Leicestershire County Council
Local Aggregate Assessment

Data covering the period 1/1/2022 to 31/12/2022. Published – September 2023.

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1.0 Executive Summary

1.1. The National Planning Policy Framework (NPPF) requires Mineral Planning Authorities (MPAs) to plan for a steady and adequate supply of aggregates by preparing a Local Aggregates Assessment (LAA). The LAA is required to forecast the demand for aggregates based on average 10 years' sales data and other relevant local information; analyse all aggregate supply options; and assess the balance between demand and supply.

1.2. Planning Policy Guidance states that MPAs should also look at average sales over the last three years in particular to identify the general trend of demand as part of the consideration of whether it might be appropriate to increase supply.

1.3. This is the eleventh LAA for Leicestershire which includes the most recent (2022) aggregate sales and reserves data for the County. The 10-year period covered by this LAA is 2013 up to 2022. Summary sales figures for the period 01/01/2022 – 31/12/2022 are displayed in Table 1 below. The main facts and figures from the report (by aggregate type) are set out below.

1.4. In the year 2022 Leicestershire had two active sand and gravel quarries, which had a total potential production capacity of around 800,000 tonnes per annum. The average sales for sand and gravel for the most recent 10-year rolling period (2013 – 2022), and most recent three-year rolling period (2020 – 2022), are 1.10 Mtpa (million tonnes per annum) and 0.56 Mtpa respectively. Sales in 2022 were 0.26 million tonnes, which was a 64% decrease on sales observed in 2021. Estimated permitted reserves on 31st December 2022 were 2.23 million tonnes. This will provide sufficient reserves for 2 years, based on average sales over the 10-year rolling period (2013-2022).

1.5. Leicestershire currently has five active igneous rock quarries, four of which are rail-linked, together with two active limestone quarries. These quarries have a total potential production capacity of around 13.5 million tonnes. The average sales for crushed rock for the most recent 10-year rolling period (2013 – 2022), and most recent three-year rolling period (2020 – 2022), are 12.99 Mtpa and 11.47 Mtpa respectively. Sales of crushed rock within the County in 2022 were 11.42 million tonnes, which was a 7% decrease on sales observed in 2021. Estimated permitted reserves on 31st December 2022 were 304 million tonnes. Based on the 10-year provision rate (Table 14), there are currently sufficient permitted reserves for 23 years. This is more than sufficient to maintain the Government's requirement for a landbank of at least ten years.

1.6. There are 20 operational construction and demolition (C&D) recycling sites within Leicestershire. The total capacity of these sites is estimated to be around 1.26 million tonnes per annum. There are currently no industrial processes in Leicestershire which are known to produce 'secondary' aggregates.

1.7. After considering local factors, national growth projections and recent production levels, it has been concluded that the calculation of landbanks should continue to be based on the rolling 10-year average sales. The production guideline identified by this Local Aggregates Assessment is 1.1 million tonnes per annum for sand

and gravel and 12.99 million tonnes per annum for crushed rock (See Tables 13 and 14). There will be a potential shortfall of sand and gravel reserves within Leicestershire over the period to 2031 of some 7.67 million tonnes based on the production guideline. The Leicestershire Minerals and Waste Local Plan (up to 2031) which was adopted on the 25th of September 2019 allows for additional provision to be made from unallocated areas and extensions to existing sites, provided certain criteria are met. An application for an extension at Lockington Quarry (reference 2019/2358/07) was submitted in 2020 and remains undetermined. An application for a proposed new sand and gravel quarry in Quorn, Leicestershire was submitted in 2021. The application seeks planning permission for the extraction of 1.01 million tonnes of sand and gravel and remains undetermined. An application for further extraction of 900,000 tonnes of sand and gravel at Husbands Bosworth Quarry was submitted in 2021 and during the 2022 monitoring period, remained undetermined (reference 2021/0683/03). This application was granted planning permission in January 2023 and will be reported as part of the 2023 monitoring period.

1.8. There are sufficient permitted crushed rock reserves to meet requirements up to 2031.

Table 1. Summary sales figures for the period 01/01/2022 – 31/12/2022

	2022 Sales (million tonnes	**10-year Sales Average** (million tonnes)	**3-year Sales Average** (million tonnes)	**Change in sales** (since 31st December 2021)	**LAA calculated annual requirement** (million tonnes)	**Permitted Reserves** (million tonnes)	**Landbank** (in remaining years)	**Theoretical Capacity** (million tonnes per annum)	**Comments**
Sand and gravel	0.26	1.10	0.56		1.10	2.23	2	0.8 *(excluding inactive sites)*	Sales were down 64% than those in 2021. They were lower than the 10-year and 3-year sales averages.
Crushed rock	11.42	12.99	11.47		12.99	304	23	13.5 *(excluding inactive sites)*	Sales were down 7% than those experienced in 2021. They were lower than the 10-year and 3-

	2022 Sales (million tonnes	**10-year Sales Average** (million tonnes)	**3-year Sales Average** (million tonnes)	**Change in sales** (since 31st December 2021)	**LAA calculated annual requirement** (million tonnes)	**Permitted Reserves** (million tonnes)	**Landbank** (in remaining years)	**Theoretical Capacity** (million tonnes per annum)	**Comments**
									year sales average.
Recycled & secondary aggregate	No data available	No data available	No data available	No data available	N/A	N/A	N/A	1.26	Data requested from operators, information not provided (see later text)

2. Introduction

2.1. The supply of land-won aggregate in England is based on the national Managed Aggregate Supply System (MASS) which seeks, through Government guidance, to ensure a steady and adequate supply of aggregates; handling the significant geographical imbalances in the occurrence of minerals and the areas where they are most needed.

2.2. The National Planning Policy Framework 2021 (NPPF) requires an annual Local Aggregate Assessment (LAA) to be produced by Mineral Planning Authorities to plan for a steady and adequate supply of aggregates. Aggregates are materials used in the construction industry for building purposes, including asphalt and concrete.

2.3. According to the requirements of the National Planning Policy Framework (NPPF), all of the local authorities within England which have responsibilities for minerals planning (Mineral Planning Authorities – MPAs) are required to plan for a steady and adequate supply of aggregates by: preparing an annual Local Aggregate Assessment, either individually or jointly, to forecast future demand, based on a rolling average of 10 years' sales data and other relevant local information, and an assessment of all supply options (including marine dredged, secondary and recycled sources); participating in the operation of an Aggregate Working Party and taking the advice of that party into account when preparing their Local Aggregate Assessment.

2.4. The NPPF also states that MPAs should "so far as practicable, take account of the contribution that substitute or secondary and recycled materials and minerals waste would make to the supply of materials, before considering extraction of primary materials, whilst aiming to source minerals supplies indigenously" (paragraph 210).

2.5. National Planning Practice Guidance confirms that a Local Aggregate Assessment should contain three 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 landbanks, mineral plan allocations and capacity data. This analysis should be informed by planning information, 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. It should conclude if there is a shortage or a surplus of supply and, if the former, how this is being addressed.

2.6. In addition to the Government's planning practice guidance it should be noted that the Planning Officers' Society and the Mineral Products Association jointly published a Practice Guidance Document on the Production and Use of Local Aggregate Assessments in April 2015, updated in May 2017. Although non-

statutory this document sets out good practice and provides a useful health check to ensure the robustness of an LAA.

2.7. This LAA document has been prepared in accordance with the guidance referred to above and represents the eleventh LAA for the County of Leicestershire. The LAA sets out the current supply of and demand for aggregates in the County and indicates the provision that will be needed to ensure that Leicestershire continues to make an appropriate contribution to the steady and adequate supply of aggregates.

2.8. The Leicestershire Minerals and Waste Local Plan (up to 2031) was adopted by Leicestershire County Council on 25th of September 2019. A review of the Plan was carried out during 2022 which found that the Plan was continuing to perform well, and its implementation is delivering sustainable minerals development in Leicestershire as intended. This LAA will form part of the evidence base to inform the next review of the Leicestershire Minerals and Waste Local Plan. Revised LAAs will be produced annually as part of the Local Plan monitoring procedures.

2.9. The LAA is submitted to the East Midlands Aggregates Working Party (EMAWP), an advisory body made up of MPAs across the region, for consideration and scrutiny. The AWP has a role to monitor the operation of the MASS through providing technical advice, particularly on supply provision.

2.10. Policy M1 (Supply of Sand and Gravel Aggregate) of the Plan indicates the level of provision to be made for sand and gravel aggregate within Leicestershire over the period 2015 to 2031, is 19 million tonnes, with an annual requirement of 1.12 million tonnes.

2.11. Policy M4 (Crushed Rock) of the Plan indicates the level of provision to be made for crushed rock for aggregate purposes within Leicestershire over the plan period, is some 231 million tonnes, with an annual requirement of 13.6 million tonnes.

3. Types of aggregate produced in Leicestershire

Sand and Gravel

3.1. In Leicestershire, sand and gravel for aggregate use is sourced from two distinct types of deposit, namely sub-alluvial and river terrace; and glaciofluvial.

3.2. The main sources of sub-alluvial and river terrace deposits in Leicestershire are Quaternary and Recent age deposits in the valleys of the Rivers Trent, Soar and Wreake. Similar, but smaller areas, of sand and gravel are also associated with the River Sence and the Rivers Avon and Welland along the southern borders of Leicestershire.

3.3. A series of isolated Glaciofluvial deposits occur in areas to the south and west of Leicester. The full extent of this resource is unknown, however, as areas of wholly concealed bodies of sand and gravel may occur under spreads of till

and other drift deposits. The extensive boulder clay and other drift deposits which cover central and eastern parts of Leicestershire may conceal potential deposits.

3.4. Deposits of solid sand and gravel sources in the form of the Triassic Bunter Pebble Beds occur in two areas in the north-west of Leicestershire, around Measham and Castle Donington. Blown sand deposits resulting from aeolian reworking of river and glacial deposits and bare Triassic bedrock occur in the Vale of Belvoir.

3.5. The deposits will be considered collectively under the term “sand and gravel” in the rest of this report.

Igneous Rock

3.6. Outcrops of Precambrian/Cambrian igneous rocks occur in Charnwood Forest and in south Leicestershire. Within Charnwood Forest, the intrusions form two main groups: a southern group around Markfield, Bradgate and Groby; and a northern group, which extends towards Shepshed. Volcanic lavas of Precambrian origin occur in exposed masses around Bardon Hill, High Sharpley and Pedlar Tor. Igneous rock intrusions also occur around Mountsorrel, and at locations to the south-west of Leicester, including Enderby, Earl Shilton, Huncote, Stoney Stanton and Sapcote.

Limestone

3.7. In north-west Leicestershire, Carboniferous limestones crop out in several small, isolated inliers which locally form prominent hills above the surrounding Triassic rocks near to the Leicestershire/Derbyshire border. The inliers between Breedon and Thringstone consist mainly of pinkish-yellow, bedded and massive dolomite (dolostone).

3.8. Lincolnshire Limestone of Jurassic age occurs in North East Leicestershire. The various limestone units making up the Lincolnshire Limestone form a relatively thick and persistent formation which produce aggregates, for uses such as fill and sub-base roadstone.

4. Current situation regarding land won aggregates in Leicestershire

Introduction

4.1. Production and sales data for aggregate minerals is collected on an annual basis, through an aggregate survey undertaken on behalf of the East Midlands Aggregates Working Party (EMAWP). Annually published EMAWP reports present data on production and reserves for the County. The most recent Aggregates Monitoring (AM) survey provides data for 2019.

4.2. Every fourth year Aggregate Working Parties conduct a major in-depth survey. This includes the collection of data on the distribution of sales. Data was previously collated and published in 2014. The latest national survey, the 2019 Aggregate Minerals Survey for England and Wales (2019 AMS) was

undertaken by The British Geological Survey (BGS) in 2020. This forms the latest data available for use.

Land-won sand and gravel

4.3. In the study period there were three sites active in Leicestershire, at Brooksby (Borough of Melton), Lockington (North West Leicestershire District), and Shawell (Harborough District).

Sales

4.4. Sales of aggregate from sand and gravel operations within Leicestershire over the last 10 years are shown in Table 2 below. Data for the 2013 monitoring period shows the effects of the prior economic recession as production remained low. Rebounding from this, sales between 2014 and 2017 averaged 1.46 million tonnes per annum, reflecting improvements in the economy and levels of construction. However, there was a downturn in sales in 2018 where sales were 20% lower than in 2017. Sales increased in 2019 to 1.25 million tonnes, some 6% higher than the previous year. Following this, sales plummeted in 2020 owing to the effects of the pandemic, including national lockdowns, and the temporary shutdowns of individual mineral extraction sites and construction sites. Sales figures in 2021 increased slightly following the low sales of 2020. In 2022 sales contracted to their lowest point over the ten-year period, to 0.26 million tonnes per annum, a decrease of 64% on the previous year.

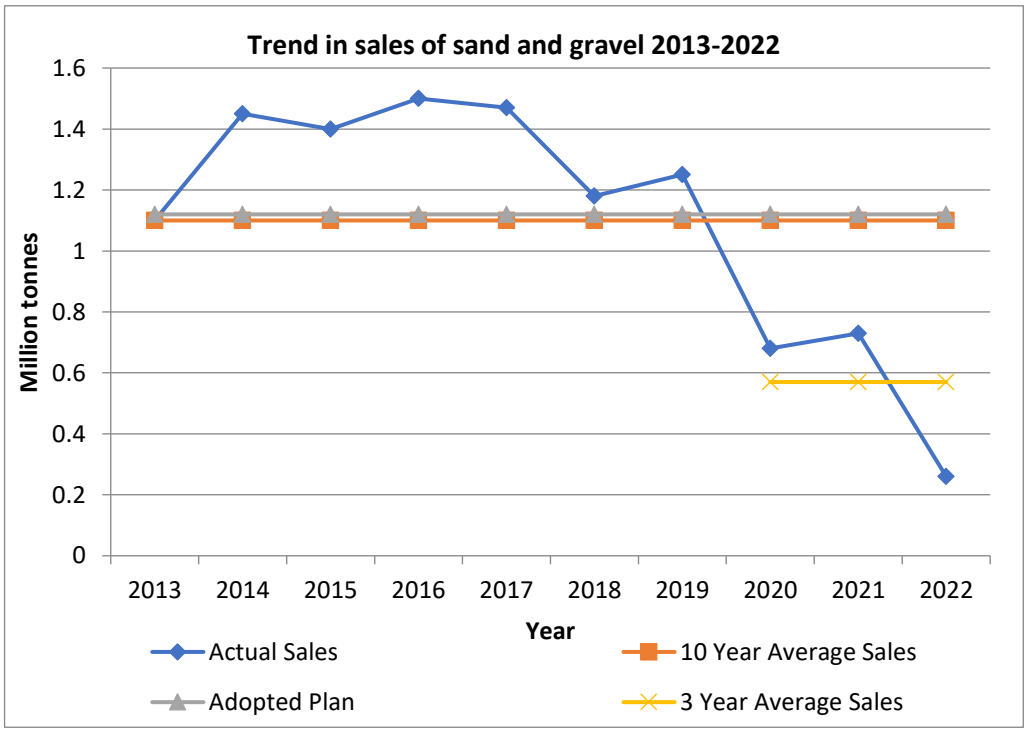
Table 2. Sales of Sand and Gravel 2013-2022.

Year	**Sales (Million tonnes)**
2013	1.1
2014	1.45
2015	1.4
2016	1.5
2017	1.47
2018	1.18
2019	1.25
2020	0.68
2021	0.73
2022	0.26
Average	**1.10**

Source: EMAWP Surveys

4.5. Average sand and gravel sales over the last 10 years were 1.10 million tonnes per annum. The national and local effects of the pandemic resulted in a dip in sales during 2020. The low 2022 sales figure resulted in a fall in the average sales of sand and gravel over the past three years, to 0.56 Mtpa. This sales average falls short of the annual requirement set out in the adopted Leicestershire Minerals and Waste Local Plan 2019 (1.12 Mtpa) (see Figure 1 below). Sales for 2021 indicated a slight rebound following the effects of the pandemic. However, in 2022 unprecedented cost pressures, higher interest rates and doubts over the national economy resulted in a slowdown in construction activity.

Figure 1. Sales of Sand and Gravel 2013-2022.



Landbank

4.6. Estimated permitted reserves of sand and gravel in Leicestershire at the end of 2022 were 2.23 million tonnes. The reserves will provide sufficient permitted material to last 2 years based on the average rate of sales over the last 10 years (Table 14). An application for an extension at Lockington Quarry (reference 2019/2358/07) was submitted in 2020 and remains undetermined. An application for a proposed new sand and gravel quarry in Quorn, Leicestershire was submitted in 2021. The application seeks planning permission for the extraction of 1.01 million tonnes of sand and gravel and remains undetermined. An application for further extraction of 900,000 tonnes of sand and gravel at Husbands Bosworth Quarry was submitted in 2021 and during the 2022 monitoring period, remained undetermined (reference 2021/0683/03). This application was granted planning permission in January 2023 and will be reported as part of the 2023 monitoring period.

Production Capacity

4.7. In 2022 existing sites had a total potential production capacity of around 1.45 million tonnes per annum, which meant that they were theoretically capable of producing sufficient material to satisfy the level of provision identified in the adopted Minerals and Waste Local Plan. However, it should be noted that since 2021 there has been a decrease in production capacity. Table 3 below provides information on the production capacity, potential reserves and permission end dates for sand and gravel sites within Leicestershire using publicly available information.

Table 3. Production Capacity of Sand and Gravel Sites.

Site	**Status at time of publication**	**Production Capacity (tonnes p.a.)**	**Permitted Reserves*#**	**Permission End Date at time of publication**
Husbands Bosworth	Active	200,000*	900,000 tonnes	10-07-2031
Shawell	Active	600,000**	795,000	31-12-2044
Brooksby	Inactive	250,000*	1,303,000 tonnes	31-12-2026
Lockington	Inactive	400,000**	723,000 tonnes on 31st December 2021.	02-12-2025
Total		**1.45 Mt**	**3.72 million tonnes**	

* Publicly available information (Sourced from the latest planning application documents for each site at time of publication).

** Information provided by operator, # date of reserves information given in brackets.

Exports and imports

4.8. As part of the data collection to support the production of the LAA in 2022, the Authority requested distribution data for 2021 from all mineral operators working within Leicestershire to provide an up to date understanding of the role that Leicestershire plays in supplying aggregates to various areas. However, as there is only one sand and gravel operator within the County it was not considered appropriate to publish this commercially sensitive information. Following on from the previous year, the collection of such data was not undertaken to support the production of this LAA. Therefore, the data from the Aggregates Minerals Survey for England and Wales 2019 (2019 AMS) is used within this section. This data combines the counties of Leicestershire and Rutland.

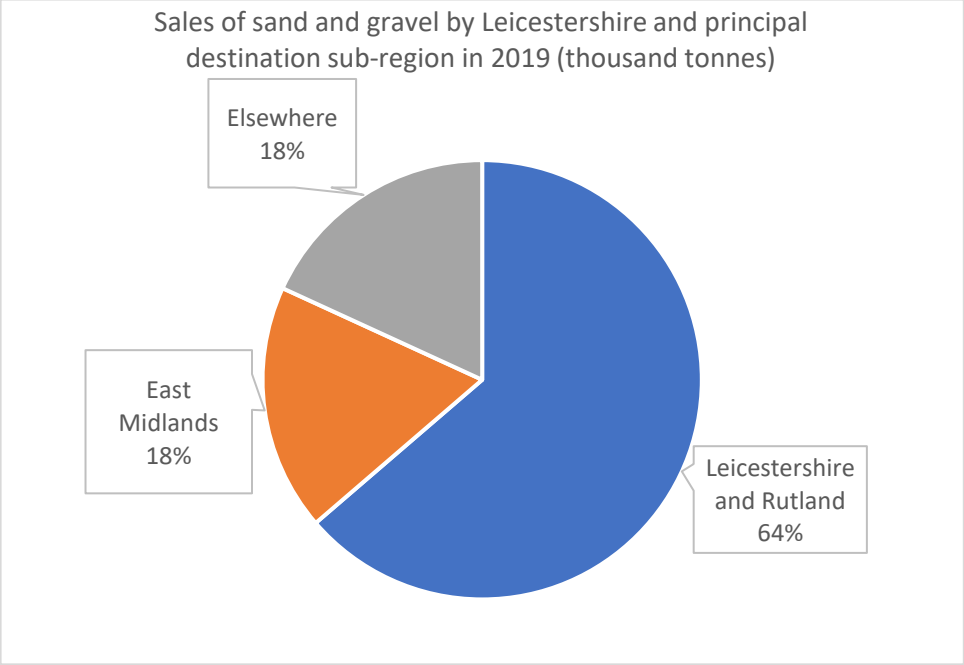
4.9. The distribution of sand and gravel from the County in 2019 is set out in Table 4 and Figure 2 below. In 2019, sand and gravel operations within Leicestershire and Rutland predominantly served local markets. 64% of sales were within Leicestershire/Rutland. The remaining material travelled to neighbouring counties within the East Midlands region and 'Elsewhere' (18% went to each respectively). All the material was transported by road.

Table 4. Sales of sand and gravel by Leicestershire and principal destination sub-region in 2019

Destination Region	**Thousand tonnes**	**%**
Leicestershire and Rutland	793	64%
East Midlands*	226	18%
Elsewhere	226	18%
Total	*1245*	

Source: Table 9e of the Aggregates Minerals Survey for England and Wales 2019. The East Midlands region includes the areas of Derby City Council, Derbyshire County Council, Leicester City Council, Leicestershire County Council, Lincolnshire County Council, Northamptonshire County Council, Nottingham City Council, Nottinghamshire County Council, Peak District National Park and Rutland County Council. For Info: In order to summarise the large amount of data available, the table only shows for the MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to other regions are included under 'Elsewhere'.

Figure 2. Distribution of Sand and Gravel 2019.



4.10. Information on consumption by sub-region, as provided from the results of the 2019 AMS, indicate that Leicestershire/Rutland consumed 1,480,000 tonnes of sand and gravel in 2019. Separate figures for Leicestershire and Rutland are not provided and separate figures for the distribution of primary aggregates to individual destinations as detailed in the 2014 survey are also not provided. Imports of sand and gravel into Leicestershire and Rutland totalled 687,000 tonnes. In comparison to 2014 where imports were at 573,000 tonnes, this is a 20% rise in imports into the sub-region (see Table 5 below). Overall, Leicestershire/Rutland continued to be a net importer of some 235,000 tonnes of sand and gravel in 2019.

Table 5. Imports and consumption of Primary Aggregates in Leicestershire and Rutland in 2019.

Imports of Primary Aggregates by Leicestershire and Rutland in 2019 (thousand tonnes)

Land-won sand and gravel	Crushed Rock	Total Primary Aggregates
687	364	1052

Consumption of Primary Aggregates by Leicestershire and Rutland in 2019 (thousand tonnes)

Land-won sand and gravel	Crushed Rock	Total Primary Aggregates
1480	6504	7984

Source: Tables 10 and 11 of 2019 of the Aggregates Minerals Survey for England and Wales 2019.

Crushed Rock – Production Sites (active and inactive)

4.11. Igneous rock extraction within Leicestershire is currently taking place at five sites, namely Bardon; Cliffe Hill; Croft; Whitwick and Mountsorrel (see Table 6 below). Whitwick and Groby quarries are currently inactive, although coating and concrete plants are maintained at Groby. Two carboniferous limestone quarries are operational within Leicestershire at Breedon on the Hill and Cloud Hill.

Table 6. List of Active Crushed Rock Sites during 2022 monitoring period.

Site	District	Mineral
Croft Quarry	Blaby	Igneous Rock
Mountsorrel Quarry	Charnwood	Igneous Rock
Cliffe Hill Quarry	Hinckley	Igneous Rock
Bardon Quarry	North West Leicestershire	Igneous Rock
Whitwick Quarry	North West Leicestershire	Igneous Rock
Breedon Quarry	North West Leicestershire	Limestone
Cloud Hill Quarry	North West Leicestershire	Limestone

Sales

4.12. Sales of aggregate from crushed rock quarries within Leicestershire over the last 10 years are shown in Table 7 below. Over this ten-year period, sales of rock aggregate within the County rose to a maximum of 14.34 million tonnes in 2017. Since then, sales have fluctuated. The 2020 sales figure was 10.72 million tonnes per annum, a 23% decrease from the previous year owing to the pandemic. Since then, sales in 2021 rose to 12.28 million tonnes as markets re-opened and construction projects re-started. Following this, a drop in sales was observed in 2022 with sales dropping to 11.42 million tonnes, a drop of 7% from the previous year. This was the result of economic instability across global and national markets linked to high-cost pressures from energy, materials and labour.

Table 7. Sales of Crushed Rock 2013-2022

Year	Sales (million tonnes)
2013	13.08
2014	14.15
2015	13.45
2016	14.04
2017	14.34
2018	12.49
2019	13.88
2020	10.72
2021	12.28
2022	11.42
Average	**12.99**

Source: EMAWP Surveys.

4.13. Average crushed rock sales were 12.99 million tonnes over the last 10 years. Before the impacts of the pandemic, crushed rock sales from Leicestershire in 2020 were higher than the annual requirement set out in the adopted Plan (13.6 million tonnes) (see Figure 3 below). Since then, effects of the pandemic and subsequent economic instability have been felt and sales have dropped to their lowest for ten years, and below the annual provision set out in the Local Plan.

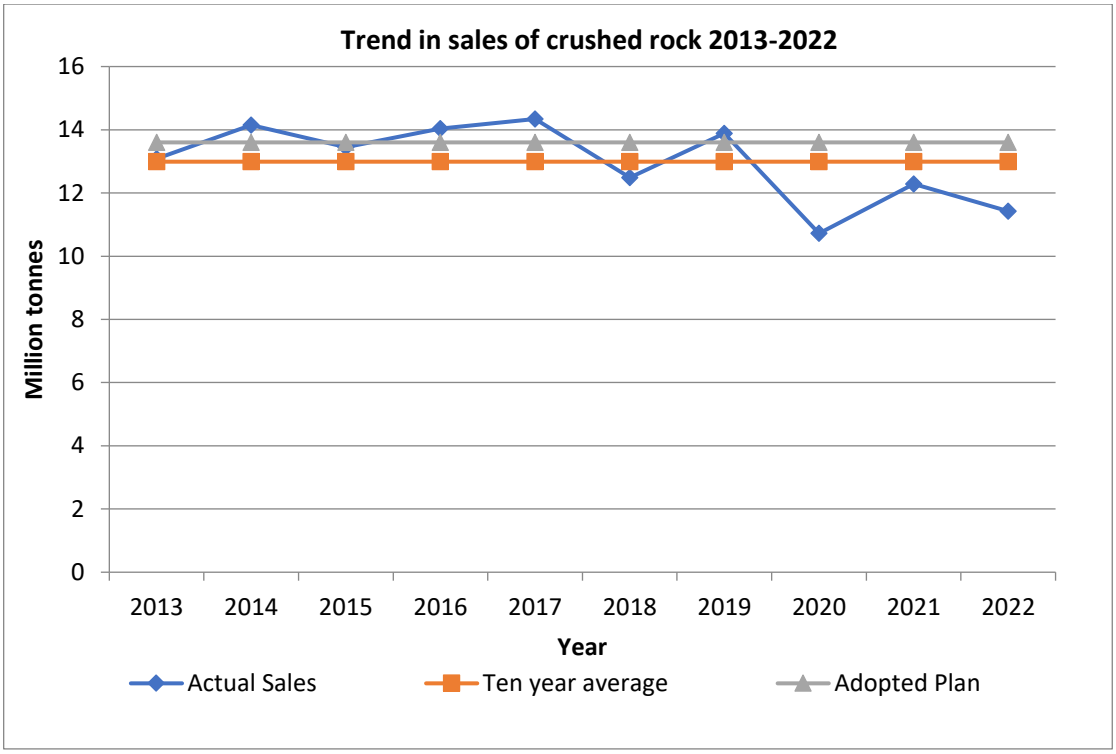
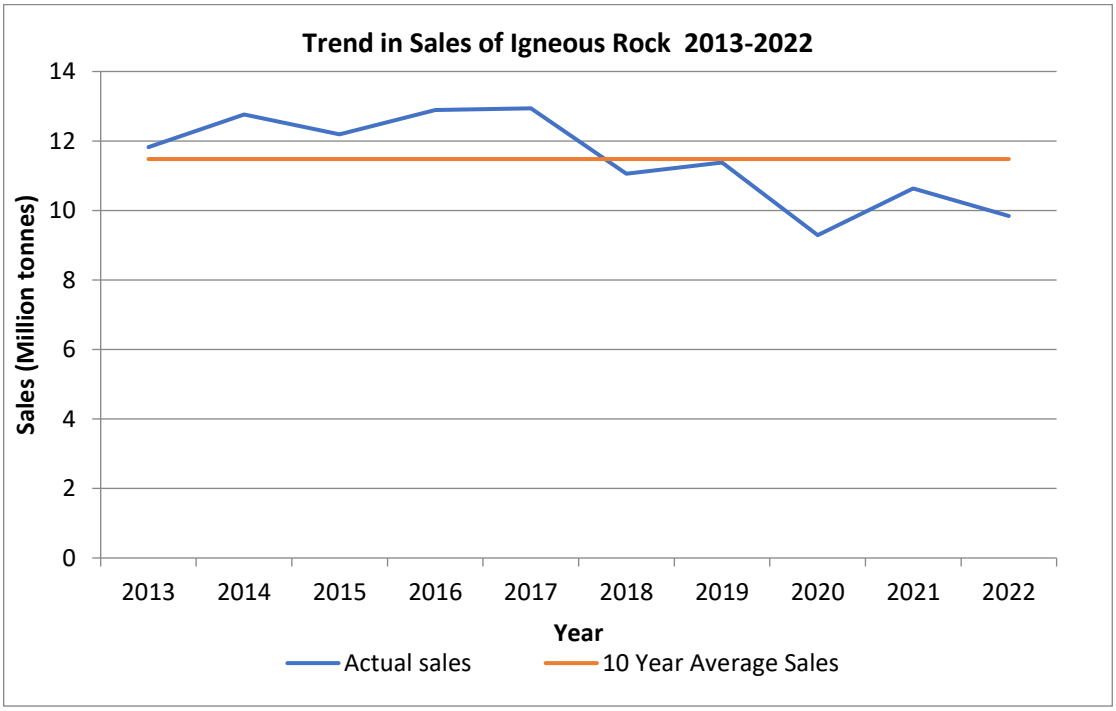


Figure 3. Sales of Crushed Rock 2013-2022.

4.14. The five active igneous rock quarries together account for around approximately 65% of the igneous rock output in England. These quarries supply crushed rock aggregate of varying types, ranging from general purpose aggregate suitable for a wide range of end-uses including concrete production, to higher specification end-uses such as rail ballast and high PSV (Polished Stone Value) aggregate that is capable of being used in skid-resistant road surfacing applications. There are relatively few alternative sources of such High Specification Aggregate in England.

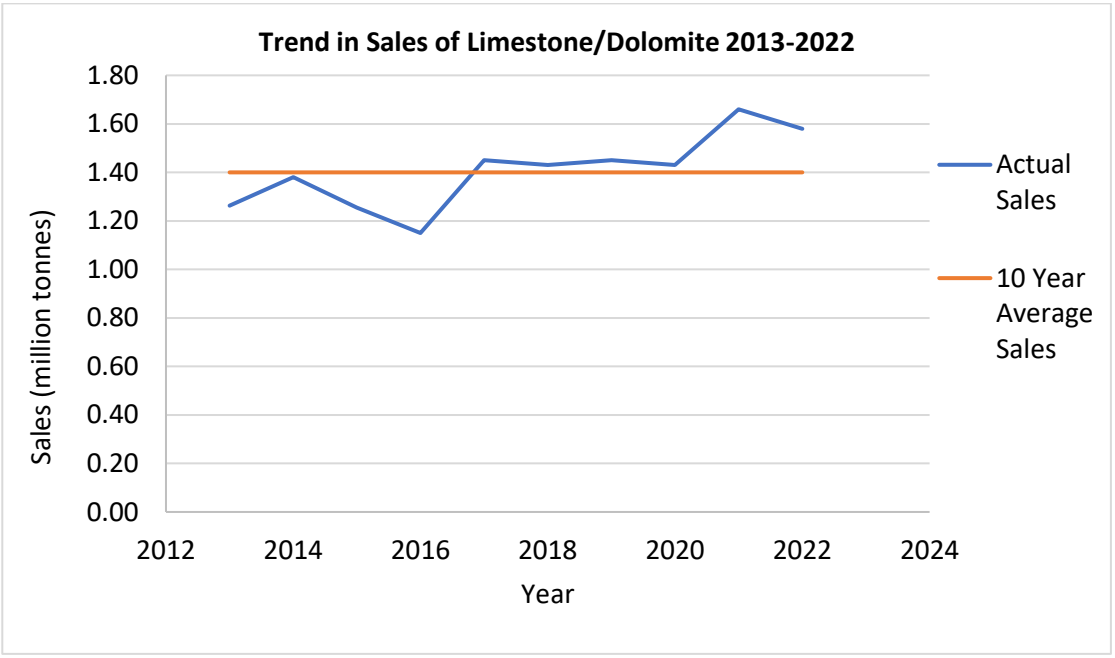
4.15. Average igneous rock sales from Leicestershire were 11.48 million tonnes per annum over the last 10 years and 9.92 million tonnes per annum over the last 3 years. Figure 4 below shows the general trend of sales of igneous rock within Leicestershire over the period 2013 to 2022. Sales rose incrementally from 2013 until 2017. In 2018 sales dropped to around 2013 levels. The 2019 sales rose marginally compared with the previous year. In 2020 sales dropped to their lowest over the previous 10-year period, at 9.29 Mtpa. Sales in 2022 indicated a negligible rebound following the pandemic, at 9.84 Mtpa. This remains below the 10-year average of 11.48 Mtpa and 3-year average of 9.92 Mtpa. Overall, sales in igneous rock have fluctuated over the 10-year period largely owing to various episodes of economic instability.

Figure 4. Sales of Igneous Rock 2013-2022.



4.16. Average limestone sales within Leicestershire were 1.40 million tonnes per annum over the last 10-year period and 1.56 million tonnes per annum over the last three-year period. Figure 5 below shows the sales of limestone aggregate within Leicestershire over the previous 10-year period. Sales in 2021 proved to be the highest within the 10-year preceding period at 1.66 million tonnes following the pandemic. Sales in 2022 dropped by 5% to 1.58 million tonnes.

Figure 4. Sales of Limestone 2013-2022.



Landbank

4.17. Confidential returns from the annual EMAWP survey indicate that the estimated permitted reserves of crushed rock in Leicestershire as at the end of 2022 were around 304 million tonnes. This is sufficient permitted material to last about 23 years based the average rate of sales over the last 10 years (See Table 14).

4.18. Arithmetically, the level of permitted reserves for crushed rock in Leicestershire is well in excess of the 10-year minimum landbank for rock required by the NPPF. A significant proportion of the permitted reserves, however, are at inactive sites.

4.19. Table 8 sets out the production capacity of crushed rock sites within Leicestershire, sourced from the latest publicly available information rather than the data collected from the annual EMAWP survey which remains confidential for commercial reasons. For example, some of this information is sourced from the latest planning application documents for each site at the end of 2022. Estimated permitted reserves of igneous rock in Leicestershire as at the end of 2022 were around 277 million tonnes. As at the end of 2022, the five active igneous rock quarries, of which four are rail connected, had total reserves of some 179 million tonnes (see Table 8), a collective life of some 15.5 years based on the average rate of sales over the last 10 years. An application to extend Croft quarry was permitted in early 2022, which added an additional 6 million tonnes to the permitted reserves within Leicestershire.

4.20. Estimated permitted reserves of limestone in Leicestershire as at the end of 2022 were around 35 million tonnes (See Table 8). This is sufficient permitted material to last 25 years based on the average rate of sales over the last 10 years.

Crushed Rock Production Capacity

4.21. The existing active sites have the potential to produce around 13.5 million tonnes per annum, based on information contained in recent planning applications. No recent publicly available information is available on the theoretical capacity for Whitwick Quarry as the site has only recently re-opened under a previous planning permission. Therefore, the theoretical capacity for crushed rock is likely to be slightly higher than 13.5 million tonnes per annum. Existing rail-linked quarries have a capacity of around 13.5 million tonnes per annum. This suggests that existing sites would be capable of producing sufficient material to satisfy the average rate of production over the last 10 years, but this would be just below the level of provision identified in the adopted Minerals and Waste Local Plan (13.6 Mt per annum). Not all of the sites would however be able to continue contributing to future requirements without the benefit of extensions to their currently permitted operations. Table 9 below provides information on the productive capacity, potential reserves and permission end dates for crushed rock sites within Leicestershire (N.B. The ‘production capacity’ figures are only indicative and do not necessarily

represent a maximum limit. Annual sales at some sites have exceeded that identified in planning applications).

Table 8. Production Capacity of Crushed Rock Sites

Site	Mineral	Operator	Status	Production capacity* (tonnes p.a.)	Reserves*#	Permission End Date
Croft	Igneous Rock	Aggregate Industries	Active	2 million	6.5 Mt	22 years following commencement
Mountsorrel	Igneous Rock	Tarmac	Active	4.5 million	62 Mt	31-12-2040
Cliffe Hill	Igneous Rock	Midland Quarry Products	Active	4 million	17 Mt	31-12-2032
Bardon	Igneous Rock	Aggregate Industries	Active	3 million	93 Mt	31-12-2051
Groby	Igneous Rock	Midland Quarry Products	Inactive	Inactive	90 Mt	31-12-2038
Whitwick	Igneous Rock	Midland Quarry Products	Active	No recent publicly available information (site recently re-opened)	8 Mt	21-02-2042

Site	Mineral	Operator	Status	Production capacity* (tonnes p.a.)	Reserves*#	Permission End Date
Breedon	Limestone	Breedon Aggregates	Active	up to 0.5 million	20 Mt	31-12-2042
Cloud Hill	Limestone	Breedon Aggregates	Active	1.5 million	15 Mt	31-12-2025
				Total 15.5 million		

* Publicly available information (Sourced from the latest planning application documents for each site at the end of 2022).

date of reserves information given in brackets

Exports and imports

4.22. In 2022 the Authority requested distribution data from 2021 from all mineral operators working within Leicestershire to provide an up to date understanding of the role that Leicestershire plays in supplying aggregates. Unfortunately, the Authority were not able to obtain all the sales by destination distribution data for crushed rock from the operators as some of the operators did not have the systems in place to obtain the information requested. Without obtaining the distribution data from all the operators, the data which was collected is therefore not representative and is not considered suitable for publication. Following this issue, the collection of this data was not sought for the 2022 monitoring period. Therefore, the most recent data from the Aggregates Minerals Survey for England and Wales 2019 is used below.

4.23. The distribution of crushed rock from Leicestershire in 2019 is set out in Table 9 below. A significant quantity (56%) of crushed rock was exported from the county. Ten per cent of material was distributed to other authorities within the East Midlands. The main destinations for material exported beyond the East Midlands were the East of England (21% of total sales); London and the South East (8%); and the West Midlands (10%), see Figure 6.

Table 9. Sales of crushed rock by Leicestershire and principal destination sub-region in 2019.

Region	**thousand tonnes**	**%**
Leicestershire and Rutland	6140	44
East Midlands	1382	10
South West	144	1
South East	709	5
London	434	3
East of England	2857	21
West Midlands	1388	10
North West	356	3
Yorkshire & Humber	469	3
Elsewhere	18	0
Total	***13 896***	

Source: Aggregates Minerals Survey for England and Wales 2019.

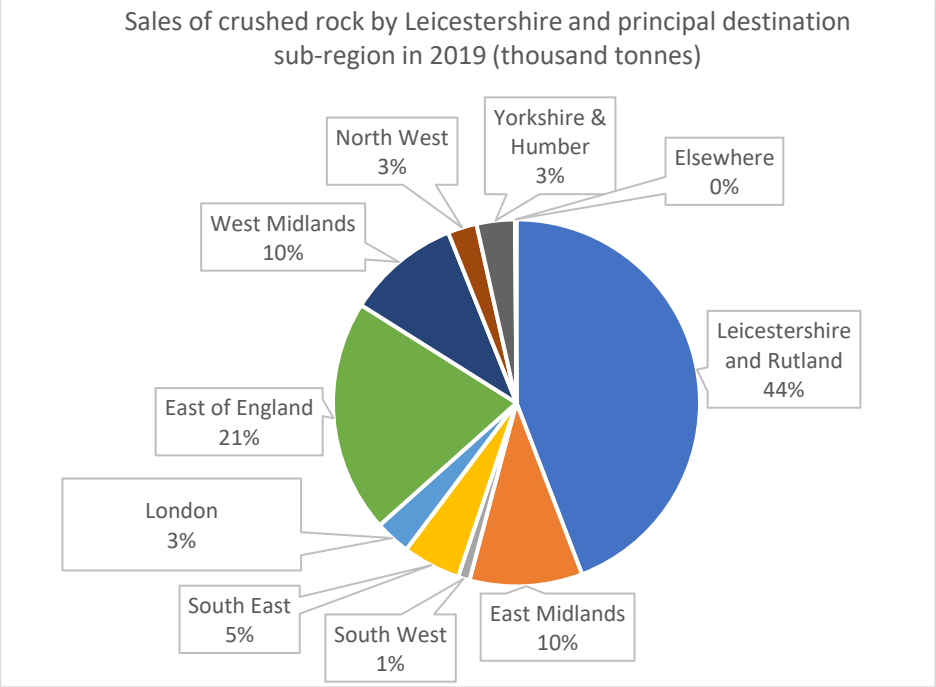


Figure 5. Sales of crushed rock by Leicestershire and principal destination sub-region in 2019 (thousand tonnes). Source: Aggregates Minerals Survey for England and Wales 2019

5. Recycled/Secondary Aggregate

5.1. Recycled Aggregate, which includes inert materials such as concrete, stone, brick and other similar materials, are reprocessed materials previously used for construction purposes and which are often taken from the Construction, Demolition and Excavation (CD&E) waste stream. Secondary aggregates are by-products of other industrial processes and will not have been used previously as aggregates.

5.2. The use of secondary and recycled materials not only reduces the requirement for new production of primary aggregate, but also reduces the need for disposal to landfill of CD&E waste materials. National Policy recognises the role of secondary and recycled materials as an alternative to primary aggregate.

5.3. Data on secondary and recycled aggregate production and use is variable and incomplete. The reason being some sites operate under license and can be monitored but much recycling and re-use occurs on individual construction sites and is temporary in nature and does not produce data. The Environment Agency's Waste Data Interrogator is used to identify the amount of CD&E waste produced and handled within each Waste Planning Authority.

5.4. At a national level, the Aggregates Minerals Survey for England and Wales 2019 survey was not confined to primary aggregates. It also collected sales data on aggregates which originate as a by-product of other quarrying operations – secondary aggregates. These principally included china clay waste and slate waste. Across England and Wales a total of 2.4 Mt of such alternative aggregates were sold in 2019. The equivalent total in 2014 was 2.3 Mt.

5.5. The Leicestershire Minerals and Waste Local Plan (adopted 2019) identifies and safeguards a range of waste facilities across the boroughs to maximise recycling, divert waste from landfill and create a range of 'green' jobs. It deals with all varieties of waste including construction, demolition and excavation waste (CDEW).

5.6. The information contained in the Waste Needs Assessment 2017 which supported the Local Plan states Leicestershire produces approximately 1.8 million tonnes of construction, demolition and excavation waste annually. This figure is based on estimates from national surveys. The Waste Data Interrogator identifies Leicestershire produced just over 0.9Mt of CDEW and handled nearly 1.1Mt in 2019. Caution should be used when considering these figures due to limitations of the data.

5.7. The 2019 Plan forecasts a fairly constant level of growth at less than 0.6% per annum suggesting that the amount of CDEW will remain below 2 million tonnes by 2026.

5.8. Despite difficulties in obtaining reliable data (even for a single year, let alone an historic series), the National and Regional Guidelines for Aggregates Provision have set figures for "Alternative Aggregates" (aggregate materials other than land or marine won) which regions should aim to achieve. The latest Guidelines propose that the East Midlands provide some 110 million tonnes of alternative aggregates for the period 2005–2020.

5.9. Several national surveys have been conducted to measure and gain an understanding of the extent to which recycled and secondary materials have been used. The most recent study, undertaken by Capita Symonds for 2005 arisings, was published in February 2007.

5.10. Lessons learned during the earlier surveys mean that the findings of the 2005 survey were considerably more robust at regional level. However, at sub-regional level they remained unreliable. The estimate for production of recycled aggregate in Leicestershire and Rutland in 2005 was 697,252 tonnes. In addition, 60,194 tonnes of recycled soil (excluding topsoil) was produced and re-used.

5.11. There is currently no audited data available to the Council with regards to tonnages of construction demolition and excavation (CD&E) waste arising in Leicestershire. A large proportion of construction and demolition waste is recycled on construction sites using mobile processing plant. Operational stand-alone permanent construction and demolition (C&D) recycling sites within Leicestershire are set out in Table 10 below. Existing recycling capacity for C&D waste in Leicestershire is estimated to be around 1.26 million tonnes per annum. There are currently no industrial processes in Leicestershire which are known to produce 'secondary' aggregates. The sites and facilities which produce recycled aggregates as set out in Table 10 below are safeguarded as part of the Local Plan. In 2021 planning permission was granted for a waste transfer facility at Bardon Hill Industrial Estate. The development has the capacity to produce some recycled aggregate materials through the importation and recycling of 100,000 tonnes of varying materials per annum. Additionally, in 2021 planning permission was granted for the recycling and importation, processing, storage, and sale of inert materials to supplement primary aggregate at Bardon Quarry. The development produces recycled aggregate materials through the

importation and recycling of 300,000 tonnes of materials per annum. These include chemically stable, inert materials including Incinerator Bottom Ash (IBA), spent railway ballast, foundry sands and construction and demolition waste streams. Overall, there has been an increase in recycling capacity for C&D waste in Leicestershire during the 2022 monitoring period by 400,000 tonnes per annum, or 47%.

5.12. The Authority requested sales and processing capacity data for recycled and secondary aggregates for 2022 from all mineral operators working within Leicestershire to provide an up to date understanding of the role that Leicestershire plays in producing and supplying these materials. Unfortunately, this data was not supplied by all of the sites surveyed and so the data received is not representative, or reliable for use within this LAA.

5.13. The lack of data will make it difficult to monitor the use of secondary and recycled materials at the local level, but available evidence does not suggest that there will be any significant alteration to the proportion of supply from these sources. As outlined above, additional facilities have obtained planning permission and are now operating in line with market demand.

Table 10. List of Operational C&D Recycling Sites (as of date of publication of this report).

Site, (District)	Summary of operations
1. Bardon Hill Quarry	Recycling and importation, processing, storage and sale of inert materials to supplement primary aggregate
2. Bardon Waste Transfer Station, Interlink Way	Waste transfer recycling including C&D waste
3. Croft Quarry, Huncote (Blaby)	Recycling of inert waste materials to supplement primary aggregate use
4. Forest Road, Huncote	Inert waste recycling
5. Granite Close, Enderby (Blaby)	Waste transfer recycling including C&D waste
6. Enderby Road, Whetstone (Blaby)	Waste transfer recycling including C&D waste
7. Granite Way, Mountsorrel (Charnwood)	Waste transfer recycling including C&D waste
8. Ingleberry Road, Shepshed (Charnwood)	Waste transfer recycling including C&D waste
9. Mountsorrel Quarry (Charnwood)	Wash plant facility
10. Wanlip Plant Site, A46, Syston (Charnwood)	Waste transfer recycling including C&D waste
11. Gilmorton Lodge Farm (Harborough)	Waste transfer recycling including C&D waste
12. Cliffe Hill Quarry (Hinckley & Bosworth)	Recycling of waste road construction material
13. Glebe Farm, Sibson (Hinckley & Bosworth)	Recycling facility
14. Groby Quarry (Hinckley & Bosworth)	Recycling of waste road construction material
15. Lynden Lea, Hinckley (Hinckley & Bosworth)	Waste transfer recycling including C&D waste

Site, (District)	Summary of operations
16. Orston Lane, Bottesford (Melton)	Waste transfer recycling including C&D waste
17. Harrison Close, Wigston (Oadby & Wigston)	Waste transfer recycling including C&D waste
18. Ellistown Quarry (North West Leics.)	Inert waste materials recycling operations
19. Lockington Quarry (North West Leics.)	Inert waste materials operations recycling
20. Wiggs Farm, Wood Road, Battram (North West Leics.)	Waste transfer recycling including C&D waste

5.14. Whilst the data currently available is not considered to be suitably robust to enable a recycling target to be set for Leicestershire, the adopted Leicestershire Minerals and Waste Local Plan demonstrates strong support by the Council for aggregate recycling. Thus, the adopted Leicestershire Minerals and Waste Local Plan also indicates that the County Council will support proposals for the recycling and reprocessing of materials for use as aggregates in appropriate locations.

5.15. The general trend in respect of inert recovery is for decreasing disposals of CD&E waste to landfills, quarries and exempt facilities and an increasing diversion of waste, especially through recycling. This will lead to a greater provision of CD&E waste as recycled aggregate assisting the Council in working towards future recycled aggregate production requirements and achieving a reduction in the demand for primary aggregate.

6. Future Provision

6.1. The Leicestershire Minerals and Waste Local Plan (Adopted 2019) provides an indication of the likely future provision up until 2031.

6.2. The starting point for setting a production guideline for aggregates in the LAA is to estimate demand on the basis of a rolling average of 10 years sales data (the 10-year average) before considering other relevant local information. The 10-year average is 1.10 million tonnes per annum for sand and gravel and 12.99 million tonnes per annum for crushed rock.

Sub regional apportionment

6.3. An indicator to be taken into account in identifying the level of future provision is the sub-regional apportionment derived from the National and regional guidelines for aggregates provision in England. The latest guidelines were produced to cover the period for 2005-2020 and set out the level of provision which should be made by each Region.

6.4. An annual "sub-regional apportionment" was produced from the 2005-2020 Guidelines by the East Midlands Aggregates Working Party (EMAWP). For

Leicestershire, this was 1.51 million tonnes of sand and gravel and 16.6 million tonnes of crushed rock. This sub-regional apportionment is 83% higher than the 2022 sand and gravel sales figure and 31% higher than the 2022 crushed rock sales figure. It is noted that the sales figures from 2022 are not solely representative of future market demand given the subsequent effects of the pandemic, and economic uncertainty caused by high energy prices. However it should also be noted that the level of production outlined by the sub-regional apportionment has not been achieved in Leicestershire during the last 10 years for either sand and gravel or hard rock.

6.5. At the meeting of the East Midlands Aggregates Working Party in February 2013, doubts were expressed about the validity of the apportionment guidelines. It was considered that the figures were out of date, as they were based on aggregate output from a period of economic growth, and that they should consequently not be taken into account in identifying future levels of provision. It was agreed that future levels of provision be based on a rolling average of 10 years sales data and other relevant local information, in accordance with the NPPF.

6.6. In the Inspector's Report on the partial review of the Northamptonshire Minerals and Waste Local Plan, the Inspector stated “as they (the national guidelines) were based on production before the recession and within a different policy context, it would not be prudent to accord them very significant weight.” This suggests that it would not be appropriate to base the production guideline in this LAA on the National and regional guidelines or the sub-regional apportionment.

6.7. The Inspectors report noted that the use of average sales over a 10-year period to quantify the amount of sand and gravel required over the Plan period is suitable and consistent with the approach set out in the NPPF provided that it is also based on the average of 10-year sales in addition to other relevant local information.

6.8. Previous increases in sales of sand and gravel which were seen in the years previous to 2020 and the coronavirus pandemic, were not found to be reflective of housing construction rates within the County (see previous LAA reports for further information). Additionally, the most recent data (2019) indicates approximately 36% of sand and gravel production annually is exported out of the County. Therefore, sales may not necessarily correlate with economic activity within Leicestershire. Consequently, it is not considered necessary to depart from 10 years sales data when forecasting future aggregate provision.

Comment on providing a landbank

6.9. The NPPF identifies that provision should be made for a landbank of at least seven years for sand and gravel and at least 10 years for crushed rock. National guidance does not state that plans have to allocate sites to account for a landbank at the end of the plan period. Acceptable alternative approaches are to have an enabling policy that allows unallocated sites to come forward to ensure an adequate supply is maintained should the landbank be likely to reduce below the seven (sand and gravel) or 10-year (hard rock) periods or to undertake a review of the plan. The landbank position would be monitored annually through the AMR.

6.10. Policies M1 and M4 identify the Council's intention to maintain at least the seven and 10-year landbanks. Policies M3 and M4 allow for new proposals for sand and gravel and crushed rock where, amongst other things, they are required to maintain the landbank. Therefore, adequate provision is made in the Plan, in particular by Policies M3 and M4, and subject to a statutory required review of the Plan, pursuant to the requirements of The Town and Country Planning (Local Planning) (England) (Amendment) Regulations 2017, or as considered necessary as a consequence of the AMR.

Recent trends

6.11. An average of the last three years' sales gives an indication of the most recent sales trends to identify the general trend of demand.

6.12. Average sand and gravel sales over the last three years were 0.56 million tonnes per annum, 49% lower than the 10-year average (1.10). The trend highlighted by the three-year average for sand and gravel warrants consideration of whether it would be appropriate to alter the production guideline from the 10-year average. This is considered in the text below.

6.13. Average crushed rock sales over the last three years were 11.47 million tonnes, about 12% lower than the 10-year average (12.99 million tonnes). This recent minor fluctuation in sales suggests that it is not significant enough to indicate that it would be appropriate to alter the production guideline from the 10-year average.

Local Factors

6.14. The NPPF states that the annual Local Aggregate Assessment should be based on a rolling average of 10 years' sales data and other relevant local information. In respect of the latter, the following issues have been addressed: supply and demand from neighbouring authorities; population forecasts; household projections; future house building; local economic objectives; and major infrastructure projects. The bulk of the analysis in this section focuses on Leicestershire and Leicester.

6.15. The most recent data on the distribution of sand and gravel from the County in 2019 is provided by the Aggregate minerals survey for England and Wales, 2019. In 2019, sand and gravel operations within Leicestershire and Rutland predominantly served local markets. 64% of sales were within Leicestershire/Rutland. The remaining material travelled to neighbouring counties within the East Midlands region and 'Elsewhere' (18% went to each respectively). All the sand and gravel, a total of 7 million tonnes was transported by road out of the East Midlands in 2019 (see Table 11 below).

Road			Rail		
Sand and gravel	Crushed rock	Total	Sand and gravel	Crushed Rock	Total
7064	20153	27577	0	8650	8650

Table 11. Sales of primary aggregates by principal transport method in 2019 in the East Midlands (thousand tonnes). Source: Aggregates Minerals Survey for England and Wales 2019.

6.16. It is recognised that some sand and gravel sites within the county lie close to the border of neighbouring authorities and that 36% of sales of sand and gravel were supplied to markets in neighbouring authorities. It is expected that unless extensions to existing sites or new sites are granted planning permission, in the medium to long term future, Leicestershire will struggle to continue to maintain a supply of sand and gravel to meet demands in neighbouring authorities. Likewise, Leicestershire will become more reliant on neighbouring authorities for sand and gravel. The Leicestershire Minerals and Waste Local Plan (up to 2031) which was adopted on the 25th of September 2019 allows for additional provision to be made from unallocated areas and extensions to existing sites, provided certain criteria are met. An application for an extension at Lockington Quarry (reference 2019/2358/07) was submitted in 2020 and remains undetermined. An application for a proposed new sand and gravel quarry in Quorn, Leicestershire was submitted in 2021. The application seeks planning permission for the extraction of 1.01 million tonnes of sand and gravel and remains undetermined. An application for further extraction of 900,000 tonnes of sand and gravel at Husbands Bosworth Quarry was submitted in 2021 and during the 2022 monitoring period, remained undetermined (reference 2021/0683/03). This application was granted planning permission in January 2023 and will be reported as part of the 2023 monitoring period.

6.17. Notwithstanding this, the cross-boundary supply and demand of sand and gravel as well as the demand within Leicestershire will continue to be monitored through Local Aggregate Assessments, both Leicestershire's and those of neighbouring authorities and through the Local Plan review process.

6.18. Comments received during the production of the 2020 LAA raised concerns that as sand and gravel sites within the county close as reserves run out then there will be a slowdown in production to manage reserves and site closures. This in turn would affect the sales figures which would be reported within the LAA and may appear as an indicator of falling demand, where actually there may be reserve and resource shortfalls. Continued monitoring will identify if this trend continues or if sales will pick up again. However, should it be considered that a drop in sales has occurred due to a lack of reserves rather than a lack of demand and local factors and demands warrant it, consideration will be given to applying an uplift figure to the sand and gravel provision figure. At present this is not considered necessary.

6.19. A steady and adequate supply of aggregates will be crucial to enabling the level of planned housing development to be delivered. The Mineral Products Association states that the construction of a typical new house uses up to 50 tonnes of aggregates from the foundations through to the roof tiles. This is a generalisation which should be treated with a degree of caution and does not distinguish between use of sand and gravel and crushed rock and does not include any requirements for infrastructure supporting housing development or the significant amount used in maintaining or refurbishing existing housing stock. There are no figures available to indicate the level of demand other types of development might create.

6.20. Considering levels of planned housing development can provide an additional indication of whether demand for aggregates is likely to further increase or decrease. Any such relationship should be treated with some caution given the amount of mineral that is exported out of the County. Notwithstanding this, the projected demand for housing is considered below.

6.21. In 2022 Iceni Projects Limited were commissioned on behalf of Leicester & Leicestershire Local Authorities to undertake an updated Leicester & Leicestershire Housing & Economic Needs Assessment to replace the Housing and Economic Development Needs Assessment (HEDNA) for the area which was published back in 2017. A replacement Housing and Economic Needs Assessment (HENA) was published in April 2022 and later updated in June 2022.

6.22. The HENA provides a joint evidence base relating to housing need, economic growth and employment land needs recognising that housing market and functional economic geographies broadly align to the county boundary.

6.23. The HENA report was updated in June 2022. The HENA considers a range of elements including housing, demographic and economic dynamics, potential future development needs and the need for different types of homes, including affordable homes and those of different groups. The HENA includes distribution papers on Housing and Employment to provide an evidence base for addressing the issue of the redistribution of unmet needs from Leicester City.

6.24. The final HENA was published in June 2022, reflected the latest calculated unmet need figures of 23 hectares of employment land and 18,700 homes to be accommodated in the Leicestershire districts. The potential distribution of housing provision across Leicester and Leicestershire over the period to 2036 is as set out below in Table 12. It is projected that a total of 91,404 houses may be required over the area up to 2036 which is likely to add to an increased demand for raw materials, including sand and gravel.

Table 12. Projected distribution of housing provision across Leicester and Leicestershire over the period to 2036. Source: Leicestershire County Council Review of the Leicestershire Minerals and Waste Local Plan 2019-2031, November 2022.

Authority	**Housing Provision 2020-36**	**Annual Average Housing Provision**
Leicester	20,720	1,295
Blaby	10,985	687
Charnwood	19,025	1,189
Harborough	10,515	657
Hinckley and Bosworth	10,542	659
Melton	4,800	300
NW Leicestershire	10,976	686
Oadby and Wigston	3,840	240
Leicester and Leics. Total	*91,404*	*5,713*

6.25. The Midlands Engine Strategy was published in March 2017. This sets out Local Growth Fund investment of £392 million for skills, connectivity and local growth in the region, of which £25.87 million is allocated to the Leicester and Leicestershire LEP. Specific projects include £14 million to develop a global space technologies hub in Leicester, and £12 million to improve transport connections in and around Loughborough.

6.26. In January 2012, the Government announced its decision to proceed with a £32.7 billion national High-Speed Rail network (High Speed Two) from London to Birmingham, continuing onto Manchester and Leeds. The route for HS2 phase two as updated in November 2021 lies partly within Leicestershire. Main construction work on Phase 1 between London and the West Midlands has started. Construction of Phase 2 from the West Midlands to Manchester and East Midlands Parkway is scheduled to begin in 2023. In October 2021, the Department for Transport released indicative figures of the aggregate which would be required for various stages of the project. It is difficult to apportion how much would be required to be supplied from different regions and this will be easier to calculate once the information has been further refined.

6.27. The North and East Melton Mowbray Distributor Road to relieve congestion in Melton Mowbray, Leicestershire and to support plans for housing and employment growth was granted planning permission on the 23rd of May 2019. It is currently under

construction. Given the scale and location of the project, it is considered that the road will continue to have a greater than local influence on aggregate demand in the short-term which should be considered.

6.28. A formal application to the Secretary of State for a Development Consent Order has been submitted for the Hinckley National Rail Freight Interchange (HNRFI) at junction 2 of the M69, within the district of Blaby, Leicestershire. The site is proposed to include industrial and Storage/Distribution units, a rail port and the lorry park, dedicated road access directly from Junction 2 of the M69 and associated highway works and landscaping including footpath and cycle links. The scheme is a Nationally Significant Infrastructure Project and given its scale it is considered that the project would result in a greater than local impact on aggregate demand in the short to medium term although it is difficult to apportion how much aggregate would be required to be supplied. Further analysis and monitoring of its likely impact on local aggregate demand will be undertaken in subsequent aggregate assessments as further information on timescales for the project come forward.

Conclusion

6.29. Recent trends in production for sand and gravel, together with the local factors referred to above, suggest that there may be demand for sand and gravel from Leicestershire operations over and above the average experienced during the last 10-year period (2013 to 2022). The rise in sales in 2019 has previously indicated increased demand. The sales data from between 2020 and 2022 have been significantly impacted by the impact of the effects of pandemic and global and national economic turbulence. Additionally, those sites which became dormant and were not yet replaced by either extension to existing sites or new sites becoming active have also resulted in a downturn in sales. This does not necessarily indicate a lack of demand; indeed, the substantial net import of sand and gravel in 2019 identified in the AMR would suggest otherwise. Ongoing monitoring is required.

6.30. Outside the scope of this report, planning applications have been submitted for additional sand and gravel quarry extraction at Lockington and Quorn which remain undetermined. Further to this, an application for further extraction of 900,000 tonnes of sand and gravel at Husbands Bosworth Quarry was submitted in 2021 and during the 2022 monitoring period, remained undetermined (reference 2021/0683/03). This application was granted planning permission in January 2023 and will be reported as part of the 2023 monitoring period.

6.31. Whilst several live planning applications remain outstanding and one has commenced outside of the monitoring period (Husbands Bosworth), there are increasing signs of problems regarding the provision of further sand and gravel resources. This is witnessed by the low landbank and the limited number of sites allocated in the adopted Leicestershire Minerals and Waste Local Plan which resulted from a lack of sites being put forward by industry during the submission stage. Future sales may consequently be influenced by mineral reserve continuity at individual quarry sites. The implications of the Covid-19 pandemic and ongoing economic instability are noted and considered. However, whilst sales figures have dropped, it is considered that the economy may rebound as global and national markets stabilise over the coming years. As such, the Local Aggregates Assessment for the monitoring period of 2023 will continue to

address the ongoing impact on the aggregate industry. Given the drop in sales since 2020, skewing the three-year average sales figure to its lowest ever figure (0.56 Mtpa), it is considered appropriate for the production guidelines identified by this Local Aggregates Assessment to reflect the 10-year sales average, namely 1.10 million tonnes per annum. It is considered that this would better reflect the expectation that the economy will rebound and planned local and national housing and infrastructure construction projects will continue as previously planned.

6.32. The importance and current distribution of Leicestershire's crushed rock means that it is likely that the County's rock quarries will continue to supply major infrastructure both in the East Midlands and elsewhere in England. The scale of any potential increase in demand is uncertain and will largely depend on the rate of future growth in the national and local economy. The implications of the Covid-19 pandemic and instability of global and national markets are noted and considered. Whilst the UK has seen economic decline as a result of the pandemic, there are indications that the market may rebound as a result of demand for planned construction projects. The Local Aggregates Assessment for 2023 will continue to monitor and address the impact on the aggregate industry. Overall, it is not considered there is sufficient robust evidence to support a specific level of production above the 10-year average of sales. The production guidelines identified by this Local Aggregates Assessment therefore reflect the 10-year sales average, namely 12.99 million tonnes per annum.

Sand and Gravel Provision

6.33. Table 13 below provides revised calculations of the potential future requirement for sand and gravel within Leicestershire based on average sales over the last 10 years. The calculations are based on making provision for the period up to 2031. The calculations take account of the level of permitted reserves on 31st December 2022.

Table 13. Calculation of Sand and Gravel Provision 2022 – 2031

Calculation		**Million Tonnes**
A	Annual Requirement	1.10
B	Total Requirement 2022-2031*	9.90
C	Total permitted reserves at 31/12/2022	2.23
D (C-B)	Shortfall 2022 – 2031	7.67

*Total Requirement = **A** x 9 years (to cover the period from 31st December 2022 until 31st December 2031).

6.34. The table indicates that there will be a shortfall of sand and gravel reserves over the period to 2031 of some 7.67 million tonnes. The Leicestershire Minerals and Waste Local Plan includes proposals for the extension of sand and gravel operations in the County. Some allocations at Cadeby Quarry and Shawell Quarry remain without planning permission, as of the date of publication of this report. A planning application for the extraction of 900,000 tonnes of sand and gravel at Husbands Bosworth Quarry

was submitted in 2021 and during the 2022 monitoring period, remained undetermined (reference 2021/0683/03). This application was granted planning permission in January 2023 and will be reported as part of the 2023 monitoring period.

6.35. Additional reserves of 431,000 tonnes of sand and gravel were permitted at Shawell Quarry in 2020 (reference 2019/1891/03) but areas of the allocations at Shawell Quarry remain. There are no proposals for the remaining allocation at Cadeby to be worked and the processing plant has now been removed from the former Cadeby Quarry. It is therefore highly unlikely that this allocation will now come forward.

6.36. The Plan also provides for planning permission to be granted for sand and gravel outside unallocated areas under Policy M3: Sand and Gravel Extraction (Unallocated Areas). In 2019 a planning application was submitted for the extraction of 3.3 million tonnes of sand and gravel at Lockington Quarry, this application remains undetermined at present. Additionally, an application for a proposed new sand and gravel quarry in Quorn, Leicestershire was submitted in 2021. The application seeks planning permission for the extraction of 1.01 million tonnes of sand and gravel and remains undetermined.

Crushed Rock Provision

6.37. The Leicestershire Minerals and Waste Local Plan indicates there would be more than sufficient crushed rock reserves to meet requirements over the period to 2031. It was not therefore considered necessary to make specific provision for future rock extraction.

6.38. Table 14 below provides updated calculations of the potential future requirement for crushed rock from Leicestershire based on average sales over the last 10 years. The calculations are based on making provision for the period up to 2031. The calculations take account of the level of permitted reserves as of 31st December 2022.

Table 14. Calculation of Crushed Rock (Aggregate) Provision 2022-2031.

Calculation		**Million Tonnes**
A	Annual Requirement	12.99
B	Total Requirement 2022-2031*	116.91
C	Total permitted reserves, excluding reserves in dormant sites, at 31/12/2022	304.37
D (C-B)	Surplus 2022 – 2031	187.46

*Total Requirement = **A** x 9 years (to cover the period from 31st December 2022 until 31st December 2031).

6.39. The table indicates that there will be more than sufficient crushed rock reserves to meet requirements up to 2031. The current level of permitted reserves is also sufficient to maintain a landbank of 10 years throughout the period to 2031, with a

surplus of 187.46 million tonnes. This surplus demonstrates that any greater than local impact on demand for crushed rock in the short to medium term because of local factors would be able to be met, as it is unlikely that additional demand would outstretch the current surplus.

6.40. Whilst the theoretical permitted reserves of igneous rock appear to be adequate, technical considerations led the East Midlands Aggregates Working Party (EMAWP) to express concern in 2018 regarding the medium to long term ability of Leicestershire to supply crushed rock, at existing levels, particularly to areas like the South East and London via rail. The EMAWP advocated that action be taken to address concerns over medium to long term future supplies of igneous rock from Leicestershire, bearing in mind the nationally strategic and uncertain nature of the Leicestershire resources beyond the existing permissions. In 2019 8.65 million tonnes of crushed rock were exported out of the East Midlands via rail.

6.41. This situation has also been recognised in a report from the British Geological Survey ('An evidence-based approach to predicting the future supply of aggregate resources in England' 2011) which concluded that "by far the most important foreseeable shortfall in the medium- to long-term is amongst the four rail-connected igneous quarries in Leicestershire."

6.42. The current strategy for aggregate minerals, set out in Policy M4 (Crushed Rock) of the Leicestershire Minerals and Waste Local Plan, is to ensure a steady and adequate supply of crushed rock for aggregate purposes by giving priority to proposals for extraction to be worked as extensions to existing rail-linked site operations where they are required to ensure sustainable supply and allowing proposals for new extraction sites where it has been demonstrated that the landbank and production capacity cannot be maintained from existing permitted sites. It should be noted that the Authority relies upon operators to come forward with proposals to ensure the medium-long term supply of crushed rock.

6.43. In August 2011, Leicestershire County Council granted planning permission for the extraction of 132 million tonnes of mineral from an area adjacent to Bardon Hill Quarry. This has extended the life of the quarry by around 40 years. The stone extracted at the quarry has a high PSV (60), enabling the aggregates to be used more extensively in road surfacing applications, as well as in other asphalt products, concrete and other uses.

6.44. Planning permission was granted in October 2015 for the extraction of an additional 20 million tonnes of mineral from an extension to Mountsorrel Quarry. This has extended the life of the quarry to 2040.

6.45. As of the 31st December 2020, planning permission at the rail-linked site at Croft expired at the end of 2029. On the 10th June 2021, it was resolved at committee to grant planning permission for a lateral extension to the mineral workings at Croft Quarry which would release an additional 6.3m tonnes of aggregate over 17 years.

6.46. Planning permission at the rail-linked Cliffe Hill Quarry currently expires at the end of 2032. However, it should be noted that outside of this monitoring period, a planning application for a lateral extension to the existing workings at Cliffe Hill Quarry has

been submitted to the Authority in July 2022. This application is seeking the continuation of quarry workings beyond the current expiry date of 31st December 2032 to 31st December 2042. The application proposes to retain the existing processing and rail exporting infrastructure and operations on the site and proposes to release around 30 million tonnes of reserves. Additionally, a scoping opinion request was submitted to Leicestershire in August 2022 for a proposed lateral extension to the existing rail-linked Mountsorrel Quarry. The submitted documents indicate that there remains approximately 58Mt of consented granite reserve at the quarry. Assuming an average production level of 4 Mt per annum, this is sufficient to last approximately 14.5 years, to 2037. The current permitted end date for quarry operations is 31 December 2040. To this end, the proposed development seeks northerly and south-easterly extensions of quarry working sufficient to release approximately 75 million tonnes of granite. Combined with consented mineral reserve, the development would extend the working life of the quarry by 18 years beyond the extant permitted mineral cessation date of 31 December 2040. The proposed development would extend the quarry life to 2058.

6.47. During the consultation process undertaken in the production of the 2022 LAA (for the 2021 monitoring period), concerns were raised that exports of crushed rock from Leicestershire to London and the south-east which are nationally significant could rise over the next five years and that this could impact long term reserves of crushed rock within the County. At this stage it is difficult to quantify whether exports to London and the south-east will increase and this will also largely depend on future economic conditions. It is important to note the LAA is reviewed annually, and an Annual Monitoring Report is prepared by the County Council to monitor the effectiveness of the Local Plan.

6.48. Additionally, whilst the application at Cliffe Hill remains undetermined and no planning application has yet been submitted for Mountsorrel, it demonstrates that the policy environment is working effectively in that it has allowed proposals to come forward where required by operators and industry demand. An example of where this has occurred successfully is Croft Quarry. It is understood that the complexity of such proposals which result from not only the nature, but the sheer size of such proposals, can lead to delays where consideration of the planning balance and environmental considerations can take some time. However, these proposals have come forward to the Authority ahead of reserves dwindling which demonstrates the successful forward-planning of such operators in addressing these situations.

6.49. The bringing forward of these proposals demonstrates that the policies in place successfully allow for additional provision to be made from unallocated areas and extensions to existing sites provided certain criteria are met.

6.50. During the consultation process undertaken as part of this LAA, concerns have been raised that sand and gravel use within the County may be substituted by crushed rock should demand for sand and gravel outstrip supply. It is recognised that to some extent crushed rock can be used as an alternative to sand and gravel for some uses. The low landbank for sand and gravel within Leicestershire has been recognised within recent years and has been addressed through the call for sites as part of the Leicestershire Minerals and Waste Plan (Adopted 2019). Additionally, this has also

been addressed similarly to crushed rock, through the use of flexible policies that allow sand and gravel sites in unallocated areas to come forward subject to environmental constraints. These policies allow industry to come forward with proposals where demand requires additional material.

6.51. As noted in previous LAAs, if production at any of the existing active sites cannot be maintained, it may be possible to use production capacity at sites that are currently inactive in order to maintain the level of provision from quarries within Leicestershire. However, neither of the inactive sites in the County are rail-connected nor have they any realistic prospect of being linked by rail given their locality.