Chapter 4

Reclamation



Restored sand and gravel workings at Hoveringham.

Introduction

4.1 It is essential that mineral extraction and reclamation are properly designed at the planning application stage to ensure that both are technically and economically feasible, and that the impact can be fully assessed. Current standards and expectations are set out in MPG 7, 'The Reclamation of Mineral Workings', 1996, which emphasises the importance of reclamation in its own right and the need for a high level of commitment by all parties concerned. Regardless of what after-use is proposed there are a number of key factors that are common to most reclamation schemes and these are considered below.

Phasing

4.2 Whenever practical, reclamation should be phased to minimise the area of land taken out of beneficial use at any one time, and to ensure reclamation is achieved as quickly as possible.

POLICY M4.1 PHASING

Mineral extraction proposals should be designed to allow a phased sequence of extraction, reclamation and implementation of the planned after-use.

4.3 For small schemes it will normally be appropriate to submit full reclamation details at the planning application stage. For larger phased schemes, this approach may not always be practical, a common problem being the difficulty in precisely quantifying overburden and mineral volumes in advance of extraction. For example, where sand and gravel workings are to be reclaimed to a water area the exact contouring and lake shaping may vary from that predicted. Where such problems exist, it will normally be acceptable to submit an overall concept plan, followed by phased submissions of the detailed scheme as extraction progresses. It is essential that the concept plan is shown to be feasible and that illustrative examples of detailed treatments of the site, such as landscaping, are included. Phased submissions of detailed schemes must be approved before extraction commences within the phases affected.

POLICY M4.2 PHASING - DETAILS REQUIRED

Where it is impractical to submit full reclamation details at the planning application stage it will be acceptable for proposals to:

- (a) Include an overall concept plan with sufficient detail to demonstrate that the scheme is feasible;
- (b) Include illustrative details of contouring, landscaping and any other relevant information as appropriate.

In granting permission for reclamation schemes of this nature full details will be submitted on a phased basis, prior to the commencement of any operation in that phase.

Soil Conservation and Use of Soil Making Materials

- 4.4 Soils are an important and valuable reclamation material and their proper handling and conservation is essential. The whole soil profile is not just important for agricultural reclamation. It can also be important for other uses, such as sports pitches and nature conservation. Mismanagement of the soil resource is likely to seriously prejudice the standard of reclamation.
- 4.5 For most sites a detailed soil survey will be required to identify soil types, profiles and depths. Where different soils are recorded, separate stripping, storage and replacement may be required to allow reinstatement of the original or suitable alternative soil profiles.
- 4.6 The progress from soil stripping to reinstatement can follow two main paths. In the first direct replacement is used. This involves immediate soiling of previously worked areas following stripping in advance of the working face. As soils are only handled once this will usually result in less damage. Where it is not possible to use direct replacement, schemes must make adequate provision for soil storage which may need to take account of washland restrictions for sites located in river valleys. Phased schemes which use direct replacement of soils will therefore normally be favoured whenever this is practical.
- 4.7 Where soils are absent or insufficient, it may be possible to create adequate soil-making materials from fill or overburden, treated with ameliorants such as sewage sludge or waste derived compost. In addition soils can be concentrated within areas where they are most needed, with soil-making materials being used in areas which do not require a high fertility, for example wildlife habitats.

POLICY M4.3 SOIL CONSERVATION AND USE OF SOIL MAKING MATERIALS

Where planning permission involves the reclamation of mineral workings, schemes should include measures to ensure the proper identification of all soil resources and their characteristics, together with other potential horizons within the mineral deposit that may be suitable for creating a soil profile, in addition to stripping, storage and placement methods which ensure that the soils are safeguarded for their intended after-use. Where soils are absent or deficient, schemes should include measures to ensure that available vegetation cover can be established to achieve the required after use. Such measures may include:

(a) concentrating soils within areas where they will provide most benefit;

- (b) utilising on-site, or imported soil-making materials which with suitable treatment are capable of supporting plant growth.
- (c) volumetric estimates of the soil profile showing the amounts of topsoils, subsoils and overburden stripped, stored and respread in conjunction with the proposed extraction and restoration plan.

Landscape Treatment

- 4.8 Landscape proposals for reclamation should include a descriptive outline of the design concept behind the scheme (a landscape brief). The brief should demonstrate that the land will be assimilated back into the surrounding landscape and that it is compatible with the proposed after-use. Measures should be taken to ensure that landscape treatment does not have an impact upon the overall character of the area. Regard should be taken to the historic setting of certain areas.
- 4.9 Screening and landscaping measures designed to reduce visual impact during the operational stages of the site can also help contribute to the final reclamation scheme.
- 4.10 Landscape proposals should aim to promote and increase strategic landscape features, as well as aim to meet Local Biodiversity Action Plan (LBAP) targets with appropriate planting utilising where practicable stock of local origin.

POLICY M4.4 LANDSCAPE TREATMENT

Where planning permission involves the reclamation of mineral workings landscaping proposals will be required that include:

- (a) an overall landscape concept or brief;
- (b) details of the final landform which should harmonise with the existing landscape character and aim to promote strategic landscape features;
- (c) the location, form, numbers, species, size, and method of planting;
- (d) details of establishment, maintenance and longer term management proposals, including measures for replacing failed planting;

Reclamation with Fill

4.11 Waste disposal is often associated with mineral extraction for two main reasons. First, for many mineral workings, especially deep pits and those which breach the water table, infilling with waste may be the only practical means of reclamation. This is particularly the case where an agricultural after-use is sought and where water based after-uses are considered

- unsuitable. Secondly, mineral workings can provide valuable void capacity for accommodating waste.
- 4.12 Historically the main sources of waste used for reclamation in mineral workings have been pulverised fuel ash (PFA) and domestic, industrial & commercial waste. The use of these wastes for reclamation has declined over recent years. At present only three quarries in Nottinghamshire use PFA and tighter pollution controls have restricted the number of sites allowed to take domestic, commercial & industrial wastes. Furthermore, with efforts to recycle waste materials, in particular the use of inert fill for secondary aggregates, the volumes of suitable waste available for fill are likely to continue to decline.
- 4.13 The primary guidance for schemes involving waste disposal is provided in the Nottinghamshire and Nottingham Waste Local Plan, adopted in January 2002. The overall strategy of the Waste Local Plan is to reduce dependence on landfill, by limiting the release of further disposal capacity to sites which will meet recognised shortfalls and which are close to the main sources of waste. The aim of this strategy is to promote more sustainable forms of waste management, such as recycling and composting.
- 4.14 In most circumstances mineral extraction proposals which include landfill will therefore need to conform to policies in the Waste Local Plan. There are, however, two main circumstances where the Waste Local Plan may not provide appropriate guidance in terms of justifying the need for the proposed landfill. First, it is possible that a mineral extraction proposal may involve waste disposal, which will extend well beyond the timescale being considered in the Waste Local Plan. Whilst such proposals still need to demonstrate that they are likely to attract waste in the long term, consideration of this will fall outside the remit of the Waste Local Plan.

POLICY M4.5 RECLAMATION WITH FILL - LONG TERM SCHEMES

Mineral extraction proposals which rely on the long term importation of waste for reclamation, must include satisfactory evidence that the waste will be available in the categories and quantities assumed, and that it is not practical to re-use or recycle the waste.

- 4.15 Secondly, there may be reclamation proposals that only require the importation of low volumes of inert waste, possibly just a few thousand tonnes a year. Where this represents the optimum reclamation solution such proposals may be acceptable even where no shortfalls have been identified in the Waste Local Plan so long as the amount of waste does not significantly affect established waste disposal schemes.
- 4.16 In accordance with the principles of sustainable development, such proposals need to demonstrate that they are not accepting inert waste that is more suitable for use as a secondary aggregate. If that cannot be demonstrated,

then the proposal is unlikely to be in accordance with the Waste Local Plan, Policy W2.1, the Waste Hierarchy.

POLICY M4.6 RECLAMATION WITH INERT FILL - SMALL SCHEMES

Mineral reclamation proposals reliant on the importation of a small quantity of inert waste will be permitted where they:

- (a) provide the optimum reclamation solution and there are no unacceptable environmental impacts;
- (b) it is not practical to use the waste as a secondary aggregate.

Reclamation without Fill

4.17 There are many instances where satisfactory reclamation can be achieved without the need to import fill. Indeed this method offers a number of advantages. In particular, the uncertainties and environmental issues associated with importing waste are all avoided and better phasing and more rapid reclamation are also more likely. The main situations where land can be reclaimed without fill are considered below:

Reclamation Using On-site Overburden

- 4.18 Where the ratio of overburden to mineral volume is high, there may be sufficient on-site mineral to backfill and reclaim most, if not all, of the void. This situation generally applies to both opencast coal and gypsum extraction.
- 4.19 Modern backfilling methods result in a much higher degree of compaction and thus a residual void is more likely, particularly where some doming to assist drainage is necessary. The greater compaction does reduce the risk of localised subsidence and poor drainage that were frequent problems associated with historic reclamation methods.

Low-level Reclamation

- 4.20 For workings which do not breach the water table, reclamation may be possible by respreading soils and overburden across the graded quarry floor. Such opportunities are most likely to be successful for shallow workings, where the reduction in land levels can more easily be absorbed into the surrounding landscape. In Nottinghamshire, the most notable example of this method is found in shallow sand and gravel workings at Misson.
- 4.21 Where the water table is breached, low-level reclamation is technically feasible with a permanent pumping scheme. Such schemes may be appropriate where large areas of high quality agricultural land are proposed to be worked, and where no suitable fill is available. Perpetual pumping is

technically possible but to date has rarely proved viable. No such schemes have yet been permitted in Nottinghamshire.

Reclamation to Water

- 4.22 In Nottinghamshire this method of reclamation has been most extensively used in sand and gravel workings. The high water table level and lack of suitable fill means that for most sand and gravel workings a water based afteruse is often the only feasible option.
- 4.23 If properly planned most water areas have the potential to create new habitats, promote biodiversity and/ or provide recreational and other amenities. RSS8 the Regional Spatial Strategy for the East Midlands, encourages development plan policies to protect and enhance the natural and cultural assets of the strategic river corridors. The OnTrent initiative, a partnership which draws together a wide range of organisations from public, private and voluntary sectors, aims to enhance and develop the whole of the Trent Valley whilst conserving its heritage and wildlife. The Vision Statement for the initiative was endorsed by the County Council in September 2002.
- 4.24 The potential problems largely concern the potential loss of the best and most versatile agricultural land and the cumulative impact caused by major changes to existing landscape character. This particularly applies to parts of the Trent and Idle Valleys, which have been worked extensively for sand and gravel. This issue is considered further in Chapter 6.

Interim and Alternative Reclamation

- 4.25 In exceptional circumstances reclamation to the planned after-use may be subject to unavoidable delays. This is most likely to occur where filling is the only appropriate or viable means of reclamation and where availability of material is restricted. Where this is the case interim reclamation measures will normally be required, in order to reduce the environmental impact and uncertainty as to the future of the site.
- 4.26 These measures should include ameliorative works to ensure the site remains in an acceptable state, whilst not prejudicing the ultimate after-use. The early establishment of as much 'final' landscaping as possible will be especially beneficial.

POLICY M4.7 INTERIM RECLAMATION MEASURES

Where a proposal involves reclamation which is likely to be subject to unavoidable delays, details should include interim reclamation measures.

4.27 In other circumstances, mineral extraction or tipping may cease prematurely, and this can seriously prejudice approved reclamation schemes. Furthermore unless conditions are imposed to define cessation of extraction, and to require the implementation of an alternative reclamation scheme, such sites could quite legitimately be left derelict. Accordingly, for most mineral development proposals, the potential problems created by premature cessation of activity need to be considered. Further problems can arise with the temporary closure of sites. The County Council therefore normally attaches conditions requiring alternative reclamation if a site is closed for longer than 6 months.

Reclamation Proposals for Existing Sites

4.28 A number of mineral workings are controlled by old planning permissions which may have inappropriate and impractical conditions. Although this is a diminishing problem (due to the Environment Act 1995 which requires MPAs to review old mineral planning permissions - see Para 4.55), some sites exist where reclamation requirements have not been, or cannot be, met. These sites obviously give rise for concern. Under such circumstances the County Council will normally encourage and support initiatives which assist in the reclamation of areas damaged by former mineral workings.

POLICY M4.8 RECLAMATION PROPOSALS FOR EXISTING SITES

Alternative reclamation proposals will be granted which would result in the satisfactory reclamation and after-use of mineral workings where:

- (a) current use and/ or appearance is unsatisfactory:
- (b) the existing provisions for reclamation are unsatisfactory, inappropriate or absent;
- (c) the proposals result in an improved environmental and/ or amenity after-use.

Aftercare

4.29 Schedule 5 to the 1990 Act empowers MPAs to place aftercare conditions on mineral planning permissions where reclamation is to agriculture, forestry or amenity (in this context amenity includes recreation and nature conservation). The purpose of aftercare is to help ensure that newly restored land is properly cultivated, planted and managed during the first few crucial years. For example, soils which inevitably suffer damage during handling, require careful husbandry to aid recovery; tree planting schemes need weed control and replacement of failures until established. The aftercare condition can either specify the steps to be taken following restoration, or the steps to be taken in accordance with a scheme to be approved by the County Council.

- 4.30 In most cases the aftercare condition will cover a maximum period of 5 years from compliance with the restoration condition. Whilst this period can be varied, aftercare conditions cannot be used to secure the long term management of land where appropriate such requirements have to be controlled by legal agreements.
- 4.31 The County Council has produced guidance notes and a model programme for mineral operators. This programme sets out the information required to support an acceptable aftercare scheme, and covers all aspects of cultivation and management on an annual basis. The keeping of detailed records forms an essential part of the aftercare regime. Regular meetings and inspections are also required to monitor progress and amend the programme as necessary. After 5 years the County Council can issue a certificate affirming that the land has been reclaimed to a satisfactory standard. Through time these programmes should provide a valuable record of the most effective approach to aftercare.

POLICY 4.9 AFTERCARE

The County Council will attach aftercare conditions to all mineral planning permissions where reclamation is to agriculture, forestry or amenity.

After-use

- 4.32 After-use options include agriculture, forestry, nature conservation, recreation, and industrial or built development. At some sites more than one after-use may be possible. It is therefore essential that a Masterplan setting out how the after-use will be achieved is presented at the planning application stage for the following main reasons.
- 4.33 First, each after-use will have its own physical requirements which must be assessed before extraction commences. Secondly, in addition to the detailed guidance provided in this Plan, the after-use should accord with the policies of the Structure Plan Review and other relevant Local Plans. Informal Plans such as, "The Sherwood Initiative", "The Strategic Plan for Greenwood", "Local Biodiversity Action Plan", "The Heathland Strategy for Nottinghamshire" and guidance in the "Countryside Appraisal" should also be taken into account. Finally, there must be clear evidence that the proposed after-use will be properly implemented and managed in the long term.
- 4.34 Once a site is reclaimed, any subsequent development or changes in afteruse requiring planning permission will normally be for the district council to determine.
- 4.35 MPG7 recognises the importance of the equal commitment of all interested parties if high standards of implementation are to be achieved. Every effort to eliminate potential conflicts should be made by means of discussion and

negotiation prior to the granting of planning permission. In addition, the long term funding and management of sites will need to be considered, and potential income generation from possible after-use options should be explored.

POLICY M4.10 AFTER-USE - DETAILS REQUIRED AND OBJECTIVES

Where planning permission involves the reclamation of mineral workings, schemes should include full details of the proposed after-use and be designed to maximise opportunities to enhance the environment, biodiversity and amenity of the local community.

POLICY 4.11 AFTER-USE - MANAGEMENT AND OTHER AGREEMENTS

Where it is considered that long term management and monitoring provisions are necessary for the successful implementation of an afteruse then, prior to the grant of planning permission, the County Council will, seek to negotiate the incorporation of such provisions within a planning obligation.

Agricultural After-use

- 4.36 Most mineral workings coincide with agricultural land. In general where the best and most versatile land is taken for mineral extraction, it is imperative that the potential for land to be restored to an agricultural after-use be maintained through appropriate landform and soil profiles. This does not necessarily mean that land should be restored to agriculture for example woodland could be appropriate.
- 4.37 Agricultural after-use schemes present important opportunities to redress the widespread environmental damage caused by modern agricultural practices. Where possible, such schemes should reintroduce features associated with the 'traditional' enclosure landscape, such as hedgerows and small copses. These typically characterise the mature landscape areas identified in the 'Countryside Appraisal', (see Policy M3.23) and which will also promote the Local Biodiversity Action Plan (LBAP) (see Paras 3.65-69). Such measures need to be compatible with agricultural production and the long term aspirations of the landowner. In this respect Policy M4.12 is of particular importance.

POLICY M4.12 AGRICULTURE AFTER-USE

Where planning permission involves the reclamation of mineral workings to agriculture the County Council will encourage such proposals to take full account of the Countryside Appraisal and Local Biodiversity Action Plan.

Nature Conservation After-use

- 4.38 Many existing nature conservation sites have their origins in abandoned mineral workings where natural regeneration has occurred. Despite the success of some sites, this unplanned approach suffers from many shortcomings. These include slow reclamation, poor visual amenity, lack of controlled public access and facilities, and little or no security regarding long term protection, management and funding. Conflicts with other uses, such as recreation, may also be a problem. Proper planning is needed to develop the full potential of sites, and adequate funding is essential for their subsequent management. Reclamation schemes involving the creation of wildlife habitats in line with the species, habitats and targets of the Local Biodiversity Action Plan will have an increasing role to play in the future.
- 4.39 Proposals should include a Masterplan to show how the site will be established and managed, and the extent of public access. It should refer to the phasing of reclamation works and specify particular habitats. There should also be a descriptive statement and a qualified ecologist should be directly involved in the design and implementation stage. English Nature, Nottinghamshire Wildlife Trust and the Royal Society for the Protection of Birds are amongst organisations which can provide land management and other advice.
- 4.40 Funding is essential to the success of a nature conservation after-use which is rarely self-supporting, and thus Policy M4.11 will normally apply. Long term management, ecological monitoring, provision of interpretative facilities and appointment of wardens all require financial backing.
- 4.41 Ideally, the site should be given formal recognition as a nature reserve so that its status cannot be challenged at a later date. The long term management should be provided by a management committee, and an agreed management plan.

Woodland After-use

- 4.42 Where woodland has been lost to mineral extraction, reclamation to woodland will normally be required. In other cases, woodland will be favoured where it would enhance the environment.
- 4.43 More specifically, woodland planting is encouraged in the Sherwood Forest area and within the Greenwood Community Forest. Where existing reclamation schemes lack adequate tree planting measures, additional planting may be eligible for Forestry Commission Woodland Grants.

Wet Broadleaved Woodlands

4.44 Wet broadleaved woodlands are generally characterised by a canopy of alder and willow, with a wide variety of plant species making up the ground flora. They support a high diversity of invertebrates including, in Nottinghamshire, a number of scarce moth species. Many of the priority species of conservation concern as listed in the LBAP for Nottinghamshire, including the otter and blue tit, depend on wet broadleaved woodlands for a plentiful source of food and shelter. 4.45 As with woodland after-use, where wet woodland has been lost to mineral extraction, reclamation to similar structured woodland would normally be required.

Heathland/ Acid Grassland After-use

4.46 Mineral workings, notably Sherwood Sandstone quarries and colliery tips, can provide opportunities to create matrix areas of lowland heathland and acid grassland, which have become very scarce throughout Great Britain. The LBAP establishes a target for the creation of 200 hectares of heathland by 2005. Reclamation schemes provide a prime opportunity for this.

POLICY M4.13 HEATHLAND AND ACID GRASSLAND AFTER-USE

In order to meet Local Biodiversity Action Plan targets the County Council will permit the restoration of Sherwood Sandstone quarries and colliery spoil tips to heathland and acid grassland. Operators are encouraged to seek to maximise the use of plant material of local genetic stock.

4.47 Heathlands may be particularly suitable, where soils are poor or absent and agriculture is not a feasible option. However, they can only establish and survive in the long term with careful management. Adequate funding and other provisions must therefore accompany proposals as set out in Policy M4.11 and described for nature conservation after-uses.

Geological Sites of Interest

4.48 Nottinghamshire has very few natural rock exposures and many of the existing geological SINCs and one of the County's four geological SSSI's owe their existence to quarrying. Reclamation schemes can provide valuable opportunities to create new sites of geological interest by leaving parts of the working face exposed. Where this is proposed, public access, safety and the possible long-term management of the site are likely to be the main factors to consider.

POLICY M4.14 RECLAMATION SCHEMES AND GEOLOGICAL SITES

Reclamation proposals, which include the creation of new geological sites of interest, will be permitted subject to appropriate measures concerning public access, safety and management of the site.

Recreational After-use

4.49 Most recreational after-uses of former mineral workings are associated with water areas, and wet sand and gravel pits have provided many important opportunities, most notably the National Water Sports Centre at Holme Pierrepont.

- 4.50 The Structure Plan Review recognises that, whilst there is demand for extra water recreational facilities, this demand is very difficult to quantify. It therefore emphasises the need for a flexible approach capable of dealing readily with changing patterns of demand. After-uses likely to generate a high volume of visitors should however be accessible to the main population centres, whereas more specialist uses need not be so constrained.
- 4.51 Recreational options for dry sites can include country parks, public open spaces, golf courses, dry ski slopes and motor sports. Colliery tips, which are often close to settlements, may be particularly suited for this purpose. Where appropriate, such schemes must have adequate long term management provisions.
- 4.52 Recreation schemes must demonstrate that they are able to meet the physical requirements of the proposed activity. Lake depths, shape and size are likely to be important criteria. Access, parking and other facilities need to be considered, along with other factors such as traffic generation and noise.

Built Development

- 4.53 Mineral workings can occasionally be reclaimed to a condition suitable for built development. These opportunities are only likely to arise in urban or urban fringe situations, where such development is compatible with other planning policies in the area.
- 4.54 Any proposals for built development upon infilled land must provide evidence that compaction, ground stability, contamination and methane production issues can be overcome, in accordance with the Waste Local Plan, Policy W4.15.

Minerals Review

- 4.55 Unlike most other forms of development, mineral planning permissions often have a long life span during which environmental concerns and expectations are likely to change. Most old permissions have planning conditions that by modern standards are seriously deficient.
- 4.56 Although planning authorities have always had powers to modify and revoke planning permissions, compensation liabilities have normally precluded this as a feasible option. Since 1981, however, the Government began to rectify this situation by bringing in new legislation that allows mineral planning permissions to be updated and even revoked without necessarily attracting a full compensation liability.

Interim Development Order Sites

4.57 The initial measures brought in by the Minerals Act 1981 proved to be too limited to have much effect, but subsequent legislation has provided a much more comprehensive and effective means for dealing with this problem. The Planning and Compensation Act 1991 tackled the oldest and most problematic sites, namely those sites permitted under the Interim Development Order (IDO) between 21 July 1943 and 1 July 1948. Unlike all subsequent planning permissions, IDO consents were never registered and

- the existence and extent of many was in doubt. IDO planning conditions were also generally very poor or non-existent.
- 4.58 All IDO permissions had to be registered by 25 March 1992, or they would lapse. Unless the site was dormant, a further application was then required for determination of a set of conditions to which the permission would then become subject. For dormant sites, an application must be submitted for determination of new conditions before the site is developed. Relevant guidance is provided in MPG9 'Planning and Compensation Act 1991: Interim Development Order Permissions (IDOs) Conditions'. All registered IDO planning permissions lapse on 21 February 2042.
- 4.59 All active IDO sites have since had their planning conditions updated. These will then be subject to further possible reviews under the same procedures that apply to all other planning permissions (see below). Two dormant sites still remain, which cannot be implemented, until the County Council has approved a new set of planning conditions.

Initial Review and Later Sites

- 4.60 Review procedures extending to mineral planning permissions granted after 1 July 1948 were introduced by Section 96 of the Environment Act 1995. This included an 'initial review' and registration of all planning permissions granted before 22 February 1982. Most active sites falling within the initial review period have now had new schemes of planning conditions approved. Planning permissions granted before 22 February 1982, that have been implemented, but have not been active to any substantial degree between the above date and 6 June 1995 must secure approval of a new scheme of conditions before extraction commences.
- 4.61 All later planning permissions are to be reviewed at intervals of not less than 15 years. These reviews commence with the County Council serving notice on the mineral operator requiring a new set of proposed conditions to be submitted within 12 months. Former IDO and the 'initial review' sites will ultimately be included in this process.

Planning Issues

- 4.62 The main purpose of the review procedure is to update older mineral planning permissions to modern standards. This means that, as far as practical, proposals for new schemes of planning conditions need to address the main environmental issues and satisfy the policies contained in Chapters 3 and 4. The overall aim is to ensure that the site is worked and reclaimed using the best available techniques to minimise environmental impact.
- 4.63 Conditions can be imposed, such as restrictions on hours of working, and the protection of environmentally sensitive areas, without necessarily attracting compensation. The latter may involve excluding areas from extraction or by implementing mitigation measures. End-dates on extraction and reclamation including alternative reclamation schemes if the site closes prematurely can also be imposed. This helps to add certainty to the duration of the scheme and reduces the likelihood of sites going dormant and being left derelict without any effective means to redress the situation.

4.64 Whilst there are rights to appeal against conditions, there are nonetheless limits as to what can be imposed before a compensation liability arises. If the new conditions threaten the economic viability or asset value of the mineral operation, then compensation may be payable. This means that environmental protection measures have to be weighed up against their impact on the economic viability or asset value of the mineral working rather than 'need' for the mineral as would generally apply for new proposals. This factor can therefore limit what in practice is achievable, when compared to determining a planning application for new mineral development.

POLICY M4.15 MINERALS REVIEW - SUBMISSION OF PROPOSALS

Proposals to update planning permissions in accordance with the minerals review procedure must demonstrate that they are based on the best available technique in terms of minimising the environmental impact of extraction and in achieving the proposed reclamation scheme. Where appropriate conditions will be imposed which:

- (a) update all working and reclamation practices to minimise pollution risks and other environmental impacts;
- (b) exclude environmentally sensitive areas from extraction and/or provide mitigation measures to minimise the impact and loss of any features;
- (c) include an end-date for mineral extraction and reclamation;
- (d) provide for an alternative reclamation scheme in the event that the mineral extraction ceases prematurely and the approved scheme can no longer be implemented.