



# 14

CHAPTER 14  
Extractive Industries

## 14 EXTRACTIVE INDUSTRIES

### 14.1 Background

The extraction of sand, gravel and rock is an economic activity that is vital for society, as it largely contributes to the provision of road and construction aggregates. The extractive industry also provides employment and economic growth in the local and regional economy and the Council recognises the vital contribution made by the extractive industry to the continued growth of County Kildare and the Eastern Region.

The cost of haulage affects the economic competitiveness in this sector and accordingly, extractive industries are constantly attempting to establish as close as possible to developing settlements and major roads – which inevitably leads to conflicts and environmental concerns. Although the extractive industry is a temporary use of land, it can have detrimental environmental effects including traffic generation, vibration, noise, dust, water pollution, visual intrusion and loss of groundwater supplies. The industry can seriously affect the landscape, the operation of the bloodstock industry and residential amenities. The impact on the road network is substantial.

It is also recognised that, by their nature, aggregates can only be worked where they occur. The deep sand and gravel deposits are typical in the east of the County while rock quarrying commonly takes place on the eastern uplands and in the Chair of Kildare.

Under Section 261 of the Planning and Development Act 2000-2004, registration of all quarries operating in the Country is required. This section commenced with effect from 28th April 2004 and it is intended to bring all quarries - including those that have claimed exemption because they were operating before the 1963 Planning Act - within the planning system and thus deal with concerns regarding unauthorised sand and gravel quarries in the country. The registration process will enable the Planning Authority, subject to the financial resources of the county, to impose, modify or restate conditions on existing quarries and thus tackle environmental issues and concerns and will give the public the right to comment on the terms of the permission.

### 14.2 Goal

To ensure that adequate supplies of aggregates are available to meet the future needs of the County and Region, in line with the principles of sustainable development and environmental management.

### 14.3 Objectives

- (1) To support regional policy for the adequate supplies of aggregate resources to ensure the continued growth of the County and Region.
- (2) To ensure that the extractive industry will minimise and/or mitigate any adverse visual and/or environmental impacts on the built or natural environment.

## 14.4 Siting of Extractive Industries

Extractive industries usually create significant changes to the appearance of the landscape. In operating they can significantly change the character of the area on account of the contrast between the surrounding settlements and agriculture and the intense character of extraction industry. Quarry faces present a significant visual intrusion in the landscape. Further visual contrast arises on account of the removal of vegetation and ground level alterations, as well as from associated equipment and machinery on site and material transportation vehicles.

Quarrying and extraction activities commonly occur where rocks and minerals are available. In Ireland, most rock quarries are located on hillsides and hilltops and occasionally in river valleys, while sand and gravel is usually extracted from glacial features such as eskers and moraines. The generally upland or elevated location of quarries has the potential for significantly affecting the local landscape by visual intrusions, especially when the development reaches primary ridgelines. Major ridgelines (i.e. skylines) are visible over a wide area and consequently are vulnerable features because any development on or in the vicinity of skylines has the potential to affect the visual integrity of a wide area.

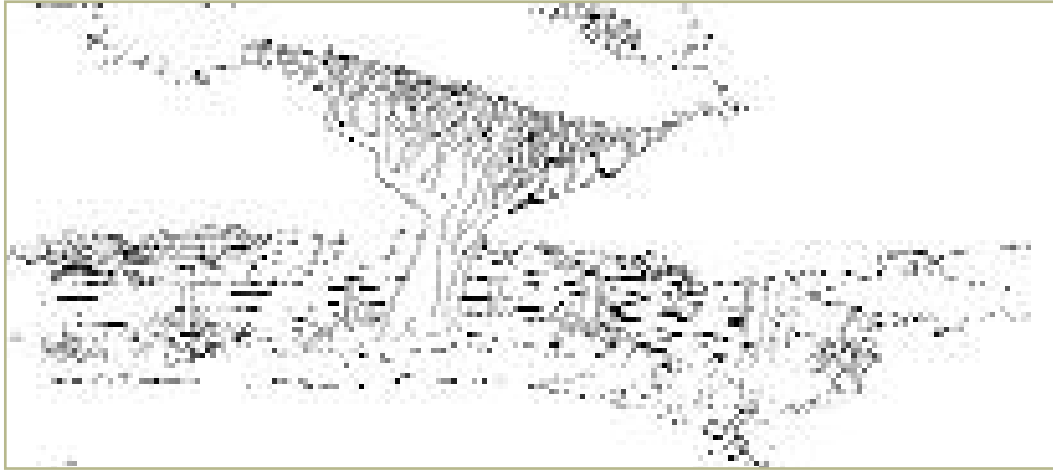
The extractive industry depends on the locational availability of the resource. In County Kildare these resources are concentrated in the slopes of the Eastern Upland Areas and the central uplands (i.e. Chair of Kildare), and they can also be found in some parts (i.e. eskers) of the transitional lands to the east and south-east of the county. Upland areas are considered sensitive in landscape terms, due to their elevated and conspicuous nature, particularly on the generally flat topography and open character of Kildare landscapes.

## 14.5 Layout and Design of Extractive Industries

From the outset there are usually a wide range of options available as to how extractive facilities can be laid out relative to one another. Ideally the overburden (topsoil, subsoil, and waste) should be located to enclose and screen the other elements so as to minimise visibility from the surrounding countryside. This aspiration must take account of the operation's reasonable requirement to minimise the length of haulage routes and to avoid double handling of material within the site.

When located on hill slopes and eskers, quarries present a visual impact on the local landscape. The visibility however can be partially screened by occurring topography (i.e. the quarry will only be visible to one side of the hill, or screened by undulating lands in the case of quarrying eskers) and vegetation (i.e. forestry and planting will screen the lower quarry faces). Nevertheless, the visual impact of quarry works is likely to be significant on the local landscape.

Fig.14.1 Quarrying of hill side areas



The sketch above illustrates how conspicuous spoil heaps and stockpiles together with plant and equipment all significantly increase the apparent size and intrusiveness of the working. The quarry on the right also illustrates how the shape of the quarried area will permanently and conspicuously contrast with the surrounding landscape.

## 14.6 Long-term Vision

Unfortunately most extractive operations begin without a long-term strategic vision. This commonly results in a wide or long exposed work face, dispersed structure and incongruous spoil heaps. The principal cause of this problem is the tendency to begin working at the toe of the steepest face.

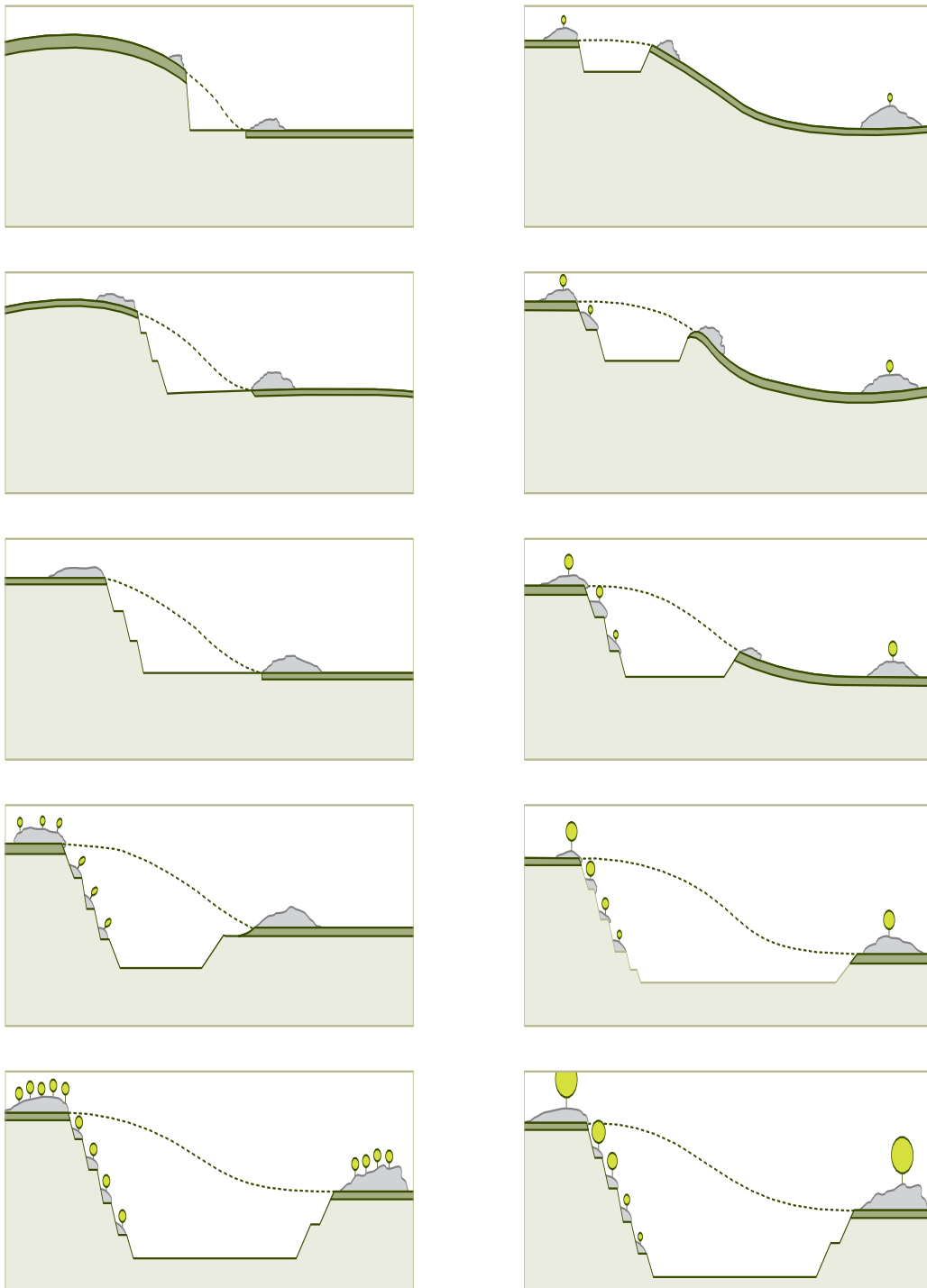
An alternative is to begin at the upper part of the resource and to gradually work downward, (see Fig. 14.2 Scenario 2A and B) – this facilitates continuous restoration, minimises visibility and contributes to a significantly smaller environmental footprint.

Fig. 14.2 also illustrates how the adoption of gradual and on-going restoration coupled with ‘top down’ extraction allows extraction to continue with minimal visibility of either the working faces or the equipment. The resultant profile of the quarry on the right - due to the reduced need to stockpile overburden – illustrates how the final profile will be much more easily assimilated into the form of the existing landscape – especially once planting becomes mature.

Fig. 14.2 Quarrying with Gradual Restoration

Scenario 2 (A) contrasts how traditional 'bottom-up' approach to extraction which results in the maximum areas of exposed working for the maximum period of time – with the least potential for ongoing restoration.

Scenario 2 (B) illustrates how 'top down' extraction allows the exposed vertical surface ('the working face') to be partially covered with soil placed on a 'bench'. This forms a growing medium for trees and shrubs that can begin to establish and mature while the next, lower, layer of the quarry is being developed.



## 14.7 Post Closure of Extractive Industry

Rock quarries usually result in steep rock faces and a flooded pit. With reasonable and economic design these can become valuable local habitats and even recreation amenities. Sand and gravel workings, on the other hand, can easily be restored to agricultural use. However, designations to post closure uses must have regard to the likely land use context at the time of closure. Furthermore, allowing rehabilitation of quarry faces to take place parallel to extraction operations and providing planting on earth mounds at quarry entrances significantly reduces visual impacts while allowing for ecological and habitat recovery.

## 14.8 Policy Statement

It is the policy of the Council:

- EI 1** To carry out a survey and examination of both existing pit areas and potential sand and gravel deposits in the county, subject to the financial resources of the county. It is intended that this survey will be carried out in conjunction with the Geological Survey of Ireland (GSI) and that it will assess the interactions between the development of these resources and future land uses.
- EI 2** To safeguard resources by seeking to prevent incompatible land uses, that could be located elsewhere, from being located in the vicinity of the resource, since the extraction of minerals and aggregates is resource based.
- EI 3** To require that applicants demonstrate their commitment to good environmental management.
- EI 4** To ensure that the full cost of road improvements which are necessary for this industry, shall be borne by the industry itself and that the industry shall also contribute to the recreation and amenity of the county.
- EI 5** To ensure that the extractive industry minimises adverse effects on the road network in the area and contributes to their maintenance in accordance with Policy EI 4.
- EI 6** To ensure that the extraction of minerals and aggregates should minimise the detraction from the visual quality of the landscape.
- EI 7** To ensure that all existing workings be rehabilitated to suitable land uses and that all future extraction activities allow for the rehabilitation of pits and proper land use management. Land filling with inert material is the preferred method, however, each planning application in relation to extractive industries shall be considered on a case by case basis and, where relevant, will be dealt with under the Waste Management Strategy.

- EI 8** To prohibit extraction in areas classified as having Class A soils, except where it can be demonstrated that there are no suitable alternative sites. The Council will only consider such extraction if it can be demonstrated that the land can be returned to a similar agricultural use following cessation of extraction activities. Any extraction in areas with Class A soils must be carried out under the guidance of a soil specialist.
- EI 9** To ensure that development for aggregates/mineral extraction, processing and associated concrete production does not significantly impact in the following areas:
- Special Areas of Conservation (SACs),
  - Special Protection Areas (SPAs),
  - Natural Heritage Areas (NHAs),
  - Other areas of importance for the conservation of flora and fauna,
  - Areas of significant archaeological potential,
  - In the vicinity of a recorded monument, and
  - Sensitive landscapes as identified in chapter 18, volume two.
- EI 10** To consult with the Geological Survey of Ireland (GSI) with regard to any developments likely to have an impact on County Geological Sites listed in volume 2 of the Plan.
- EI 11** To take particular cognisance of the likely effects that any proposed extractive industry may have on the existing landscape and amenities of the East Kildare Uplands Area.

### 14.9 East Kildare Uplands Area

The East Kildare Uplands is a unique area of high amenity in the county, ranging from 600 ft Ordnance datum to over 1,000 ft Ordnance Datum. Continuing on from the commitment made in the 1999 Kildare County Development Plan the following lands have been deemed suitable for the extractive industry, however, this will be reviewed in the context of implementing Section 261 of the Planning and Development Act 2000-2004.



## Rural Planning Strategy

(See Map 14.1 and 14.2)

Zone	Extractive Industry
Map Ref.	E
Planning Policy of Zone uses.	To provide for extractive industry and secure subsequent restoration to suitable uses.
Specified Land Use(s) & Activities	Solely extractive but not including the manufacture of concrete products
Specific Objectives	Secure Restoration of specified sites in accordance with procedures outlined in Schedule 2
Broad Planning Concept/Policy	In the immediate term, to reserve land for extractive industry and avoid conflict with other uses. In the long term to restore extractive sites to various uses such as Agriculture, Forestry, Recreation, Woodlands and Urban Development. Of particular importance is the area to the north of Blessington which is to be transformed into part of an Upland Park

Table 14.1 List of Specific Objectives for Sand and Gravel Pits

Map No	1	2	3
Pit Area	Cromwellstown Hill Pit	Kill Pits	Hempstown Commons Pit
Specific Objectives	Investigate the purchase of a small section of the pit for a car park and picnic site	(a) Limited extension to extraction*. Rehabilitation to agriculture, amenity woodlands, agreed recreational uses and limited light industry, without cost to the Council.  (b) Limited extension to extraction* - now complete. Rehabilitation is underway as part of permitted development as a landfill for bailed waste.  (c) Screen planting with trees on road nos. 198 and 200.	Extension of extraction* area allowed. Rehabilitation of this area and existing pit without cost to the Council. After-use should be private or public recreation with some amenity woodland
Detailed Interpretation	These items are seen as amenity objectives along a proposed Ridge Line Park	Limited area of further extraction* should be allowed. In the planning permission for this new work that both the new work and the existing pits at (a) be satisfactorily rehabilitated within a specific period of time and without cost to the Council. This screen planting is to be part of the planning permission for rehabilitation of pits (a) and (c).	With any planning permission for any further extension should be coupled a rehabilitation programme for both the new work and the existing pit, without cost to the Council. The type of recreation to be allowed to be agreed with the Council on grounds of feasibility and maintenance, at the time of the rehabilitation.

Map No Pit Area	4 Red Bog Pits (east of Red Bog Lake)	5 Red Bog Pit (south of red Bog Lake)	6 Philipstown-Athgarret Area
Specific Objectives	Very Limited extension to existing extraction* allowed. No excavation below level of adjoining Red Bog Lake. Rehabilitation of pit without cost to the Council. After-use to public or private recreation, or amenity woodland.	Extension of extraction* area may be allowed. Rehabilitation of this area and the existing pit without cost to the Council. After-use to private or public recreation or amenity woodland.	New extraction of sand & gravel was allowed here but coupled with very important restrictions & commitments. After-use to be forestry, amenity woodland, agriculture and some limited recreational use.
Detailed Interpretation	Rehabilitation of this pit may possibly be achievable only through disallowing any further extraction work by the owners of the pit in adjacent deposits until pit is rehabilitated satisfactorily to the Council. The type of recreation to be agreed with the Council.	With any planning permission for a further extension should be coupled a rehabilitation programme for both the new work and the existing pit, without cost to the Council. The type of recreation to be agreed with the Council	With any planning permission for this pit will be a comprehensive programme of rehabilitation for both the new pit extension & for the existing pits, whether active or inactive, that are owned by the same developer. It is suggested that an agreed joint management programme of the Red Bog Lake between the developer and some appropriate Government or Local Government Agency be formulated.

\*Note: in all cases this means such additional /extension of extraction shall not be greater than 3 acres / 1.2Ha in area.

Table 14.2 List of Specific Objectives for Sand and Gravel Pits (continued)

Map No Pit Area	7 Wolfestown Pit	8 Newtown Great - Athgarret Area	9 Walshestown pits
Specific Objectives	Limited extension to extraction* allowed. Rehabilitation of this area & existing pit without cost to the Council. After-use to be agriculture, forestry or amenity woodland. No extraction below water table.	New extraction has been allowed here. After-use to be agriculture & amenity woodland. Need to complete this rehabilitation.	Limited extension to extraction* area allowed. Right of way across existing pit during rehabilitation programme to be investigated. Screening of adjoining lands essential on visual grounds.
Detailed Interpretation	With any permission for any new extension should be coupled a rehabilitation programme for both the new work and the existing pit, without cost to the Council.	With any planning permission for any further extraction*, a detailed rehabilitation programme will be required for both new work and the existing pit.	Planning permission and a very weak rehabilitation clause applies to this large pit. Rehabilitation clauses are essential in any further planning permissions. Rights of way across large pits are important in order to link PuncHESTOWN Race Course with future bridle path along road 211.

Map No Pit Area	10 Dowdenstown Great Pit	11 Sillagh Pit	12 Donode Big Pit
Specific Objectives	New extension of extraction here to be permitted, subject to rehabilitation of this area & existing small pit. After-use to be agriculture and/or forestry or amenity woodlands.	The Council will investigate measures to rehabilitate this small pit.	The Council will investigate measures to rehabilitate this small pit.
Detailed Interpretation	Any permission for new extractive use here will require phased rehabilitation, at no cost to the Council, with the rehabilitation of the existing pit in the first phase.	This pit is undermining the adjoining national monument "The Ring", & it is not acceptable to have further extraction here, due to its exposed nature. Possible rehabilitation may be arranged with the owners of pit no 10.	-

Map No Pit Area	13 Briencan-Lugadown Area	14 Ballymore Eustace Pits
Specific Objectives	New extraction here* of sand and gravel. After use could be agriculture and amenity woodland.	Extraction has taken place here without permission for many years. Need for rehabilitation is evident. Limited extension of extraction* may be permitted if existing pits can be rehabilitated, at no cost to the Council. After-use could be partial amenity woodland and the remainder investigated as an urban recreational use associated with the town.
Detailed Interpretation	With planning permission for any further extension* should be coupled a rehabilitation programme for both the new work and the existing pits, without cost to the Council	With any planning permission for any further extraction* should be coupled a detailed rehabilitation programme to both the new work and the existing extensive pit, without cost to the Council. The type of recreation to be agreed with the Council as part of the planning permission.

\*Note: In all cases this means such additional /extension of extraction shall not be greater than 3 acres (1.2 Ha) in area.





