can be calculated, this is shown in Table 16 below:

Table 16 Kent's Sharp Sands and Gravel Landbank in 2015

Requirements	Computation results to meet NPPF Landbank Requirements
10 Year Sales Average 2006-15 (A)	0.61mtpa
Permitted Reserves at End of 2015 (B)	3.79mt
Current Landbank Duration (B divided by A)	6.16 years
Maintain Landbank Required by the NPPF (0.615mtpa average based on 10 years of production held at a quantum as reserves equal to 7 years average production)	Maintain 4.3mt of available reserves (this being the 10 year average production multiplied by 7)
Current permitted landbank 3.79mt, 4.3mt required for a 7 year landbank	0 years maintained NPPF compliant landbank

8.1.5 Kent's permitted reserves of sharp sands and gravels fall short of providing a 'simple' 7 year land-bank. Based on the predicted average rate of extraction of 0.61mtpa, it falls short by by 0.78mt and would only last 6.2 years as of the end of 2015. Correspondingly, if a maintained 7 year rolling landbank is required (the NPPF could be interpreted in this manner) based on the available reserves is simply not possible in Kent.

8.2 Kent Soft Sands

8.2.1 Table 17 below demonstrates that there is a relative abundance of reserves for soft sands in the County Council's area. A significant permitted reserve at Aylesford Sandpit has been (during 2015) re-classified as predominantly a silica sand reserve site. The remaining workable soft sand reserves at the site are relatively minor, such that most all its remaining permitted reserves (some 3-5 million tonnes depending on the interpretation of the extant planning permission) are the below water table

silica sands. These materials are an industrial sand in their application and thus have been removed from the permitted aggregate landbank in Kent. Notwithstanding this loss of reserve, the permitted landbank across the county is in excess of the landbank requirements based on the 10 year rolling sales average for this mineral.

Table 17 Soft Sands Landbank in Kent 2015

Requirements	Computation results to meet NPPF Landbank Requirements
10 Year Sales Average 2006-2015 (A)	0.594 mtpa
Permitted Reserves as End of 2015 (B)	8.18mt(1)
Current 'Simple' Landbank Duration (B divided by A)	13.77 years

1. two recent planning permissions have contributed another 2.5mt to reserves

8.2.2 The current landbank of soft sands is sufficient for a 'simple' landbank calculation based on the predicted rate of depletion would last almost 13-14 years (until 2028-29). If a 7 year rolling landbank is required to be maintained then 4.16mt would be required to be available per year, Kent's reserves would last for 1.97 years in this case.

8.2.3 The second Kent LAA, highlighted a concern that individual sites may have a degree of interchangeability with markets for silica sand (often referred to as industrial sands and are classified as a non-aggregate mineral) as well as those for aggregate soft sands. In order to clarify the nature of the soft sand reserves the current operators of such sites have all been contacted to determine the degree to which sites can supply both markets from the sands in the overall permitted quarry area. These operators have (during 2015) made clear what type of sand reserves are permitted at their sites. Therefore, the County Council has concluded that the overall soft sand landbank calculations are representative of the reserve base in Kent.

8.3 Kent Crushed Hard Rock

8.3.1 Given the need to preserve the confidentiality of Kent's two operational hard rock (Ragstone) operators left in the County, the yearly production and thus the 10 year rolling average is an estimate only. As discussed earlier (see Section 6.3.1 to 6.3.3) this is based on the apportionment that Kent had received in the revised Policy M3 of the RSS when it was in force.

8.3.2 It is quite clear from Table 18 that Kent has a significant landbank of reserves that can be projected well past the anticipated Kent Minerals and Waste Local Plan's time span of 2013-30. The landbank required to be maintained throughout a plan for crushed rock is 10 years, thus 7.8 million tonnes of permitted reserves should be available in any one year over the Plan period.

Table 18 Hard Rock (Ragstone) Landbank in Kent 2005-14

10 Year Sales Average 2005-2014 (A)	0.78 mtpa
Permitted Reserves (B) as End of 2012	Actual figure is confidential though estimated at over 48 mt[(1)]
Current Landbank (B/A) Duration	61 years
Maintained Landbank Required by NPPF (0.78 mtpa for 10 years)	7.8 mtpa reserves can be maintained in any one year to give a 10 year maintained landbank to 2030 and beyond

1. Including recent 2013 planning permission for 16.67 mt

8.3.3 The hard rock reserves in Kent are substantial, a simply landbank that is being depleted by an estimated 0.78 mtpa will last for 61 plus years. A maintained 10 year NPPF compliant landbank (that requires at least 10 years of permitted reserves to be maintained in any one year) would be maintained through the adopted Plan period, with some 34.18 mt of reserves remaining in 2030.

9 Anticipated Construction and Maintenance Demand for Aggregates in Kent

9.1 Anticipated Construction and Maintenance Demand for Aggregates in Kent

9.1.1 In Kent, there has been decline recently in sales of sands and gravels from a high of 1.2 mt in 2009 to a low of 0.48 mt in 2015 for the soft or building sands and from a high of 1.17 mt in 2005 to a low of 0.65 mt in 2012 for the sharp sands and gravels. This trend has continued with an observed fall in the ten year sales average from 0.78 mtpa (AM2013) to 0.615 mtpa (AM2015) for sharp sands and gravels. The reasons for the decline may be associated with the recessional event since 2008 and a number of other factors. This may include reductions in the intensity of aggregate use in construction design, with greater use of alternatives to landwon aggregates from the recycled and secondary aggregate sector (in Kent this has grown from 0.475mt in 2003 to 0.77mt in 2012 and 0.845mt in 2015). The quantitative demand for landwon aggregates in Kent will be a function of the construction and maintenance activity over the coming years, as well as other influences, such as materials substitution and lowered intensity of use by design.

9.1.2 While it will not be possible to predict how the intensity of aggregate use in design will change with certainty, and the ultimate degree of primary aggregate substitution that will affect demand, it is reasonable to conclude that the level of construction and maintenance activity in Kent can be assessed. Thus, given certain assumptions, the level of primary aggregate demand in Kent over time can also be assessed. The second and fourth Kent LAAs looked at housing projections and other indicators, such as significant infrastructure projects in the pipeline that may be used to estimate construction aggregate needs into the future, as compared to arithmetic projection of averaged past sales projections. The results were somewhat uncertain though the process can be up dated again with the more recent housing projections available to determine if any higher degree of certainty can be afforded by this methodology.

9.2 Assumptions of the Intensity of Aggregate Use in Housing Construction Major Projects Education Infrastructure Highways Infrastructure and Maintenance

Housing Construction

9.2.1 The British Geological Society has jointly produced a document "*Planning4Minerals: A Guide on Aggregates*". The information is in the form of a handbook jointly prepared by the Mineral Products Association, Marine Aggregate Producers Association and Entec UK Ltd. (2006). The handbook advises that an average of 60 tonnes of aggregates are required per home. Page 8 paragraph 2.1.1 of the handbook states:

- *Most notably, in a typical year, the UK's quarrying network helps to provide: 180,000 new homes*

9.2.2 There is no breakdown of what aggregate type predominates in housing construction, though it can be assumed it takes up soft sands for mortar use as well as concreting aggregates for foundations.

9.2.3 Data on the most recent housing projections in Kent can be ascertained from district council housing needs studies prepared to support local plan preparation. This data can be balanced with recent past housing delivery performance across the county, and includes:

- Housing Projections Kent up to 2031/32 (21 years); 160,300 projected, or an average of 7,633 per annum (an increase of 23% on previous projections in 2015) across the county

9.2.4 The application of the assumed 60 tonnes per house consumption means that for the housing sector 457,980 tonnes are required per annum. Meaning that a total of 9.60mt (an increase from the 7.04mt tonnes in 2014 as projected) of aggregates are required between 2011/12 and 2031/32 for the Kent (excluding Medway) wide projected housing growth.

Education Infrastructure

9.2.5 KCC has a key role in the provision of the county's educational infrastructure, namely new and expanded schools. For the period 2015-31 the total projected cost is estimated to be some £720 million. This includes a 190.2 million funding gap shortfall, though it is considered that for the purposes of this LAA the projected expenditure will be realised[17]. The aggregate usage of this construction spend is difficult to estimate. The data prepared by the BGS for the Communities and Local Government Mineral Planning Factsheet, Construction aggregates; issued June 2013 gives the following data on the intensity of aggregate construction usage per £1,000 of construction output, as of 2010:

- sand and gravel approx. 0.5 tonnes
- crushed rock approx. 0.75 tonnes
- total aggregates approx 1.3 tonnes

9.2.6 Therefore, for every £1,000 spend on construction output 1.3 tonnes of aggregates are used. On this assumption the education sector may consume some 939,000 tonnes of aggregates between 2015 and 2031. The use of the differentiated sand and gravel and the crushed rock intensity of use ratios rather than the overall aggregate ratio of 1.3 tonnes per £1,000 of construction output may give a greater resolution to the different aggregate demands that may flow from this area of demand in Kent. This calculation remains the same from previous LAAs.

9.2.7 The use of the the 1.3 tonnes for every £1,000 of construction output ratio does have the benefit of a degree of certainty as to the upper limits of the sector's possible requirements. However, It is recognised that there are difficulties in striking

17 Information from the County Council's Growth and Infrastructure Framework, 2015

the right balance between the use of the different aggregate types that would be used by this construction sector. The higher,1.3 tonnes per £1,000 of construction output, can be seen as a reasonable compromise in the absence of defining how much crushed rock and sand and gravels would be used as distinct calculations.

Major Projects (non-infrastructure) - Paramount Park

9.2.8 The third and fourth LAAs for Kent considered the potential for non-infrastructural major projects that may have occurred over the plan period. The situation has not materially altered. The following projects have been identified and remain to be realised.

9.2.9 Paramount Park leisure development on the site of a former cement manufacturing site on the Swanscombe Peninsula, near Dartford in north Kent. The construction spend is estimated at £2 billion. Using the BGS data on the intensity of aggregate construction usage (including the overall 1.3 tonnes per £,1000 of construction output ratio given the lack of data of what the division between crushed rock and sands and gravel would be in this capital project) the requirements of this project are as follows:

- use intensity of sand and gravel 1,000,000 tonnes (0.5 tonnes per £1,000 of construction output for a £2 billion project)
- use intensity of crushed rock 1,500,000 tonnes (0.75 tonnes per £1,000 of construction output for a £2 billion project)
- use intensity of total aggregates 2,600,000 tonnes (1.3 tonnes per £1,000 of construction output for a £2 billion project)

9.2.10 On these assumptions, the proposed development would require up to 2.6 million tonnes of aggregates.

9.2.11 Consideration needs to be given to new highway infrastructure that has the potential to require significant volumes of aggregates. The Lower Thames Crossing is anticipated to commence by 2026 within the anticipated life of the Plan. The cost of the project has been refined since the last LAA, and is now projected at £1.2 to 3.2 billion . Applying the data prepared by BGS the aggregate requirements are as follows:

- use intensity of sand and gravel 600,000 to 1,600,000 tonnes (0.5 tonnes per £1,000 of construction output for a £1.2 to £3.2 billion project)
- use intensity of crushed rock 900,000 to 2,400,000 tonnes (0.75 tonnes per £1,000 of construction output for a £1.2 to £3.2 billion project)
- use intensity of total aggregates 1,560,000 to 4,160,00 tonnes (1.3 tonnes per £1,000 of construction output for a £1.2 to £3.2 billion project)

9.2.12 Given that the Lower Thames Crossing may well have a greater degree of structural concrete work it may be prudent to conclude that it would require more crushed rock than sand and gravel, so requirements would have a higher range of

crushed rock and a lower range of sand and gravel. Though using the 1.3 tonnes per £1,000 of construction output ratio the total aggregate requirements could potentially be in the region of 4.2 million tonnes.

9.2.13 In terms of the anticipated major projects in Kent during the Plan period 2013-30 the total aggregate requirements could well show a variety of ranges, up to a potential maximum of 6.8 million tonnes.

Highways Infrastructure

9.2.14 The total identified highway scheme build for the period 2015-21 in Kent (excluding Medway), has a cost of some £982.5 million, this projection has significantly risen since the last Kent LAA. The assessment of aggregate use is complex, the programed Kent road construction that would use a wide variety of aggregates, soft sands as well as crushed rock for asphalt coated stone product applications (such as base courses of macadam and wearing courses) sand and gravel use in concrete road structure occurs as well. Road structural sub-bases are generally crushed rock.

9.2.15 Another significant scheme, the proposed dualling of the A21 between Tonbridge to Pembury, was considered by the Secretary of State in May 2014, following an earlier Public Inquiry. It was concluded that the road scheme should proceed, the route chosen (the Published Scheme) came at a cost of £104.1 m. Work on the project has commenced and is ongoing (due to be completed Spring 2017). Applying the data prepared by BGS the aggregate requirements for the total identified highway scheme build and A21 dualling in Kent are as follows:

- use intensity of sand and gravel 52,050 tonnes (0.5 tonnes per £1,000 of construction output for a £104.1 mllion project)
- use intensity of crushed rock 78,075 tonnes (0.75 tonnes per £1,000 of construction output for a £104.1 million project)
- use intensity of total aggregates 135,330 tonnes (1.3 tonnes per £1,000 of construction output for a £104.1 million project)

9.2.16 Given the complexity of road construction in terms of the range of potential materials used, it would need to apply the BGS ratio for total aggregates intensity of use for general road construction. In this case this project would require in the range of 135,330 tonnes of aggregates. Other highway schemes are to be anticipated over the life of the plan.

9.2.17 The cost of the Kent general road construction programme, including the A21 dualling (excluding Medway), is estimated at some £1,087 million for the period 2015-21 as advised by the KCC Transport Strategy. The overall aggregate consumption using the BGS assumptions is as follows:

- use intensity of sand and gravel 543,500 tonnes (0.5 tonnes per £1,000 of construction output for £1,087 million expenditure)

- use intensity of crushed rock 815,250 tonnes (0.75 tonnes per £1,000 of construction output for £1,087 million expenditure)
- use intensity of total aggregates 1,413,100 tonnes (1.3 tonnes per £1,000 of construction output for £1,087 million expenditure)

9.2.18 Given the different aggregate types that will be employed for highway maintenance works, the higher figure of some 1.4 million tonnes required over 2015-21 (within the overall life of the emerging Plan) may be the more reliable, but this is conjecture.

Infrastructure Maintenance

9.2.19 Maintenance spend on Kent's infrastructure is an on-going process year to year. The amount of expenditure for this work during financial year April 2013 – March 2014 was approximately £54 million (internal Kent County Council data). A revision of this figure was not available at the time of writing, therefore the same figure is used here again.

9.2.20 Of this figure, £6.4 million was for drainage works, £8.5 m was spent on lighting and highway structures at £1.2 million. Therefore, by process of deduction, highway maintenance expenditure of £39 million on matters requiring aggregates in various forms is required each financial year. The highway re-surfacing expenditure for the same period was £5.8 million giving a total of £44.8 million for highway maintenance over the financial year that will require aggregate resources. A range of aggregate types will be required, so it may be reasonable to use the BGS ratio of 1.3 tonnes of aggregate per £1,000 of construction output in calculating the overall required quantities. Giving 58,240 tonnes for the financial year period. How representative of future expenditure per year and thus the associated aggregate use remains uncertain. Over the life of the Kent Minerals and Waste Local Plan 2013-30 (a 17 years period) a total of 0.99 mt of aggregates may be required for Kent's highway infrastructure maintenance.

9.2.1 Conclusions of the Intensity of Aggregate Use in Kent

9.2.1.1 Over the general life of the Kent Waste and Minerals Local Plan 2013-30 and beyond, the following broad aggregate requirements can be predicted in Kent:

- **House Building** - approximately 9.60 mt of aggregate for the period 2013 to 2030.
- **Education Infrastructure** - up to 0.939 mt aggregate for the period 2014 and 2031.
- **Major Projects** - up to 6.5 mt of aggregate for the period 2013 to 2030.
- **Highways Infrastructure** - approximately 1.40 mt of aggregates for the period 2015-21.

- **Highways Infrastructure Maintenance** - up to 0.99 mt of aggregate for the period 2013 to 2030.

9.2.1.2 On the above assumptions it can be concluded that between 2015 and 2031 a potential maximum of 19.43 mt of aggregates of various kinds will be required.

9.2.1.3 The NPPF's online Planning Practice Guidance does not indicate over what time span a forecast of aggregate demand should be made. The now adopted Kent Minerals and Waste Local Plan 2013-30 is an extended forecast. A 7 year forecast, the same length as that of the maintained landbank for sands and gravels (though 'maintained' means a 7 year landbank being in existence in any one year, a rolling landbank in effect) may be a more realistic forecast period.

9.2.1.4 Provided the following 7 year assumptions on housing supply, highway infrastructure and maintenance, and education are used (the Lower Thames Crossing has been discounted as unlikely to come forward by 2021) the following can be predicted:

- Approximately 7,633 new housing units per annum, totalling 53,431 units for 7 years.
- £722.40 million on educational infrastructure, to be delivered 2014-31. For the period of the next 7 years till 2021, the predicted spend would be £297.50 million.
- Paramount Park constructed by 2018/19 at a cost of £2 billion.
- Total identified highway scheme build in Kent (excluding Medway), at a cost of £631.40 million for the period 2015-21.
- A21 dualling Tonbridge to Pembury cost £104 million.
- Seven years of highway infrastructure maintenance costs of £313.6 million.

9.2.1.5 Then the required aggregate supply breakdown for a 7 year period are as follows:

1. **House Building** - would require 3.2 mt of aggregate.
2. **Education Infrastructure** - would require 0.387 mt of aggregate.
3. **Major Projects** (Paramount Park) - would require 2.6 mt of aggregate.
4. **Highways Infrastructure** - would require 0.96 mt of aggregate.
5. **Highways Infrastructure Maintenance** - would require 0.407 mt of aggregate.

9.2.1.6 The amount of aggregate material, that may be required over the next seven years may well be in the region of 7.554 mt for all aggregates from all the identified sectors of activity above. This 'proxy' for aggregate demand is a model of reality that may have inherent weakness to a greater or a lessor degree, as all models do. Comparison to actual recorded aggregate consumption may indicate to what degree these weakness exist. Therefore, when this comparison exercise it done with the 10 year rolling past sales averages (combined for the main landwon aggregate types) and the figure generated by local circumstances as the proxy for aggregate demand there is an does appear to be and insignificant disparity between the two methodologies.

9.2.1.7 Table 19 below demonstrates the results of the two different approaches.

Table 19 Comparison between the 10 Year Rolling Averages and Local Circumstances Estimated Demand Model for 7 Years 2015-2022

All Aggregates Combined	**Demand based on the 10 Year rolling average sales figure for 7 years (A)**	**Local Circumstances Demand Estimate (B)**	**Percentage of (A) of (B) or the degree to which the local circumstances prediction match past sales based predictions**
Aggregate Demand	Soft Sands 0.595 x 7=**4.165mt** Sharp Sands and Gravel 0.615 x 7=**4.305mt** Hard Rock 0.78 x 7=**5.46mt**	Overall Aggregate Total Requirement **7.554mt**	
Total Aggregate Demand	Overall Aggregate Total Requirement **13.93mt**	Overall Aggregate Total Requirement **7.554mt**	**54.22%** variation between methodologies

9.2.1.8 The local circumstances modelled demand in the second Kent LAA is 54.22% in variation from that of the 10 year average sales derived data for all types of aggregates combined in Kent, for the 7 year period 2015-22. However, the local demand model does not include any aggregate use for construction of the Lower Thames Crossing which is unlikely to before 2022 due to a the uncertainty with its implementation.

9.2.1.9 The local demand model methodology may well still be of limited utility by reason of the un-captured construction activities of the general community and small to medium construction firms are also consuming aggregates from retail and trade outlets. These were not taken into account in the model due to a lack of readily available data. It may well be the case that the average past sales derived data does indeed accurately reflect the un-modelled element of local demand that exerting a demand.

10 Future Aggregate Supply Options in Kent to Maintain a Steady Supply of Aggregates to Meet Market Needs in Kent

10.0.1 The securing of new mineral reserves in the future to maintain a steady and sustainable supply is an important role of the County Council. With regard to aggregates the NPPF requires a *steady and adequate* supply to be maintained, primarily with the use of a 7 year 'simple' landbank for sands and gravels and 10 years for hard rock.

10.0.2 In order to address limitations in the supply of both soft sands and sharp sands and gravels the authority had commenced the process of identifying sites where potentially economically important minerals may be extracted in an environmentally acceptably manner. The sites were initially identified by a 'Call for Sites' exercise in 2010 and 2011, where landowners or their agents and operators came forward with potential sites for mineral extraction, processing and importation of a range of aggregates including soft sand, sharp sand and gravel and crushed rock (including secondary and recycled aggregates). These sites were considered for inclusion in a Kent Mineral Sites Plan. A series of public consultations culminated in May 2012 with a Mineral and Waste Sites Preferred Options consultation. The preferred options for consideration were selected to provide the necessary provision for each type of aggregate mineral in Kent to the end of 2030. This being based on planning policy requirements and the estimated levels of supply and demand in the County for this period. The document set out the 'preferred options' with a summary of the site proposal, site characteristics, key planning issues and the Strategic Environmental Assessment (SEA).

10.0.3 It was decided to suspend progress with the minerals and waste sites plans at this point to enable the Kent Minerals and Waste Local Plan 2013-30 to be progressed through to Independent Examination and eventual adoption. This was achieved in July 2016. A considerable amount of time had elapsed since 2012 when the Mineral and Waste Sites Preferred Options consultation had occurred; this may well make the conclusions of the consultation now unreliable. Sites that were then considered deliverable may now not be. Therefore a second call for sites exercise is now considered appropriate, this will be held in late 2016/17. However, for the purposes of the fourth LAA for Kent the results of the first consultation exercise will be used to indicate the extent of potential new sustainable aggregate mineral resources, whilst recognising that these sites have not been independently examined.

10.0.4 With regard to the landwon soft sand landbank the calculations in section 8.2.1 demonstrate that reserves though extensive are finite and a maintained NPPF compliant landbank will not last until 2030; indeed the landbank will fall below 4.16mt of permitted reserves by 2017/18. Though a simple landbank would currently last some 13 to 14 years until 2028, two years short of the adopted Plan period. Several further soft sand sites were proposed by operators for consideration as part of the Mineral Sites Plan's 'Call for Sites' that were subsequently considered to be Preferred Options in 2012, they were:

- Land Adjacent to Platt Industrial Estate, Tonbridge and Malling, estimated resource of 1.35 mt;
- Land north of Addington Lane, Tonbridge and Malling, estimated resource 0.472 mt (permitted in 2015);
- Boltons Field, Lenham Heath, estimated resource 0.635 mt;
- Chapel Farm, Maidstone, estimated of resource 3.5 mt;
- Burleigh Farm and Tile Lodge, Charing, Ashford, estimated of resource 2.7 mt (permitted in 2015);
- Shrine Farm, Postling, Shepway, estimated of resource 8.0 mt;
- Borough Green Sandpit Extension, Wrotham, Tonbridge and Malling, estimated resource 0.4 mt (permitted in 2016 and will be included in AM2015 as reserves)

10.0.5 The total potential 'new' replenishing reserves available for the future from these Preferred Options sites amount to an estimated 13.53mt. If these reserves were come forward they would enable a 7 year landbank to be perpetuated past 2030. The potential future replenishment of the soft sands landbank in Kent does not appear to be at the point where a steady and adequate supply of this aggregate type would be constrained by a lack of resources that may reasonable be considered to be able to become permitted reserves during the Plan period until 2030. However, this is replenishment scenario may not represent the a realistic assessment of future preferred options given that the County Council is to undertake a new Call for Sites exercise in 2017. Some of the sites already identified may not be represented in this exercise and the 13.53mt of replenishing reserves may in fact change.

10.0.6 Table 20 below shows the current permitted soft sands landbank with replenishing reserves identified and modelled as coming on stream at the beginning of the plan period with the effect of the yearly draw down from extraction, based on the 10 year average sales figure.

Table 20 Landbank Calculations for Landwon Soft Sands with Preferred Sites Options Included

Year	Permitted Reserves with additional Preferred Options Reserves[1] modelled together as available reserves 21.71mt	10 Year Sales Average Draw Down Figure 0.595 mt	Remaining Reserves End of Year mt	Cumulative Further Reserve Requirements for a 7 year Landbank of at least 4.16 mt
2015	21.71	0.595	21.11	0
2022 (plus 7 years on)	17.54	0.595	16.95	0
2030 (end of Plan period)	11.59	0.595	10.99	0

1. Allocated sites in the Kent Minerals Sites Plan - Preferred Options 2012

10.0.7 By the end of the anticipated emerging Plan period there would be some 10.99 mt of soft sands remaining. The replenishing resources would ensure an NPPF compliant maintained landbank over the Plan period and at 2030 there would be more than an additional 7 years landbank of reserves available. Though, of course this model assumes that all the identified replenishing reserves come forward early in the Plan period, which can be argued as unrealistic.

10.0.8 The sharp sand and gravel land bank calculations in section 8.1.4 to 8.1.5 and Table 16 demonstrates that a marked under supply currently exists, a 'simple' 7 year 4.3mt landbank is not being provided at this time. The County's sources for high quality flint gravels are geologically concentrated in areas where flints derived from the Chalk have been deposited by river and marine action as the northerly Pleistocene Ice Age ice sheet retreated and sea levels rose. The deposits are found predominantly in the three main river valleys of the Darent, Medway and Stour, and the beach deposits along the coast, (particularly at Dungeness a cuspate foreland formed by long shore drift of storm beach deposits). During the 1970s planning studies for the Kent Structure Plan 1975 identified the lack of alternatives to the flint gravels as a critical issue. Flint gravel resources in the river valleys were becoming exhausted and increasing weight has been accorded to nature conservation and water resource constraints in the Dungeness area. In the past this beach deposit has provided an area of extensive working and substantial reserves, this is no longer the case given that the significant remaining areas are covered by environmental constraints. Flint dominant head gravel resources near Herne Bay, previously identified as plan proposals (Kent Minerals Plan 1993) have been proven to be of a limited nature and have effectively been abandoned by the industry.

10.0.9 The sandstone dominant gravels in the Medway Valley upstream of Maidstone became the subject of increasing interest from operators as other deposits became worked out, although their contribution to the production of high quality concreting aggregates has not normally been possible unless blended with other aggregates first. One site extracting this material remains operational at this time at East Peckham. The site has the benefit of a railhead connection allowing for the importation of crushed rock. This can be blended with the indigenous sandstone gravels to produce aggregates suitable for concrete production.

10.0.10 Several sharp sand and gravel sites were proposed by operators, landowners and their agents for consideration during the 2010 'Call for Sites' exercise. A number of sites were not allocated as Preferred Options in 2012 for a number of reasons, including site operational difficulties, limited resources and environmental constraints. They include the following non-allocated sites:

- Arnolds Lodge Farm West, East Peckham, Tonbridge and Malling, estimated resource 0.2 mt;
- Woodfall's Farm, Yalding, Maidstone, estimated resource 1.5 mt;
- Filston Lane, Shoreham, Sevenoaks, estimated resource 0.6 mt;
- Ham Farm, Faversham, Swale, estimated resource 1 mt;
- Hollowshore Farm, Faversham, Swale, Estimated resource 1.15 mt
- Lydd Quarry, Allens Bank Quarry extension, Lydd, Shepway, estimated resource 0.3 mt

10.0.11 The sites are shown in Appendix B in more detail as site plans, the nature of the potential reserves and the reasons for exclusion. The total loss of potential reserves due to limited economic viability, operational difficulties and environmental constraints amount to an estimated 4.75 mt.

10.0.12 In contrast those sites that have been identified as having the potential to replenish the sharp sand and gravel land-bank during the plan period 2013-30 are detailed in the same document. They are:

- Beltring Green Farm, East Peckham estimated resource of 0.3 t.
- Moat Farm, Capel estimated resource of 1.5 mt.
- Land North and South of Hammer Dyke, Capel estimated resource of between 1 to 3 mt.

- Stoncastle Farm Quarry, (Western Extension), Whetsted estimated resource of 1.07 mt.
- Lydd Quarry Extensions: Areas A-D, Lydd estimated resource of 1.6 mt.

10.0.13 Additional permitted reserves of between 5.47-7.47 mt could potentially come from these sites, which were identified as acceptable Preferred Options in 2012. They could come forward during the Plan period. The maximum range of potential sharp sands and gravel landbank calculation for both the 10 year and the 3 year sales averages is shown in Table 21 below.

Table 21 : Sharp Sands and Gravel landbank in Kent with Current Reserves and Potential New Reserves

Year	Permitted Reserves with Preferred Options Potential Reserves giving Overall Reserve Base of 9.25mt to 11.26mt	10 Year sales Average	Further Reserves Required to Maintain Simple 7 Year Landbank of 4.3mt	3 Year Average Sales Figure	Further Reserves Required to Maintain Simple 7 year Landbank
2015	9.26 to 11.26mt	0.61mt	0	0.23mt	0
2022 (plus 7 years on)	4.99 to 6.99mt	0.61mt	0	0.23mt	0
2030 (end of Plan period)	0.11 to 2.11mt	0.61mt	4.19 to 2.19mt	0.23mt	0

10.0.14 Clearly even if early on in the Plan period the total potential resources identified as the preferred option sites were to be secured, as permitted new reserves, this still would be insufficient to ensure a 'simple' landbank of sharp sands and gravel throughout the life of the anticipated Plan 2013-30 (Table 29 in Appendix D shows the breakdown if a maintained 7 year landbank is required). If the replenishment reserves came online at the *beginning* of the Plan period, in total, then there would be sufficient reserves for an approximately 10 year 'simple' landbank (2015-2024),

this would be past the period of the Plan that ends in 2030. As in common with all modelled scenarios, the underlying assumptions can be unrealistic. The full potential replenishment from the identified Preferred Option sites coming forward early on in the Plan's period is considered unlikely. This is largely confirmed by the given that no new planning permissions have been granted for sharp sands and gravels in 2015.

10.0.15 Government guidance allows for 'other relevant local information', including the last 3 years sales averages, if they demonstrate any marked change in the pattern of supply. Further analysis of more recent sales averages shows a corresponding lowering of the average quantities for the sharp sands and gravels sales. This has the effect of a lower draw down figure (based on an average of sales for the last 3 years). The sharp sands and gravels last three year sales average is 0.23 mt (see Table 21 columns 3 and 4 above). A 'simple' landbank would last for 49 years, well in excess of the required at least 7 years and well past the end of the Plan period. However, is not considered a realistic model given that the replenishing reserves appear not to be coming forward by way of successful planning applications. There is a marked lack of urgency being displayed by the extractive industry. It is the case that none of the Preferred Options sites have come forward as planning permissions as of 2015.

10.0.16 Hard rock supply, in terms of permitted reserves, is abundant and poses no real difficulties for supply beyond the Plan period. Though a NPPF compliant maintained landbank would require a 7.8 million tonne landbank being maintained, this is would necessitate further reserves being released post 2022. Also, it should be appreciated that a 'simple' landbank of aggregate type in Kent would last 20 years, well beyond the 10 years as generally considered as the NPPF requirement.

11 Conclusion

11.0.1 Kent's fourth LAA has not highlighted any particular 'local circumstances' over and above the need projection and the fact that the sharp sands and gravels landbank is not being replenished to any marked extent. The use of the ten year average sales based forward prediction methodology should remain the primary tool in Kent at this time as it represents probably the more realistic methodology.

11.0.2 Recent reductions in sales prompted an analysis of the last three year average sales data on reserve life that included the reasonably anticipated replenishing reserves. However, it could be argued that the 3 year average is a less reliable proxy than the 10 year average. This being due to the effect of the recent economic recession, particularly during 2008-09 (which may still be having an impact in 2015) and more certainly the fact that Kent has recently had sales transferred to East Sussex at Scotney Court Quarry in Lydd. Extraction moved across the respective county border in 2013 and has significantly reduced Kent's overall landwon output over recent years. This has been without commensurate new permitted reserves coming on stream to replace this lost output. Continued reduction in overall sales is anticipated to continue unless the production lost to East Sussex is replaced in elsewhere Kent.

11.0.3 Applying the ten year past sales methodology demonstrated that the elements of the existing landbank reserves were insufficient to meet the projected needs of the now adopted Kent Minerals and Waste Local Plan 2013-30 (the Plan). This was particularly the case for sharp sands and gravels and to a lesser degree the soft sands; while there was an abundance of hard rock reserves that more than meets NPPF requirements. Examining each in turn again (in 2015) showed the following circumstances in Kent's landwon aggregate supply base:

- the soft sands permitted landbank, at the end of 2015 was 8.18mt (a slight increase over 2014 due to new reserves being permitted). This would maintain a 7 year landbank of at least 4.16mt of permitted reserves in any one year, with an extraction rate equal to the 10 year average sales figure of 0.594mt, until some 13 years before the end of the Plan period. While a 'simple' (and arguably NPPF compliant) landbank would last almost 14 years based on the most recent ten year sales average. This would take reserves availability up to 2030.

- the sharp sands and gravel landbank, at the end of 2015 was 3.79mt (re-calculation of existing permitted reserves across the sites in Kent has increased this from the previous reserve figure of 2.64mt in 2014). However, this does not give a 7 year landbank for Kent (this requires at least 4.3mt based on the last 10 year sales data). Given the current permitted reserves of only 3.79mt an additional 0.51mt is required to give the 'simple' 7 year landbank at this time. Moreover, this would be depleted at an anticipated rate of 0.61mtpa based on the last 10 year sales averages. Moreover, to have a maintained 7 year landbank, in any one year, of the adopted Plan would require significant amounts of new permitted reserves to come forward. Those that are identified in the Kent Minerals and Waste Local Plan Preferred Options Consultation (May

2012) sites, at the maximum resource estimation, would provide for a landbank for 10 years until 2024, this being 6 years before the end of the Plan period. As with the soft sand replenishing reserves, it is not considered likely that these will come forward in a timely fashion, particularly as none of these replenishment Preferred Option Sites are coming forward at this time.

- the hard rock permitted landbank at the end of 2015 was in the order of 47-48 mt. This would maintain a 10 year landbank of 7.8mt (or more) of permitted reserves in any one year, with an extraction rate equal to the proxy for the 10 year average sales figure (0.78 mt) beyond 2030. The reserves, when considered as a 'simple' landbank would last into the 2070's with the accepted proxy draw down rate of 0.78 mtpa. Clearly hard rock reserves in Kent will be sufficient for the adopted Plan period.

11.0.4 Policy CSM 2 of the Kent Minerals and Waste Local Plan recognises the limitations in supply of landwon aggregates in the County Council's area, with particular emphasis on the sharp sands and gravels. At the Plan's Examination Hearings it was agreed that an alternative strategy to meet shortfalls would be appropriate. Thus in the future, Kent will increasingly have to rely on substitute secondary and recycled aggregate and marine dredged imports to ensure the market needs met by this aggregate type continue. This appears to be occurring at this time. Imports showed a 7% increase in 2015 compared to 2014, and are at 3.3mt overall as of 2015. While data for the secondary and recycled materials used to produce secondary aggregates for 2015 showed an increase over that of 2014 at 0.84mt, this is 16.59% of all aggregate supply in the County Council's area. It appears reasonable to expect this level of alternative utilisation of materials other than landwon materials to continue.

11.0.5 The permitted capacity of Kent's wharfs is in the order of 7.65 mtpa and railheads have some 2.75mtpa giving a total of 12.25 mtpa of importation supply. Though this capacity is not evenly distributed across the County Council's area and is only a theoretical maximum. Practical considerations of wharf operation are complex and different locations will have different constraints on such matters as ship size, depth of available mooring water, operational hours and proximity to all of Kent's markets etc. It can however be concluded that the depletion in the landwon resource of sharp sands and gravels can only be offset by the combination from increased imports and secondary and recycled aggregate materials production. This underlines the importance of the retention of importation infrastructure in Kent into the future.

11.0.6 The NPPF requires the LAA to assess the balance between demand and supply, local circumstances that effect these factors and how any deficits are to be addressed. This LAA considers this and the adopted policy in the Kent Minerals and Waste Plan 2013-30 (as modified) provides a framework to address the shortfall in supply of the sharp sands and gravels over the life of the Plan in a sustainable manner. The NPPF requires all LAAs in the South East Region to be submitted to the South East Aggregate Working Party (SEEAWP) for ratification. This ensures that Mineral Planning Authorities, such as Kent, co-operate on strategic and regional

aggregate minerals plans and can respond to Government on national monitoring of supply. This draft Kent LAA was considered by SEEAWP at its meeting on 21st November 2016. It will resolved to agree Kent's fourth Kent LAA, as a full understanding of how the NPPF's requirement to provide a *steady and adequate* supply of aggregates, that can be sustainably provided, in Kent into the future.

Appendix A: Permitted Aggregate Quarries Forming the Kent Land-won Landbank

The most up to date list of aggregate quarries in Kent is listed below in Table 23, italics signify inactive sites, as of 2015.

Table 22 Active and Inactive Sand and Gravel and Ragstone Quarries in Kent

Quarry	Operator	Aggregate Type
Addington Sand Pit	Hanson Aggregates/Fern Aggregates	Sand and Gravel
Aylesford Quarry	Aylesford Heritage Ltd	Soft sand
Borough Green Sand Pits	Borough Green Sand Pits Ltd	Soft Sand
Charing Quarry	Brett Aggregates Ltd	Soft Sand
Faversham Quarry	Brett Aggregates Ltd	Sand and Gravel
Highstead Quarry	*Brett Aggregates Ltd*	*Sand and Gravel*
Lenham Quarry	Brett Aggregates Ltd	Soft sand
Lydd Quarry (Scotney Court Farm)	*Brett Aggregates Ltd*	*Sand and Gravel (extraction moved into East Sussex plant site remains in Kent)*
Greatness Farm (Sevenoaks Quarry)	Tarmac Ltd	Soft Sand
Sheperd's Farm Quarry	Brett Aggregates Ltd	Sand and Gravel
Wrotham Quarry (Addington Sand Pit)	Hanson Aggregates	Soft Sands and Silica Sands
Denge Quarry	CEMEX UK	Sand and Gravel
Sqeurreys Sand Pit, Westerham (no reserves post 2013)	*Monier*	*Sand and Gravel*
Igtham Sand Pit	H&H Celcon Ltd	Soft Sand
Darenth and Joyce Green,(Darenth Court) Dartford	J Clubb Ltd	Sand and Gravel

Quarry	Operator	Aggregate Type
East Peckham Quarry	J Clubb Ltd	Sand and Gravel
Nepicar Sand Quarry	J Clubb Ltd	Soft Sand
Hermitage Quarry, Maidstone	Gallagher Aggregates	Crushed Rock Ragstone
Blaise Farm, West Malling	Hanson Aggregates	Crushed Rock Ragstone
Allens Bank	*Brett Aggregates Ltd*	*Sand and Gravel*
Conningbrook Quarry, Ashford	*Brett Aggregates Ltd*	*Sand and Gravel*
Aylesford Quarry, Aylesford	*CEMEX UK*	*Soft Sands (limited) and Silica Sands 9significant inactive reserves)*
Joyce Green Quarry	*Hanson (Joyce Green Aggregates)*	*Sand and Gravel*
Stone Castle Farm, nr Tonbridge	*Lafarge Aggregates*	*Sand and Gravel*
Greatness Farm (Seveonokes Quarry)	*Tarmac Ltd*	*Soft sand*
Ham Hill Sand Pit (Snodland Quarry)	*Tarmac Ltd*	*Soft Sand*

Appendix B: Kent Minerals Sites Plans - Preferred Options Sharp Sands and Gravel Sites

Potential sands and gravel sites put forward for the Kent Minerals and Waste Development Framework, Mineral Sites Plan, Preferred Options Consultation, May 2012. Together with the environmental constraints and other material considerations that led to their rejection at that time.

Table 23 : Sharp Sands and Gravel sites put forward for the Kent Minerals and Waste Development Framework, Mineral Sites Plan, Preferred Options Consultation, May 2012

Site Name	Estimated Reserves (tonnes)	Notes
Arnolds Lodge Farm West, East Peckham	200,000	Withdrawn by operator
Woodfall's Farm, Yalding	1,500,000	Withdrawn by operator
Filston Lane, Shoreham	600,000	Within Kent Downs ANOB and Green Belt and poor access to highway network. Exceptional circumstances test unlikely to be met.
Ham Farm, Faversham	1,000,000	Withdrawn by operators as uneconomic
Hollowshore, Faversham	1,150,000	Part of Swale Estuary and Marshes SPA/Ramsar site. Inclusion would not meet the requirements of the Conservation of habitats and Species Regulations 2010.
Allens Bank Quarry Extension	300,000	Operational requirements of the main non-operational quarry would unlikely to be afforded by this modest extension, quarrying would impact upon known extensive important archaeological remains of Roman and Medieval origin.
	4.75 mt in total	

Appendix C: Statement of Common Ground Between Essex County Council and Kent County Council

Statement of Common Ground between Essex County Council and Kent County Council

Date 4/7/2013 No changes in 2014

1. Introduction

1.1 This Statement of Common Ground sets out the agreed position of Essex County Council and Kent County Council in relation to the Essex Replacement Minerals Local Plan - Submission document, the emerging Kent Minerals and Waste Local Plan (and associated documents) as well as future Duty to Co-operate arrangements.

1.2 While 2009 British Geological Survey data highlights that Essex receives less than 1% of its sand and gravel requirements from the minerals planning area of Kent, and no crushed rock imports, it has been considered that our close proximity necessitates a Statement of Common Ground between the two parties.

2 General Matters

2.1 Essex County Council is a Minerals Planning Authority and is responsible for the production of the Essex Replacement Minerals Local Plan. This is currently under preparation and will guide all mineral related developments arising in the county. The extant minerals plan covering the minerals planning-area of Essex is the Essex Minerals Local Plan 1st Review 1996. The extant plan extends to cover the unitary authority of Thurrock but not Southend-on-Sea. The Replacement Minerals Local Plan does not cover the unitary authorities of Thurrock or Southend-on-Sea.

2.2 Kent County Council is also a Minerals Planning Authority. The minerals planning area of Kent is immediately adjacent to the south of Essex. Kent County Council is responsible for the production and monitoring of its own Minerals Local Plan. Due to the transitional arrangements of the Planning and Compulsory Purchase Act 2004, not all of the policies contained in the latest adopted Kent Minerals Local Plans are still in force. Policies have instead been saved from the Kent Mineral Subject Plan: Brickearth (1986), the Kent Minerals Local Plan: Construction Aggregates (1993) and the Kent Minerals Local Plan: Chalk and Clay and Oil and Gas extraction (1997).

2.3 Essex County Council and Kent County Council are members of the East of England Aggregates Working Party and South East England Aggregates Working Party respectively and send a delegate to all meetings.

3. Evidence Base

3.1 The following documents are agreed by both parties as being robust and fully applicable:

- The Greater Essex Local Aggregates Assessment October 2012 (draft)
- The First Kent Local Aggregates Assessment Dec 2012

4. Common Ground between Parties

4.1 Both parties agree that the emerging Essex Replacement Minerals Local Plan and the emerging Kent Minerals and Waste Local Plan present a compatible basis for minerals planning in the respective mineral planning areas.

4.2 Essex County-Council, through the Replacement Minerals Local Plan, is intending to maintain the provision of sand and gravel in their plan area at the rate of apportionment calculated through the DCLG National and Local Guidelines for Aggregate Provision in England 2005-2020, published in June 2009[(18)]. The emerging Kent Minerals and Waste Local Plan makes provision for a sand and gravel supply based on an average of ten year rolling sales data. This will in effect reduce the amount of sand and gravel supplied from the minerals planning area of Kent from 1.63mpta, as set out in the South England Regional Spatial Strategy 2009 to 1.6mtpa.

4.3 Essex County Council has based plan provision on the basis of the agreed apportionments previously set out in the now revoked East of England Regional Spatial Strategy (draft 2010) as it provides greater certainty to both plan makers and the minerals industry, whilst also providing the flexibility to adapt to changing demands by allowing for a measure of flexibility and contingency. The adoption of a plan provision based on a rolling average of ten year sales by Kent County Council is still considered to allow for compatibility between the two mineral plans. The difference in Kent County Council Plan's provision which arises between the two calculation methodologies is relatively minor, and the amount of indigenous mineral movements between Essex and Kent are also relatively minor.

4.4 The Essex minerals plan area has a higher number of Preferred Sites in the north of the county due to the lack of suitable sites submitted for consideration for extraction in the south, this being a result of the absence of economically viable deposits in south Essex. The Kent minerals planning area has an absence of preferred options for future land won aggregate supplies in the north of the county. Whilst there could therefore be issues with regard to mineral supply in these respective areas there are a number of wharves in the north of Kent and the adjoining authority of Thurrock which can act as 'virtual quarries'. It is considered that the north of Kent and the south of Essex can, in part, be potentially supplied with mineral imported by these wharves.

4.5 Essex County Council and Kent County Council mineral planning officers recognise that there will be cross-boundary movements of minerals between Essex and Kent. There is the understanding that any revision of mineral provision in the future may have implications for our respective authorities.

18 1 and as further apportioned in the draft East of England Regional Spatial Strategy 2010 as Policy M1

5. Terms of Future Duty to Co-operate Meetings

5.1 Both parties agree that to fulfil the terms of the Duty to Co-operate, there will be the requirement for planning policy officers of Essex County Council and Kent County Council to continue discussions on a periodic basis. In particular these discussions are required to understand better the cross-boundary movements of aggregate to ensure demand is met a managed way. Further, whilst being adjoining authorities, Essex County Council and Kent County Council are members of different Aggregate Working Parties and will therefore endeavour to meet together on a one to one basis. With the removal of the Regional tier of planning it will be helpful if the two authorities continue to forge closer links. As a minimum it is currently envisaged that a meeting will take place on an annual basis although, as each authority reaches different stages in plan preparation and review, or due to future changes in planning legislation, there may be call for further liaison above this annual commitment.

6. Terms of Agreement

6.1 This agreement is made without prejudice to the outcome of any future work or discussions that may be held between Essex County Council, Kent County Council, or other parties.

Appendix D: Aggregate Landbank Calculation Tables by Year

D.1 Calculation details of aggregate resources.

Table 24 Capacity of Recycled/Secondary Aggregate Production in Kent February to March 2013 Quantities in unless otherwise stated overall Production in the region of 1.245 mtpa [(1)]

District and Locality	A	B	C	D	E	F	G	H
Ashford								
Conningbrook Quarry	LD	175,000	0.75 mt	76,544	No			#
Sevington	LD	150,000	LD	0	No	#		
Hothfield	LD	LD	LD	23,027	No	#		#
Canterbury								
Shelford Landfill	490	LD	25,000	0	No			#
Dartford								
FN Conway	800	200,000	LD	182,739	No	#		
Pinden Quarry	LD	250,000		29,902	Yes		# Active consent until 2042	
Swanscombe Site	LD	150,000	50,000	69,000	Yes			
Dover								

District and Locality	A	B	C	D	E	F	G	H
Richborough Hall	LD	LD	LD	94,650	No			
Tilmanstone Works	LD	49,000	LD	33,371	No			
Maidstone								
Allington Quarry	LD	200,000	0.50 mt	18,418	No	#		
Thanet								
Ramesgate New Port	LD	0	LD	2,497	No	#		
Stonelees	LD	LD	LD	0	No			#
Tonbridge and Malling								
Hermitage Quarry	LD	LD	0.585 mt	LD	No		# Until reserves exhaust	
Borough Green	LD	0	LD	0	No			#
East Quarry Peckham	LD	100,000	LD	0	No			#
Ham Hill	LD	LD	LD	24,930	No	#		
Swale								
Faversham Quarry	LD	0.175 mt	0.175 mt	26,354	No		# Until reserves exhaust	

District and Locality	A	B	C	D	E	F	G	H
Ridham Dock	LD	60,000	LD	40,301	No	#		
Ridham Dock Road	LD	LD	LD	0	No	No longer operational		
Ridham Wharf	LD	250,000	LD	76,544	No	#		
Milton Pipes Site	LD	150,000	LD	92,000	No			
Sevenoaks								
Greatness Quarry	LD	LD		0	No		# Until restoration completed, this achieved in 2014	
Totals		1.9mt^ plus	2.0mt^ plus	0.79mt^plus		9*	4*	6*

1. LD denotes lack of production data from operator, * indicates the actual number of sites and ^ indicates the overall tonnages, A=Daily Productive Capacity, B=Annual Productive Capacity (recycled and secondary aggregates), C=EA Licence, D=Recorded Actual Production 2015 , E= Off-site Capability, F=Permanent Facility , G=Semi-permanent Facility, H=Temporary Facility (the # denotes the existence of such facility falling within any of the indicated categories A to H)

Table 25 Kent Landwon Combined Soft and Sharp sand and Gravel Sales 2005-15 (excluding Hoggin and bulk fill aggregate sales)

Year	Tonnes
2005	1,712,000
2006	1,372,789

Year	Tonnes
2007	1,759,369
2008	1,582,798
2009	1,963,120
2010	1,385,497
2011	1,058,764
2012	1,040,031
2013	756,000
2014	564,699
2015	719,581 (Hoggin sales 37,292)
Permitted reserves	11,969,080 (excluding Hoggin at 75,000)
Average sales 2013-15 (3 years)	680,093
Average sales 2011-15 (5 years)	827,815
Average sales 2006-15 (10 years)	1,220,265

Table 26 : Kent Landwon Sharp Sand and Gravel Sales 2005-15

Year	Tonnes
2005	1,171,000
2006	760,574
2007	1,078,357
2008	827,208
2009	764,000

Year	Tonnes
2010	763,924
2011	619,855
2012	652,285
2013	273,000
2014	172,672
2015	239,366
Permitted reserves 2015	3,791,880
Average sales 2013-15 (3 years)	228,346
Average sales 2011-15 (5 years)	391,635
Average sales 2006-15 (10 years)	615,124 or 0.61mt

Table 27 :Kent Landwon Soft Sand Sales 2005-15

Year	Soft Sands Sales
2005	541,000
2006	612,215
2007	681,012
2008	755,590
2009	1,199,120
2010	621,573
2011	438,909
2012	387,746
2013	483,000
2014	289,087

Year	Soft Sands Sales
2015	480,215
Permitted reserves 2015	8,177,200
Average sales 2013-15 (3 years)	417,434
Average sales 2011-15 (5 years)	415,791
Average sales 2006-15 (10 years)	594,847 or 0.595mt

Table 28 : Landbank Calculations for Soft Sands with Preferred Site Options Included

year	Permitted Reserves at Start of year 8.18 mt additional 13.53mt from Preferred Option Sites Total 21.71mt	Draw Down During Year as per the 10 Year sales Average per year (0.595mt)	Reserves Remaining at End of Year (mt)	Further Reserves Required (to maintain a 7 year simple landbank) of 4.16mt
2015	21.71	0.595	21.11	0
2016	21.11	0.595	20.52	0
2017	20.52	0.595	19.33	0
2018	19.92	0.595	19.33	0
2019	19.33	0.595	18.73	0
2020	18.73	0.595	18.16	0
2021	18.16	0.595	17.54	0

Appendix D: Aggregate Landbank Calculation Tables by Year

year	Permitted Reserves at Start of year 8.18 mt additional 13.53mt from Preferred Option Sites Total 21.71mt	Draw Down During Year as per the 10 Year sales Average per year (0.595mt)	Reserves Remaining at End of Year (mt)	Further Reserves Required (to maintain a 7 year simple landbank) of 4.16mt
2022	17.54	0.595	16.95	0
2023	16.95	0.595	16.35	0
2024	16.35	0.595	15.75	0
2025	15.75	0.595	15.15	0
2026	15.15	0.595	14.56	0
2027	14.56	0.595	13.97	0
2028	13.37	0.595	12.78	0
2029	12.18	0.595	11.59	0
2030	11.59	0.595	10.99	0

Appendix E: Appendix E: SEEAWP letter of Approval

Table 29

SEEAWP	**South East England Aggregates Working Party**
Technical Secretary:	**Richard Read BA. MRTPI**
Address:	c/o Strategic Planning, Hampshire County Council, First Floor, EII Court West, The Castle, Winchester, SO23 8UD
Tel:	07786977547 **Email:** readplanning@btinternet.com

SEEAWP Mineral Planning Authorities

E.1 19 December 2016

E.2 Dear Head of Planning Services

E.3 **South East England Local Aggregate Assessments 2016**

E.4 Thank you for submitting your authority's draft Local Aggregate Assessment (LAA) for consideration by SEEAWP.

E.5 SEEAWP met on the 21 November and considered SEEAWP 16/04. The LAAs were approved by SEEAWP and the draft Minute with 16/04 are attached to the email covering this letter.

E.6 Both the report 16/04 and the Minute contain remarks which I hope that your authority will take into account, as appropriate, when finalising the current LAA. There are also further comments that you might wish to take into account when preparing future LAAs.

E.7 I appreciate your cooperation in this matter and please contact me if you require further assistance.

Table 30

Yours faithfully

Richard Read BA. MRTPI

Secretary to SEEAWP

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