Chapter 7 Sherwood Sandstone



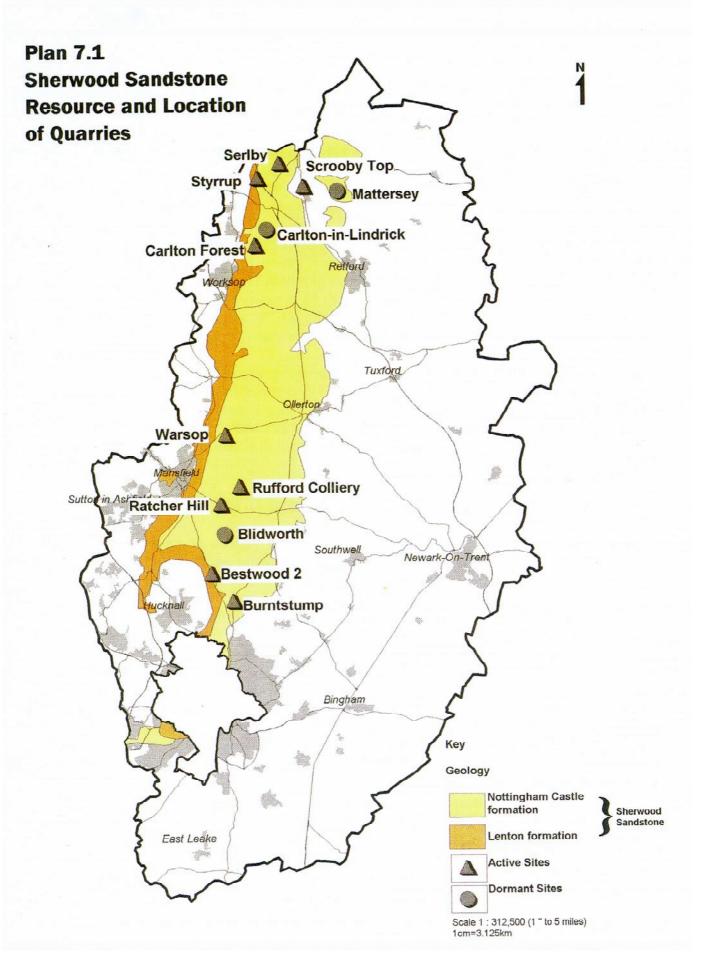
Sherwood Sandstone Extraction at Bestwood 2 Quarry

Introduction

- 7.1 Sherwood Sandstone is an important aggregate mineral and source of soft building sand accounting for a third of the County's sand and gravel production. In addition to producing sand for asphalt and mortars, it is also used for more specialist aggregate and non-aggregate (silica sand) uses.
- 7.2 Silica sand (also known as 'industrial sand') is sand which contains a high proportion of silica in the form of quartz and is marketed for purposes other than for direct use in the construction industry. Major uses include the glass and foundry casting industries. Extraction and processing of silica sand differ considerably from aggregate sand and gravel production, and different planning guidance also applies. Silica sand production and provision is considered separately at the end of this Chapter.

Geology

- 7.3 The Sherwood Sandstone outcrop covers nearly a quarter of the County, occurring as a broad belt between Nottingham and South Yorkshire, and gives rise to the attractive landscape of Sherwood Forest (see Plan 7.1). The deposit thickens northwards from 100 metres near Nottingham to 300 metres east of Worksop and thus the potential resource is vast. The sandstone is also a major aguifer, and serves as an important water supply for a wide area.
- 7.4 The deposit comprises 2 distinct horizons. The lowest 20-50 metres consist of fine soft red sandstones with up to 10% clay, which have been worked as naturally bonded moulding sands. These comprise the 'Lenton Formation' and are overlain by 80-250 metres of clean coarse-grained sandstones which are the main source of aggregate sand.
- 7.5 There are few geological guidelines to identify where particular grades of sand are likely to be found. Natural variations occur, but these can to some extent be corrected by processing. The end-use seems to be as much a function of what is required than any special characteristic of the original deposit. However for small sites, where only limited processing may be economic, this could restrict end-use options. There may also be some preference for particular colours in mortar production.
- 7.6 Asphalting plants are set up to deal with a particular sand within the basic specification and they cannot just switch to another source, at least not without modifications and expensive tests. Some sands are 'natural' asphalting sands, others may meet the coarse or fine element and can be blended at the plant.



Method of Working and Environmental Impact

- 7.7 After stripping a normally thin cover of soil and overburden, the sandstone can be readily broken down to sand and removed by scrapers or hydraulic excavators. At some sites only minimal processing is required and a small mobile dry screen may be adequate. At others, a large fixed washing plant is needed to 'hydraulically classify' the sand. The latter has the advantage of being able to process lower quality mineral and/ or to produce a wider range of products with a degree of quality control. Washing plants need silt ponds which greatly increase the operational area above that required for dry screening processes.
- 7.8 Despite the potential thickness of the deposit, excavations rarely exceed 30 metres, and are often much less. Geological and hydrological constraints, quarrying logistics, and planning controls are frequent limiting factors. A few sites, especially in the north of the County breach the water table, but most are worked dry. This often enables the plant and stockpile area to be located on the quarry floor so minimising visual and noise impact.
- 7.9 Agricultural land quality generally falls outside the best and most versatile categories and is therefore less likely to be a significant constraint. In contrast, recent evidence has indicated that important archaeological remains are widespread. The Sherwood Sandstone also contains the largest concentration of surviving heathlands in the County, (see Chapter 4, Para 4.46).

Reclamation and After-use

- 7.10 Sand extraction usually leaves a moderately deep dry void with little on-site material, other than soils, for use in reclamation. Whilst reclamation to a low level is usually technically possible, its success will largely depend on how the sandpit can be blended into the surrounding landscape. In some circumstances partial or total infilling with waste may provide a better reclamation option in terms of landform and after-use. The main constraint to waste disposal is the fact that the Sherwood Sandstone is a major aquifer, which normally limits infilling to inert construction and demolition material. In the past household commercial and industrial waste has been permitted at some sites, but new restrictions brought in by the Environment Agency may preclude this option across most if not all of the Sherwood Sandstone resource. Any proposals involving waste disposal would need to take account of relevant policies in the Waste Local Plan and Chapter 4.
- 7.11 Although reclamation to agriculture may be possible, the thin sandy soils are not naturally suited to protecting high quality agricultural land. Satisfactory yields normally require intensive irrigation and nutrient additions. The latter can itself represent a potential threat to the aquifer.
- 7.12 In contrast, reclamation to native oak and birch woodland, or the recreation of indigenous heathland, can take place even where soils are poor or absent, thus helping to conserve and enhance the natural landscape character of the Sherwood Forest area. This accords with a number of County strategies,

including the Nottinghamshire Local Biodiversity Action Plan (LBAP), the Sherwood Initiative, Countryside Appraisal, and the Structure Plan Review. Amenity woodland and nature conservation is usually a preferred after-use within the Sherwood Forest area, as indicated in Policy M4.13.

7.13 Reclamation of sites to other after-uses, such as built development or open space, may be appropriate, particularly in urban areas where constraints such as access or proximity to housing preclude filling. Under such circumstances, or where existing arrangements for reclamation are unsatisfactory, alternative proposals for reclamation will be considered.

Supply and Demand

Sources of Information

7.14 Information on countywide sales, reserves and distribution of Sherwood Sandstone is collected by the East Midlands Working Party on Aggregates (EMWPA) as described in Chapter 6, Para 6.16.

Recent Production History and Trends

- 7.15 The overall trend for Sherwood Sandstone production during the previous Plan period has been downwards, in line with national and local trends for sand and gravel production.
- 7.16 In Nottinghamshire production of Sherwood Sandstone reached a peak of 1.15 million tonnes in 1992 only to fall back to an average of 0.7 million tonnes from the late 1990s, see Figure 7.1 below. This excludes production of silica sand which has averaged 0.15 million tonnes between 1997 and 2001.

Markets

- 7.17 The quarries have a wide geographical spread across the Sandstone outcrop, from Burntstump in the south to Serlby in the north. The main concentration of large sites is found between Nottingham and Mansfield. The size and nature of each quarry is very variable ranging from large units producing well over 100,000 tonnes per annum to small units producing a fraction of this output.
- 7.18 Less than half the County's production is used within Nottinghamshire. The biggest exports are to Derbyshire and Leicestershire. Large coating plants in rock quarries in Derbyshire and Leicestershire are probably the main consumers of this sand. Unlike sand and gravel relatively little sand goes to Yorkshire and Humberside.
- 7.19 At Mansfield, Sherwood Sandstone is also worked for non-aggregate silica sands and is discussed later.
- 7.20 Sales of non-aggregate sand and the more specialist aggregate sands have very different markets that can extend across a wide area and include exports outside the UK.

Consideration of future demand

- 7.21 Sherwood Sandstone is subject to the same demand forecast and criteria as specified in MPG 6. Details are set out in Chapter 6, Paras 6.22 6.27 which should be referred to in conjunction with the text below. Particular attention is drawn to the revision to MPG6 and new guidelines on future demand for aggregates.
- 7.22 Using the approach approved by the East Midlands Regional Assmebly in February 2004, this Plan will base future provision on an annual production rate of 0.7 million tonnes. This compares very closely to recent average production levels which have been well below the previous apportionment figure of 1.1 million tonnes per annum agreed in 1994 (see Figure 7.1 and Table 7.1).
- 7.23 The 0.7 million tonnes per annum level of provision is not a target, but it does provide a context on which to assess future requirements. Future sales of Sherwood Sandstone are unlikely to follow a uniform trend. As noted for sand and gravel, in addition to any underlying demand trends, changes to the industry can have a significant impact on local sales.

Figure 7.1 Nottinghamshire Sherwood Sandstone Production – 1982-2001

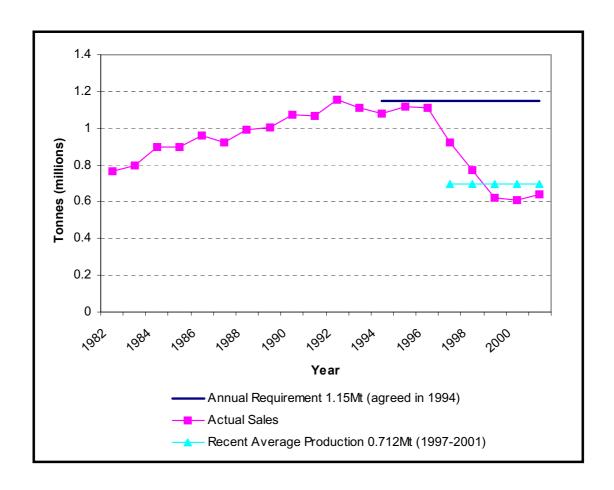


Table 7.1 Nottinghamshire's Share Of Regional Sherwood Sandstone Production (based on approach approved by East Midlands Forum in February 2004) (excludes Sand and gravel – see Table 6.1)

	E. Midlands	Nottinghamshire		
	X 1000 tonnes	X 1000 Tonnes	% Regional Share	
1997	11,315	922	8.15	
1998	9,995	772	7.72	
1999	10,369	621	5.99	
2000	9,939	606	6.09	
2001	10,149	641	6.32	
Average 1997-2001	10,353	712	6.88	
Forecast Provision 2001-2016	10,313*	709 (0.7Mt rounded)	6.88**	

^{*}Values exclude silica sand production.

Future Provision

Landbanks

7.24 MPG6 recommends that for sand and gravel a landbank of permitted reserves should be maintained at a minimum level of 7 years. Although the Government is reviewing the landbank concept in its proposed review of MPG6, until the outcome of this is known this Plan will assume that the above landbank requirement will apply. This corresponds to 4.9 million tonnes (i.e. 7 years at an annual requirement of 0.7 million tonnes).

POLICY M7.1 SHERWOOD SANDSTONE LANDBANK

The County Council will endeavour to maintain a landbank of permitted reserves of Sherwood Sandstone sufficient for at least 7 years extraction and also an adequate production capacity in order that Nottinghamshire will meet its reasonable share of regional provision of aggregates throughout the plan period.

^{**} Notts' recent regional share of 6.88% assumed to apply for forecast period.

Estimating Future Requirements

- 7.25 In accordance with MPG6, the Minerals Local Plan must demonstrate that suitable resources exist which can sustain a 7 year landbank. In this respect MPG6 advises that, whilst sufficient resources must be identified to sustain production throughout the plan period, it is not intended that plans should make full provision for maintaining a landbank beyond the end of the plan period. Nevertheless local plans should ensure that such resources could be brought forward if necessary. This approach provides flexibility by allowing more long-term shortfalls to be more properly assessed against future reviews of MPG6 and the Minerals Local Plan.
- 7.26 At the end of 2001 permitted reserves of Sherwood Sandstone stood at 12.6 million tonnes. This figure includes reserves which will most probably be used for silica sand purposes. Whilst no published figure for this component exists, it is reasonable to assume that a significant proportion of reserves at Ratcher Hill Quarry (see paras 7.41 7.45) will be used for silica sand. This suggests that permitted reserves of aggregate sand are more likely to be around 10 million tonnes. This corresponds to a landbank of nearly 18 years and thus sufficient until 2019. In order to maintain a 7 year landbank at the end of the plan period a further 1.4 million tonnes would be required. However, as noted above, MPG6 does not suggest that Local Plans must make full provision for this period.
- 7.27 Whilst the Countywide landbank is high, the reserves are very unevenly distributed between individual quarries and some sites will run out of reserves well before the end of the plan period. If the County is to maintain an adequate production capacity then further reserves will need to be released. The Countywide landbank also does not take account of the fact that, unlike sand and gravel, the individual quarries do not generally produce the same products. Some quarries produce mainly asphalt sand, others mortar sand where differences in colour may be important. This factor will be taken into account in assessing need and adequacy of production capacity in Policy M7.1.
- 7.28 It is considered appropriate to meet these shortfalls by identifying suitable resources as site specific allocations. The criteria for selecting allocations are set out below.

Dormant Sites

7.29 In the previous Plan period the landbank of permitted reserves was much higher which was in part due to the presence of a significant number of dormant sites reflecting a large over-capacity. Policies in the previous plan were effective in seeing most of these dormant planning permissions revoked as a condition for new reserves being permitted in more suitable locations. Although some dormant sites remain this is not now such an issue and, where appropriate, is dealt with on a site-specific basis below.

Selecting Allocations

7.30 The general approach to selecting allocations is as described for sand and gravel (see Chapter 6, Para 6.33 for details). In summary information on potential sites provided by the industry and landowners has been subject to a

'Sustainability Appraisal' in order to assess which options were the most suitable in sustainability terms and which were also capable of meeting a specific shortfall. In accordance with advice on MPG6 (Para 69), the initial preference was to consider extensions, as this approach generally results in less environmental impact, but where appropriate, extensions have been compared against potential new greenfield capacity. Protecting the commercial interests of individual companies has not been a factor in site selection. Account has also been taken of the lower level of provision which suggests that not every site that runs out of reserves necessarily needs to be replaced.

List of Allocations

7.31 A total of 5 sites containing an estimated 5.6 million tonnes were put forward for consideration. The outcome of the above assessment has been to allocate a total of 28.7 hectares containing an estimated 2.6 million tonnes. This has been distributed as extensions to 3 sites. No new greenfield capacity has been favoured, (see Table 7.2).

Table 7.2 Sherwood Sandstone Extraction – Summary Of Proposed Allocations						
Allocation	Hectares	Million Tonnes				
Rufford	7.5	0.7				
Scrooby Top	9.2	1.1				
Carlton Forest	12	0.8				
Totals	28.7	2.6				

Proposals in Allocated Areas

- 7.32 In order that each allocation is put into context, every existing or permitted quarry is reviewed below in a south north traverse of the County. Figure 7.2 below shows the expected reserve life of each permitted site, and how the allocations will meet shortfalls during the Plan period. Site specific information on production and reserves is stated, although confidentiality restriction prevents complete disclosure of this data.
- 7.33 Planning permission to extract mineral from within each allocation is subject to the submission of satisfactory working and reclamation schemes in accordance with Chapters 3 and 4. The main planning and environmental issues concerning each allocation are considered in order to help guide what type of proposal would be acceptable within each allocation.

Proposals in Unallocated Areas

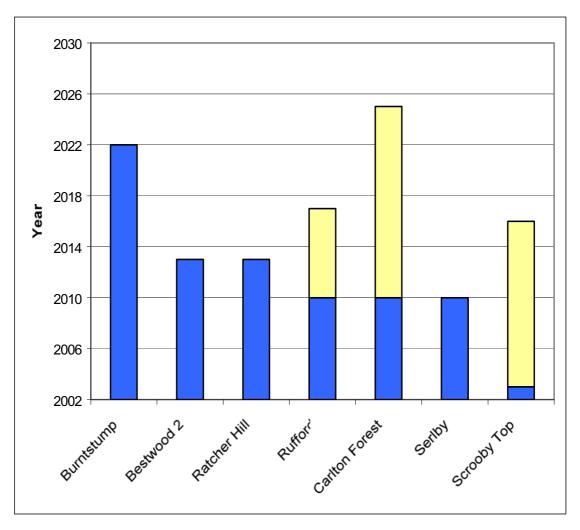
7.34 Proposals for sand and gravel extraction in unallocated areas will not normally be permitted. This is because sufficient provision exists, either in existing permitted reserves or as Plan allocations. Only where there is clear evidence that this is no longer the case would it be acceptable to permit proposals outside allocated areas. Such circumstances could arise if, for example, it became apparent that some allocations were unlikely to come forward or they contained far less mineral than assumed. Minor temporary proposals for sand

extraction in unallocated areas may be acceptable where they meet the criteria of incidental mineral extraction (see Policy M14.1).

POLICY M7.2 SHERWOOD SANDSTONE EXTRACTION IN UNALLOCATED LAND

Proposals for Sherwood Sandstone extraction falling outside allocated areas will not be permitted unless it is evident that existing permitted reserves and the remaining allocations cannot sustain an adequate landbank and processing capacity as provided for in Policy M7.1.

Figure 7.2 Sherwood Sandstone Estimated Reserve Life of Current Permitted Workings and Allocations.



Existing permitted reserves

- Allocation

Note: Above figure excludes information of small dormant sites in North Nottinghamshire, whose future role is uncertain, but likely to have only a minimal impact.

Site by Site Analysis

BURNTSTUMP

Background

- 7.35 Quarrying began in the early 1980's, the main objective then being to extract sand to increase tipping capacity for the main domestic refuse disposal site for Greater Nottingham. Burntstump effectively replaced Bestwood 1 Quarry, where production was suspended. The sand is dry screened on site and is mainly used as a yellow mortar sand supplying local markets.
- 7.36 In 2001 a major southern extension was permitted. Unlike the previous workings this extension will not be landfilled, but instead will be reclaimed to agriculture and woodland at a lower level. As part of the granting of this planning permission, the company agreed to revoke their rights to work the remaining reserves at Bestwood 1 and an adjacent dormant quarry at Bestwood Northern Drive. This conformed to the policy of the previous Minerals Local Plan, which sought to reduce the number of old dormant planning permissions to work Sherwood Sandstone.

Future assessment

7.37 The recent extension contained 2.7 million tonnes, which will be sufficient until at least 2021. No further provision is necessary for the current plan period.

BESTWOOD 2

- 7.38 Sand extraction at Bestwood 2 quarry dates back to at least the 1940's, but it has only been a major producer of Sherwood Sandstone since it changed ownership in the early 1980s. Like Burntstump it also served as a partial replacement to Bestwood 1 (hence its name), but instead it produces red building sand, which was also present at Bestwood 1. The red sand is used in asphalt mortars where it supplies a ready mixed mortar plant on site. It is also used in horticulture.
- 7.39 In 2001 an eastern extension was permitted within the woodland that was designated as a SINC. The loss of a part of this SINC was accepted because the reclamation scheme will create a new area of nature conservation interest. This will comprise mixed heathland and woodland, which, in the long term, should increase the biodiversity of this area.

Future assessment

7.40 The recent planning permission will provide a further 2.7 million tonnes, which should be sufficient until 2013. Further extensions may be possible, but as the Plan is expected to be fully reviewed by 2009 it is considered more appropriate to assess the need for allocating further reserves of aggregate sand at that time.

RATCHER HILL

7.41 Ratcher Hill is the only sand quarry in Nottinghamshire that produces both aggregate and non-aggregate (silica) sand. Apart from producing the normal

- range of building sands for use in asphalt and mortars, it also manufactures a wide range of specialist aggregate sands, for example, sports surfaces, and pipe bedding.
- 7.42 The wide range of aggregate and silica sand products is only possible because of the specialised plant which allows the sand to be 'hydraulically classified' to very precise standards. A coating plant is also present.
- 7.43 The County Council has recently resolved to permit a major extension to Ratcher Hill that includes the progressive reclamation of the whole quarry back to a mixed heathland/woodland after-use at a lower level.
- 7.44 As a condition of planning permission being granted, the company has indicated it will revoke a dormant planning permission at Cross Lane, Blidworth, containing an estimated 750,000 tonnes of reserves.

Future assessment

7.45 The new extension contains 3 million tonnes of sand, which extends the life of the quarry by 10 years to 2013. No further extensions are considered possible. The need to allocate any replacement capacity is likely to be linked to future silica sand provision, where very different landbank criteria apply (see Para 7.69 for details).

RUFFORD COLLIERY SAND QUARRY

Background

7.46 Planning permission for extraction of sand at Rufford Colliery was originally granted in 1987 as a 'windfall site' in order to create extra void capacity for colliery tipping. The void capacity was never required due to the closure of the colliery in 1993. Production levels have averaged 100,000 tonnes per annum, the main end-use being an asphalt. The quarry will be restored to heathland.

Future assessment

7.47 Permitted reserves are expected to last until 2010. Although the original justification for this quarry no longer exists, it has nevertheless succeeded in providing around 10% of the County's sand production. One significant advantage of the site is its remoteness from sensitive areas and negligible environmental impact. A further extension to the east of the current quarry would provide 0.75 million tonnes sufficient for a further 7 years. This probably represents the ultimate limits of this quarry. Subject to a suitable working and reclamation scheme that continues to promote heathland being submitted it is unlikely to raise any significant new planning issues.

POLICY M7.3 RUFFORD COLLIERY SAND QUARRY ALLOCATION

7.5 hectares of land are allocated at Rufford for sand extraction

WARSOP (Oakfield Lane) QUARRY

Background

7.48 Mineral extraction at Oakfield Lane, Warsop resumed in late 2001, over 30 years after the site was last worked to any significant degree. The site is being worked intermittently as the planning conditions only allow extraction to occur for 8 weeks per annum. Annual production is thus limited to approximately 5000 to 6000 tonnes. These restrictions are to accommodate the poor access, and were imposed when the original planning permission was reviewed. The quarry will be reclaimed back to heathland at a lower level. The sand is taken off site for processing at Ratcher Hill.

Future assessment

7.49 The life of this quarry is unclear but may be quite long term. In any event, in view of its long period of dormancy and small scale production, there appears to be no basis for making any further provision either as an extension or replacement site.

SCROOBY TOP QUARRY

Background

- 7.50 Scrooby Top Quarry opened in the 1930s, when it extracted sand and gravel from a glacial deposit before extending down into the underlying Sherwood Sandstone. The quarry produces building sand, which in part supplies a ready mixed mortar plant. The main product is a buff coloured mortar sand known as 'Scrooby Grey' which is used to match York building stone and other material where this product is required. Red sand is also extracted.
- 7.51 The plant at Scrooby Top is also supplied with aggregate from a number of small satellite sand and gravel quarries which are considered in Chapter 6, (see Para 6.106). There is also a secondary aggregate plant.
- 7.52 Scrooby Top Quarry will be reclaimed to predominantly water with a small area back to agriculture at a lower level. Parts of the quarry faces are of geological importance and have been designated as an SSSI.

Future assessment

- 7.53 Current permitted reserves are expected to last until 2003. A small western extension containing 1.1 million tonnes could be worked without any significant additional environmental impact. This would provide sufficient reserves until 2016. This is sufficient for the current plan period.
- 7.54 The main planning issues, which need to be taken into account, are:
 - (a) The reclamation scheme should protect the geological value of this site. This may comprise the protection of existing faces and/ or the creation of new faces within the new extraction area (see Policy M4.14).
 - (b) Archaeological constraints exist and measures will need to be taken for the proper recording of these.

POLICY M7.4 SCROOBY TOP ALLOCATION

9.2 hectares of land at Scooby are allocated for sand extraction.

CARLTON FOREST and CARLTON IN LINDRICK (Red Barn) QUARRIES Background

- 7.55 Sand extraction at Carlton Forest dates back to the 1990's. This small red sand quarry produces building sand, which is dry screened on site. The quarry is being progressively filled with mostly inert waste.
- 7.56 Carlton in Lindrick is a dormant sand quarry that has not been worked for many years. The site is registered as a dormant site under the minerals review procedure (see Chapter 4, Para 4.55 for details of review). The site was left derelict but has since become very overgrown, and has been designated as a SINC and is on the Heathland Register.
- 7.57 Both quarries are under the control of the same company and Carlton in Lindrick has presumably remained dormant because either Carlton Forest can meet demand on its own or the sand is of inferior quality.

Future assessment

- 7.58 Reserves at Carlton Forest are anticipated to run out by 2010/11. Land to the north-west of the quarry forms a logical extension. The main planning issue concerns the reclamation options. These could comprise a continuation of the current waste disposal operation or, if suitable fill is not available, a low level scheme should be possible
- 7.59 An extension to Carlton Forest Quarry also provides an opportunity to resolve the planning situation at Carlton in Lindrick, which is presumed to be surplus to requirements. If further reserves were to be released at Carlton Forest, then revoking this planning permission would be a reasonable pre-condition.
- 7.60 The main planning issues, which need to be taken into account, are:
 - (a) Any proposal to landfill with inert waste must represent the best reclamation option in accordance with policies in the Waste Local Plan.
 - (b) The need for creating additional waste disposal capacity will need to take account of Policy M4.5 because the timescale will extend beyond that currently considered in the Waste Local Plan.
 - (c) The planning permission at the dormant Carlton in Lindrick Quarry should be revoked and any outstanding reclamation issues resolved.

POLICY M7.5 CARLTON FOREST SAND QUARRY ALLOCATION

12 hectares of land at Carlton Forest are allocated for sand extraction.

SERLBY QUARRY

Background

- 7.61 Serlby Quarry has been active since the 1940's. Production was very small scale until the land ownership changed in 1990. Following a major extension in 1993 extraction has increased to around 80,000 tonnes per annum. The quarry produces asphalt, building and mortar sand.
- 7.62 Although the site has planning permission to landfill with construction and demolition waste it has failed to attract waste in the quantities envisaged when planning permission was granted. As a result, the phased reclamation scheme is proceeding very slowly.

Future assessment

- 7.63 Reserves are anticipated to run out by 2010/11. Due to physical and environmental constraints, the only possible extension to Serlby Quarry would be eastwards, although this would be highly visible from the A614 and is considered unsuitable, especially in view of the slow rates of infilling. The mineral operator has not put forward any proposals.
- 7.64 The loss of this production unit is unlikely to cause any supply problems in view of the lower levels of demand assumed in the Plan. Other quarries in Nottinghamshire should be able to replace the loss of this quarry. No new reserves are therefore allocated to sustain production from Serlby.

MATTERSEY QUARRY

Background

7.65 Mattersey sand quarry has not been worked since the 1970's. Extraction was small scale and most of the quarry has been worked out. The quarry has since become overgrown and is now designated as a SINC.

Future assessment

7.66 The likelihood of this quarry ever being re-opened is very uncertain. However, whatever timescales might apply, there does not appear to be any justification for allowing further extensions of replacement capacity should existing permitted reserves at this quarry be worked out during the plan period. In this event other quarries should be able to meet demand as they do at present.

STYRRUP QUARRY

Background

7.67 Extraction at this small quarry, has been mostly very small scale, with the quarry lying dormant between 1980 and 1992. The quarry has not been reclaimed but the faces are of geological interest. Sand is currently taken off site unprocessed.

Future assessment

7.68 The future requirements of this site are difficult to assess. However, for the same reasons that apply to Mattersey Quarry above, there is no justification for this Plan to make any future provision to sustain production at Styrrup.

Silica Sand

- 7.69 Due to the special features of the silica sand industry and the relatively small number of quarries producing the mineral, it is not possible to provide a landbank in the same way that occurs for other aggregate minerals, an issue that is acknowledged in MPG15 – Provision of Silica Sand in England.
- 7.70 Since 1999 silica sand has only been produced from one quarry in Nottinghamshire, namely Ratcher Hill. Prior to then naturally bonded moulding sand was produced at Berry Hill Quarry, before it was developed for housing. Demand for naturally bonded sand has declined in preference to synthetic sand, and no replacement capacity has been sought. As noted above in Para 7.43 the County Council has resolved to approve an extension to Ratcher Hill Quarry which will provide reserves of both aggregate and silica sand until 2013. The extension at Ratcher Hill probably represents the ultimate limits of the quarry, which suggests that a replacement quarry is the only option.
- 7.71 No potential replacement quarries have been identified by the industry, and neither is it clear if silica sand resources are restricted to certain defined areas within the Sherwood Sandstone resource. In view of the national importance of silica sand it is quite possible that a replacement quarry will be sought and justified before the end of the plan period. The only feasible approach for this therefore, is to allow such proposals to be assessed against the landbank criteria set out below.

POLICY M7.6 SILICA SAND LANDBANK

Planning permission will be granted for silica sand extraction that seeks to maintain an appropriate landbank of permitted reserves provided they do not have an unacceptable environmental or amenity impact.

7.72 Any new replacement quarry is likely to be large, involve a significant investment in processing plant and may also include aggregate sand extraction and processing. The number of options that are both geologically and environmentally suitable for this are probably very limited. Despite the national importance and scarcity of silica sand any proposal that satisfies Policy M7.6, must still demonstrate that it does not have any unacceptable environmental impacts. Where significant environmental impacts are evident regard will be given to the fact that silica sand quarries serve wide national markets. This means that, unlike aggregate sand, there is much less of a case that a replacement quarry should be near Mansfield or even in Nottinghamshire or the East Midlands. For proposals that would create significant environmental concerns, the 'need' for the sand will be assessed against the wider national supply situation.