Staffordshire and Stoke –on-Trent

Minerals Local Plan

1994 – 2006

(Adopted December 1999)

`SAVED' POLICIES EXTENDED BEYOND 28 SEPTEMBER 2007

The policies contained in this document (i.e. not crossed out) are those which the Secretary of State for Communities and Local Government in exercise of the power conferred by paragraph 1(3) of schedule 8 to the Planning and Compulsory Purchase Act 2004 has deemed to be extended beyond 28th September 2007.

PREFACE

This Plan sets out detailed policies and proposals for mineral working in Staffordshire (outside the Peak District National Park) and Stoke on Trent for the period up to 1 January 2006. It aims to provide a framework for the future supply of minerals whilst ensuring that measures are taken to protect the environment.

The Plan has been prepared in partnership with Stoke on Trent City Council because the City Council has become the Mineral Planning Authority for the City of Stoke on Trent as a consequence of Local Government Reorganisation.

The Plan indicates where provision is made for mineral working and protection, the policies against which proposals for mineral development will be assessed and is accompanied by a Code of Practice for site design, operation, restoration and aftercare.

The Plan is comprehensive and includes all minerals of known or potential commercial interest including sand, gravel and crushed rock. The planning of these aggregate minerals has recently been dealt with in the preparation of the Staffordshire Aggregates Local Plan. The Aggregates Local Plan was adopted in March 1996 and became operative in May 1996. The existing Aggregates Local Plan policies or proposals are being saved or have been subsumed within this Mineral Local Plan. No new sand, gravel, crushed rock or borrow pit allocations are promoted in this Plan.

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

This Minerals Local Plan sets the planning framework for the winning and working of minerals within the administrative areas covered by Staffordshire County Council and the City of Stoke on Trent for the period up to 1 January 2006.

The Plan contains a suite of general policies against which all mineral planning applications will be determined. These policies cover matters such as need, environmental protection, transportation and green belt. Specific policies and proposals for minerals which have been or are currently extracted within the Plan area are set out in individual chapters.

Where national guidance advises that it is appropriate, the demand for the mineral, reflected in production rates, is assessed against the supply of the mineral. Where the supply is insufficient to maintain a landbank, allocations for areas of future working have been proposed.

Listed below are the minerals covered in the Minerals Local Plan setting out where a landbank policy is appropriate, the area and duration of the landbank and, where relevant, proposals for future working.

Chapter	Mineral	Landbank	Allocations
4	Energy Minerals	None - Policy based assessments	None
5	Anhydrite	Site Specific 15 years	MLP Proposal 1: Fauld Mine Area of Search
6	Clay and Shale	Plan Area Wide 15 years	MLP Proposal 2: Walleys Quarry Area of Search*
7	Shale and Limestone for the Cement Industry	Site Specific 15 years	MLP Proposal 4: Cauldon Shale Quarry Area of Search
8	Sand and Gravel	Plan Area Wide 7 years	MLP Proposal 5: Specific Sites: Croxden Pottal Pool Tucklesholme Farm Barton Alrewas South and Whitemoor Haye Leasowes Farm
8	Sand and Gravel borrowpits	None	MLP Proposal 6: Specific Sites: Hammerwich Laney Green

Chapter	Mineral	Landbank	Allocations
9	Limestone (Crushed Rock)	Plan Area Wide 15 years	None
10	Secondary Aggregates	None	None
11	Silica Sand	Site Specific 10 years	MLP Proposal 7: Moneystone Areas of Search
12	Building and dimension stone	Plan Area Wide 15 years	None

The Area of Search allocation at Walleys Quarry* has not been made to meet the requirements of the landbank but to prevent the potential sterilisation of scarce high quality Etruria Formation by a proposed housing allocation in the Newcastle under Lyme Local Plan. Further to this, MLP Proposal 3 of the Plan designates Mineral Safeguard Areas (Inset Maps 7-10) to safeguard remaining Etruria Formation resources in North Staffordshire and the City of Stoke on Trent.

While the Plan aims to provide an adequate supply of minerals to industry it also acts as a guide to the people of Staffordshire and Stoke on Trent as to where in the Plan area minerals are likely to be extracted. However, there may be exceptional circumstances which justify the release of minerals beyond permitted and allocated sites and such proposals will have to be considered on their merits.

The extraction of minerals in the proposed allocations will still be subject to planning approval and proposals will be assessed against the suite of policies contained in the Plan.

To assist in setting high standards of mineral site design, operation, restoration and aftercare, the Plan has attached to it a Supplementary Planning Guidance in the form of a Code of Practice for Mineral Development (Appendix 5) which mineral operators should have regard to when preparing planning applications and operating sites.

CHAPTER 1

INTRODUCTION

CHAPTER 1

INTRODUCTION

The Importance of Mineral Extraction

1.1 Staffordshire and Stoke on Trent form part of the West Midlands Planning Region (also including Shropshire, Hereford and Worcester, Warwickshire and the former West Midlands County), and occupy in total 970 square miles. They are geographically diverse; from the limestone uplands in the north-east, much of which lies within the Peak District National Park, through the productive farmlands of the Vale of Trent, to the ancient woodlands of Needwood Forest and the Cannock Chase Area of Outstanding Natural Beauty. The County also contains the major conurbation of Stoke on Trent and Newcastle under Lyme. In the south the County is influenced by the West Midlands conurbation, particularly by pressure for development.

1.2 Staffordshire County Council and the City of Stoke on Trent are responsible for mineral planning in their respective areas with the exception of an area in the north east which falls within the Peak District National Park where mineral planning is the responsibility of the Peak National Park Authority.

1.3 The mineral resources reflect the complex geological and geomorphological history of the area over the last 340 million years. These events produced a wide range of rock types, mainly sedimentary, either exposed at the surface or found at relatively shallow depth beneath a cover of younger sedimentary rocks, including superficial (unconsolidated) deposits. These older sediments were laid down in a variety of environments and climatic conditions very different from those existing in the area today. Following deposition, the sediments were altered and hardened and now form the major part of the mineral resources of the Plan area. Table 1 below summarises the mineral resources of the Plan area.

1.4 A wide range of minerals has been produced in the Plan area including: -

- deep mined and opencast coal;
- clay and shale;
- limestone;
- anhydrite;
- silica sand;
- building and dimension stone;
- sand and gravel

In 1996 there were over 100 permitted mineral sites. It is estimated that in 1995 about 13 million tonnes of minerals were produced in total compared to 14 million tonnes in 1993.

Table 1 : Mineral Resources

Period	Stratigraphical Series	Dominant Strata	Extracted Rock/Mineral
QUATERNARY	**Drift**		
	Holocene	Terrace Deposits	Sand and Gravel
	Pleistocene	Fluvioglacial Deposits	Sand and Gravel
TRIASSIC	**Solid Geology**		
	Mercia Mudstone Group	Mudstone	Salt (Brine), Gypsum and Anhydrite, and Common Clay
	Sherwood Sandstone Group	Sandstone	Building Stone, Moulding Sand and Crushed Sandstone for Aggregate
UPPER CARBONIFEROUS	Upper Coal Measures	Coal, Mudstone, Siltstone and Sandstone	Coal, Fireclay, Common Clay and Building and Dimension Stone
	Productive Coal Measures	Coal, Mudstone, Siltstone and Sandstone	Coal, Fireclay and Building and Dimension Stone
	Namurian Series	Sandstone and Mudstone	Silica Sand, Mudstone (Shale) for Cement Manufacture and Building and Dimension Stone
LOWER CARBONIFEROUS	Dinantian Limestone Series	Limestone and Mudstone	Limestone for Aggregates, Chemical Industry and Cement Manufacture

Footnote: Ordovician and Permian strata, together with localised igneous intrusions, also outcrop but are not known to contain significant quantities of economic deposits and have rarely, if ever, been exploited in the post war era.

1.5 In terms of economic geology the Plan area can be divided into two broad belts of interest, one in the north and one in the south.

1.6 **The northern belt** includes the North Staffordshire Coalfields. The Productive Coal Measures have traditionally supported a major coal industry but with recent rationalisation of the industry only three underground mines were continuing production in April 1997. Opencast coal mining has been a significant feature of this area. The brick, tile and ceramic industry mainly utilises clay from the Etruria Formation which overlies the Productive Coal Measures. This remains an important industry in the "Potteries" particularly because of the high quality of the products produced from the mineral e.g. engineering bricks. The Sherwood Sandstones are

a significant source of sand and gravel and the Hollington Formation and Millstone Grit are worked for building stone. The Millstone Grit is also an important resource for the extraction of Silica Sand used in the glass and foundry industry. The Carboniferous Limestone close to the boundary with the Peak District National Park is exploited for aggregates and cement manufacture.

1.7 **The southern belt** includes the Cannock Coalfield. There are now no active deep mines exploiting the coal and in contrast to previous extensive opencast coal extraction in the area, only one site is now operational. As in the north the Productive Coal Measures are overlain with Etruria Formation which is used for the manufacture of bricks and tiles. The Sherwood Sandstone, river terrace gravels of the Trent and Tame Valleys and fluvioglacial deposits in the south west are exploited for aggregate.

1.8 With the exception of the Fauld Mine in East Staffordshire which currently produces anhydrite for use in the cement industry, the occurrence of other minerals of economic interest in the central zone is limited.

1.9 National Government encourages the development of indigenous mineral resources with the broad objectives of promoting economic growth, encouraging competition and assisting in the creation and maintenance of employment. Minerals provide raw materials for industries within the Plan area the West Midlands and the United Kingdom and the minerals industry generates secondary industries thus contributing to the overall level of economic activity and providing opportunities for employment. To illustrate the economic importance of the minerals industry, the Census of Employment 1991 indicated that about 10,000 jobs were provided in mining, the manufacture of structural clay products and refractory goods, cement, lime and plaster, glass and ready mixed concrete. In addition minerals contributed towards sustaining about 40,000 jobs in the construction, civil engineering and transportation industries and, of course, in ceramics manufacture.

1.10 The minerals industry is also a significant land user and landowner and its activities contribute towards the character and quality of the environment. In 1994 about 4,000 hectares of land had planning permission for surface mineral workings in the Plan area. In addition 24,000 hectares has planning permission for underground working, principally coal.

1.11 The continued demand for raw materials suggests that the pressure for mineral extraction will remain. This development pressure must be considered in the context of other environmental forces for change including the reduction of adverse impacts on the environment and amenity caused by mineral development, the positive benefits and improvement which may be bought about by mineral development and sustainable development objectives.

Mineral Planning and the Minerals Local Plan

1.12 The planning control of mineral development is achieved through an hierarchy of mechanisms. These include European directives, national legislation, national and regional planning guidance, the Development Plan, the development control process (including appeal procedures), enforcement, monitoring and review.

1.13 The Mineral Planning Authorities are required to make appropriate provision for mineral development whilst taking into account the supply of minerals, and the need to protect people, transportation systems or the environment. The MLP uses the terminology "Unacceptable

Adverse Impacts" to encompass the impacts caused by mineral development on these last three aspects. The policy framework for achieving this balance is provided by the development plan.

1.14 The Planning and Compensation Act 1991 (1991 Act) requires that a comprehensive Minerals Local Plan (hereinafter referred to as the MLP) be prepared. The MLP, therefore, will provide guidance for all minerals within the Plan area for mineral planning purposes (excluding the Peak District National Park). The MLP is required to cover a minimum period of ten years. In fact it deals with a twelve-year period from the beginning of 1994 to 1 January 2006. This time period would ensure that the counties of the West Midlands Region are covered by Mineral Local Plan policies, currently in varying degrees of preparation, dealing with a broadly similar end date.

1.15 The scope of the MLP includes Aggregates in order to be comprehensive and compliant with the requirements of Government guidance and legislation.

1.16 The MLP conforms with, develops and supplements, existing mineral policies in the approved Structure Plan. The MLP has also been prepared having regard to international, national and regional policy guidance. The policies set out in this Plan will provide a comprehensive and clear policy framework within which development control decisions will be taken. There are also 'proposals', which allocate defined land as specific sites for mineral development, as areas of search, or as mineral safeguard areas. In order to keep the MLP up-to-date it will be reviewed every 5 years or so in line with Government advice to take account of changes in supply and demand, and any revised international, national or regional policy guidance which may have been issued.

Objectives of the Minerals Local Plan

1.17 Minerals are an important national resource. They can however only be worked where they occur and the nature of mineral working is such that extraction can have more impact on the environment, sometimes of longer duration, than other forms of development. Minerals are a finite resource and in this context the principle of sustainability is becoming an increasingly important planning consideration. Generally the most accessible and economically viable mineral deposits have been exploited first and consequently minerals remaining in the ground are becoming increasingly constrained by many factors such as mineral quality, access, built development, the environment and other development pressures. Public concern has grown and is still growing for the protection of the environment. The balancing of competing interests is becoming increasingly difficult and controversial and it is the objective of the MLP to be an important tool in helping to minimise these conflicts. Where conflicts arise between plans then national guidance indicates that the most recently adopted plan takes precedence.

1.18 The policies and proposals set out in the MLP are designed to accord with the objectives of sustainable development as stated in Paragraph 35 of MPG1 as set out below:-

"(i) To conserve minerals as far as possible, whilst ensuring an adequate supply to meet needs;

(ii) To ensure that the environmental impacts caused by mineral operations and the transport of minerals are kept, as far as possible, to an acceptable minimum;

(iii) To minimise production of waste and to encourage efficient use of materials, including appropriate use of high quality materials and recycling of waste;

(iv) To encourage sensitive working, restoration and aftercare practices so as to preserve or enhance the overall quality of the environment;

(v) To protect areas of designated landscape or nature conservation value from development, other than in exceptional circumstances and where it has been demonstrated that development is in the public interest;

(vi) To prevent the unnecessary sterilisation of mineral resources."

The Mineral Planning Authorities have appraised the policies in the MLP against the objectives of sustainable development set out above to ensure that the appropriate balance is struck in this context between the social, environmental and economic effects of development. Each policy and proposal was assessed against the six criteria listed above and a scoring system devised to determine the level of impact on the six criteria. The notation system was: +1 for a beneficial impact, 0 for insignificant impact, -1 for adverse impact and ? for uncertain impact. The assessment process was carried out at each stage of Plan preparation. The result was that none of the policies or proposals had an overall negative score. As such the assessment confirmed that the body of policies met the objectives of sustainable development.

Plan Contents

1.19 The MLP consists of a Written Statement including plans, proposals maps and appendices. The first two chapters of the Written Statement introduce the background to the Plan. Chapter 3 sets out comprehensive general policies. Chapters 4 to 13 deal with information, issues and policies relating to specific minerals. Chapter 14 deals with the implementation of the Plan and monitoring. Map 1 is a Composite Proposals Map. The location of mineral resources, proposals and environmentally important areas within the coalfields are set out on a series of plans and inset maps.

The Process

1.20 Approval for the preparation of the MLP was given by the County Council in June 1993. This was followed by the publication of the Plan Brief. At the same time questionnaires were sent out to existing mineral operators and interested parties to establish the current situation regarding mineral operations in the Plan area and to assess the likely demand for the release of sites for future extraction. The Consultation Draft Plan was subject to public consultation during February, March and April 1996. The comments were taken on board and the Deposit Draft MLP was published in April/May 1997. A Public Inquiry was held into the outstanding objections in June/July 1998.

MAP 1

CHAPTER 2

POLICY BACKGROUND AND THE ENVIRONMENT

CHAPTER 2

POLICY BACKGROUND AND THE ENVIRONMENT

THE NATIONAL FRAMEWORK

2.1 The Town and Country Planning Act 1990 as amended by the Planning and Compensation Act 1991 (The 1991 Act), imposes a mandatory requirement on Mineral Planning Authorities to "*prepare for their area a plan to be known as a Minerals Local Plan*" which shall contain "*a written statement formulating the Authority's detailed policies for their area in respect of development consisting of the winning and working of minerals*...". National policy guidance is set out in a series of Planning Policy Guidance notes (PPGs) and Mineral Planning Guidance notes (MPGs). Of particular relevance amongst these with regard to the role of the Development Plan and guidance on mineral local plan preparation are PPG1 (General Policy and Principles, February 1997), PPG12 (Development Plans and Regional Planning Guidance, February 1992) and MPG1 (General Considerations and the Development Plan System, June 1996).

The Role of the Development Plan

2.2 PPG1 confirms the primacy of the Development Plan. The MLP should provide an important means of reconciling conflicts between the need for mineral development and the need to protect the environment. PPG12 reaffirms this plan-led approach stating that development control decisions must accord with the Development Plan unless material considerations indicate otherwise (1990 Act, Section 54A). The Development Plan consists of the approved Structure Plan and adopted County and District Local Plans. The weight given to any plan forming part of the Development Plan will depend on the stage of preparation, age and relevance.

Sustainable Development

2.3 The principle of Sustainable Development has been adopted by National Government through three primary documents, "This Common Inheritance", "Sustainable Development - The UK Strategy" and "Making Waste Work". PPG1 and PPG12 both refer to the need for local plans to contribute towards ensuring that development and growth are sustainable. The broad and often quoted definition of Sustainable Development is:

"*ensuring that the needs of the present are met without compromising the ability of future generations to meet their own needs*" Our Common Future, 1987.

Guidance for Local Plan Preparation

2.4 PPG12 paragraph 3.11 states that Mineral Local Plans should:

(a) "*carry forward policies which provide for the supply of minerals and for ensuring the required degree of environmental protection*", and

(b) "*indicate those areas where provision is made for mineral working and the disposal of mineral wastes and those areas where mineral resources are to be safeguarded for future working*";

and can also set out:

(c) "*development control criteria that will be applied in considering applications for mineral working, and requirements for restoration and aftercare of such sites*".

2.5 MPG1 sets out the general considerations relating to minerals planning. It emphasises that minerals "*are important national resources which make an essential contribution to the nation's prosperity and quality of life*" (paragraph 2) and indicates the Government's commitment to sustainable development as a guide to future policy (paragraph 4). These factors may mean there are strong conflicts of interest and the MLP is an instrument for examining and minimising these conflicts through the preparation and implementation of its policies and proposals.

2.6 The MLP has taken a flexible approach to making provision for future mining having regard to the different types of mineral, the level of information available regarding the deposit, the urgency and availability of forecasts of demand and pressure from competing land uses.

2.7 In addition to MPG1, which sets out the general principles of mineral planning, there are a number of other MPGs which deal with specific issues relating to particular minerals, for instance MPG3 on Coal Mining and Colliery Spoil Disposal, MPG10 on Raw Materials for the Cement Industry and MPG15 on the Provision of Silica Sand in England. This guidance has been taken into account and is referred to in more detail in the relevant mineral chapters.

THE REGIONAL FRAMEWORK

2.8 Regional Planning Guidance (RPG11) for the West Midlands was published in September 1995. It recognises the importance of minerals in relation to promoting economic growth, creating and maintaining employment and supporting the construction industry. However, mineral planning must also reflect the objectives of sustainable development.

2.9 RPG11 reinforces national guidance regarding a wide range of issues that have been taken into consideration during the preparation of this MLP.

THE LOCAL FRAMEWORK

The Staffordshire Structure Plan 1986-2001

2.10 The strategic context for the preparation of the MLP is contained in the Staffordshire Structure Plan 1986-2001. This document was approved by the Secretary of State for the Environment and became operative on 3 April 1991 and is currently being reviewed.

2.11 The approved Structure Plan deals with the Plan period to 2001. The MLP deals with the period to 2006. There is, therefore, no existing strategic policy guidance for the period 2001 to 2006. The Structure Plan Review, which deals with the period 1991 to 2011, will provide the necessary strategic framework in due course. The current Structure Plan policies for minerals

require updating to accord with, for example, more recent national policy guidance. The County and City Council need to provide an up-to-date strategic context for the period 2001-2006, therefore some strategic policies have been included within the MLP.

The Sand and Gravel Review 1975

2.12 This Review was adopted in 1975 and formed an amendment to the Development Plan for the County of Stafford approved in 1958. The unimplemented allocations in the Review were re-evaluated during the preparation of the Staffordshire Aggregates Local Plan referred to below. Now that the Aggregates Local Plan is adopted the outstanding provisions of the Sand and Gravel Review by virtue of Aggregates Local Plan Proposal 2 cease to have effect and, therefore, no further reference is made to the Sand and Gravel Review in the MLP.

The Staffordshire Aggregates Local Plan 1989-2001

2.13 The Aggregates Local Plan (hereinafter referred to as the ALP) dealt with the primary aggregates of sand, gravel, crushed rock (limestone) and secondary aggregates. Its purpose was fourfold:-

1. to provide for the release of adequate land to meet Staffordshire's share of regional and national aggregate production to the year 2001;

2. to direct new or extended aggregate workings to those locations where they would have the minimum impact on the amenities and environment of the County;

3. to seek on all new or extended sites, and wherever practicable on existing sites, to minimise environmental impact during operations and maximise gain in terms of environmental quality/amenities and restoration; and

4. to assist the District Councils with the preparation of Local Plans by setting out the implications and effects of aggregates working on other land use policy.

2.14 The Draft Aggregates Local Plan was placed "on deposit" in January 1992. A Public Inquiry was held between November 1992 and February 1993 to consider objections made to the Draft ALP. The Inspector's Report was received in December 1993. The Statement of Decisions, Proposed Modifications and Reasons following consideration of the Inspector's Report were placed "on deposit" in June 1994. Staffordshire County Council considered representations regarding that deposit document in November 1994. Arising from these considerations a further Public Inquiry was held in July 1995. Staffordshire County Council adopted the ALP in March 1996 and it became operative in May 1996. The Aggregates Local Plan has been superseded on the adoption of the Minerals Local Plan.

The Waste Local Plan

2.15 A Plan Brief for the Waste Local Plan was distributed for consultation purposes in October 1993 and the Draft Waste Planning Strategy was published in January 1999. The Waste and Minerals Local Plans are being prepared and will be adopted as two separate local plans as not all mineral sites are suitable for waste disposal and not all waste disposal takes place at mineral sites.

Districtwide Local Plans

2.16 The 1991 Act made it mandatory for all local planning authorities to prepare district wide local plans. The City of Stoke on Trent has an adopted City Plan. Staffordshire comprises eight districts, each Council of which is at a different stage in the statutory plan preparation/review process. Until the districtwide local plans are approved/adopted, the relevant existing local plans remain in force. The district wide local plans set out detailed policies and specific proposals for the development and use of land, with the exception of minerals and waste. They also define in detail areas of environmental significance such as Special Landscape Areas, Green Belt and areas of nature conservation interest. Where appropriate these local plans have been taken into account in preparing the MLP. It should be noted that where there is a conflict between a district local plan and the MLP, the more recent Plan prevails.

Other Planning Guidance

2.17 In addition to statutory local plans a number of non statutory Countywide environmental initiatives have also been embarked upon including Supplementary Planning Guidance relating to landscape policy which will be a material consideration in due course during the exercise of mineral planning control.

CHAPTER 3

GENERAL POLICIES

CHAPTER 3

GENERAL POLICIES

INTRODUCTION

3.1 This chapter deals with general aspects of mineral development. The individual policies set out in the MLP should not be read in isolation, but in the context of all relevant development plan policies.

3.2 The chapter starts by addressing policies which deal with the wise management of mineral resources. Consideration is then given to the information or approach required to ensure that planning applications are dealt with expeditiously and that development can be properly controlled. Policies are also advanced to deal with specific aspects of planning control. Finally, the MLP approach to making future provision for mineral development is spelt out. In the policies, the phrase "mineral development" includes not only winning and working of mineral, its preparation or processing, ancillary industrial development, and the site preparation and restoration activities, but also the creation of recycling facilities, such as plant which produces and processes secondary aggregate.

THE NEED FOR MINERALS

3.3 Mineral resources are concentrations of raw minerals and derived substances in, on or under land of a kind ordinarily worked by underground or surface mining. The availability of minerals is crucial to support our modern way of life. They are used as a raw material for our built environment and for many other products upon which society depends. They are also used for the generation of energy. The working of minerals makes an essential contribution towards the local, regional and national economic prosperity.

3.4 The Plan Area contains extensive mineral resources. The broad distribution of known mineral deposits of current or potential commercial interest is shown on Plans 1 and 2. In geological terms these plans show the extent of inferred resources which have been defined from available geological information. Where a mineral has been evaluated by drilling or other appropriate means and the viability of extraction has been proven having regard to the technological, geological, marketing, environmental and other relevant considerations that appertain at a point in time it may be referred to as a mineral reserve. The MLP does not attempt to define the extent of mineral reserves. However, the MLP does refer to the term 'reserve' which in land use planning terms denotes identified mineral deposits for which valid planning permission for extraction exists.

3.5 MPG1 indicates that each Mineral Planning Authority should make an appropriate contribution to meeting local, regional and national needs which reflects the nature and extent of minerals in its area and other relevant planning considerations.

PLAN 1

3.6 The development of minerals can involve substantial financial investment. It may take many years to bring mineral projects forward from initial inception to full production and the demands made on the extractive industries are often cyclical. MPG1 requires that mineral local plans should include policies for the continuity of production and for the maintenance of landbanks for non-energy minerals (a mineral landbank is a stock of valid planning permissions). In this manner the market can be supplied from the landbank without further permissions being granted. New sites can be commissioned within the landbank period such that reserves which are worked can be replenished with a rolling programme of new permissions being brought forward having regard to the provisions of the Development Plan.

3.7 National planning guidance advises that landbank considerations are not appropriate for energy minerals including coal, oil, gas or peat. For other minerals e.g. aggregates and raw material for the cement industry, national guidance is given regarding a desirable minimum landbank period and a time range for which a landbank may be considered appropriate. In general terms the size of the landbank would be linked to the scale of capital investment at the mine, quarry or associated plant so that security of supply can support high costs of investments and the long amortisation period associated therewith. There are some minerals, for example clays, for which no specific national guidance is provided.

3.8 Generally applicants do not have to prove need for specific mineral developments or evaluate alternative sources of supply in support of their application. However, the Mineral Planning Authorities may consider need where an Environmental Statement is required, where material planning objections are not outweighed by material planning benefits or where need is advanced by the applicant in support of the application. The absence of a specific landbank policy or shortfall in landbank provision for a particular mineral should not be taken to imply that need would automatically override planning objections to specific proposals. Neither should the existence of such a landbank policy be taken to directly constrain the life of a specific project. The following policy sets out the approach to that assessment which the Mineral Planning Authorities will adopt.

~~MLP~~ ~~**Policy 1:**~~

~~**Where the need for minerals is at issue, planning applications for mineral working will be considered in the context of:**~~

~~**1. the landbank**~~

~~**2. the projected requirements for the mineral;**~~

~~**3. national and regional guidance and the Development Plan;**~~

~~**4. the quality and beneficial properties of the mineral in relation to the proposed uses;**~~

~~**5. the availability of alternative sources of supply within and outside the Plan area; and**~~

~~**6. the amortisation of mineral preparation and processing plant.**~~

3.9 Chapters 5 to 9, 11 and 12 address the issue of mineral landbanks in relation to the principal minerals of commercial interest.

3.10 The County and City Councils will contribute towards the provision and maintenance of landbanks whilst seeking to minimise the adverse impacts of mineral development on the environment, transportation systems or amenity of people by:-

1. promoting mineral landbank policies in the MLP;

2. allocating sites in the MLP;

3. evaluating planning applications in the light of MLP Policies;

4. monitoring the stock of existing permitted reserves;

5. monitoring mineral production levels;

6. reviewing the MLP in due course; and

7. preventing sterilisation of mineral resources through the application of Mineral Consultation Area Policy.

However in the final analysis landbanks can only be maintained if planning applications are brought forward by the minerals industry in the right place and at the right time.

3.11 The Mineral Planning Authorities have defined appropriate landbank periods having regard to a number of considerations including current national planning guidance and the existing Development Plan. The MLP, therefore, seeks to maintain an appropriate landbank for non-energy minerals as set out in MLP Policy 2. Future changes in national or regional planning guidance, new information about mineral resources and new planning permissions will be material to the ongoing implementation of landbank policy.

3.12 The determination of an appropriate mineral landbank will depend upon a number of factors including the nature and extent of the mineral, national and regional planning guidance, mineral production levels and the level of investment in mineral preparation facilities and ancillary industrial development as well as environmental, amenity and other relevant considerations. The Policy below sets out the approach to the maintenance of landbanks in general. The sizes of landbanks relating to individual minerals are defined in each relevant mineral chapter.

MLP **Policy 2:**

The Mineral Planning Authorities will maintain appropriate landbanks for non energy minerals within the Plan area throughout and at the end of the Plan period in line with national and regional policy guidance compatible with the capacity to absorb further mineral development without unacceptable adverse impacts upon people, transportation systems or the environment.

THE COMPREHENSIVE DEVELOPMENT OF MINERALS

3.13 The Mineral Planning Authorities may wish to consider a proposal as part of a comprehensive development programme to work the wider resource area to satisfy longer term demands for the mineral and to help achieve the objectives of sustainable development.

3.14 Inefficient working of available resources can lead to unnecessary sterilisation of mineral reserves and a working scheme which produces greater environmental damage than need otherwise have been the case, so failing to meet the aims of sustainable development. An incremental, piecemeal approach to working can prolong disturbance, delay restoration or disturb areas which may have recently been restored and create uncertainty and confusion for local communities. Therefore every effort should be made by the mineral operator to establish the extent of available mineral deposits drawing upon documentary evidence, plans, site investigations and any other available information.

~~MLP~~ ~~Policy 3:~~

~~**Having regard to best available information, planning applications for mineral working will be expected to demonstrate the relationship between the proposed excavation area and the wider resource area of which it forms part, and indicate to what extent the proposal forms part of a comprehensive strategy to work the wider resource area.**~~

THE CONSERVATION OF MINERALS

3.15 Because of the limited availability of certain minerals and difficulties in bringing forward sites which can be worked in an environmentally acceptable manner, it is important to ensure that minerals are not needlessly sterilised or their extraction hampered by other future development, including local plan proposals, if at all possible.

3.16 The safeguarding of minerals has been achieved primarily through the application of general policies in the Structure Plan (Policies 121 and 122). MPG1 states that it is preferable to achieve safeguarding through specific local plan policies. Where conflict arises between minerals and other development it is desirable to secure prior extraction of the mineral before the other development commences providing this can be achieved within a reasonable timescale and in an environmentally acceptable manner. In certain circumstances it may well be that protection of important mineral resources may take precedence over allowing development to proceed. On the other hand the importance attached to securing other development may take precedence. Each case must be judged on its merits. The important mineral resources are located within Mineral Consultation Areas, as notified to the Local Planning Authorities (and in the process of being updated) and Mineral Safeguard Areas as shown on Inset Maps 7-10.

~~MLP~~ ~~Policy 4:~~

~~**Important mineral resources should not be permanently sterilised or unduly restricted by other forms of development occurring on or in close proximity to identified mineral resources or allocated, existing or permitted mineral workings. The safeguarding of these resources does not imply that permission for mineral working will automatically be granted. When other development is proposed the mineral should, where practicable, be extracted before such development commences provided that the winning and working of minerals can be undertaken in an environmentally acceptable manner, within a reasonable timescale, and that the site can be restored to a condition which does not prevent the approved afteruse taking place.**~~

3.17 In accordance with statutory requirements, in 1981 Staffordshire County Council notified the District Planning Authorities of areas, known as Mineral Consultation Areas (MCAs), in which development is likely to affect or be affected by the winning and working of specified minerals. Within MCAs Staffordshire County Council are a statutory consultee (with the exception of the City of Stoke on Trent) in respect of selected applications for planning permission to be determined by the District Councils. In addition Staffordshire County Council is also a statutory consultee in respect of Districtwide Local Plans. Since 1981 additional geological information has become available, mineral sites have been restored and the extent of the built up area has materially changed. Staffordshire County Council will update Mineral Consultation Areas notified to District Councils based on the latest available information. Where an application is submitted for development which may cause mineral within MCAs to be sterilised then the applicant is responsible for proving the mineral. The published geological maps prepared by the British Geological Survey indicate that mineral is likely to be located within the MCA but more documentary evidence would be required to prove its existence, quantity and quality. Acquiring this additional information may involve site investigations and/or drilling. Policy 5 does not apply to mineral extraction development.

MLP **Policy 5:**

Development within Mineral Consultation Areas should not sterilise or seriously hinder the extraction of mineral deposits of economic value which are capable of being worked in accordance with MLP Policy 4.

Where the proposed development falls within the Mineral Consultation Areas and may have a significant impact upon mineral resources then the responsibility rests with the prospective developer to prove the existence or otherwise, quantity and quality of the mineral prior to the determination of the planning application.

3.18 Notwithstanding the general protection afforded by the above policy, in the case of the particularly important mineral resource of the Etruria Formation a higher degree of protection is required and this is achieved by the designation of Mineral Safeguard Areas (MSAs) as proposed by MLP Proposal 3 and shown on Inset Maps 7-10. The MSAs are a designation where

for reasons of scarcity and/or development pressure and/or economic and locational importance, the protection of minerals from the threat of sterilisation by built or other forms of development is seen as a very important planning consideration. Designation of MSAs should not be taken to imply that working the mineral is viable, that planning applications to work the resources would necessarily be granted or that they would be worked within the plan period. Each case would be considered on its merits. Where an application is submitted for development which may cause mineral within MSAs to be sterilised then the applicant is responsible for proving the mineral. The geological maps indicate that mineral is likely to be located within the MSA but more documentary evidence would be required to prove its existence, quantity and quality. Acquiring this additional information may involve site investigations and/or drilling. The following policy would not apply in respect of mineral extraction development.

MLP **Policy 6:**

Development within Mineral Safeguard Areas should not sterilise or seriously hinder the extraction of mineral deposits of economic value which are capable of being worked in accordance with MLP Policy 4.

Where the proposed development falls within the Mineral Safeguard Areas and may have a significant impact upon mineral resources then the responsibility rests with the prospective developer to prove the existence or otherwise, quantity and quality of the mineral prior to the determination of the planning application.

3.19 Mineral deposits are finite and are depleted as they are worked. To reduce pressure on mineral resources it is sensible to maximise the use of alternative materials, including wastes, where this is practicable and beneficial and subject to securing the necessary waste management licence, where appropriate. The County and City Councils will, when designing a development project, investigate the use of waste materials, recycled materials and industrial by-products as well as natural won materials where these could meet the necessary technical specifications.

3.20 Notwithstanding the use of alternative materials, primary minerals will continue to be required and where they exist they must be used in an effective and efficient manner in accordance with a sustainable approach to minerals. This may include the minimisation of production of wastes, reuse and recycling of minerals and their products and appropriate use of high quality minerals, wherever this is practicable. Securing these goals can only be achieved if all those involved in producing and using minerals and their products make a commitment to ensuring that development becomes more sustainable. All those concerned with the extraction and consumption of minerals should aim, insofar as they are able, to ensure the maximisation of reuse and recycling of minerals and their products and that higher quality minerals will not be used where lower quality minerals are available and will suffice for the purpose.

3.21 MPG6 and "Making Waste Work" indicate the Government's commitment to the recycling of aggregates and products manufactured from aggregates in the national interest. MLP Policy 7 refers to development projects including roadworks and to all natural won materials including borrow pits. Some of these uses, in particular Part 3 of MLP Policy 7, may require either a waste management licence or an exemption from licensing.

MLP **Policy 7:**

The Mineral Planning Authorities will encourage the efficient use of finite mineral resources and alternative materials where practicable by:

1. **the appropriate use of high quality minerals;**

2. **minimising the production of mineral waste;**

3. **the reuse and recycling of minerals and their products;**

4. **the use of alternative lower quality or waste materials, such as colliery shale, metallurgical slags and pulverised fuel ash.**

3.22 The working of one mineral can lead to the disturbance of other economically important minerals. For example, fireclays may be recovered as part of coal mining operations. Conversely, coal may be recovered ancillary to the working of clays. To avoid unnecessary sterilisation of such valuable deposits it is important for mineral operators to explore the concurrent recovery and use of all minerals as part of the extractive operation.

MLP **Policy 8:**

Proposals for mineral working should secure the recovery and use of all economically viable minerals as part of a mining operation providing this can be undertaken without causing an unacceptable adverse impact, within a reasonable timescale and without prejudicing the comprehensive and satisfactory restoration of the site.

PLANNING APPLICATIONS

3.23 To ensure that future mineral development is properly controlled and takes place in an environmentally acceptable manner, the determination of planning applications will have regard, where appropriate, to:-

1. the planning policy context;

2. the need for the development;

3. the impact of the proposals upon people, transportation systems or the environment.

4. any material planning benefits of the proposal; and

5. any other material considerations.

3.24 To assist in the design of mineral working and restoration proposals and preparation of planning applications a Code of Practice for Mineral Development has been prepared and is set out in Appendix 5 of the MLP. The Code of Practice does not have the special status of development plan policies in determining planning applications. However it is supplementary planning guidance and will be treated as a material consideration in making such decisions.

3.25 The implementation of the Code will help to secure high standards of operation, restoration and aftercare. Operators of existing sites are also urged to implement the provisions of the Code and take the Code on board when applying for planning permission to extend or modify their operations.

3.26 The role of restoration is vital to ensure that the long-term impact of mineral working on the environment is kept to a minimum. A critical factor in respect of minimising impacts is the limitation of the area and duration of working at any one time. This can be achieved by progressive extraction and restoration.

3.27 Restoration schemes should be designed to take account of the surrounding landscape, the prior agricultural quality of the land, opportunities for positive provision for nature conservation, recreation or amenity after-uses and proposals for forestry expansion. The success of restoration schemes is dependent on management of the land to ensure that the afteruse is satisfactorily established in a sustainable manner. Aftercare proposals for agriculture, forestry, amenity and nature conservation schemes will need to provide for up to five years rehabilitation although a longer timescale may be required for certain afteruses.

3.28 Trees, woodland and hedgerows are ecologically important and may make a significant contribution towards the landscape quality of an area which has emerged over many years and whose character and diversity may be difficult, if not impossible, to recreate within a short timescale.

3.29 The environmental benefits of woodland have been recognised by national initiatives, such as the Community Forests Programme (including the Forest of Mercia) and a project to establish a new National Forest located partly in Staffordshire. Locally, Newcastle Borough Council plans to develop community forestry in two Community Woodland Zones. Staffordshire County Council prepared an Indicative Forestry Strategy* to guide new planting to areas where it will be of the greatest value. The preferred areas for forestry expansion which have been identified under the national and local initiatives listed above have been incorporated as closely as possible in the Indicative Forestry Strategy.

* The Indicative Forestry Strategy will be superseded by *Planning for Landscape Change*: *Supplementary Planning Guidance to the Staffordshire and Stoke on Trent Structure Plan 1996 - 2011,* to be formally adopted by the County Council in 2000/2001. This guidance will incorporate a strategic statement on preferred areas for woodland initiatives.

MLP **Policy 9:**

Planning applications should incorporate provision for site restoration and aftercare in accordance with the following principles:

1. **The phased extraction and restoration of mineral operations, wherever practicable, in order to ensure that the period over which the land is in use for mineral development before being restored is minimised;**

2. **Take account of the pre-working character of the site, its surroundings, the landscape setting and, where possible, provide for enhancement of the general quality of the landscape and local environment;**

3. **Make provision for nature conservation, forestry, recreation or amenity after-uses where this is appropriate, and compatible with the Development Plan. Such proposals should include provision for the aftercare of the land for a period of up to five years following completion of restoration or any extended time period agreed between the applicant and/or owner and the Mineral Planning Authority;**

4. **Where the development lies within areas identified for forestry expansion in the Staffordshire Indicative Forestry Strategy, including those in the National Forest, the Forest of Mercia, and Newcastle Community Woodland Zones, the desirability of establishing significant areas of woodland, while avoiding conflicts with other conservation objectives.**

3.30 Where planning permission is granted in respect of mineral development the Mineral Planning Authority will impose planning conditions to ensure the development does not have an unacceptable adverse impact. In areas which are particularly sensitive to mineral operations, the Mineral Planning Authority may impose restrictions on the provisions of the Town and Country Planning General Permitted Development Order.

3.31 In some situations mineral working on a particular site may only be acceptable if certain ameliorative measures are undertaken outside the application area; for example off-site environmental improvements, nature conservation works or off site planting. Similarly there may also be occasions where it will be necessary to secure the after use of a site, long term management, monitoring and control arrangements, or the non-implementation (or further implementation) or modification of existing planning permissions. Where matters cannot be satisfactorily controlled by planning conditions the MPAs will seek an appropriate legal agreement. Matters relating to highway measures are dealt with in more detail in MLP Policies 30 and 31.

MLP **Policy 10:**

Where necessary the Mineral Planning Authorities will seek, by appropriate legal agreements, to control other matters relevant to the development which cannot be covered by planning conditions, including highway requirements, off-site environmental improvements or nature conservation works, management arrangements (over and above statutory aftercare requirements), relinquishment or modification of planning permissions, afteruse, and the provision of long term environmental monitoring and control systems.

3.32 In some areas planning permissions for mineral working may exist which have been granted at different times, for a number of different areas and providing varying levels of control. The determination of further applications may provide the opportunity to review and rationalise existing consents, for example, to secure comprehensive working and restoration of an area. This process is in addition to the statutory review requirements introduced by the Environment Act 1995.

~~**MLP**~~ ~~**Policy 11:**~~

~~**When considering planning applications for mineral development the Mineral Planning Authorities will take the opportunity to review and consolidate existing consents where this is beneficial and can be achieved in agreement with the relevant land/mineral owner and mineral operator.**~~

OTHER RELEVANT CONSIDERATIONS

Proximity to People and Sensitive Locations

3.33 Mineral activities have considerable potential to affect adversely the amenity of neighbouring residential areas and other sensitive locations. For example, proposals may have a detrimental sensory impact upon local residents or damage the fabric of neighbouring structures. Without proper care and supervision by competent and experienced operators such sites may also prove a risk to public safety.

3.34 Sensitive locations may include a variety of developments. The degree of sensitivity of such locations neighbouring proposed mineral development and the significance of the number and location of sensitive developments in relation to the proposed development are matters to be determined on a case by case basis. However, for purely illustrative purposes it could generally be taken to include buildings, residential or otherwise, which accommodate people or processes which would be adversely effected by the proposed operations. It would also extend to uses of open land where the visual qualities and/or quiet relaxation can be enjoyed.

3.35 The appropriate stand off distance between mineral operations and sensitive locations would be dependent upon local conditions and the environmental impact of the proposed operations. Consideration of local conditions should take account of topography and the position

of the proposed development in relation to neighbouring housing or other sensitive locations. Mineral development within 250 metres of a sensitive development will be subject to particular scrutiny to ensure that the environmental impacts of the proposal would not cause an unacceptable adverse impact after taking the proposed mitigation measures into account. In some circumstances, the need for the mineral may also be a material consideration. The circumstances where this would be appropriate are indicated in Policy 1 and its supporting text. There might be some cases where both planning benefits and the need for the mineral would need to be taken into account to offset what would normally be regarded as an unacceptable adverse impact.

MLP **Policy 12:**

Proposed mineral development should not cause an unacceptable adverse impact on sensitive development around (and in the case of underground workings, overlying) or within the sphere of influence of the site, and along proposed external haul routes except where material planning benefits or, where appropriate, the need for the mineral outweighs the material planning objections.

3.36 Some types of mineral operations are particularly unsuitable for location in close proximity to housing and other sensitive locations. Structure Plan Policy 137 identifies opencast coal mining and hard rock quarrying as being of particular concern. Opencast coal extraction and hard rock quarrying development would be unlikely to meet acceptable environmental standards within 150 metres of sensitive locations as indicated in Paragraph 3.34 above. These developments generally involve the removal of consolidated rock strata, together with the use of larger plant and the movement of larger quantities of material than occurs in the extraction of other minerals. This intensity of operations, combined with the use of explosives to loosen material prior to removal, results in greater potential disturbance. Such mining or quarrying operations include all relevant aspects of the winning, working, preparation and dispatch of minerals or other intrusive ancillary activities associated therewith. The existence of this 150 metre figure should not be taken to imply that development beyond the 150 metre zone would automatically not cause an unacceptable adverse impact. It represents the starting point for the consideration of whether a particular proposal may be acceptable or otherwise. Each case will be judged on its merits.

~~**MLP**~~ ~~**Policy 13:**~~

~~**Only in the most exceptional circumstances will opencast coal mining or hard rock quarrying proposals be permitted within 150 metres of any sensitive developments.**~~

The Natural and Cultural Environment

3.37 Whilst attempting to accommodate demands for future mineral working, it is important to ensure that the proposed operations are located insofar as is practicable in areas where they will have the least adverse effect upon the environment and the quality of life and living and working conditions of people.

3.38 MPG1 provides at paragraph 33 that Mineral Local Plans may identify environmentally important areas or features to be protected from mineral development. The degree of protection afforded to such sites and areas will depend on their level of designation/importance, of which there are three categories: international, national and regional/local. The international sites/areas attract the highest degree of protection followed by the national sites. The following suite of policies (14 to 21) accords with this hierarchical approach.

3.39 The identification of specified environmentally important areas should not be taken to imply that areas outside these have no value and will not be protected. In determining a planning application a site assessment will be required in each case to assist in establishing the environmental value of the land and the contribution it makes to the character and appearance of the surrounding area.

3.40 **Internationally Important Sites** : Within the Plan area five Sites of Special Scientific Interest (SSSIs), have been designated in phases 1 and 2 of the Midlands Meres and Mosses **Ramsar Site**. Phase 1: Chartley Moss (Stafford), and Betley Mere (Newcastle-under-Lyme). Phase 2: Aqualate Mere (Stafford), Cop Mere (Stafford) and Black Firs and Cranberry Bog (Newcastle under Lyme).

3.41 The facility is available under European legislation to define sites of international nature conservation value called **Special Protection Areas** (SPAs) and **Special Areas of Conservation** (SACs). There are no SPAs within the Plan area at present but there are 3 candidate SACs which the UK Government have submitted to the European Commission, those being Chartley Moss SSSI (Stafford), Pasturefields Salt Marsh SSSI (Stafford) and Cannock Extension Canal SSSI (Cannock). Candidate SACs will be treated in the same way as designated SACs. These designations can include priority natural habitats and priority species which are protected under the EC Council Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Directive 92/43/EEC). Priority natural habitats are those in danger of disappearance, for which the European Community have a particular conservation responsibility in view of the proportion of their natural range within the EC area. A priority species is one that is endangered. Annexes 1 and 2 of the aforementioned Directive list the priority natural habitats and species concerned.

3.42 With respect to existing or proposed sites of international importance Policy 14 will apply. Where the policy refers to a "proposed site" it means, in the case of SPAs or SACs, a site which has commenced the submission process for E.U. approval, through being recommended to the United Kingdom Government by English Nature and/or submitted to the European Commission by the UK Government. In the case of Ramsar sites it means a site which has been submitted to the UK Government by English Nature.

~~MLP~~ ~~Policy 14:~~

~~Planning applications for mineral development which may affect sites of international importance for nature conservation will be subject to the most rigorous examination and will only be permitted in exceptional circumstances. The sites concerned are existing or proposed:-~~

~~1. Ramsar sites;~~

~~2. Special Protection Areas;~~

~~3. Special Areas of Conservation~~

~~Development not directly connected with or necessary to the management of the site and which is likely to have significant effects on it (either individually or in combination with other proposals) will only be permitted where it can be demonstrated that:-~~

~~(i) there is no alternative solution; and~~

~~(ii) there are imperative reasons of overriding public interest;~~

~~Where the site hosts a priority natural habitat and/or a priority species, development will only be permitted where it can be demonstrated that it is necessary for reasons of human health or public safety or for reasons of primary importance to the environment.~~

3.43 **Nationally Important Sites**: **Sites of Special Scientific Interest** (SSSIs) are sites with geological, geomorphological or ecological characteristics which are of national significance. Previous mineral operations may have exposed the geological/geomorphological feature. SSSIs have been notified by English Nature and may be located on public and/or private land. There are currently over 50 Sites of Special Scientific Interest within the Plan area and further details can be obtained either from English Nature or local planning authorities. Where appropriate, particular consideration will also be given to the impact of neighbouring mineral development on the SSSI, including its hydrological character, and the views of English Nature will be sought. **National Nature Reserves** are SSSIs where management for nature conservation is the primary objective. This is normally achieved through control by English Nature or other approved bodies. There are three current National Nature Reserves at Aqualate Mere; Chartley Moss, Stafford, and Mottey Meadows, South Staffordshire. English Nature has also published, and updates, a **Nature Conservation Review** (NCR) and a **Geological Conservation Review** (GCR). All geological SSSIs are GCR sites. SSSIs which meet NCR and GCR criteria are key sites of national importance.

~~MLP~~ ~~Policy 15:~~

~~Planning applications for mineral development which affect Sites of Special Scientific Interest will be subject to the most rigorous examination.~~

~~Where the site concerned is a National Nature Reserve or a site identified under the Nature Conservation Review or Geological Conservation Review, particular regard will be paid to the individual site's national importance.~~

~~Planning applications for mineral development which would cause any direct or indirect adverse impacts on the national value of a Site of Special Scientific Interest should demonstrate that material planning benefits arising from the proposals outweigh the material planning objections. If the benefits would not outweigh the objections then planning permission will only be granted if the need for the mineral outweighs the material planning objections.~~

3.44 **Scheduled Ancient Monuments** comprise archaeological sites of national significance which are scheduled by the Department of National Heritage; and other sites which, in the opinion of the National Heritage Secretary, are of public interest by reason of their historic, architectural, traditional or archaeological interest. The consent of the National Heritage Secretary is required before works are undertaken to the former category. At February 1995 there were 279 Scheduled Ancient Monuments within the Plan area and further information is available from the County and City Councils. There are no sites in the latter category at present.

3.45 **Listed Buildings** are buildings of special architectural or historic interest which are included in a list compiled or approved by the Secretary of State for the Environment under the Planning (Listed Buildings and Conservation Area) Act 1990. There are over 4,400 Listed Buildings within the Plan area and further details regarding their location and character can be obtained from local planning authorities.

3.46 English Heritage's **Register of Historic Battlefields** includes Blore Heath, Newcastle under Lyme and Hopton Heath, Stafford.

3.47 English Heritage has compiled a **Register of Parks and Gardens of Special Historic Interest** in England. At February 1995 within the Plan area there were 14 notifications at the following locations:- Newcastle under Lyme - Keele Hall and Maer Hall; Stafford Borough - Shugborough, Sandon Park and Trentham; Staffordshire Moorlands - Biddulph Grange and Alton Towers; Stoke on Trent - Hanley Park and Cauldon Grounds and Burslem Park and South Staffordshire - Chillington, Enville, Himley Hall, Patshull Hall and Weston Park.

3.48 A proposed site is one for which there is a recommendation from English Heritage to the Secretary of State that the site be included on the relevant schedule, list or register.

MLP **~~Policy 16:~~**

~~**Planning applications for mineral development which affect the following existing or proposed sites, or their settings, of national importance will be subject to careful consideration:**~~

~~**1. Scheduled Ancient Monuments;**~~

~~**2. Listed Buildings;**~~

~~**3. Registered Historic Battlefields;**~~

~~**4. Registered Historic Parks and Gardens.**~~

~~**Planning applications for mineral development which would cause any direct or indirect unacceptable adverse impacts on the national value of the site should demonstrate that material planning benefits arising from the proposals outweigh the material planning objections. If the benefits would not outweigh the objections then planning permission will only be granted if the need for the mineral outweighs the material planning objections.**~~

3.49 Certain plant and animal species, including wild birds, are protected under the Wildlife and Countryside Act 1981. Some other animals are protected under their own legislation e.g. the Protection of Badgers Act 1992 as amended. The presence of a protected species is a material consideration when a local planning authority is considering a development proposal which, if carried out, would be likely to result in harm to the species or its habitat.

MLP **~~Policy 17:~~**

~~**Planning applications for mineral development which may adversely affect a legally protected species or its habitat will be required to make satisfactory provision for the protection and welfare of the species, or, in exceptional circumstances, for its translocation to a suitable alternative site.**~~

3.50 **Nationally Important Areas** : The designated **Peak District National Park** falls outside the Plan Area. However, adjacent mineral development may affect the setting of the National Park or disturb its environment.

3.51 Cannock Chase, which has a characteristic landscape of heathland and forest, is the only **Area of Outstanding Natural Beauty** (AONB) in the Plan area. In addition to the impact of any mineral development proposals within the AONB, consideration will also be given to how mineral development within neighbouring areas may affect the setting of the AONB or disturb its environment.

3.52 National Parks and Areas of Outstanding Natural Beauty (AONB) are designated by the Countryside Commission, subject to confirmation by the Secretary of State, under the National Parks and Access to the Countryside Act 1949. A primary objective of National Parks and AONBs is the conservation of the natural beauty of the countryside and the landscape. This objective should be reflected by Local Authorities in the preparation of Structure and Local Plans.

3.53 Major developments should not take place in these areas save in exceptional circumstances. Because of the serious impact that mineral developments may have on the natural beauty of these areas, all mineral applications will be subject to the most rigorous examination and should be demonstrated to be in the public interest before being allowed to proceed.

~~MLP~~ **~~Policy 18:~~**

~~**Planning applications for mineral development which affect the following areas of national importance will be subject to the most rigorous examination. Planning applications should include measures to protect and enhance such areas or where damage or loss is unavoidable to provide for reparation measures to safeguard the designated area from a loss of quality or character:**~~

~~**1. the Peak District National Park;**~~

~~**2. the Cannock Chase Area of Outstanding Natural Beauty.**~~

~~**Planning applications should demonstrate that they are in the public interest and consideration will include:**~~

~~**(i) the need for the development;**~~

~~**(ii) the impact of permitting or refusing development on the local economy;**~~

~~**(iii) the availability of alternative supplies and scope for meeting need in some other way;**~~

~~**(iv) impacts on the environment and landscape and the extent to which these can be mitigated by the highest standards of design and siting, including restoration measures;**~~

~~**(v) in the case of extensions, whether enhancement to the local environment would be achieved.**~~

3.54 **Other sites/areas of Cultural and Natural Importance**: The areas listed in MLP Policy 19 are not mutually exclusive and other environmentally important areas, such as a new Regionally Important Geological or Geomorphological site, may be identified during the Plan period which are not specifically referred to in the text or shown on the inset maps. MLP Policy 19 is intended to safeguard a range of areas and sites which, for various reasons, are of high value at a regional, county or local level. Whilst the particular attributes of such sites may

differ, these attributes constitute an essential defined value which is reflected in its recognition and which it is important to conserve. The sites or areas of natural importance comprise features which are of value for their earth science interest, or contain key semi-natural habitats, which frequently provide essential conditions for some of Staffordshire's most uncommon plant and animal species. If destroyed, such sites may be impossible to recreate and, as such, are regarded as part of the nation's "critical natural capital".

3.55 **Country Parks** are approved by the Countryside Commission in consultation with the appropriate local planning authority and their ecological, landscape and recreational value to the public should be protected. The County, City and District Councils set aside other areas for public recreation which may range from major facilities such as Bathpool Countryside Area, Newcastle under Lyme to small picnic areas or play facilities. All these areas will be afforded protection under the terms of MLP Policy 19. Further details regarding public recreation areas can be obtained from local planning authorities.

3.56 **Local Nature Reserves** are designated by the local planning authorities with the agreement of English Nature under the National Parks and Access to the Countryside Act 1949. Further details regarding Local Nature Reserves can be obtained from the local planning authorities.

3.57 Within the Plan area Staffordshire County Council in conjunction with Staffordshire Wildlife Trust, the District Councils and other interested parties have carried out surveys identifying **Sites of Biological Importance**. Within the Plan area Staffordshire County and Stoke-on-Trent City Councils, in conjunction with Staffordshire Wildlife Trust, the District Councils and other interested parties, have carried out surveys identifying sites of county importance for nature conservation, which outside Stoke-on-Trent are known as Sites of Biological Importance (SBI). These are divided into two categories (Grade I and II) on the basis of their nature conservation interest, and Grade I sites are regarded as being of major significance in the county context. Within the City of Stoke-on-Trent, a comparable survey and evaluation exercise has led to the recognition of a number of sites of importance in the City context, which are known as Natural Heritage Sites. Detailed information is available at County Council and City Council offices and can be inspected on request. The sites are surveyed using accepted methodologies drawn up by English Nature and are selected on the basis of English Nature's SSSI selection criteria, although these are applied less rigorously and on a county rather than a national basis. They thus represent the Plan-area's best remaining areas of semi-natural habitat outside the statutory sites, with their associated plant and animal species.The list of sites is not exhaustive and other sites may come to light as a result of further detailed surveys or where the importance of existing sites is reviewed as circumstances change. In the event that development is proposed on or in the vicinity of one or more of these sites, then detailed habitat surveys would be required to establish the extent and condition of the valued habitat at that time

3.58 With the encouragement of English Nature, surveys have been carried out to identify **Regionally Important Geological and Geomorphological Sites** which are sites of particular geological or geomorphological interest worthy of protection for their educational, research, historical and aesthetic importance.

3.59 **Ancient Woodlands** have been identified by English Nature. These are of value as they have had a continuous tree cover since 1600 or earlier and are regarded as the most important for conservation. Ancient semi-natural woodlands, which retain their native trees and shrubs

are the most valuable, but ancient replanted woodland, which may contain non-native species, may still retain a high level of interest, particularly in its ground flora.

3.60 **Heathlands** are distinctive habitats dominated by heathers and related dwarf shrubs and supporting a specialised fauna. Because of major past losses, the remaining lowland heaths are an ecological asset of national as well as local importance.

3.61 The occurrence of known **Peatlands** are very limited in terms of size and distribution. Peat is found within the locations indicated on Plan 1. Within the Plan area all known deposits of peat have nature conservation value.

3.62 **Unimproved grasslands** are those which have not been subject to modern intensive agricultural management and which therefore still retain a high nature conservation value, often including a rich botanical diversity with uncommon or localised species. Such grasslands, which include traditionally grazed pastures and hay meadows, have now almost been lost from lowland England.

3.63 Most examples of these four key habitat types have now been identified in publications such as English Nature's County Inventories of ancient woodlands, lowland heathland, grassland and peatland. In addition to these there are several other prime semi-natural habitats which are less well documented and evaluated. Examples of these include wood pasture and parkland, ancient species-rich hedgerows and various types of wetland. These too may support rare or uncommon species or contribute towards the achievement of biodiversity objectives. Many of these prime habitat areas are recognised as County Sites of Biological Importance, but due to the lack of detailed survey information this is not yet so for all of them. However, such habitats have also suffered extensive losses in recent years, and it is therefore important to conserve good quality remaining examples whenever possible. The forthcoming Staffordshire Biodiversity Action Plan (BAP) describes key habitats and species in the County. It will also define objectives and targets which will need to be met in order to secure their long-term future.

3.64 There are about 150 **Conservation Areas** within the Plan area which are designated by local planning authorities as being areas of special architectural or historic interest, the character or appearance of which it is desirable to preserve or enhance. Trees within conservation areas are also protected.

3.65 In addition to Scheduled Ancient Monuments, there are over 5,000 other **Sites of Archaeological Interest** identified in the County Sites and Monuments Record. The record is not exhaustive and new sites are added to the list as information becomes available. It presently contains records of some battlefields, and sites related to battles, that are not included in the English Heritage Register of Historic Battlefields, but which are of historic value and worthy of protection. Historic Parks and Gardens not included on the English Heritage Register of Parks and Gardens of Special Historic Interest are also identified in the County Sites and Monuments Record.

3.66 As noted earlier (Paragraph 3.54), the essential value of any of the sites or areas included in Policy 19 is taken to be the particular attributes of the site that account for its local designation. Whilst adverse effects on this essential value are most likely to be caused by development on the site itself, they can also be caused indirectly by a mineral development outside, but in the environs of, the site. For example, pumped drainage of a mineral working

could cause water draw down in an adjacent wetland site, or affect the viability of an adjoining ancient woodland for the same reason. The special character and interest of Conservation Areas or sites of archaeological interest often derives from their place in the wider landscape. This character can be adversely affected by mineral development outside their boundaries, for example by interrupting views to and from the site, creating noise and dust or generation of high levels of traffic to, through or past the site. Particular attention must be paid to safeguarding not only the character of these sites but also their settings.

MLP **Policy 19:**

In considering planning applications for mineral development the effects on the special interest of the following areas will be taken into account :

1. **Country parks or other areas set aside for public recreation.**

2. **Existing or proposed Local Nature Reserves.**

3. **Grade 1 Sites of Biological Importance and Natural Heritage Sites.**

4. **Regionally Important Geological and Geomorphological sites (RIGS).**

5. **Ancient Woodlands, heathlands, peatlands, unimproved grasslands and other prime semi-natural habitats.**

6. **Conservation Areas or their settings.**

7. **Sites of significant archaeological interest or their settings, areas of historic or archaeological value, historic battlefields, and historic parks and gardens other than those which are registered.**

Planning applications for mineral development which would cause any direct or indirect adverse impacts on the essential value of the above areas should demonstrate that mitigation measures and/or any material planning benefits arising from the proposal outweigh the material planning objections . If the measures and benefits do not outweigh the objections then planning permission will only be granted if the need for the mineral outweighs the material planning objections. In assessing the impacts a lesser degree of weight will be accorded than would be the case with nationally important sites the subject of MLP Policies 15 and 16.

3.67 In respect of areas of natural and cultural value which are affected by the granting of planning permission, e.g. where the need for the mineral has outweighed any material planning objections, measures must be taken to conserve that value as far as is reasonably practicable, for example, by excluding the area from working.

MLP Policy 20:

In all cases where approved development affects sites or features of natural or cultural conservation value, appropriate measures will be required to conserve that value as far as possible, and to provide for replacement habitats or features where damage or loss is unavoidable. Where appropriate, the Mineral Planning Authority will when granting planning permission consider the use of conditions and/or seek legal agreements to minimise damage and to secure appropriate compensatory measures.

3.68 The protection of the landscape is currently covered by policies in the Structure Plan and local plans which designate Special Landscape Areas (SLAs). More recently Planning Policy Guidance note 7, *The Countryside - Environmental Quality and Economic and Social Development,* which was published shortly before the Draft of this Minerals Local Plan was placed on deposit, has required a fundamental reassessment of local countryside designations such as SLAs. The guidance indicates that designations should only be maintained or extended where there is good reason to believe that normal planning policies cannot provide the necessary protection. In reviewing development plans, the function and justification of existing local countryside designations should be rigorously considered, and planning authorities should ensure that they are soundly based on a formal assessment of the qualities of the countryside. The guidance also commends the approach to the identification of countryside character pursued in the *Character of England* project instituted by the Countryside Commission and English Nature, and suggests that it should help in accommodating necessary change without sacrificing local character. The MLP therefore has not maintained the SLA policy: rather the policy that follows has been prepared in response to that guidance.

MLP Policy 21

Minerals development proposals should be informed by and be sympathetic to landscape character and quality. Proposals with landscape and visual implications will be assessed having regard to the extent to which they would:

(a) cause visual intrusion, incapable of satisfactory mitigation;

(b) introduce, or conversely lead to the removal of incongruous landscape elements;

(c) cause the disturbance or loss of, or conversely help to maintain:

- **(i) landscape elements that contribute to local distinctiveness;**
- **(ii) historic elements which contribute significantly to landscape character and quality, such as field, settlement or road patterns;**
- **(iii) semi-natural vegetation which is characteristic of that landscape type;**

(iv) the visual condition of landscape elements;

(v) tranquillity.

Planning applications for mineral development which would cause any unacceptable direct or indirect adverse impacts should demonstrate that any material planning benefits arising from the proposal outweigh the material planning objections. If the benefits would not outweigh the objections then planning permission will only be granted if the need for the mineral outweighs the material planning objections.

3.69 **Other Environmental Matters** : Planting carried out in advance of, in the early stages of, or during working can provide an opportunity for screening and the early establishment of vegetation and habitats to be incorporated into the restored site. The use of locally native trees and shrubs will be encouraged and in areas identified for woodland conservation or enhancement the planting should be on a scale that would contribute significantly to the final afteruse of the site.

MLP **Policy 22:**

The Mineral Planning Authorities will encourage agreed vegetation establishment, including the planting of trees, woodlands and/or hedgerows, in advance of, and in the early stages of, mineral development, and within and around sites allocated in the MLP to provide screening and to enable the early establishment of landscaping. The use of locally native trees and shrubs will be encouraged. Within the National Forest, Forest of Mercia, and Newcastle Community Woodland Zones, such early tree planting and landscaping should be on an appropriate scale and should contribute significantly to the final afteruse of the site.

3.70 During mining the use of plant and man made structures may introduce a discordant element into the rural or urban scene and will be a reminder of the extractive operations being carried out.

3.71 Landscape features and subtleties, which have been the product of many years interaction between people and geology, the climate, landform, other lifeforms and natural processes, can be obliterated or removed within a short space of time. Whilst sites may be soiled, grassed and planted, the landscape remains relatively raw for some time thereafter and it may take many years to await the gradual changes in the diversity and maturity of vegetation in order to achieve a landscape which appropriately reflects the environmental, historical and cultural character of the locality.

3.72 Whilst the impact will vary with the scale and nature of the particular mineral operation concerned, experience has shown that certain mining operations have resulted in the progressive degradation of the landscape character of an area.

3.73 It may be possible to guide workings to areas where significant environmental benefits may arise, for example by the reclamation of derelict and/or despoiled land or by extensive

planting on land within and outside the mineral site. It is recognised, however, that environmental improvements can be achieved without mineral extraction.

3.74 In certain areas mineral development has been an important factor in the evolution of today's landscape. Equally, future mineral development will affect the character and quality of the landscape in the years to come. While mineral extraction is a relatively temporary operation it may last for several decades and so developments will be assessed in terms of the length of operations and the affect this has on the landscape quality or visual amenity. The mineral planning authorities will make reference to the following sources when assessing the likely impact of mineral working on landscape character:

(i) the *Character of England* map published by the Countryside Commission and English Nature, and the supporting summary descriptions of landscape character;

(ii) the formal landscape assessment of the Structure Plan area, to be published in 1999 as Supplementary Planning Guidance to the Staffordshire and Stoke on Trent Structure Plan, 1996 – 2011.

3.75 Mineral development can produce positive landscape benefits, particularly through the reclamation of derelict and/or despoiled land. Conversely however, delays in restoration should be avoided and previously restored land should not be disturbed through re-working for minerals. Where contaminated land is concerned, the Mineral Planning Authority may wish to see contaminated land assessment reports included with any planning application.

3.76 Hedgerows, trees, and woodlands can be significant in ecological, visual and cultural terms and thus their removal should be avoided where possible. This will particularly be the case in respect of areas identified for woodland conservation or enhancement and those trees covered by Tree Preservation Orders. There are currently about 1,200 TPOs in the Plan area further details of which can be obtained from local planning authorities.

3.77 Areas of semi-natural vegetation can provide wildlife corridors, links or stepping stones from one habitat to another. Proposals for mineral development may remove or sever such linkages to the potential detriment of wildlife and contrary to objectives of maintaining national biodiversity. Where this is the case mineral development and restoration, where appropriate, should preserve and enhance such features. The requirement to maintain habitat linkages is also set out in Article 10 of the EC Habitats Directive and Regulation 37 of the UK Habitats Regulations. The Regulation extends the application of policies for the conservation of the natural beauty and amenity of the land to include "encouraging the management of features of the landscape which are of major importance for wild fauna and flora". Such features are defined as "those which, by virtue of their linear and continuous structure (such as rivers with their banks or the traditional systems of marking field boundaries) or their function as stepping stones (such as ponds or small woods) are essential for the migration, dispersal and genetic exchange of wild species". Guidance on the national biodiversity objectives is given in the government response to the UK Steering Group Report on Biodiversity, CM 3260, May 1996. Further advice is available from the mineral planning authorities.

~~MLP~~ ~~Policy 23:~~

~~The Mineral Planning Authorities will encourage development and restoration measures which would:~~

~~1. reclaim derelict and/or despoiled land and provide other landscape benefits;~~

~~2. create or enhance sites or features of geological or geomorphological value.~~

~~3. Minimise the removal of trees, woodlands, and hedgerows of landscape, ecological and or cultural importance, in particular those subject to tree preservation orders and/or located within the National Forest, Forest of Mercia and Newcastle Community Woodland Zones.~~

~~As far as possible proposals should not:~~

~~4. permanently despoil the landscape character of the locality, or have an unacceptable adverse impact on landscape quality or visual amenity;~~

~~5. delay restoration of existing mineral working sites or disturb land previously restored to acceptable standards;~~

~~6. harm features which provide wildlife corridors, links or stepping stones from one habitat to another;~~

~~Mineral development which would cause unacceptable adverse impacts in terms of items 3 to 6 above should demonstrate that mitigation measures and/or material planning benefits arising from the proposal outweigh the material planning objections. If the material planning benefits would not outweigh the objections then planning permission will only be granted if the need for the mineral outweighs the material planning objections.~~

Archaeological and Historic Landscape Evaluation

3.78 The historic urban and rural landscape is the product of people's activities on the natural environment. Whilst certain aspects of this complex inter-relationship may be readily appreciated and interpreted on the ground and sites or areas of interest recorded, others remain concealed beneath the surface. Archaeological remains are a non-renewable resource and particular care is required to ensure that the remains are not needlessly or thoughtlessly destroyed.

3.89 Archaeological features in situ can provide important information about their, and our, history but once disturbed much of this information is destroyed. This makes it essential that they are properly evaluated and recorded. Where development may affect known or potential features of archaeological interest then particular care must be taken to evaluate the nature and significance of any remains and, where appropriate, mitigate against the impact of the proposals. Features of known or potential archaeological interest are identified on the County Sites and Monuments Record. Such features are recorded where there is good reason to

believe that there might exist remains of archaeological importance, and the record is continuously updated to incorporate new information. Former mineral workings in their own right may have considerable archaeological interest. In particular, coal mining areas are rich in industrial archaeological interest.

3.80 In addition to areas of archaeological interest, proposed mineral development may also impact on historic landscapes, which are those having important components which allow an appreciation and understanding of their development. Such landscapes include historic parks and gardens, but may also include other areas where there are historic components which contribute significantly to their character. Historic parks and gardens, and the significant components of historic landscapes, are identified on the Staffordshire Sites and Monuments Record. Mineral operations may have an impact on such historic landscapes by, e.g. compromising views towards or from them. A thorough evaluation of the potential impact of the development would assist in a proper assessment of the proposal including opportunities for mitigation.

MLP Policy 24

Archaeological Sites: Prior to the determination of a planning application for any mineral development, which might affect a feature or area of known or potential archaeological interest, or its setting, the applicant(s) will be required to submit an archaeological evaluation of the full effects of the proposal by a competent person or body. This will be based on documentary research, site investigations and if necessary, trial excavations.

MLP Policy 25

Archaeological Sites: Prior to the determination of a planning application and where the case for extracting the mineral is likely to override the case for preservation in situ of the feature or area of known or potential archaeological interest, the applicant(s) will be required to submit a statement for the approval of the Mineral Planning Authority of the means by which the archaeological interest is to be recorded or recovered by, or on behalf of, the applicant.

MLP Policy 26

Historic Landscapes: Prior to the determination of a planning application for any mineral development, which might affect a landscape of historic interest, the applicant(s) will be required to submit an evaluation of the full effects of the proposal on the important components of the historic landscape by a competent person or body, based on documentary research and site investigations.

Green Belts

3.81 Green belts have been an important aspect of planning policy in Staffordshire for many years and their principal aim to prevent urban sprawl by keeping land permanently open, has remained unchanged. It is estimated that about 90,000 hectares of land in the Plan area is designated Green Belt around the West Midlands in the south and Stoke and Newcastle in the north.

3.82 Minerals can be worked only where they are found and thus their distribution may coincide with Green Belt designations. Mineral extraction need not be an inappropriate development within Green Belt provided that high environmental standards are maintained and the site is well restored. On the other hand sites which are not environmentally acceptable or restored well will be considered as inappropriate development harmful to the objectives of Green Belt policy.

~~MLP~~ ~~**Policy 27:**~~

~~**Mineral development within Green Belts should:**~~

~~**1. have high environmental standards of operation;**~~

~~**2. be well restored;**~~

~~**3. maintain the openness of the Green Belt;**~~

~~**4. not conflict with the purposes of the Green Belt.**~~

~~**Mineral development which does not comply with all of the above is therefore inappropriate, and will only be permitted in very special circumstances.**~~

Cumulative Environmental Impact

3.83 Parts of the Plan area have been and are being subject to a variety of mineral and waste disposal activities often in close proximity to each other in terms of time and/or space. These operations have resulted in cumulative environmental impacts which embrace the following circumstances which are not mutually exclusive:-

1. the combined impact on the environment from a single working of a number of separate effects due to noise, dust and visual intrusion etc;

2. the cumulative effects from two or more working sites;

3. the combined effect on the landscape arising from the lack of, poor or immature restoration of a number of sites over time;

4. the cumulative impact on the quality of life of an area arising from an unbroken sequence of working and restoration of sites.

3.84 The duration of mineral operations and impact of concurrent operations are material planning considerations which, if not properly addressed, can result in an unacceptable diminution of the quality of life of neighbouring communities.

~~MLP~~ ~~Policy 28:~~

~~**Proposals for mineral development will be considered in the context of the cumulative impact of noise, dust, visual intrusion and/or other environmental effects arising from former, existing and concurrent mineral working sites, sites being restored and other permitted sites awaiting commencement within the locality.**~~

~~**Mineral development which would cause an unacceptable adverse cumulative impact should demonstrate that any material planning benefits arising from the proposal outweigh the material planning objections. If the benefits would not outweigh the objections then planning permission will only be granted if the need for the mineral outweighs the material planning objections.**~~

~~**The extent of the area over which the cumulative environmental impact will be taken into consideration will be determined on a site by site basis.**~~

Transportation

3.85 Traffic generation arising from mineral operations, particularly in relation to its impact on the highway network, environment and communities is a major consideration both in formulating planning policy and determining planning applications. The impact of mineral operations and traffic on pedestrian movements is also a relevant consideration. In addition to the inconvenience arising from the diversion of established routes, mineral development may also adversely affect the enjoyment arising from the continued use of rights of way, some of which may be promoted for recreational routes.

3.86 The use of rail disposal can alleviate many concerns relating to the impact of mineral traffic on the highway network, environment and communities. Indeed it is the County and City Council's strategic policy to encourage the use of non-road transport systems where practicable.

~~MLP~~ ~~Policy 29:~~

~~**Where compatible with other planning policies, the Mineral Planning Authorities will encourage the provision or retention of non-road borne transport links and mineral preparation and disposal facilities to existing or proposed mineral operations, and, in special cases will encourage the provision of rail or water linked mineral disposal points remote from mineral working sites. In appropriate cases, the Mineral Planning Authorities will support grant applications for such facilities under the terms of Sections 137 and 139 of the Railways Act 1993.**~~

3.87 Traffic implications arising from planning applications will be considered by the County and City Councils, and in respect of motorways and trunk roads, the Highways Agency. To examine whether a proposed development can be satisfactorily absorbed into the highway system, a Traffic Impact Appraisal will be required if the proposal would cause harm to approach roads, traffic flow, or highway safety, or adverse impacts upon people or the environment in terms of, *inter alia*, noise, vibration, fumes or dust. In all cases, early consultation with the Highway Authority is recommended to establish both the need for, and scoping content of, a Traffic Impact Appraisal.

MLP **Policy 30:**

Planning applications for mineral development will, where appropriate, be accompanied by a Traffic Impact Appraisal and should ensure that:-

1. **the engineering and structural integrity of approach roads will not be prejudiced by the development;**

2. **the boundary/depth of extraction and the areas set aside for the deposit/storage of material do not adversely affect the structural integrity of the adjoining public highway;**

3. **the development does not have an unacceptable adverse impact on public and highway safety;**

4. **adequate, well-screened, on-site parking, turning and loading facilities are provided;**

5. **suitably designed access(es) can be provided with on-site facilities for washing vehicle wheels before leaving the site;**

6. **the traffic generated by the development can be satisfactorily absorbed into the highway network without causing unacceptable adverse impacts upon people or the environment through, *inter alia*, noise, vibration, fumes or dust;**

7. **any adverse impacts caused by the proposed development can be mitigated to the satisfaction of the Mineral Planning Authority and that such mitigation may be secured by a legal agreement and/or planning conditions.**

3.88 Mineral proposals will be assessed on their merits in accordance with the development plan and will be permitted providing adverse traffic effects can be controlled by planning conditions. If the use of conditions is not appropriate in terms of Circular 11/95, legal agreements may be sought insofar as they are necessary to make a proposal acceptable in land-use planning terms. The Department of the Environment's MPG9, PPG23 and Circular 1/97 are relevant in this context, and the Code of Practice sets out in more detail the steps that will be sought to implement traffic management measures through legal agreements. Planning conditions and legal agreements cannot control the right of passage over public highways, but applicants can volunteer traffic management schemes and use their best endeavours to implement and comply with such schemes.

MLP **Policy 31:**

Where legal agreements are sought by the Mineral Planning Authority to mitigate adverse off-site traffic effects, they will be used to secure one or more of the following:-

1. **road and traffic management schemes;**

2. **measures to secure any required maintenance and/or reinstatement of the public highway during the life and at the end of the operations respectively;**

3. **measures to regulate traffic levels in particularly sensitive areas;**

4. **funding or contributions to improve roads or other traffic facilities the need for which arises solely or mainly from the proposed development.**

In addition to the above the Mineral Planning Authority will seek through legal agreements a commitment from the applicant to use their best endeavours to route mineral related traffic away from shopping streets and residential streets where such traffic can be adequately accommodated by alternative routes.

Water Resources

3.89 Complementary planning and pollution control systems operate to protect the environment, including water resources, from the harmful effects of development. Close co-operation between the two systems is required to ensure the conservation of water resources and the effective and efficient control over potentially polluting development. The Mineral Planning Authorities will continue to consult with the Environment Agency in respect of all mineral planning applications.

3.90 Mineral operations may have considerable adverse impacts upon the groundwater and surface water environments of an area through all stages from exploration to restoration. In particular the risk of pollution, potential for dewatering watercourses, groundwater and water bodies and adverse impacts on habitats, fisheries, flood protection measures and existing water abstraction arrangements are required to be addressed. Mitigation measures may be required to minimise adverse impacts. Nevertheless, there may be circumstances where even allowing for such measures, the residual impacts are such that permission should not be granted.

3.91 The Triassic sandstones and Carboniferous limestones are both classified as 'Major Aquifers' by the Environment Agency. The Triassic Sandstones are particularly important in terms of public water supply. Large parts of the Plan area overlie outcrops of these water bearing deposits, therefore quarries in these geological formations need to be sited in areas which pose least risk to water resources. Certain parts of the Plan area (e.g. Lichfield) are virtually reliant upon groundwater from these mineral resources for their drinking water. Protection of water resources is also important in other areas where, although the water resource potential is not as great, the potential impact of mineral extraction can be significant. Agriculture and industry exploit a wide range of mineral deposits/aquifers (e.g. river terrace

gravels) for water supplies. Also a large number of properties in rural areas are reliant on small groundwater sources for their water supplies and groundwaters support both wetland areas and small watercourses.

~~MLP~~ ~~Policy 32:~~

~~In determining planning applications for mineral developments, including restoration proposals, the Mineral Planning Authority will have regard to the need to protect the groundwater and surface water environment. In particular, attention will be paid to:-~~

~~1. the potential for the pollution of groundwater, surface water, canals, feeders and operational reservoirs;~~

~~2. the adverse impact on fisheries, wildlife or sources of water abstraction;~~

~~3. the potential for the dewatering of watercourses, rivers or wetlands by loss of groundwater or otherwise;~~

~~4. an increase in flood risk or reduction in flood plain capacity;~~

~~5. the proposed mitigation measures.~~

~~Mineral development should not result in unacceptable adverse effects to groundwater and surface water.~~

Agricultural Land

3.92 The best and most versatile agricultural land must be protected against irreversible loss because of its national importance. When considering mineral extraction proposals the feasibility and prospect of restoring the land to its original agricultural quality will be a material factor. Where best and most versatile agricultural land is concerned then the restoration and aftercare programme should allow for its longer term potential as a high quality agricultural resource to be conserved. Where alternative afteruses (e.g. forestry) are proposed on such land then the methods used in restoration and aftercare should enable the land to retain its longer term capability to be farmed to its land classification potential. In the Plan area 9.3% of the land is classified as Grades 1 and 2. The only occurrence of Grade 1 land is around Pattingham in South Staffordshire and the Grade 2 land is distributed around the south and west of Staffordshire, predominately south of Lichfield. There is around 48.2% of land classified as Grade 3. The provisional land classification maps were based on a reconnaissance survey and did not sub-divide the grade 3 land. Subsequently the agricultural land classification system was revised in 1989 and hence a detailed land classification survey is necessary to determine the land quality for site specific proposals. The impact of mineral development on the viability of farms may also be relevant. The working of best and most versatile land for minerals may be considered as an alternative to working available land of a lower classification which warrants protection for some other reason. In order to outweigh the agricultural reasons, the available lower grade land should be protected by a statutory designation which may relate to the landscape, scientific, historic or archaeological interest of the land.

MLP **Policy 33:**

~~In determining planning applications for mineral development on agricultural land considerable weight will be given to the protection of the best and most versatile agricultural land (grades 1, 2 and 3a) because of its special importance. The degree of weight will generally vary positively with the grade of land affected.~~

~~Where best and most versatile land is concerned the conservation of its longer term potential as a high quality agricultural resource should not be prejudiced by the proposed mineral development, restoration and/or aftercare proposals.~~

~~Development of such land shall not result in an irreversible loss of land quality unless there is an overriding need for the development and either:~~

~~1. sufficient land in lower grades is unavailable, or~~

~~2. available lower grade land has an environmental value that is recognised by a statutory designation and outweighs the agricultural considerations.~~

Mineral Preparation and Associated Industrial Development

3.93 The two policies below deal with the two types of plant associated with mineral development. MLP Policy 34 relates to mineral preparation including crushing, screening and washing while MLP Policy 35 deals with associated industrial development such as brick and tile works and cement plant.

3.94 Plant and buildings ancillary to the mineral workings may be granted permitted development rights under the terms of the Town and Country Planning (General Permitted Development) Order 1995, subject to certain requirements being met. In any event whether or not the Mineral Planning Authorities are required to determine a planning application, mineral preparation plant should be located, designed and maintained to minimise adverse impacts.

3.95 Generally, mineral preparation takes place on the mineral working site, but there may be special cases such as remote rail linked disposal points where a centralised facility is required to serve a number of sites, and recycling plants for the production of secondary aggregates.

3.96 It will be necessary to ensure the removal of the plant and buildings and restoration of the site following completion of mineral working on the site.

~~MLP~~ ~~Policy 34:~~

~~Buildings, structures and plant for mineral preparation and disposal outside mineral working sites will only be permitted in special cases. Such facilities should be sited, designed, operated and maintained to ensure there are no unacceptable adverse impacts. Where permission is granted for development in association with mineral workings the operation and retention of the buildings, structures or plant will be limited to the life of the permitted reserves.~~

3.97 The County and City Councils welcome, in principle, proposals for manufacturing development ancillary to the minerals industry. Development Plan policy seeks to safeguard the countryside in general and the Green Belt in particular, from the encroachment of built development. Nevertheless, in some circumstances there may be overriding material planning benefits for certain industrial developments directly associated with the processing of extracted minerals to be located in close proximity to areas of mineral extraction e.g. reduction of lorry movements or economic benefits.

MLP **Policy 35:**

Proposals for ancillary industrial development within or in close proximity to mineral sites which would cause an unacceptable adverse impact should demonstrate that any material planning benefits arising from the proposal outweigh those impacts. Where permission is granted the operation and retention of the development will be limited to the life of the permitted reserves.

Ground Stability

3.98 Mining operations may give cause for concern in terms of their potential impact upon ground instability. In particular, areas subjected to underground mining for coal, gypsum/anhydrite and salt in the past have been associated with subsidence with potential adverse implications for property, infrastructure and people. The stability of the ground in so far as it affects land use is a material planning consideration. Ground stability is a complex technical issue but in broad terms instability may arise from the effects of underground cavities and unstable slopes, both natural and man made, and ground compression of natural and made ground by, for example, earth mounds. Whilst the existing land may be inherently unstable, mineral development may be the triggering factor which compounds instability problems. Changes in mining techniques and mine design, or carrying out protective works to existing or proposed features may help to minimise problems. Nevertheless, there may be circumstances where the effects of ground instability are so severe that mining should not be allowed to proceed.

3.99 The responsibility for determining whether land is suitable for development rests with the developer. To discharge this responsibility may require a detailed assessment of the

ground, groundwater conditions and other relevant factors based on desk analysis and site investigations as appropriate.

~~MLP~~ ~~Policy 36:~~

~~**Where mineral working is likely to give rise to ground instability then the applicant will be required to provide an assessment indicating how potential instability would be mitigated.**~~

~~**Planning applications for mineral working will only be permitted where it can be demonstrated that mining induced subsidence or other instability would not lead to unacceptable adverse impacts within influencing distance of the workings and is compatible with the Development Plan.**~~

Ground Investigations

3.100 Whilst information regarding sub surface rocks and materials may be derived from published geological information, in most cases detailed site investigations are required for a number of reasons, including:-

1. to prove the presence, extent and/or quality of the mineral deposit;

2. to establish the geotechnical characteristics of the site and surrounding area including any contamination present and the proposed means of site remediation; and

3. to assist in the determination of the hydrological and hydrogeological regimes of the area under consideration.

3.101 This information is required to establish the feasibility of the development project, to assist in the detailed design of the working proposal and to model and evaluate the environmental impact of the operations.

3.102 The information may be collected by a variety of methods including seismic surveys, drilling and trial excavations. Some aspects of these investigations are permitted development under the terms of the General (Permitted) Development Order referred to earlier and, as such, are exempt from the need for a specific grant of planning permission. These permitted development rights are, however, subject to limitations. Proposed operations within the environmentally sensitive areas referred to in MLP Policies 14 to 21 will be subject to particular scrutiny. The Mineral Planning Authorities reserve the right within sensitive areas to withdraw permitted development rights and require submission of a planning application.

3.103 Even where specific planning permission or statutory notification is not required, it is desirable for such proposals to be discussed in advance with officers of the Mineral Planning Authority.

3.104 The investigative operations may give rise to visual and landscape impacts, and could damage features of archaeological or ecological interest and may result in problems of noise, dust emission, pollution, traffic generation and restoration. The investigations at any one

location tend to be of relatively short duration but may form part of a longer programme of operations over a wider area undertaken over a period of months or in some cases years.

3.105 Upon completion of investigations the disturbed areas will require to be restored. The Mineral Planning Authorities will seek voluntary aftercare "undertakings", where appropriate, to ensure proper management of the land.

~~MLP~~ ~~Policy 37:~~

~~Planning applications to prospect for minerals or for ground investigations associated with mineral development should demonstrate that:-~~

~~1. the proposals will not cause an unacceptable adverse impact;~~

~~2. plant, structures, machinery and/or buildings, will be removed, boreholes will be sealed and the land satisfactorily restored within a reasonable timescale; and~~

~~3. where appropriate, the provision of agreed aftercare arrangements has been made.~~

~~Planning permission to carry out ground investigations does not imply that any subsequent planning application submitted to extract the mineral will be supported or approved by the Mineral Planning Authority.~~

FUTURE MINERAL DEVELOPMENT AREAS

3.106 Assessments have been made of the likely requirements for minerals over the plan period and the appropriate landbank periods beyond and these have been compared with existing permitted reserves or other committed allocations to determine whether there is a projected shortfall or surplus of supply.

3.107 Unless there are compelling and overriding planning objections, provision for future mineral development to meet any projected shortfall can be achieved by providing a policy framework within which mineral planning applications will be determined and/or by the allocation of proposals in the MLP with varying degrees of specificity.

3.108 Future mineral development areas may be allocated by the identification of the following sites or areas or a combination thereof:-

1. Specific Sites - These are sites which contain viable mineral reserves, where the landowner is willing to allow mineral development and where a planning application is likely to be acceptable. There are 8 Specific Sites allocated in the MLP in respect of Sand and Gravel.

2. Preferred Areas - These comprise resource areas where planning permission for mineral development might reasonably be anticipated. The ability to define such areas is dependent upon a number of factors which may include:-

    1. the location, quantity and quality of viable mineral deposits;

2. land availability;

3. the location of the site in relation to existing mineral development;

4. the sensitivity of the location;

5. pressure from other forms of development which would otherwise sterilise the mineral;

6. the scarcity of the mineral;

7. the urgency with which new mineral permissions will be needed to meet likely demands;

8. the accuracy of future demand forecasts; and

9. national planning policy guidance.

There are no Preferred Areas proposed in the MLP.

3. Areas of Search - Areas of Search are seen as an assessment stage. They provide a guide to the industry as to the broad locations which may contain a site or sites where extraction might be permitted. The identification of these areas should not be taken to imply that they will be worked in total or within the plan period. Economically viable mineral deposits remain to be proved. Preliminary site specific environmental issues have been identified which require to be satisfactorily addressed during the preparation of detailed proposals. The MLP proposes 5 Areas of Search in respect of Anhydrite, Etruria Marl, Shale and Silica Sand.

3.109 Notwithstanding the acceptance in principle of mineral working at a particular location, any detailed proposals which emerge will still require to comply with the policies of the Plan.

3.110 Outside allocated sites a planning application for the winning and working of a mineral will need to demonstrate that there are exceptional circumstances why additional sites should be brought forward. These could include:

1. Where minerals are released as part of a scheme of co-ordinated working and restoration within a quarry or between adjoining quarries. In parts of the Plan area there are concentrations of mineral workings having cumulative impacts upon the local environment. Sites may be operating under old planning consents with limited restoration conditions. In such circumstances the opportunity may exist to comprehensively review and consolidate existing consents within the framework of a restoration strategy more in keeping with contemporary expectations. The County and City Councils are mindful that their policies should not discourage opportunities for the comprehensive review of mineral development and restoration being taken where these would be to the overall benefit of the local communities, the environment and the minerals industry.

2. limited small scale extensions to quarries/mines.

3. where new information becomes available about mineral reserves in areas outside those identified in the Plan and an application is brought forward which is significantly more acceptable overall than a site identified in the Plan;

4. where there is a proven need to amortise new investment in brick and tile manufacturing plant by releasing reserves in close proximity to the plant;

5. where there is a need to supply minerals with special properties to meet a specialised demand (MLP Policy 1(4)).

3.111 The purpose of MLP Policy 38 is to provide for the consideration of applications for sites not allocated in the MLP in recognition of the fact that some additional provision may be necessary and that the Plan policies should incorporate a degree of flexibility. The MLP has made full provision for all minerals that are the subject of landbank policy. Therefore the Councils only expect planning applications for non-allocated sites to come forward in exceptional circumstances. This approach does not undermine the Plan led approach, is consistent with the objectives of sustainable development and will help to avoid unacceptable adverse impacts by way of the proliferation of sites, the premature loss of important environmental features, reduced incentives for recycling minerals, delayed restoration and inactive sites. When an application is submitted under MLP Policy 38 there are two tests: first, are there exceptional circumstances, and secondly does the application comply with the Development Plan and if not are there other material circumstances which prevail. In circumstances where permitted reserves and allocations in the MLP are insufficient to maintain the landbank, applications will be considered on their merits and Policy 38 will not apply. MLP Policy 38 relates to minerals covered by landbank policies. These include Anhydrite (MLP Policy 46), Clay and Shale (MLP Policy 47), Shale and Limestone (MLP Policy 48), Sand and Gravel (MLP Policy 50), Limestone (MLP Policy 53), Silica Sand (MLP Policy 56), and Building and Dimension Stone (MLP Policy 58). The Councils aim to maintain landbanks in accordance with these policies.

MLP **Policy 38:**

As long as the required landbanks are maintained, proposals for the winning and working of minerals outside existing permitted sites or sites allocated in the MLP will only be permitted in exceptional circumstances and where they accord with the Development Plan.

3.112 In respect of minerals not subject to specific landbank policies, which include energy minerals, gypsum, salt, secondary aggregates, and other minerals as discussed in Chapter 12, proposals for winning and working will be considered on their merits and in relation to the Development Plan and national and regional planning guidance. In respect of energy minerals, detailed policies are set out in Chapter 4.

3.113 As a general rule it is desirable that available minerals be exhausted in a parent quarry before extraction commences within an extension, subject to ensuring continuity of production which requires the new working areas to be developed for production before old areas cease entirely. Nor should this prejudice the continued progressive restoration of the overall site. The policy below refers to the commencement of extraction in an extension area and would not prejudice the commencement of preparatory works. There may be cases where extraction in an

existing quarry cannot cease prior to extraction in a proposed extension, for example in deep limestone quarries. Such cases could be acceptable where operational reasons require. The scope of ALP Policy 16 has been widened to include all minerals and subsumed within MLP Policy 39 below.

MLP **Policy 39:**

Permissions granted for extensions to existing excavation areas will be made conditional on extraction in the existing permitted area being completed prior to extraction commencing in the permitted extension area, unless proven, overriding operational reasons require otherwise.

CHAPTER 4

ENERGY MINERALS

CHAPTER 4

ENERGY MINERALS

COAL

Introduction

4.1 Coal mining has a long history in the area. In the last 15 years coal has been produced primarily for use in power stations, but also to a lesser extent for industrial and domestic markets. Whilst traditionally British Coal has been the main producer, coals have also been worked from private underground mines and licensed opencast operations, albeit at a much smaller scale. Since the early 1980s the coal industry has declined considerably, both nationally and within the Plan area and is currently the subject of major structural changes in response to a number of factors including the contracting market for coal, the reducing deep mine capacity and privatisation of British Coal.

4.2 In terms of underground mining the historic trend had been for the concentration of production in fewer and larger pits. With the cessation of mining by British Coal deep mines, production in the late 1990's was concentrated at Silverdale, which was in private ownership. Deep mine production of coal has now ceased.

4.3 Opencast coal mining has taken place in the Plan area on a growing scale since the Second World War. From the late 1970s onwards the trend has been towards the development of large sites with multi-million tonnage coal reserves and high production rates. With the exhaustion of the larger reserves, over the last five years there has been a discernible trend towards the industry seeking future production from sites with smaller potential reserves, generally of less than 1 million tonnes, and lower weekly production levels. The only exception to this generality is in respect of the substantial, proven mineral deposits at Bleak House, Cannock.

4.4 The decline in coal production has been mirrored by a declining contribution that the industry can make to the local economy. For example, in the early 1980s the industry provided direct employment for over 6,000 persons, whereas in 1994 direct employment was estimated to be about 600.

4.5 The industry has been and continues to be a significant land user and land owner. It has had a major impact upon the landscape character and urban fabric of the area being critical in the early development and prosperity of many coalfield towns and villages. Whilst historic mining had left a legacy of surface and sub-surface dereliction, modern mining has, in appropriate circumstances, sought to harness its resources towards assisting in the reclamation and enhancement of existing despoiled environments, consistent with its operational requirements. Within the last five years and particularly in terms of opencast coal mining, it is noteworthy that British Coal's declared sites of interest had increasingly focused on "greenfield" sites as the opportunities for concurrent derelict land clearance have declined. The degree to which the reduction or cessation of mine pumping (occasioned by mine closure) may lead to adverse impacts on water movements, levels and qualities has yet to be determined, but will need to be kept under review.

4.6 Dependent upon local conditions and the nature of the proposals, the environmental impacts of future coal mining development in terms of visual intrusion, noise, dust, blasting, water disposal, traffic generation and subsidence etc. could be significant. In addition vulnerable features of archaeological or ecological interest could be irretrievably lost. Paragraph 7 of MPG 3 indicates that it is becoming increasingly difficult to find sites that can be worked without damaging the environment to an extent that people find unacceptable.

4.7 Notwithstanding the current dramatic changes in the coal market and industry, there are likely to be further demands to work coal during the plan period. It is also likely, however, that the overall scale of coal mining activities will be substantially less than past historic levels.

Planning Policy Context

National Planning Policy

4.8 The most recent, relevant national planning policy is contained in Minerals Planning Guidance Note 3 (MPG3) entitled "Coal Mining and Colliery Spoil Disposal". MPG3 seeks to ensure that coal extraction and spoil disposal takes place in accordance with the full and proper protection of the environment and the principles of sustainable development.

4.9 The Government believes that coal which can be mined economically and in an environmentally acceptable manner is an important indigenous resource.

4.10 The Government's Coal Review White Paper takes the view that a programme of major investment in new deep mines is unlikely to be justified economically and that this is likely to remain the case for the foreseeable future.

4.11 MPG3 indicates at paragraph 21 that the majority of future planning applications are likely to be for opencast, small drift mines or new tipping capacity. Development plans should make provision for coal extraction and spoil disposal with this in mind. For these reasons this MLP concentrates its attentions on the exposed, shallow coalfields, although it is recognised that coal seams within the concealed coalfield will continue to be worked from existing deep mine facilities.

The Staffordshire Structure Plan 1986-2001

4.12 Policy 136 encourages developers to identify opencast coal sites of specific interest. It then goes on to state that it is for the MLP to identify areas where there would be a presumption for or against mineral working. This approach has now been materially changed in the light of MPG3.

The Coal Resource

4.13 The broad locations of the principal shallow coalfields are shown on Plan 1. These comprise the Potteries and Cheadle coalfields in the north; and the Cannock coalfield and the north western part of the Warwickshire coalfield in southern Staffordshire. In central Staffordshire, between the exposed coalfields, Coal Measures occur as concealed coalfields at depth beneath later Triassic deposits.

4.14 Within both the shallow and concealed coalfields, coal has in part been extracted by underground mining methods. In the shallow coalfields, coal seams outcrop at or near the surface and have been extracted by opencast mining or shallow drift mines. It is possible that further resources of coal workable by these methods may exist within these coalfields. Furthermore, the surface operational site area may extend beyond the limit of the shallow coalfield to accommodate overburden mounds for example.

4.15 The shallow coalfields cover about 79 square miles of the Plan area. Proposals for the extraction of coal at any one location will depend upon how attractive the coal is to the potential market and whether the coal can be worked in an environmentally acceptable manner and at a reasonable cost having regard to the value placed on the product by the market.

4.16 Coal is a natural product and its characteristics vary. Over 60 coal seams have been worked at one time or another and each has different quality characteristics. The market's quality requirements are usually tightly controlled and often commercially confidential. Generally in respect of coal the most important factors are the calorific value of the coal as received by the customer, which determines its energy content, and its chemical characteristics particularly in relation to chlorine and sulphur contents. The markets seek to reduce the contents of both chemicals to minimise corrosion of heating systems and emission levels. Either the market or the mining company, or both, will seek to blend coals from various sources to meet the required quality criteria and avoid unnecessary waste of high quality minerals in accordance with the principles of sustainable development.

4.17 The existence of old workings can have a major impact on the viability of future mining prospects. Opencast coal extraction can recover residual coal from old underground mines. Also the greater productive capacity of modern mining equipment permits re-excavation of former shallow opencast workings to extract coals at greater depths.

4.18 The extent, structure, stratigraphy and potential of each shallow coalfield are briefly discussed in turn.

4.19 **Potteries Coalfield** - The exposed part of the coalfield, centred on the Potteries conurbation, is triangular shaped. The southern base of the triangle is irregular, where the Coal Measures dip beneath later Triassic strata and are bound by the Swynnerton Fault. To the west the coalfield is bound by the Red Rock Fault against the Trias, while the eastern flank is formed by the outcropping of the underlying Namurian strata as the eastern flank of the Werrington antiform (dome) is approached. About forty coal horizons are recorded as having been worked, often from horizons exhibiting a high angle of dip from a Coal Measures sequence which is over 1,100 metres thick.

4.20 Significant parts of the shallow coalfield are overlain by urban development. The coalfield is likely to remain of potential interest.

4.21 **Cheadle Coalfield** - To the east of the Potteries Coalfield, a series of folds have preserved Coal Measures strata in basins. Of these only the Cheadle Coalfields, located around the town of that name, has any recent history of extraction. There are 19 named coal seams. The seams between the Woodhead Coal and the top of the Coal Measures have provided the bulk of the coal extracted in the past. The Cheadle coalfield is likely to be of limited interest in the future having regard to quality considerations.

4.22 **Cannock Coalfield** - This forms the northern extension to the larger exposed South Staffordshire Coalfield which is elliptical in shape, extending from the Lickey Hills in the south to Rugeley in the north. It is bounded to the west by the Western Boundary Fault and to the east by the Eastern Boundary Fault. The northern limit has been defined by overlying Triassic strata.

4.23 The coalfield has been extensively prospected and in recent times interest has been expressed in terms of underlying coal at Great Wyrley, Bleak House and Yorks Bridge. Within a wide belt of the coalfield centred on Little Wyrley southwards from the A5 to the Staffordshire County boundary, the adverse thick and wet drift conditions make the likelihood of future interest in coal working remote.

4.24 **Warwickshire (Tamworth) Coalfield** - The north-western part of the Warwickshire Coalfield which is fault bounded, just extends into Staffordshire in the Tamworth area. There are 14 coal seams which have been worked within the area in the past. The central and western parts of the coalfield are overlain by built development.

Coal Production

Historic Production

4.25 In the early 1980s the then National Coal Board were producing about 7 million tonnes of coal per annum (and 3 million tonnes of colliery spoil for surface disposal) from nine operating deep mines and about 2 million tonnes of coal per annum from six opencast coal sites. At the same time 13 private drift mines produced about 100,000 tonnes of coal per annum.

4.26 As the following table indicates production had rapidly declined in the early 1990s as mines have closed. Production for 1995 had fallen further with a total of about 1.8 million tonnes of coal being mined (this includes coal recovery, deep mine production and opencast coal).

Table 3 : Coal Production (million tonnes)

	1989/90	1990/91	1991/92	1992/93	1993/94
Deep Mines	5.4	3.9	4.5	2.8	1.2
Opencast	1.5	1.3	1.0	1.0	0.9
Total	6.9	5.2	5.5	3.8	2.1

Source: British Coal - private mine production excluded

Current Production

4.27 In November 1994 there was one coaling opencast site (Bleak House) and three private drift and deep mines (Silverdale, Apedale and Haying Wood). In 1999 all private and deep mines were closed.

Future Production

4.28 Coal production operates in a market place where customers are free to shop around for energy. Historic patterns of energy production and provision of raw materials to supply those energy needs are now in a state of flux. The Government's Coal Review White Paper published in 1993 concluded that demand for coal from its principal market, namely electricity generation, is likely to decline from current levels.

4.29 Government policy states that it is not for the planning system to seek to set national limits on or targets for any particular source or level of energy supply, nor to pre-determine the appropriate levels of coal to be produced by underground or opencast mining. No national or regional guidelines on need as referred to in Structure Plan Policy 135 have been prepared by British Coal and endorsed by the Local Authorities Associations. Furthermore, Government takes the view that it would not be appropriate to apply a "landbank" approach to coal provision in development plans. Government guidance is that the demand for coal should be left to market forces and in particular it is for the operators to determine the level of output they wish to aim for as part of their business plans and in the light of market conditions.

4.30 On the other hand, it is the role of the planning system to determine the acceptability of individual projects having regard to the proper protection of the environment

Provision for Future Coal Mining Development

4.31 Coal can be mined by underground methods or by opencast coal mining techniques. In addition coal may also be recovered from reworking colliery waste tips and incidental to engineering operations, reclamation works or whilst mining other minerals.

Underground Working of Coal

4.32 The prospect of a new deep mine proposal coming forward during the plan period is unlikely, although permission may be sought to modify or extend existing drift mines or develop new drift mines. Surface development including spoil disposal can have considerable environmental impacts and require careful consideration.

~~**MLP Policy 40:**~~

~~**Planning applications relating to the extraction of coal by underground mining methods will be considered on their merits and in relation to the Development Plan and national and regional planning guidance and should demonstrate that:-**~~

~~**1. surface plant, buildings, structures and other installations and operations can be accommodated without causing an unacceptable adverse impact; and**~~

~~**2. having regard to MLP Policy 41, acceptable arrangements can be made for colliery spoil disposal, coal preparation and transportation.**~~

4.33 The impact of mining induced subsidence is dealt with in MLP Policy 36.

Colliery Spoil Disposal

4.34 Underground coal mining produces spoil material which must be disposed of. In accordance with the principles of sustainable development, consideration should be given by the mining company to the use of spoil as a secondary aggregate or to provide fill material to secure reclamation or enhancement of land, subject to environmental safeguards being met.

4.35 Planning permission existed for tipping facilities in relatively close proximity to Silverdale mine which had the potential to accommodate spoil arising during the plan period. However, the mine has now closed. In smaller drift mines colliery waste was usually disposed of underground or by use of existing off site tipping arrangements. Disturbed material such as overburden (other than coal and other commercial minerals) on both opencast and tip recovery sites is retained for use on restoration.

4.36 The prospect of further colliery spoil facilities being required during the plan period is remote although the possibility cannot be discounted. Any planning application for future spoil disposal facilities would be evaluated in relation to MLP Policy 41.

~~MLP~~ ~~Policy 41:~~

~~**Planning applications for the surface disposal of colliery wastes will be considered on their merits and in relation to the Development Plan and national and regional planning guidance and will have to demonstrate that:-**~~

~~1. **the disposal of colliery spoil beneath the ground is not feasible;**~~

~~2. **the waste cannot be used or developed as an alternative material;**~~

~~3. **the waste cannot be used for land reclamation or enhancement;**~~

~~4. **it will not sterilise other significant mineral deposits which can be worked without causing an unacceptable adverse impact.**~~

Opencast Coal Mining

4.37 The shallow coalfields are extensive and a substantial proportion of the population lives and works in close proximity to them. During the plan period the coal mining industry is likely to continue to seek to mine parts of the shallow coalfields by opencast coal methods. Opencast coal mining by its nature, includes the movement of large amounts of overburden and use of heavy earth moving equipment, and can be particularly intrusive to the local environment and communities to such an extent that these impacts may override any apparent benefits that could arise from the development. The degree to which the potential adverse impacts may be mitigated can only be determined in the light of the full details of a particular proposal. When considering future development proposals the disturbance that will be created must be weighed in relation to the potential community, environmental and other material planning benefits

arising from the proposal which may include derelict land reclamation and the creation of amenities.

4.38 In terms of the identification of future working areas MPG3, at paragraph 15 advises that Mineral Planning Authorities have the discretion to indicate:-

1. preferred areas for working or spoil disposal; or
2. broad areas of search; or
3. the extent of the shallow coalfield area and the constraints within that area, or
4. a combination of all three.

4.39 The County and City Councils do not have sufficient technical and commercial information necessary to identify those parts of the coalfield which, having regard to environmental and amenity considerations, would be of interest to the coal industry.

4.40 There are no nationally or regionally agreed forecasts for opencast coal production from which an indication may be given of the level of output to which Staffordshire and Stoke on Trent may reasonably be expected to contribute.

4.41 The energy market remains fluid and the contribution that opencast coal may make to future energy needs compared with deep mine output, coal stocks and other sources of supply is unclear.

4.42 There is no evidence to suggest that other forms of development threaten the sterilisation of significant resources of coal to a degree which warrants the prior removal of coal and MLP Policies 4, 5 and 6 will seek to prevent, where appropriate, the sterilisation of shallow coal seams by surface development.

4.43 Since the Structure Plan was prepared significant changes have taken place in environmental policy terms at a time of profound change in the coal industry. Therefore it is impractical and inappropriate to define future areas for working as originally envisaged in the Structure Plan. The MLP, therefore, adopts the third option suggested in MPG3 and identifies the extent of the shallow coalfield areas and environmentally important areas within them as described in Appendix 1 and shown on Inset Maps 1 to 4 inclusive.

~~MLP~~ ~~Policy 42:~~

~~**Planning applications for opencast coal extraction will be considered on their merits and in relation to the Development Plan and national and regional planning guidance and should demonstrate that:-**~~

~~1. **the site can be worked without causing an unacceptable adverse impact or**~~

~~2. **the material planning benefits arising from the proposal outweigh any unacceptable adverse impacts.**~~

~~**The Mineral Planning Authority will take into account need and/or alternative sites for coal where this is advanced by the applicant as a material consideration which might outweigh the unacceptable adverse impact of the development.**~~

Reworking Colliery Waste Tips

4.44 In certain circumstances it may be viable to rework old colliery spoil tips either to recover coal or for extracting minestone. Minestone consists mainly of a variable mixture of burnt and unburnt colliery waste composed of mudstones, siltstones, sandstones, ironstone and ash. The traditional uses for minestone include: common fill, land reclamation, sea and river defence, road and rail embankment, brick and aggregate production. The demand for minestone is therefore largely dependent upon the state of the construction industry.

4.45 The heterogeneous nature of tip material often makes it difficult to predict with accuracy the quantity of minerals to be recovered. The majority of the tips within the Plan area have been examined for such purposes and the better prospects already pursued. The prospects of further recovery operations cannot be discounted although the Plan makes no specific proposals in this regard.

4.46 Whilst many spoil tips appear as unnatural and incongruous features in the landscape, this is not always the case. A number of the older smaller tips in particular have become naturally revegetated and now appear as natural landscape elements, sometimes with considerable nature conservation and archaeological interest. In these circumstances reworking operations can have negative impacts in visual and nature conservation terms. Such operations are also likely to generate traffic and may lead to dust, fumes and pollution of watercourses, and there is always the risk of spontaneous combustion of tip material if it is opened up. On the other hand removal and restoration of tip sites may offer the opportunity to remove eyesores and bring land into beneficial use as well as maximising recovery of coal resources and other valuable minerals in a manner consistent with the principles of sustainable development. In carrying out such operations it is essential to ensure that environmental disturbance is minimised, that the project will be completed within a reasonable timescale and appropriate restoration secured.

~~**MLP Policy 43:**~~

~~**Planning applications for the reworking of colliery waste tips will be required to demonstrate that the site contains proven deposits of coal of commercial interest and that the reworking will be undertaken without causing an unacceptable adverse impact and satisfactory restoration can be secured within a reasonable timescale.**~~

HYDROCARBONS

Introduction

4.47 Oil and gas have been formed from decayed organic material deposited millions of years ago and subjected to high temperatures and pressure over time. The deposits are held within the pore spaces of reservoir rock such as coal and sandstones.

4.48 There has been a renewed, commercial interest within the UK in on-shore gas and oil developments with particular reference at present to the application of techniques developed in the United States for the recovery of coal-bed methane.

4.49 The development of hydrocarbon resources involves three more or less separate stages; exploration, appraisal and production. All such stages are now covered by the one Petroleum Exploration and Development Licence (PEDL) system operated by the Department of Trade and Industry.

4.50 Exploration and Appraisal - Documentary search and study of old mining records may be supplemented by seismic surveys to establish underlying rock structure. Subject to the grant of planning permission deep boreholes require to be drilled to prove the existence of hydrocarbons and to test their characteristics. The exploration and appraisal activity, although of relatively short duration can be intense and may cause disturbance particularly if night time and evening working is involved. Deep boreholes can also intersect important aquifers and precautions may need to be taken to avoid contamination of groundwater. Policies for the control of exploration activities are dealt with in Chapter 3.

4.51 Production - Generally oil is pumped to the surface by artificial means, while gas production is by natural flow. The rock itself is not removed and the prospect of induced subsidence is remote. There is usually some limited flexibility in the location of the wellhead site which is small in relation to the extent of the oil or gas field beneath. Oil and gas production may require the establishment of gathering stations for subsequent disposal. The use of pipelines would minimise traffic generated from the site. Coal-bed methane development, and phased field development plans for conventional petroleum production will be accomplished using an incremental approach whereby new wells and production facilities will be added to the existing apparatus already in production.

Planning Policy Context

4.52 In recognition of the national importance attached to hydrocarbon resources, it is Government policy, as explained in Circular 2/85, "Planning Control over Oil and Gas Operations", to encourage exploration for and production of oil and gas consistent with the full and proper protection of the environment. A draft MPG has recently been published "On-Shore Oil, Gas and Coal-bed Methane Development" which maintains a sustainable development theme and highlights recent interest in Coal-bed methane.

The Hydrocarbon Resource

4.53 Hydrocarbons have been detected in boreholes in the Coal Measures, Millstone Grit and Onecote Sandstones. Oil has been discovered to impregnate coal seams in the Potteries

Coalfields. To date no economic accumulations of oil and gas have been developed and future prospects are likely to be limited.

4.54 There is a greater probability of developing commercial coal-bed methane supplies in the exposed and concealed extensions to the coalfields where it can be pumped from the coal seams between 200 metres to 1,500 metres below ground level. The Potteries coalfield appears to offer the best potential.

Production

4.55 The only production of hydrocarbons is in association with former deep mining operations particularly in the north of the Plan area where methane gas has been collected for commercial use.

Provision for Future Hydrocarbon Extraction

4.56 There is a possibility of further hydrocarbon exploration and development within the Plan period. The Government's view is that it is not for the planning system to seek to set national limits on, or targets for, any particular source or level of energy supply. The application of landbank policy to future hydrocarbon extraction is not appropriate. Notwithstanding the national presumption in favour of development there may be exceptional circumstances where the impacts of proposed development on the environment and the quality of life of a locality are such that planning permission should not be granted.

4.57 Proposals for hydrocarbon development will be considered in the context of the relevant general policies of Chapter 3 and MLP Policy 44 below.

~~MLP~~ ~~Policy 44:~~

~~**Proposals for the exploration and production of oil and gas will be supported where the development can take place without causing an unacceptable adverse impact and subject to the proposals being compatible with the Development Plan and national and regional planning guidance.**~~

4.58 Current Areas of Interest - Four exploration licences have already been granted with respect to the areas shown on Plan 1. The current focus of attention is on coal-bed methane and natural gas extraction although the licences also cover oil. These licences are without prejudice to the continuation of methane drainage and disposal arrangements associated with existing deep mines.

4.59 The areas of interest are substantial and the extent of viable deposits remains unproven. The County and City Councils are anxious to ensure that minerals are dealt with in a comprehensive, not piecemeal fashion. Given the three stage procedure involved in the exploration, appraisal and production of large conventional oil and gas fields, the incremental development of coal-bed methane and Phased Field Development Plans for smaller conventional petroleum resources, each of which has different infrastructure requirements and impacts it is necessary for the Mineral Planning Authority to have a comprehensive strategy of how a

prospect will be developed in order to analyse the relevant planning considerations and ensure that the adverse impacts are minimised.

~~MLP~~ ~~Policy 45:~~

~~Planning applications for hydrocarbon production will need to demonstrate how they form part of a comprehensive strategy for the development of the oil or gas field, and that the proposed location identified to extract the hydrocarbon resource does not cause an unacceptable adverse impact.~~

INSET MAP 1

INSET MAP 2

INSET MAP 3

INSET MAP 4

CHAPTER 5

EVAPORITES

CHAPTER 5

EVAPORITES

5.1 Evaporite minerals are sediments arising from the evaporation of seawater. Three types of evaporites have been worked in Staffordshire: Gypsum, Anhydrite and Salt (Brine).

GYPSUM AND ANHYDRITE

Introduction

5.2 Gypsum and anhydrite are both forms of calcium sulphate. They differ in terms of their chemical composition. Gypsum has water in its molecular structure whereas anhydrite does not. Anhydrite, however, is capable of slowly taking up water and changing to gypsum over time. Within Staffordshire they occur together in varying proportions within the Tutbury Sulphate Seam. Generally speaking, where the mineral contains a higher gypsum content (and is hereinafter referred to as "gypsum") it is suitable for use in the manufacture of plaster products. On the other hand, where the mineral contains a higher anhydrite content (and is hereinafter referred to as "anhydrite") it is suitable for use primarily in the control of the setting time of cement.

5.3 The minerals have been mined in the vicinity of Fauld and Hanbury for many centuries. Alabaster also occurs within the seam. It is a very pure form of gypsum which is worked in small quantities for ornamental purposes.

5.4 The Fauld Mine, situated between Draycott-in-the Clay and Tutbury, was developed in the nineteenth century and extensions were granted north of the B5234 in the 1950s, and 1960s and south of the B5234 at Rangemore and Tatenhill in 1987 and 1993 respectively.

5.5 The minerals are currently extracted by pillar and stall underground mining methods at depths between 60 and 100 metres below existing ground level. Excavated materials are brought to the surface by means of adits located at Fauld Mine where they are processed and despatched by road. The mine is currently operated by British Gypsum and employs about 50 persons.

5.6 The production of gypsum for plaster production ceased in 1989. The Fauld plaster factory continued to operate for a time using imported gypsum but closed in 1993. Mine production now concentrates on extraction of anhydrite for use in the cement industry.

Planning Policy Context

5.7 Minerals Planning Guidance Note 1 (MPG1) states in Paragraphs B12 and B13 that gypsum is an important raw material for the building industry and that a natural mixture of gypsum and anhydrite is important where high strength cements are required.

5.8 There is no specific Minerals Planning Guidance Note published for gypsum/anhydrite. Mineral Planning Guidance Note 10 (MPG10) provides guidance to ensure that there is an

adequate and continuous supply of raw materials for the cement industry to maintain production in a manner which pays full regard to the environment. Whilst guidance is provided regarding landbank provision for primary minerals (chalk and limestone) and secondary minerals (clay and shale), no reference is made to landbank requirements for tertiary minerals such as anhydrite although it is recognised that these minerals are a necessary part of cement manufacture.

5.9 Structure Plan Policy 140 and MLP Policy 36 seek to control the adverse subsidence effects arising from underground working of gypsum and anhydrite. The impact of mining on ground stability has been dealt with in Chapter 3, paragraphs 3.99 and 3.100.

The Gypsum and Anhydrite Resource

5.10 Whilst gypsum/anhydrite resources are widely distributed in Britain, the occurrence of anhydrite mines producing minerals suitable for use in the cement industry is limited. The principal sources of anhydrite in the UK are in Cumbria, East Sussex and the Fauld Mine in Staffordshire. The resources at Fauld occupy a strategically important geographic position in relation to cement works in the centre of the Country, including the Cauldon Cement Works at Waterhouses in Staffordshire. Gypsum is more widely available being mined in Leicestershire and Nottinghamshire as well as occurring in Staffordshire.

5.11 Within Staffordshire, the Tutbury Sulphate Seam comprises discontinuous masses of gypsum, anhydrite and mudstones and may be up to four metres thick. The seam lies to the west of Burton-on-Trent (as shown on Plan 1) in a basin plunging to the west. As the seam progresses to greater depths the proportion of anhydrite to gypsum increases. There remain substantial, unproven potential resources within the Tutbury Sulphate Seam.

Gypsum and Anhydrite Production

5.12 During the 1980s when the mine supplied gypsum for the manufacture of plaster products, in excess of 600,000 tonnes of mineral were extracted per annum. Now that operations are geared to supplying additives to the cement industry, anhydrite production based on current manpower and plant capacity runs at about 350,000 tonnes per annum. British Gypsum have indicated that Fauld Mine produces about 50% of the anhydrite used in the UK cement industry and is therefore a supplier of national significance.

5.13 The market for anhydrite is directly linked to the fortunes of the cement industry. British Gypsum indicate that productive capacity at the plant could be raised to 450,000 tonnes per annum to meet increased market demands. A projected production range of 350,000-450,000 tonnes per annum is therefore a reasonable basis upon which to assess the future prospects of Fauld Mine.

Provision for Future Gypsum and Anhydrite Extraction

5.14 Because of their different chemical composition and markets it is deemed appropriate to consider provision for future gypsum and anhydrite extraction separately.

5.15 Fauld mine is the only mine producing or capable of producing these minerals in the Plan area at present. There is no evidence to suggest that a new mine is likely to be opened up elsewhere within the Plan area to mine these minerals. Fauld mine is particularly important because:-

1. Anhydrite deposits available for supply to the cement industry are limited and the Fauld Mine is a major national supplier. Substitute materials such as by-products from the operation of flue gas desulphurisation units, are not readily available at present to displace the requirement to mine this mineral.

2. Fauld Mine occupies a strategic geographic position, well located in relation to existing cement works in the central parts of England and Wales.

3. Fauld Mine offers potential to access substantial unproven resources of gypsum or anhydrite by underground mining methods in this part of Staffordshire.

4. Considerable investments have already been made in the mineral extraction and processing infrastructure at Fauld Mine.

5. The mine provides material benefits to the local economy in terms of employment and work for sub-contractors.

5.16 In this context and because there is only one source of production from one company, the MLP seeks to develop a mineral landbank for the Fauld mine production site. This approach is consistent with mineral planning guidance produced by National Government for nationally important minerals such as limestone for cement production and silica sand.

Gypsum

5.17 The Fauld mine has planning permission to work about 5.5 million tonnes of gypsum from the Rangemoor area south of the B5234.

5.18 Development of the Rangemore area commenced but the higher gypsum content of the mineral and distance to the mine adits has rendered this prospect less economically attractive at present. This planning permission expires on 31 December 2007 beyond the end of the plan period. The area is not actively being mined. Nevertheless, the area remains a strategic gypsum reserve from which gypsum could be recovered in the event that market conditions change.

5.19 Having regard to the permitted gypsum reserve at Fauld mine and the cessation of gypsum mining, it is not considered appropriate for the MLP to propose a mineral landbank policy for gypsum. In the event that gypsum mining is reactivated then this matter would be reassessed in forthcoming reviews of the MLP and any planning application submitted in the interim would be considered in relation to MLP Policy 12.

Anhydrite

5.20 The Fauld Mine has planning permission to work 8.6 million tonnes of proven anhydrite reserves (at 1 January 1994) from two discrete areas: North of the B5234, at Greaves Wood/Six Roads End and south of the B5234 at Tatenhill.

5.21 The northern area is subject to old planning permissions which do not contain planning conditions specifying a time limit for cessation of mineral extraction. Substantial parts of the

area have been mined. An estimated 3.5 million tonnes of anhydrite reserves suitable to supply the cement industry are known to exist.

5.22 Mineral development has commenced in the Tatenhill area south of the B5234. Conveyor systems, electrical supply and pumping arrangements are designed to secure extraction of the permitted mineral workings. The area contains about 5.1 million tonnes of anhydrite suitable for supply to the cement industry. Planning permission to extract minerals from the Tatenhill area expires beyond the end of the plan period on 31 December 2007 and that part of the mine is required to be sealed on completion of the permitted mining operations.

5.23 Having regard to a projected annual production in the range of 350,000 to 450,000 tonnes per annum, the likely anhydrite requirement up to the end of the plan period would be in the order of 4.2 to 5.4 million tonnes. Permitted reserves will be sufficient to accommodate this requirement leaving residual permitted reserves of between 3.20 to 4.40 million tonnes of anhydrite as a contribution to the landbank.

5.24 In the absence of specific national planning guidance for anhydrite, and in view of its importance to cement manufacture, Minerals Planning Guidance Note 10, which deals with "Provision of Raw Materials for the Cement Industry", gives some assistance in the determination of an appropriate landbank policy. MPG10 requires Mineral Planning Authorities to maintain a landbank of permitted reserves of raw material for each site of between 15 to 25 years depending on the future level of investment in the cement plant. Staffordshire County Council has no evidence to suggest that there is any future programme of major capital investment in the plant at Fauld mine to warrant providing more than the minimum at this time. Chapter 7 proposes a landbank policy for primary and secondary cement minerals. A similar policy is advanced for anhydrite.

MLP **Policy 46:**

The landbank for anhydrite for Fauld Mine will be 15 years.

5.25 Assuming continued projected annual production is in the range of 350,000 to 450,000 tonnes then between 9.45 and 12.15 million tonnes would be required to maintain the landbank throughout and at the end of the Plan period. This is in excess of the permitted residual reserves referred to in paragraph 5.20 above. The shortfall of reserves to maintain the landbank at the end of the plan period is between 0.85 and 3.55 million tonnes. For convenience the supply/demand calculations are summarised below:-

Table 4 : Anhydrite Estimated Production Requirements (million tonnes)

Projected Annual Production Rates	Permitted Reserves (1994)	Production Requirement 1994-2006 (12 Years)	Landbank Requirements 2006-2020 (15 Years)	Total Requirements 1994-2020 (27 Years)	Projected Shortfall
0.35	8.6	4.20	5.25	9.45	-0.85
0.45	8.6	5.40	6.75	12.15	-3.55

5.26 In order to maintain production future potential mineral resources have been identified in the "Newchurch Area". Preliminary investigations by British Gypsum suggest that this area may contain about 5 million tonnes of anhydrite. This resource, if proven, could then be worked as an extension of the current Tatenhill operations to secure the comprehensive working of the deposit in the south west sector of the resource area and maximise use of existing infrastructure investments in that sector of the mine.

5.27 If the mineral in the Newchurch area is not evaluated then the likelihood of the mineral being worked at a future date is reduced because; mine infrastructure would require to be moved elsewhere in the mine; the costs of relocation would be borne by the Newchurch area; and the area would already have been sealed under the terms of the Tatenhill planning permission. Maximising use of this scarce mineral is consistent with the principles of sustainable development.

5.28 It is acknowledged that the potential Newchurch area falls within a Special Landscape Area designation. However, having regard to the strategic importance of the mineral resource and the underground nature of mining operations it is considered that this designation would not be prejudiced by continued mineral extraction at the site subject to access being restricted to the existing Newchurch Fauld Mine adits and no permanent surface development taking place.

5.29 The Newchurch area includes a number of sites of ecological and potential archaeological interest, including part of Braken Hurst Site of Special Scientific Interest, whose location and character would require to be taken into consideration during the design and implementation of prospecting operations and whose integrity should be protected in the design of underground mining proposals.

5.30 The East Staffordshire Borough Council had in its Draft Borough Wide Local Plan identified an area for the development of a new settlement at Needwood. This was located to the north of the Newchurch area referred to above. In June 1996 the Borough Council published modifications to the Plan which recommended deletion of the proposed settlement.

5.31 It is proposed that the Newchurch Area be allocated as an Area of Search. The designation of an Area of Search is felt to be appropriate because the mineral has not been fully proven in the context of market needs and there is no immediate demand.

MLP **Proposal 1:**

That the Newchurch Area as defined on Inset Map 5 be allocated as an Area of Search for the underground working of anhydrite as an extension to the existing Fauld underground mine.

SALT

Introduction

5.32 Salt occurs with varying degrees of scarcity. Most of the salt produced in the United Kingdom comes from the Northwich area of Cheshire. Salt, in the form of brine, has historically been extracted from natural brine springs or by pumping in Staffordshire for many years. No commercial extraction is taking place at present. The brine can be used to produce white salt or as a raw material for the chemical industry.

Planning Policy Context

5.33 MPG1 gives no planning guidance for salt and the approved Structure Plan contains no policies specific to salt extraction.

The Salt Resource

5.34 Salt occurs as discontinuous lenses within marls forming part of the Stafford Halite Formation. The full extent of the formation is unknown but it is conjectured to be located in the central parts of Staffordshire as shown on Plan 1. The lenses are generally less than 12 metres thick in a zone some 65 metres thick located at depths greater than 50 metres from the surface. Where the salt dissolves in groundwater it forms brine which may appear as natural brine springs or it can be recovered by pumping operations.

5.35 It is possible that saliferous deposits occur elsewhere in the Plan area. The Cheshire saltfield extends into the north west corner of Staffordshire at Betley, Newcastle under Lyme.

Salt Production

5.36 In recent times brine has been pumped from the salt deposits beneath Stafford and prior to the cessation of pumping by 1971 it is estimated that about 5 million tonnes of salt had been extracted.

Provision for Future Salt Extraction

5.37 There is no evidence to suggest that there is any commercial interest in further brine pumping in the Plan area and the formulation of a mineral landbank policy in such circumstances would not be appropriate. However, the prospects of such proposals coming forward within the plan period cannot be discounted. Any planning applications which do come forward will be considered in the context of the development plan and national and regional guidance. In particular the potential for surface instability arising from such operations remains a material consideration in determining any planning application.

INSET MAP 5

CHAPTER 6

CLAY AND SHALE

CHAPTER 6

CLAY AND SHALE

Introduction

6.1 The extraction of clays and shales has been taking place since before the 18th Century. The industry forms an important part of the area's history, indeed the industries based on clay extraction have been used to describe the Stoke area as "The Potteries". The number of extraction sites and associated "pot banks" has clearly reduced since those times but the industry still plays a very important role in the economy.

6.2 The majority of clay and shale minerals extracted supply the production of bricks and tiles. Other minor uses include ceramics, construction, horticulture and animal feed. The clays and shales used in these industries are dealt with in this Chapter. Another significant and specialist use of shale is in cement manufacture. This is dealt with separately in Chapter 7.

6.3 Clay extraction in the past has taken place from many small pits both in rural and urban areas. There are currently 13 operating clay sites, all of which supply brick and tile plants.

6.4 The nature of clay extraction varies but in general clay extraction is at a much smaller scale of output than, for example, opencast coal or sand and gravel extraction and most sites have been operating for many years. Their technical suitability in many cases for landfill can further add to the duration of site operations but equally can also provide a more satisfactory means of restoration.

Planning Policy Context

6.5 There is no detailed national guidance on the production and use of clay and shale minerals. MPG1 makes the following reference to brick clays; *"Mineral Planning Authorities should have regard to the need for bricks, tiles and pipes generally and engineering fill and the continuing demand for products with particular physical and aesthetic qualities. Such qualities are mostly the direct result of the physical characteristics of the raw material used which may be available in only a few locations (e.g. facing and engineering bricks and floor and roof tiles). Authorities should consider these special needs, bearing in mind that they will usually involve quite small scale operations, in the light of the social and environmental implications of clay extraction in the area."* (Paragraph B14).

6.6 The Staffordshire Structure Plan does not have any specific policies relating to clay production. However in the context of the treatment of clay and shale in the MLP, Structure Plan Policy 124 is relevant. It requires that in the absence of national or regional guidelines on clay production or landbank requirements the County and City Councils will seek to restrict the total landbank to a level of approximately 20 years where appropriate.

The Clay and Shale Resource

6.7 Clay and shale including fireclay, have chiefly been exploited from the Productive Coal Measures and the overlying Etruria Formation. Other clays which have, and in some cases are, being worked include the Radwood Formation (Willoughbridge Wells), the Coal Measure mudstones (Kingsley), the Enville Beds, Mercia Mudstones and the Newcastle Beds. These are generally inferior to the Etruria Formation but may become of more interest, for blending or as an alternative clay, in the future as technology develops and as the need to supply alternative clays grows with the increasing scarcity of Etruria Formation.

6.8 Fireclays (seat earths) are associated with coal seams. They are no longer exploited from underground collieries but potential remains to exploit the resource in conjunction with opencast coal extraction. There has been no recorded extraction of fireclays in the Plan area since 1989.

6.9 Clays worked within the Etruria Formation are locally known as Etruria Marl. They are by far the most important and extensively worked of the clays. Etruria Marl is mainly confined to the West Midlands with the majority outcropping in Staffordshire and the City of Stoke on Trent. It outcrops in four areas, in and around Stoke on Trent and Newcastle under Lyme in the North, Cheslyn Hay near Cannock, Tamworth, and Himley near Dudley in the South as indicated on Plan 1.

6.10 The most important products with regard to the consumption of clays and shales (excluding Cement) are bricks and tiles. The inherent quality of Etruria Marl allows higher quality products to be manufactured such as engineering bricks, facing bricks, pavers, roof and floor tiles and the famous Staffordshire Blue brick used for engineering purposes and valued for its aesthetic qualities.

6.11 There are some important distinctions between the different horizons in relation to the quality of Etruria Marl. The Etruria Formation is divided into the Lower, Middle and Upper Divisions. The highest quality Etruria Marl occurs in the Lower and Middle Divisions and the inferior Etruria Marl occurs in the Upper Division. The quality differences between the divisions is an important consideration in the North of the Plan area because most of the remaining unworked high quality Etruria Marls have been sterilized by other forms of development leaving few remaining exploitable resources.

6.12 Detailed geological information is not available to make the distinctions between the Divisions in the south of Staffordshire. The quality of Etruria Marl is believed to be generally good.

6.13 The Upper Division of Etruria Marl is deemed by the brick industry to be inferior and generally unsuitable for high quality brick and tile production. It is however extracted at Lightwood, near Stoke on Trent, where selective extraction and additional processing make it suitable for the manufacture of floor and roofing tiles.

6.14 The Middle and Lower Divisions have a high potential as sources of Etruria Marl for high quality brick and tile making. The qualities of the Lower and Middle Divisions of Etruria Marl which make it important for brick and tile manufacture are the rich red fired colours, the wide vitrification range, the relative freedom from impurities and the strength and durability of the finished product e.g. frost resistance and low water absorption. In addition its ability to

withstand reduced oxygen firing conditions makes it suitable for the production of Staffordshire Blue bricks which can only be produced from Etruria Marl and very few other clays.

Clay and Shale Production

6.15 National production of clays and shales fluctuates according to market demand. Periods of peak production in 1983 and 1989 saw extraction at over 20 million tonnes whilst the recent recession caused a fall to just over 11 million tonnes in 1993. Production at a regional level shows a similar pattern of fluctuation peaking at 3.3 million tonnes in 1989 and falling to 2.1 million tonnes in 1992. Production in 1994 showed signs of a recovery at 2.6 million tonnes.

6.16 Brick and Tile products made from Etruria Marl are sold nationally and internationally, but distribution and traditional local demands for particular colours and types of product and haulage costs means that a higher proportion of bricks and tiles are sold in the West Midlands than, for example, in the South East. Staffordshire Blue bricks however are particularly important to the national and international markets.

6.17 Annual production of clays for ceramics in the Plan area is small compared to bricks and tiles. It has varied between 9,000 and 12,000 tonnes since 1984. The use of clays for construction purposes has fallen since 1979 from 114,000 tonnes to a negligible amount in the early 1990s. In general the other uses of clays are minor. They include horticulture and animal feeds.

6.18 The extraction of clay produces very little waste. Most of the waste is in the form of overburden and is used for restoration purposes. The production of bricks and tiles does produce some waste, but some inferior products can be sold as "common" cheaper bricks. Other broken products are generally used as hardcore, for example in the maintenance of quarry haul roads.

Provision for Future Clay and Shale Extraction

6.19 The quantity of clay and shale which has planning permission and forms the landbank of reserves for the Plan area at 1 January 1996 was 45 million tonnes. The landbank has risen from 43.4 million tonnes in 1994 as a result of reserve reassessment and new planning permissions.

6.20 There are no forecasts or targets for future clay and shale production (except for Cement) provided by National Government. Estimation of future growth in production levels is linked in broad terms to the overall health of the economy. The County and City Councils have therefore looked at historic production trends and future growth scenarios. In accordance with recent national guidance for other minerals the average production for the past 3 years has been calculated. Average production of clay and shale between 1993 and 1995 was 695,000 tpa. This figure is compared to the historic average of the past 16 years production between 1980 and 1995 which was 814,330 tpa. These average figures disguise variations in historic production which range between 1.3 million tonnes and 0.6 million tonnes within the 16 year period. To estimate future production levels two growth scenarios have been applied. The lower scenario assumes a growth of 1% which is low compared to the future UK growth estimates (HM Treasury Forecast for Growth of UK Economy, March 1996). The upper scenario assumes a growth of 3.5% which is above growth estimates and is in line with growth projections given by the clay industry.

Table 5 : Clay and Shale Estimated Production Requirements (million tonnes)

Average Annual Production 1993-95	Growth Factor	Production Requirement 1996-2006 (10 Years)	Landbank Requirement 2006-2020* (15 Years)	Total Requirement 1996-2020 (25 Years)	Permitted Reserve 1.1.96	Projected Surplus
0.695	1%	7.3	11.5	18.8	45	+26.2
0.695	3.5%	8.4	14.7	23.1	45	21.9
Average Annual Production 1980-95						
0.814	1%	8.6	13.5	22.1	45	+22.9
0.814	3.5%	9.9	17.2	27.1	45	17.9

* Landbank requirement calculated by multiplying 2005 production levels (with growth factor) applied by 15 years.

6.21 There is no national guidance regarding the size of the landbank for clay. Generally the trend in national planning guidance has been for the reduction of minimum landbank periods. The County and City Councils consider that it is appropriate to seek to maintain a clay and shale landbank of 15 years being equitable with the size of the landbank promoted for other minerals in the MLP.

MLP ~~**Policy 47:**~~

~~**The landbank for clay and shale (for other than cement manufacture) will be 15 years.**~~

6.22 The total mineral requirement for clay and shale over the plan period (from 1 January 1996) and to maintain a 15 year landbank is estimated therefore to vary between 19 and 27 million tonnes. Whichever production pattern is used to estimate future production, historic or more recent, low or high growth factors, it is evident that the current stock of permitted reserves is sufficient to maintain production during the plan period, for a 15 year period thereafter with a surplus of between 18 and 26 million tonnes.

6.23 There are significant reserves of permitted clay and shale which exceed the clay requirements during the plan period and the 15 year landbank referred to in MLP Policy 47 above. Consequently there is no need to identify additional sites to maintain a landbank in accordance with MLP Policy 47.

6.24 Nonetheless it is accepted that there may be exceptional circumstances where the release of further resources might be acceptable. Where there is a claimed overriding need to extract these clays during the plan period, a case of exceptional circumstances will need to be

demonstrated in accordance with MLP Policy 38. The applicant will need to show that all practicable steps have and will be taken to exploit existing permitted reserves before new resources are released. The County and City Councils will also encourage technological research to be undertaken to develop methods and identify new markets to allow the use of poorer quality clays in the future.

6.25 It is recognised that, in the north of the Plan area high quality Etruria Marl is becoming scarce. In response to this two steps are proposed:

1. To allocate a site on which current development proposals contained in adopted District Local Plans threaten to sterilise mineral resources.

2. To protect Etruria Formation resources by designating land as Mineral Safeguard Areas.

6.26 The following allocation will, if implemented, release further high quality marl at the same time as preventing the sterilisation of the mineral by development proposals if the mineral can be proven and extracted prior to development taking place.

6.27 **Walleys:** The Etruria Marl at the operating Walleys site is high quality and is a primary source of clay for Chesterton, Parkhouse and Keele works for both brick and tile manufacture. The operators have proposed an easterly extension, which is proven to contain some 5.5 million tonnes of Etruria Marl lying to the west of the Apedale Fault. The extension is likely to facilitate access to high quality Etruria Marl which could be sterilised if a proposed housing allocation in the Newcastle under Lyme Local Plan is implemented prior to mineral extraction and by the progressive and early restoration of the existing quarry by infilling. In addition the Walleys allocation could facilitate the comprehensive working of the resource within the area. On this basis it is considered that the extension to Walleys Quarry should be allocated as an Area of Search. An "Area of Search" designation is appropriate because access arrangements have yet to be negotiated.

6.28 Any proposal to extract proven deposits of marl from this site would need to provide for a final landform suitable for the afteruse in accordance with the housing allocation in the Newcastle under Lyme Local Plan. The allocation of Walleys Quarry Area of Search will be reassessed at the review of the MLP in the context of progress made with proposals for mineral extraction, waste disposal and housing development.

~~MLP~~ **~~Proposal 2:~~**

~~That an extension to Walleys Quarry as defined on Inset Map 6 be allocated as an Area of Search for the winning and working of Etruria Marl.~~

Safeguarding Etruria Formation Resources

6.29 The Etruria Formation is a finite resource which is becoming scarce in the north of the Plan area because the resource has been worked for many years and much has been built upon. This scarcity issue is compounded by the strong development pressures in and around the Stoke and Newcastle conurbation which threaten to sterilize more of the mineral. Therefore in

support of Policy 6 it is necessary to identify Mineral Safeguard Areas (MSAs) within which there are potential remaining Etruria Formation resources which may be of commercial interest. In addition to the Etruria Formation the Radwood Formation is also identified as a Mineral Consultation Area.

6.30 The MSAs are based upon the best publicly available information and are largely defined by the outcrop of the Etruria Formation as mapped by the British Geological Survey (BGS) (Environmental Geology of the Stoke on Trent Area, Map 6 : Surface Mineral Resources, 1990). The definition of MSAs is based on conjectured geological maps and other general information. Detailed ground investigations will be necessary to prove the existence and quality of the Etruria Formation resource in specific areas.

6.31 The MSAs have been defined by identifying the residual Etruria Formation outcrop after excluding that part of the resource which is effectively sterilised by existing built development and approved local plan proposals, land where marl has already been extracted and Etruria Formation which is covered by over 4 metres of overburden.

6.32 The fact that a site may fall within an MSA is solely to protect the mineral resource. It does not mean that planning permission to exploit those resources will be forthcoming within the foreseeable future. The MLP supports the concept of sustainable development and therefore the long term future supply of these scarce and valuable resources must be protected wherever possible.

MLP **Proposal 3:**

To designate as Mineral Safeguard Areas the areas shown on Inset Maps 7-10 to safeguard remaining Etruria Formation resources in North Staffordshire and the City of Stoke on Trent.

~~INSET MAP 6~~

INSET MAP 7

INSET MAP 8

INSET MAP 9

INSET MAP 10

CHAPTER 7

SHALE AND LIMESTONE FOR THE THE CEMENT INDUSTRY

CHAPTER 7

SHALE AND LIMESTONE FOR THE CEMENT INDUSTRY

Introduction

7.1 The cement industry is of major importance to the national economy as it supplies an essential product to the construction and civil engineering industries. The Cauldon Cement Works, near Waterhouses in Staffordshire Moorlands is owned by Blue Circle Industries plc. (BCI), and is the only cement works in the Plan area. It employs over 200 people. Limestone and shale, both of which are used in the cement manufacturing process, are extracted from areas adjacent to the cement works.

7.2 Given the national importance of cement there is specific mineral planning guidance on "The Provision of Raw Materials for the Cement Industry" set out in MPG10. To facilitate a clear relationship between national guidance and the provisions in the MLP both limestone and shale for use in cement manufacture at Cauldon Cement Works are dealt with together in this Chapter.

7.3 The Cauldon Cement Works is extensive and the last major investment took place in the plant in the mid 1980s. The site has one of the largest reserves of mineral in the country and with a large plant capacity is of national strategic importance. Limestone is the primary mineral and shale is the secondary mineral used in cement manufacture and both are essential to the production of cement. Other tertiary minerals used in small quantities include anhydrite, sand and bauxite which are imported.

Planning Policy Context

7.4 MPG10 states that in the context of the importance of the cement industry to the national economy it is *"necessary to have an adequate and continuous supply of raw material to maintain production* (paragraph 2), *to encourage domestic production to counter the rising import trend and to provide employment* (paragraph 3). *The encouragement of cement production must be balanced against important environmental and conservation interests."*

7.5 MPG10 requires that landbanks of primary and secondary raw materials (limestone and shale) for cement manufacture should be maintained for each site. The size will depend on the scale of capital investment but should normally aim to maintain a landbank of at least 15 years. Where significant investment takes place a landbank of at least 25 years, or more than 25 years for a proposed new plant, is recommended.

7.6 The approved Structure Plan does not have any specific policies dealing with the extraction of limestone and shale for cement manufacture.

The Shale and Limestone Resource for Cement Manufacture

7.7 Carboniferous limestone outcrops over a fairly restricted area within the north-east corner of Staffordshire adjacent to the Peak District National Park. Limestones are often either overlain, underlain or interbedded with clays or shales, providing the opportunity for recovery of both raw materials at one location. In the vicinity of Cauldon the Upper Carboniferous Shale overlies the limestone but the relationship is complicated by faulting and folding.

Cement Production

7.8 At a national level, in the 1970s, Britain was a major exporter of cement but in the 1980s production fell. From 1987 onwards there was an increase in domestic demand which outstripped domestic production and as a consequence imports rose to meet demand, peaking in 1989. Subsequently production decreased with the onset of economic recession.

7.9 The West Midlands is a significant cement producing region. Notably, production of cement on a regional basis rose in the late eighties, in contrast to falling national production. The West Midlands produced more than it consumed in the late 1980s but rising regional consumption had almost balanced the equation by 1989. Cauldon Cement Works is the only plant in the region which is self sufficient in primary and secondary materials. The other two plants in the West Midlands Region, in Warwickshire, import the majority of their mineral requirements.

7.10 Production at Cauldon was buoyant up until mid 1990 when the recession took hold and production fell. Since mid 1993 it has been rising. In 1990 the Cauldon Cement Works was one of the six largest plants in Great Britain. It has expanded whilst production at other plants has contracted in the face of cheaper imports. However any further expansion at the plant would require major investment and locational constraints would need to be overcome.

7.11 The market for the cement produced at the Cauldon Cement Works is primarily in the Plan area (50%) with some 30% sold within the West Midlands and nearly 20% outside the region.

7.12 In addition to the production of minerals a consideration of the MLP is the production of quarrying and processing waste. The limestone and shale quarrying operations do not produce significant quantities of waste other than overburden, but the processing of minerals during the production of cement does produce small quantities of waste. All the wastes are inert and are disposed of within the site. The existing permission provides long term tipping capacity.

7.13 The extraction of limestone and shale at Cauldon were originally permitted under IDO consents granted in the late 1940s. Two extensions to the limestone quarry were granted in the 1950s and a further extension was granted in 1989. A scheme of working for the operation of the quarry was approved under this consent.

7.14 The most recent extension for shale extraction was granted in 1988 and in October 1996 detailed and updated working and restoration conditions were approved. The current permission requires the site to be restored to agriculture, woodland and amenity uses.

Provision for Future Shale and Limestone Extraction for Cement Manufacture

7.15 MPG10 says that long term forecasts suggest that cement consumption will keep pace with the growth of the economy. There is no Government target for national cement production, but the forecasts in MPG10 show a steady increase in production in Great Britain from around 20 million tonnes of cement in 1992 to between 31 and 38 million tonnes in 2006 depending on the economic growth scenario.

7.16 However, in spite of the projected increases in cement production nationally it is not expected that production at Cauldon Cement works will substantially increase. There is no major investment proposed at the site in the near future but clearly such a plant does require some investment for maintenance and upgrading purposes. It is considered, therefore, that the appropriate size of the landbank to maintain cement production at Cauldon Low is 15 years.

MLP **Policy 48:**

The landbank for Limestone and Shale for Cauldon Cement Works will be 15 years.

7.17 Table 6 below sets out the estimated production requirements for limestone and shale for the plan period and a 15 year landbank. The projected annual production rate is the same production figure as that given in MPG10 for 1990. Subsequent levels of production and BCI's estimates of future production are broadly in line with this level.

Table 6: Shale and Limestone Estimated Production Requirements (million tonnes)

	Projected Annual Production Rates	Permitted Reserves 1.1.96	Production Requirement 1996-2006 (10 Years)	Landbank Requirement 2006-2020 (15 Years)	Total Requirement 1996-2020 (25 Years)	Projected Shortfall/ Surplus
Shale	0.21	3.73	2.1	3.15	5.25	-1.52
Limestone	1.2	214.0	13.2	18.0	30	+184.0

7.18 The permitted reserve of limestone, under the control of BCI is over 200 million tonnes. This compares to a total requirement of about 30 million tonnes. There is therefore no need to allocate further resources of limestone in the MLP.

7.19 The permitted shale reserve is 3.73 million tonnes. The total requirement for shale is estimated to be 5.25 million tonnes. There is consequently a shortfall in permitted shale reserves of about 1.5 million tonnes at the projected production rate.

7.20 BCI have identified a site where additional resources exist. The site is only partially proven but is known to contain substantial viable reserves. The site could be worked as a northerly extension to the existing shale quarry.

7.21 It is acknowledged that the site falls within the Special Landscape Area. However all the minerals in the vicinity of the Cauldon Cement Works fall within this designation. In view of the strategic importance of the cement works and the need for limestone and shale to be available close to the plant an extension to the existing shale quarry could be justified subject to environmental safeguards being met. Staffordshire County Council would expect the highest standards of landscape impact mitigation and restoration and the protection of the prime nature conservation interests, notably in the vicinity of Lee Brook.

7.22 Furthermore, the location of the Cauldon Cement works and associated extraction areas is within an area of intensive quarrying which has left a significant scar on a valuable landscape area. Any proposals for extending mineral extraction in relation to cement manufacture will need to address what measures can reasonably be taken to improve the general visual amenity and landscape of the area within BCI's ownership/control. This issue is considered in more detail in Chapter 9.

7.23 It is considered that the site should be allocated as an Area of Search because the resource is only partially proven and not wholly owned by BCI and there is no pressure to develop the site. Whilst the whole of the Area of Search is allocated for exploration purposes any detailed working proposals to extract shale should be sufficient to maintain the 15 year landbank. The whole site is allocated to allow for flexibility in quarry design in an area of sensitive landscape and nature conservation interests.

MLP **Proposal 4:**

That an extension to the Cauldon Shale Quarry at New House Farm as defined on Inset Map 11 be allocated as an Area of Search for the winning and working of Shale, for use in cement manufacture at the Cauldon Cement Works.

MLP **Policy 49:**

Any planning application for the winning and working of shale within the Area of Search identified in MLP Proposal 4 should release sufficient minerals to maintain the landbank in accordance with MLP Policy 48 and will need in particular to demonstrate that the following issues have been addressed:-

1. **The minimisation of visual intrusion and damage caused by the proposal to sensitive landscapes and reasonable measures to improve the general visual amenity and landscape of the area in the owner's/operator's control, given the particular location in relation to the Special Landscape Area designation and the proximity to the Peak District National Park;**

2. **The nature conservation interests, in particular located along Lee Brook, to protect these areas from damage or to enhance their value;**

3. **The maximisation of transportation of cement products by rail, where practicable; and**

4. **The reduction of environmental and highway impacts of road transportation.**

INSET MAP 11

CHAPTER 8

SAND AND GRAVEL

CHAPTER 8

SAND AND GRAVEL

Introduction

8.1 Staffordshire is naturally well endowed with Sand and Gravel resources and has consistently been the largest County producer of land won sand and gravel for many years.

8.2 Sand and gravel provide the bulk, strength and wearing characteristics of materials required for many construction and civil engineering projects. The precise properties required of sand and gravel varies with the proposed uses, but may include grain size and shape, degree of contamination, frost resistance and resistance to polishing. To meet the market requirements, access to supplies of sand and gravel is required which can be processed to a specification suitable for the end use.

8.3 Sand and gravel is a "primary" aggregate extracted from naturally occurring deposits and is used for a variety of purposes including production of concrete and concrete products, roof tiles, manufacture of plasters and mortars, coating for asphalt, constructional fill and as a drainage medium.

8.4 There are only a handful of factories producing concrete roof tiles in the Plan area, mainly in the Burton on Trent area. The manufacturing plant of Marley Buildings Materials Ltd. is the largest, employing over 300 people in the high volume, automated production of a wide range of tiles. This Plan acknowledges that the concrete roof tile industry should continue to have a local supply of sand, processed to its specifications, therefore over and above the existing sites, other allocations are put forward with resources which could provide this supply. How the supply is secured, and in particular how qualitative requirements are met, are commercial considerations for the manufacturing industry. The monitoring of the Plan's performance will include an assessment of the extent to which supplies of suitable material have been made available to the tile manufacturers, including any difficulties or problems which they face.

8.5 Demand for sand and gravel is broadly linked to overall economic performance in the United Kingdom. In general terms about 40% of Staffordshire's annual production of sand and gravel is consumed within the Plan area, an additional 50% within the rest of the West Midlands Region and the remaining 10% elsewhere in England and Wales, including the neighbouring counties of Cheshire, Derbyshire and Leicestershire.

8.6 Virtually the whole sand and gravel output is taken to market by road. Notwithstanding the County and City Councils' desire to encourage the use of non-road borne disposal facilities, the diffuse distribution of supply and demand in relation to the rail network is likely to mean that the prospect of a significant shift to rail disposals during the plan period is unlikely.

Planning Policy Context

Minerals Planning Guidance Note 6 : Guidelines for Aggregates Provision in England

8.7 National planning guidance in respect of aggregates including sand and gravel is provided in MPG6 published in April 1994. The note gives advice on the provision for sand and gravel that needs to be made in Development Plans over the period to 2006.

8.8 The guidelines stress the importance of providing an adequate and steady supply of aggregates, but recognise that their need must be balanced with the impact of working on the community and environment.

8.9 MPG6 accepts that the future supply of aggregates is expected to come from a variety of sources. Across England as a whole the contribution made by traditional land won sources will be reduced over the period to 2006. Greater emphasis is placed on the use of recycled materials and secondary aggregates by a number of initiatives including encouraging recycling of demolition and construction wastes. The principle of the conservation of resources as it applies to all minerals has been dealt with in Chapter 3. Successful implementation of this strategy will depend in large measure upon the efforts of the construction and minerals industry.

8.10 MPG6 advises that over the period 1992-2006 Mineral Planning Authorities in England should make provision for the extraction of 1.2 billion tonnes of sand and gravel. The contribution that the West Midlands is expected to make towards meeting the national need has been the subject of work by the West Midlands Regional Aggregates Working Party more fully described below.

West Midlands Local Government Association - Sub Regional Apportionment of MPG6 Regional Guidelines

8.11 Paragraph 58 of MPG6 requires Mineral Planning Authorities to make provision in their Development Plan for the appropriate local apportionment of the Regional Guidelines. Annex A to MPG6 indicates at paragraph A6.3 that Mineral Planning Authorities within the West Midlands Region should make provision in their development plans for the working of 180 million tonnes of sand and gravel over the period 1992-2006. This assessment takes into consideration assumptions regarding the availability of secondary aggregates.

8.12 The West Midlands Regional Aggregates Working Party which includes representatives from the Mineral Planning Authorities, the Aggregates Industry and Government was established to give advice to Mineral Planning Authorities on the future supply and demand for aggregate. In July 1995 the WMRAWP published the sub regional apportionment agreed by the West Midlands Forum. In accepting that apportionment Staffordshire County Council raised concerns about the increase in production levels for Staffordshire and the extent to which the Mineral Planning Authorities could continue to meet those requirements. In 1998, responsibility for agreeing the sub-regional apportionment recommended by the WMRAWP passed from the West Midlands Forum to its successor body, the West Midlands Local Government Association. The apportionment will be regularly monitored to assess changes in production and the degree to which West Midlands Counties contribute towards sustaining projected regional production levels. Based on a 66.7% share of regional production over the period of the guidelines the WMRAWP recommended an annual sand and gravel production from Staffordshire (including Stoke on Trent) of about 8 million tonnes up to 2006.

The Staffordshire Structure Plan 1986-2001

8.13 Structure Plan Policy 132 established a landbank policy for the Plan area as a whole which provided for a sand and gravel landbank of at least 10 years. This Policy has been superseded by MPG6 published three years later which advises that mineral planning authorities should aim to maintain a landbank for an appropriate area sufficient for at least 7 years extraction, unless exceptional circumstances prevail.

The Sand and Gravel Resource

8.14 The principal sources of sand and gravel in Staffordshire are associated with the Sherwood Sandstone Group and River Terrace Gravels as shown on Plan 2.

8.15 The Sherwood Sandstone Group outcrops extensively over large areas of Staffordshire, but is most predominant in a broad belt extending from the Shropshire border in the west, south of the Potteries to the Cheadle area in the east and within the broad area of Cannock Chase extending southwards to Wombourne and the Staffordshire boundary. The group comprises conglomerates, pebbly sandstones and sandstones with siltstone and mudstone bands. However, the source of the sand and gravel, the conglomerate beds, do not outcrop over the whole area. Generally the thickness of the beds thins towards Shropshire and thickens towards the Moorlands.

8.16 Commercial production of fluvioglacial deposits, often being worked in wet conditions, is concentrated in the valleys of the Rivers Trent and Tame and in South Staffordshire. Deposits of future commercial interest may occur throughout Staffordshire.

Sand and Gravel Production

8.17 The West Midlands Regional Aggregates Working Party has compiled statistics on sand and gravel production in the West Midlands since 1973. Production in the Plan area and over the Region is shown on Table 6.

Table 6 : Sand and Gravel Output in the West Midlands 1973-1996 (million tonnes)

	1973	1977	1981	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Staffs (incl SOT)	7.9	5.8	4.7	6.4	5.9	6.4	8.97	9.71	8.61	7.3	6.38	7.36	8.44	7.71	6.76
WM	13.5	10.0	8.1	10.9	10.4	11.1	14.14	14.46	12.58	10.67	9.89	10.84	12.29	11.40	9.92
Staffs % of Total	59%	59%	58%	59%	57%	58%	63%	67%	68%	68%	64%	68%	69%	68%	68%

Source : All figures derived from WMRAWP Report of 1985, 1989, 1998 and 1996 Aggregates Monitoring Surveys and 1992 and 1996 Annual Report and 1995 Sub-Regional Apportionment of MPG6 Regional Guidelines except for 1986, 1987, 1988, 1990 and 1991 figures which were based on Business Statistics Office Data

8.18 The sand and gravel industry comprises a combination of large and smaller companies. During 1995 sand and gravel was produced from 31 quarries within Staffordshire of which 19 were in the control of ARC Ltd., Redland Aggregates, Tarmac, Tilcon and Western Aggregates.

In broad terms quarries are located in the north and south of Staffordshire reflecting both the geology and historic marketing patterns.

Provision for Future Sand and Gravel Extraction

8.19 The projected demand for sand and gravel is determined by two factors:-

1. The requirements of MPG6 paragraph 63 for Mineral Planning Authorities to provide for the maintenance of a landbank of sand and gravel for an appropriate local area sufficient for at least 7 years extraction, unless exceptional circumstances prevail; and

2. The projected production requirements for the period up to 2006 arising from the WMRAWP's sub-regional apportionment of MPG6 Regional Guidelines.

The Sand and Gravel Landbank

8.20 The Plan area basis for landbank policy, as approved in the ALP, is maintained in the MLP. The ALP included an aggregate landbank policy (ALP Policy 2) compatible with the most recent Government guidelines incorporated in MPG6. The landbank policy promoted in the MLP specifies the minimum landbank period recommended in national planning guidance.

~~MLP~~ ~~Policy 50:~~

~~**The landbank for sand and gravel will be 7 years. In accordance with MPG6 the landbank requirement will be calculated using the sub-regional apportionment agreed by the West Midlands Local Government Association.**~~

8.21 As stated in paragraph 8.12 above the WMRAWPs projected annual sand and gravel production required from Staffordshire (including Stoke on Trent) up to 2006 is about 8 million tonnes. Therefore the total requirement of reserves to meet estimated production through the Plan period (1 January 1997-1 January 2006) and to provide a 7 year landbank at 2006 is 128 million tonnes as set out in Table 7.

8.22 At 1 January 1997 the level of permitted reserves was about 99 million tonnes. This represents a shortfall of 29 million tonnes which is provided for through the allocations contained in MLP Proposal 5 and other commitments to new planning permissions over and above the allocations.

8.23 The allocation of future sand and gravel workings has been addressed in the preparation of the ALP (ALP Proposal 1). Selection of the ALP sites was based on the following approach, which was to concentrate sand and gravel workings in specified locations by either developing new sites or more particularly extending existing sites where it would be environmentally acceptable. New greenfield sites in areas where there is no history of quarrying would only be countenanced where there was a genuine need, the area was not especial and positive long term benefits would be derived if working took place.

8.24 Set out below in more detail are the locational approaches that were adopted in the ALP and are carried forward in the MLP.

1. No further workings in the Cannock Chase Area of Outstanding Natural Beauty (AONB) beyond those existing permitted areas or those proposed in the Plan.

2. Continued protection for the Dove Valley west of Hilton.

3. No working west of the A38 between Alrewas and Kings Bromley.

4. Concentrate working within the wooded areas at Weeford by excluding extensions westwards into the open countryside beyond Moneymore.

8.25 If all the allocations were brought on stream at the start of the Plan it could result in:

1. A much greater share of regional production than is considered acceptable.

2. Rapid depletion of the life of the landbank.

3. Loss of production capacity before the end of the Plan period.

8.26 To avoid such a situation arising, it is necessary to ensure that allocations are released and worked progressively. As the majority of allocations are extensions to existing sites that situation will, for the most part, be brought about naturally.

8.27 However for avoidance of doubt the allocations at Pottal Pool, Barton and Alrewas South are only to be worked as extensions to the adjacent sites when the latter are approaching depletion of their permitted reserves. Working these allocations "in tandem" with adjacent sites, or as separate operations from the adjacent sites would be resisted.

MLP **Proposal 5:**

That the following areas of land as defined on Inset Maps 12 to 18 inclusive be allocated as Specific Sites for the working of sand and gravel, namely:-

Croxden Quarry (Inset Map 12);
Pottal Pool (Inset Map 13);
Tucklesholme Farm (Inset Map 14);
Barton (Inset Map 15);
Alrewas South and Whitemoor Haye (Inset Map 16);
Leasowes Farm (Inset Map 17);

It is proposed that the allocations at Pottal Pool, Barton and Alrewas South are only released for working when the reserves on the adjoining sites are approaching exhaustion unless proven, overriding operational reasons require otherwise. Any applications for the working of the Specific Sites should also have regard to the detailed considerations set out in Appendix 2.

Supply and Demand for Sand and Gravel

8.28 ALP Proposal 1 as reflected in MLP Proposal 5 has been updated to delete reference to those ALP allocations which have subsequently been granted planning permission. Reference to borrow pits allocations in the ALP is dealt with in MLP Proposal 6.

8.29 A brief description of the above proposed sites is provided in Appendix 2. It is estimated that the above allocations would supply a further 27.7 million tonnes of sand and gravel, as shown in row 10 of Table 7, below. The base date of the Table is the beginning of 1997. Reserves with planning permission at that date, together with permissions granted since the Deposit version of this Plan and the Proposal 5 Allocations meet (and exceed) the requirement. In addition, at the base date, there was an additional commitment of 2.37 million tonnes relating to five sites where there was a resolution to grant permission, subject to legal Agreements.

8.30 In summary the projected supply and demand for sand and gravel is indicated below:-

Table 7: Sand and Gravel Estimated Production Requirements (million tonnes)

	THE ACTUAL LANDBANK at 1.1.97	
1	Permitted Reserves at 1.1.97	99.39
2	Sub-Regional Apportionment - Annual Production	8.004
3	Life of Actual Landbank at 1.1. 97 (1 ÷ 2)	12.4 years
	THE LANDBANK REQUIREMENT	
4	MLP Period (9 years x 8.004)	72
5	7 year landbank (7 years x 8.004)	56
6	TOTAL (4 + 5)	128
	MEETING THE REQUIREMENT	
7	Permitted Reserves at 1.1.97	99.39
8	Additional Commitments at 1.1.97	2.37
9	MLP Proposal 5 and ALP Proposal 1 allocations granted planning permission since Draft Plan published.	8.76
10	MLP Proposal 5 Allocations	27.7
11	TOTAL (7 + 8 + 9 + 10)	138.22
	SURPLUS (11 - 6)	10.2

8.31 The above calculation confirms that there are sufficient permitted reserves, allocations and other commitments to meet sand and gravel requirements during the plan period and to

provide a landbank of over 8 years at 1 January 2006. Accordingly the MLP makes no further allocations for sand and gravel over and above those referred to in MLP Proposal 5 above.

Areas of Concentrated Sand and Gravel Workings

8.32 The ALP identified two areas within Staffordshire where sand and gravel operations are particularly concentrated. The first is in the Trent Valley between Croxall and Burton and the second is in the area south east of Cheadle.

8.33 **The Trent Valley Between Croxall and Burton** - This area of River Terrace deposits has traditionally been an important source of sand and gravel. A combination of operational and land use factors suggest the need for and benefit of developing a comprehensive restoration strategy in the form of linked water areas to secure the development of a major water park incorporating both recreation and nature conservation in this part of the Trent Valley. The development of this strategy is being promoted by Staffordshire County Council. Some preparatory work has already been carried out to develop the strategy and that will continue, through the Central Rivers Project, in consultation with the local authorities, mineral operators and other interested groups.

8.34 **The Area South East of Cheadle** - This area includes Huntley Wood, Croxden and Freehay Quarries working the Sherwood Sandstones with a multiplicity of planning consents. Significant progress has already been made to review planning controls in the light of contemporary standards. Detailed working (including traffic management measures) and restoration schemes, for woodland, grassland and heathland are nearly in place to provide comprehensive planning control and mitigation of the adverse impacts of quarry operations in this area.

Borrow Pits

8.35 "Borrow pits" are temporary quarries on or in the vicinity of major civil engineering construction projects which are used solely to supply aggregates for the project and which are sometimes used for the disposal of surplus material from the construction site. Such pits require to be restored as soon as possible in accordance with an approved scheme.

8.36 The development of borrow pits has advantages and disadvantages. Proximity to the construction site can help minimise bulk haulage on the public highway network and reduce aggregate or disposal costs. On the other hand commercial negotiations regarding the construction project may negate any apparent cost advantage arising from proximity. Borrow pits at distance from the construction project may have significant, adverse environmental and highway impacts. The location of borrow pits needs to be considered carefully because excavated material could affect the protected rights of licensed abstractions from either surface water or groundwater sources. Because of the nature of tendering for major civil engineering projects, a number of contractors may seek planning permission for borrow pits of which only one may be needed when the contract is let. Borrow pits are often vulnerable to problems of variation of technical quality and for such reasons may only be partially used. Finally, civil engineering contractors may have little practical experience of restoring mineral sites to the high standards now required.

8.37 MLP Proposal 6 makes provision for borrow pits in association with a major construction project, the Birmingham Northern Relief Road. Both these sites lie within the Forest of Mercia. Further brief details regarding the proposals can be found in Appendix 3.

MLP **~~Proposal 6:~~**

~~**That the following Specific Sites as defined on Inset Maps 18 to 19 respectively, be worked solely as borrow pits in connection with the construction of the Birmingham Northern Relief Road:-**~~

~~**Hammerwich (Inset Map 18);**~~
~~**Laney Green (Inset Map 19)**~~

~~**Applications for the working of the Specific Sites should have regard to the considerations set out in Appendix 3.**~~

8.38 The restoration of borrow pits with any controlled waste even if arising from the associated construction site would be regarded as a deposit of controlled waste which would require a Waste Management Licence. However, the Waste Management Licensing Regulations 1994, as amended, create certain exemptions. Therefore, any proposal of this nature should be the subject of consultations with the Environment Agency at an early stage, so that the need for a Waste Management Licence may be assessed.

8.39 Where aggregates occur on land in close proximity to construction sites MLP Policy 51 makes provision for other borrow pits to be permitted subject to stringent criteria being met.

MLP **Policy 51:**

Planning applications for the development of borrow pits should demonstrate that all the following criteria have been met:

1. **There is a need for a particular type of aggregate which cannot reasonably be supplied from existing quarries in the area; or where the supply of the aggregate from such existing sources would be seriously detrimental to the amenities of the area because of the scale, location or timing of the necessary operations;**

2. **The site lies on, or immediately adjoins, the proposed construction scheme so that aggregate taken from the borrow pit can be conveyed to the point of utilisation without the use of the public highway system;**

3. The site can be restored to a satisfactory agreed end-use and landscape conditions without the use of imported material, other than that generated on the adjoining construction scheme and which can be brought to the site without the use of the public highway system;

4. The proposal in every other respect meets all the criteria set out in relevant Development Plan policies and proposals.

MLP Policy 52:

Where appropriate the Mineral Planning Authority will also encourage applicants to enter into an agreement under Section S106 of the Town and Country Planning Act 1990 or such other appropriate legal agreement:-

1. to ensure that the borrow pit is used solely in connection with the adjoining construction scheme; and

2. to ensure that the satisfactory restoration of the land takes place within an agreed timescale, which may include the provision of a restoration bond or other financial provision or security.

Rail Depots

8.40 Regional Planning Guidance (RPG11) for the West Midlands indicates that consideration should be given in the preparation of development plans to the provision of rail depots to receive and distribute aggregates (Paragraph 13.9).

8.41 MLP Policy 29 expresses the encouragement that the Mineral Planning Authorities give to the use of rail for the disposal of aggregates.

8.42 The provision of rail depots is influenced by proximity to operational railway lines, access to large scale of reserves required to justify capital and revenue expenditure on the facilities and the scale and distribution of markets. There is a rail linked disposal point adjacent to the Cauldon quarry in Staffordshire Moorlands, albeit that the current use of this facility is limited. MLP Policy 49 requires consideration to be given to the more intensive use of this facility in connection with potential further extensions to the shale quarry (MLP Proposal 4). In a similar vein MLP Policy 57 requires a reappraisal of the use of the rail facilities serving Moneystone Quarry, Oakamoor. In addition there is also planning permission for a rail linked disposal facility adjacent to the Alrewas quarry, near Alrewas.

INSET MAP 12

INSET MAP 13

INSET MAP 14

INSET MAP 15

INSET MAP 16

INSET MAP 17

~~INSET MAP 18~~

~~INSET MAP 19~~

CHAPTER 9

LIMESTONE (CRUSHED ROCK)

CHAPTER 9

LIMESTONE (CRUSHED ROCK)

Introduction

9.1 Limestone is extracted from 4 quarries in the Cauldon Low area, near Waterhouses in the north-east of Staffordshire. One quarry extracts limestone for use in cement manufacture and this is dealt with separately in Chapter 7. Limestone in the form of crushed rock used as aggregate is dealt with in this chapter.

9.2 Limestone is the principal source of crushed rock in Staffordshire which is used as a primary aggregate. The majority of the limestone is utilised as roadstone but other aggregate uses include concrete and fill material. A small proportion of the output (excluding that for cement manufacture) goes into non-aggregate uses such as agriculture, horticulture and building stone. This market is so small in relation to overall production that it is discounted from further consideration.

Planning Policy Context

Minerals Planning Guidance Note 6: Guidelines for Aggregates Provision in England

9.3 National planning guidance in respect of aggregates including crushed rock is provided in MPG6. The note gives advice on the provision of crushed rock to be made in Development Plans over the period to 2006. MPG6 advises that provision in England of 1.9 billion tonnes (Annex A, paragraph A2.4) of crushed rock is required and that Mineral Authorities in the West Midland region should make provision in their Development Plans for 150 million tonnes of crushed rock over the period 1992-2006 (Annex A, paragraph A6.3).

9.4 MPG6 advises that to maintain production of crushed rock local plans should provide a landbank of reserves. A landbank period, longer than the minimum of 7 years for sand and gravel, may be appropriate for crushed rock.

West Midlands Local Government Association - Sub Regional Apportionment of MPG6 Guidelines

9.5 The approved Sub-Regional Apportionment (July 1995), which sets out the level of each County's contribution to meeting the regional requirement, recommends that the annual crushed rock production requirement from Staffordshire is 3.11 million tonnes. This figure was based on limestone production for aggregate, together with cement. The actual annual production figure, for aggregate use only, is lower.

The Staffordshire Structure Plan 1986-2001

9.6 Structure Plan Policy 132 established a landbank policy which provided for a crushed rock landbank of 20 years.

The Limestone Resource

9.7 Carboniferous limestone outcrops over an extensive area mainly in the Peak District and Derbyshire. The southern part of the outcrop occurs in a fairly restricted area within the north-east of Staffordshire adjacent to the Peak District National Park. The resource is confined to an outcrop of the Derbyshire Limestone Massif of Lower Carboniferous age. Two limestone formations are currently worked, the Milldale and Kevin Formations. The Kevin Limestones are particularly high purity because of their high calcium carbonate content. This high purity limestone, sometimes referred to as "industrial limestone", offers potential for higher grade industrial uses, but such use is low because of limited demand. The main uses include roadstone (except wearing course materials) and concrete. The Milldale limestones are of variable/moderate purity and are also suitable for concrete and roadstone.

Limestone (Crushed Rock) Production

9.8 Nationally there has been a shift of aggregate production from sand and gravel to crushed rock such that crushed rock is now the primary national source of aggregate. This is not the case in the West Midlands Region or Staffordshire where in 1993 44% of regional production and 24% of Staffordshire production came from Crushed Rock.

9.9 Production of crushed rock in Great Britain peaked in 1989 at around 150 million tonnes and fell to 130 million tonnes in 1991. Historic production in the West Midlands Region and Staffordshire is set out below in Table 8. It is evident that the proportion of regional production supplied from Staffordshire has been increasing since the mid 1970s.

Table 8 : Production of Crushed Rock (million tonnes)

	1977	1989	1993	1994	1995	1996
West Midlands	8.0	12.8	8.4	8.6	6.9	5.3
Staffordshire	1.0	2.8	2.3	2.3	1.7	1.8
Staffordshire Share of Regional Production	13%	22%	27%	27%	25%	35%

Provision for Future Crushed Rock Extraction

9.10 The total landbank of permitted limestone reserves in Staffordshire at 1 January 1997 was around 314 million tonnes. This figure includes limestone permitted in association with the Cauldon Low site (BCI). Whilst this site produces limestone used in cement manufacture, the permitted reserve is a potential source of aggregate and therefore should be included in landbank calculations. This is consistent with the approach adopted by the ALP.

MLP ~~**Policy 53:**~~

~~**The landbank for limestone crushed rock will be 15 years. In accordance with MPG6 the landbank requirement will be calculated using the sub-regional apportionment agreed by the West Midlands Local Government Association.**~~

9.11 MPG6 states that Mineral Planning Authorities in the West Midlands region need to make provision in their Development Plans for the production of 150 million tonnes of crushed rock over the 15 year period to 2006. In addition to this the Department of the Environment assumes 45 million tonnes of aggregate will be imported, the majority of which will be crushed rock.

9.12 Responsibility for agreeing the apportionment of the landbank requirement for crushed rock between the region's Mineral Planning Authorities passed in 1998 from the West Midlands Forum to the West Midlands Local Government Association. The role of the West Midlands Regional Aggregates Working Party as adviser on this matter continues for the new body. Based on their advice, the regional provision was apportioned on the basis of production levels between 1991 and 1993. The average production for Staffordshire over those years was 3.11 million tonnes per annum. This is the same figure as that recommended by WMRAWP for future annual production for the period up to 2006. However the production figures used by WMRAWP for 1991-93 include limestone used for cement which is a non-aggregate use, dealt with separately by the MLP in Chapter 7. If production for cement is discounted, being a non-aggregate use, the average production of limestone for aggregate between 1993 and 1995 was 2.2 million tonnes per annum.

9.13 Taking 2.2 and 3.11 million tonnes as a range of future estimates of annual production Table 9 below sets out a range of total production requirements for the MLP of between 53 and 75 million tonnes. The existing permitted reserves (314 million tonnes) are more than adequate to meet estimated future production of crushed rock and therefore no allocations are made for limestone or other crushed rock for aggregate purposes.

9.14 It is acknowledged that the permitted limestone reserve is also worked for cement manufacture therefore it is important to ensure that the size of the permitted landbank is sufficient to meet both cement and aggregate requirements. The surplus landbank of between 239 and 261 million tonnes is clearly adequate to meet estimated demand given the future requirement for cement of 30 million tonnes as spelt out in Chapter 7.

Table 9 : Limestone (Crushed Rock)
Estimated Production Requirement (million tonnes)

Permitted Reserves @ 1.1.97	Annual Production Rate	Production Requirement for Plan Period 1997-2006 (9 Years)	Landbank Production Requirement 2006-2020 (15 Years)	Total Requirements 1997-2020 (24 Years)	Projected Surplus
314	2.2	19.8	33.0	52.8	261.2
314	3.11	27.99	46.7	74.69	239.3

9.15 There is no need to allocate further resources of limestone in the Minerals Local Plan.

Areas of Concentrated Limestone Working

9.16 Cauldon Low has been and continues to be an important source of limestone for the aggregates and cement industries. The industries contribute significantly to the local economy but they do give rise to a major scar on the landscape and detrimental environmental impacts. Past problems associated with the quarrying have given rise to these impacts, which include:

1. Visual and Landscape Impact: Large and deep quarries, spoil mounds, and unsightly processing plant in an open and exposed landscape designated as Special Landscape Area and which affect the setting of the Peak District National Park.

2. Environmental Impact: Some of the sites have been operated under consents with unsatisfactory environmental controls and involve large scale mining operations and intrusive activities such as blasting. More recent permissions and working schemes have offered some improvements and with the coming into force of the Environment Act 1995 the prospect of even more improvements being made by operators is likely.

3. Restoration Problems: It is difficult to achieve progressive restoration due to the depth of the limestone quarries and lack of co-ordinated restoration schemes between adjoining sites.

4. Nature Conservation Conflicts: Two of the sites contain/are adjacent to several SSSIs which are threatened with damage.

5. Traffic: The volume of Heavy Goods Vehicles using, in places, a poor road network within a relatively small area causes concern for the community and environment. There is potential for the use of a rail link and disposal point adjacent to Tarmac's Cauldon Quarry but it has not been operational for some time and its potential for reuse or extension to other quarries requires regular review with the mineral operators, Railtrack plc and the rail freight operating companies.

9.17 It is Staffordshire County Council's objective to work with mineral operators at Cauldon Low to bring about environmental improvements by developing a planning framework to guide the future development of the quarry complex well into the next century. One such opportunity may

arise through joint planning applications to work common boundaries. Environmental improvements may also be brought about through the use of planning obligations, provided that these accord with the principles set out in Annex B of Circular 1/97. There are two groups of quarries which have adjoining boundaries and require a co-ordinated approach for working and restoration. These are, firstly: Kevin, Wardlow and Wredon and secondly: Cauldon Low (Tarmac) and Cauldon Low (BCI).

9.18 The following policy furthers this objective. It complements Policy 38 and does not therefore preclude consideration of applications under that Policy.

MLP **Policy 54:**

The Mineral Planning Authority will encourage the submission of planning applications which provide for co-ordinated working and restoration of adjoining limestone quarries and improvements to the environment and community as listed below. The Mineral Planning Authority will favourably consider a planning application provided that the proposal would not cause an unacceptable adverse impact, that it is compatible with the Development Plan and that its effect is:

1. **to reduce environmental and landscape impacts and to produce a satisfactory landform on completion by implementation of appropriate working and restoration proposals;**

2. **to secure the maximisation of transportation of materials by rail, where practicable;**

3. **to reduce the environmental and highways impacts of road transportation;**

4. **to protect and secure the beneficial long term future management of SSSIs and other sites of nature conservation value;**

5. **to reduce the environmental and community impacts of site operations; and**

6. **to provide, where appropriate, increased public access, interpretative trails and environmental improvements directly related to the particular development proposal.**

CHAPTER 10

SECONDARY AGGREGATES

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SECONDARY AGGREGATES

10.1 "Secondary" aggregates comprise materials which are the by-product of other extractive operations e.g. colliery shale or the by-product of industrial processes e.g. pulverised fuel ash (pfa) from coal burning power stations. There are cases where the technical specification of materials required for projects permit the use of secondary aggregates rather than primary aggregates.

10.2 The principle of maximising the use of minerals and materials as an alternative to the excavation of primary minerals has been referred to in paragraphs 3.19 – 3.21 and Policy 7 in Chapter 3 and is covered in the current Structure Plan Policy 128 and Policy MW3 of the Deposit Draft Structure Plan (1996-2011).

10.3 MPG1 gives guidance on recycling plants, differentiating between permanent ones and temporary ones that use mobile equipment and are tied to the life of particular construction or demolition projects. MPG1 indicates that minerals local plans should include policies to encourage the recycling of mineral wastes and demolition and construction wastes. MPG6 addresses more fully the issue of secondary aggregates and recycled materials. Government policy is to encourage the use of these materials in construction and to increase their level of use. The contribution that these resources may make to national and regional needs has been taken into consideration in MPG6. Policy 55 furthers the encouragement given by Policy 7 to the efficient use of materials through recycling of minerals and their products. The Waste Local Plan, being jointly produced by Staffordshire County Council and Stoke-on-Trent City Council will contain policies on recycling facilities, setting out specific locational criteria in more detail.

10.4 Within the Plan area secondary aggregates may be obtained from a number of sources including colliery spoil, power station ash, ironworks slag, demolition and construction wastes and asphalt road planings.

10.5 **Colliery spoil** or minestone has been dealt with in Chapter 4. It comprises a mixture of mudstones, siltstones, sandstones, ironstones and coal tipped as a consequence of mining operations. Where spontaneous combustion has taken place in tipped material ash may be formed. Its principal use has been as a fill material. Policy 41 requires some assessment of the potential of colliery waste to be used or developed as secondary aggregate, to inform decisions on planning applications for its surface disposal. Such alternative use is further encouraged by Policy 55. The availability of colliery spoil for future use will depend upon its characteristics and variability, its proximity to markets and the environmental impacts arising from working the spoil and transporting it to the market place. The decline in the scale of the Staffordshire coal industry will reduce the amount of spoil arising which may be available for alternative uses.

10.6 **Power Station Ashes** - There is now one coal burning power station located within the Plan area at Rugeley although the Drakelow power station in neighbouring Derbyshire has historically supplied pulverised fuel ash to the area. Power stations produce furnace bottom ash which may be used for concrete block making and pulverised fuel ash which is generally used for

construction fill. Its potential for future use is constrained by availability, accessibility and quality considerations.

10.7 **Ironworks Slags** - Slag recovered from ironworks tips within the coalfields has been used in construction and the manufacture of cement blocks. Tips have been quarried in recent years at Apedale and Biddulph, North Staffordshire. There are no known quarries currently operating. The recovery of secondary materials from this source, subject to environmental safeguards being met, is consistent with the principles of sustainable development. In some circumstances working this type of industrial waste may require a waste management licence and further guidance should be sought from the Waste Regulation Authority. The production of blast furnace slag within the Plan area is limited and its contribution as a source of supply in the future is likely to decline.

10.8 **Demolition and Construction Wastes including Asphalt Road Planings** - Whilst a proportion of such waste may be disposed of in landfill sites, the remainder has potential for use as a fill material and for other aggregate purposes. The value of recycling road planings into asphalt for use on road surfaces is increasingly being recognised. It is estimated that about 1.25 million tonnes of demolition and construction waste including asphalt road planings are generated annually in the Plan area.

10.9 Recycling of demolition and construction waste is regarded as treatment of controlled waste by the Environmental Protection Act 1990 which requires a Waste Management Licence. However, the 1994 Waste Management Licensing Regulations, as amended, create certain exemptions from licensing subject to clauses for this type of activity. Therefore, any proposal of this nature should be the subject of consultation with the Environment Agency at an early stage so that the need for a Waste Management Licence may be assessed.

~~MLP~~ ~~**Policy 55**~~

~~**Applications for facilities for the recycling of minerals wastes, demolition and construction wastes will be favourably considered where it is demonstrated that they will not cause an unacceptable adverse impact, and where they accord with the development plan.**~~

CHAPTER 11

SILICA SANDSTONE

CHAPTER 11

SILICA SANDSTONE

11.1 Silica sand is dealt with in this chapter; Building and Dimension stone and Whetstone are dealt with in Chapter 12. Sandstones used primarily for aggregate are dealt with in Chapter 8.

Introduction

11.2 Silica sandstone in Staffordshire is processed to produce silica sand, sometimes referred to as industrial sand. The term "silica sand" is used to describe sand which contains a high proportion of silica, in the form of quartz, and is marketed for industrial processes including the manufacture of glass, production of foundry castings and ceramics. Silica sand is defined by end use as well as its mineral content and chemical purity.

11.3 Silica sand is produced in Staffordshire from 2 sites, Hurst Quarry, Biddulph, and Moneystone Quarry, Oakamoor, both in Staffordshire Moorlands. Hurst Quarry has traditionally used the sands for industrial steel manufacture whilst Moneystone Quarry is one of the foremost sites in the UK producing industrial sands for the colourless container glass, ceramic and other specialist industries.

Planning Policy Context

11.4 National policy is currently set out in MPG1 and MPG15 "Provision of Silica Sand in England".

11.5 MPG15 says that "*Silica sand is an essential raw material for the glass and foundry casting industries, as well as in other industries such as ceramics and chemicals manufacture and for water filtration purposes"* (Paragraph 1*). It is important that an adequate supply of silica sand is maintained from all sources. High quality silica sands are scarce* (Paragraph 2). *It is important that supplies to the manufacturing sector should be provided in the most environmentally acceptable way and with regard to the principles of sustainable development* (Para. 28). *Due to national need for silica sand, it is important that each production site is adequately provided for, unless exceptional circumstances prevail. MPAs should aim therefore to ensure that landbanks of at least 10 years are maintained for individual sites. The need for the mineral must be balanced against environmental constraints and there may be overriding environmental reasons why the stock of permitted reserves at some sites may not be replenished as they are used up"* (Para. 47). *"Silica sand is a scarce resource and MPAs should, as far as possible and in co-operation with other planning authorities, safeguard deposits which are, or may become, of economic importance, against other types of development or other constraints which would be a serious hindrance to their extraction* (Para. 53)".

11.6 The Staffordshire Structure Plan does not have any specific policy relating to silica sand.

The Silica Sandstone Resource

11.7 Silica sand is/has been worked from two geological horizons in Staffordshire, the Rough Rock Sandstone of the Namurian Series (Millstone Grit) in the north and the Wildmoor Formation of the Sherwood Sandstone Group in the south. The known extent of deposits is indicated on Plan 1.

11.8 The Rough Rock Sandstone is generally thick and is actively exploited. The silica sand of the Wildmoor Formation however is no longer regarded as an economically important source of silica sand.

11.9 Silica sand can be produced from both crushed sandstone and unconsolidated sand. The type of silica sand produced is determined by various factors; the level of quartz (which is around 99% in sands suitable for glass making), chemical purity, grain size and shape and temperature resistance. The ease with which impurities (such as iron staining) can be removed and the amount of too coarse and too fine quartz grains has a major bearing on its suitability as a silica sand resource.

11.10 The sandstone at the Moneystone Quarry has a relatively high iron content, present mainly as iron oxide on the surface of the quartz grains and also present as iron-bearing minerals, including clays. These impurities, together with coarse and fine material can be readily removed by processing to yield a high quality silica sand product.

11.11 The silica sand at Hurst Quarry is marketed for uses in industrial steel manufacture and other uses such as horticulture. The quality of the raw material however may be upgraded if it was rigorously processed.

Silica Sand Production

11.12 National production of silica sand has fallen since the 1970s from around 6 million tonnes to 4 million tonnes in 1994. Regional production has also generally fallen from 580,000 tonnes in 1980 to 343,000 tonnes in 1989 (Business Monitor PA1007). Market demand, however, is forecast to remain broadly level over the next 10-20 years (MPG15).

11.13 In accordance with national guidance the future provision of silica sand is dealt with in this MLP on a site by site basis rather than Plan area wide. The two operating sites are therefore dealt with separately below.

11.14 **Hurst Quarry**: production peaked in the 1970s at 78,000 tonnes per annum, but with the decline in the steel industry production had fallen to 4,000 tonnes in 1992 and the site mainly supplied sands for industrial steel manufacture and horticulture and employed 6 people.

11.15 **Moneystone Quarry**: Major extraction and processing of sandstone commenced at Moneystone Quarry in the early 1960s. The primary market was then the glass industry although the site has long been important as a supplier of raw material to the local ceramics industry whose products often contain between 20-40% silica. Today, due to legislative changes, the availability of substitute materials for container glass and developments in processing techniques, the product base is much wider. The site currently produces some 8% of national production of all silica sand and is one of the few sites in the UK supplying silica sand suitable for the manufacture of colourless container glass. A significant proportion of this

product is sold within or just outside of the West Midlands. The site specialises in sands for container glass and ceramics. Other materials produced at the site from silica sand are silica flours principally used to produce fibreglass, and cristobalite used as a white inert filler, for example in ceramics and adhesives. Such industrial uses make up some 70% of sales of which 15% are exported. Lower quality/'waste' sands are sold primarily for use in cement and aerated block manufacture and other minor uses such as golf bunker sand.

11.16 The Moneystone Quarry and associated processing plant employs 120 people directly, and more indirectly in transportation services etc. The plant site includes the main processing site and a clay body plant which utilises imported and on-site minerals. The continuance of production at the site will therefore make an important contribution to the local economy.

11.17 The processing of the silica sandstone generates waste in the form of clay and silt, which are settled out in lagoons, and dry processing waste, all of which are disposed of within worked out parts of the quarry. The waste can also be used for restoration purposes.

Provision for Future Silica Sand Extraction

11.18 **Hurst Quarry** has significant permitted reserves of variable quality silica sandstone (about 1 million tonnes) for which there is currently a limited demand for high grade industrial uses. There is no current need established to allocate further mineral resources at this site.

11.19 **Moneystone Quarry**: The Rough Rock sandstone horizon, a deposit of Silica Sand, outcrops in a limited area in the vicinity of Moneystone Quarry and Whiston. The resource is valuable and scarce and as such it is of national importance. The permitted reserves at Moneystone Quarry, in July 1998, were 5.19 million tonnes having an anticipated life of 13 years. At the end of the Plan period the landbank will only be 5.5 years. This is less than the minimum 10 year landbank recommended in MPG15. There is therefore a shortfall in supply. MPG15 requires that the Mineral Planning Authority should ensure that a landbank of at least 10 years be maintained for individual sites. It is considered appropriate to maintain a minimum landbank of 10 years for silica sand in this Plan given the environmental sensitivity of the local area. The maintenance of the landbank will depend on the availability of sites capable of being worked without causing an unacceptable adverse impact.

MLP **Policy 56:**

The landbank for silica sand for use as a raw material at the Moneystone Processing Plant only will be 10 years.

11.20 The projected production for Moneystone Quarry is around 400,000 tonnes per annum. Table 10 below sets out the production requirements for the Plan period and a 10 year landbank at the end of the Plan period. The table indicates that there is currently a shortfall of 1.81 million tonnes.

11.21 An area of land has been identified (see Inset Map 21) containing proven reserves for consideration as an allocation in the MLP to maintain production at the site. The proposed extension is generally located in a sensitive area which is subject to environmental constraints

and lies within the Special Landscape Area within which there is an important inter-relationship between the landform, hydrology/hydrogeology, nature conservation and the history and nature of land management. Special Landscape Areas were designated in the approved Staffordshire Structure Plan 1986 – 2001 with a view to protecting their landscape quality.

11.22 The allocation of 26.5 ha. lies north west of the existing workings. It contains 5.1 million tonnes of silica sand and would be a further natural extension of workings to the north of Eaves Lane. The site may contain bat roosts and ponds of value to amphibians. Extraction could be visually intrusive to the settlement of Whiston which any planning application would need to address. In addition the Area of Search under Proposal 7 is within 400 metres of Whiston and any development would need to limit the potential adverse effects of quarrying on the village population. Cottage Farm and Whiston Barn may also be of archaeological interest. It is considered that this site should be allocated given the national importance and local need for the mineral subject to satisfying the provisions of MLP Policy 56. There is some uncertainty over the availability of the land and therefore the site will be allocated as an 'Area of Search'.

MLP **Proposal 7:**

That the site as defined on Inset Map 20 is allocated as an Area of Search for the winning and working of silica sand for use as a raw material at Moneystone processing plant only.

11.23 The estimated demand and provision of silica sand for Moneystone Quarry is demonstrated in Table 10 below.

Table 10: Silica Sand Estimated Production Requirements (million tonnes)

	Projected Annual Production Rate	Reserve @ 1.7.98	Production Requirement July 1998 - 2006 (7½ years)	Landbank Requirement 2006-2016 (10 years)	Total Requirement 1998-2016 (17½ years)	Projected Shortfall/ Surplus
Permitted Reserve	0.4	5.19	3.0	4.0	7.0	-1.81
Proposal 7		5.1				
Total		10.29				+3.29

11.24 The permitted reserves and the allocations, subject to satisfying all planning considerations, would provide a potential landbank of over 18 years at the end of the Plan period. This may be reduced by the need for stand-offs to protect residential amenity and nature conservation interests subject to the avoidance of any unnecessary sterilisation.

11.25 Any planning applications for the winning and working of silica sand at Moneystone Quarry within Proposal 7 will be considered in the context of MLP Policy 57 below. Planning applications for silica sand extraction at any other site will be considered on its merits in

relation to MLP Policy 38 and other general policies of the MLP. The existing highway network is considered suitable to accommodate an output based on extraction rates of up to 400,000 tonnes per annum from the quarry. Any increase in output above this level may necessitate further highway improvements and/or the utilisation of nearby rail facilities. The transportation of materials by rail should in any event be fully investigated prior to any further applications for extensions or increased output at the quarry. This should include an independent assessment of the viability of rail use, to be commissioned by the quarry operator.

MLP **Policy 57:**

Planning applications for silica sand extraction at Moneystone Quarry, Oakamoor will be permitted within Proposal 7 where they accord with the Development Plan and national and regional planning guidance and should demonstrate that:-

1. **the extraction of silica sand will not have an unacceptable adverse impact on the following aspects: neighbouring communities, highways, visual amenity, landscape, areas of nature conservation interest, the hydrological/ hydrogeological regime, buildings of archaeological interest;**

2. **a desk-top survey has been undertaken to evaluate whether any buildings of archaeological interest constitute an archaeological recording or conservation restraint.**

3. **all practical steps have been taken to secure the maximisation of transportation of materials by rail;**

4. **the quarry will be progressively restored in accordance with an approved, comprehensive restoration scheme.**

INSET MAP 20

CHAPTER 12

BUILDING AND DIMENSION STONE

CHAPTER 12

BUILDING AND DIMENSION STONE

Introduction

12.1 Building and dimension stone is worked from five quarries in the Staffordshire Moorlands in north Staffordshire. Building stone is used in blocks for construction of buildings/walls etc. whilst dimension stone is of suitable quality for ornamental stone work. Its particular importance is in the repair of historic buildings both locally, e.g. Lichfield Cathedral, and nationally e.g. The Market, Covent Garden.

12.2 The use of stone in restoration and minor construction work means that demand is relatively very low compared to other construction materials such as bricks. This factor and the basic extractive methods used generally mean that stone quarries are not intensive operations. However, all the stone quarries lie within Special Landscape Areas and past operations have left their mark on the landscape. These relict quarries have in some cases developed into features of nature conservation and historic interest.

Planning Policy Context

12.3 There is little national guidance on the production and use of building stone. Only MPG1 makes the following reference to the mineral: *each type* of dimension stone *has to fulfil specific physical characteristics. It is important to recognise that in some cases it is quarried from geological formations which are very restricted in occurrence. In order for a source of stone to be commercially workable a number of physical parameters have to be satisfied, including colour, texture, hardness and homogeneity. There is often a large proportion of waste that may be utilised as a construction aggregate and production can be intermittent. It should be borne in mind that long-life quarries are often crucial to providing suitable stone for restoration of historic buildings and ancient monuments and for that reason, small operations may be needed in very specific locations* (Para. B8 and B9).

12.4 The Staffordshire Structure Plan does not have any specific policies relating to building and dimension stone. However Structure Plan Policy 124 is relevant, in the absence of national or regional guidelines on building stone production and restricts the total landbank to a level of approximately 20 years.

The Building and Dimension Stone Resource

12.5 There are two types of sandstone worked for building and dimension stone in the Staffordshire, the Hollington Stone and the Minn Sandstone. The Hollington Stone is the most notable. It forms part of the Hollington Formation at the top of the Sherwood Sandstone Group. Hollington Stone comes in red, mottled and cream (referred to as "white") varieties depending on the amount of iron staining. The Minn Sandstone, a horizon of the Namurian Series, is only worked from one site (Cliff Quarry) and is light brown in colour. Both stones are fine to medium grained and durable to weathering. The outcrop of the Hollington Stone, which has been worked, is centred around the Hollington and Alton area but further geological

outcrops exist further north east. The Minn Sandstone outcrops in two areas, one north of Leek (currently worked from Hollins Farm Quarry) and the other east of Biddulph Moor.

Building and Dimension Stone Production

12.6 There have been many small stone quarries operated in the past throughout Staffordshire to supply particular building projects. An interesting example is the Beech Caves which were worked by underground methods for stone to build Trentham Hall in the 17th Century. With a change of building methods and materials the use of stone declined but over the last 10 to 15 years there has been a "resurgence" in its use nationally. To illustrate this point nationally in 1987 142,000 tonnes were extracted compared to 373,000 tonnes in 1990. At the same time the export of stone has also increased from 97 tonnes in 1988 to 853 tonnes in 1991 (source: Business Monitor PA1007 1980-1991).

12.7 Staffordshire produces about half of the region's building and dimension stone (Business Monitor). In Staffordshire production in the early 1980s was around 1,000 tonnes per annum. 1987 appears to be a peak year when production doubled to 2,000 tonnes but average production for 1991 to 1993 shows a notable fall in production to 541 tonnes due to the recent recession.

12.8 Current production in Staffordshire takes place from five quarries. The stone from the Hollington Quarries has a local and national market. In addition significant quantities of stone (such as York Stone and Portland Limestone) are imported for dressing and resale as part of the stonemason's industry in Hollington village. The dressing of stone involves both mechanical cutting and hand sculpture. This primarily takes place at the Groundhollow works in Hollington but there are other stone masons too. The stone worked at Hollins Farm, near Leek, has a more local market meeting demand for building repair and stone fireplaces and walling.

12.9 The market for stone requires particular characteristics such as colour and texture to find the best match for restoring existing buildings. As nature does not make stone uniform (it can be affected by black spots, pebbles and bedding planes) and because processing results in many offcuts, there is a high degree of wastage of up to 50% of the stone extracted. Some of this stone is "re-used" and used for crazy paving and rockeries but most of it is returned to the quarry and used for restoration. One operator did look at crushing the stone for use as aggregate but because of low production levels this proved uneconomic.

Provision for Future Building and Dimension Stone Production

12.10 With regard to the current supply of building and dimension stone there are some 870,000 tonnes of permitted stone and, using historic and projected production figures of between 1,000 and 2,000 tonnes per annum, the landbank is between 400 and 860 years.

12.11 In principle it is considered that the appropriate size of landbank for building and dimension stone is 15 years as set out in the Policy below.

MLP **~~Policy 58~~:**

~~The landbank for building and dimension stone will be 15 years.~~

12.12 The current landbank of permitted reserves is clearly well in excess of 15 years and as such there is no provision made in the Minerals Local Plan for the further release of building and dimension stone. It is however recognised that there may be exceptional circumstances when a particular character of stone may be needed for the repair of historic buildings of local or national significance, for example the "Hollington White". Planning applications for the extraction of such stone will be considered in the context of MLP Policy 38.

CHAPTER 13

OTHER MINERALS

CHAPTER 13

OTHER MINERALS

Introduction

13.1 This Chapter identifies a variety of minerals, other than those referred to in preceding chapters, which have been mined within the Plan area. The Mineral Planning Authorities have no evidence to suggest that there is likely to be a requirement for further mining of the minerals on a substantive scale within the plan period. Save to acknowledge the existence of the mineral within the Plan area, no specific proposals in respect of "other minerals" are promoted in the MLP. Any planning applications which may emerge would be considered on their merits and in relation to the Development Plan and national and regional planning guidance.

Peat

13.2 A peat deposit is formed by the accumulation of partially decayed mass of vegetation in typically an acidic shallow lake or marsh. It is generally dark brown to black, containing recognisable plant fragments. The use of peat is almost entirely related to horticulture, either as a growing medium or soil improver. MPG13 sets out guidelines for peat provision in England.

13.3 Within the Plan area the occurrence of peat deposits are limited.

13.4 There is no current peat extraction site or outstanding valid planning permission for such operations.

13.5 In the national planning guidance for peat provision in England published in July 1995 the view is taken that a landbank approach to peat provision is not appropriate. There are no national or local targets for peat provision during the plan period. The guidance indicates that a sustainable approach to peat development should be taken and the use of environmentally acceptable alternatives pursued. Policy towards peatlands in England can be summarised as:

1. conserve a variety of peatland habitats and promote the wise use of wetland resources;

2. avoid where practicable the destruction of important archaeological remains;

3. provide peat for the horticultural industry whilst developing suitable alternatives;

4. provide a framework for updating old permissions for peat extraction and rehabilitation of sites.

13.6 The guidance indicates that any new peat extraction sites should be restricted to areas which have already been significantly damaged by recent human activity and are of limited or no current nature conservation or archaeological value. Development of high quality agricultural land should also be resisted.

13.7 Having regard to the value and distribution of known peatland resources, no specific allocation for the winning and working of peat is proposed as part of the MLP.

Ironstone

13.8 Nodules and bands of ironstone often occur as distinct horizons within the Coal Measures Sequence. They are normally confined to the Productive Coal Measures, although in the north of the Plan area they are also developed in part of the Upper Coal Measures known as the Blackband Group.

13.9 These ironstones are composed of the mineral siderite (iron carbonate), although those horizons in the North Staffordshire Coalfield including and higher in sequence than the Burnwood Seam, become progressively more carbonaceous in content.

13.10 The coalfields have been extensively mined for ironstone of which production peaked in the nineteenth century. There are no existing mines in the Plan area.

Other Metalliferous Deposits

13.11 The south-western part of the Derbyshire Orefield extends into the Peak District National Park and marginally into the Plan area in the vicinity of the Weaver Hills and Oakamoor, Staffordshire Moorlands. Here some of the fissures in the Carboniferous Limestone have been mineralized as steeply dipping vein lodes of copper, haematite, lead, zinc and barytes. These have not been worked since the nineteenth century and there are no existing or permitted mineral operations of this nature at present.

Whetstone

13.12 Whetstone is a very hard sandstone which has been used as an abrasive stone. During this century it has been mined at a variety of locations in North Staffordshire. The last underground whetstone mine, at Gillow Heath, Biddulph closed by the 1980s.

13.13 The Mineral Planning Authorities have no evidence to suggest that there is likely to be a requirement for further mining of Whetstone within the Plan period. Therefore, apart from acknowledging the existence of the Whetstone mineral in the Plan area, no specific policy or proposal is promoted in the MLP.

CHAPTER 14

IMPLEMENTATION AND MONITORING

CHAPTER 14

IMPLEMENTATION AND MONITORING

IMPLEMENTATION

14.1 The Minerals Local Plan forms part of the Development Plan. It provides guidance to the Minerals Industry indicating the locations and/or circumstances in which mineral development might or might not be acceptable. The responsibility rests with the Minerals Industry to bring forward working and restoration proposals at the right time to secure the necessary approvals to meet market needs and fulfil other obligations. The direct financial costs of development will fall upon the Minerals Industry.

14.2 The MLP provides the planning context within which the County and City Councils will exercise their development control functions in respect of minerals. It also provides the context within which other planning authorities will exercise their development control powers in respect of other forms of development which might impinge upon mineral planning matters such as the sterilisation of mineral resources.

MONITORING

14.3 There are four aspects which require monitoring:-

1. the performance of the policies and proposals in the Plan;

2. the supply, production and demand for minerals;

3. the need to review extant mineral permissions; and

4. unauthorised development and non-compliance with planning controls.

14.4 The performance of the plan will be monitored to assess whether the policies and proposals and Code of Practice for Mineral Development help to achieve the objectives of the Plan. The Plan will also need to be monitored in relation to future international, national, regional or local planning guidance, changes in the supply and demand for minerals, the effects of mineral policies adopted by other Local Planning Authorities, changes in technology, methods of working and transportation, the availability of alternative materials and any other relevant factors including current best practice. Any modifications which may result from monitoring will be addressed through the Plan Review. This will help to keep the MLP up-to-date and to maintain a continuous statutory framework for detailed mineral planning. The Mineral Planning Authorities will monitor the implementation of the Minerals Local Plan policies and proposals throughout the plan period and shall prepare a Review of the Minerals Local Plan within five years from the adoption of this Plan.

14.5 With the exception of Aggregates, the supply, production and demand for other minerals in the Plan area has never been regularly monitored. In order to monitor the landbank, production and need and other relevant information, it is proposed that such statistics are

collected on an annual basis to provide a data base to inform decision making, policy implementation and the Plan Review. It is hoped that the minerals industry will co-operate in this process. The Mineral Planning Authorities will annually monitor the landbank of permitted reserves, production, need and other relevant information with regard to all minerals.

14.6 Mineral Planning Authorities have a duty under Section 22 of the Planning and Compensation Act 1991 and Section 96 of the Environment Act 1995 to review minerals consents and to revoke or modify its permissions to meet new circumstances. Some mineral operations take place over many years and circumstances may change (for instance the method of working or the volume of material extracted) such that adverse impacts are caused by operations which were not foreseen and cannot be dealt with under the terms of the existing consent. The Mineral Planning Authorities will review all existing mineral consents and conditions and will seek by appropriate means, agreement with mineral operators to ameliorate any adverse impacts of extraction and to improve standards of operations, restoration and after-care.

14.7 The Mineral Planning Authority has a responsibility to monitor mineral development to ensure that planning conditions or terms of any legal agreement relating to mineral consents are complied with and to help minimise the risk of unauthorised development taking place. Where a breach of planning control takes place and negotiation fails to remedy the breach, the Mineral Planning Authorities have the power to take enforcement action under the provisions of the Town and Country Planning (Minerals) Act 1981 and the Planning and Compensation Act 1991. Where expedient the Mineral Planning Authorities will exercise their discretion in the use of enforcement powers to prevent and/or regularise unauthorised development and/or non compliance with planning conditions or the terms of a legal agreement taking place, and to remedy the breach of planning control at the earliest opportunity.

14.8 Local Planning Authorities are not the only organisations who are concerned with mineral matters. The Environmental Health Authorities and the Environment Agency are responsible for implementing the provisions of Control of Pollution Act 1974 and Environmental Protection Act 1990. Certain aspects of integrated pollution control, for example in respect of cement works, are the responsibility of the Environment Agency. The Mines and Quarries Inspectorate has a duty to enforce the law as it relates to Mines and Quarries. The Mineral Planning Authorities will exercise their duties and powers in co-operation with the bodies set out above where practical and appropriate.

APPENDICES

APPENDIX 1

SHALLOW COALFIELDS AND THE NATURAL AND CULTURAL ENVIRONMENT

Introduction

A1.1 For information purposes some of those areas of natural and cultural environmental importance referred to in MLP Policies 14 to 21 have been mapped in relation to the shallow coalfield areas.

A1.2 Inset Map 1 shows the Potteries Coalfield, Inset Map 2 shows the Cheadle Coalfield, and Inset Maps 3 and 4 show the Cannock and Warwickshire (Tamworth) Coalfields respectively.

A1.3 Within (or nearby) each coalfield there are natural and cultural environmental constraints. The approximate locations are indicated on each Inset Maps 1 to 4 and more defined titles and locations are given in the tables below. Where constraints are broadly defined they are indicated on the inset maps in diagrammatic form, for example, Special Landscape Areas and Areas of Outstanding Natural Beauty.

Table 12 : Shallow Coalfields and Environmentally Important Areas

Potteries Coalfield (Inset Map 1)		Grid Ref.
SITES OF SPECIAL SCIENTIFIC INTEREST (SSSIS)		
S1	Ford Green Reedbed SSSI	SJ 887500 E/510000 N
S2	Hulme Quarry SSSI	SJ 928000 E/445000 N
S3	Wetley Moor Common SSSI	SJ 931000 E/485000 N
ANCIENT WOODLAND		
A1	Bands Wood	SJ 893000 E/609000 N
A2	Biddulph Brook Wood	SJ 888000 E/604000 N
A3	Whitmore Wood	SJ 882000 E/605000 N
A4	Willocks Wood	SJ 875000 E/595000 N
A5	Round Wood	SJ 883000 E/597000 N
A6	Baileys Wood	SJ 888000 E/595000 N
A7	Spring Wood	SJ 900000 E/590000 N
A8	Plank Hollow Wood	SJ 888000 E/557000 N

Potteries Coalfield (Inset Map 1)		Grid Ref.
A9	Greenway Wood	SJ 889000 E/554000 N
A10	Knypersley Wood	SJ 891000 E/554000 N
A11	Crowborough Wood	SJ 900000 E/556000 N
A12	Birchen Wood	SJ 847000 E/537000 N
A13	Harecastle Clump	SJ 836000 E/525000 N
A14	Target Wood	SJ 835000 E/521000 E
A15	Parrots Drumble	SJ 819000 E/521000 N
A16	Miry Wood	SJ 811000 E/494000 N
A17	Watermills Wood	SJ 817000 E/488000 N
A18	Holly Wood	SJ 800000 E/462000 N
A19	Hayes Wood	SJ 787000 E/482000 N
A20	Bullhorns Wood	SJ 788000 E/475000 N
A21	Waltons Wood	SJ 783000 E/465000 N
SCHEDULED ANCIENT MONUMENTS		
M1	Springwood Blast Furnace, Newcastle under Lyme	SJ 822500 E/501000 N
M2	The site of Hulton Abbey, Stoke on Trent	SJ 902000 E/493500 N
M3	The Old Hall, Biddulph	SJ 894500 E/601000 N
M4	Shepherd's Cross, Biddulph	SJ 895000 E/602000 N
M5	Bailey's Wood Castle, Biddulph	SJ 888000 E/595000 N
M6	The former Chatterley Whitfield Colliery, Stoke on Trent	SJ 884500 E/533000 N
HISTORIC PARKS AND GARDENS		
P1	Biddulph Old Hall	SJ 892500 E/601500 N
P2	Biddulph Grange (Registered)	SJ 896000 E/591000 N
P3	Knypersley Hall	SJ 884500 E/564000 N
P4	Greenway Bank	SJ 889000 E/551000 N
P5	Tunstall Park	SJ 866000 E/516000 N
P6	Burslem Park (Registered)	SJ 874000 E/501000 N

Potteries Coalfield (Inset Map 1)		Grid Ref.
P7	Hanley Park and Cauldon Grounds (Registered)	SJ 884000 E/465000 N
P8	Cobridge Park	SJ 876000 E/491000 N
LOCAL NATURE RESERVES		
NR1	Chatterley Whitfield	SJ 885000 E/515000 N
NR2	Weston Sprink	SJ 929000 E/432000 N
CONSERVATION AREAS		
CA1	Biddulph Grange	SJ 893000 E/591000 N
CA2	Trent and Mersey Canal	SJ 837000 E/544000 N
CA3	Caldon Canal	SJ 897000 E/479000 N
CA4	Tower Square, Tunstall	SJ 860000 E/514000 N
CA5	Burslem Town Centre	SJ 868000 E/497000 N
CA6	Gladstone Pottery and Environs and Short Street, Longton	SJ 912000 E/431000 N
CA7	Albert Street, Hanley	SJ 882000 E/473000 N
GRADE I COUNTY SITES OF BIOLOGICAL IMPORTANCE		
E1	Cheshire Brook Wood	SJ 887000 E/612000 N
	North East of Whitemoor	SJ 889000 E/612000 N
	Bands Wood	SJ 891000 E/610000 N
E2	Willocks Wood	SJ 875000 E/595000 N
E3	Bodkins Bank	SJ 869000 E/583000 N
E4	Hunger Hill Spoil	SJ 838000 E/552000 N
E5	Tinkers Clough	SJ 894000 E/558000 N
	Greenway Bank Country Park	SJ 895000 E/554000 N
	Gunton's Well and Rock	SJ 898000 E/595000 N
E6	Stonehouse Drumble	SJ 902000 E/545000 N
E7	Marshes Hill	SJ 905000 E/548000 N
E8	Baddeley Edge Pool	SJ 915000 E/515000 N

Potteries Coalfield (Inset Map 1)		Grid Ref.
E9	Holden Bridge Pools	SJ 894000 E/502000 N
E10	Henkley Marshes	SJ 907000 E/519000 N
E11	Brookhouse Wood	SJ 922000 E/479000 N
E12	Merelake and Dunkirk	SJ 813000 E/530000 N
E13	Parrots Drumble	SJ 820000 E/522000 N
E14	Target Wood and Harecastle Clump	SJ 837000 E/525000 N
E15	Diglake	SJ 813000 E/513000 N
E16	Apedale Marsh	SJ 812000 E/495000 N
E17	Burley Pools	SJ 824000 E/491000 N
E18	Watermills Wood	SJ 816000 E/485000 N
E19	Chesterton Ironworks	SJ 822000 E/481000 N
E20	Hayes Wood	SJ 787000 E/480000 N
E21	Hayes Delph Wood	SJ 801000 E/487000 N
E22	Waltons Wood	SJ 783000 E/462000 N
E23	Leycett	SJ 791000 E/469000 N
E24	Grubbers Hill	SJ 808000 E/474000 N
E25	Pepper Street	SJ 802000 E/461000 N
E26	North of Woodhouse Lane	SJ 883000 E/595000 N
LOWLAND HEATH		
H1	Marshes Hill	SJ 906000 E/548000 N
H2	Wetley Moor	SJ 928000 E/483000 N
REGIONALLY IMPORTANT GEOLOGICAL AND GEOMORPHOLOGICAL SITES		
G1	Mow Cop Folly Quarries, Kidsgrove	SJ 860000 E/573000 N
G2	Mount Pleasant Quarries (West), Kidsgrove	SJ 853000 E/566000 N
G3	Knypersley Reservoir, Biddulph	SJ 895000 E/554000 N
G4	Birchenwood Quarry, Kidsgrove	SJ 854000 E/541000 N
G5	Miry Quarry, Apedale	SJ 812000 E/494000 N

Potteries Coalfield (Inset Map 1)		Grid Ref.
COUNTRY PARKS		
CP1	Greenway Bank, Biddulph	For Location see Map
CP2	Park Hall, Stoke on Trent	
CP3	Leycett (Proposed) Newcastle under Lyme	
CP4	Apedale (Proposed) Newcastle under Lyme	

Cheadle Coalfield (Inset Map 2)		Grid Ref.
ANCIENT WOODLAND		
A1	Broughs Wood	SJ 988000 E/470000 N
A2	Dairyhouse Lane Wood	SJ 976000 E/466000 N
A3	Waste Wood and The Ashes	SK 003000 E/460000 N
A4	Dilhorne Wood	SJ 963000 E/447000 N
A5	Foxfield Wood	SJ 973000 E/449000 N
CONSERVATION AREAS		
CA1	Cheadle	SK 010000 E/431000 N
GRADE 1 COUNTY SITES OF BIOLOGICAL IMPORTANCE		
E1	Dairyhole Lane Wood	SJ 977000 E/465000 N
E2	South west of the Plough Inn and near The Dams	SK 010000 E/465000 N
E3	Foxfield Wood	SJ 975000 E/448000 N
E4	North East of Blakeley Bank	SJ 966000 E/438000 N
E5	West of Dilhorne	SJ 969000 E/437000 N
E6	Wash Meadow	SJ 972000 E/440000 N
E7	Cresswellford Crossing	SJ 963000 E/430000 N
E8	East of Commonside	SJ 992000 E/424000 N
E9	West of the Eaves	SK 009000 E/418000 N
REGIONALLY IMPORTANT GEOLOGICAL AND GEOMORPHOLOGICAL SITES		
G1	Huntley Railway Cutting and Quarry, Cheadle	SK 004000 E/414000 N

Cannock Coalfield (Inset Map 3)		Grid Ref.
SITES OF SPECIAL SCIENTIFIC INTEREST		
S1	Biddulphs Pool	SK 032000 E/097000 N
S1	No Man's Bank	SK 026000 E/096000 N
S2	Chasewater Heaths SSI is wholly within the Chasewater and Norton Bog SBI for which a central grid ref. is SK 032087	SK 036000 E/082000 N
		SK 039000 E/079000 N
		SK 044000 E/074000 N
S3	Cannock Extension Canal	SK 020000 E/054000 N
ANCIENT WOODLAND		
A1	Brereton Hayes Wood	SK 048000 E/148000 N
A2	Courtbanks Covert	SK 044000 E/116000 N
ANCIENT MONUMENTS		
M1	A moated site and bloomery at Courts Bank Covert.	SK 041000 E/116000 N
M2	An Iron Age Hill Fort at Castle Ring	SK 046000 E/129000 N
HISTORIC PARKS AND GARDENS		
P1	Little Wyrley Hall	SK 012000 E/059000 N
LOCAL NATURE RESERVES		
NR1	Hazelslade Local Nature Reserve	SK 026000 E/127000 N
CONSERVATION AREAS		
CA1	Bridgtown Conservation Area	SJ 982000 E/086000 N
GRADE I COUNTY SITES OF BIOLOGICAL IMPORTANCE		
E1	Castle Ring Fort	SK 044000 E/129000 N
E2	Hawks Green	SJ 996000 E/105000 N
E3	South East of Hawks Green	SJ 995000 E/104000 N
E4	Mill Green Nature Park	SJ 989000 E/102000 N
E5	East of Heath Hayes	SK 021000 E/106000 N
E6	Newlands	SK 011000 E/099000 N

Cannock Coalfield (Inset Map 3)		Grid Ref.
E7	North West of Norton Farm	SK 009000 E/095000 N
E8	West of Norton Farm	SK 009000 E/091000 N
E9	Hatherton Reservoir	SJ 978000 E/081000 N
E10	Bridgetown Pools	SJ 991000 E/080000 N
E11	Chasewater and Norton Bog SBI Also refer to Chasewater Heaths SSSI	SK 032000 E/087000 N
E12	Gains Plantation	SK 003000 E/071000 N
E13	School Lane Wood	SK 012000 E/067000 N
E14	North of Grove Lane	SK 017000 E/060000 N
E15	Gorsey Lane Farm	SK 016000 E/067000 N
E16	North West of Wyrley Common	SK 030000 E/065000 N
E17	North East of Jacob's Hall	SK 004000 E/063000 N
E18	Wyrley Common	SK 023000 E/060000 N
E19	Wyrley Hayes	SK 021000 E/055000 N
E20	Spinney	SK 025000 E/051000 N
E21	West of Newtown	SJ 984047 to 988035
E22	Essington Pools	SJ 963000 E/031000 N
E23	South East of Sneyd Farm	SJ 982000 E/023000 N
LOWLAND HEATHLAND		
H1	No Man's Bank	SK 029000 E/095000 N
H2	Cuckoo Bank	SK 035000 E/105000 N
H3	Burntwood Road	SK 026000 E/093000 N
H4	Littleworth Road	SK 022000 E/125000 N
H5	Chasewater	SK 031000 E/088000 N
H6	Brownhills	SK 030000 E/064000 N
COUNTRY PARKS		
CP1	Chasewater (Proposed)	For Location See Map

Warwickshire Coalfield (Inset Map 4)		Grid Ref.
SITES OF SPECIAL SCIENTIFIC INTEREST		
S1	Alvecote Pools	SK 245000 E/051000 N
		SK 245000 E/047000 N
		SK 244000 E/045000 N
LOCAL NATURE RESERVES		
NR1	Hodge Lane Local Nature Reserve	SK 239000 E/043000 N
CONSERVATION AREAS		
CA1	Almington Green	SK 236000 E/044000 N
CA2	Dosthill	SP 213000 E/998000 N
GRADE I COUNTY SITES OF BIOLOGICAL IMPORTANCE		
E1	The Decoy	SK 242000 E/058000 N
E2	North East of Kettlebrook Farm	SK 220000 E/028000 N
E3	East of Belgrave	SK 227000 E/020000 N
E4	Colwich Brickworks	SK 014000 E/215000 N
E5	Near Hockley	SK 224000 E/001000 N

APPENDIX 2

SAND AND GRAVEL ALLOCATIONS (MLP PROPOSAL 5)

A2.1 The following describes the proposed sites referred to in MLP Proposal 5 and Table 13 indicates the most up to date projected tonnage of sand and gravel to be recovered from them.

Croxden Quarry (Inset Map 12)

A2.2 Croxden Quarry is situated approximately 1.5 kilometres to the south east of Cheadle. One parcel of land is allocated in the MLP to the north of Coppice Lane between the existing site entrance and the existing quarry boundary.

A2.3 In January 1992 Staffordshire County Council received a planning application to work the majority of the land allocated in the ALP and to consolidate the planning position with respect to the remainder of the Quarry complex, so that the whole of the site would be covered by a single permission. The application provided for the realignment of Counslow Road on a more westerly route below the existing escarpment, together with improvements to School Lane from its junction with Freehay Road to Rakeway Cross Roads. The application sought permission for the release of over 18 of the 20 million tonnes identified as being available in the allocated land. It also provides for the protection of Lords Coppice and ground water resources in the Winnothdale Valley.

A2.4 During the preparation of the ALP, the release of this level of resource within an existing quarry complex was considered to be generally attractive subject to a suitable diversion of Counslow Road, a comprehensive restoration strategy and off-site highway improvements.

A2.5 The application was considered by Staffordshire County Council on 25 November 1993 and after considering all the matters raised during the public consultation process they resolved to permit the application subject to the applicant entering into a legal agreement and the imposition of appropriate planning conditions to minimise the impact of the proposals on the environment and local residents. The permission was issued in 1996 and the allocation retained in the MLP is that land not covered by the recent permission.

Pottal Pool (Inset Map 13)

A2.6 This forms an extension to the existing Pottal Pool Quarry, situated about 1.5 kms north of Huntington on the western boundary of the Cannock Chase Area of Outstanding Natural Beauty. To the east of the proposed site lies the Commonwealth War Cemetery. The site would be restored to a mixture of forestry/nature conservation uses including heathland.

A2.7 Notwithstanding the fact that the site is located on the western edge of an Area of Outstanding Natural Beauty (AONB), the environmental effects of working it would be limited. It is located within an area of commercial forest outside the SSSI, and outside the area of

public access. It is very well screened by existing maturing woodland from the nearby Broadhurst Green Road and there is no housing or public access land which would be adversely affected by the operations. By paying careful attention to the location of the western and northern boundaries, by altering the direction of working from north-south to east-west and by providing additional tree planting/landscaping along these boundaries any visual impact would be minimised. By entering into negotiations with the Forestry Commission to amend the management of the existing plantations, the operator can ensure that clearance of the woodland is avoided thereby decreasing the potential for visual intrusion. The eastern boundary coincides with the western side of Badger Slade a major north-south ride running along the eastern boundary.

A2.8 The environmental implications of working the site are essentially two-fold. First, there is the principle of allocating land in the AONB. Whilst this needs to be the subject of rigorous scrutiny, in the particular and site-specific circumstances of this case, it is considered that:

(a) the site could be worked with negligible impact on the character of the AONB and

(b) it could be worked as an extension to an existing site thereby maximising the utilisation of existing infrastructure thereby obviating the need for new plant or accesses etc.

A2.9 The second environmental effect is that of traffic. Broadhurst Green Road between the site access and the A34(T) should be to the required standards for HGV usage proposed as a result of the development. The routing of vehicles, both through the urban area of Cannock Chase and across the AONB, does give rise to complaint and the new allocation would perpetuate this for a further 10 years or so. An agreement will be necessary on the routing of HGV traffic together with improvements to the A34/Broadhurst Green Road junction.

A2.10 The mineral operator will need to have regard, as part of the detailed planning application required to implement the Pottal Pool allocation, to the availability of groundwater and surface water in the area and any other alternative means of water supply required for the on site processing of sand and gravel.

Tucklesholme Farm (Inset Map 14)

A2.11 This is a 78 ha. site located to the east of the existing Newbold Quarry on the opposite side of the A38 between the mainline railway and the River Trent.

A2.12 It is flat-lying agricultural land, in part prone to flooding, which could be relatively easily screened. The majority of the site would be pumped dry and sand and gravel excavated by dragline. Some areas however would be excavated wet below the water table. The transportation of materials by road to the existing processing plant at Newbold could be accepted. Restoration would be to water-based leisure and/or nature conservation uses, continuing the theme of the Barton site, further upstream to the south.

A2.13 The major constraints on working this site are the occurrence and anticipated occurrence of archaeological remains, the reluctance of one owner to release a small parcel of land in the south west corner of the site, the existence of a Grade 1A Site of Biological Importance and the proximity of working to Walton on Trent. South-west of Tucklesholme Farm, there are several significant crop marks, and the area north of Tucklesholme Farm

requires further professional archaeological investigation. Prior archaeological excavation/investigation of these sites should take place prior to any planning application being determined. Any archaeological evaluation required will need Scheduled Monument Consent granted at the discretion of the Secretary of State. The Grade 1A site has been the subject of previous mineral working and therefore does not contain workable reserves of sand and gravel. In view of this and its importance for nature conservation the Grade 1A Site of Biological Importance is excluded from the allocation area. The owner's land being of better agricultural quality and abutting the Grade 1A site is also excluded from the allocation area. By withdrawing the excavation boundary in the south east corner of the site any potential adverse effects on the residents of Walton on Trent should be reduced.

A2.14 There are also two public footpaths crossing the site. The one along the banks of the Trent would be left undisturbed by any working. A diversion for the other footpath would be necessary. In addition, the Environment Agency require that no excavations take place within 30 metres of the top of the bank of the River Trent or within 8 metres from the top of the banks of the Barton Brook.

Barton (Inset Map 15)

A2.15 This is a site of approximately 118 ha. lying in the Trent Valley immediately to the east of the A38 about 2kms north-east of Alrewas. It would be worked from the existing Barton quarry plant, which lies on the opposite (eastern) side of the main railway line, by conveyor under the railway.

A2.16 Restoration of the site should take into account the policy for best and most versatile agricultural land, its location within the National Forest and the conservation of its longer term potential as a high quality agricultural resource.

A2.17 In environmental terms, the site is remote from significant settlements although a number of isolated dwellings overlook the site. There is a small group of properties at the western end of Catholme Lane, farm buildings at Wychnor Bridge and Catholme Farm. The amenities of these properties could be protected by detailed consideration of excavation limits, screening and advance planting. Some views into the site would be likely from the A38, but it is considered that by sympathetic landscaping/advance planting, this could be reduced to an acceptable level.

A2.18 The only major environmental constraints affecting the site are several sites of archaeological interest within the area, including one Scheduled Ancient Monument. There is also a metal working site of industrial archaeological importance.

A2.19 In order to determine whether or not the Scheduled Ancient Monument should be conserved it is open to the operators to carry out prior archaeological evaluation/ investigations. Any such archaeological evaluation will need Scheduled Monument Consent granted at the discretion of the Secretary of State.

A2.20 As part of a detailed planning application to implement the allocation it will be necessary to investigate the grasslands and wetland habitats along a minor watercourse at the southern end of the site to determine their ecological value. Provision should also be made for no working within 30 metres of the River Trent.

Alrewas South (Inset Map 16)

A2.21 This site covers an area of some 64 ha. lying to the south of Croxall Road and between the railway and the Alrewas Bypass east of the A38 (Area A) and land east of the railway between Ridget Lane and Roddige Lane (Area B).

A2.22 The areas consist of flat lying agricultural land. There are no residential properties abutting the area. The village of Alrewas lies some 100 metres to the west of Areas A and B and is separated from the site by the busy A38 and railway corridor. Roddige Cottages would be excluded from working and would need to be screened from workings.

A2.23 Both areas would be worked back to the existing plant using overland conveyors. A culvert under the A513 could be utilised to gain access to Area B for the overland conveyor. There would be views into Area A from a stretch of the raised carriageway of the A513 Alrewas Bypass. Vehicles travelling westwards would gain views into the extreme northern end of Area B.

A2.24 There are a number of features of archaeological interest in Area A including a Scheduled Ancient Monument. Prior to any permission being granted it would be necessary for the applicant to demonstrate to the satisfaction of English Heritage that the area of interest and the Scheduled Ancient Monument would be protected or recorded as appropriate. There may be sites of potential archaeological interest in Area B and this will also need to be evaluated to determine whether it constitutes a constraint on working. Restoration of Areas A and B should take into account the policy for best and most versatile agricultural land and the conservation of its longer term potential as a high quality agricultural resource and their location within the National Forest.

A2.25 Both sides of the A513 would need advanced landscaping to minimise the visual effects of workings from the road. Five footpaths would have to be temporarily diverted to accommodate this development.

Leasowes Farm (Inset Map 17)

A2.26 This covers an area of 120 ha. of which 51 ha. would be worked. The site forms part of the flat valley floor of the Rivers Tean and Dove and lies largely between the two arms of the Tean on the north eastern edge of Uttoxeter. The Dove Valley forms the County Boundary between Staffordshire and Derbyshire from Ashbourne in the north to Barton in the east.

A2.27 The site is not identified as being of special ecological or landscape value and is physically separated from the edge of Uttoxeter by the Town Centre Bypass and the A50 Trunk Road. It forms a discrete area to which limited views are available. Leasowes Farm itself lies within the Site and the farm buildings would be retained.

A2.28 The development of this site would introduce working into a new area. It is a clearly defined site and one which is allocated for development for water based recreational uses in the East Staffordshire Local Plan.

A2.29 Working of the site should be completed quickly to enable the development of the recreation facility and to restrict any adverse environmental impact. By phasing the site's

release until the latter end of the century advance landscaping could be maturing, the Bypass would be constructed and the impact of working the Site could be reduced even further. Particular attention would have to be given to the siting of the plant, buildings and associated activities because of possible adverse visual intrusion resulting from the difficulty of placing the plant/buildings within the floodplain area.

A2.30 An archaeological evaluation will be required to determine whether there are any archaeological constraints.

Whitemoor Haye (Inset Map 16)

A2.31 This site covers some 50 ha. and lies to the east of the A38 corridor and immediately west of a site by the same name permitted in 1997. The site lies in that part of the Trent Valley in which the Plan seeks to concentrate workings, i.e. east of the A38, rather than west of the A38 in the Alrewas/Kings Bromley area. It is crossed by one high pressure gas main. The site is relatively isolated and forms part of a flat featureless plain. The site includes Grade 3a agricultural land. Restoration proposals should take these matters into account, relate well to the restoration of the adjacent site and to the Central Rivers Project and take the opportunity in this context to restore the site to a mixture of agriculture/forestry and water based uses.

A2.32 The Lichfield-Burton railway line lies 150 metres to the west and the opportunity for the development of a railhead to transport aggregates from this and adjacent sites should be examined, in accordance with Policy 29 of the Plan. Planning applications for sand and gravel extraction here will be expected to show evidence of thorough investigation of the rail transport option, and where appropriate make firm proposals for it, otherwise road transport will be required.

A2.33 The potential projected mineral yield from MLP Proposal 5 Specific Sites is summarised below:-

Table 13 : MLP Proposal 5 Specific Sites - Sand and Gravel

Sites	Projected Tonnage (Million tonnes)
Croxden Quarry	0.6
Pottal Pool	8.10
Tucklesholme Farm	1.80
Barton	6.00
Alrewas South	3.70
Leasowes Farm	6.00
Whitemoor Haye	1.5
	27.7

APPENDIX 3

BORROW PIT ALLOCATIONS (MLP PROPOSAL 6)

A3.1 The following describes the proposed borrow pit sites referred to in MLP Proposal 6:-

Hammerwich Borrow Pit (Inset Map 18)

A3.2 This site, required in connection with the Birmingham North Relief Road (BNRR), covers an area of some 13 ha. and is estimated to contain in the region of 0.5 million tonnes of sand and gravel. It lies some 250 metres to the south of the Village with the nearest property Meerash Farm some 160 metres to the north.

A3.3 Whilst the site lies within the South Staffordshire Green Belt there are no other landscape or ecological designations affecting the site. The site has an undulating landform with the western half sloping down to Hanney Hay Lane. Because of access difficulties, its size and location the site could not be worked as a freestanding site. However because of its location immediately abutting the line of the BNRR it could be developed solely as a borrow pit in conjunction with the construction of the road.

A3.4 As the site lies in the Green Belt it will need to be restored to a high environmental standard. Surplus materials from the road construction could be accommodated if accessed from the construction site. Other than that it would be inappropriate to allow the importation of waste materials and the site would have to be restored to a lower level.

A3.5 A mixture of forestry/agriculture would be appropriate. Screening and landscaping would be required along the northern and eastern boundaries tied with the landscaping of the BNRR.

Laney Green Borrow Pit (Inset Map19)

A3.6 This site, required in connection with the Birmingham North Relief Road (BNRR), covers an area of some 22 ha. It lies 400 metres to the north east of Junction 11 of the M6 Motorway near to Cannock and contains an estimated 2.0 million tonnes of sand and gravel.

A3.7 It lies in the South Staffordshire Green Belt and a Landscape Improvement Area in the South Staffordshire Local Plan. It is mainly flat good quality agricultural alongside the A460 sloping down to the west. Abutting the western boundary is a Grade 1B site of County Biological Interest consisting of mixed deciduous woodland. There are residential properties adjoining the north east corner and at the southern end. The Site is crossed by the BNRR and in particular the Middle Hill Interchange associated with the A460 diversion.

A3.8 It is considered that substantial and permanent fixed plant could not be satisfactorily screened as the site is highly visible from A460. Direct access onto the already heavily trafficked A460 is opposed by the Director of Development Services. Consequently, it is

considered that the site could only be worked on a short term basis as a borrow pit in direct association with, and with direct access onto the BNRR construction sites.

A3.9 The construction of the road itself will create significant environmental disturbance. That disturbance should not be increased by allowing excavations to take place too close to properties and by ensuring there is adequate advance landscaping to minimise any perceived level of visual intrusion.

A3.10 On this basis therefore the site should be worked solely in connection with the BNRR subject to the following parameters:

1. No working within 200 metres of properties at Middle Hill.

2. Advance landscaping be provided to the Wheatsheaf Public House and properties on the eastern side of A460.

3. That there be no working within a specified distance of the woodland which abuts the western boundary of the allocated area.

APPENDIX 4

POLICY CONSTRAINTS SHOWN ON INSET MAPS

Introduction

A4.1 For information purposes the policy constraints affecting the proposals of the Plan are shown on Inset Maps 5, 6 and 11 to 20.

A4.2 It was not practical to show the detailed boundary or location of all constraints and listed buildings, therefore, any detail should be sought from the appropriate County or Local Planning Authority. In addition, due to the scale of Inset Map 5, only the Sites of Archaeological Interest within the existing underground mine take and Area of Search have been listed below.

INSET MAP 5 : FAULD MINE (ANHYDRITE) : ENVIRONMENTALLY IMPORTANT AREAS		**GRID REF.**
SITES OF SPECIAL SCIENTIFIC INTEREST (SSSI'S)		
S1	Forest Banks	SK 126200 E/289150 N
S2	Forest Banks	SK 122770 E/285180 N
S3	Braken Hurst	SK 144870 E/223800 N
S4	Braken Hurst	SK 137870 E/221670 N
ANCIENT WOODLAND		
A1	Forest Banks	SK 125950 E/285770 N
A2	Banktop Wood	SK 141510 E/284890 N
A3	Bullspark Wood	SK 145230 E/282030 N
A4	Greaves Wood	SK 161170 E/275040 N
A5	Brown's Coppice and Queen's Purse Wood	SK 180820 E/280660 N
A6	Tomlinson's Corner Wood	SK 123680 E/275930 N
A7	Carvel Wood	SK 185510 E/258060 N
A8	Brick Kiln Plantation	SK 183760 E/256390 N
A9	Hanbury Park Coppice	SK 173900 E/254610 N
A10	Chantry Wood	SK 128470 E/246820 N

INSET MAP 5 : FAULD MINE (ANHYDRITE) : ENVIRONMENTALLY IMPORTANT AREAS		**GRID REF.**
A11	Roosthill Wood	SK 124380 E/243900 N
A12	Poole's Coppice	SK 136420 E/237060 N
A13	Jackson's Bank and Braken Heath Wood	SK 141430 E/235020 N
A14	Holly Bank	SK 181590 E/235400 N
A15	Knightley Park	SK 191300 E/229670 N
A16	Braken Hurst	SK 138780 E/231390 N
A17	Coppice Bank	SK 137800 E/217890 N
A18	Slade Covert	SK 145040 E/224530 N
A19	Lodge Hill	SK 153350 E/220860 N
A20	Yoxall Park	SK 155510 E/223220 N
A21	Foxholes Covert	SK 151990 E/215740 N
A22	Brankley Covert	SK 161770 E/215480 N
A23	Rangemore Dingle	SK 183480 E/225100 N
A24	Rocket's Oak	SK 196220 E/220290 N
A25	Bannister's Hollies	SK 181830 E/217500 N
SCHEDULED ANCIENT MONUMENTS		
M1	Woodend Moated Site	SK 177190 E/266460 N
M2	Newborough Hall Moated Site	SK 134370 E/259780 N
CONSERVATION AREAS		
CA1	Newborough	SK 135000 E/254000 N
CA2	Hoar Cross	SK 125000 E/232000 N
CA3	Rangemore	SK 183000 E/230000 N
GRADE I COUNTY SITES OF BIOLOGICAL IMPORTANCE		
E1	Tomlinson's Corner Wood	SK 123680 E/275930 N
E2	Banktop Wood and Ashbank	SK 136340 E/288460 N
E3	Bullspark Wood	SK 148290 E/280160 N
E4	Greaves Wood and Foxholes	SK 159500 E/276100 N

INSET MAP 5 : FAULD MINE (ANHYDRITE) : ENVIRONMENTALLY IMPORTANT AREAS		**GRID REF.**
E5	Hanbury Hill	SK 174020 E/282580 N
E6	Hanbury Mine Far North	SK 176840 E/284580 N SK 177460 E/282560 N
E7	Hanbury Mine	SK 178180 E/285400 N
E8	Carpertition Wood and Hare Hill	SK 181700 E/271470 N
E9	Poole's Coppice	SK 136420 E/237000 N
E10	Jackson's Bank and Braken Heath	SK 144240 E/237400 N
E11	Beck's Bank	SK 139720 E/223900 N SK 145910 E/223870 N
E12	Forest Covert	SK 127250 E/212540 N
E13	Rocket's Oak	SK 195770 E/219430 N
E14	Pool Green	SK 204730 E/225270 N
REGIONALLY IMPORTANT GEOLOGICAL AND GEOMORPHOLOGICAL SITE		
G1	Fauld Crater	SK 183000 E/277000 N
SITES OF ARCHAEOLOGICAL INTEREST (WITHIN EXISTING UNDERGROUND MINE TAKE AND AREA OF SEARCH)		
AS25	Ridge and Furrow - Period Unknown	SK 162400 E/283800 N
AS26	Site Unclassified - Period Unknown	SK 166200 E/284300 N
AS28	Site Unclassified - Period Unknown	SK 176000 E/281500 N
AS35	Prehistoric Artefact	SK 155500 E/275500 N
AS36	Fishpond - Period Unknown	SK 155000 E/271000 N
AS37	Post Medieval Landscape Park	SK 162000 E/271200 N
AS40	Early Medieval Settlement	SK 170000 E/270000 N
AS42	Enclosure - Period Unknown	SK 176000 E/271400 N
AS43	Medieval Deerpark	SK 185000 E/275000 N
AS50	Medieval Ridge and Furrow	SK 170000 E/268700 N
AS60	Prehistoric Artefact	SK 155500 E/255500 N
AS61	Ridge and Furrow - Period Unknown	SK 159500 E/253800 N
AS62	Medieval Fishpond	SK 167600 E/255400 N

INSET MAP 5 : FAULD MINE (ANHYDRITE) : ENVIRONMENTALLY IMPORTANT AREAS	**GRID REF.**
AS63 Medieval Deerpark	SK 173000 E/260000 N
AS71 Medieval Fishpond	SK 160000 E/248500 N
AS72 Post Medieval Landscape Park	SK 163500 E/248200 N
AS77 Modern Defensive Site	SK 159700 E/240600 N
AS78 Post Medieval Landscape Park and Fishpond	SK 167000 E/233500 N
AS79 Prehistoric Mound	SK 192500 E/231500 N
AS85 Medieval Ridge and Furrow	SK 155000 E/223800 N
AS86 Enclosure - Period Unknown	SK 157000 E/224000 N
AS87 Prehistoric Artefact	SK 158000 E/229000 N
AS88 Linear Feature - Period Unknown	SK 163000 E/228000 N
AS89 Linear Feature	SK 165000 E/220800 N
AS91 Enclosure - Period Unknown	SK 179000 E/221000 N
AS92 Post Medieval Landscape Park	SK 182000 E/222400 N
AS93 Medieval Windmill and Deserted Settlement	SK 191500 E/227000 N
TREE PRESERVATION ORDER (WITHIN EXISTING UNDERGROUND MINE TAKE AND AREA OF SEARCH)	
TP5 Needwood	SK 158500 E/245610 N

INSET MAP 6 : WALLEYS QUARRY : ENVIRONMENTALLY IMPORTANT AREAS	**GRID REF.**
SITES OF ARCHAEOLOGICAL INTEREST	
AS1 Medieval Settlement	SJ 835000 E/468000 N
AS2 Post Medieval Watermill	SJ 831000 E/463000 N
AS3 Medieval Ridge and Furrow	SJ 831000 E/456000 N
AS4 Roman Coin	SJ 825000 E/455000 N
AS5 Prehistoric Artefact	SJ 834000 E/470500 N
TREE PRESERVATION ORDER	
TP1 Keele	SJ 828500 E/456600 N

INSET MAP 6 : WALLEYS QUARRY : ENVIRONMENTALLY IMPORTANT AREAS		**GRID REF.**
TP2	Poolfield	SJ 836000 E/456500 N
TP3	Poolfield	SJ 838500 E/456500 N
TP4	Poolfield	SJ 839300 E/454200 N
TP5	Poolfield	SJ 839700 E/453500 N
TP6	Poolfield	SJ 841000 E/453500 N
HISTORIC PARK		
P1	Keele	SJ 824900 E/456700 N

INSET MAP 11 : CAULDON SHALE QUARRY (NEW HOUSE FARM SHALE) ENVIRONMENTALLY IMPORTANT AREAS		**GRID REF.**
SITES OF SPECIAL SCIENTIFIC INTEREST (SSSI'S)		
S1	Cauldon Railway Cutting	SK 077260 E/496820 N
S2	Cauldon Low Quarry	SK 076990 E/491690 N
GRADE 1 COUNTY SITE OF BIOLOGICAL IMPORTANCE		
E1	Cauldon	SK 076700 E/492300 N
REGIONALLY IMPORTANT GEOLOGICAL AND GEOMORPHOLOGICAL SITES		
G1	Cauldon Railway Cutting	SK 077000 E/496000N
G2	Cauldon Low Quarry	SK 077000E/492000 N
SITES OF ARCHAEOLOGICAL INTEREST		
AS1	Post Medieval Formal Garden	SK 082300 E/502600 N
AS2	Post Medieval Church Prehistoric Artefact	SK 078400 E/494500 N SK 078000 E/494000 N
AS3	Early Medieval Significant Placename	SK 077000 E/493000 N
TREE PRESERVATION ORDER		
TP1	Waterhouses	SK 082000 E/502700 N
TP2	Cauldon	SK 078100 E/494500 N

INSET MAP 12 : CROXDEN QUARRY (SAND AND GRAVEL) : ENVIRONMENTALLY IMPORTANT AREAS		**GRID REF.**
ANCIENT WOODLAND		
A1	Rakeway	SK 022460 E/417870 N
A2	Lord's Coppice	SK 040990 E/407530 N
TREE PRESERVATION ORDER		
TP1	Rakeway	SK 022460 E/417870 N

INSET MAP 13 : POTTAL POOL (SAND AND GRAVEL) : ENVIRONMENTALLY IMPORTANT AREAS		**GRID REF.**
LOWLAND HEATH		
H1	Cannock Chase Country Park	SJ 982330 E/156970 N
COUNTRY PARK		
CP1	Cannock Chase	SJ 982330 E/156970 N
SITES OF ARCHAEOLOGICAL INTEREST		
AS1	Enclosure - Period Unknown	SJ 980300 E/161300 N
AS2	Pillow Mound - Period Unknown	SJ 979900 E/160300 N
AS3	Post Medieval Cemetery Post Medieval Landscape Park	SJ 981500 E/156500 N
AS4	Ringwork - Period Unknown	SJ 977900 E/153400 N
TREE PRESERVATION ORDER		
TP1	Pottal Valley	SJ 96800 E/148000 N
TP2	Pottal Pool	SJ 971500 E/145000 N

INSET MAP 14 : TUCKLESHOLME FARM (SAND AND GRAVEL) : ENVIRONMENTALLY IMPORTANT AREAS		**GRID REF.**
SCHEDULED ANCIENT MONUMENT		
M1	Barrow Cemetery Tucklesholme Farm	SK 208390 E/188110 N
CONSERVATION AREA		
CA1	Trent and Mersey Canal	SK 208890 E/195250 N

INSET MAP 14 : TUCKLESHOLME FARM (SAND AND GRAVEL) : ENVIRONMENTALLY IMPORTANT AREAS		**GRID REF.**
SITES OF ARCHAEOLOGICAL INTEREST		
AS1	Roman Artefact Medieval Artefact	SK 215100 E/197000 N
AS2	Enclosure - Period Unknown Ring Ditch - Period Unknown	SK 206200 E/195400 N
AS3	Enclosure - Period Unknown Ring Ditch - Period Unknown Ridge and Furrow - Period Unknown Pit Alignment - Period Unknown	SK 212800 E/194800 N
AS4	Enclosure - Period Unknown Linear Feature - Period Unknown	SK 207200 E/197900 N
AS5	Post Medieval Canal Bridge	SK 208700 E/194200 N
AS6	Prehistoric Cursus Prehistoric Pit Alignment Prehistoric Ring Ditch	SK 208400 E/188000 N
AS7	Post Medieval Canal Bridge	SK 206200 E/188000 N
AS8	Prehistoric Roundbarrow Prehistoric Linear Feature	SK 210000 E/188300 N
AS9	Prehistoric Linear Feature Prehistoric Enclosure	SK 209000 E/182000 N
AS10	Medieval Ridge and Furrow	SK 210000 E/181000 N

INSET MAP 15 : BARTON (SAND AND GRAVEL) : ENVIRONMENTALLY IMPORTANT AREAS		**GRID REF.**
SCHEDULED ANCIENT MONUMENTS		
M1	South East of Efflinch	SK 193500 E/170000 N
M2	South East of Catholme Bridge	SK 194990 E/167890 N
M3	Catholme	SK 195990 E/166880 N
M4	West of Wychnor Junction	SK 191490 E/163200 N
M5	North of Wychnor Bridges	SK 187000 E/165150 N
CONSERVATION AREA		

INSET MAP 15 : BARTON (SAND AND GRAVEL) : ENVIRONMENTALLY IMPORTANT AREAS		**GRID REF.**
CA1	Trent and Mersey Canal	SK 191010 E/168640 N
GRADE 1 COUNTY SITE OF BIOLOGICAL IMPORTANCE		
E1	Catholme Sand and Gravel Pits	SK 195430 E/160050 N
E2	Buttermilk Hillverges	SK 195190 E/160250 N
SITES OR ARCHAEOLOGICAL INTEREST		
AS1	Post Medieval Canal Bridge	SK 191500 E/169100 N
AS2	Pit Alignment - Period Unknown	SK 196000 E/168200 N
AS3	Prehistoric Henge	SK 196000 E/167000 N
AS4	Prehistoric Ring Ditch Prehistoric Pit Alignment	SK 195000 E/167800 N
AS5	Enclosure - Period Unknown	SK 192700 E/167100 N
AS6	Pit Alignment - Period Unknown	SK 192000 E/166200 N
AS7	Post Medieval Canal	SK 190000 E/167000 N
AS8	Site Unclassified - Period Unknown	SK 190000 E/166400 N
AS9	Prehistoric Enclosure Prehistoric Pit Alignment Medieval Ridge and Furrow	SK 187000 E/165000 N
AS10	Prehistoric Ring Ditch Linear Feature - Period Unknown	SK 191500 E/163000 N
AS11	Ring Ditch - Period Unknown	SK 192700 E/162500 N
AS12	Early Medieval Settlement	SK 197500 E/162400 N
AS13	Post Medieval Canal Bridge Post Medieval Lock	SK 185100 E/161400 N
AS14	Ring Ditch - Period Unknown Ridge and Furrow - Period Unknown	SK 188500 E/161200 N
AS15	Medieval Road Bridge	SK 184400 E/159700 N
AS16	Early Medieval Cemetery	SK 194700 E/159400 N
AS17	Medieval Road Bridge	SK 183200 E/158100 N
AS18	Post Medieval Canal Feature	SK 188400 E/158000 N

INSET MAP 15 : BARTON (SAND AND GRAVEL) : ENVIRONMENTALLY IMPORTANT AREAS		**GRID REF.**
AS19	Medieval Watermill Post Medieval Forge	SK 188900 E/157000 N
AS20	Site Unclassified - Period Unknown	SK 192300 E/157100 N
AS21	Early Medieval Artefact Early Medieval Burial	SK 193600 E/156800 N
AS22	Enclosure - Period Unknown	SK 189000 E/155000 N
AS23	Enclosure - Period Unknown Linear Feature - Period Unknown	SK 193000 E/155000 N
AS24	Medieval Ridge and Furrow	SK 183800 E/153100 N
AS25	Ring Ditch - Period Unknown Enclosure - Period Unknown	SK 185200 E/152800 N
AS26	Enclosure - Period Unknown Linear Feature - Period Unknown	SK 192500 E/153700 N
AS27	Site Unclassified - Period Unknown	SK 195500 E/152700 N
AS28	Post Medieval Canal Bridge	SK 189100 E/166100 N

INSET MAP 16 : ALREWAS SOUTH and WHITEMOOR HAYE (SAND AND GRAVEL) : ENVIRONMENTALLY IMPORTANT AREAS		**GRID REF.**
SCHEDULED ANCIENT MONUMENT		
M1	Alrewas Station	SK 177880 E/149170 N SK 179940 E/147200 N
M2	North East of Sittles Farm	SK176990E/130080N
CONSERVATION AREA		
CA1	Alrewas	SK 171000 E/152000 N
SITES OF ARCHAEOLOGICAL INTEREST		
AS1	Post Medieval Canal Bridge	SK 168400 E/150500 N
AS2	Early Medieval Significant Placename	SK 174000 E/151000 N
AS3	Medieval Ridge and Furrow	SK 169000 E/147200 N
AS4	Site Unclassified - Period Unknown	SK 171000 E/145000 N

INSET MAP 16 : ALREWAS SOUTH and WHITEMOOR HAYE (SAND AND GRAVEL) : ENVIRONMENTALLY IMPORTANT AREAS		**GRID REF.**
AS5	Roman Settlement	SK 183000 E/147400 N
AS6	Linear Feature - Period Unknown Prehistoric Enclosure	SK 178000 E/146300 N
AS7	Linear Feature - Period Unknown	SK 174800 E/144700 N
AS8	Linear Feature - Period Unknown	SK 180000 E/143100 N
AS9	Site Unclassified - Period Unknown	SK 170600 E/142600 N
AS10	Medieval Site Unclassified	SK 184000 E/142000 N
AS11	Site Unclassified - Period Unknown	SK 170100 E/141200 N
AS12	Enclosure - Period Unknown Medieval Priests House	SK 173000 E/141200 N
AS13	Enclosure - Period Unknown Linear Feature - Period Unknown	SK 177800 E/140400 N
AS14	Ring Ditch - Period Unknown Linear Feature - Period Unknown	SK 182500 E/140000 N
AS15	Enclosure - Period Unknown	SK 174800 E/137200 N
AS16	Ring Ditch and Linear Feature - Period Unknown	SK182000 E/13600 N
AS17	Artifact – Period Unknown	SK173400 E/135900 N
AS18	Modern Non Antiquity	SK177500 E/134100 N
AS19	Enclosure and Linear feature – Period Unknown	SK181000 E/134000 N
AS20	Trackway – Period Unknown	SK178500 E/132900 N
AS21	Post Medieval Domestic Dwelling	SK170000 E/132000 N
AS22	Linear feature – Period Unknown	SK180000 E/131000 N
AS23	Prehistoric Ring Ditch – Medieval Artefact	SK177000 E/130000 N
AS24	Enclosure – Period Unknown	SK174500 E/131800 N
AS25	Modern Linear Feature	SK174300 E/130000 N
AS26	Trackway and Enclosure – Period Unknown	SK169000 E/132000 N
AS27	Site Unclassified – Period Unknown	SK169000 E/129000 N
AS28	Enclosure and Linear Feature – Period Unknown	SK166000 E/126200 N
AS29	Linear Feature Period Unknown	SK176000 E/127500 N

INSET MAP 16 : ALREWAS SOUTH and WHITEMOOR HAYE (SAND AND GRAVEL) : ENVIRONMENTALLY IMPORTANT AREAS		**GRID REF.**
AS30	Linear Feature Period Unknown	SK177200 E126500 N
AS31	Enclosure – Period Unknown	SK178600 E/125400 N
AS32	Enclosure and Ring Ditch – Period Unknown	SK175700 E/125600 N
AS33	Enclosure and Linear Feature – Period Unknown	SK174000 E/124000 N
AS34	Enclosure and Ring Ditch – Period Unknown	SK169500 E/123300 N
AS35	Linear Feature Period Unknown	SK174000 E/124000 N
AS36	Enclosure – Period Unknown	SK175800 E/123100 N
AS37	Enclosure and Linear Feature – Period Unknown	SK177600 E/123100 N
AS38	Enclosure, Linear Feature and Ring Ditch – Period Unknown	SK180000 E/123000 N
AS39	Modern Pillbox	SK182100 E/123200 N
AS40	Ring Ditch – Period Unknown	SK173300 E/121900 N
TREE PRESERVATION ORDER		
TP1	Alrewas	SK 171200 E/149600 N
TP2	Alrewas	SK 174700 E/151300 N

INSET MAP 17 : LEASOWES FARM (SAND AND GRAVEL) : ENVIRONMENTALLY IMPORTANT AREAS		**GRID REF.**
SCHEDULED ANCIENT MONUMENT		
M1	Dove Bridge	SK 105500 E/344650 N
CONSERVATION AREA		
CA1	Uttoxeter	SK 092490 E/337570 N
SITES OF ARCHAEOLOGICAL INTEREST		
AS1	Post Medieval Church	SK 092500 E/359500 N
AS2	Medieval Ridge and Furrow	SK 094700 E/358700 N
AS3	Ridge and Furrow - Period Unknown	SK 100900 E/356200 N
AS4	Medieval Ridge and Furrow	SK 096800 E/349000 N

INSET MAP 17 : LEASOWES FARM (SAND AND GRAVEL) : ENVIRONMENTALLY IMPORTANT AREAS		**GRID REF.**
AS5	Post Medieval Canal Feature	SK 087800 E/345800 N
AS6	Post Medieval Lime Kiln	SK 089000 E/344900 N
AS7	Ridge and Furrow - Period Unknown	SK 095600 E/343300 N
AS8	Post Medieval Road Bridge Medieval Road Bridge	SK 105500 E/344600 N
AS9	Fishpond - Period Unknown	SK 099900 E/342400 N
AS10	Well - Period Unknown	SK 093000 E/342000 N
AS11	Post Medieval Canal Wharf Post Medieval Lime Kiln	SK 090000 E/341000 N
TREE PRESERVATION ORDER		
TP1	Uttoxeter	SK 091000 E/339500 N

INSET MAP 18 : HAMMERWICH BORROW PIT		**GRID REF.**
SITES OF ARCHAEOLOGICAL INTEREST		
AS1	Medieval Settlement	SK 069000 E/074000 N
AS2	Medieval Ridge and Furrow	SK 0171200 E/073400 N
AS3	Prehistoric Artefact	SK 057100 E/071400 N
AS4	Linear Feature - Period Unknown	SK 073000 E/066000 N
AS5	Enclosure - Period Unknown	SK 074000 E/064500 N
AS6	Post Medieval Linear Feature	SK 063200 E/063200 N
AS7	Post Medieval Church Medieval Church	SK 070000 E/073600 N
AS8	Post Medieval Windmill	SK 067300 E/073700 N
TREE PRESERVATION ORDER		
TP1	Hammerwich	SK 067800 E/077800 N
TP2	Hammerwich	SK 068500 E/073100 N

INSET MAP 19 : LANEY GREEN BORROW PIT : ENVIRONMENTALLY IMPORTANT AREAS		**GRID REF.**
SITES OF ARCHAEOLOGICAL INTEREST		
AS1	Mound - Period Unknown	SJ 956000 E/084300 N
AS2	Medieval Ridge and Furrow	SK 954000 E/081000 N
AS3	Site Unclassified - Period Unknown	SJ 954600 E/078600 N
AS4	Site Unclassified - Period Unknown	SJ 954500 E/077300 N
AS5	Bank – Period Unknown	SJ 958000 E/076000 N
AS6	Enclosure - Period Unknown	SJ 957000 E/072500 N
AS7	Deserted Settlement - Period Unknown	SJ 958500 E/072000 N
AS8	Linear Feature - Period Unknown	SJ 958000 E/070500 N
AS9	Site Unclassified - Period Unknown	SJ 955900 E/070000 N
TREE PRESERVATION ORDER		
TP1	Wedge's Mill	SJ 963000 E/081300 N
TP2	Laney Green	SJ 954000 E/068300 N
TP3	Laney Green	SJ 954300 E/065600 N

INSET MAP 20 : MONEYSTONE QUARRY (SILICA SAND) : ENVIRONMENTALLY IMPORTANT AREAS		**GRID REF.**
SITE OF SPECIAL SCIENTIFIC INTEREST		
S1	Whiston Eaves	SK 037940 E/461500 N
ANCIENT WOODLAND		
A1	Ashbourne Hey	SK 037630 E/460860 N
A2	Key Wood	SK 043330 E/452100 N
GRADE 1 COUNTY SITE OF BIOLOGICAL IMPORTANCE		
E1	Whiston Hall Golf Course	SK 041460 E/470590 N
E2	Moneystone Quarry	SK 050000 E/466000 N
E3	Rake Edge	SK 037000 E/461000 N

LOWLAND HEATH		
H1	Black Plantation (West)	SK 048020 E/466250 N
H2	Moneystone Quarry (West)	SK 048960 E/464870 N
H3	Moneystone Quarry (East)	SK 051340 E/464410 N
H4	Whiston Hall Golf Course	SK 041000 E/471000 N
SITES OF ARCHAEOLOGICAL INTEREST		
AS1	Site Unclassified - Period Unknown	SK 040500 E/472100 N
AS2	Site Unclassifield - Period Unknown	SK 040100 E/470500 N
AS3	Mound - Period Unknown	SK 045000 E/462700 N
AS4	Mine - Period Unknown	SK 039000 E/457500 N
AS5	Medieval Metal Working Site	SK 048000 E/454100 N
TREE PRESERVATION ORDER		
TP1	Whiston	SK 041400 E/471700 N

CODE OF PRACTICE FOR MINERAL DEVELOPMENT SUPPLEMENTARY PLANNING GUIDANCE TO THE MINERALS LOCAL PLAN

APPENDIX 5

CODE OF PRACTICE FOR MINERAL DEVELOPMENT SUPPLEMENTARY PLANNING GUIDANCE TO THE MINERALS LOCAL PLAN

Introduction

A5.1 Proposals for mineral development generally require the prior approval of the Mineral Planning Authority.

A5.2 This Code of Practice provides general guidance on matters that prospective applicants will need to bear in mind when submitting applications for mineral development. Applicants are advised to discuss their proposals with the MPA in advance particularly if they are likely to depart from the advice it contains. The Code will be applied on the principle that the County and City Councils will not request more information than is required to determine applications and to ensure that working is carried out in accordance with modern restoration and environmental standards. The complexity of detail required will depend on the circumstances of each case. The Code of Practice supplements the policies and proposals of the Minerals Local Plan. Although it is not within the main body of the Plan, it has been approved by the Councils after public consultation as Supplementary Planning Guidance. The Code is subdivided into four sections.

1. Pre Application Considerations

2. Planning Applications

3. Site Design and Operational Considerations

4. Restoration and Aftercare

A5.3 In March 1995 the Department of the Environment published model planning application forms for mineral working and associated development and guidance notes. The forms comprise a Standard Minerals Application Form whose completion is compulsory for all applicants together with annexes 1 to 5 inclusive dealing with mineral extraction and processing (Annex 1), mineral exploration (Annex 2), underground mining (Annex 3), major surface disposal of mine or quarry wastes (Annex 4) and oil and gas operations (Annex 5). Where appropriate, completion of the relevant annex or annexes or submission of a supporting statement dealing with the matters identified in an annex will help the Mineral Planning Authority determine the planning application. Copies of the form and notes can be obtained from the County Council or Stoke City Council.

A5.4 The Code of Practice for Mineral Development is intended to complement the standard mineral application form referred to above. The range and depth of the information required to determine a planning application will vary with the complexity of the proposal and the sensitivity

of the site. The provision of full details with the planning application will help the Mineral Planning Authority to determine the proposals fairly, efficiently and expeditiously. The Code of Practice suggests matters additional to those referred to in national standard forms and guidance notes which may be relevant to the determination of specific planning applications and which the prospective applicant should, where relevant, address during the preparation of planning application documentation. Where the proposed development may have an adverse impact upon features of acknowledged importance, consideration should be given to the inclusion of mitigation measures to reduce the impact of the development or make compensatory provision e.g. creation of a similar feature elsewhere.

PRE APPLICATION CONSIDERATIONS

A5.5 Prospective applicants are urged to discuss their proposals with Mineral Planning Authority officers at an early stage prior to the submission of a planning application. The applicant may also benefit from pre-application consultations with other parties who have an interest in the site such as, for example the Environment Agency, District Councils, the Highway Agency, statutory undertakers or local amenity groups. Indeed, in more complex cases, it may be beneficial to publicise draft proposals, perhaps in the form of a public exhibition held in the locality so that proposals can be refined to take account of any issues that may arise. During the design of proposals applicants will be expected to identify potential impacts arising from the proposals and demonstrate in the planning application how these will be avoided or mitigated.

A5.6 Early consultations with English Nature, the Staffordshire Wildlife Trust and the Regionally Important Geological and Geomorphological Sites Group for Staffordshire would help establish the location of both statutory and non-statutory sites for nature conservation as well as information regarding protected species. Advice can also be provided regarding survey methodology to ensure that seasonal and other relevant factors are taken into consideration.

A5.7 Regard will need to be paid at an early stage as to whether the proposed development will be likely to require the submission of an Environmental Statement under the terms of the Town and Country Planning (Environmental Impact Assessment)(England and Wales) Regulations 1999. In broad terms an Environmental Statement is required where proposals impact upon particularly sensitive locations, and/or the environmental effects are complex and/or issues are raised which are of more than local importance. Similarly, early consultation, where relevant, is recommended with the highway authority to establish the need for, and scope of, the Traffic Impact Appraisal.

A5.8 The applicant will usually carry out an existing site appraisal based on surveys and other research. This provides a baseline for the design and evaluation of detailed proposals. The relevant Development Plan and national planning guidance must be taken into account during the design of proposals. The planning history of the site may also be relevant.

A5.9 The Code of Practice contains a range of issues and, in some cases, a number of options may be available to achieve the same objective. These may be matters for discussion and negotiation between the applicant/operator and the Mineral Planning Authority.

A5.10 Mineral development often raises concerns of pollution. Planning and pollution control systems are separate but complementary. Close consultation between Planning Authorities and the Environment Agency is essential to avoid unnecessary duplication and conflicts of interest.

In addition to the planning control there is parallel legislation dealing with waste management, including the requirement to obtain a waste management licence in the event that working or restoration involves the treatment, keeping or disposal of controlled waste in or on land as defined in the Environmental Protection Act 1990. This MLP deals only with mineral operations and makes no attempt to prescribe requirements more properly the responsibility of the Environment Agency. The land use planning aspects of waste generation, management and disposal will fall within the remit of the Waste Local Plan. In any event the Environment Agency should be consulted at an early stage in respect of restoration proposals using imported wastes.

A5.11 Waste from any mine or quarry is excluded from the definition of controlled waste by virtue of Section 75(2) of the Environmental Protection Act 1990 and is therefore not generally subject to the Waste Management Licensing system which came into force on 1 May 1994. However, the Department of the Environment have indicated their intention to issue a consultation paper regarding proposals to extend waste management controls to certain categories of mines and quarry wastes and review exemptions from the current Waste Management Licensing regime. These potential changes serve to illustrate the importance of maintaining close consultations with the Environment Agency at an early stage of mine/quarry design.

A5.12 Restoration considerations should figure prominently at the early stages of mine/quarry planning. In broad terms restoration may be to levels lower than original ground contours to reflect the removal of minerals, or to levels at or above original ground contours either relying on the natural bulkage of disturbed materials, other than the mineral being worked, or by the importation of fill materials. All mineral development permissions which allow for restoration with controlled wastes will be subject to conditions controlling both the mineral extraction, infilling and restoration operations.

PLANNING APPLICATIONS

A5.13 Reference has already been made above to the standard application form, annexes and guidance notes. The application may be supported by suitably scaled plans, drawings, cross sections, technical data or other material to clearly illustrate the existing situation, the proposals and projected impacts. The national guidelines give advice regarding the appropriate scale of plans. It is the applicant's responsibility to complete the planning application documentation.

A5.14 The application must clearly describe the proposed development to which it relates. A plan at an adequate scale must always be included in the application showing the precise land to which it relates and its relationship with adjoining land to establish the proper planning context.

A5.15 The following list of matters to be included in a planning application submitted for mineral development attempts to be comprehensive, but there may be additional matters that may arise in particular circumstances. Some of the list of matters may not be required for all types of development. The items listed in the Code are in addition to those matters which may be specified elsewhere in MLP policies or proposals. National planning guidance may also be helpful.

A5.16 **Mineral Exploration** - Where exploration is proposed for a specified mineral and area the nature of the investigations e.g. boreholes, wells, seismic studies, excavations or others

shall be clearly described. The number, location and depth of boreholes and excavations shall be provided, and under Section 199 of the Water Resources Act, the developer shall serve notice on the Environment Agency of any intention to construct or extend a boring for which a Conservation Notice may be required. Measures to suppress noise, dust and vibrations together with proposed hours of working shall be provided as well as arrangements for the satisfactory disposal of drilling wastes and contaminated water. The applicant shall provide restoration proposals including steps to be taken to ensure that the land is made safe after exploration.

A5.17 **Need for the Mineral** - Where need is at issue, then a reasoned justification in support of the development, a description of markets to be served and an appraisal of alternative sources of supply will be required. Full details shall be provided of any materials required to be imported to the site for blending purposes.

A5.18 **Minerals, Soils, Hydrological and Hydrogeological Considerations** - Adequate data including plans, borehole logs, trial pit results or laboratory test work may be provided to support a full assessment of the following matters:-

1. A detailed schedule of existing soil resources to be disturbed including the soil unit types, distribution and quantities of topsoils, subsoils and any soil making materials to be encountered during mining operations;

2. Relevant geological information which may include details regarding lithology, structure, chemistry, contamination, land stability and mining history;

3. Type, distribution, depth and volume of overburden to be moved;

4. Type, tonnage, and quality of saleable minerals to be extracted, including annual and/or weekly production rates. Where the proposal is an extension to an existing site, the tonnage and life of the remaining reserves with planning permission;

5. In the case of oil and gas, the total resources, projected volume of production and life of the field shall be provided where this is known;

6. The distribution, depth and volume of the mineral to be won within the site;

7. Type, nature, and quantities of any waste material to be generated on site or disturbed by the proposed operations including the nature and severity of any contamination present;

8. Existing surface and subsurface drainage arrangements and flows;

9. Depth to the water table and existing variations in water table levels;

10. Where workings will intercept the water table, or be within influencing distance, or interfere with existing surface and groundwater flows within and outside the site, then a hydrological/hydrogeological assessment of the site shall be carried out, so that the implications of the working and restoration of the site on the existing water regime can be established and appropriate mitigation measures agreed;

11. Where it is proposed that any site be restored using potentially polluting wastes then an appraisal of the geology and hydrogeology of the site and its surroundings and of any sub-surface natural or man-made structures capable of providing pathways for the migration of leachate or landfill gas within and outside the site shall be undertaken and submitted to the Mineral Planning Authority;

12. A preliminary assessment of the effects of the proposals on surface hydrology, hydrogeology and water chemistry is appropriate where important or sensitive biological habitats have been identified close to the site, or within influencing distance of it, which may be affected;

13. The location of licensed (or unlicensed) water abstraction points in proximity to the proposed site to evaluate the potential impacts of the proposed operations on the said abstractions including appropriate mitigation measures;

14. the source of water to be used for dust suppression and wheel washing.

Commercially sensitive data on mineral quantity, quality and markets can in appropriate circumstances be submitted in confidence.

A5.19 **Landuse, Landscape and Ecological Appraisal** - Applications shall include, where appropriate:-

1. A description of the geological, geomorphological, landuse, landscape and ecological context of the site;

2. A detailed appraisal of the existing site identifying all significant landscape and nature conservation features including geology, geomorphology, contours or levels, landuse, derelict or degraded land, areas of landscape value, buildings or structures, rights of way within or in close proximity to the site, informal recreation facilities, woodland, hedges and hedgerow trees, or other means of enclosure, statutory and non-statutory sites of nature conservation value, protected species, grassland, heathland, streams, pools, wetland areas, watercourses, other semi natural habitats and significant flora and fauna;

3. Assessment of short, medium and long distance views into the site illustrated, where appropriate, by sight line sections from sensitive locations, photomontage or other illustrative material;

4. Proposals for retention and maintenance of any existing features for their intrinsic value and also for including trees and hedges to visually screen the site or potentially obtrusive features therein, or to integrate the site into its surroundings and for the creation of new screen planting and screen mounds for the same purpose;

5. Where new planting is proposed, details of locations, preparatory works, density, size, number, species, method(s) of protection, and programme of planting and maintenance of trees and shrubs;

6. Measures to minimise or mitigate for adverse landscape and ecological impacts, and

7. Proposals to temporarily stop up or divert existing public rights of way or replace existing facilities displaced by the proposed operations.

A5.20 **Archaeological, Historical or Architectural Evaluation** - As part of the pre-application research, applicants are advised to consult the County or City Council and the relevant District Council to help establish whether or not their proposals are likely to have any adverse impact on features of potential archaeological, historical or architectural interest. Advice can be obtained from the County or City Council regarding archaeological desk-top assessments, on-site field evaluations and suitably qualified and experienced contractors to carry out such work. MLP Policies 24, 25 and 26 deal with the requirements of an archaeological appraisal.

A5.21 **Assessment of Other Impacts** - Depending on the location of the site, and particularly critical elements of it (e.g. processing plant and haul roads) in relation to surrounding residential and other sensitive properties, the Mineral Planning Authority will require the submission of detailed surveys or assessments of the following, where appropriate:-

1. Proximity to residential development and other sensitive locations;

2. **Noise** - Existing ambient noise levels at surrounding noise sensitive locations in terms of the 1 hour LAeq where possible, or where the site is an extension to an existing site then the L90 level will be acceptable where pre-mining noise levels are not available; measures to minimise noise generation and attenuate its transmission; anticipated increases in noise levels at sensitive locations attributable to site operations after the introduction of such measures expressed as a 1 hour LAeq reading. Temporary, noisy activities such as soil stripping and replacement and the construction and removal of screen banks shall be evaluated separately for the purposes of the noise assessment;

3. **Dust** - Measures to suppress the generation of dust and to ensure that its dispersal and deposition beyond the site boundary is reduced to an acceptable level. Available climatic data, ambient dust levels and projected levels of dust deposition arising from site operations shall be provided;

4. **Blasting** - Where blasting is proposed, the anticipated maximum peak particle velocity (ppv measured in mm/sec) and air overpressure (dB) at any residential or other sensitive property outside the site boundary, together with calculations showing how the ppv has been derived. The anticipated frequency of blasting per week, blasting periods and projected number of weeks when blasting will be required. Measures to suppress vibration from blasting or any other source and means of prior notification of blasting arrangements;

5. **Water** - Applications with implications for drainage, flood defence, groundwater or pollution control shall include the following:-

    (a) Details of any treatment facilities required or to be provided on the site including the size of any silt lagoons;

    (b) Provision for site sewerage facilities;

(c) Measures to prevent the spillage or seepage of all oil and chemicals delivered, stored and handled on the site including details of pollution prevention measures such as bunding of fuel tanks, storage/maintenance of plant etc;

(d) The arrangements for wheel washing and weighbridge drainage;

(e) Details of any proposals to protect, divert or culvert any watercourses, culverts, drainage ditches or water areas within or bounding the site;

(f) Details of the compensating works for any loss of flood storage capacity;

(g) Details of any bunding or other appropriate measures to protect the mineral extraction working from flooding;

(h) Where appropriate, upon cessation of underground mining, long term water management proposals to protect against the adverse environmental impacts of groundwater rebound or drainage of spoil or minerals deposited at the surface;

(i) Where appropriate, details for the measurement and recording of water quality and groundwater levels.

6. **Monitoring** - Details of measures to monitor noise, dust, vibration, water levels and quality. The proposals shall specify the method and equipment to be employed, the location of monitoring points, duration and frequency of reading. Proposals shall also provide for submission of results to the Mineral Planning Authority if requested;

7. The projected effects of subsidence arising from underground working and areas to be left unworked to provide support;

8. The extent, quality and use of agricultural land to be disturbed and implications for existing agricultural holdings. Following a reconnaissance survey Provisional Agricultural Land Classification maps were published in the 1970s. Due to the nature of that survey these maps are not suitable for identifying land quality on an individual site for which an up to date survey is required. Detailed land classification information may be available from Ministry of Agriculture, Fisheries and Food where further survey work has been carried out;

9. Implications for existing or proposed services or utilities crossing or adjacent to the site;

10. The impacts of the proposals on the use and enjoyment of public rights of way within or in close proximity to the site;

11. Other environmental factors as appropriate.

A5.22 **Working Proposals** - Applications shall address, where appropriate, the following matters:-

1. Site layout, method of working, depth and area of excavation, excavation batters and standoffs, direction, phasing and programming of working.

2. In the case of underground working to include the position of all mine entries (including ventilation shafts etc.), the minimum and maximum depth of extraction and thickness of individual seams or deposits, method of extraction and disposal of waste materials. In appropriate circumstances, provision of an annual survey plan of site operations will help demonstrate compliance with the projected programme of working.

3. Anticipated overall life of operations; initial site development, excavation, backfilling and infilling with imported materials (where applicable), restoration and aftercare;

4. Existing and proposed site vehicular access arrangements to the public highway and method of transporting material within the site identifying the location of internal haul roads, including maintenance and signposting proposals together with any on and off site traffic management arrangements. In the case of oil and gas the method of transporting the hydrocarbon from wells to gathering, processing and storage facilities shall be provided;

5. Method and timing of soil stripping, movement, storage and replacement of topsoil, subsoil, soil making material and overburden or waste tips; location, levels, slopes, maximum height, method of construction, timing of construction and removal and treatment of storage mounds. Measures to protect undisturbed land or features;

6. Proposals for screening and landscaping the operations including bunds and advance planting;

7. Measures to ensure the stability of working faces, tips and associated structures;

8. Design, purpose, dimensions and external appearance of plant, machinery and buildings, including location, cladding, and colour. Estimated normal production rate and maximum production capacity of the processing plant. Traffic circulation and parking areas. The location of any off-site processing plant to be used;

9. Mobile plant and machinery to be used and location of plant yards and workshops;

10. Location, height, capacity and screening of stockpiles and other storage areas. Fuel oils and other polluting materials to be stored and measures to prevent pollution; and

11. Amount of waste generated on-site and method of disposal. Proposed waste management scheme including the location, form and capacity of arrangements for the temporary or permanent deposition of wastes and method and programme of placement and/or removal. The constraints that the physical and chemical characteristics of the waste may impose on revegetation and the control and disposal of drainage waters;

12. Existing topographical contours, limit of working areas and contours on completion of excavation;

13. Whether working will be wet or dry and, if applicable, methods of dewatering;

14. Where infill materials will be imported to the site, or contaminated materials arise during operations then state the type of material to be tipped or dealt with, its source, nature and quantity, its form i.e. solid or liquid and whether any degradable, toxic or dangerous materials are involved. The process by which the material will be handled, stored, treated or dealt with shall be clearly explained;

15. Proposals to store hazardous materials on site;

16. Measures to protect, divert, temporarily suspend or close existing rights of way;

17. Means of water supply and disposal of waste water;

18. Location of lagoons, means of disposing of silt, tailings or other materials and/or their use in the restoration process;

19. The method of collection, treatment and disposal of water arising on the site, site drainage arrangements, including flow balancing requirements and discharge. Details shall be submitted of all proposed watercourses to be provided during site operations and on restoration;

20. Arrangements for the monitoring, recording and reporting of groundwater qualities and levels;

21. Measures and programme to protect and/or divert services (overhead power lines, pipelines etc.);

22. Proposed hours of working;

23. Fencing and security proposals;

24. Artificial lighting;

25. Anticipated employment levels;

26. Measures to protect and manage retained natural features and habitat, including features retained for their geological/geomorphological interest, trees, hedgerows, water areas;

27. For protected species the creation of alternative habitats, breeding areas, and in the case of badgers, alternative setts;

28. Translocation of other notable plants or animals where habitats will be worked;

29. Measures to be taken to make efficient use of the mineral; the sale/consumption of the mineral only for appropriate uses; the minimisation of the production of waste; encouraging the re-use/recycling of the mineral and its products where appropriate;

30. Proposals for making safe any disused mine shaft or adit known to be located on the site or encountered during operations. In the case of proposed underground working, the treatment of the mine opening on cessation of operations;

31. The position of landfill gas and leachate monitoring and control facilities which have landuse implications, if relevant, together with facilities for monitoring and treatment of settlement; and

32. Proposals in respect of oil and gas development to include the number and location of wells, pipelines, ancillary and gathering facilities including screening, landscaping and design.

A5.23 **Traffic** - The generation of traffic is perceived as one of the major problems for many mineral sites and, wherever possible, the County and City Councils will seek to maximise the use of non roadborne options. Traffic considerations are likely to include the following:-

1. Where non-road transportation options are proposed, full details shall be provided of the transportation arrangements and facilities;

2. Anticipated number and classification of vehicles associated with mineral operations;

3. An assessment of the highway capacity, structural integrity, and safety implications; also of the environmental impact, in terms of noise, dust, fumes and vibration on the surrounding highway network, communities and sensitive environmental areas. Early consultation with the relevant highway authority is recommended to determine the area of assessment;

4. Expected area of distribution of sales and proportion of sales to different areas;

5. Detailed site access arrangements to the public highway, including road widths, sight lines and kerb radii, means of construction, drainage arrangements; internal access and haulage roads, location and surfacing; wheel cleaning equipment and sheeting bays, location and specification etc;

6. Details of surveys carried out to assess road safety implications and the structural integrity of the public highways leading to the site;

7. Proposals for any necessary off-site highway works and traffic management measures including, where appropriate, other measures to mitigate negative traffic effects and an expressed willingness to secure these by means of legal agreement;

A5.24 **Restoration and Aftercare Proposals** - Detailed restoration proposals are required with all applications for mineral development. Whilst it is acknowledged that on long term sites, it might be difficult to determine the precise afteruse of the land some 10 to 20 years hence, it is nonetheless essential that applicants demonstrate the nature and viability of their restoration

proposals at the outset. High quality restoration will only be achieved by detailed planning at the application stage and by careful control and monitoring throughout the working, restoration and aftercare periods. The items below summarise the main points which will need to be included, where appropriate, with the application. It should be noted that restoration proposals which involve a material change from the initial use will involve a separate planning application to the District Council.

1. Details of proposed afteruse(s);

2. Method, phasing and programming of restoration, providing for progressive restoration wherever practicable and including any proposals for permanent pumping to artificially depress the water table;

3. Materials to be used for restoration, including infill materials and soils. Where it is proposed to import materials the anticipated source, nature and quantity shall be indicated;

4. Where it is proposed to import biodegradable or other potentially polluting wastes for restoration purposes, sufficient information to assess in planning terms the adequacy of the site to safely accept the material must be submitted, which may include provision of an hydrogeological survey, together with proposals to monitor and control gas and leachate;

5. Method of overburden replacement and treatment prior to replacement of soils. In certain cases a specification for the backfilling and compaction of all or parts of the site may be required;

6. Proposed final contours, and typical gradients and levels on completion of regrading and/or backfilling and after settlement;

7. Replacement of subsoil, topsoil and, where necessary, the importation of soil or soil making materials; types and thicknesses; methods of emplacing soils including ripping requirements or alternative arrangements such as loose tipping;

8. Where appropriate, cultivation techniques, including ripping, harrowing, stone picking, fertilising and seed bed preparation;

9. The provision of conditions to assist in the re-establishment of flora and fauna which existed on the semi-natural parts of the site before the commencement of operations;

10. Full details of geological/geomorphological features to be retained, tree, hedgerow and other planting or other habitat creation techniques i.e. ground preparation, location, number, size and species of trees, method of planting and protective measures;

11. Placement of fences or other means of enclosure, gates and stiles;

12. Site drainage including provision of under drainage and where necessary as a temporary arrangement, surface water drainage;

13. Position, extent and depth of water features and watercourses, together with details of the proposed source of water for creating new water features;

14. Stocking lakes/ponds with fish and plants;

15. Proposals for the removal of buildings, plant, equipment, stockpiles, roads and hardstandings;

16. Reinstatement of public rights of way and provision for additional public or other access;

17. Remedial measures to prevent ground contamination after extraction and processing of oil or gas cease, where relevant;

18. Proposals for the aftercare of the sites restored to agriculture, forestry, nature conservation or amenity use, for an appropriate period dependent on the afteruse proposed. Post restoration land management or aftercare shall include provision for annual inspections, soil testing, application of lime, nutrients or other necessary soil ameliorants, cultivation, weed control, protection from pests and livestock, checking of tree stakes and replacement of failures, cropping and stocking and installation of drainage and water supplies. The schemes will be monitored and amended with the agreement of the Mineral Planning Authority, in response to site specific circumstances;

19. Provision, in appropriate cases, for transferring land restored to amenity and/or nature conservation uses to County or District Council control, or such other body as may be agreed.

A5.25 **Other Matters** - All planning applications must provide particulars of the applicant's interest in the land and minerals within the site and indicate adjoining land within their ownership or control and other party's land and/or mineral interest(s) in the site. The applicant must notify other persons with an interest in the land and/or minerals when the planning application is submitted.

A5.26 Finally, the applicant must pay the appropriate planning application fee. Further details of the requirements and responsibilities can be obtained from the Mineral Planning Authority.

SITE DESIGN AND OPERATIONAL GUIDANCE

A5.27 The following Code is intended to assist in the development of site design and operational matters having regard to current technologies and national guidance. It incorporates the standards by which proposals will be assessed. Not all parts will be relevant in all circumstances.

A5.28 **Time Limits** - Applicants will be expected to specify how long it will take to carry out the proposed development or components thereof e.g. site preparation, excavation, backfilling, restoration and aftercare. In the case of built development the projected life of the facility may be required. Time related aspects of development will be controlled by planning conditions wherever practicable. In particular a time limit will normally be imposed on the duration of winning and working minerals operations at the site together with the specification of the period within which restoration will be completed. Permission will be subject to commencement

within a specified date of the grant of planning permission and the operator will be obliged to give prior written notification of the commencement of development and specific aspects of the development such as the commencement of soil stripping.

A5.29 **Site Working Scheme** - A site layout plan must clearly indicate the uses to which the component parts of the site will be put and identify areas to be protected from development. Phasing plans shall show the progression of site operations through the life of the development. Site operations shall be designed to minimise the area of the site to be disturbed at any one time and have regard to the desirability of minimising energy requirements and, where practicable, restoration shall take place progressively. Development will only be permitted in accordance with the submitted application details and plans as amended by conditions attached to the permission or by any subsequent approved amendment or permission. Work shall not be undertaken in a manner prejudicial to the stability of adjoining ground and buildings or structures there upon.

A5.30 The Mineral Planning Authority will normally expect all natural mineral wastes arising from the development to be accommodated within the quarry itself. The material may be used to raise the quarry floor and/or reclaim areas to make them more suitable for some form of afteruse. For mine waste, the Mineral Planning Authority will normally expect the natural waste materials to be stored underground wherever practicable.

A5.31 Adjacent to highways a strip of land shall remain undisturbed between the highway and the limit of excavation, and the full extent of the undisturbed strip, should be determined by ground stability considerations as described in paragraph 3.98 and MLP Policies 30 and 36. Limits of excavation shall be located at an appropriate distance away from the tree trunk or hedgeline having regard to BS5837 (Guide for Trees in Relation to Construction, Sections 7, 8, 10 and 11). Other quarrying operations adjacent to trees and/or hedges shall be located at an appropriate distance having regard to the said British Standard.

A5.32 The layout of the working shall allow vehicles to manoeuvre, park, queue and load all within the site.

A5.33 **Working Hours** - The normal working hours relating to new or extended sites will be 7 a.m. to 7 p.m. Mondays to Fridays and 7 a.m. to 1 p.m. Saturdays, with no working on Sundays, Bank and Public Holidays, unless for particular site specific reasons, or conditions specify otherwise. Operators of existing permitted sites with less restricted or unrestricted hours of working are urged not to operate outside these hours, if practicable.

A5.34 Economic or technical reasons may require working to take place outside the above times. For example the drilling of a deep borehole may require to take place for 24 hours per day for 7 days per week. Such cases will be assessed on their merits following a full and detailed evaluation of environmental impact.

A5.35 **Noise** - Mineral Planning Guidance Note 11 (MPG11) provides the most up to date guidance on the control of noise at surface mineral workings. Developers shall establish existing background noise and projected levels arising from the proposed development. The proposed operations will be assessed in relation to noise sensitive properties or areas such as dwellings, schools or places of recreation. Proposals which will result in site generated noise levels exceeding a day time limit of 55 dBLAeq1h (freefield), a night time limit of 42 dBLAeq1h

(freefield) or which increase ambient noise levels by more than 10dB(A) at the curtilage of any noise sensitive property will be considered closely in relation to existing background levels and the likelihood of complaints. There may be a need to modify the nominal limit in the light of local circumstances. MPG11 indicates that because of the nature of opencast coal mining then, exceptionally, a nominal daytime limit at the nearest noise sensitive dwelling within the range of 55-60 dBLAeq1h (freefield) is justified at present but that this special dispensation was reduced in 1998 to 55 dBLAeq1h (freefield) in common with all other mineral operators. Where high pitched or whining noises will be significant components of the total noise generated then tonal noise corrections might be required. Open spaces used for quiet relaxation are noise sensitive and MPG11 considers a limit of 65 dBLAeq1h (freefield) at the perimeter of the area during the normal working day is reasonable, and 55 dBLAeq1h (freefield) at other times.

A5.36 Temporary, noisy activities such as the construction of screen mounds shall be evaluated in relation to the guidance within MPG11 which states that such operations shall only take place for 8 weeks within each year.

A5.37 Guidance regarding other noise aspects of mineral development not covered by MPG11 may be found in PPG24 Planning and Noise.

A5.38 Noise arising from mineral operations shall be controlled by appropriate site design and working methods. The potential for disturbance from noise may be minimised by siting intrusive operations away from noise sensitive locations or behind screening features, avoiding excessive gradients on haul roads and selection of appropriate "quiet" plant or machinery. All vehicles, plant and machinery should be efficiently maintained and fitted, where appropriate, with effective silencers and acoustic housings, and shall be operated at all times using the best practicable means to minimise the generation and transmission of noise to locations outside the site.

A5.39 When proposals are submitted for new sites or for extensions to existing sites the Mineral Planning Authority will expect the operator to make provision for the regular monitoring of noise levels at the site by the operator and that such monitoring information be made available for inspection by the Mineral Planning Authority if necessary. Detailed monitoring requirements will be decided on a site specific basis.

A5.40 **Dust** - Operations such as the removal or replacement of soils or overburden, movement of vehicles, blasting or treatment, preparation and stocking of minerals could give rise to dust problems outside the site unless effectively controlled. Provision shall be made in any proposal for mineral development to minimise the deposition of dust outside the confines of the site to an acceptable level in accordance with a detailed scheme to be agreed with the Mineral Planning Authority. These measures might include limiting the area of mineral stripped of soils and/or overburden at any one time, phased working and restoration, the surfacing of internal haul roads, the sheeting of all mineral bearing lorries, the seeding of screen mounds, the appropriate design of all fixed plant and machinery (including loading bays and hoppers), the watering, as necessary, of areas and routes used by vehicles, fitting vehicles with exhausts pointing away from the ground, and in adverse weather conditions reducing the speed of vehicles, temporary re-routing of vehicles and stopping dust producing activities. In addition all reasonable steps shall be taken to minimise the emission of smoke, fumes and any other noxious or irritating substances from the site and plant and machinery thereon.

A5.41 When applications are submitted for planning permission for the expansion of existing sites or for new sites they shall be accompanied by details for the regular monitoring by the operator of the dust levels at appropriate locations in relation to dust sensitive locations or activities. Monitoring information shall be made available for inspection by the Mineral Planning Authority if requested. Detailed monitoring requirements will be decided on a site specific basis.

A5.42 **Blasting** - Ground vibration and air overpressure from blasting has the potential to cause damage to buildings, structures and fittings and might also cause disturbance to surrounding communities and sensitive operations. Where practicable, alternative effective methods such as ripping shall be considered. When blasting is necessary, provision shall be made, in accordance with a scheme to be agreed with the Mineral Planning Authority, to minimise the disturbance to people and risk of damage to properties, structures and sensitive operations arising from ground vibrations and air overpressure. The acceptable limits on ground vibrations (measured in terms of peak particle velocity) and, where appropriate air overpressure will be determined in relation to site specific circumstances.

A5.43 Blasting will normally be confined within the period 10 am to 4 P.M. Mondays to Fridays, except in emergencies. Arrangements will normally be required at the commencement of any new phase of blasting operations to inform local residents of anticipated times, frequency and duration of blasting operations.

A5.44 A scheme of monitoring each blast will be required and the results of such monitoring made available for the inspection by the Mineral Planning Authority if requested. Detailed monitoring requirements will be decided on a site specific basis.

A5.45 **Soils** - Conservation of soil is vital to securing satisfactory restoration and shall be based upon a comprehensive audit of existing on-site resources. No topsoil, subsoil or overburden shall be exported from the site but shall be used to achieve the best possible restoration of the land. Handling of soils should be minimised to avoid mixing, loss and compaction. Soils of different characteristics will normally be stripped, stored and replaced separately in the correct sequence. Topsoil and subsoil shall be stripped from areas to be used for the excavation of materials, internal roads, plant and machinery areas, hardstandings and overburden mounds. Soil shall only be handled when it is in a suitably dry and friable condition. Handling soil when it has a high moisture content, and, in particular, traversing it with heavy plant, in such circumstances can result in serious damage to its structure and loss of its long term potential as a growing medium. The moisture content at which soils can be properly handled depends on their constituents and cannot be simply summarised. As a general rule, however, soil handling shall be confined to dry periods between 31 March to 30 September. Conditions to this effect will normally be imposed on planning permissions. Particular care shall be taken in selecting the plant and techniques for soil movements to avoid traversing the soil more than necessary.

A5.46 Ideally, stripped soils will be placed directly on land being restored to avoid double handling. It is often necessary to store soils for a period. The longer the storage period then the greater the risk of deterioration in the quality of the soils. Topsoils, subsoils and any soil making materials that might be recovered shall be stored in mounds in locations and to heights to be agreed with the Mineral Planning Authority. The mounds shall be seeded with a suitable low maintenance grass seed mixture and kept weed free until required for restoration purposes.

Adequate provision must be made to ensure that the mounds are clearly demarcated and are not traversed by plant or adversely affected by other operations. Normally, the "outward" facing slopes of the soil mounds shall not exceed a gradient of 1 in 3 to ameliorate their visual impact and their levels shall be undulating to avoid an "engineered" appearance. Where temporary screen mounds are to be created, these will be expected to blend, so far as is practicable, with the surrounding landscape. All soil mounds shall be accurately mapped and the volumes of each mound individually marked.

A5.47 **Landscape and Visual Amenity** - Retained trees, hedges and woodland areas, together with any on-site and/or off-site planting shall be protected, managed, and all failures replaced on an annual basis, throughout the life of the operations.

A5.48 The retention of wildlife habitats within the site will help lend maturity to a recently restored landform and provide a seedbank to help recolonise neighbouring land. These areas shall be managed and, where appropriate, enhanced during the life of the site.

A5.49 Stockpiles and overburden mounds shall be located to minimise their environmental impact in locations and to heights and slopes agreed with the Mineral Planning Authority. The levels and profiles of the mounds shall be designed so as to avoid an 'engineered' appearance from views outside the site. Those faces of the overburden mound visible from the outside of the site for any substantial period of time shall be dressed and seeded to grass as soon as possible after construction. Permanent stockpiles shall be landscaped to screen and/or soften their visual impacts outside the site.

A5.50 When designing the siting of plant and buildings regard shall be had to the need to position such facilities in visually unobtrusive locations within the quarry site.

A5.51 **Highway Considerations** - Wherever practicable, the County and City Councils will seek to maximise the use of non-road borne options. In some situations, for example, when extraction areas are separated from processing plant by public highways, the use of field conveyors with overhead or subsurface crossings of roads shall be utilised (provided such facilities themselves do not give rise to unacceptable adverse impacts) to reduce the impact of the traffic on the local highway network. Where road haulage is the only practicable solution, proposed access and routing arrangements shall be discussed at the outset with the County or City Council including arrangements to ensure compliance with agreed routes by the mineral operator or their contractors. Such measures could involve the erection of signs displaying agreed vehicle routes, the regulation of traffic levels at particularly sensitive times of the day and other traffic management steps.

A5.52 Access shall be limited to specific points and for specified purposes. Vehicular access points shall be surfaced, properly designed and maintained. The County and City Councils will normally require the access to be wide enough for two heavy lorries to pass. Acceleration and deceleration lanes and a right turning lane may be needed, or possibly more elaborate arrangements, where traffic access is onto a main road. The Highways Agency will generally resist the creation of access direct to trunk roads.

A5.53 Effective wheel cleaning facilities shall be provided and used by all heavy vehicles leaving the site. Wheel cleaning equipment shall normally be sited at least 50 m into the site and a hard-surfaced road, at least 50 m long and capable of being swept by a road sweeper, shall

be laid on either side of the wheel wash. This facility shall be maintained in a clean condition so that mud and other debris is not carried out onto the public highway. Whilst the primary objective is to ensure that dirt is not carried out onto the public highway, where such an occurrence happens, steps shall be taken immediately to rectify the situation by sweeping the public highway not less frequently than once per day. The deposition of extraneous materials on the public highway constitutes an offence for which fines may be given on summary conviction. All loaded vehicles entering or leaving the site shall be sheeted.

A5.54 Diverted rights of way and existing rights of way that remain within the site shall be maintained and signposted where appropriate.

A5.55 **Site Drainage, Water Pollution and Dewatering** - All works shall be designed and undertaken so as to prevent the discharge of any polluting matter to any ditch, watercourse or underground strata as well as conserving of water resources. Site drains and watercourses shall be regularly inspected and maintained. Adequate measures shall be taken to ensure that the site operations will not adversely affect the drainage of surrounding areas. To avoid any pollution of groundwater or surface waters, the means of disposal of any trade waste or effluent must be agreed by the Mineral Planning Authority in consultation with the Environment Agency. In addition, under Section 30 of the Water Resources Act, developers will need to serve notice on the Environment Agency of any intention to carry out dewatering. The Environment Agency will issue a Conservation Notice as required.

A5.56 Where areas of nature conservation interest are sensitive to change in water quality or quantity either downstream of the proposed site or elsewhere, operators may be required to comply with strict controls on the management of water within the site and on its discharge from the site.

A5.57 Mineral development shall not normally be located in floodplains unless drainage works will be undertaken to minimise any potential detriment. No working shall take place within 30 metres of a main river unless it can be demonstrated that the operations will not adversely affect the river bank. An 8 metre wide access strip should be maintained at all times either side of the river.

A5.58 **Fencing** - Sites shall be securely fenced to prevent accidental trespass and discourage intentional access. Additional safeguards might be required in particularly dangerous areas.

A5.59 **Fixed Plant, Buildings, Parking and Storage Areas** - When designing the siting of fixed plant, buildings, storage and parking areas, regard shall be had to the need to position such facilities in visually unobtrusive locations and away from sensitive locations. Fixed plant, buildings, parking and storage areas shall be located in positions previously agreed with the Mineral Planning Authority. All plant and buildings shall be painted in a colour or colours, or clad in materials previously approved by the Mineral Planning Authority and maintained in good decorative order throughout the life of the operations. The County and City Councils expect developers to take into consideration energy conservation during the design of buildings and plant.

A5.60 **Archaeological Investigation** - Where areas of potential archaeological interest are to be disturbed the operator should have regard to the requirements of MLP Policies 24 and 25 and should:-

1. Provide adequate opportunity for access for Mineral Planning Authority officials or their nominees for the purpose of monitoring archaeological investigations or for the carrying out of watching briefs; and

2. Use their best endeavours to discourage any unauthorised person or groups from interfering with the site.

A5.61 **Public Infrastructure/Utilities e.g. gas, electricity water** - The County and City Councils will expect the mineral operator to have discussed with the relevant utility operator any required means of support for and method of working near, the utility operator's facility before a planning application is submitted.

A5.62 In some circumstances it may be advisable to leave undisturbed margins between mineral workings sites and public utilities and installations. However, this is subject to any existing agreements between the undertaker and landowners and it may be possible to divert such installations to allow mineral working. Where the utility runs through the site, then the detailed arrangements for working in the vicinity of the facilities shall be submitted as part of the planning application. The effect of working near the facility can then be given full and proper consideration during the processing of the planning application.

A5.63 **Planning Permission Documentation** - The quarry/mine manager will no doubt be aware of the obligations arising from the planning permission. Nevertheless it is good practice to keep a copy of the planning permission and all approved plans and documents available for reference at the site.

A5.64 **Local Liaison Forum** - Where appropriate liaison forums comprising representatives of local communities, the Mineral Planning Authority and the Mineral Operator have been established at mineral sites. These provide an opportunity for local residents to be informed of the detailed progress of site operations and restoration, allow problems and concerns to be discussed and can investigate general environmental improvements that might be implemented during the working of the site. Where appropriate the County and City Councils will encourage further forums to be established. Such forums are particularly useful where the site, or the access route, are in close proximity to residential properties, or where there has been a history of complaints relating to the operation of the site.

RESTORATION AND AFTERCARE

A5.65 **Introduction** - During mining, the character and use of land is changed. When mineral operations cease, the land shall be satisfactorily restored to its former use or to an acceptable alternative use as soon as practicable. As indicated in MLP Policy 9, the Mineral Planning Authority expects that the quality of restoration on mineral sites will continue to rise and that new mineral development, or reviews of former permitted sites, will aim to secure high standards of restoration and beneficial afteruse of restored land. When mining operations cease, all plant, buildings and machinery introduced for the purpose of the mineral development shall be removed as part of the comprehensive restoration proposals.

A5.66 The working and restoration of mineral sites might provide the opportunity to reclaim derelict or degraded land, improve the restoration of former mineral sites which are considered

to be inadequate by contemporary standards, provide for community facilities such as recreation areas or improved rights of access to the countryside, promote woodland planting and diversify and enhance the landscape and nature conservation value of the land, including the re-creation of historic landscape patterns and features or creation of rock exposures which may have recreation or education interest. Provision must be made by way of a management scheme, funding and/or other appropriate means to sustain the benefits of restoration for a period of aftercare of 5 years following the satisfactory completion of restoration. The Mineral Planning Authority will seek to ensure continuity of management beyond 5 years where desirable by way of voluntary agreements with appropriate parties. Such benefits will be one factor to be taken into consideration when mineral development proposals are being determined. Restoration opportunities should be viewed creatively and opportunities may exist, subject to planning permission for a wide variety of initiatives from motor sports to quieter pursuits.

A5.67 The applicant needs to demonstrate that the site can be restored satisfactorily. Consideration of restoration issues should start when mining proposals are being planned and shall have regard, amongst other matters, to existing on-site resources, the character of the surrounding land and its uses and the planning policy context. Proposals should seek to minimise the area of land to be disturbed at any one time and progressively restore non operational land after mining as soon as practicable.

A5.68 The Councils have prepared supplementary planning guidance entitled "Planning for Landscape Change", to the Staffordshire and Stoke-on-Trent Structure Plan 1996-2011. With all proposed forms of restoration, reference should be made to that guidance.

A5.69 The restoration strategy can be strongly influenced by whether or not there is a need to import infill or other materials to secure satisfactory restoration. Suitable infill material may be in short supply, erratic in its availability and produced too far away from quarries. The impact of importation operations including security of supply will be taken into consideration during the evaluation of planning applications.

A5.70 In some cases, for example opencast coal mining, the coal recovered is a relatively small proportion of the total quantity of material to be disturbed and this, together with the natural bulkage of disturbed material might allow re-creation of the original landform or such other landform as may be deemed appropriate. In other types of quarrying operations the removal of relatively large quantities of mineral from the site will leave permanent changes in the landform with levels at, or close to the final excavated levels of the quarry and may provide the opportunity to create interesting landforms. The opportunity might also exist to provide different final landform by the importation of suitable infill materials to the quarry.

A5.71 The acceptability of infill operations in terms of their engineering attributes depends in part upon the nature of the infill material and the characteristics of the prepared receptor area. Many quarries may only be suitable for the deposit of inert wastes e.g. construction wastes which contain no biodegradable organic matter or soluble chemical components, thus excluding most domestic, industrial and commercial wastes. On the other hand, particularly where clay materials are available it might be possible to contain potential pollutants and offer greater potential for importation of infill materials. The relationship between the depth of excavation and the water table and the importance of the bed rock as an aquifer for a water supply are further matters relevant to the determination of such proposals. Where importing

infill material is not appropriate then restoration will be dependent upon available material on site such as silts, overburden and stored soils.

A5.72 Restoration may have important implications for drainage, flood defence, groundwater and pollution control and the County and City Councils will consult the Environment Agency on all restoration proposals.

A5.73 Where a site contains Grades 1, 2 and 3a agricultural land, it should be restored so that its potential as a high quality resource is conserved for the longer term. In view of the changing circumstances for the agricultural industry and the need to diversify the rural economy there is much more scope for alternative approaches to restoration; particularly on lower quality agricultural land. Provided these are compatible with the Development Plan this could include commercial and amenity woodland, nature conservation and recreational uses.

A5.74 The restoration of former mineral development sites provides the opportunity to replace and compensate for the loss of ponds, wetlands (in particular reed beds and lowland wet grasslands) and other valued landscape and ecological features. Innovative restoration schemes have the potential to create significant areas of new and valuable wildlife habitat. Of particular importance is the need to recreate areas of heathland, wetland and species rich grassland. Staffordshire is co-operating in the preparation of a Biodiversity Action Plan and will encourage restoration schemes which look to provide 'corridors or stepping stones' between existing wildlife habitats.

A5.75 Beneficial opportunities exist generally to develop woodland areas particularly in the National Forest and Forest of Mercia and also over a wider geographic area. One vehicle for achieving more woodland planting is through the restoration of mineral working sites to forestry.

A5.76 To sustain high standards of restoration it is crucial that the land is managed to ensure that the afteruse is satisfactorily established. The aftercare period commences upon completion of restoration of the land. Aftercare proposals should be submitted at the time of the initial application although the detailed proposals may be reserved for determination at a later stage. In any event aftercare schemes must be submitted for approval in consultation with the Ministry of Agriculture, Fisheries and Food, English Nature or the Forestry Authority, as appropriate, at least 12 months in advance of the replacement of the topsoil. Aftercare proposals for agriculture, forestry, amenity and nature conservation schemes will need to provide for five years, although a longer time period may be beneficial for certain afteruses and where this is the case the agreement of the applicant will be sought for a longer period of aftercare.

A5.77 Where a longer period of management might be required then the County or City Council will consider the need to agree an appropriate legal agreement to provide the necessary control.

A5.78 The monitoring of mineral sites during working, restoration and aftercare is an important responsibility of the operator and Mineral Planning Authority. Close liaison will be maintained between the Mineral Planning Authority and other relevant statutory bodies such as the Ministry of Agriculture, Forestry Authority, English Nature and parish councils etc. throughout this period.

A5.79 The following sections of the Code of Practice deal with two main restoration possibilities in terms of final landform:

1. Restoration to levels at or above original ground contours using imported wastes or on-site overburden;

2. Restoration to levels lower than original ground contours.

The latter category can be further subdivided into those cases where finished levels are above the water table and are potentially free draining and those cases where they lie below. These circumstances are generally confined to River Terrace Sand and Gravel Sites in the Trent and Tame valleys where a range of water based recreational facilities may be accessible from major population centres.

A5.80 **Restoration to Levels at or above Original Ground Contours** - Restoration using on site overburden will normally be based on the following principles:-

1. Overburden and soils shall be replaced separately and at the same horizons and to comparable depths as existed before the commencement of operations. No soils shall be moved unless they are suitably dry and friable.

2. The restored surface of the overburden, when graded to the contours agreed with the MPA shall be ripped to a minimum depth of 300mm at maximum centres of 500 mm to relieve compaction and expose any stones, rock or other deleterious material; all such materials greater than 200 mm in any dimension shall be buried at depth (greater than 2 metres) or removed from the site.

3. All available subsoil (generally not less than 700 mm) shall be re-spread evenly over those areas agreed to receive such subsoil. No layer of replaced soil shall exceed 450 mm thickness before it is sub-soiled (rooted) and the sub-soiling operations must penetrate at least 150 mm into the underlying layer to relieve compaction at the interface. Where restoration to woodland or of best and most versatile agricultural land is proposed, loose tipping is the preferred method of soil placement.

4. Topsoil or soil forming material shall be replaced to a uniform, agreed depth, generally in the order of 300 mm. The restored topsoil shall be subsoiled at a maximum of 500 mm centres with the subsoiler penetrating at least 150 mm into the underlying layer to relieve compaction; stones grater than 100 mm in any dimension shall be removed. If forestry is the proposed afteruse, more detailed guidance can be obtained in Forestry Commission Bulletin 110 "Reclaiming Disturbed Land for Forestry".

5. Hedges or other means of enclosure characteristic of the locality e.g. stone walls shall be provided. Consideration shall be given to the provision of shelter belts and woodland.

6. Within a floodplain the finished ground levels shall not be higher than the existing levels and the restored contours shall not adversely affect the capacity or function of the floodplain.

A5.81 Restoration using imported wastes will normally have regard to the following criteria:-

1. Where there is built development within 500 m of the site, particularly rigorous examination of the site, circumstances and proposals will be required in order to ensure that there will not be adverse impact by way of factors such as odour, noise or visual impact. Only in special circumstances will landfill areas within 250m of residential property be considered appropriate. This is a consequence of the significant potential which exists for disturbance to be caused to local residents and reflects the guidance on the separation of landfill from other development which is contained within Waste Management Papers. Where areas of interest for nature conservation exist within the site and/or within surrounding areas a full ecological survey will be required to establish along with other appropriate surveys, whether and to what extent those areas will be affected by gas and/or leachate generated and discharged from the site.

2. To facilitate monitoring of tipping, submitted final levels shall relate to finished, pre-settlement levels, i.e. levels immediately following the capping of waste (where appropriate) and the replacement of soils.

3. Post settlement levels shall be designed to blend harmoniously with the surrounding landform. Whilst doming of the surface will normally be necessary to allow for satisfactory drainage following settlement, excessively domed landforms which have characterised some landfill sites in the past, and which are based primarily on maximising the available air space, will not be acceptable. Subject to the overriding requirement to blend harmoniously with surrounding scenery overall gradients shall generally be designed at between 1 in 15 and 1 in 25, unless steeper gradients are justified within the context of the local landscape, or are required to ensure the successful establishment of vegetation.

4. Notwithstanding the original thickness of soil stripped from the site, where infilling with waste material has taken place, there shall be a minimum of 1.5 m of rock free and obstruction free overburden, soil-making material, subsoil and topsoil, overlying the waste material, consisting of all the original topsoils and subsoils with, if necessary, the additional depth being made up by selected soil material. These materials must be capable of supporting tree growth, where tree planting is proposed. This material shall be in addition to any capping which is required to cover waste material under the terms of the waste management licence. The purpose of this 1.5 m layer is to permit cultivation techniques, under-drainage and root development for a wide range of crops and trees to take place. Department of the Environment publication "The Potential for Woodland Establishment on Landfill Sites" provides more details of cap type and thickness appropriate for sites restored to forestry.

5. Prior to the replacement of the subsoil, and prior to the replacement of the topsoil the surface of the overburden and the surface of the subsoil shall be scarified to its full depth at not more than 500 mm centres. Where this cannot be achieved in a single operation then repeated loosening might be required during the replacement of the subsoil. Subsequent deep loosening with a winged subsoiler following replacement of the top soil shall be carried out and might require repeating during the aftercare period. As an alternative, consideration may be given to loose tipping which may reduce or eliminate

ripping requirements. Regard will be paid to the soil handling requirements outlined in paragraph A5.45 of the code.

6. The topsoil shall be subsoiled at a maximum of 500mm centres with the subsoiler penetrating at least 150mm into the underlying layer. Stones greater than 100mm in any dimension will be removed.

7. Hedges or other means of enclosure characteristic of the locality e.g. stone walls shall be provided. Consideration shall be given to the provision of shelter belts and woodland.

8. Where the use of pulverised fuel ash is proposed to restore sites within a floodplain it will be necessary to provide temporary protective bunding in accordance with details to be agreed with the Mineral Planning Authority in consultation with the Environment Agency. As part of the restoration proposals provision shall be made for final drainage.

A5.82 Restoration using controlled wastes will require a Waste Management Licence from the Environment Agency.

A5.83 **Restoration to Levels Lower than Original Ground Contours** - Successful restoration in such circumstances will generally be based on blending the former quarry into the local landscape by means of contouring, planting and location of land uses. Where the base of the quarry is below the water table, this may provide the beneficial opportunity to create lakes and ponds for water based recreational and conservation purposes as well as for landscape improvements. Available materials on site can be used to create water meadows, wetland habitats such as marsh land and reedbeds (which are priority objectives in increasing the biodiversity of the Plan area) or dry land.

A5.84 Vertical faces or steep slopes can provide valuable habitats but also might be a source of instability to the surrounding land and/or danger to people and animals, and might be subject to erosion and be difficult to successfully vegetate as well as being alien to the local landform. The following broad guidelines will apply:-

1. Final finished faces between the quarry floor and surrounding land shall not normally exceed a gradient of 1 in 4, in either in-situ material, or following regrading with on-site waste materials. This general guideline does not preclude the possibility of retaining localised cliff faces (on which the provision of small ledges could be beneficial) in appropriate locations to provide a range of visual diversity, flora and fauna and wildlife habitats (e.g. nesting sites for sand martins).

2. Within an appropriate landscaping scheme steeper slopes (greater than 1 in 5) shall normally be tree or shrub planted.

3. The restored base of quarries shall normally have a gradient of not less than 1 in 80 to an acceptable outfall to provide natural drainage unless it is related to planned wetlands where sites or part sites are restored to amenity or nature conservation end uses.

4. Restoration drainage schemes which rely entirely on internal soakaways will not normally be acceptable unless they relate to planned wetlands where sites or part sites are restored to amenity or nature conservation end uses.

5. Where practicable the floor of quarries, other than where these consist of silt beds, shall normally be ripped to a depth of at least 500 mm at centres not more than 1 metre prior to the respreading of overburden, and soil horizons.

6. Former silt beds shall normally be restored to woodland or semi-wetland nature conservation uses, unless they have been covered with at least 1 metre of granular overburden or soil.

7. In general terms the provisions relating to the replacement of soil, the re-establishment of vegetation and related matters shall be as previously described for restoration using imported waste or on-site overburden. There may be circumstances however where restoration will not require the full range of techniques.

A5.85 Sites may be restored for a variety of afteruses including agriculture, forestry, nature conservation and amenity. The preceding paragraphs have given guidance on the design and preparation of the land to a condition suitable for agricultural and forestry afteruse. In addition, where afforestation is proposed particular regard shall be paid to establishing correct ground conditions, particularly in respect of drainage. Slopes shall normally not be slacker than 1 in 10 and not steeper than 1 in 5. To provide slopes of 1 in 10 on sites with gentler slopes a system of ridges and furrows is recommended. Details of tracks and access points shall be provided. Consideration shall also be given to multiple uses such as nature conservation and informal recreation.

A5.86 **Aftercare** - for agriculture or forestry will need to be based on site specific criteria but generally should have regard to the following principles:-

1. The soil shall be analysed annually for pH and nutrient status and prior to respreading and any necessary additions of lime and fertiliser made, taking into account the proposed afteruse.

2. In respect of agricultural aftercare, the land will normally be reseeded with a pioneer grass crop with a proportion of nitrogen-fixing clover in the first year. Good root growth is to be encouraged involving an agreed management/ grazing regime. The grass crop shall be cut for hay or silage in the first year prior to seed heads forming, or grazed by sheep. Cattle and horses shall be kept off the land during the first year and all stock shall be removed from the restored land when ground conditions are unsuitable to prevent damage to the soil.

3. In respect of agricultural aftercare, after two to three years the initial sward shall be deep ploughed and the land re-cultivated, and minor settlement corrected. A grass or cereal crop can then be re-established.

4. Internal ditches shall be positioned within the site to prevent the scouring of the surface and to protect woodland and hedgerows as well as assisting in the final drainage of the site. A permanent under-drainage system and associated subsoil loosening cultivations are normally required where an agricultural afteruse is proposed. In designing the system regard shall be had to the effect of any discharges into ecologically sensitive watercourses, waterbodies and wetlands off site.

5. Provision shall also be made where necessary for a permanent water supply to the restored area.

6. Mineral development shall not be seen as an opportunity to create larger field units. Hedgerow and hedgerow tree planting, in accordance with an agreed scheme, will normally be established in the first planting season following replacement of the topsoil to restore the appearance of the land and to encourage the reintroduction of wildlife. Hedges or hedgerow trees shall be adequately protected from livestock and wild animals, properly maintained and failures shall be replaced on an annual basis throughout the aftercare period. In certain areas, other means of enclosure e.g. stone walls might be characteristic of the locality and be considered for provision on restoration.

7. Where the land is being replanted to woodland for commercial and/or amenity purposes, planting shall take place in the first planting season following replacement of the topsoil. Preparatory works, species, sizes, densities, method of planting, protection and maintenance, including application of herbicides and fertilisers where necessary, shall be submitted to the Mineral Planning Authority for its approval not less than six months prior to the commencement of aftercare on all or part of the site. Normally, weeding shall be carried out at least once per year to maintain a 1 metre diameter of grass and weed free soil around all trees and shrubs for the first five years of their life to assist their establishment. Beating up shall be carried out annually to achieve a stocking density at the end of the five year period commensurate with the initial spacing (e.g. a minimum 80% stocking for 2 metre spacing across the site and for each species).

8. On the successful completion of the restoration and aftercare period (for agriculture, forestry, amenity or nature conservation use) the Mineral Planning Authority will issue a certificate indicating that satisfactory restoration has been completed.

9. Provision needs to be made for the monitoring and controlling of gas and leachate generated from wastes imported to infill and restore the site.

A5.87 **Restoration to Water Based Recreation and Nature Conservation Uses** - In co-operation with other local planning authorities, landowners and the Environment Agency, Staffordshire County Council is encouraging restoration of mineral workings in the Trent and Tame Valley to provide recreation and nature conservation benefits where this is practicable and compatible with overall planning policy and development control considerations. The extension of this principle to sites elsewhere may merit consideration.

A5.88 Restoration schemes should consider the inclusion of a variety of habitats of value to wildlife and to create habitats which are in decline elsewhere e.g. heathland where this is practical. In general the creation of large habitat areas is to be encouraged because, for example, many species of birds e.g. bitterns require a minimum size of habitat in order to breed successfully.

A5.89 In view of the dramatic reduction in ponds, marshes, water meadows and other wetland natural habitats throughout the country, the County and City Councils encourage, where appropriate, the creation of new lowland wet grassland, lowland heathland and wetland habitats for nature conservation. Prior planning of the final contours and distribution of land and water

is essential. The Mineral Planning Authority, where appropriate, will encourage restoration of sites which will provide for the conservation of waterfowl and wading birds.

A5.90 Recreation and nature conservation can co-exist satisfactorily on sites given good planning, design and management. The suitability of a site to provide for these dual purposes must be carefully assessed on a site by site basis having regard to the need to minimise conflict between the two land uses by appropriate management practice and careful design of water bodies suitable for their intended afteruse.

A5.91 Sites proposed largely or exclusively for nature conservation uses are unlikely to provide a significant income for their long-term maintenance, nor, in many instances, will the landowner or operator have expertise in the management of such resources. Consequently, where such uses are proposed, the applicant will normally be encouraged to involve appropriate conservation and local naturalist groups in the design and management of the scheme. In appropriate cases, the County and City Councils will seek to agree with the applicant/landowner an appropriate legal agreement covering such matters as ownership, access, long term management, after-care, financial provision for maintenance etc.

A5.92 The range of physical features for nature conservation sites will need to be based on site specific criteria but are generally summarised below:-

1. Schemes shall provide a wide diversity of habitats; deep and shallow water, islands, marsh areas etc.

2. A water depth of up to 3 m is ideal. Whilst depths of over 3 m shall generally be avoided, there might be circumstances where deeper water is required.

3. A high proportion of lakeside margins shall be gently shelving (1 in 20) for several metres from the edge to encourage the establishment of a wide range of marginal and aquatic plants, although some steep edges or low cliffs are desirable to provide diversity.

4. Shorelines shall be indented and scalloped to maximise the more productive littoral areas.

5. Islands shall be created to provide secure nesting sites for wildfowl. They shall be of low profile with gently shelving margins, adopting the same principles as the lake shoreline. They might be shingle covered or carry herbage but normally not trees.

6. In addition to open water and islands, marshy areas and water meadows (grasslands which shall be permanently moist and flooded only occasionally) shall be incorporated where possible.

7. Islands, banks and surrounding areas shall be surfaced with subsoil and sown with appropriate grass and wild flower seed mixtures as soon as final profiles have been established and soil replaced. Advice on appropriate seed mixtures for particular situations and for aquatic plants can be obtained from the Mineral Planning Authority.

8. Tree and shrub planting shall normally form an integral part of the proposals. Some tree planting near the water's edge may be appropriate, but most of the immediate surrounds shall be kept free of trees to avoid problems of future shading and leaf fall. Adjacent to larger areas of open water which have potential for attracting significant numbers of wintering wildfowl, trees will not normally be planted around the shore, but the creation of large grassy areas will be encouraged. Dense tree planting shall be avoided on islands and other nesting areas.

9. Water level control devices and means of pollution interception might also be required to provide for security and quality of water.

10. Consideration might be given, in appropriate circumstances, to creating large (greater than 10 hectare) reedbeds with water depths of approximately 300 mm. This habitat has been in decline in the Plan area and if recreated, offers considerable wildlife benefits.

Other Approvals

A5.93 The grant of planning permission does not remove the obligation to obtain other approvals or authorizations which might be necessary in relation to the Town and Country Planning Act 1990 or other regulations or legislation relating to statutory undertakers equipment, rights of way, listed buildings, advertisement, environmental protection, mines and quarries safety considerations, etc.. Informal discussions prior to the submission of the planning application will help clarify what other approvals may be required, but securing these approvals are entirely the responsibility of the applicant.