

EDZELL

1. Edzell is an attractive village situated in the north east of Angus approximately 9.5 km north of Brechin and close to the Aberdeenshire boundary. The village supports a wide range of community services and facilities and acts as a social, service and commercial centre for a considerable rural area, including, Glen Lethnot and Glen Esk.

2. The character of Edzell derives from its wide High Street, the grid iron street pattern, the continuity of design in many of the older buildings and large open areas which include the Muir and woodland to the north, the wooded banks of the river North Esk to the east and Edzell woods and Golf Course to the south. These natural and manmade features have influenced the urban form of the village and continue to contribute to its character. The basic form of development, particularly the grid iron pattern has generally been maintained as the village has grown with no residential development north of Lethnot Road.

3. Planning permission has been granted for housing at Lethnot Road/Slateford Road and Lindsay Place, which will meet local housing needs within the plan period. A new primary school has been built in the north of the village to replace the school at Church Street. This provides an opportunity for the existing school building and associated land to be reused and redeveloped for alternative uses.

4. The former mart site located north of Lethnot Road has not come forward for employment use despite being allocated for a number of years but has been subject to pressure for residential development. Lethnot Road provides a marked division between the built up area of Edzell and its landscape setting, which is one of the most striking and attractive features of the village. Whilst it is considered that residential development north of Lethnot Road would not be appropriate the Local Plan provides opportunities for the redevelopment of the former mart for employment uses of an appropriate scale and nature through Policy SC16 : Rural Employment set out in the chapter on Working.

KEY ISSUES/DEVELOPMENT STRATEGY

5. Given the physical boundaries to the village, careful consideration of the scale, future direction, design and layout of new development will be required to ensure that it respects the form and setting of the village and integrates with the surrounding rural landscape. In the light of recent permissions for residential development outlined above the strategy for Edzell is to allow for a period of consolidation and to limit additional residential development within the plan period to the redevelopment of brownfield and infill sites within the village boundary.

PROFILE

Role:

Attractive residential village approximately 9.5 km north of Brechin supporting a range of services.

Population:

Census: 2001 - 783;
1991 - 747
% Change 91/01 : +4.82

Housing Land Supply June 2004:

existing - 32

Drainage:

No constraints

HOUSING

EXISTING SITES

6. The existing housing land supply, comprising sites with planning permission or under construction as identified in the Housing Land Audit June 2004, is shown in Table 1.

Table 1 : Existing Sites

(a) Lethnot Rd/ Slateford Rd	18
(b) Lindsay Place	14
Total	32

NEW ALLOCATIONS

7. Table 2 summarises new allocations of housing land which will contribute towards meeting the Structure Plan allowances to 2011.

Table 2 : New Allocations

E1: Edzell School Annexe	6
Total	6

E1 : Housing - Edzell School Annexe

0.4 ha of land comprising temporary school buildings and land to the rear of the school building is allocated for six houses. Vehicular access is available by way of an extension of the internal road layout serving the housing development to the west.

OPPORTUNITY SITES

E2 : Opportunity Site - Edzell School, Church Street

0.2 ha of land at Edzell Primary School comprising the original school building, playground, gym hall and toilet block provide an opportunity for alternative uses including residential, Business Use (Class 4*) or community facilities. Whilst the gym hall and toilet block to the rear of the site can be removed and redeveloped the original school building fronting onto Church Street is an attractive property of local architectural interest and is enclosed by a stone boundary wall. Angus Council would prefer to see the school building and surrounding wall retained as part of any development proposals.

***Opportunity Sites:** Sites available for redevelopment for housing and/or other uses. Given uncertainties related to the timing of release of such sites for development and the range of potentially suitable uses, they are not counted towards meeting the Structure Plan housing allowances until planning permission is granted.*

Opportunity Sites:

E2 : Edzell School, Church Street

** As defined in the Town and Country Planning (Use Classes) (Scotland) Order 1997*

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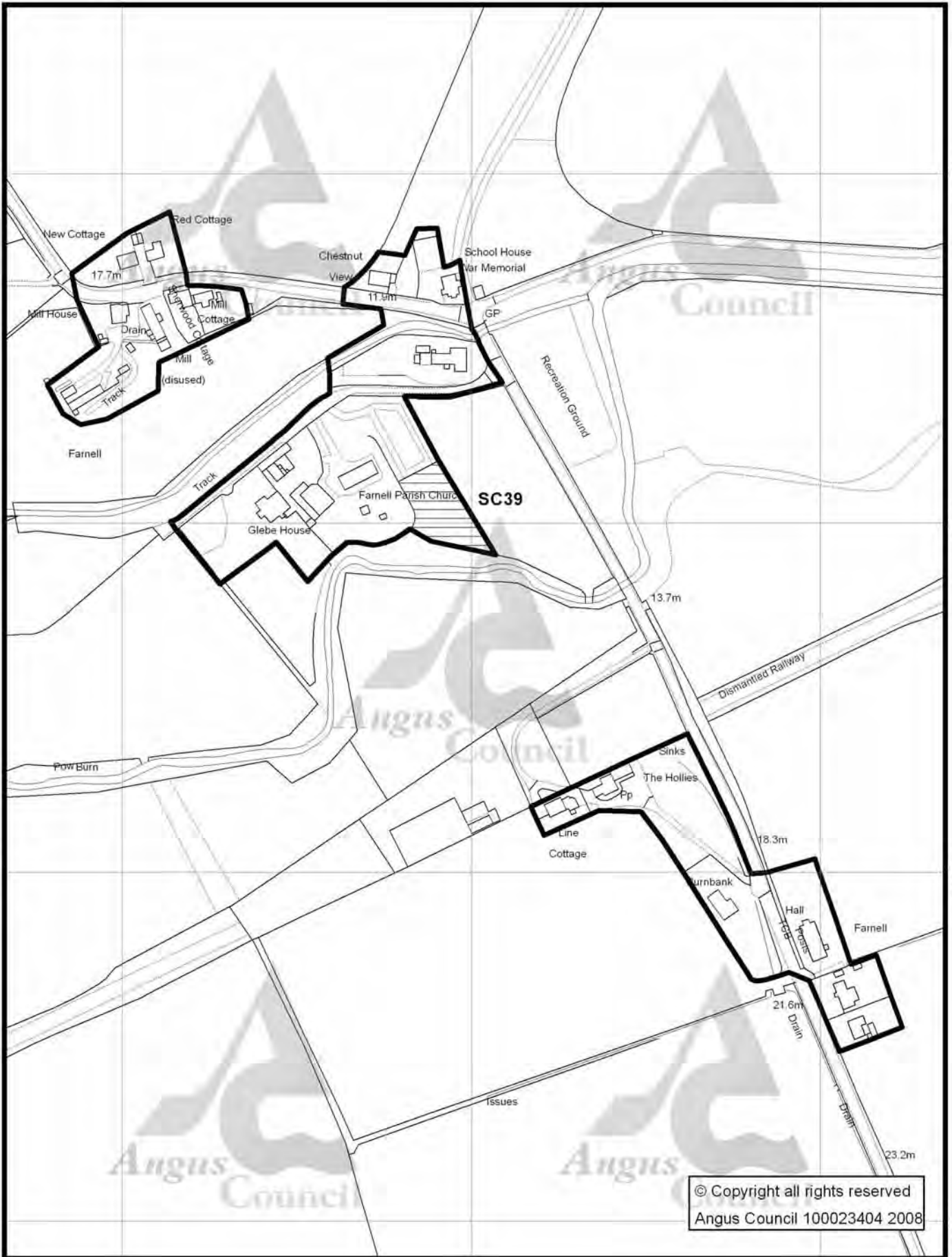
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Farnell

Angus Local Plan Review



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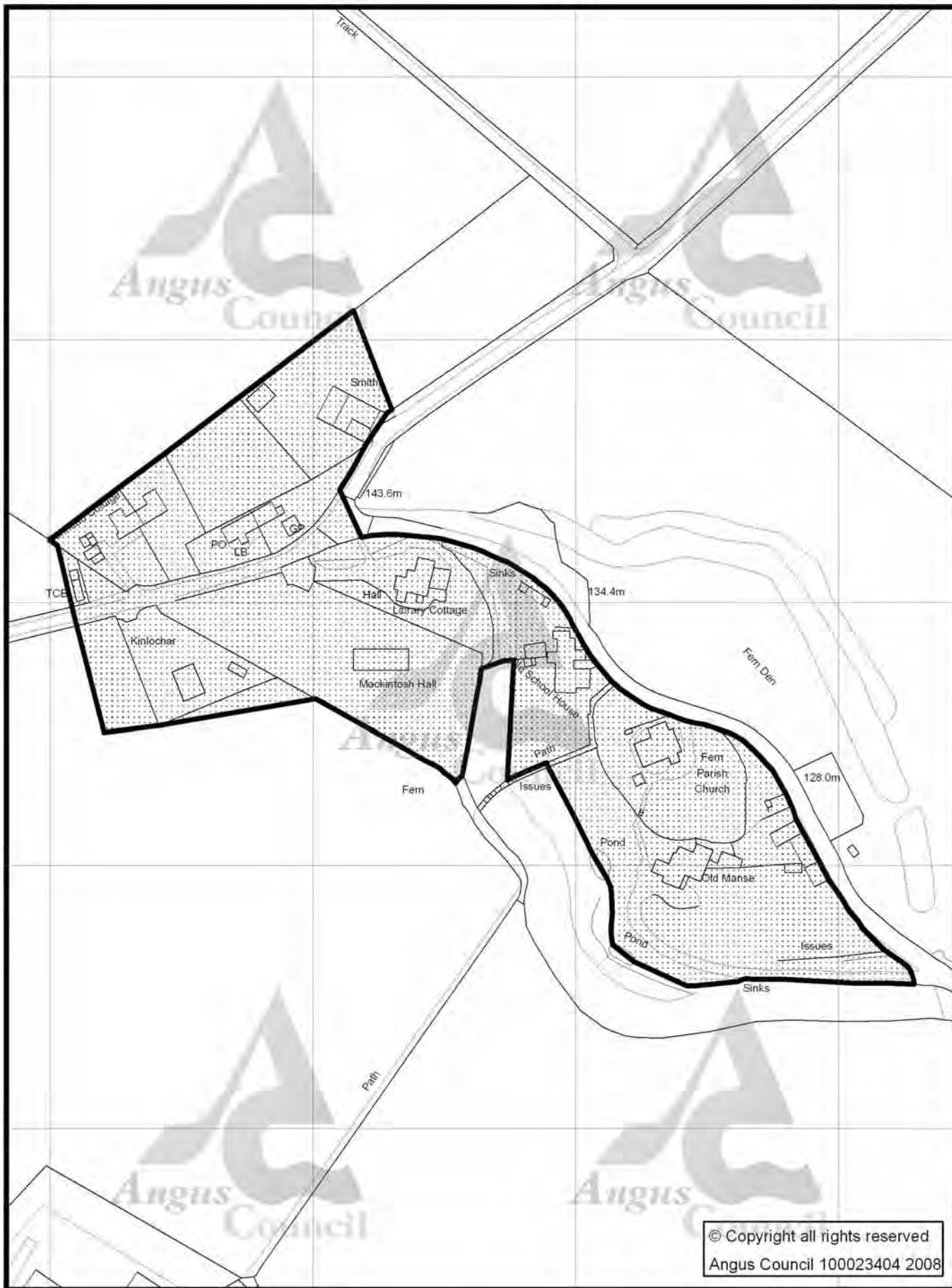
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Angus Local Plan Review



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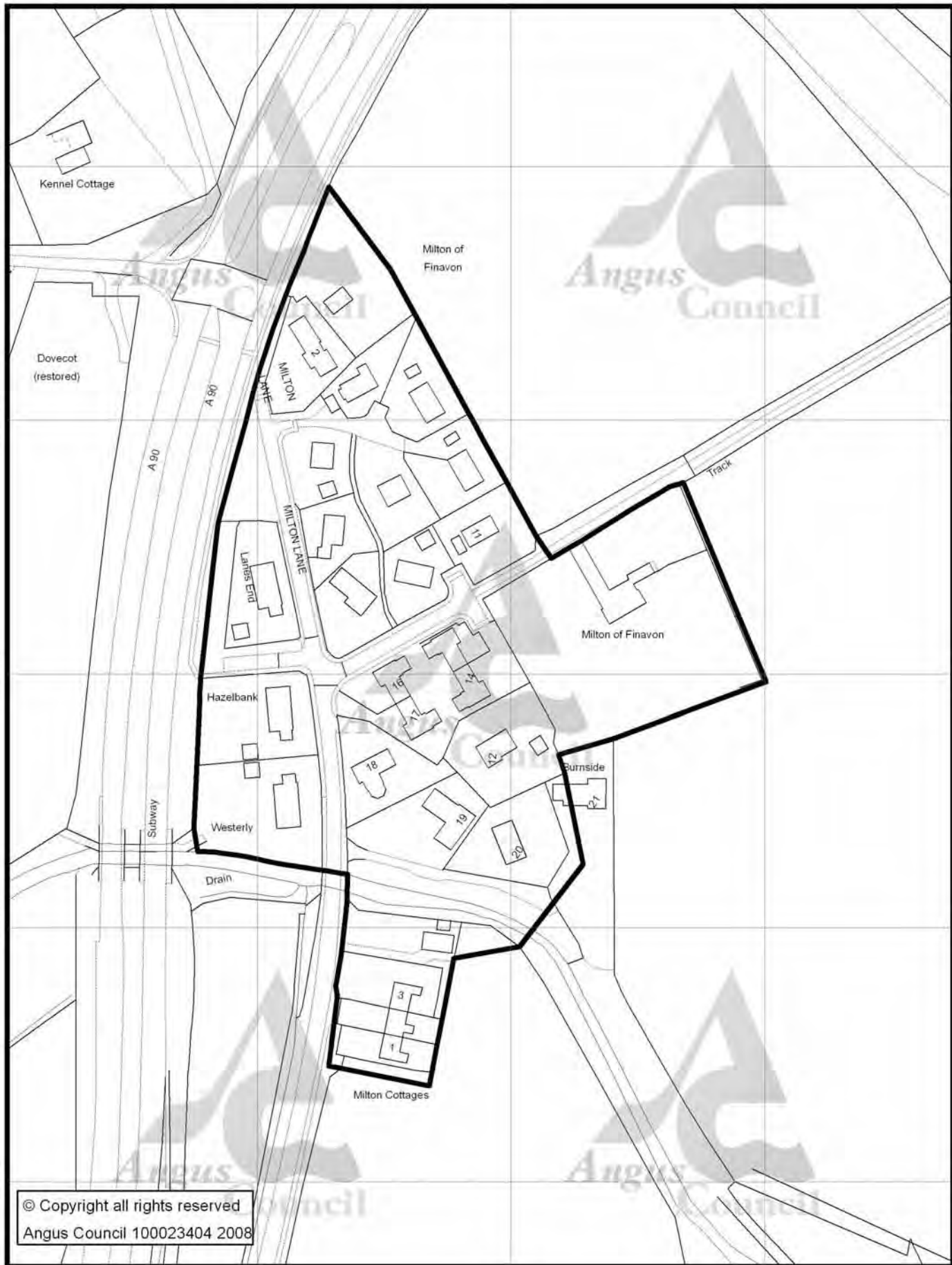
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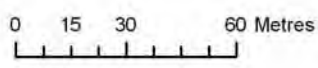
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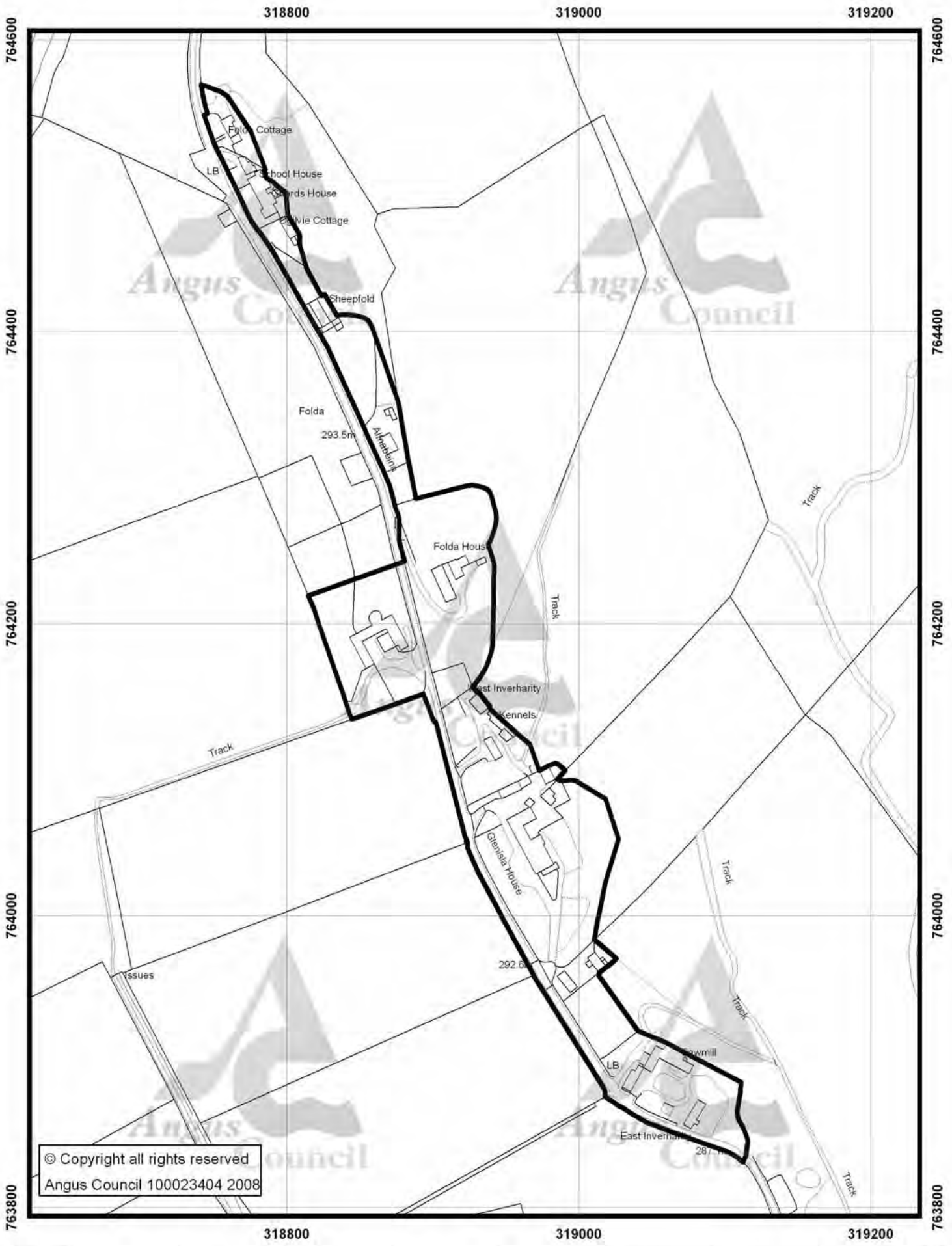
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Finavon
Angus Local Plan Review



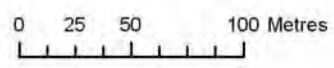


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Angus Local Plan Review



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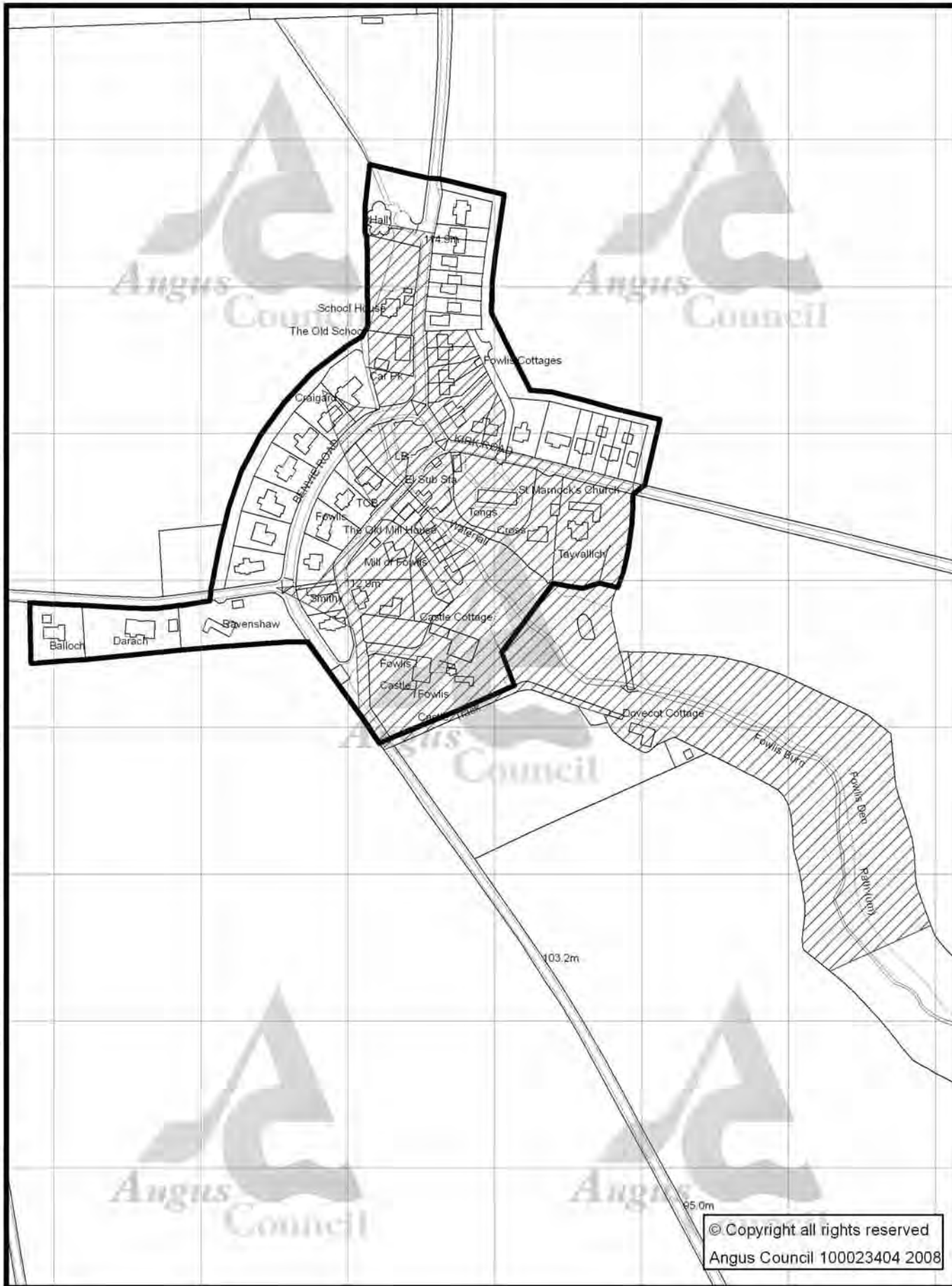
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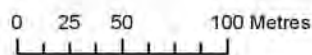
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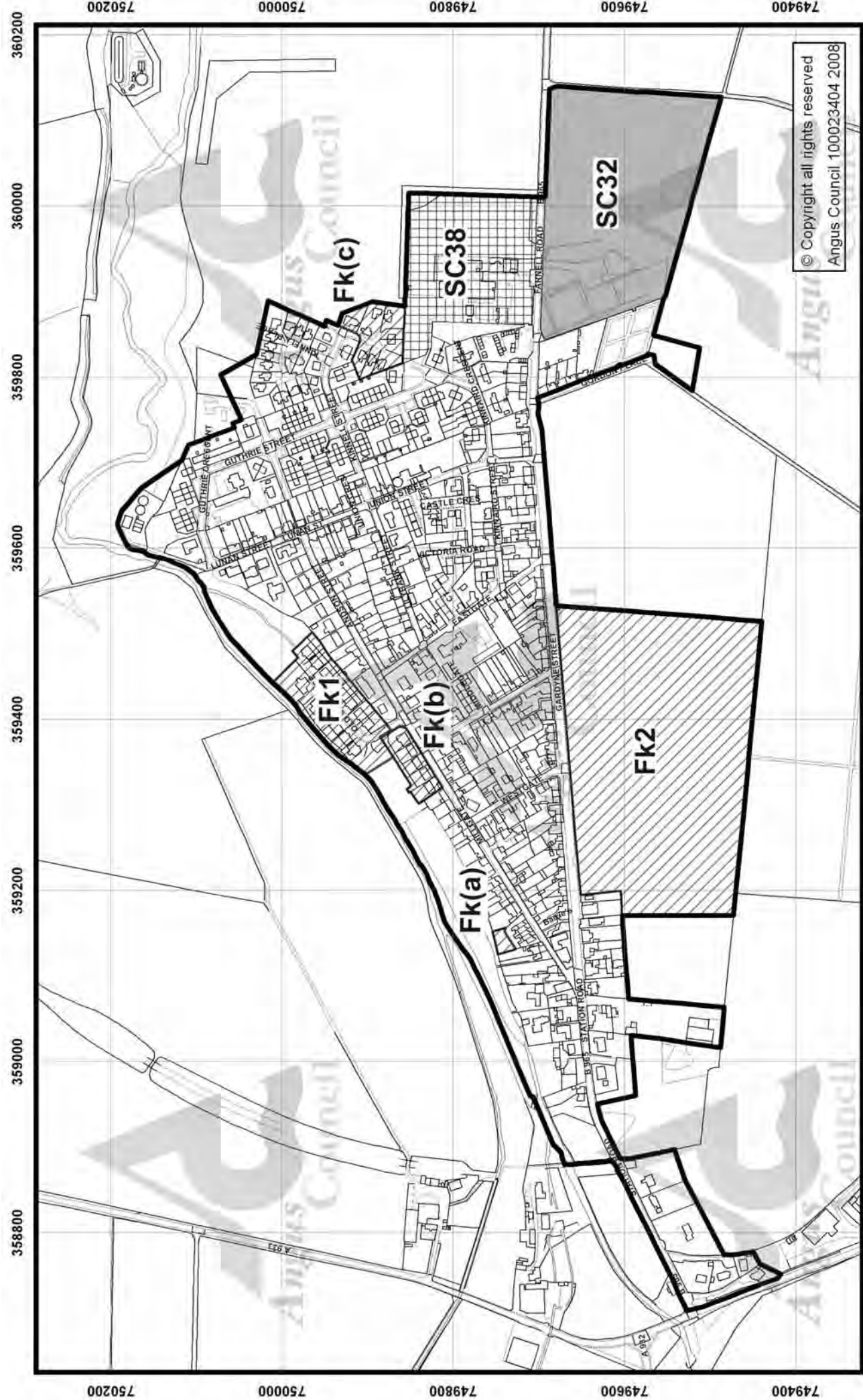
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Fowlis Easter

Angus Local Plan Review





Friockheim

Angus Local Plan Review



FRIOCKHEIM

1. As one of the larger villages within Angus, Friockheim is an important service centre providing a range of local services and employment. Being geographically central in Angus the village also has a commuter role with many residents living in the village and working in other larger employment centres. Although small-scale infill and renewal projects have come forward within the village, recent new housing development has focused mostly at the eastern end of Friockheim.

KEY ISSUES/DEVELOPMENT STRATEGY

2. The housing land allocations in the first Angus Local Plan have been largely developed. Only the site at Guthrie Street remains, and planning permission for nine houses was granted in September 2003. There is a limit on the level of new development which can come forward due to capacity constraints at the Friockheim wastewater treatment plant (WWTP). This Local Plan allows for further housing development of a scale that can be serviced and in a location in keeping with the character of the village, which will assist in meeting housing requirements to 2011 and supporting local services in Friockheim.

HOUSING

3. While there has been a slow but steady development of housing in Friockheim in recent years, there is currently an increasing interest in house building in the village. Recent development has focused on greenfield land to the east/north-east of the village but the existing road network serving this part of the village has now reached capacity.

EXISTING SITES

4. Sites with planning permission or under construction as identified in the Housing Land Audit June 2004, are shown in Table 1.

NEW ALLOCATIONS

5. Table 2 summarises new allocations of housing land which will contribute towards meeting the Structure Plan allowances to 2011.

6. The site at Millgate is subject to three separate but related planning applications. An outline planning application for most of the site was approved in January 2004, subject to a Section 75 Agreement and the resolution of outstanding layout/housing number details in any subsequent planning application for reserved matters. Full planning applications for two individual houses within site Fk1 : Millgate 3 were approved in December 2004.

PROFILE

Role:

A large village with a good range of facilities serving a wide rural area.

Population:

Census 2001 – 820;
1991 - 896
% change 91/01 : -8.5.

Housing Land Supply June 2004:

existing - 13

Drainage:

constrained

Water Supply:

available

Table 1 : Existing Sites

(a) Millgate 1	3
(b) Millgate 2	1
(c) Kinnell Gardens	9

Total 13

Table 2 : New Allocations

Fk1 : Millgate 3	16
Fk2 : South of Gardyne Street	40

Total 56

Fk1 : Housing – Millgate 3

Approximately 1.4 ha at the former mill site is reserved for 16 houses. (*Planning permissions for this development were granted in November 2004 and July 2005*)

Fk2 : Housing – South of Gardyne Street

7.4 ha of land south of Gardyne Street is allocated for a development of 40 houses (including 8 affordable), a site for a health centre, open space, and servicing and car parking for the Co-op store.

Proposals should be in accordance with the development brief which will be prepared for this site which will include details of the following requirements:-

- **provision of a site for a health centre, dedicated car parking and land, to be retained as open space until required, for a future extension to the health centre;**
- **provision of rear servicing access and dedicated customer parking for the Co-op store;**
- **two point access from the B965, improvements to Gardyne Street including roundabout, realignment of parking bays, traffic islands and traffic calming to the specification of the Director of Infrastructure Services;**
- **provision of foul and surface water drainage;**
- **open space provision including amenity open space, play space and tree belt along Gardyne Street;**
- **landscape, footpaths and buffer zones around the site; and**
- **cycle and pedestrian linkages.**

ENVIRONMENT

7. The area of the former millpond and the Vinny/Lunan Water are attractive features within the village. The redevelopment site for housing at Millgate provides an opportunity to reinstate the millpond and could enhance public access along the Lunan.

Fk4 : Lunan Water

Angus Council in conjunction with local organisations, developers and landowners will continue to promote the environmental enhancement of, and access to, the Lunan Water for recreational use.

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Sinks

Angus Council

Angus Council

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Granite Dyke

Gateside Cottage

101.7m

Clearways

Davela

Gateside

Joinery

Kinreich Cottage

LB

104.2m

Fairways

TCB

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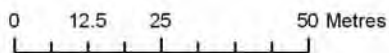
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Gateside

Angus Local Plan Review



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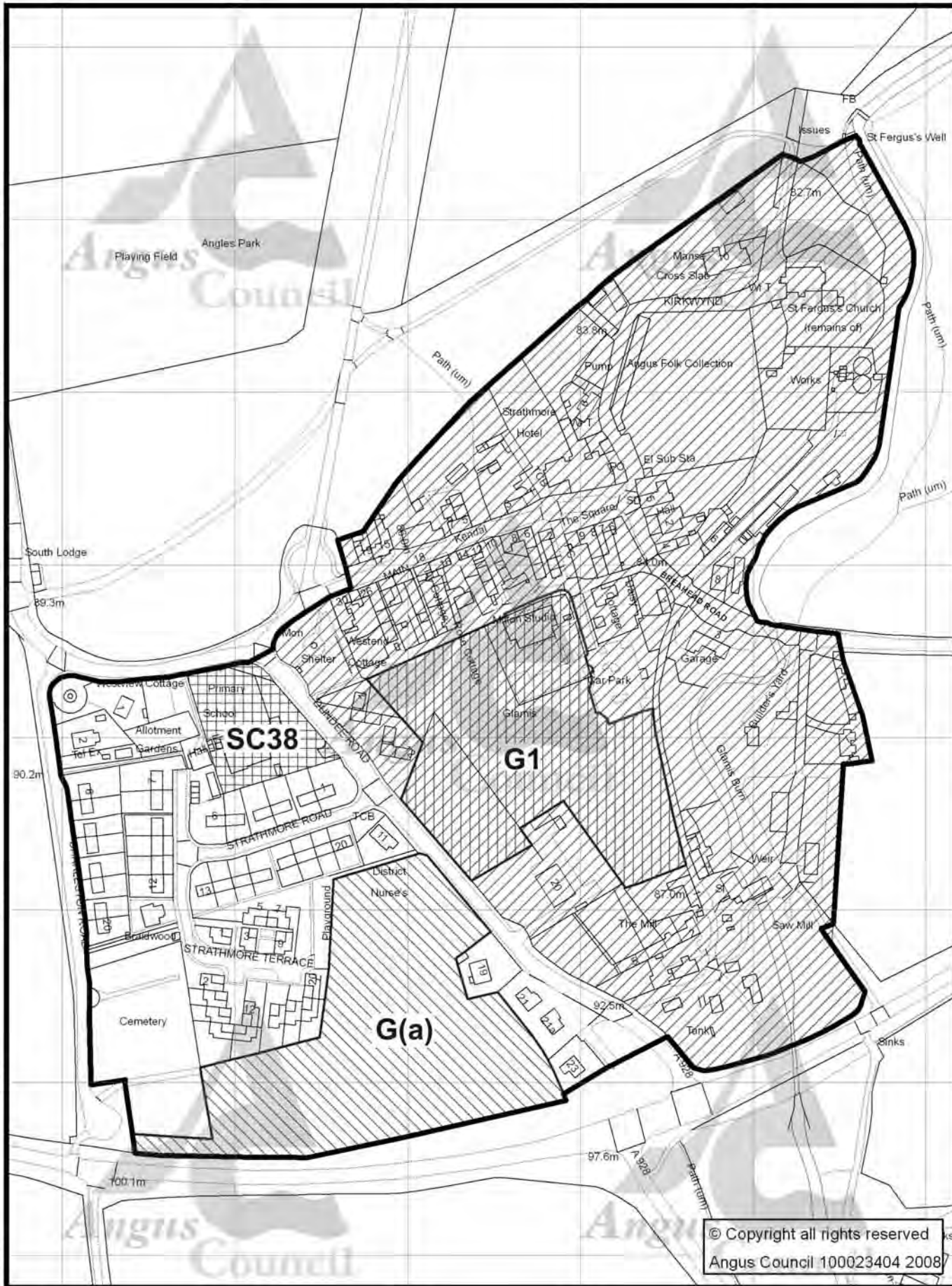
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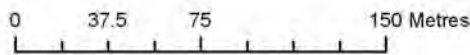
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Glamis
Angus Local Plan Review



GLAMIS

1. Glamis is valuable to the tourism economy of Angus. The village sits at the gates of Glamis Castle, home of the Earl of Strathmore. Any future development should be of a high quality which respects the historical character and setting of the village and does not detract from its role as a focus for tourism. There is scope for limited areas of new development within the village which if sensitively designed will complement the existing village. Modest new housing development and the potential to accommodate local business or tourism uses are provided for.

KEY ISSUES

2. The issues for Glamis are:

- To allow for limited new development which does not compromise the role of the village as a significant tourist location;
- To promote high quality development which complements the conservation area and wider heritage value of the village.
- The limited capacity of the Waste Water Treatment Plant that is a constraint to further development in Glamis

DEVELOPMENT STRATEGY

3. The strategy for Glamis seeks to:-

- Support the development of new housing at Dundee Road;
- Safeguard an area suitable to accommodate new local business and/or tourism uses;
- Encourage ongoing environmental improvements within the village having regard to its status as an outstanding conservation area;
- Continue to support the valuable tourism role of the village by making provision for additional facilities or services in support of that function.

GENERAL

4. The Waste Water Treatment Plant (WWTP) serving Glamis has capacity issues. The site at Dundee Road West was allocated in the first Angus Local Plan as a housing allocation, but limited to 24 houses. Planning permission has now been granted for this project, and consequently the drainage threshold for Glamis has now been reached. Further development will depend on investment in the WWTP although there is no project in Scottish Water's Investment Plan to resolve this issue. Angus Council will press Scottish Water for resolution of this drainage problem to enable appropriate future development and the attraction of new investment to Glamis.

PROFILE

Role:

Glamis is the focus of the Glamis Estate, located 8km to the west of Forfar. The village has a small population but is a popular tourist destination and therefore supports a range of valuable services for local people and visitors.

Population:

Census: 2001 – 233;
1991 - 259;
% Change 91/01 : -10.04.

Housing Land Supply June 2004:

existing - 24.

Drainage:

Capacity for additional development may be limited.

HOUSING

EXISTING SITES

5. Sites with planning permission or under construction as identified in the Housing Land Audit June 2004, are shown in Table 1.

Table 1 : Existing Sites

(a) : Dundee Road West	24
Total	24

WORKING/TOURISM

6. An area of land in the heart of Glamis may be appropriate for local employment/tourism related development in support of the village. Notwithstanding the potential benefits to the village, this proposal will be dependant on the availability of a connection to the drainage system.

G1 : Dundee Road East

1.8 ha of land in the core of the village provides the opportunity for local business or tourist related development. There may also be scope to achieve a mixed development incorporating a limited number of houses as part of the overall scheme. Given the location within the conservation area, development proposals should incorporate the use of high quality design and materials, and have regard to the amenity of surrounding properties.

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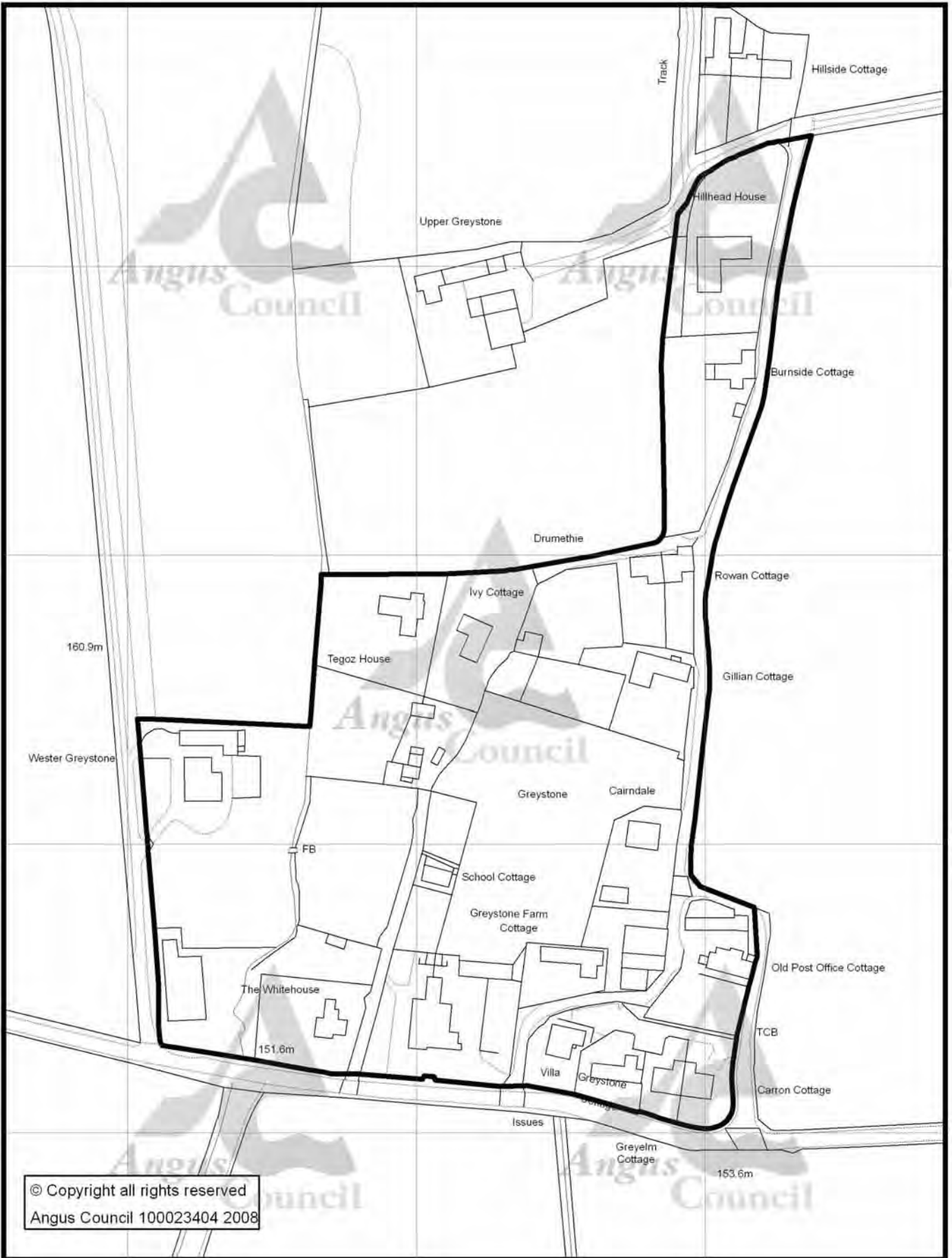
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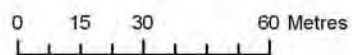
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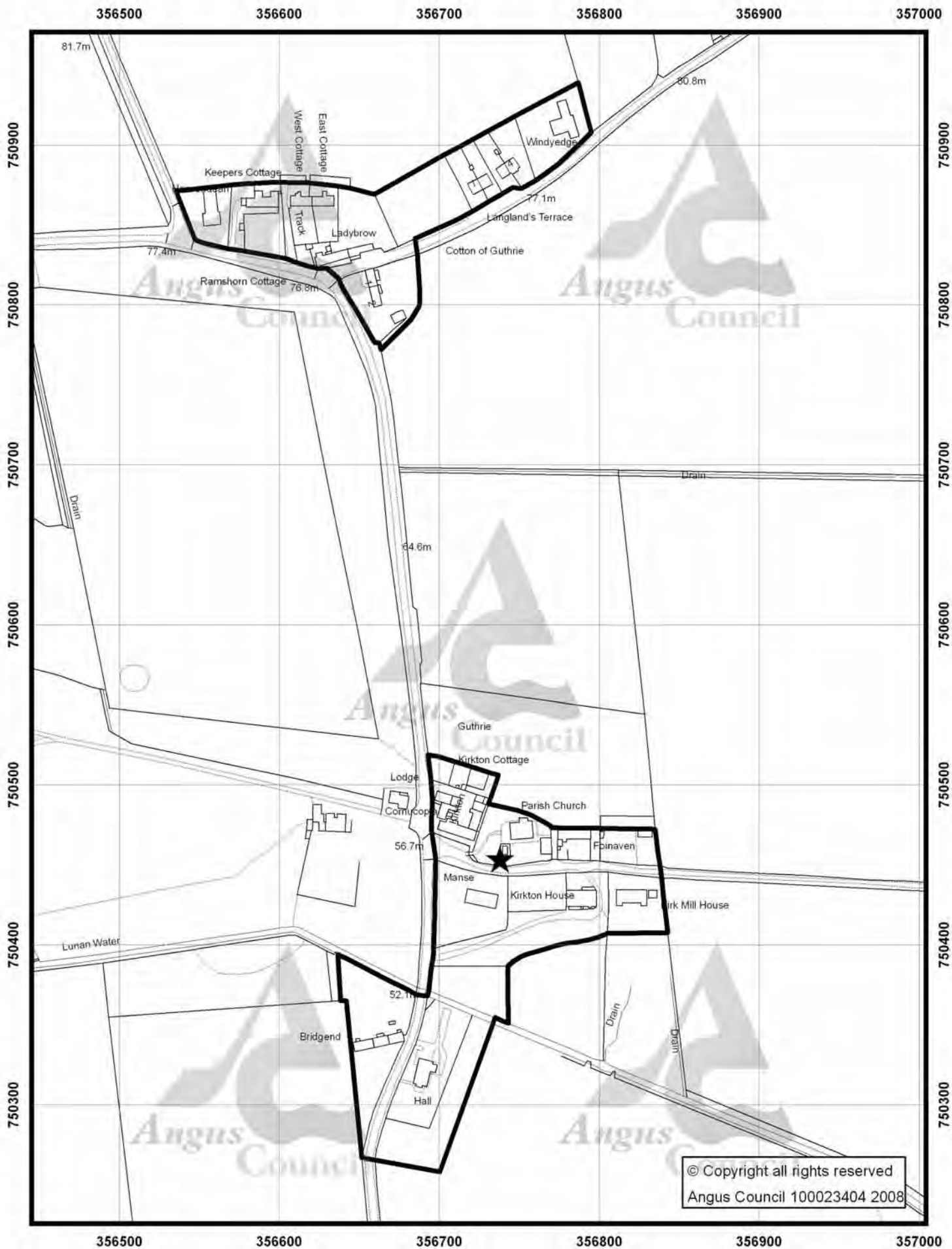
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Greystone

Angus Local Plan Review

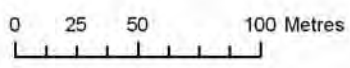




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Guthrie, Cotton of Guthrie
Angus Local Plan Review



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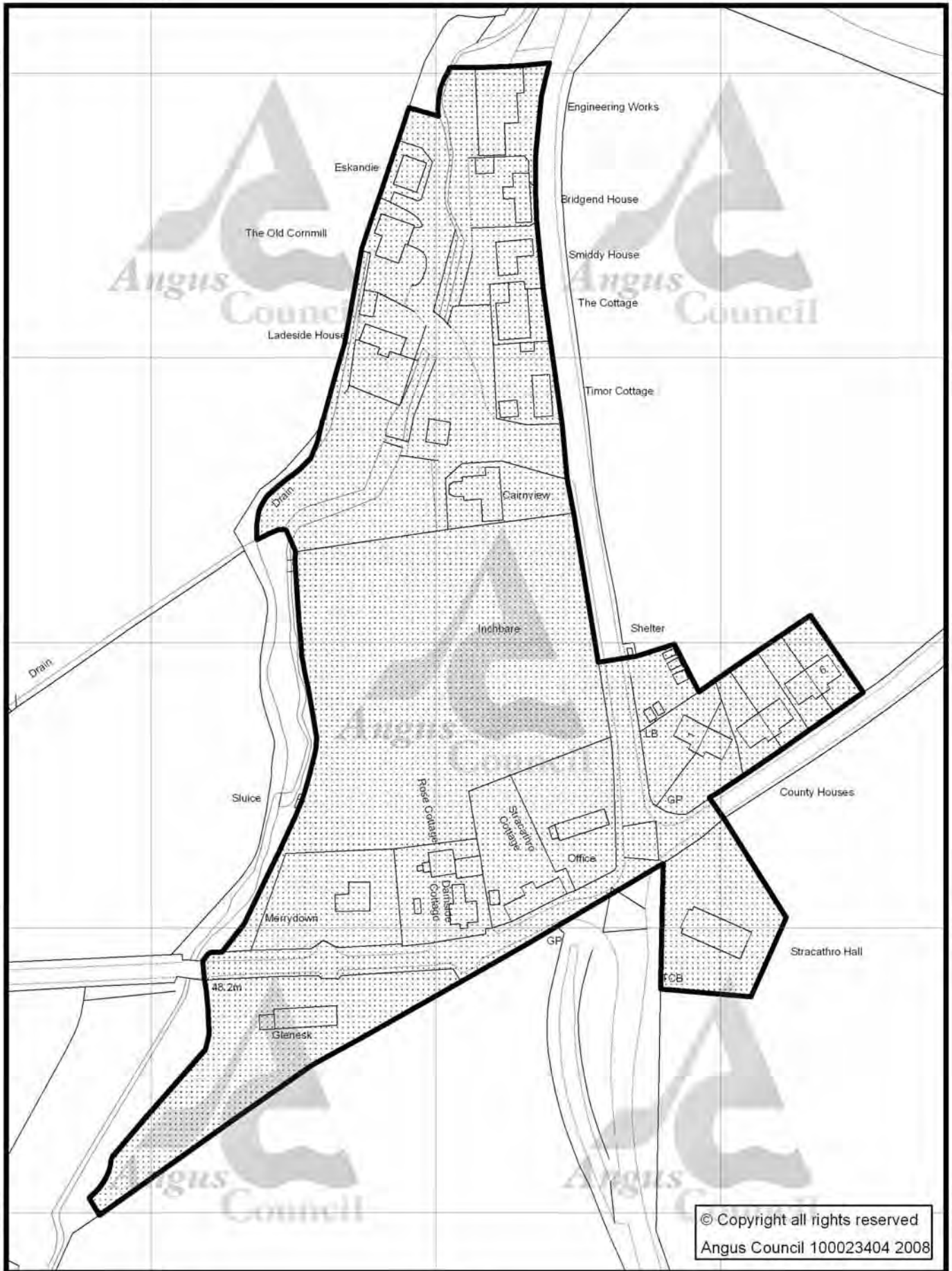
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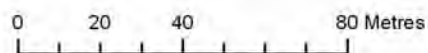
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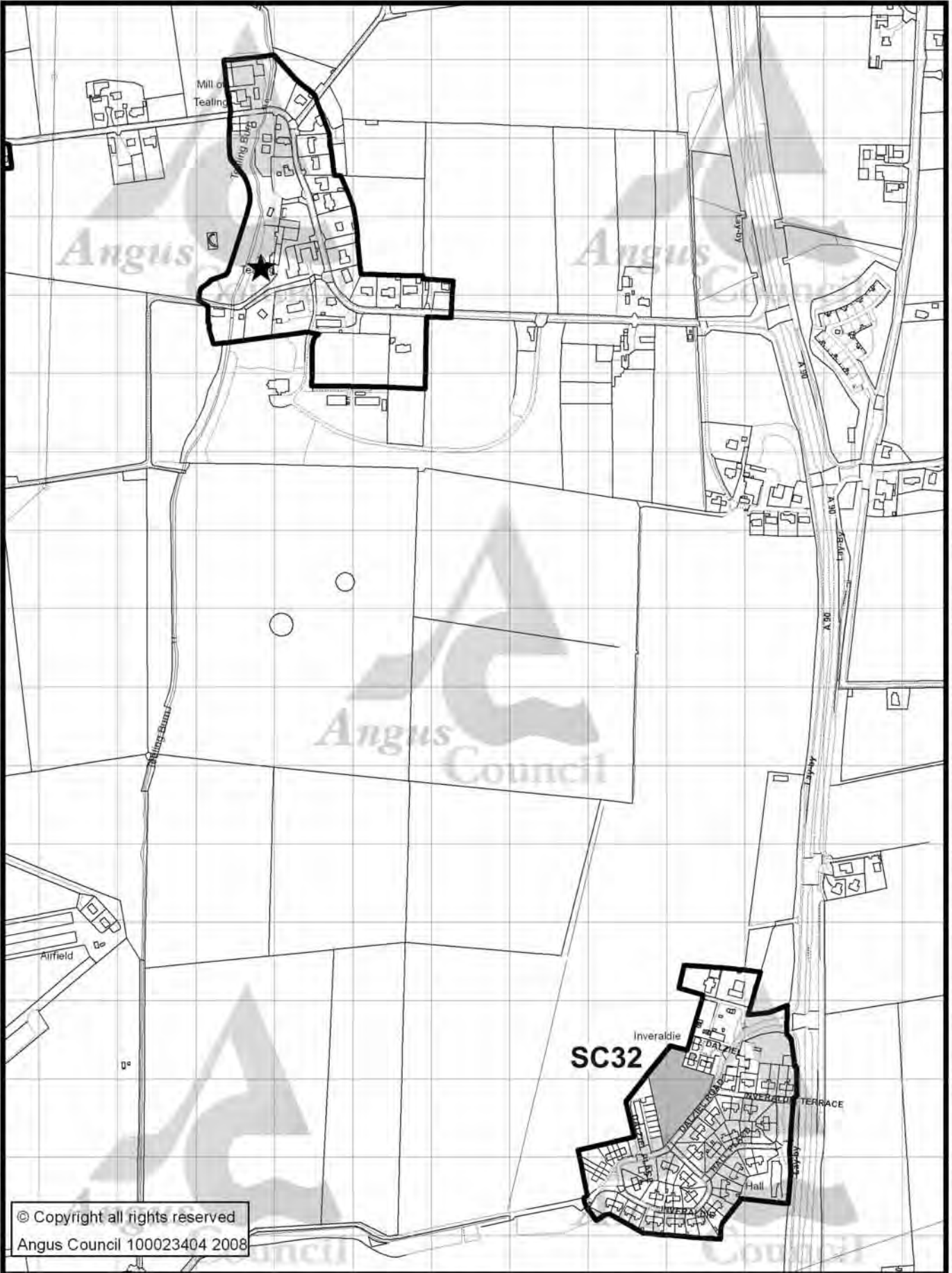
Angus Local Plan Review



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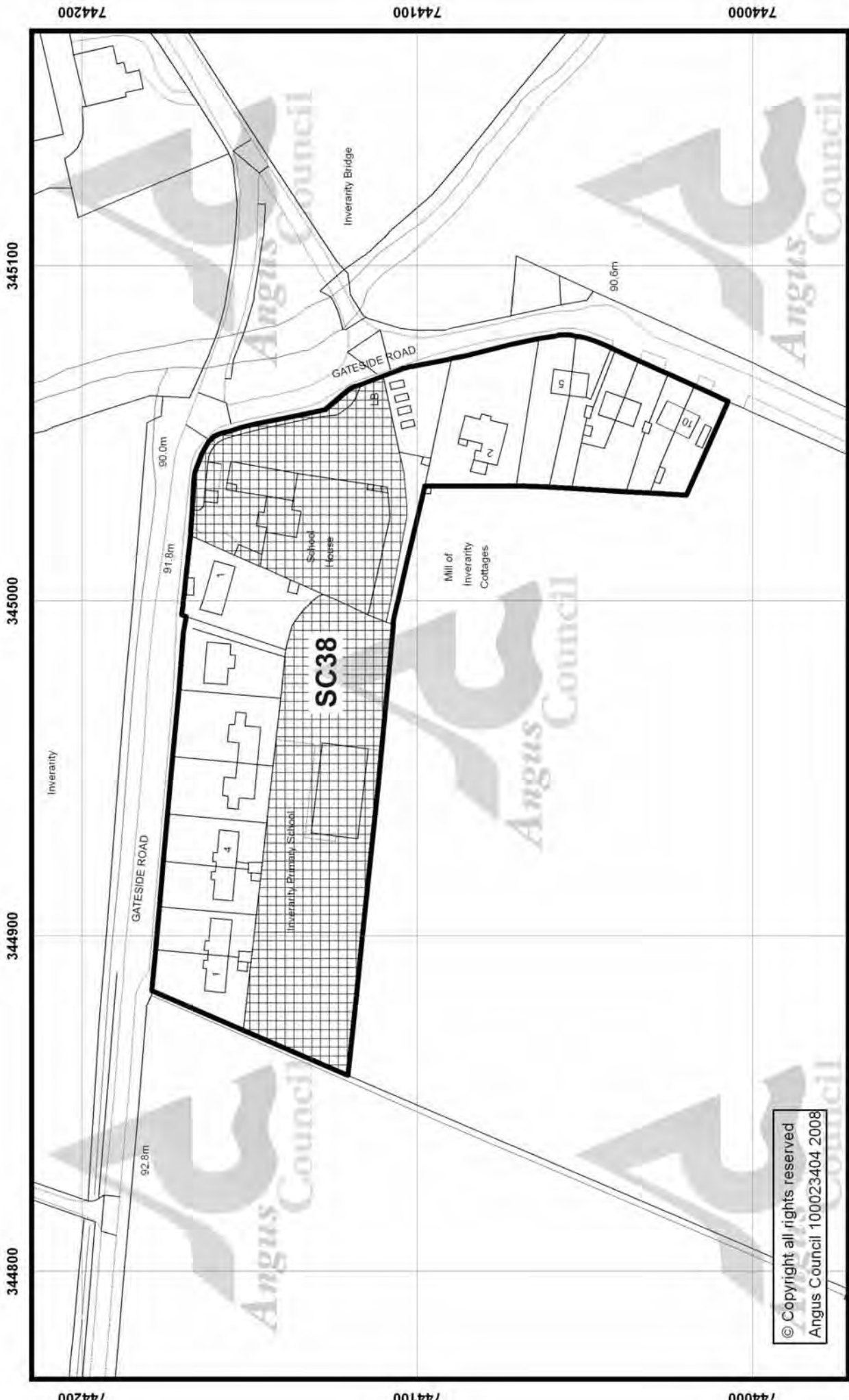
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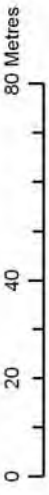
 **Inveraldie and Tealing**
Angus Local Plan Review

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W N E S

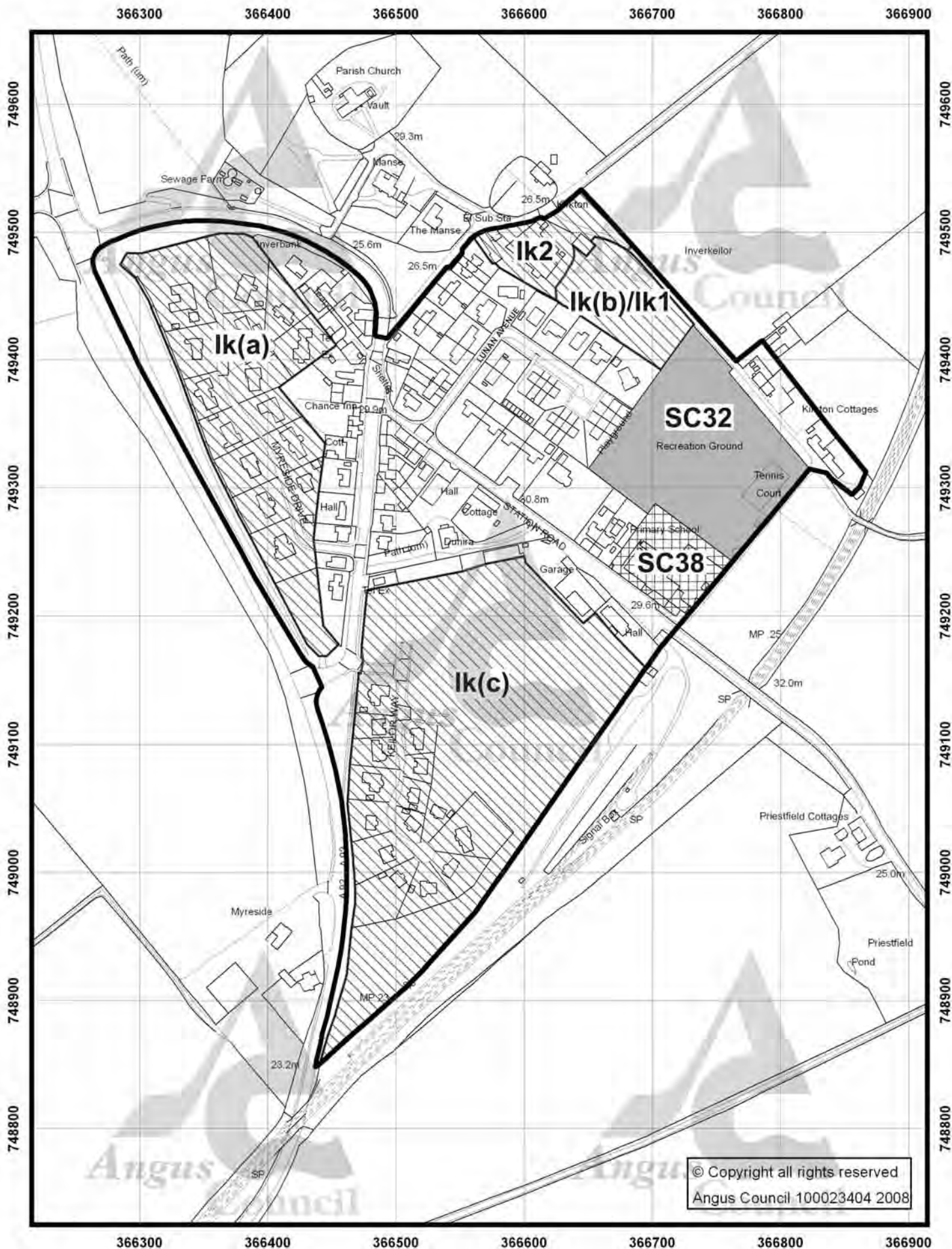


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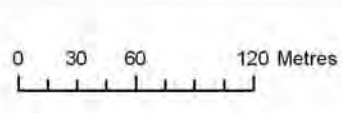


Inverarity
Angus Local Plan Review





Inverkeilor
Angus Local Plan Review



INVERKEILOR

PROFILE

Role:

Inverkeilor acts as a local centre for a large rural area. Its proximity to the A92 gives the village easy access to Arbroath

Population:

Census: 2001 - 409;
1991 - 357;
% change 91/01 : +15.

Housing Land Supply June 2004 :

existing - 51

Drainage:

constraint being removed by developer contributions

Water Supply: available

1. The village of Inverkeilor lies immediately to the east of the A92 almost midway between Arbroath and Montrose. While there is little employment locally other than agriculture, the village provides local services.

2. Development has been constrained in recent years by lack of drainage capacity. However the first Angus Local Plan secured infrastructure improvements that allowed new housing to come forward. Development of the Village Field has commenced and planning approval has been granted for the construction of 45 houses (including ten general needs housing association houses) at Railway Field. Although no new greenfield housing land allocations are being promoted, there may be opportunity for small sites within the village to be developed where drainage capacity is available.

KEY ISSUE / DEVELOPMENT STRATEGY

3. The key issue for Inverkeilor is the maintenance of existing village services. The Local Plan seeks to provide for a level of development that will sustain support for local services and enhance the village.

HOUSING

4. The first Angus Local Plan, in support of community opinion, allocated two sites for housing development that would enable the drainage constraint affecting the village to be removed and support existing village services. Work has now commenced at Village Field (15 houses), the smaller of the two sites allocated. The reservation of land at Railway Field is continued and Kirkton Farm steading and the adjacent paddock are allocated for development.

EXISTING SITES

5. Sites with planning permission or under construction as identified in the Housing Land Audit June 2004, are shown in Table 1.

Table 1 : Existing Sites

(a) Village Field	4
(b) Lunan Avenue/ Kirkton Farm (*see Ik1 below)	2*
(c) Railway Field	45
Total	51

NEW ALLOCATIONS

6. Table 2 summarises new allocations of housing land which will contribute towards meeting the Structure Plan allowances to 2011.

Table 2 : New Allocations

Ik1 :Lunan Avenue	4*
Ik2: Kirkton Farm Steading	3
Total	7
(*see Existing Sites above)	

Ik1 : Housing - Land to rear of Lunan Avenue

Approximately 0.5ha of land to the rear of Lunan Avenue is allocated for around 4 houses in addition to the existing planning permission for 2 houses indicated above under Existing Sites (Lunan Avenue/Kirkton Farm*), subject to available drainage and improved road access. This site could be developed together with the conversion of the adjacent disused farm steading (Ik2) to form an attractive housing group.

Ik2 : Housing - Kirkton Farm Steading

Opportunity exists to convert the Kirkton Farm steading to provide up to 3 houses, subject to available drainage and improved road access. No individual access will be allowed to Kirkton Road and the pavement on the east side of the road will require to be made up. This site could be developed together with the adjacent paddock (Ik1) to form an attractive housing group.

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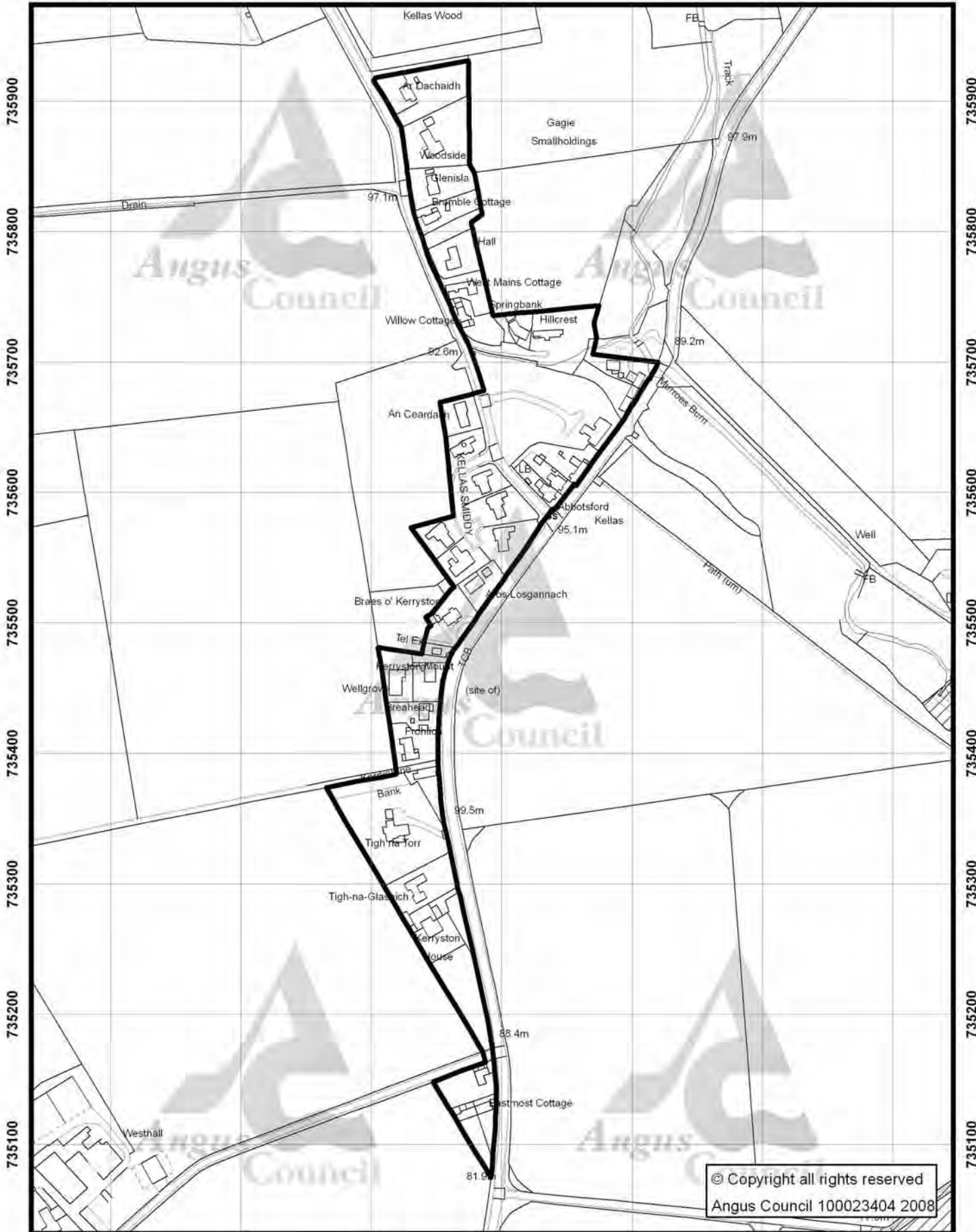
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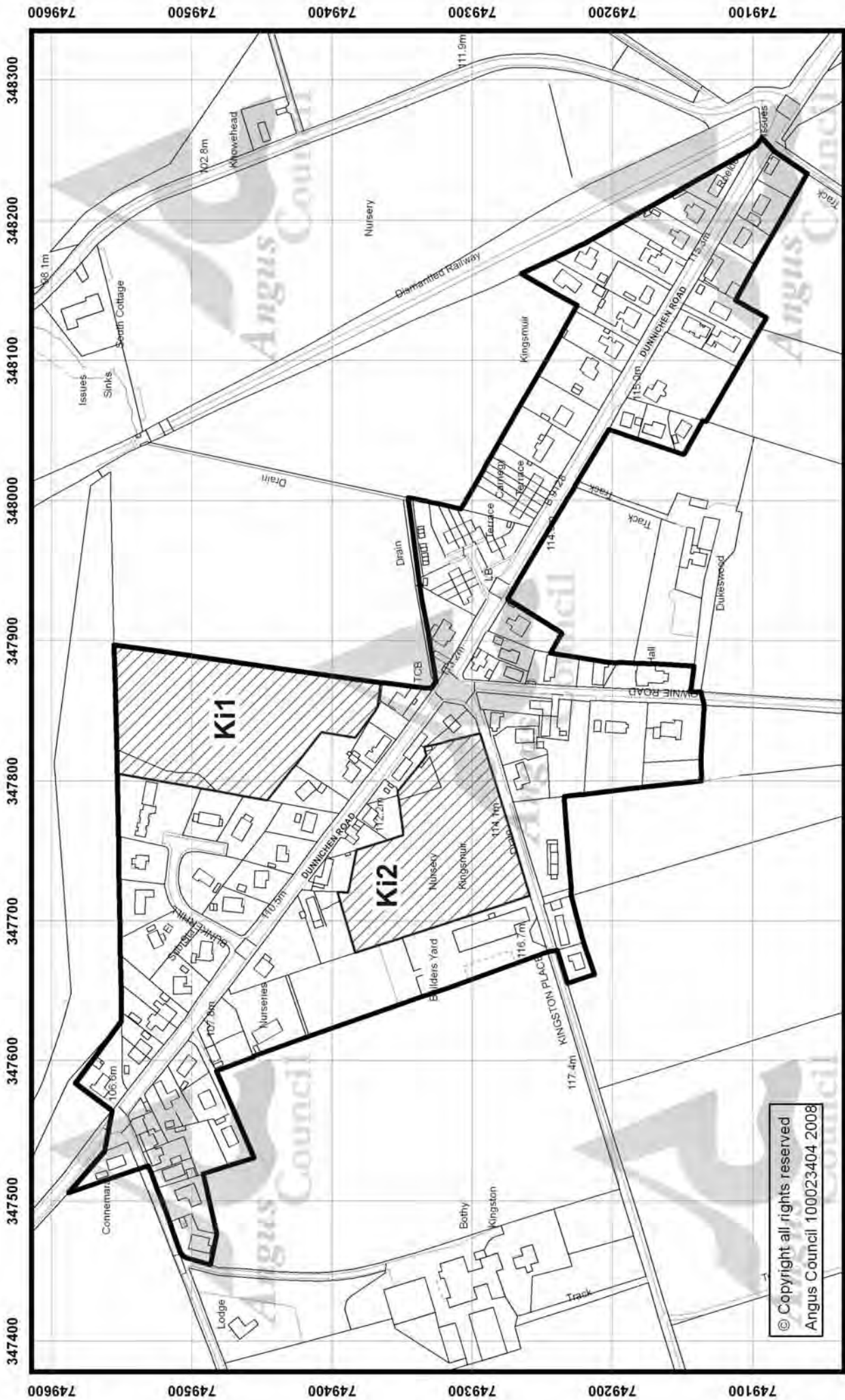
Kellas

Angus Local Plan Review

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Kingsmuir Angus Local Plan Review



KINGSMUIR

1. Kingsmuir is a small dormitory settlement only 2.5km from Forfar. It has no basic services or facilities other than a village hall, and relies on the full range of services found in Forfar. There are small-scale employment uses in and around the village and there are regular daily bus services.

KEY ISSUES/DEVELOPMENT STRATEGY

2. There has been limited development in Kingsmuir in recent years. The village is connected to the public drainage system in Forfar and is affected by the drainage constraint which is in place in the south east of the town. Kingsmuir is a popular place to live and there has been some interest in sites for housing development. The strategy for Kingsmuir is to allow for limited new housing in the village, recognising there are no local services or facilities.

3. Given the location of Kingsmuir very close to Forfar, it is desirable to limit the amount of new housing development in support of the strategy of the Plan which directs the majority of new development to larger settlements. Following the Public Local Inquiry, the first Angus Local Plan allocated land at Bunkerhill for 25 houses. This Local Plan continues the allocation of this land, and includes a further housing site at Kingston Place, but shares the housing numbers for Kingsmuir between the two sites recognising the type of development which is likely to come forward.

4. Development of all sites in Kingsmuir is dependant on the satisfactory completion of Phase 3 of the Forfar Sewers Renewal Scheme which is indicated by Scottish Water for completion in 2005.

HOUSING

SITES PREVIOUSLY IDENTIFIED BY THE FIRST ANGUS LOCAL PLAN

5. The site in Table 1 was previously identified in the first Angus Local Plan. This Plan continues the allocation of this site for housing development, and where appropriate the wording of the proposal and/or the indicative yield from the site may have changed.

Ki1 : Housing - Bunkerhill

1.5 ha of land at Bunkerhill is allocated for around 12 dwellings with a requirement for 15% of the capacity of the site to provide LCHO affordable housing. Development of this site should have regard to its location on the edge of the village and incorporate appropriate landscaping and boundary treatment. Vehicular access will be taken directly from the B9128 – Forfar/Carnoustie Road, and not from Bunkerhill Crescent.

PROFILE

Role:

Kingsmuir is a popular residential village very close to Forfar.

Housing Land Supply June 2004:

allocated first ALP – 25.

Drainage:

Drainage constraint affecting village requires the completion of Phase 3 of the Forfar Sewers Renewal Scheme, programmed for completion in 2005.

Table 1 : Sites from first ALP

Ki1: Bunkerhill	12
Total	12

NEW ALLOCATIONS

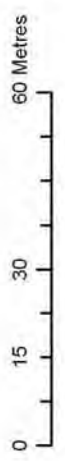
6. Table 2 summarises new allocations of housing land which will contribute towards meeting the Structure Plan allowances to 2011.

Table 2 : New Allocations

Ki2: Kingston Place	12
Total	12

Ki2 : Housing – Kingston Place

1.3 ha of land at Kingston Place is allocated for around 12 dwellings with a requirement for 15% of the capacity of the site to provide LCHO affordable housing. Kingston Place will require to be upgraded to Roads Authority standards to provide a suitable access to the site and the overhead electricity lines running along the Kingston Place boundary of the site will require to be rerouted.



Kinnell
Angus Local Plan Review



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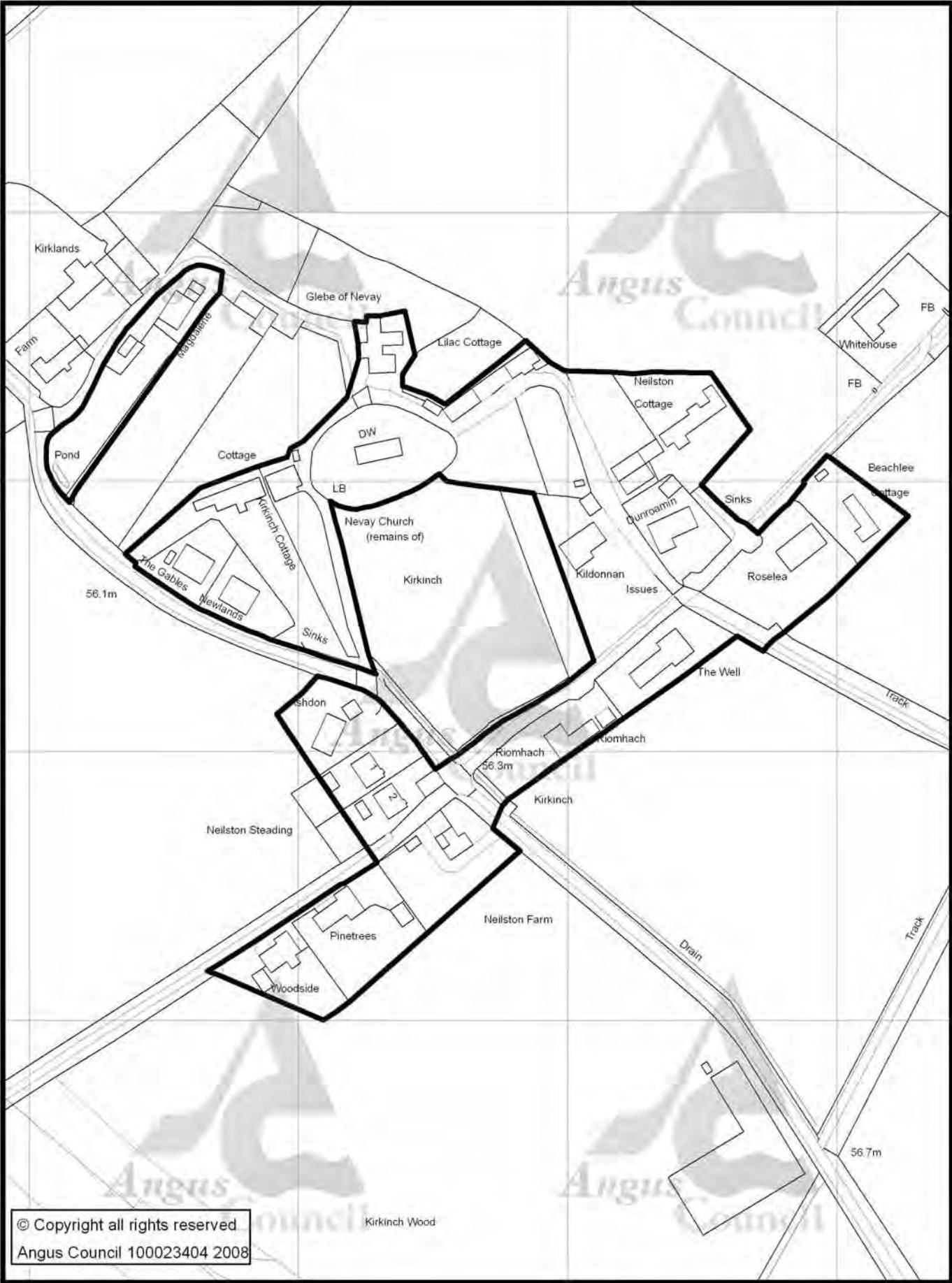
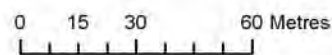
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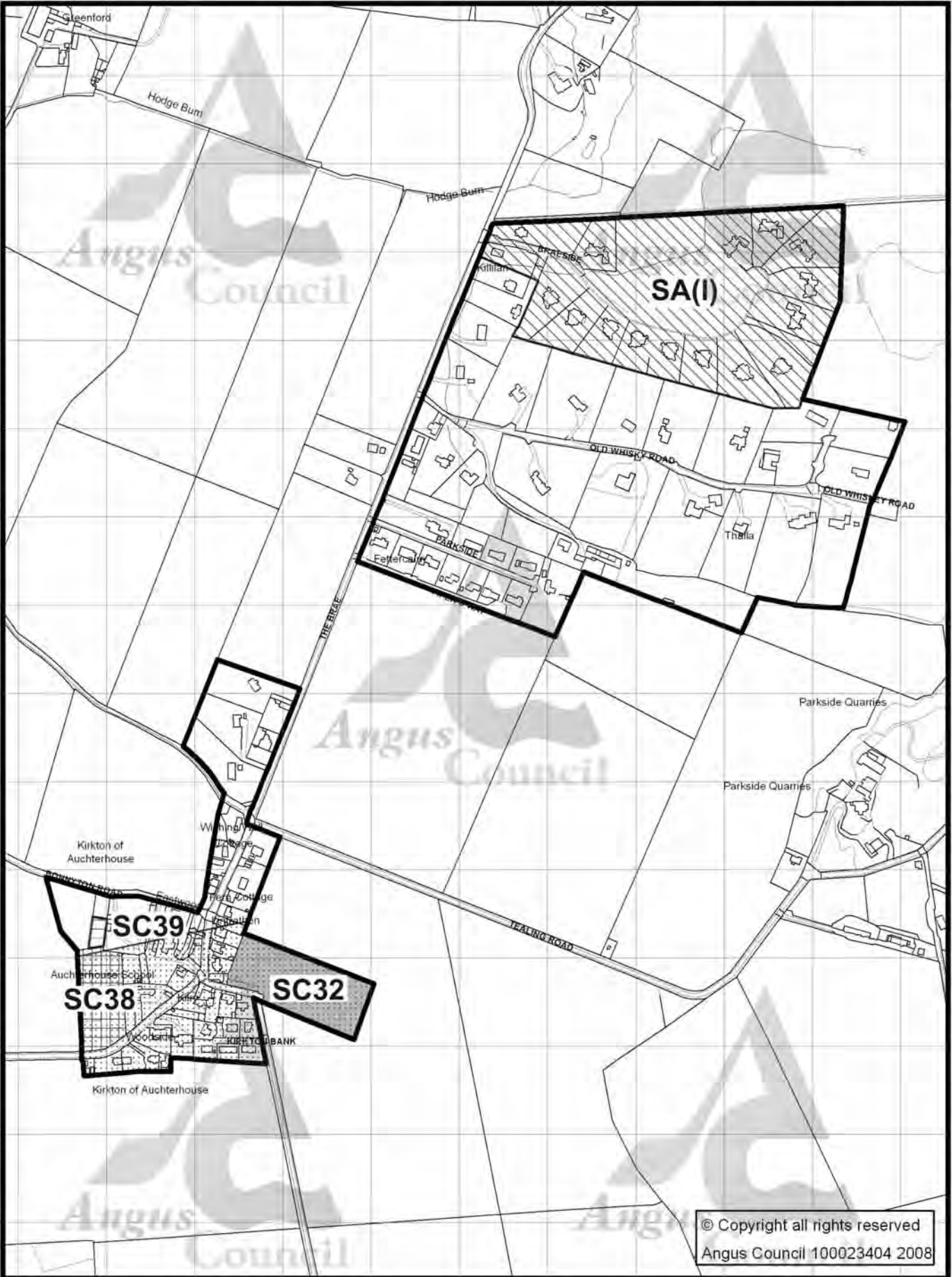
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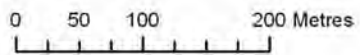


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Kirkton of Auchterhouse Angus Local Plan Review



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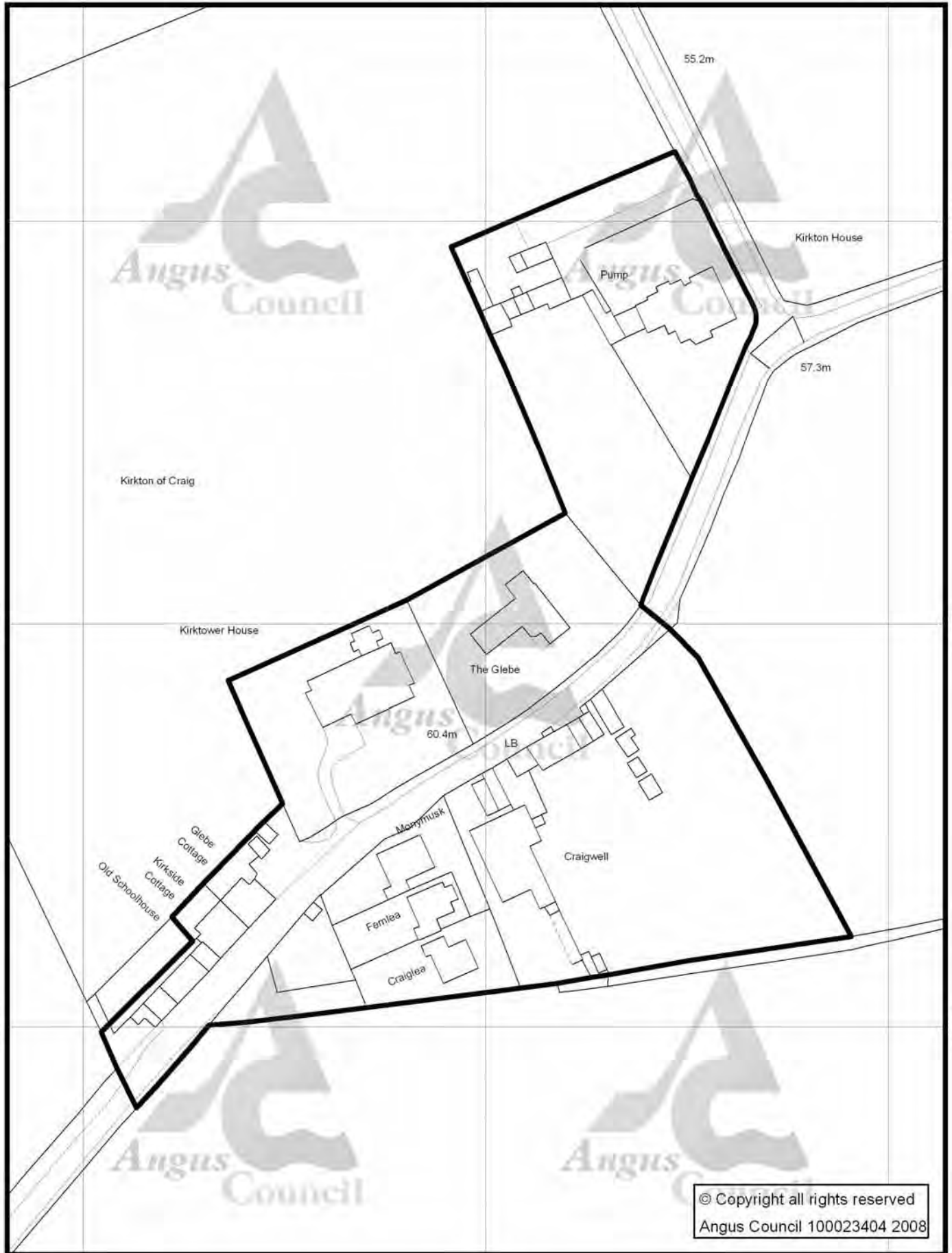
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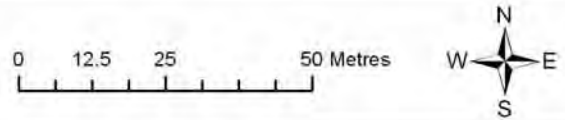
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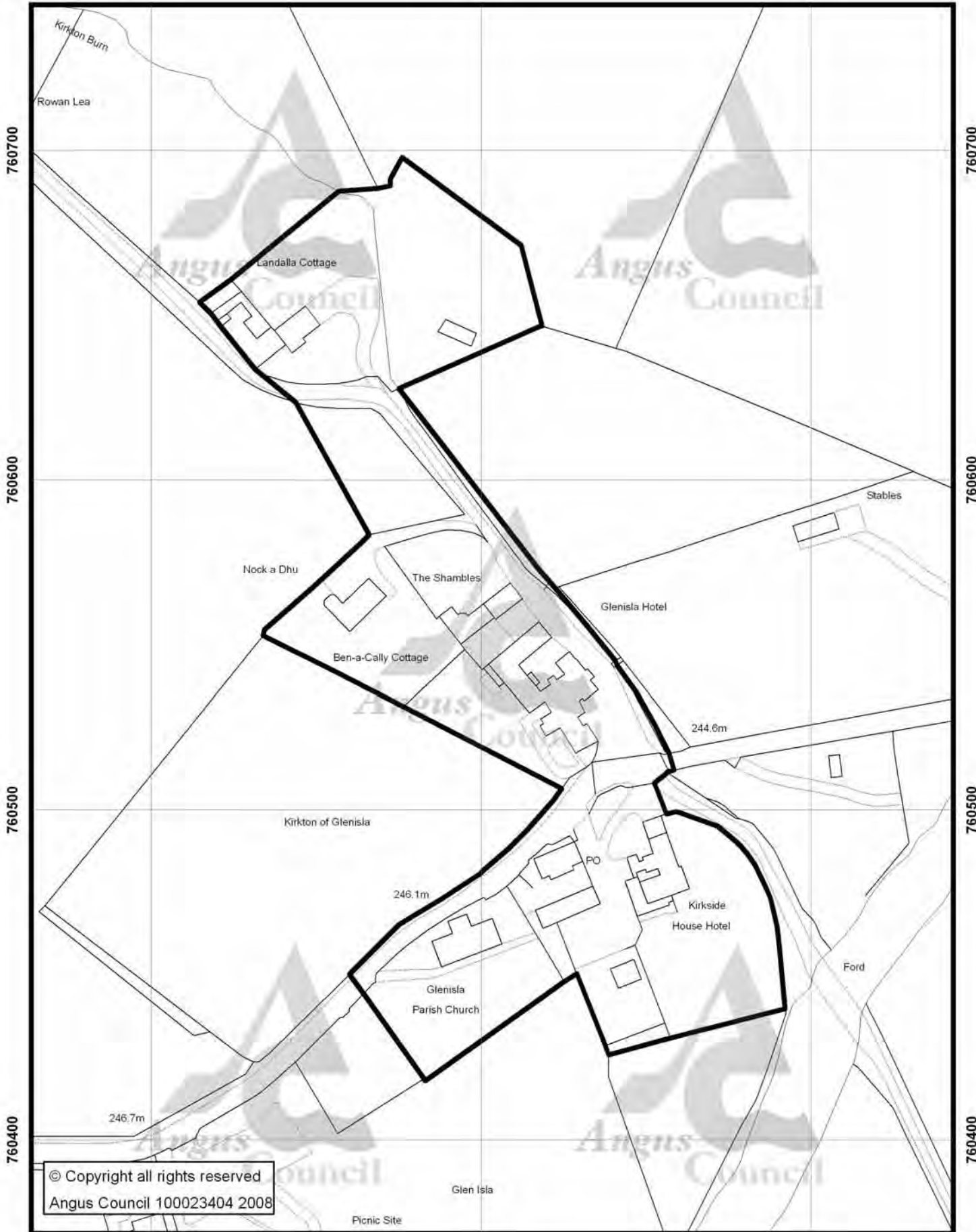
Kirkton of Craig
Angus Local Plan Review



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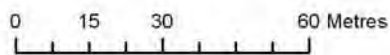
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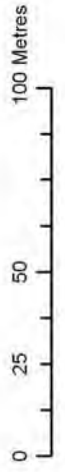
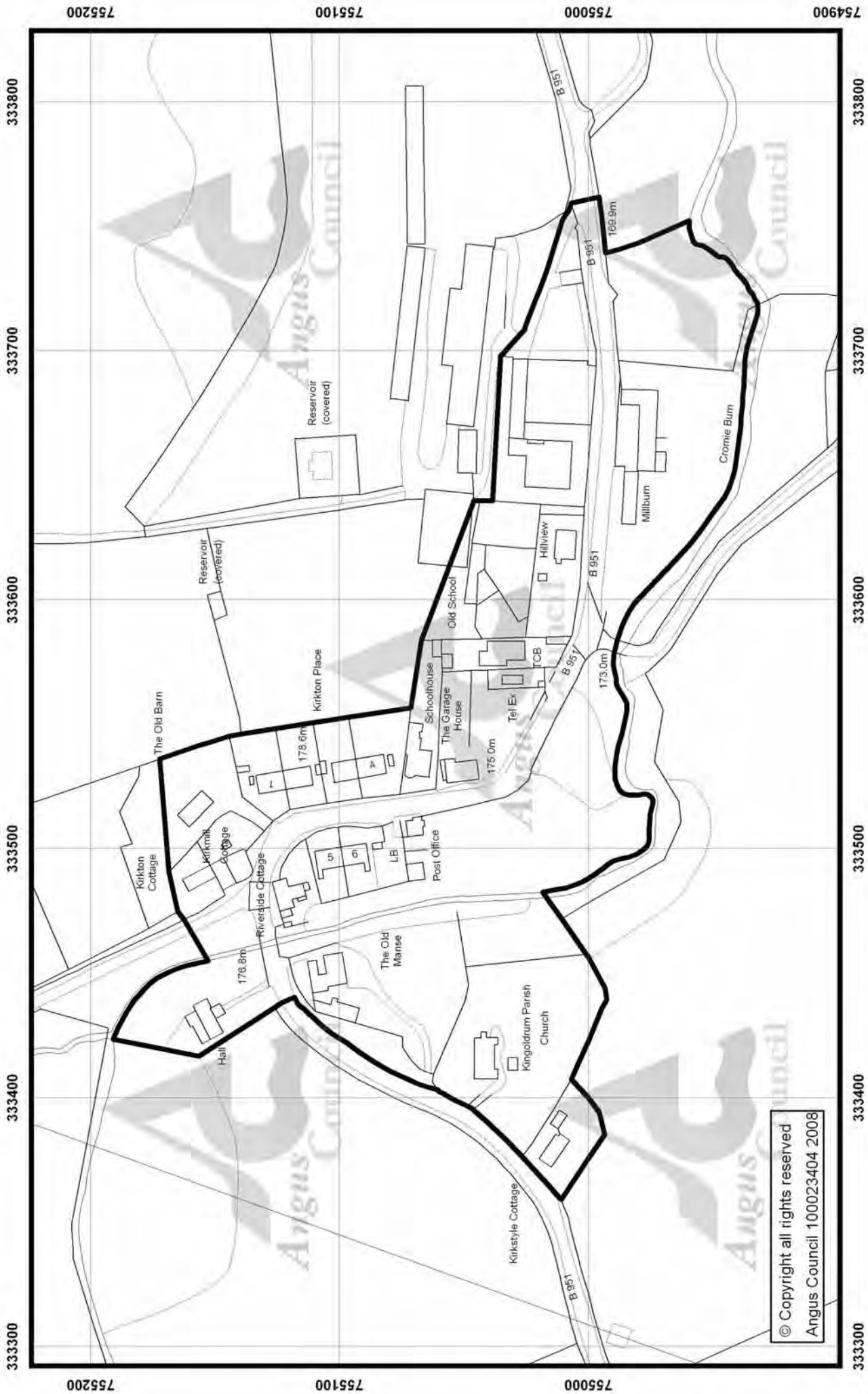
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Kirkton of Glenisla

Angus Local Plan Review





Kirkton of Kingoldrum Angus Local Plan Review



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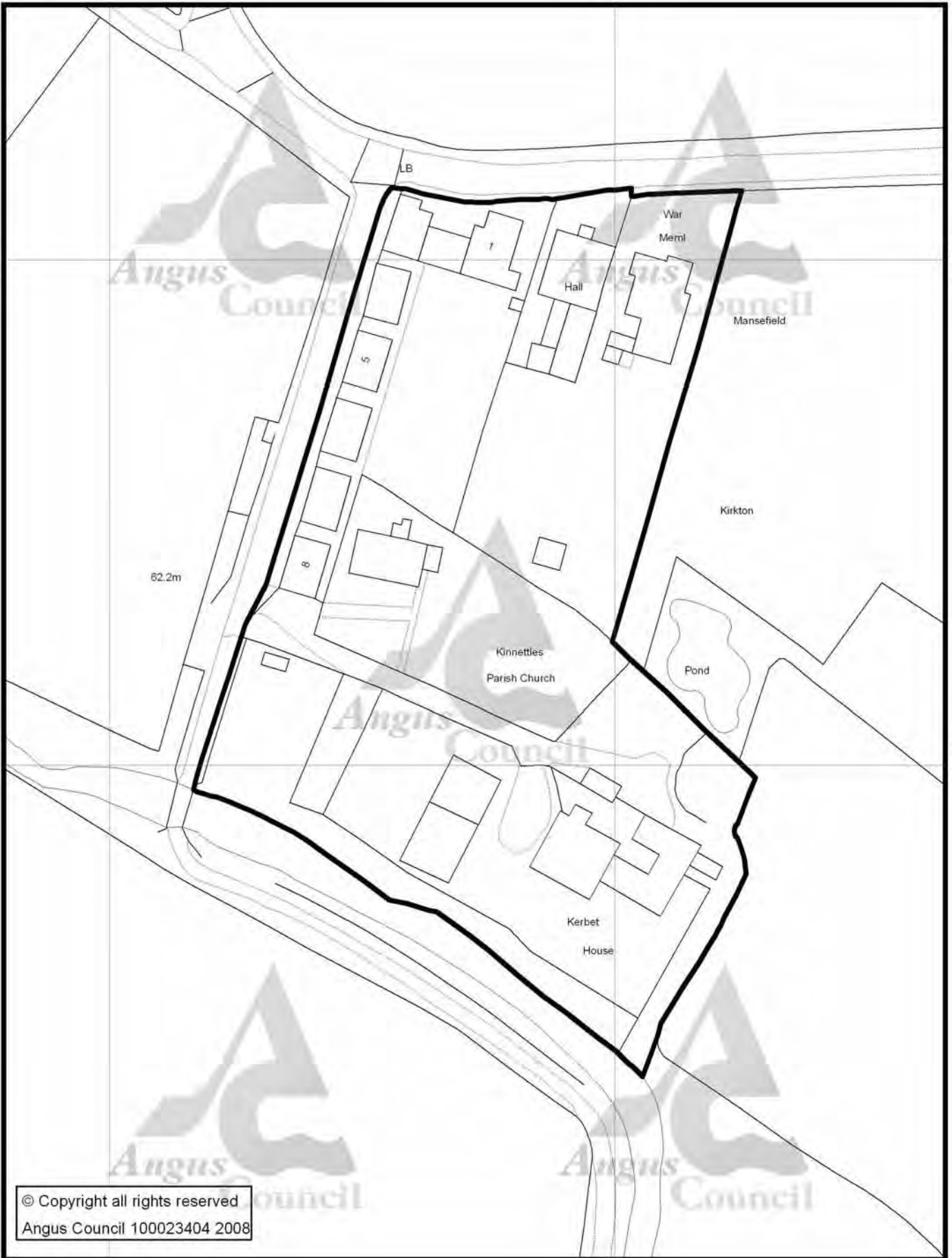
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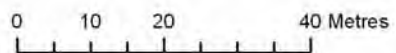
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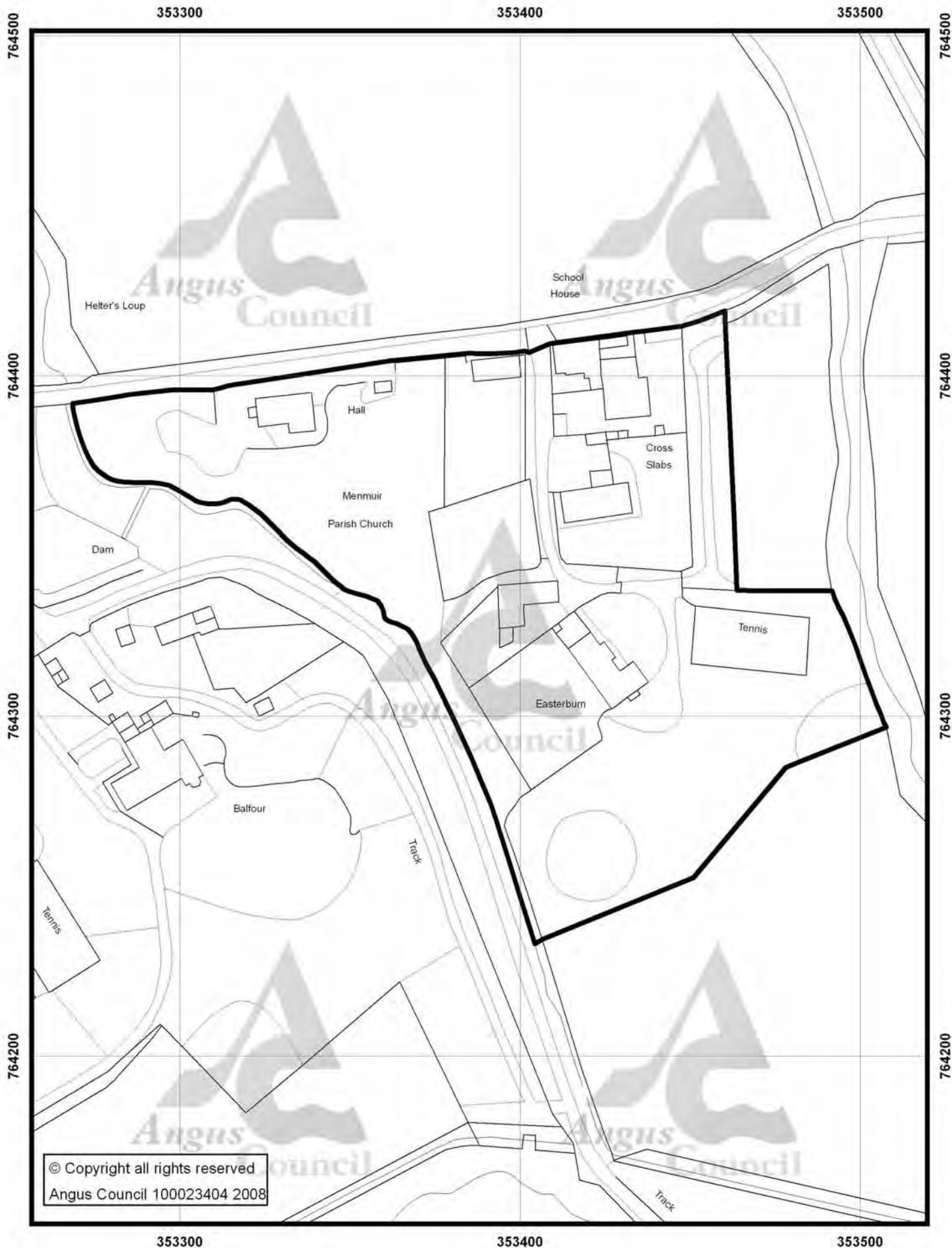
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Kirkton of Kinnettles
Angus Local Plan Review







Kirkton of Menmuir

Angus Local Plan Review




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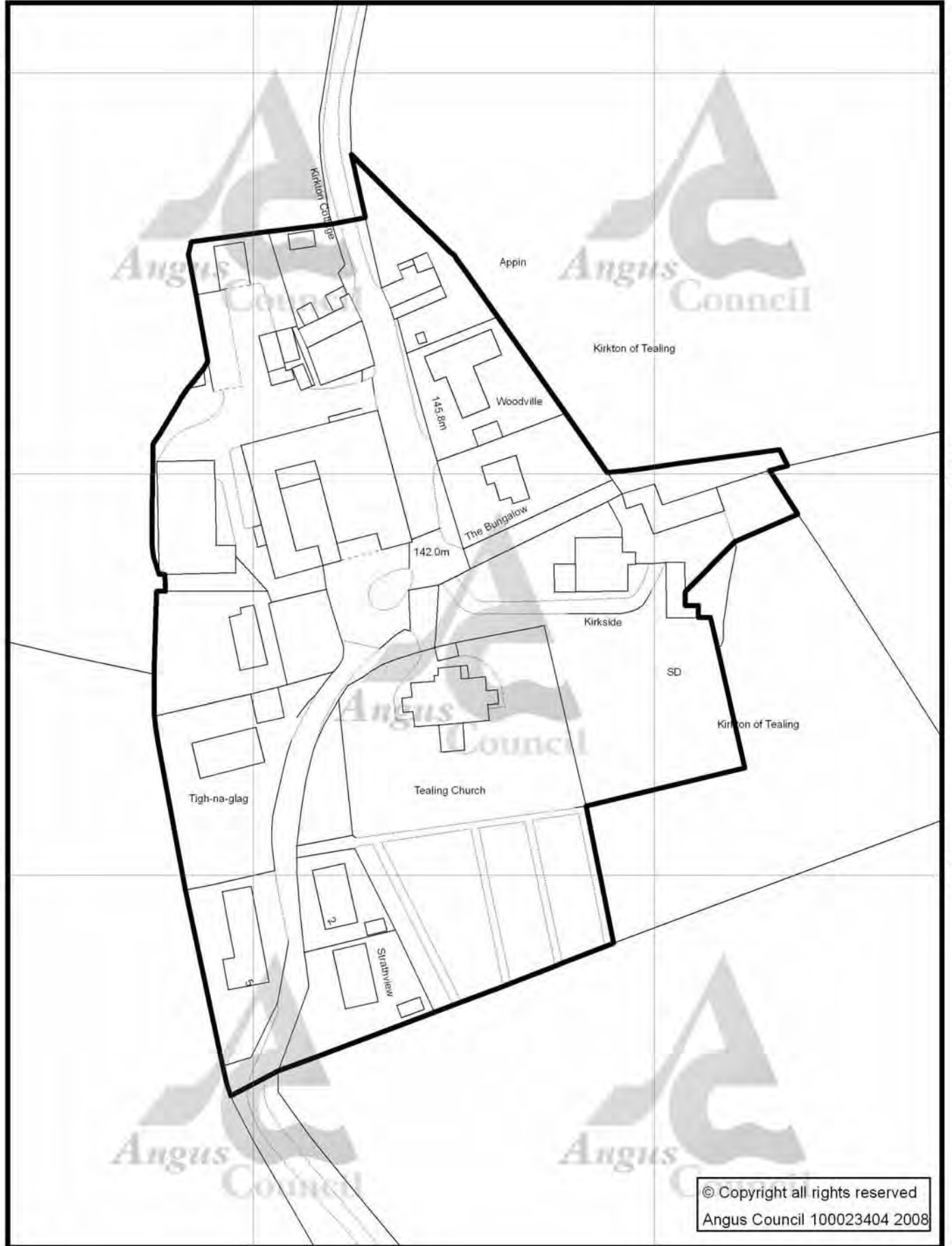
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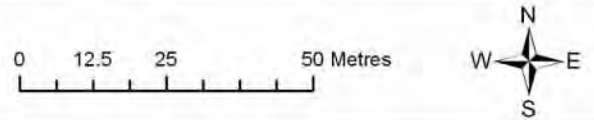
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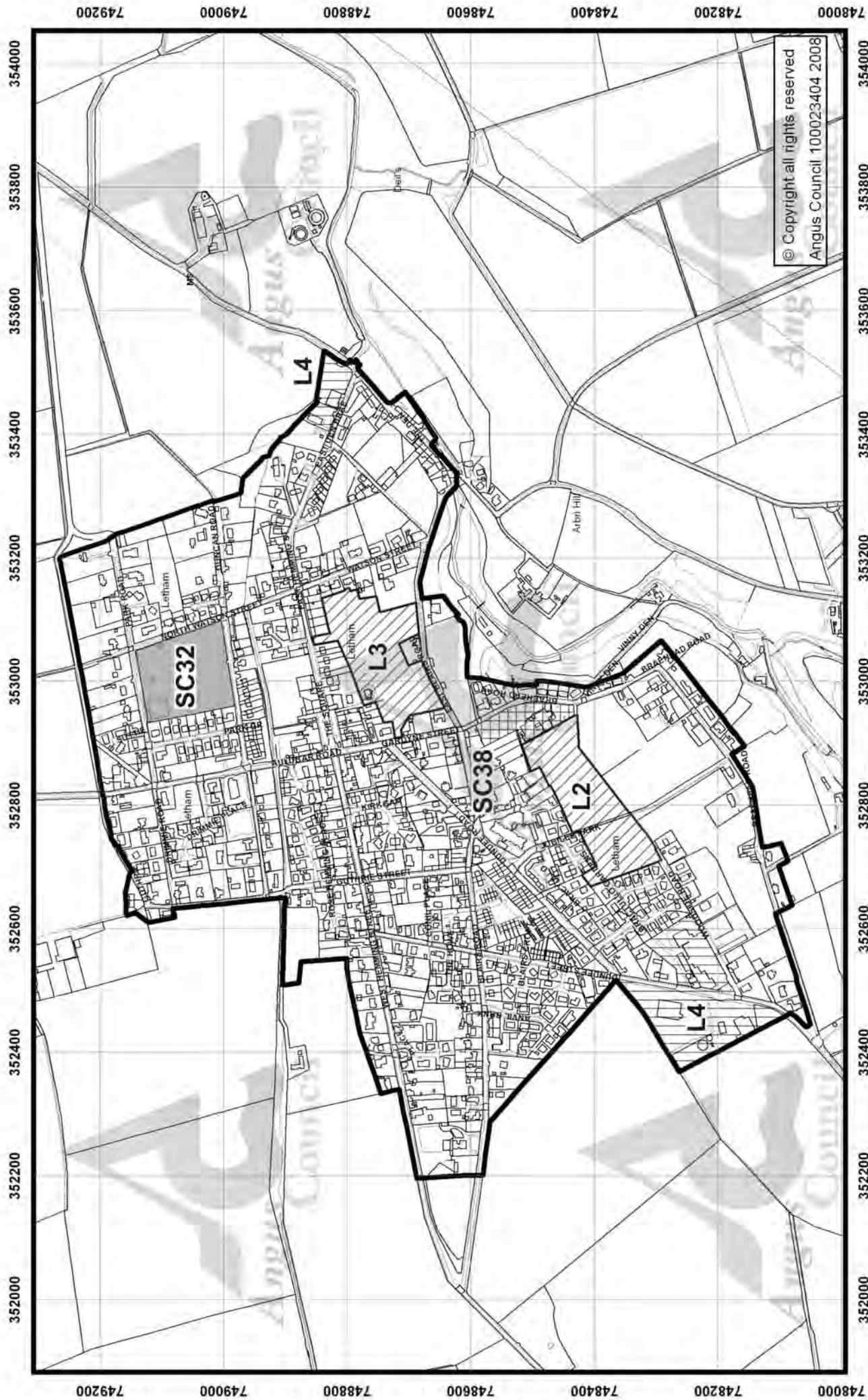


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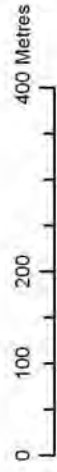


Kirkton of Tealing
Angus Local Plan Review





Letham Angus Local Plan Review



LETHAM

PROFILE

Role:

Large village in rural Angus, 8km south-east of Forfar, a popular place to live with local employment and services.

Population:

Census: 2001 – 1498;
1991 - 1247;
% Change 91/01: +20.13.

Drainage:

Capacity.

1. Letham is the largest village in the Forfar/Kirriemuir landward area. The settlement experienced significant growth since the early 1970's with various sites being developed for housing, but few additional facilities for existing and new residents. More recently planning policy in the first Angus Local Plan sought a period of consolidation. Recent improvements to the Waste Water Treatment facility and the primary school allow scope for modest additional housing development, which will assist in providing a range of housing sites throughout the market area. Additional housing development may assist the provision of new or augmented services and facilities. Suitable land for development requires to have regard to the unadopted roads policy which applies in Letham due to the rural character of many roads within the village. The policy seeks to guide development to suitable areas which are able to be served by the road network.

KEY ISSUES

2. The key issues facing Letham are:

- The significant restrictions on development in areas of the village where satisfactory road access is not available;
- The opportunity to allow for some new housing development in support of the range of services and facilities in the village;
- The need to continue to secure local employment opportunities.

DEVELOPMENT STRATEGY

3. The strategy for Letham seeks to:-

- Identify appropriate land to accommodate limited housing development in the village;
- Provide open space/playing fields for public and school use;
- Maintain the existing employment sites to provide jobs locally;
- Continue to have regard to the unadopted roads policy in considering new proposals for development

GENERAL

L1 : Unadopted Roads Policy

All proposals for new development in Letham will be considered against the Council's Unadopted Roads Policy set out in Appendix 3 which gives an assessment of the capacity of the local road network and seeks to direct development to areas where satisfactory road access can be achieved.

HOUSING

NEW ALLOCATIONS

4. Table 1 summarises new allocations of housing land which will contribute towards meeting the Structure Plan allowances to 2011.

Table 1 : New Allocations

L2 : Jubilee Park	30
L3 : East Hemming Street	30
Total	60

L2 : Housing - Jubilee Park

2.3 ha of land between Bractullo Gardens and Letham Primary School is allocated for around 30 houses. Proposals should be in accordance with the development brief which will be prepared for this site which will include details of the following requirements :

- provision of 0.7 ha of open space/playing fields adjacent to the primary school which could incorporate a small car parking area accessed from Braehead Road;
- a footpath/cycleway along the southern boundary of the site linking Woodside Road with the primary school including possible connections to Dundee Road via Bractullo Gardens, Jubilee Park and Old Letham;
- vehicular access to serve the new housing from the existing development at Bractullo Gardens and/or Jubilee Park. Vehicular access to the new housing will not be permitted from Old Letham, Woodside Road or Braehead Road;
- 15% of the capacity of the site to provide LCHO affordable housing.

Opportunity to provide vehicular access for residents at Woodside Road through this area should also be investigated as part of this development.

L3 : Housing - East Hemming Street

2.9 ha of land at East Hemming Street/Gardyne Road is allocated for around 30 houses. Proposals should address the following requirements :

- vehicular access from East Hemming Street;
- footpath connections should be provided through the site, in particular to give access to the primary school;
- an appropriate scheme to secure the retention and reuse of the listed building within the site;
- 15% of the capacity of the site to provide LCHO affordable housing.

WORKING

L4 : Safeguard of Employment Land

Existing employment areas at East Den Brae and Dundee Road will be safeguarded for employment uses in support of the economic base of the village.

LETHAM GRANGE

1. Letham Grange is a large country estate north of Arbroath which has developed over a number of years as a major recreational and residential area comprising an hotel, two golf courses and sites for 140 houses located in dispersed groups throughout the estate.

KEY ISSUE/DEVELOPMENT STRATEGY

2. In recent years the commercial viability of the golf courses and hotel has become an issue. There are emerging proposals aimed at addressing the future viability and further developing the tourism provision on the site. The proposals are at an early stage and are not yet sufficiently detailed to be included as proposals in this Local Plan. The indications are that a package of measures may be brought forward which include timeshare, housing and the restoration of listed buildings on the site including the Letham Grange Hotel building. These indicative proposals would result in the reduction of the second golf course from 18 to 9 holes.

3. It is considered appropriate to support proposals which would provide for the long-term viability of the tourism and recreation facilities. At the same time it is necessary to protect the amenity of the existing residential areas. The acceptability of additional housing development will depend upon the requirement for cross subsidy of the tourism and recreation facilities, the quality of the tourism proposals and the compatibility of the overall package of measures with the amenity and environmental quality of the area. Proposals will require to be supported by a viable long-term business plan

HOUSING

EXISTING SITES

4. The existing housing land supply, comprising sites with planning permission or under construction as identified in the Housing Land Audit June 2004, is shown in Table 1.

PROFILE

Role:

Major recreational and residential area incorporating an hotel and two golf courses.

Housing Land Supply June 2004:

Existing - 3

Drainage:

Constrained by capacity of existing network

Table1:Existing Sites

(a) Letham Grange 3

Total 3

LG1 : Housing – Letham Grange

Proposals for strictly limited further housing development outwith the existing residential areas will only be acceptable where a clear case has been demonstrated that:

- it is required to cross-subsidise the development of tourism facilities within the complex;
- it is compatible with the protection of the amenity of existing residential areas;
- it supports the restoration of Listed Buildings and their setting; and
- any reduction of the existing golf course provision is demonstrated to be necessary and that the remaining provision is viable.

SPORT AND RECREATION

5. The existing recreational facilities at Letham Grange are regarded as a major contribution to the attractiveness of the area. Future proposals which consolidate and where appropriate expand the tourism potential of Letham Grange will be supported where these are compatible with the existing land uses and amenity. Development directly affecting Letham Grange Hotel (Category B listed building) or its setting must respect the architectural quality and character of the building.

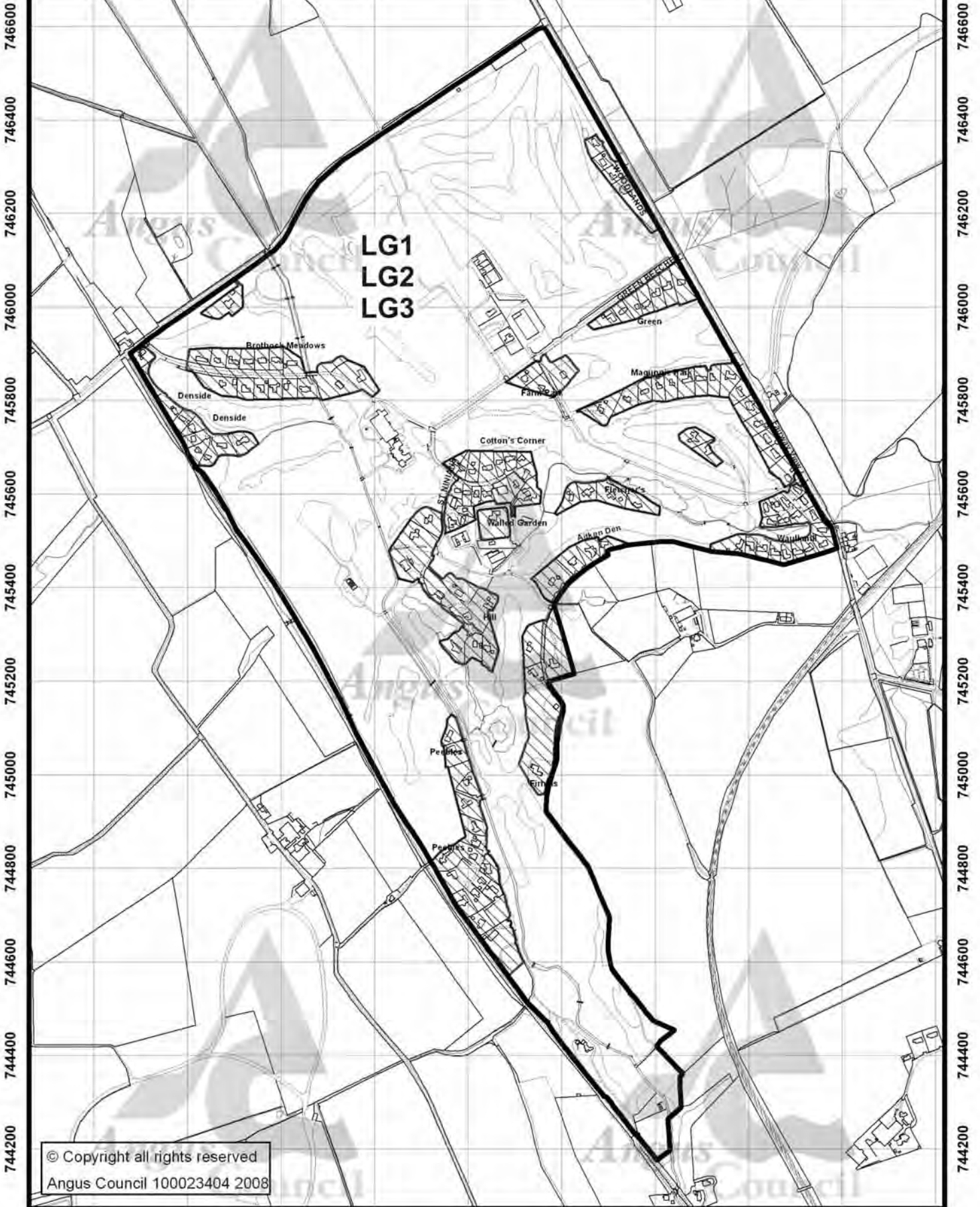
LG2 : Tourism and Recreation Development

Proposals which enhance or expand the tourism and recreation potential of the Letham Grange complex will be supported where they are compatible with the existing land uses/activities and are not detrimental to the area's unique environment.

LG3 : Letham Grange Hotel

Development within the immediate vicinity of Letham Grange Hotel (Category 'B' Listed Building) must respect the architecture and character of the building.

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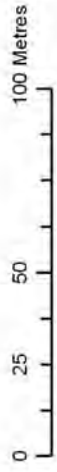
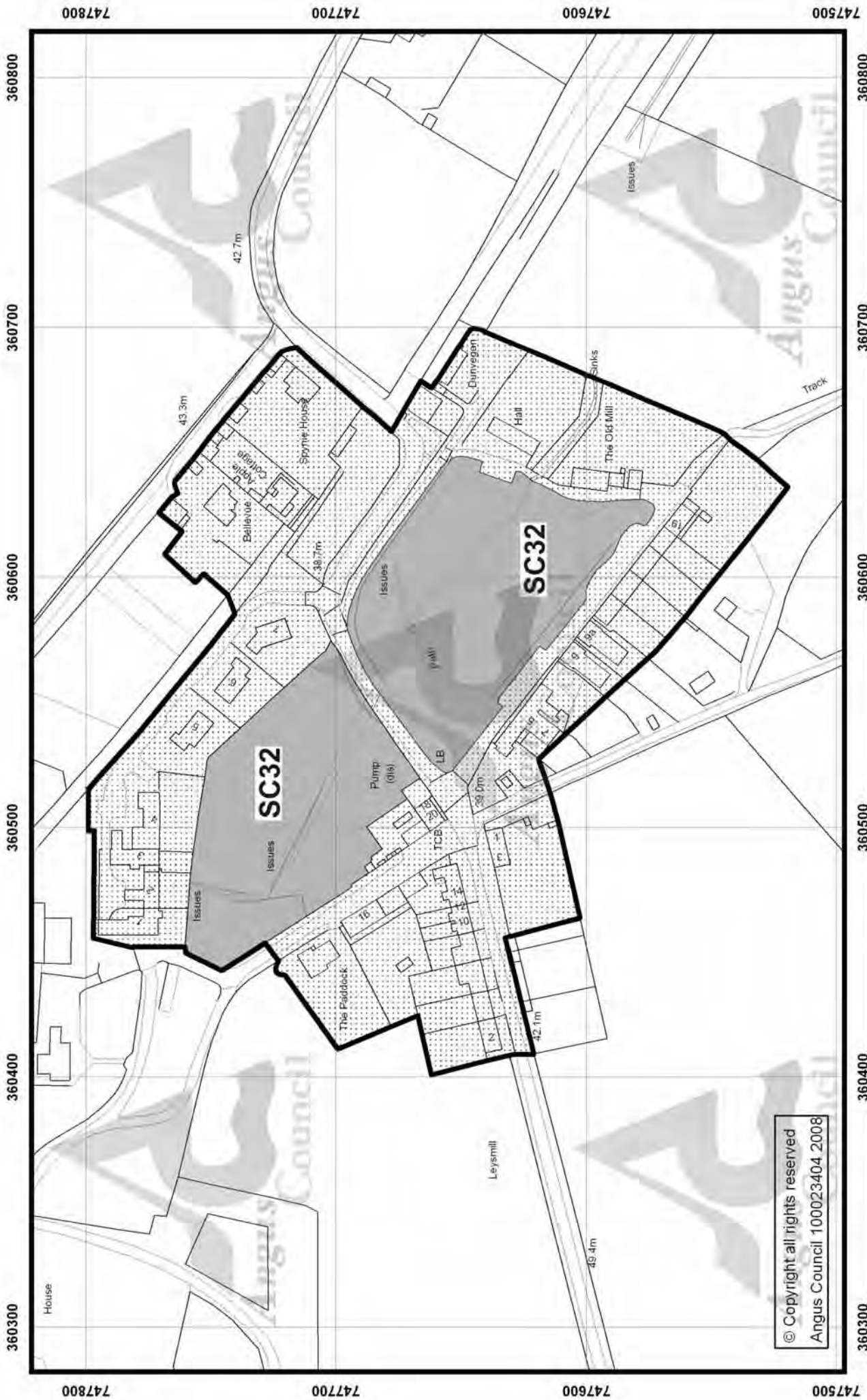


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Letham Grange
Angus Local Plan Review

0 105 210 420 Metres

Angus Council

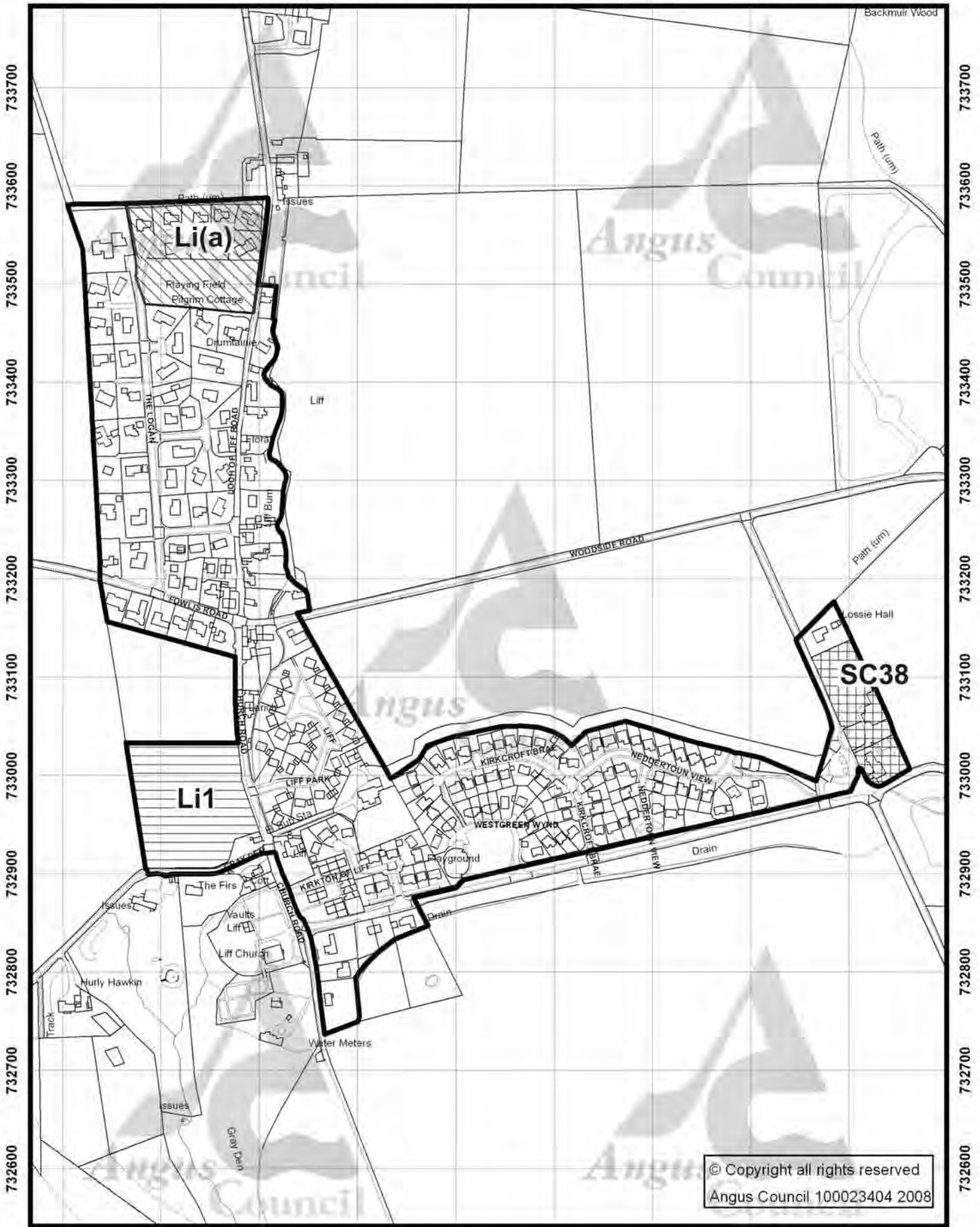


Leysmill
Angus Local Plan Review



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Liff
Angus Local Plan Review

0 45 90 180 Metres
 



LIFF

1. Liff is a popular village located around 1.5 km to the west of Dundee. Recent housing development to the south and west of the village has brought forward the majority of sites identified in the first Angus Local Plan and has resulted in a significant increase in population.

KEY ISSUE/DEVELOPMENT STRATEGY

2. The strategy of the Dundee and Angus Structure Plan seeks to direct additional housing in the South Angus Housing Market Area towards Monifieth and Carnoustie. Consequently the development approach for Liff will limit housing development in the Local Plan period to a small, previously identified site to the north of the village.

HOUSING

EXISTING SITES

3. Sites with planning permission or under construction as identified in the Housing Land Audit, June 2004, are shown in Table 1.

COMMUNITY FACILITIES AND SERVICES

Li1 : Liff Cemetery Extension

1.5 ha of land on the west side of Church Road is reserved for a future cemetery extension. Details of access and off-street parking arrangements, landscaping and boundary treatment will be dealt with as part of any future planning application.

PROFILE

Role:

Liff is a small village located to the west of Dundee with a limited range of local facilities.

Housing Land Supply June 2004:

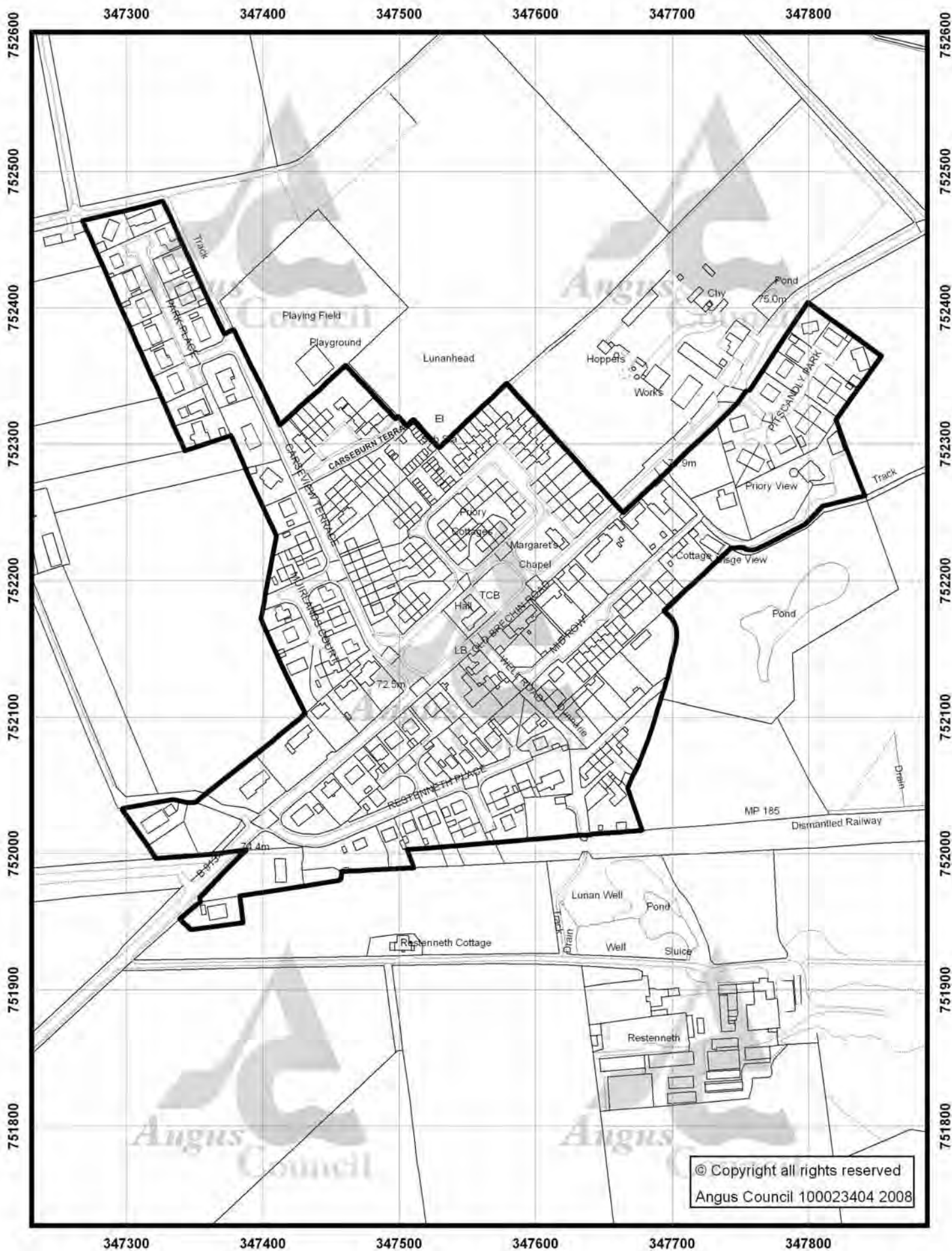
existing – 8

Drainage:

Limited capacity available.

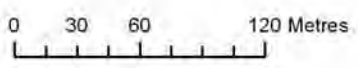
Table 1 : Existing sites

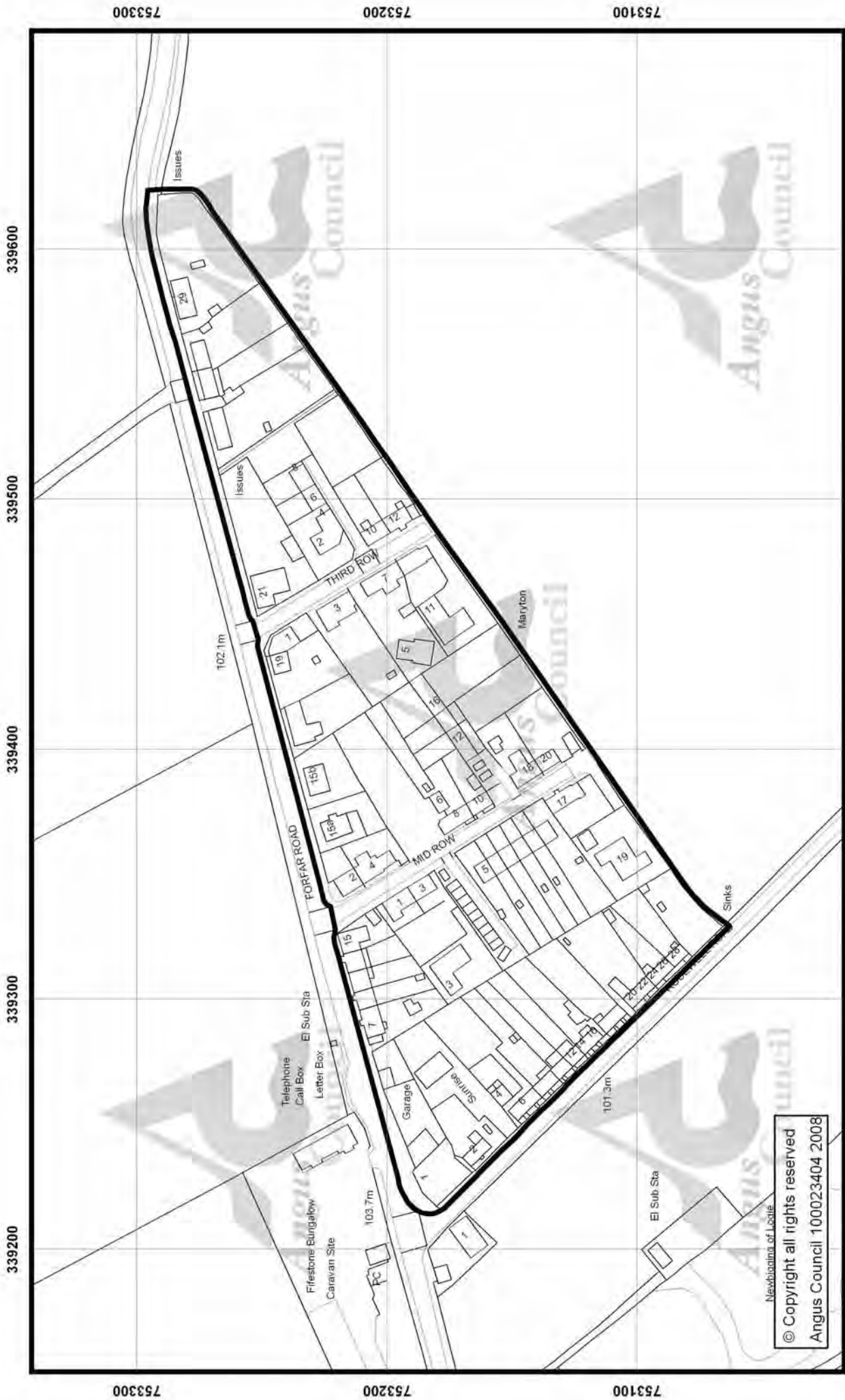
Li(a) Henderson Park	8
Total	8



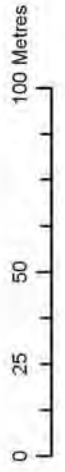
Lunanhead

Angus Local Plan Review





Maryton
Angus Local Plan Review



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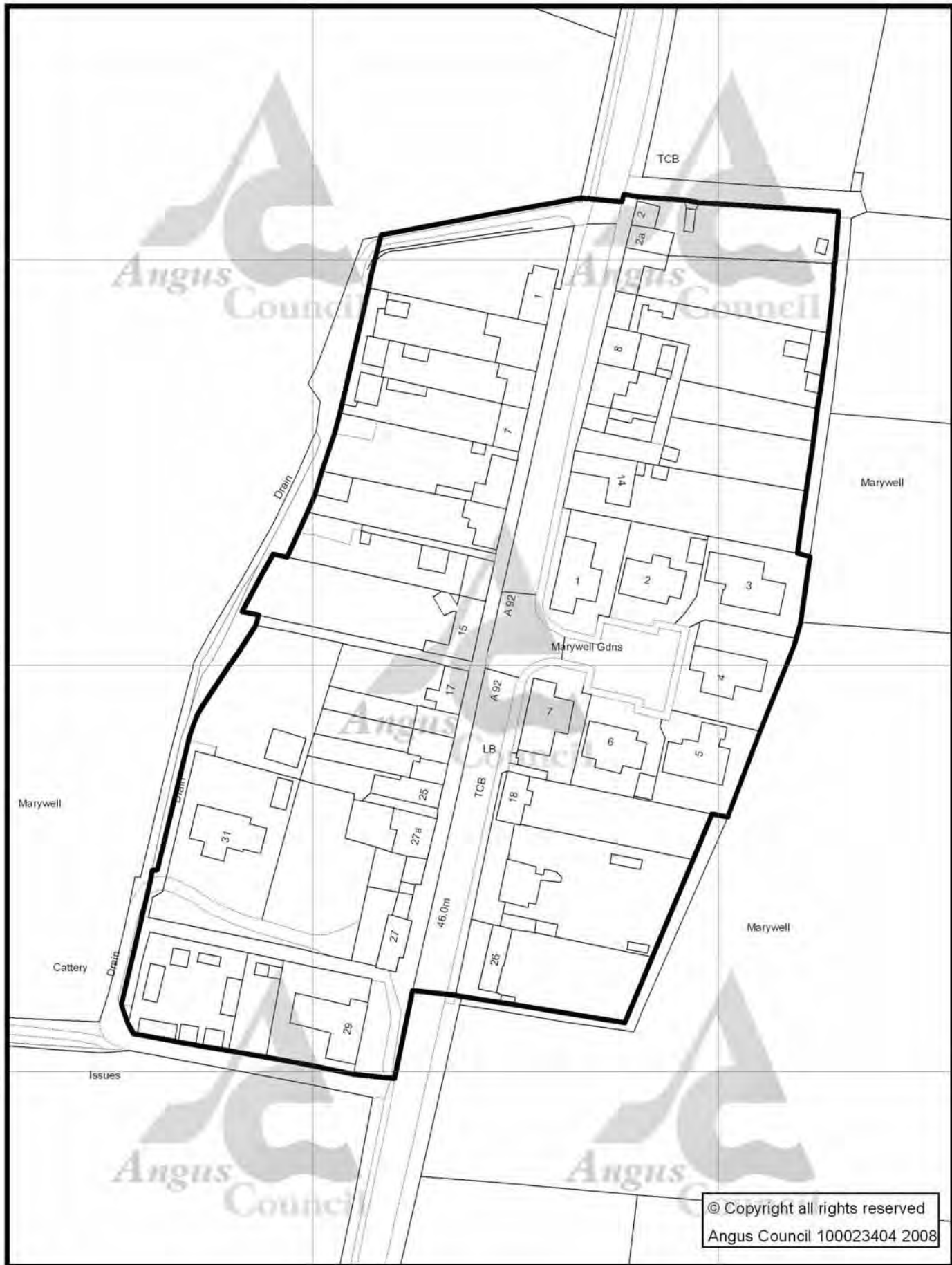
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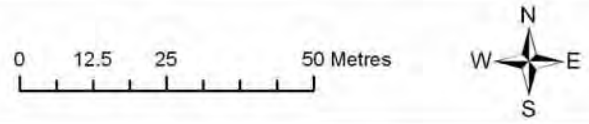


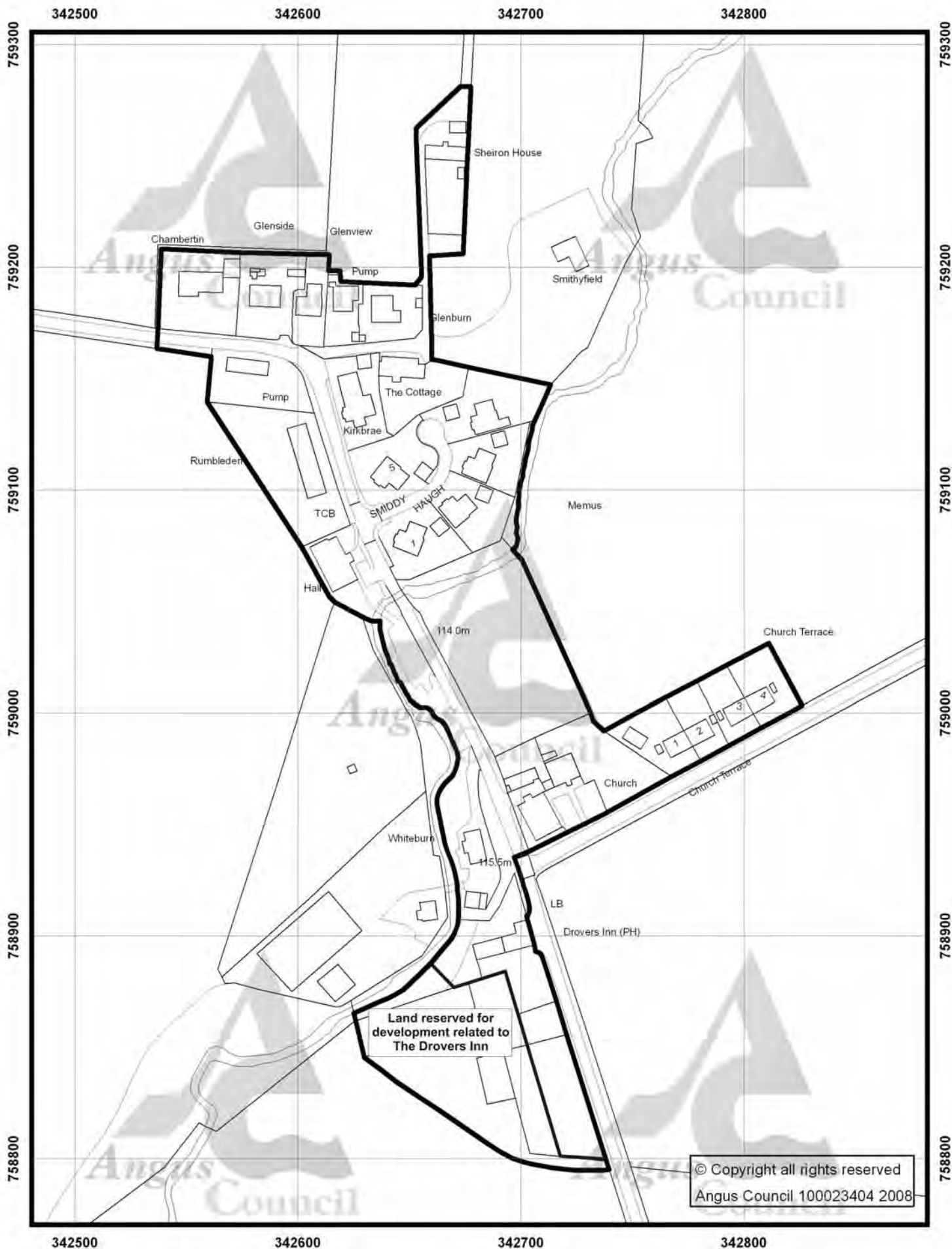
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Marywell
Angus Local Plan Review





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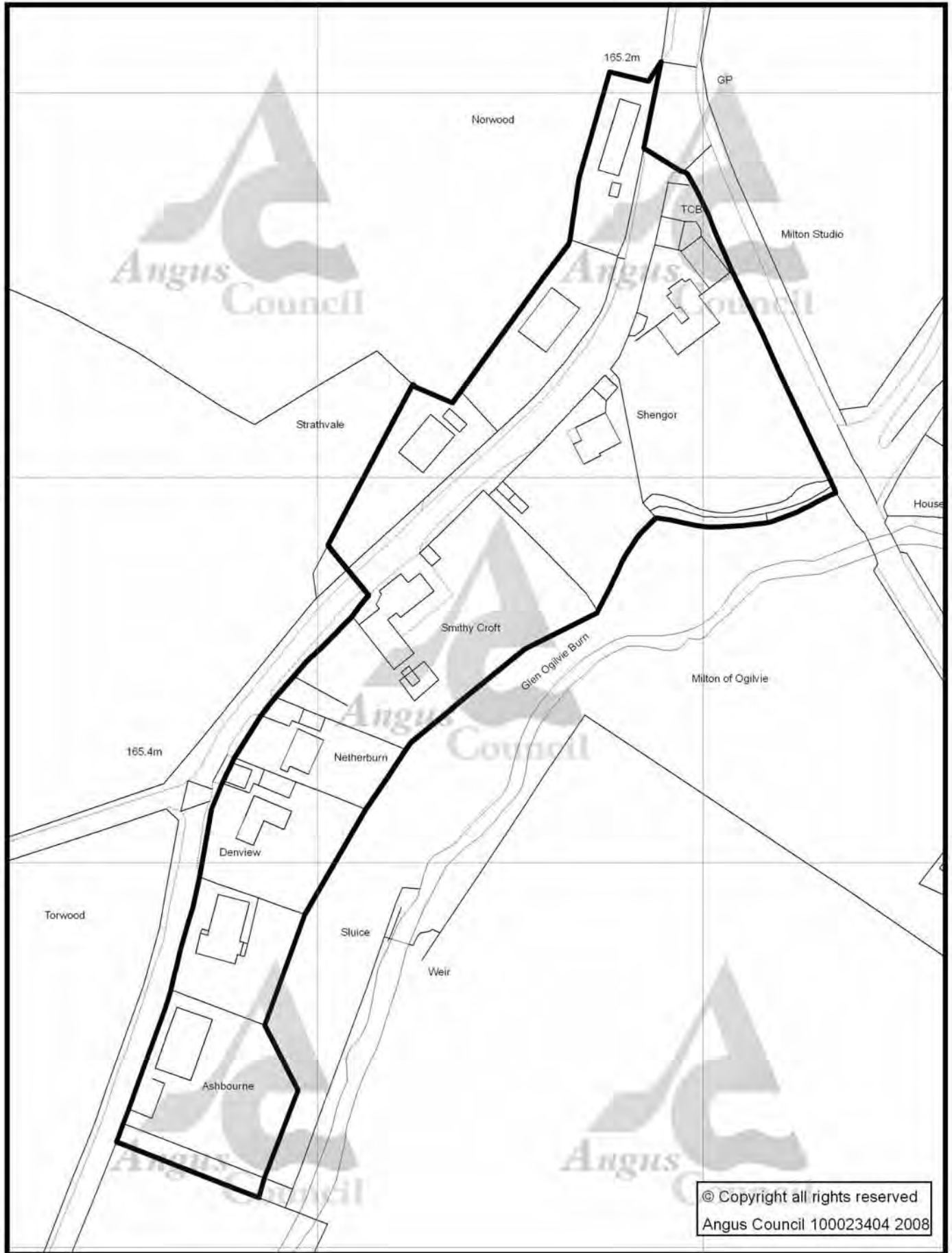
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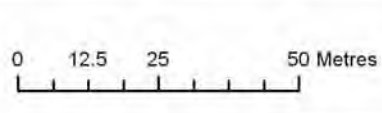
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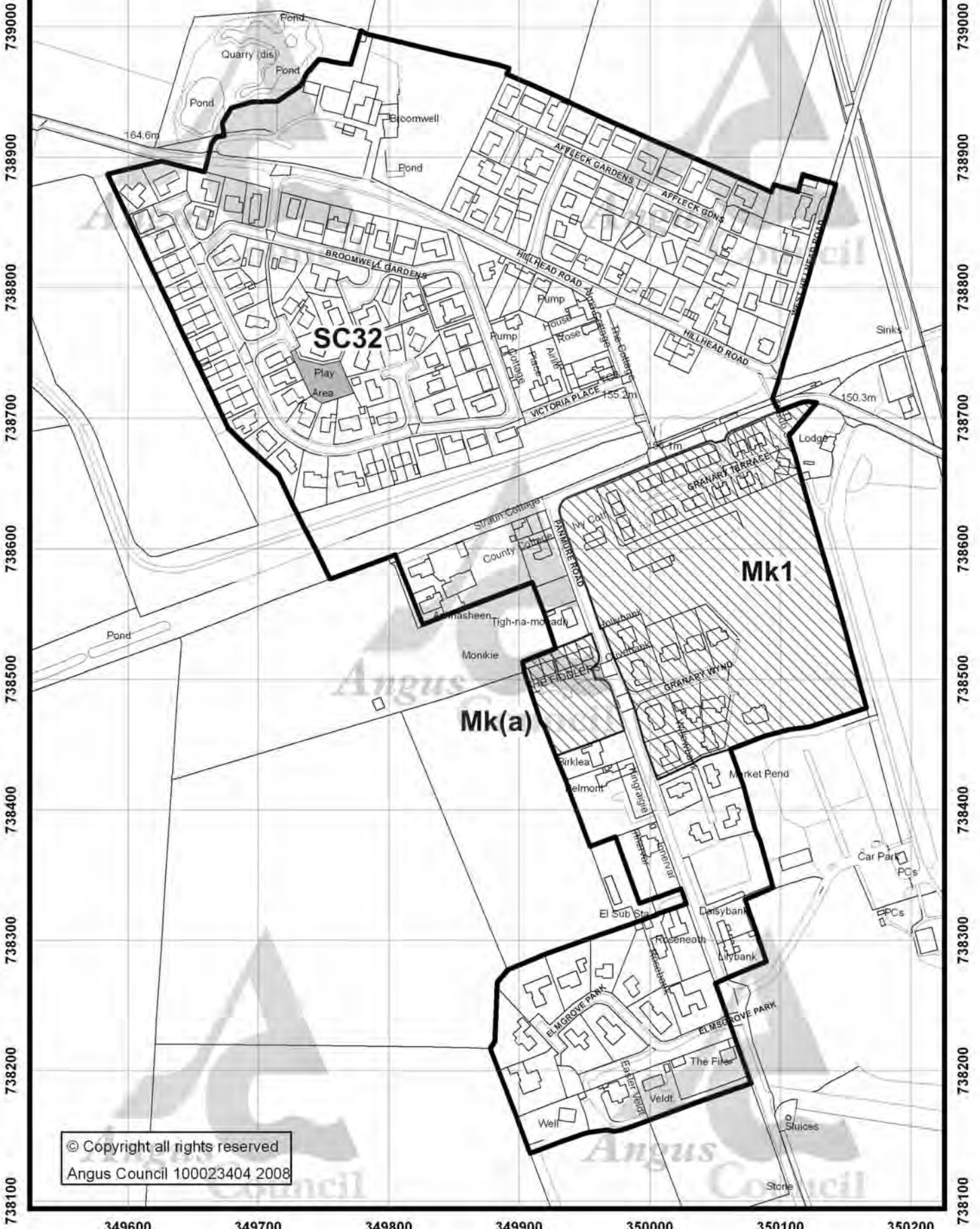
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Milton of Ogilvie
Angus Local Plan Review



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Monikie
Angus Local Plan Review

0 37.5 75 150 Metres

Angus Council

MONIKIE

1. The village of Monikie is surrounded by agricultural land and is close to the towns of Carnoustie and Monifieth. The village expanded considerably during the 1970s but development opportunity has been affected in recent years by infrastructure constraints.

KEY ISSUE/DEVELOPMENT STRATEGY

2. A key issue in the village, before further development can take place, is the resolution of drainage and water supply constraints. The strategy for Monikie seeks to promote the redevelopment of a brownfield site that would resolve these constraints, provide for a range of local housing needs and significantly improve the village environment.

HOUSING

EXISTING SITES

3. Sites with planning permission or under construction as identified in the Housing Land Audit, June 2004, are shown in Table 1.

SITE PREVIOUSLY IDENTIFIED BY THE FIRST ANGUS LOCAL PLAN

4. The site at Monikie Granary was previously allocated in the first Angus Local Plan. Planning permission has been recently granted for housing and the reservation of the site is continued in this Local Plan.

Mk1 : Housing – Monikie Granary

4 ha of land and buildings comprising the former granary is allocated for redevelopment for around 60 mixed tenure houses. Development is dependent on necessary investment in water supply and foul and surface water drainage infrastructure. Proposals will require to provide details of vehicular access from Panmure Road, landscaping and open space provision, and pedestrian and cyclist linkages. Developers will also be required to contribute to the extension of Monikie Primary School and the erection of a new Scout Hut. (Outline planning permission for 22 social rented and 37 private houses was granted on 11 March 2004).

PROFILE

Role:

Large rural village with a limited range of services.

Population:

Census 2001 - 416;

1991 - 479;

% Change 91/01: -13.15.

Housing Land Supply June

2004:

existing - 7

constrained - 60

Drainage:

Development currently constrained by lack of available local foul drainage capacity. Private sector investment required to resolve constraint.

Water Supply:

Development of the Granary site can be accommodated. Further development will be constrained by water supply issues that will require augmentation and increased service reservoir capacity.

Table 1 : Existing Sites

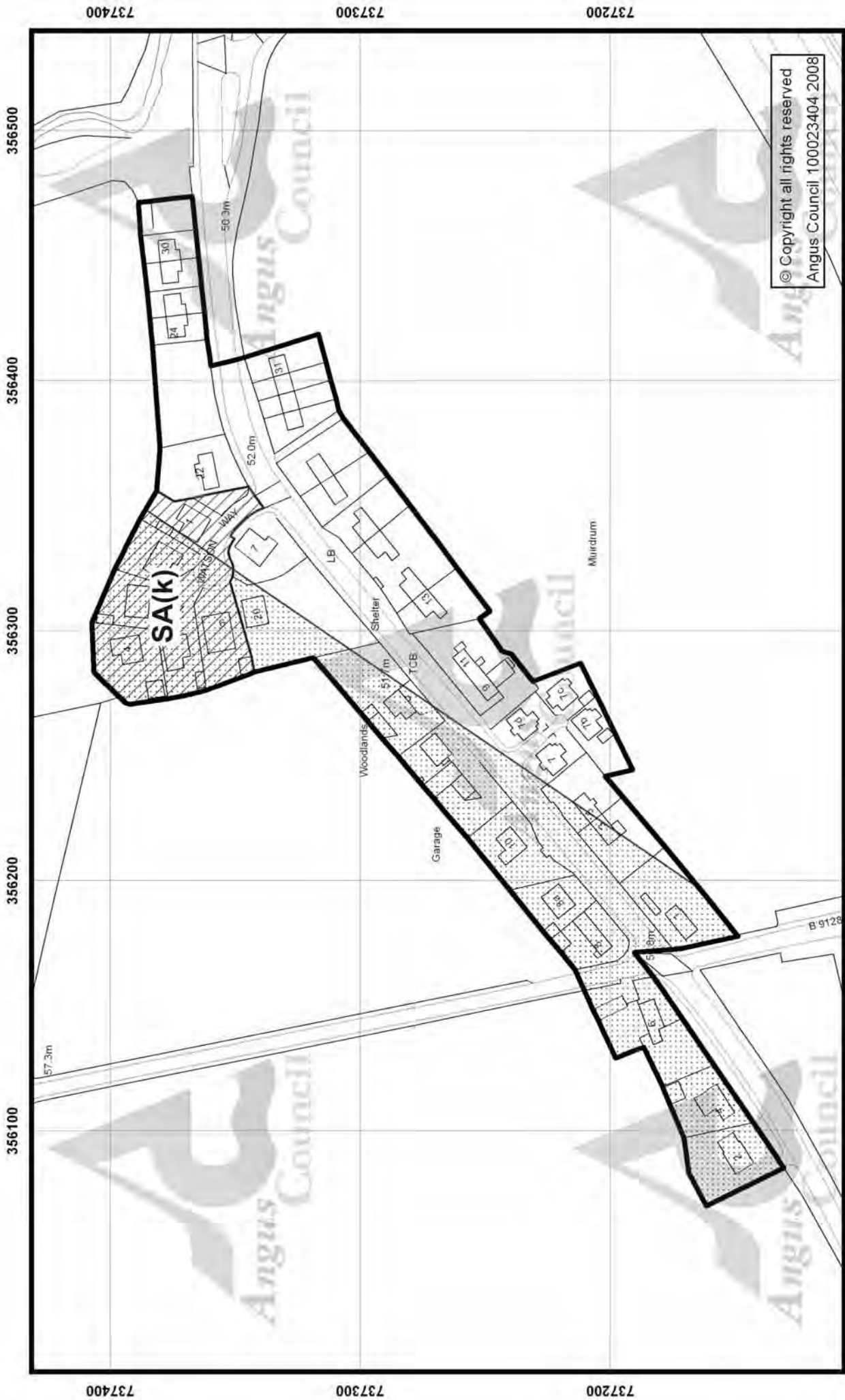
(a) Panmure Road 7

Total 7

Table 2 : Site from first ALP

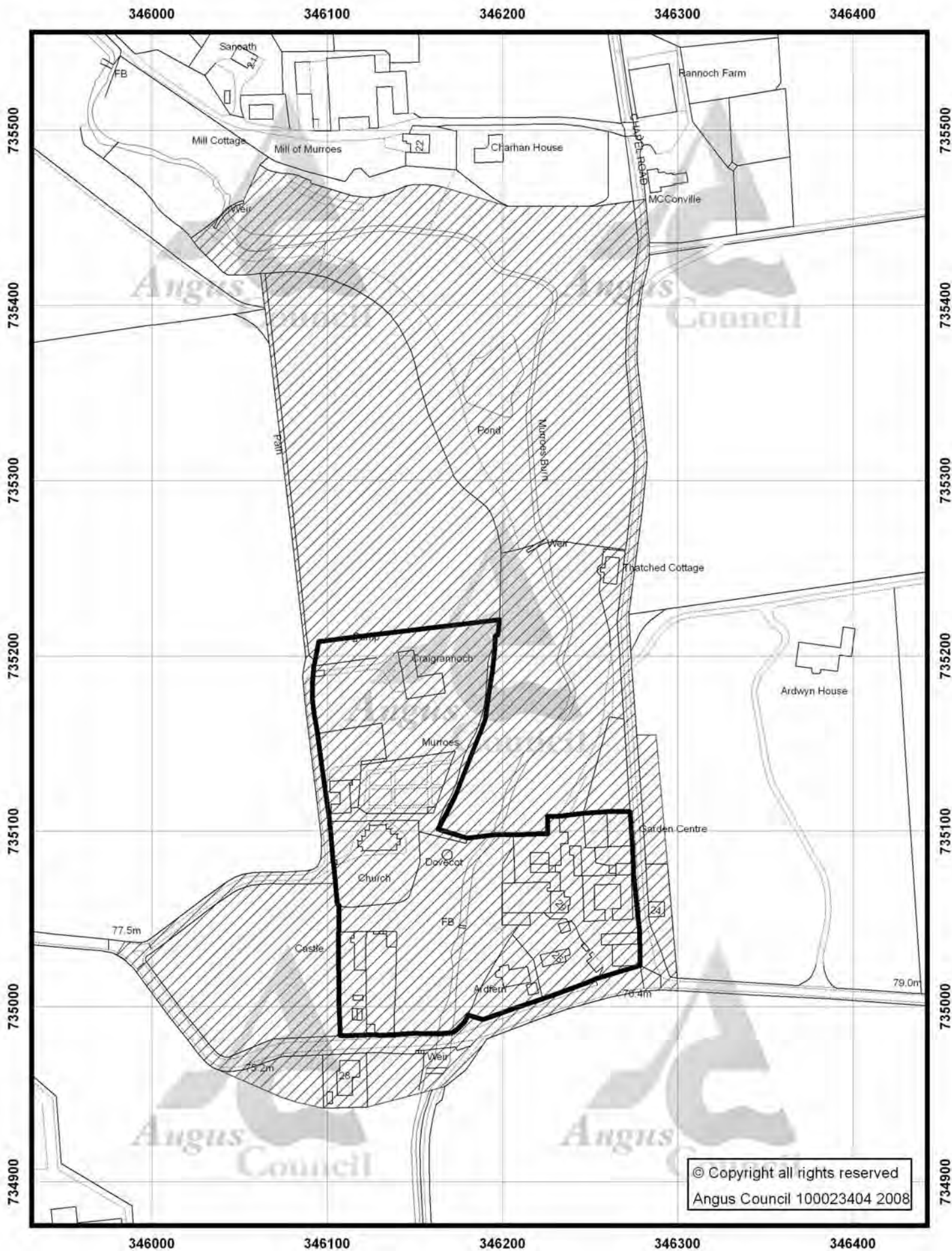
Mk1 : Granary Site 60

Total 60



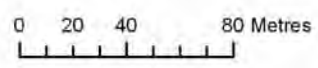
Muirdrum
Angus Local Plan Review





Murroes

Angus Local Plan Review



NEWBIGGING by Carnoustie

1. Newbigging is a small agricultural village close to the towns of Carnoustie and Monifieth which experienced a period of growth in the early and mid 1980's. The drainage network, which is now at capacity, will require significant investment to accommodate any new development.

2. The village has a limited range of facilities (shop/post office, primary school and petrol station/garage) serving both Newbigging and a wider local catchment area.

KEY ISSUE/DEVELOPMENT STRATEGY

3. Previous development in the village has resulted in the current drainage constraint which will require resolution before any further new building can take place. In addition, there is also the question of what level of development would be appropriate for the village over the next 10 years. The Local Plan strategy for Newbigging makes allowance for limited greenfield land release which will provide for local housing needs, contribute to the distribution of housing opportunities across the wider Dundee and South Angus Housing Market Area and assist in supporting local services and facilities (including the local primary school).

HOUSING

SITE PREVIOUSLY IDENTIFIED BY THE FIRST ANGUS LOCAL PLAN

4. The site at Pitairlie Road was previously allocated in the first Angus Local Plan. Development of the site is dependent on private sector investment at the wastewater treatment plant and in the local sewerage network.

5. A requirement for the provision of LCHO and Social Rented affordable housing has been established for the South Angus Housing Market Area. In accordance with Policy SC9 : Affordable Housing, proposals to develop the site at Pitairlie Road, Newbigging will require to make a contribution towards the need for affordable housing.

Nb1 : Housing - Pitairlie Road/Newbigging North

1.1ha of land to the north-west of the village is identified for the development of around 20 houses subject to the following requirements:

- 40% of the capacity of the site to provide for LCHO and/or Social Rented affordable housing;
- a single vehicular access should be taken from Pitairlie Road (B961);
- improvements to the existing wastewater treatment plant and trunk sewerage within the village to be wholly funded by the developer.

PROFILE

Role:

Small rural village with a limited range of local facilities serving a wide local catchment area.

Housing Land Supply June 2004:

Constrained - 20

Drainage: Development constrained by lack of capacity at WWTP and in local sewerage network. Condition of receiving watercourse not certain.

Table 1 : Sites from First ALP

Nb1 : Pitairlie Road	20
Total	20

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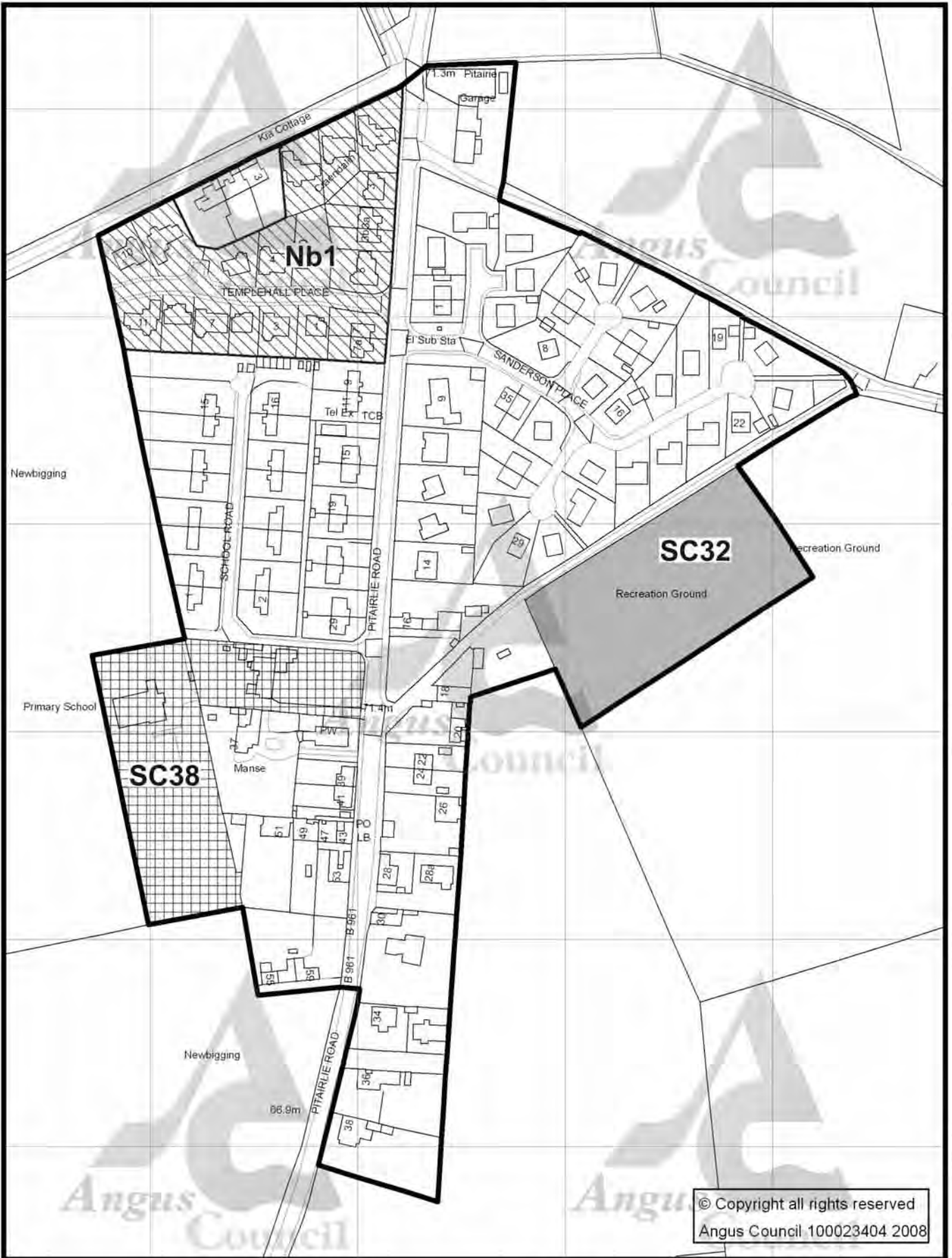
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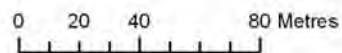
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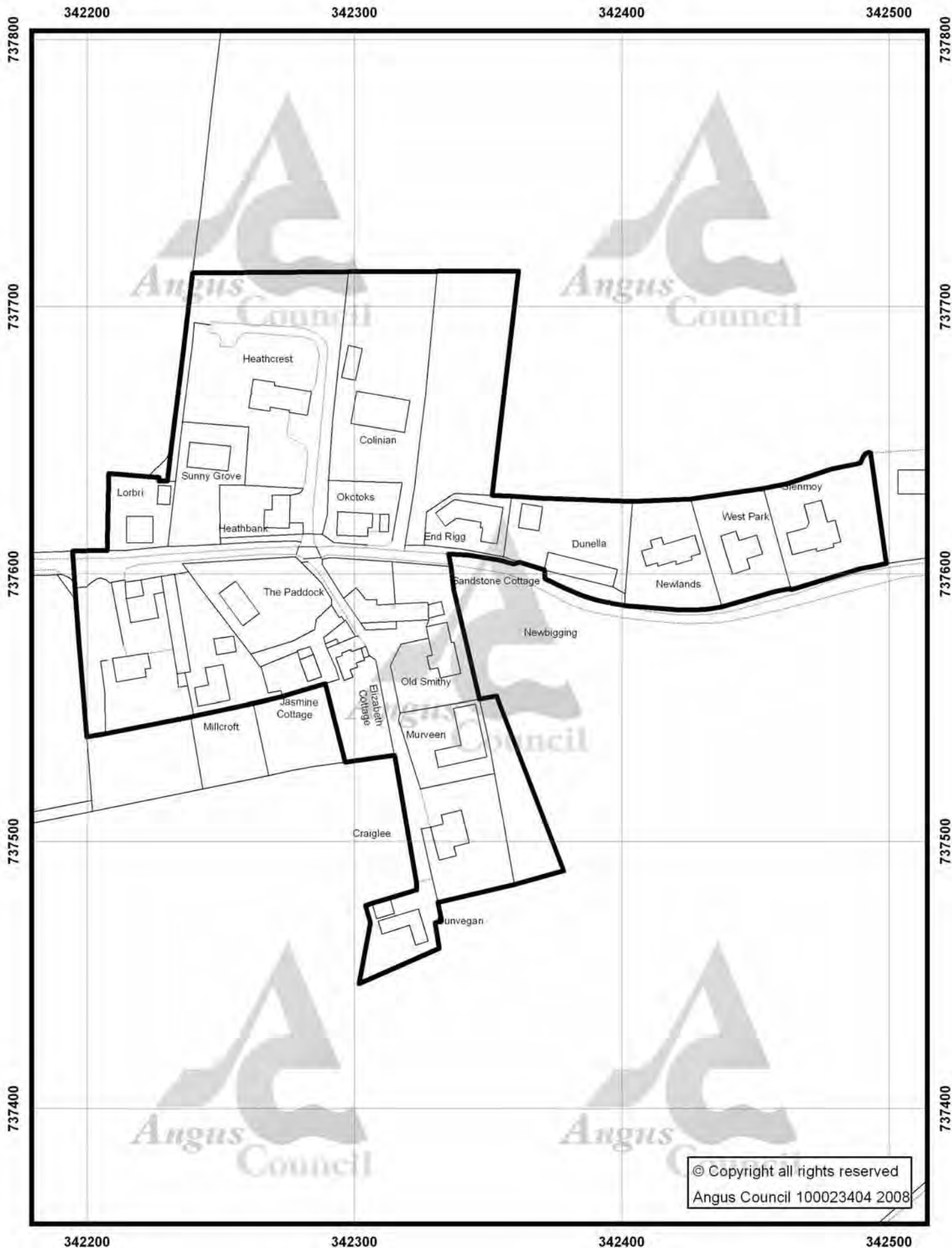
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Newbigging (by Carnoustie)

Angus Local Plan Review

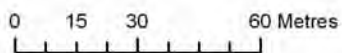




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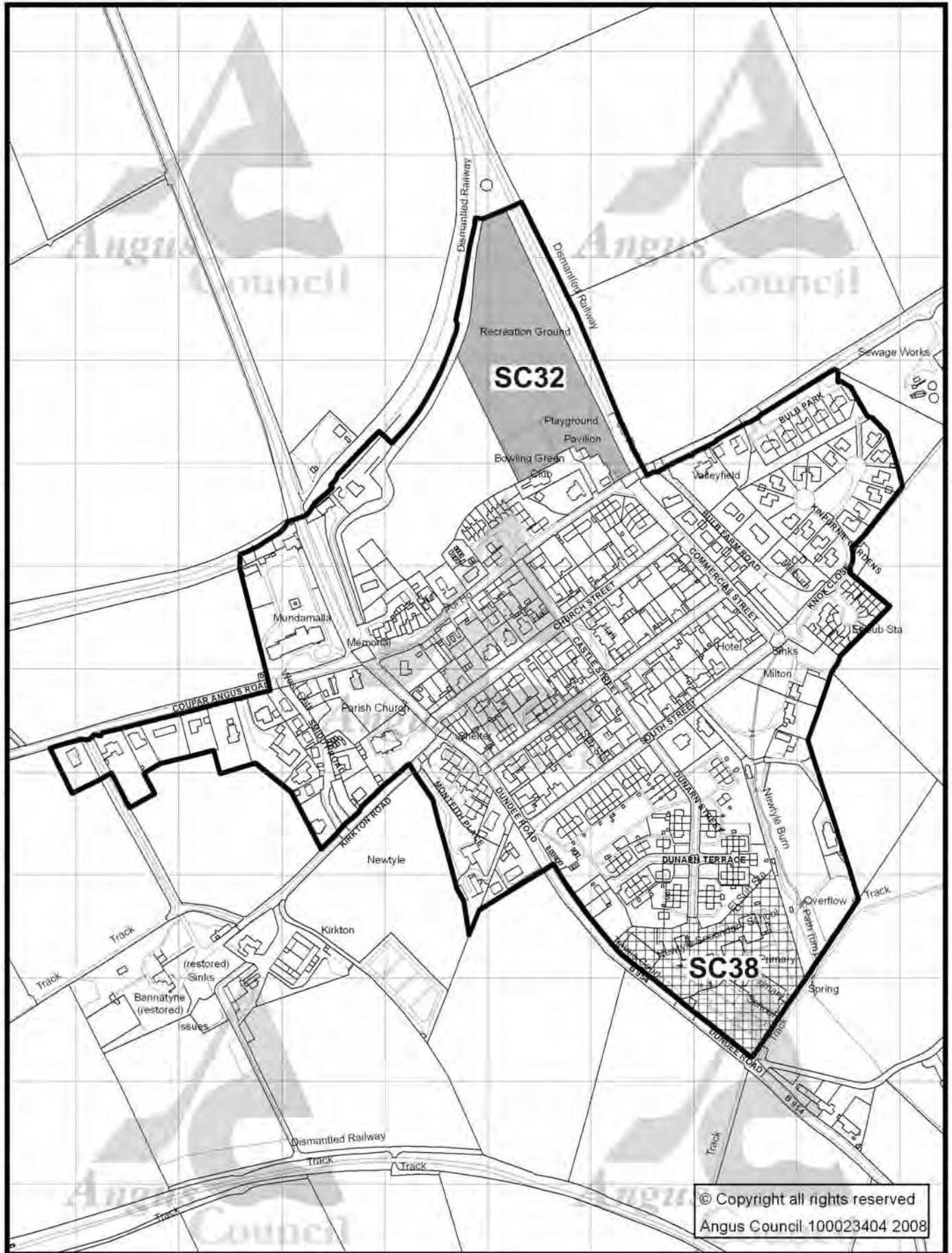
Newbigging (by Tealing)
Angus Local Plan Review



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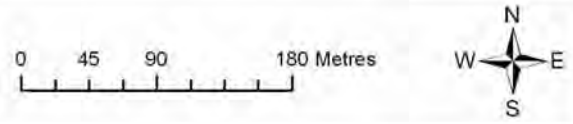
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Newtyle

Angus Local Plan Review



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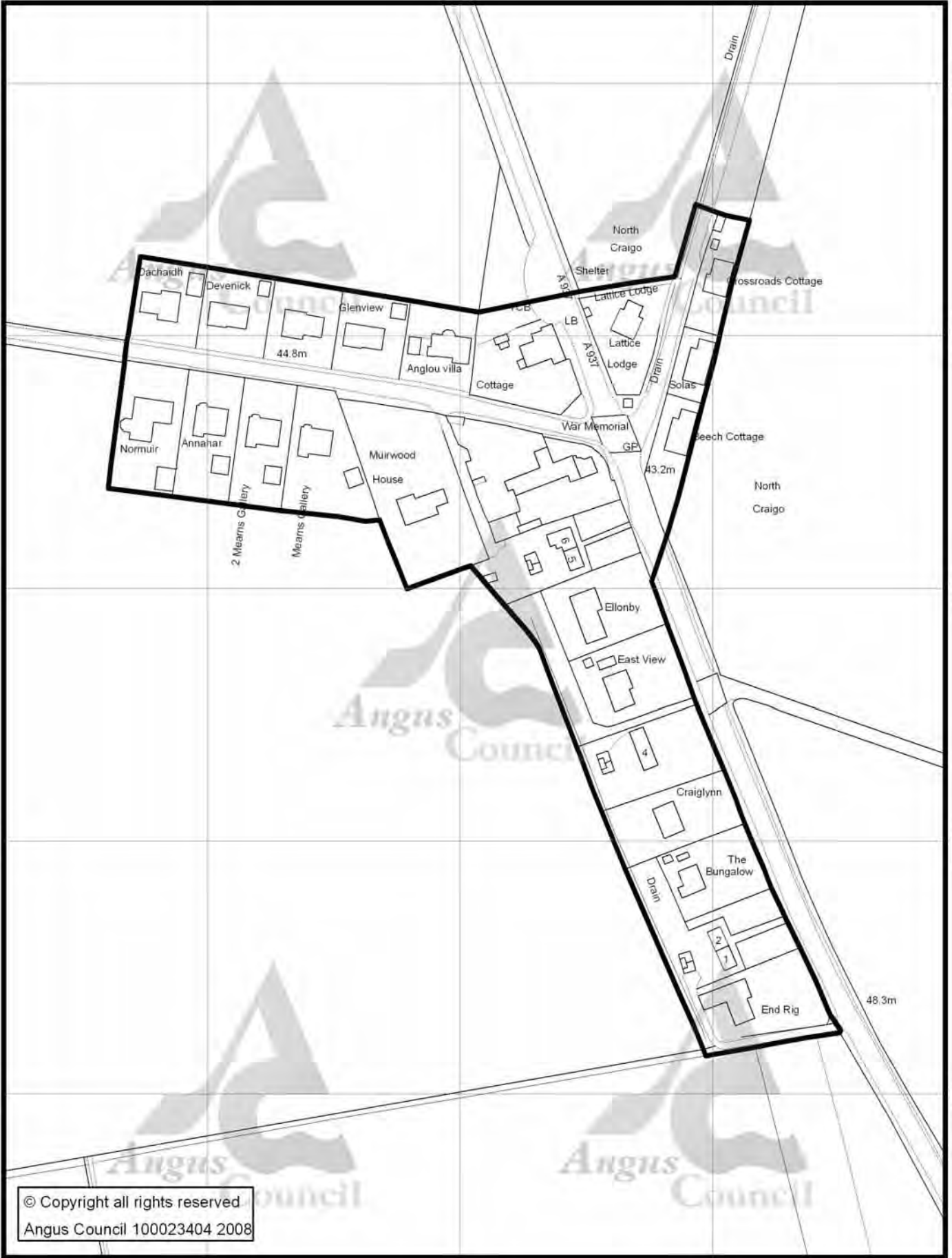
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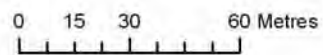
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North Craigo

Angus Local Plan Review



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Sinks

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133.8m

Nurses House

Hosie Park

Angus Council

Angus Council

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Shopinsay

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The Old Smiddy

North Dronley

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Arkaig

Gray

Dykes

129.0m

129.0m

NORTH DRONLEY ROAD

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Glencraig

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Drawn

Downs

One Acre

Angus Council

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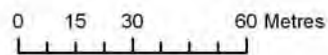
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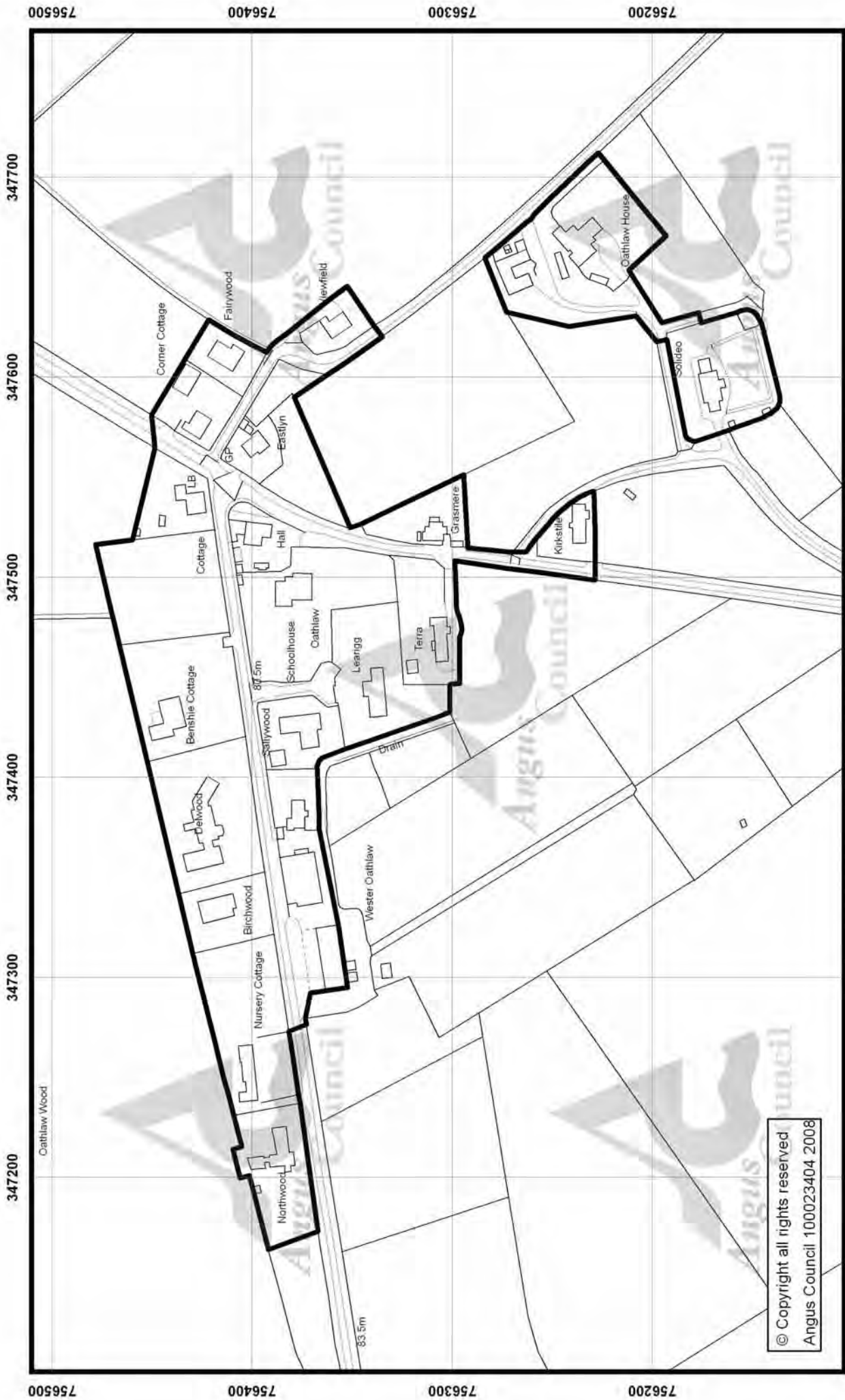
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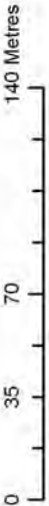


North Dronley Angus Local Plan Review





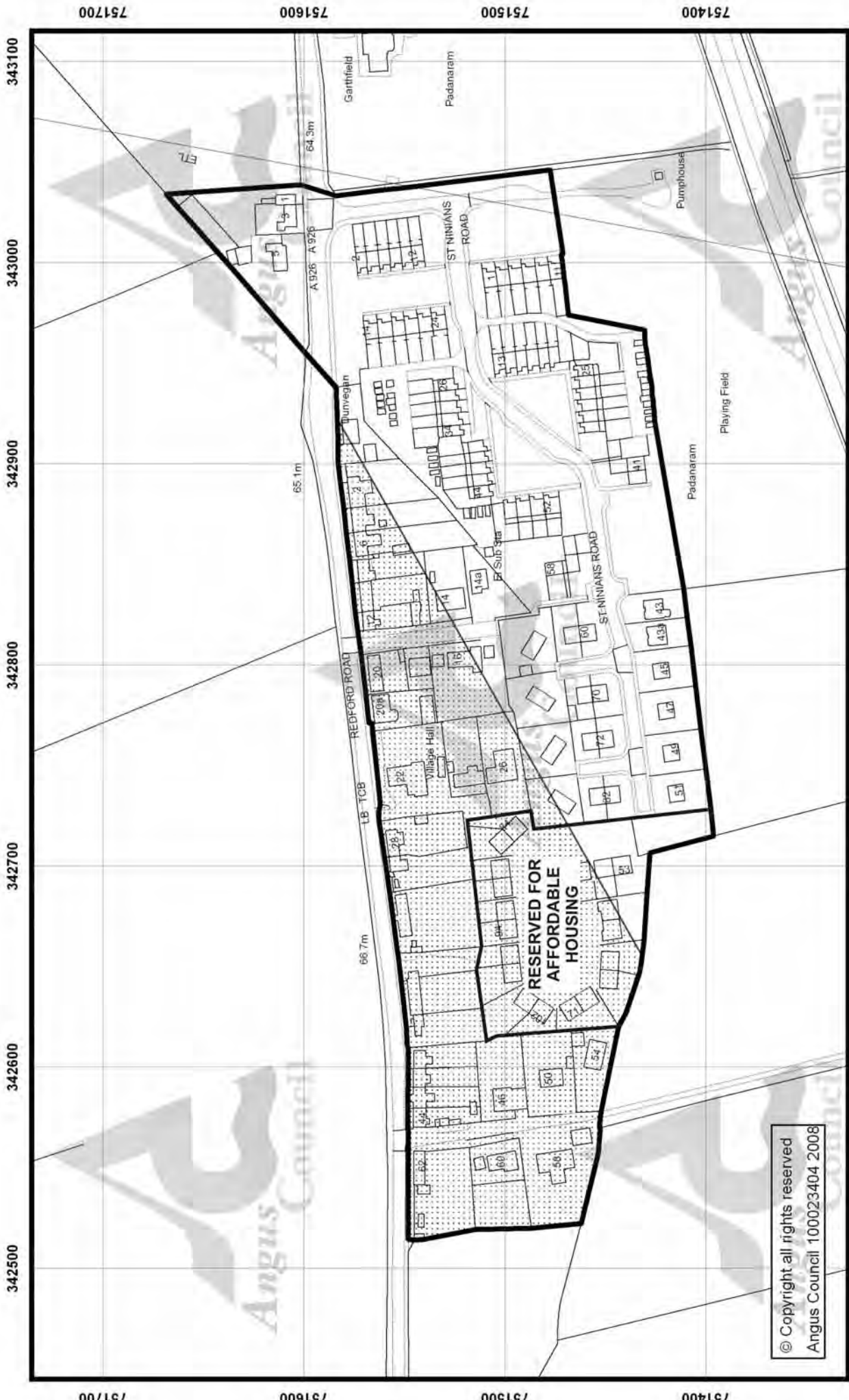
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Oathlaw

Angus Local Plan Review

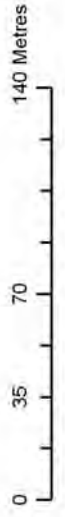




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Padanaram Angus Local Plan Review



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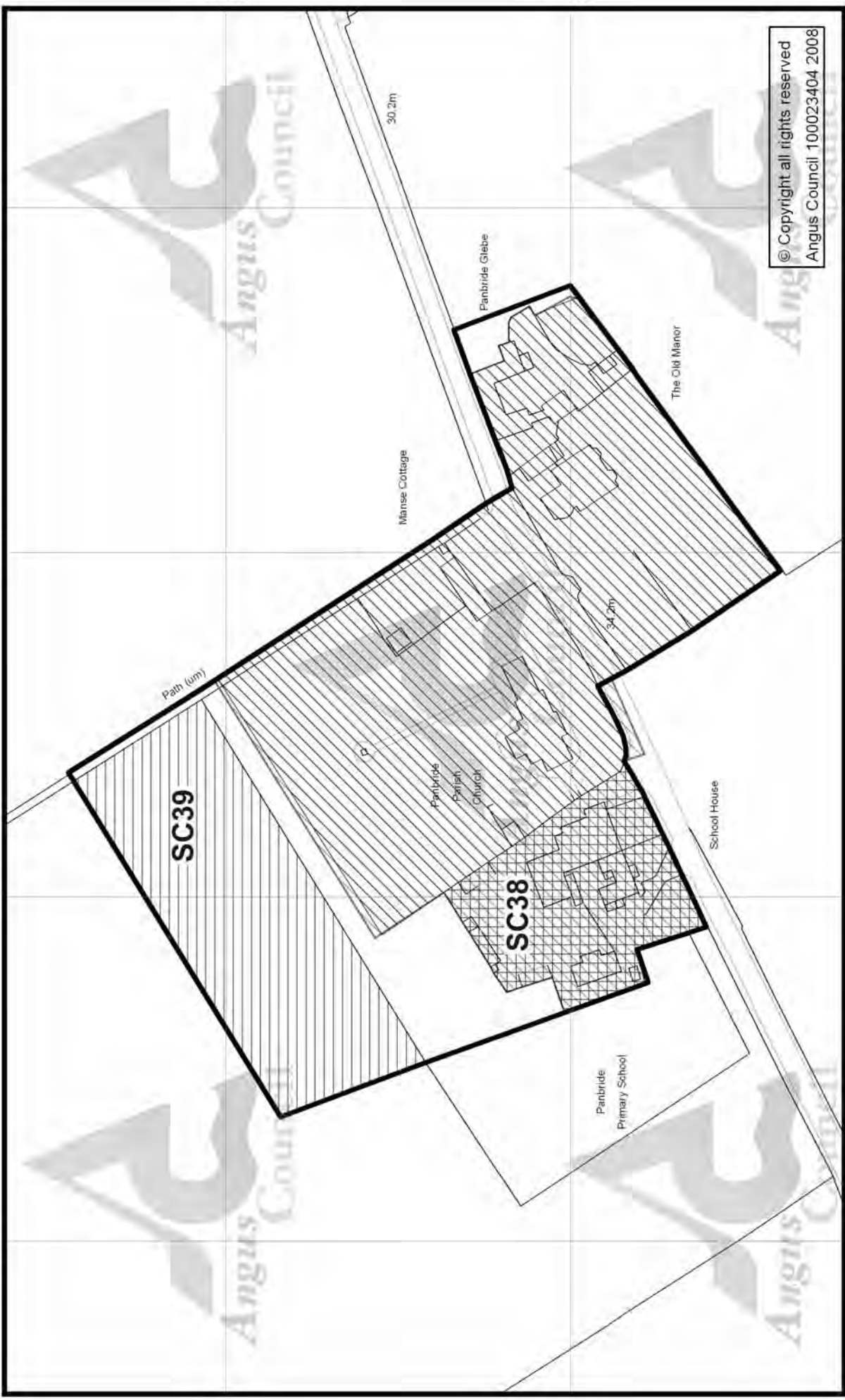
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Panbride
Angus Local Plan Review



PIPERDAM

1. Located to the west of Muirhead on the south side of the A923, Piperdam comprises a golf course, designed around a loch and woodland setting, associated driving range and other facilities including restaurant/centre, swimming pool/spa, loch fishings and a separate area for the development of up to 40 chalets and 30 timeshare properties. Planning permission, subject to a Section 75 Agreement, has been granted for the development of a maximum of 123 houses in three phases.

KEY ISSUE/DEVELOPMENT STRATEGY

2. In line with the strategy of the Dundee and Angus Structure Plan that seeks to direct additional housing in the South Angus area towards Monifieth and Carnoustie, the development approach for Piperdam seeks to limit residential development to the existing approved number and distribution of house sites and support appropriate proposals which extend the area's recreation and tourism potential. To comply with the Structure Plan and Local Plan strategies further housing development would not be appropriate.

HOUSING

EXISTING SITES

3. The existing housing land supply, comprising sites with planning permission or under construction as identified in the Housing Land Audit June 2004, are shown in Table 1.

4. The sites at Piperdam include a third and final phase of housing development which was approved to support the provision of additional recreational facilities. The three phases of residential development will allow for a total of 123 dwellings to be constructed on the site. Further residential development beyond this number will be resisted.

Pd1 : Residential Development

Private residential development at Piperdam will be limited to a maximum of 123 dwellings in accordance with approved plans.

SPORT AND RECREATION

5. The existing facilities at Piperdam and the proposed development of chalets, timeshare properties and other facilities including nine hole golf course, woodland walk, tennis courts and children's play area will contribute to the tourism and recreation resource of Angus. Future proposals which consolidate and where appropriate expand the tourism potential of Piperdam will be supported where these are compatible with the Local Plan Strategy for the South Angus Housing Market Area. This strategy does not support further residential development at Piperdam.

PROFILE

Role:

Mixed recreational and housing development incorporating golf course, restaurant, fishery and recreational facilities.

Housing Land Supply June 2004:

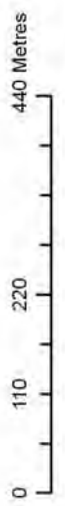
existing - 45

Drainage:

Capacity available.

Table 1: Existing Site

(a) Piperdam	45
Total	45



Piperdam Angus Local Plan Review



Pd2 : Recreation Development

Proposals which extend the tourism and recreational potential of Piperdam, will be supported where they are compatible with existing land uses/activities, are not detrimental to the area's setting and environment and comply with the Structure Plan and Local Plan strategy.

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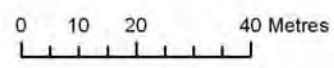
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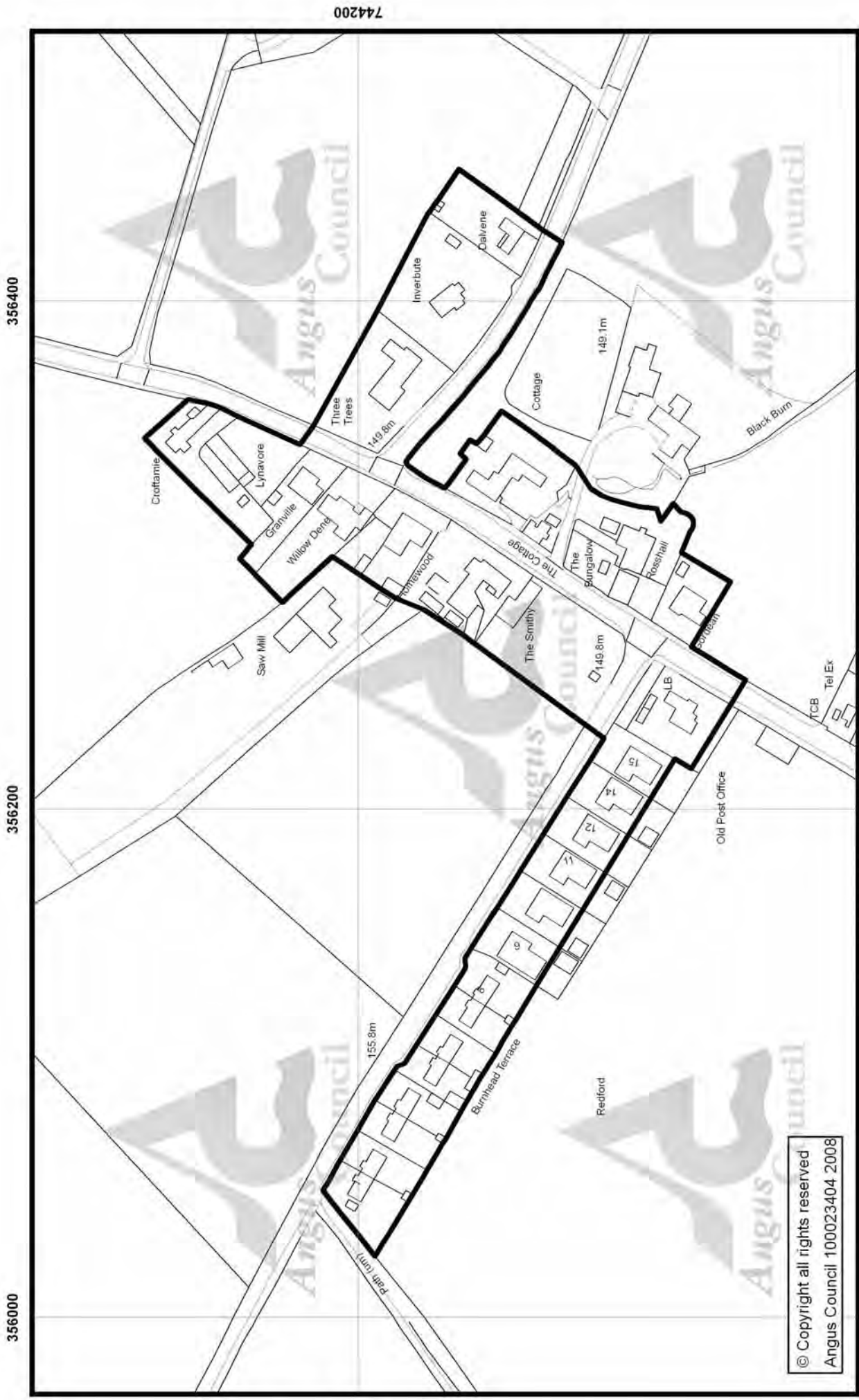
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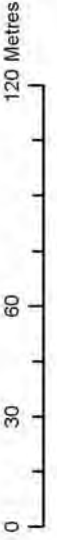


Prosen Village
Angus Local Plan Review





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Redford
 Angus Local Plan Review



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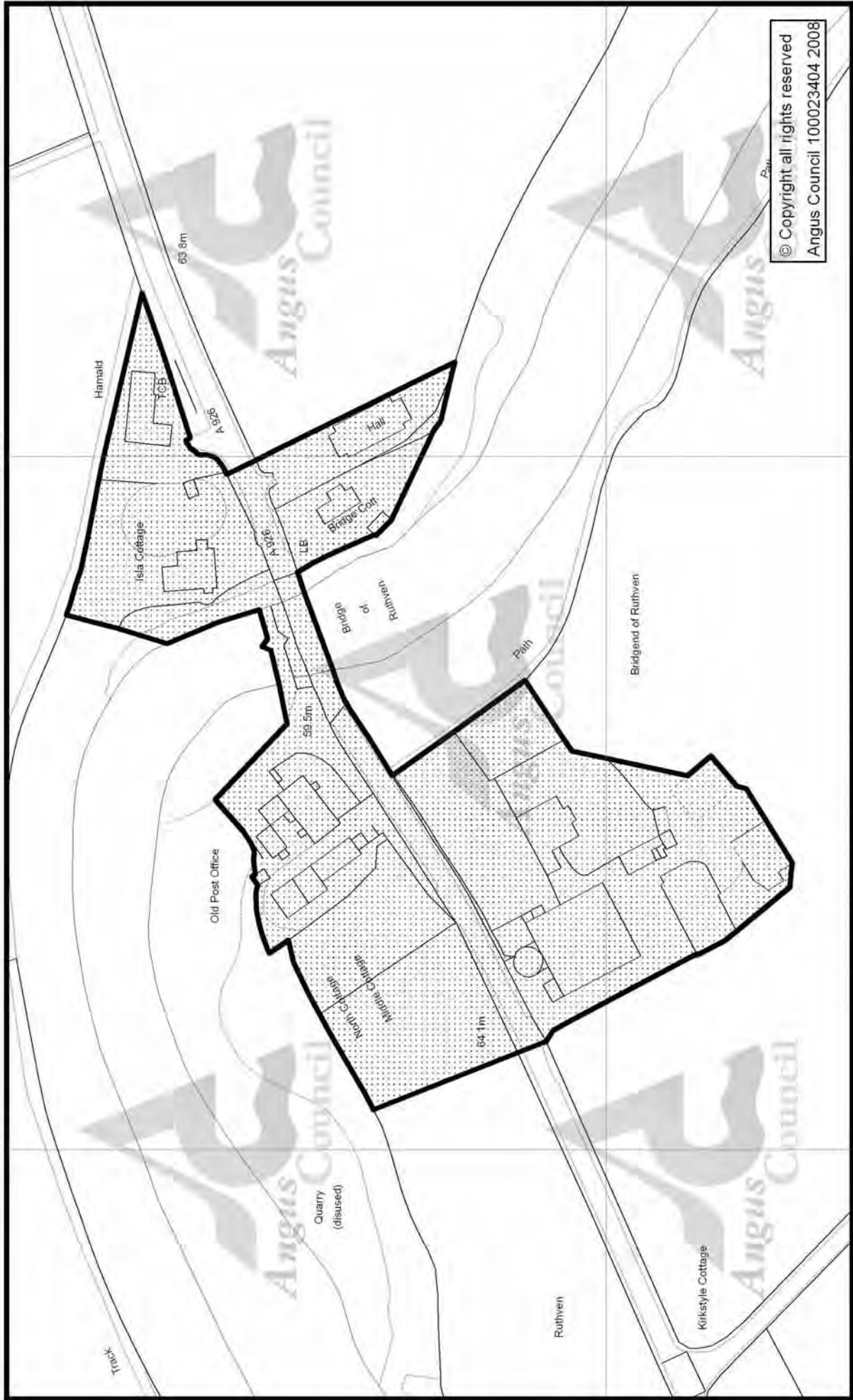
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Ruthven Angus Local Plan Review



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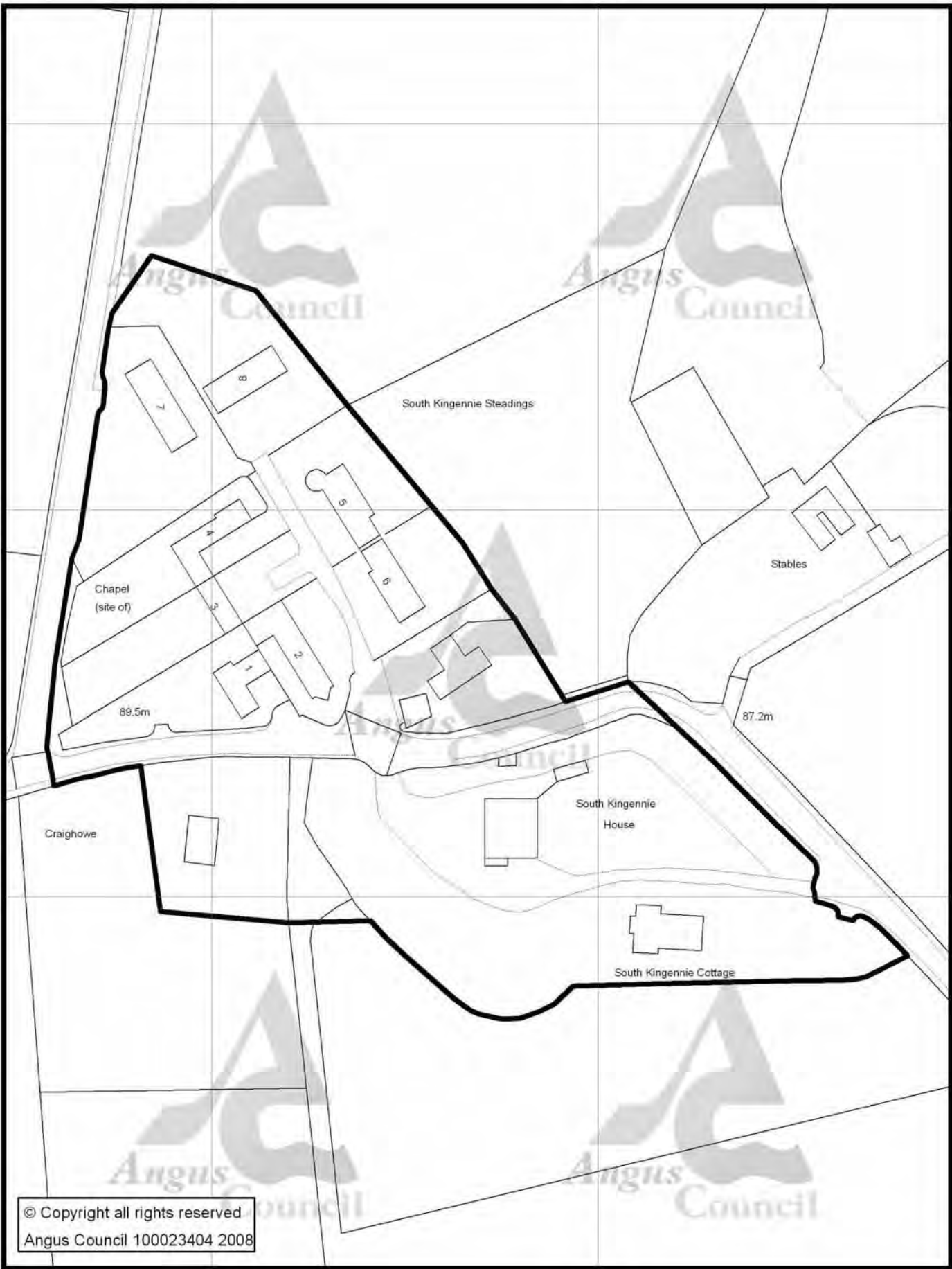
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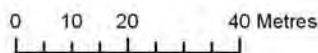
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South Kingennie
Angus Local Plan Review



STRATHMARTINE HOSPITAL

1. The Strathmartine Hospital Estate lies to the northwest of Dundee. Although a small part of the estate has been retained in health care use the remainder of the site (17.5 ha) has been declared surplus to the requirements of the NHS Trust. The surplus buildings and landscaped grounds offer an opportunity for reuse and redevelopment for a range of uses, in the context of the strategy for the South Angus Housing Market Area.

KEY ISSUE/DEVELOPMENT STRATEGY

2. The development approach for the Strathmartine Hospital Estate during the life of this Local Plan will be to support proposals for the appropriate reuse and redevelopment of the site for a mix of uses in the context of the strategy for the South Angus Housing Market Area. Housing development will be limited to a maximum of 40 residential units from the conversion of the important category B listed building and any additional new housing.

3. The feasibility of other compatible land uses and activities such as business uses, non-mainstream housing (nursing home, sheltered housing, etc), leisure and recreational uses should be investigated. A comprehensive strategy or master plan to guide the development of this important urban fringe site will be required and should address issues such as primary and secondary school capacity, timing and phasing of development, landscape setting and existing tree cover, and public safety and security related to existing redundant structures.

OPPORTUNITY SITES

4. The following site provides an opportunity for redevelopment. Where proposals involve new housing development they will require to contribute towards meeting the provisions of Policy SC9 : Affordable Housing (see page 33).

St1: Opportunity Site - Strathmartine Hospital Estate

The Strathmartine Hospital Estate provides an opportunity for reuse and redevelopment for a range of uses. Proposals for reuse of the site must be in accordance with a comprehensive strategy or master plan which will be prepared for this site and include details of the following requirements:

- retention of the existing listed building;
- the timing, phasing and location of development;
- public safety and security related to existing structures;
- the retention of existing tree cover and hedgerows, enhancement of the landscape setting and biodiversity of the site;
- provision for public access to the landscaped grounds for informal recreational purposes.

Housing development will be limited to a maximum of 40 residential units comprising the conversion of the existing listed building and any limited new housing development.

PROFILE

Role:

Surplus former hospital site on the northern fringe of Dundee.

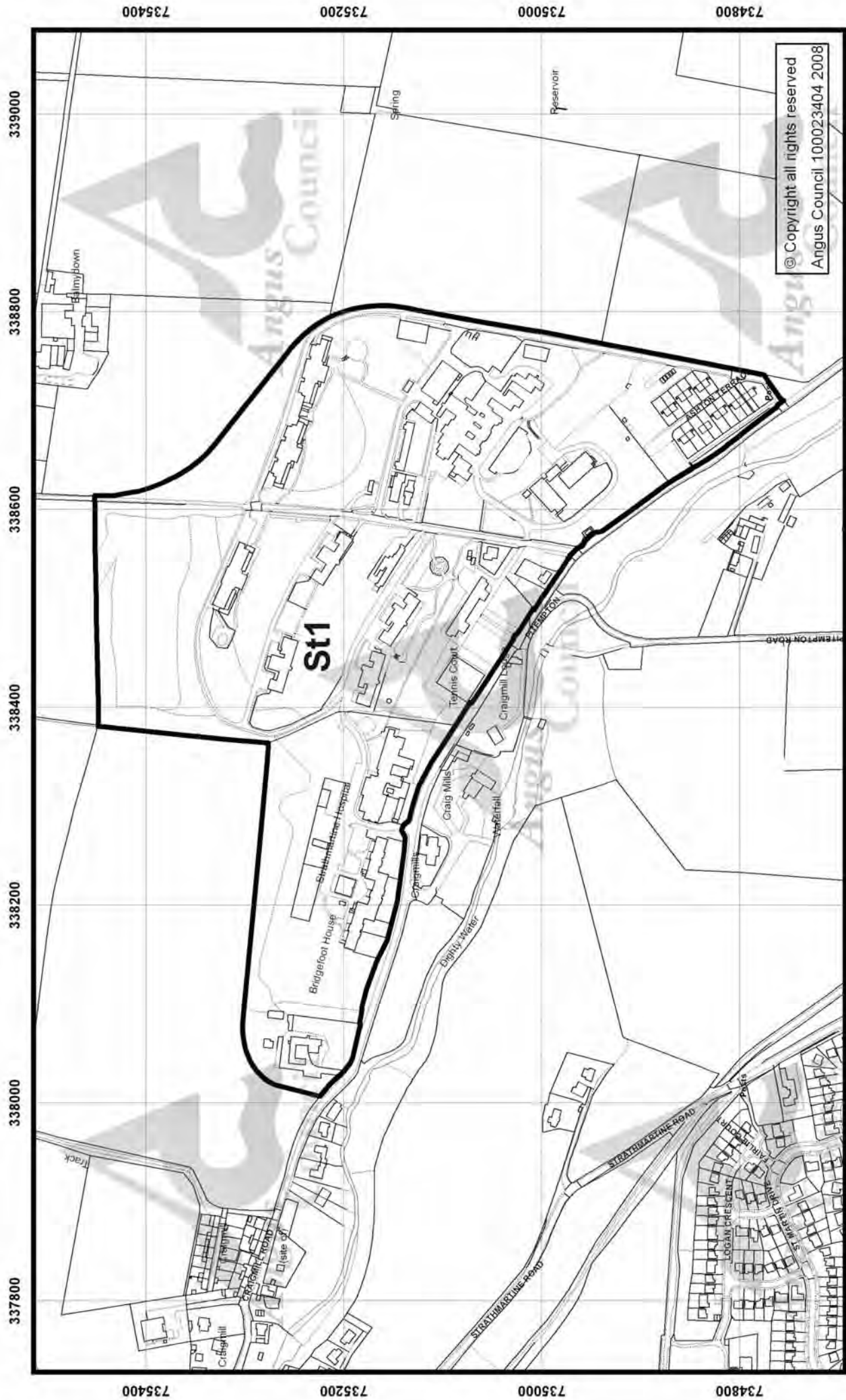
Drainage:

Existing hospital drainage system.
Surface water disposal to the Dighty Water.

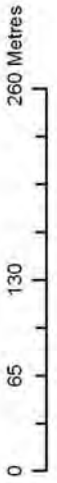
Opportunity Sites: Sites available for redevelopment for housing and/or other uses. Given uncertainties related to the timing of release of such sites for development and the range of potentially suitable uses, they are not counted towards meeting the Structure Plan housing allowances until planning permission is granted.

Opportunity Site

St1: Strathmartine Hospital Estate

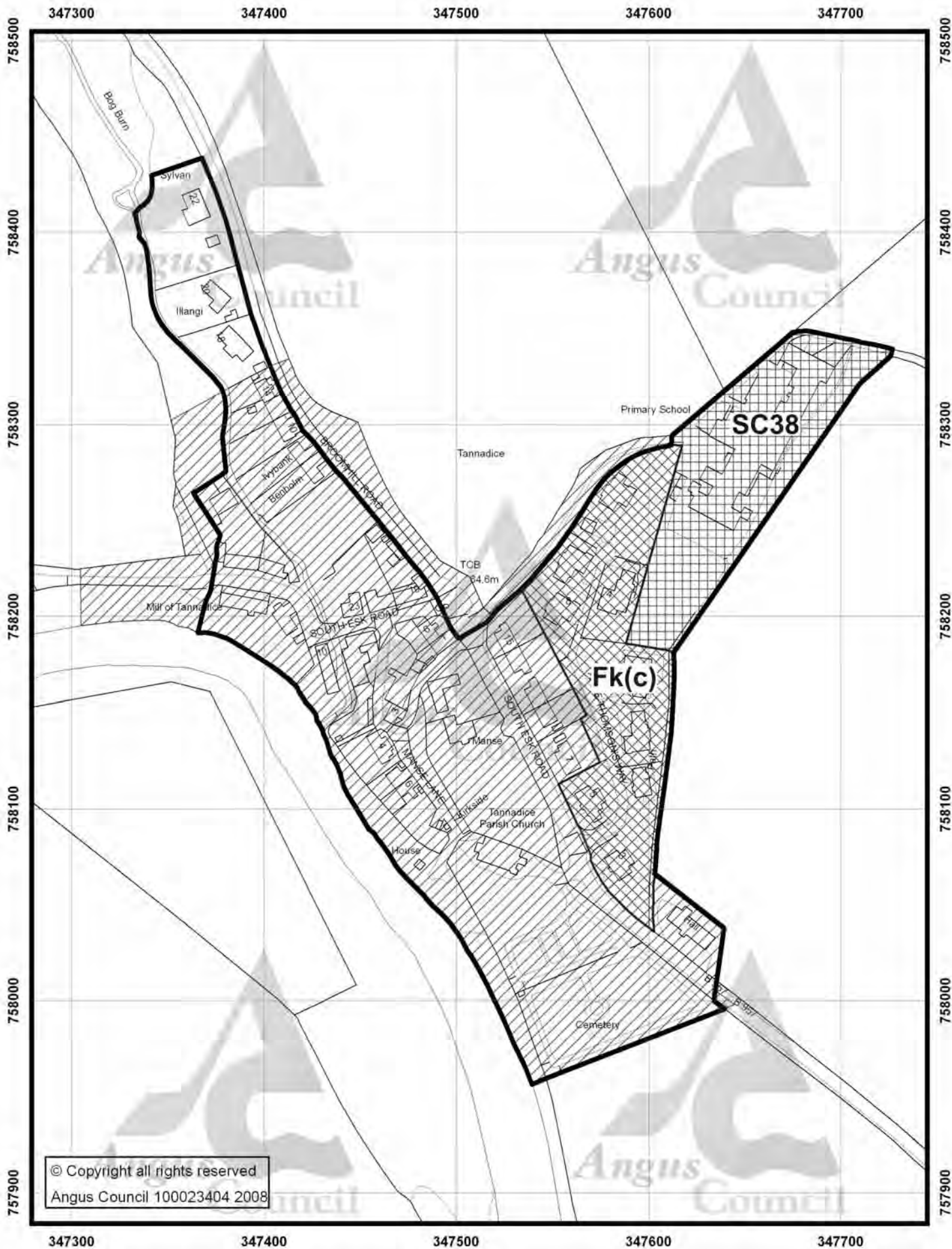


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Strathmartine Hospital Angus Local Plan Review







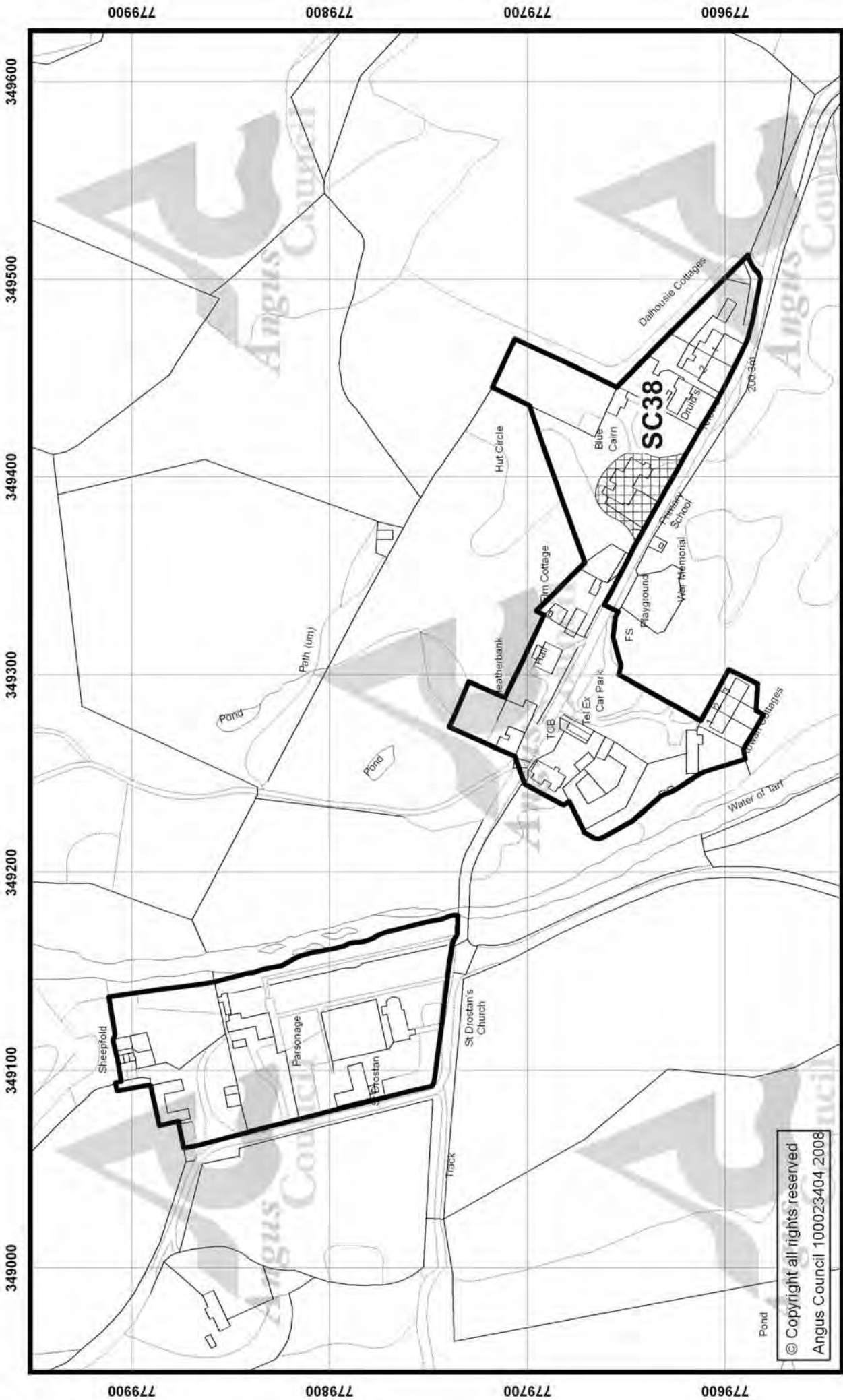
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Angus Local Plan Review

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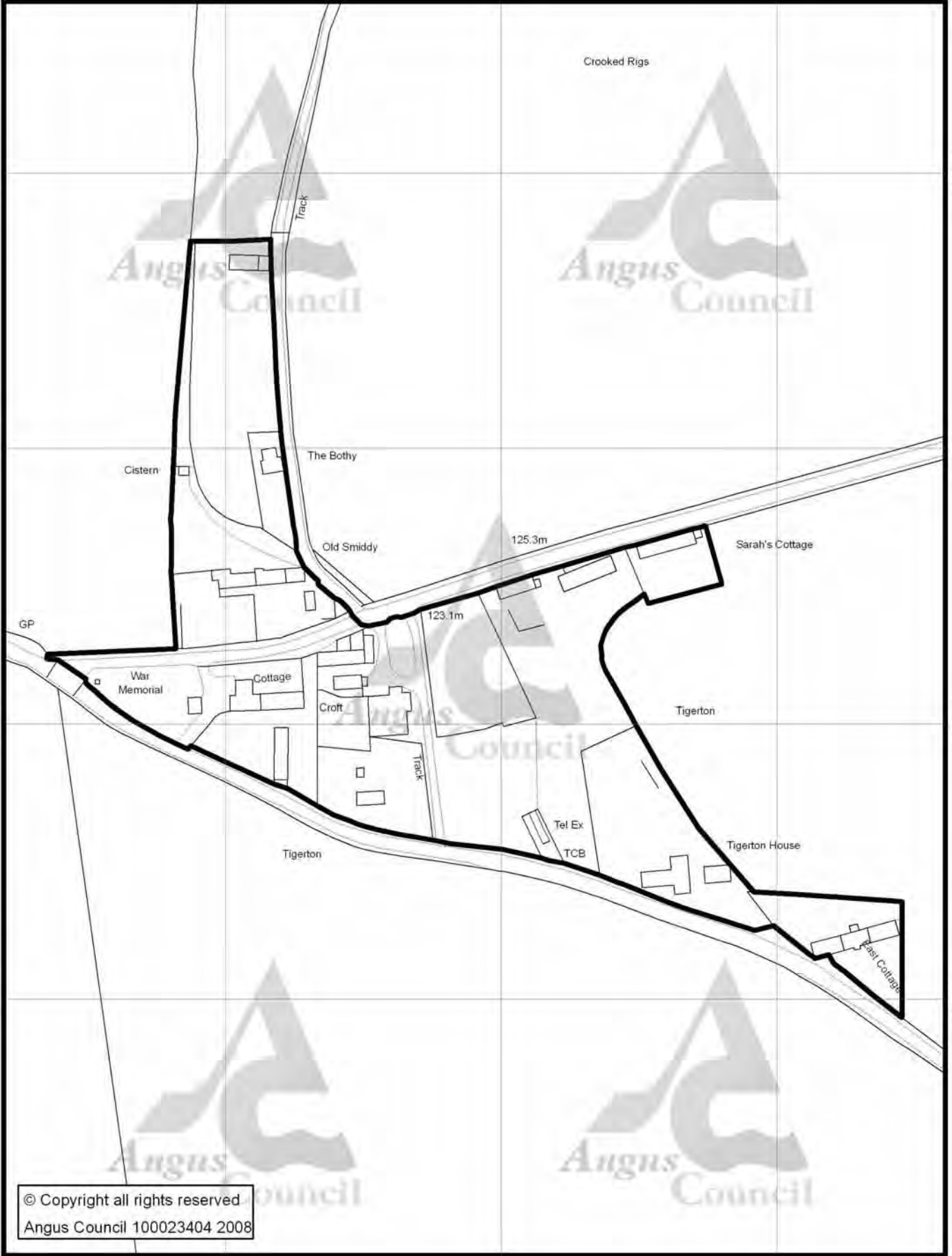
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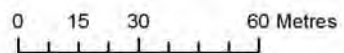


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Tigerton

Angus Local Plan Review



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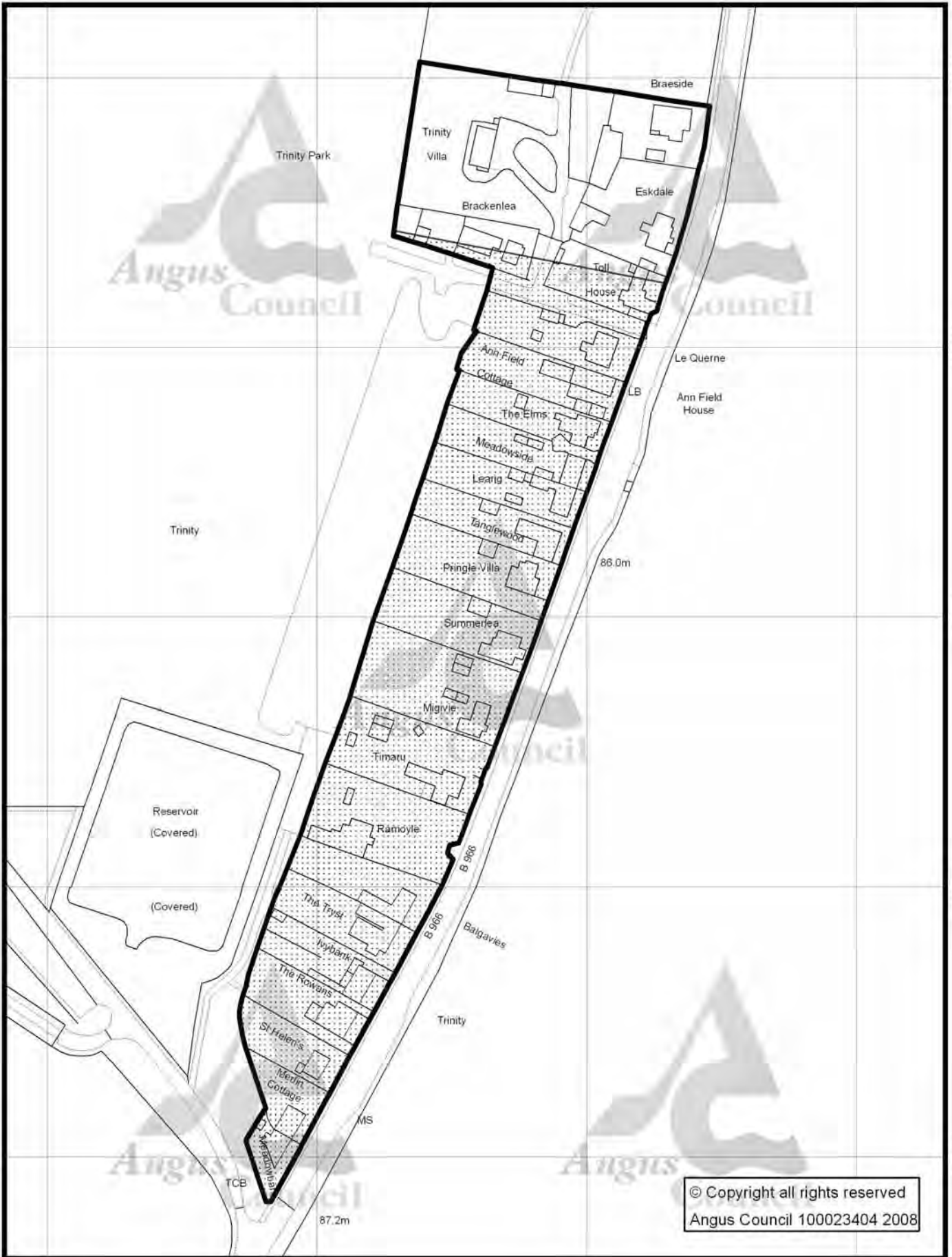
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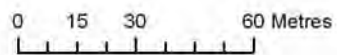
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Trinity

Angus Local Plan Review



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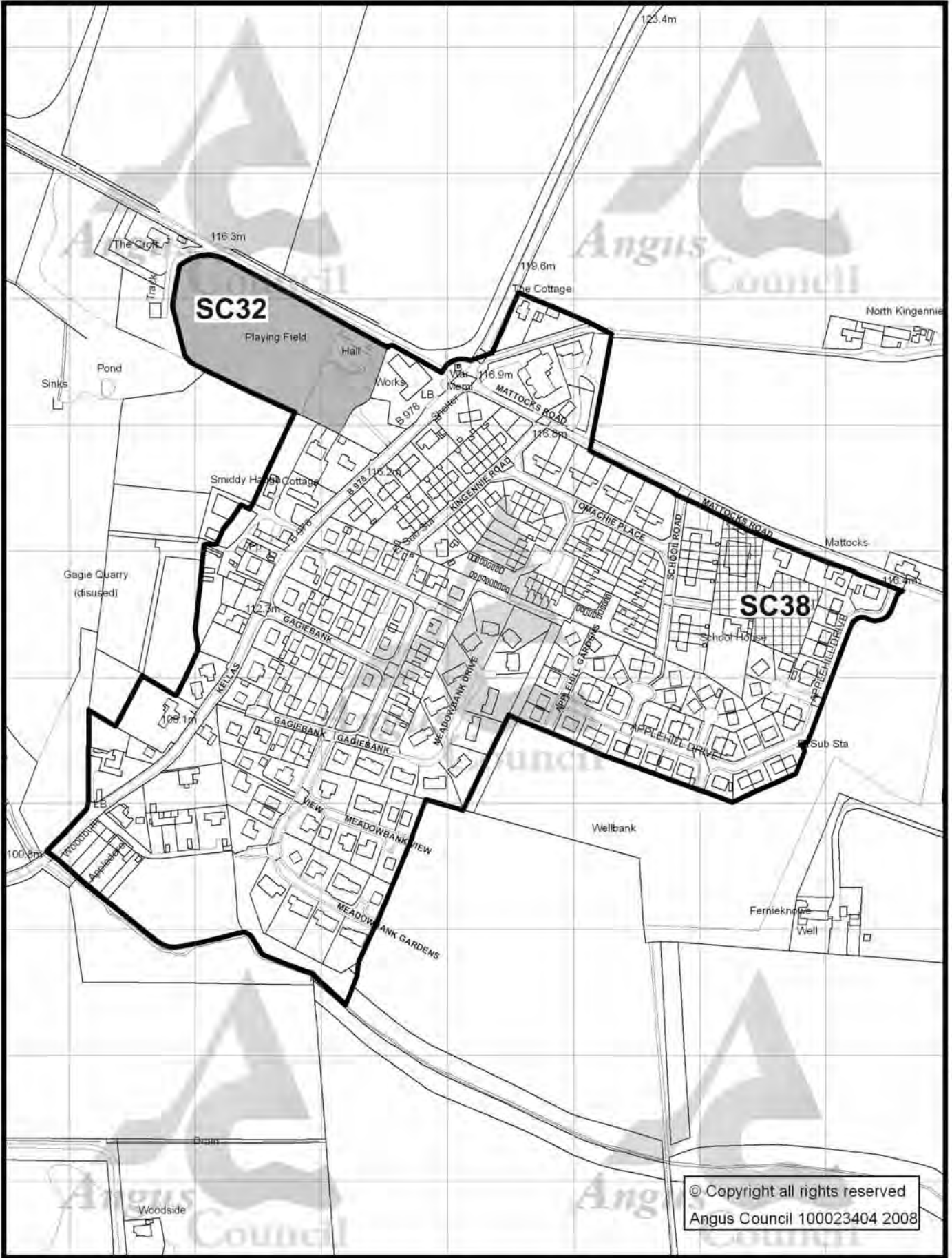
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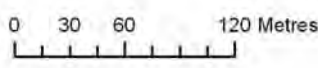
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Wellbank
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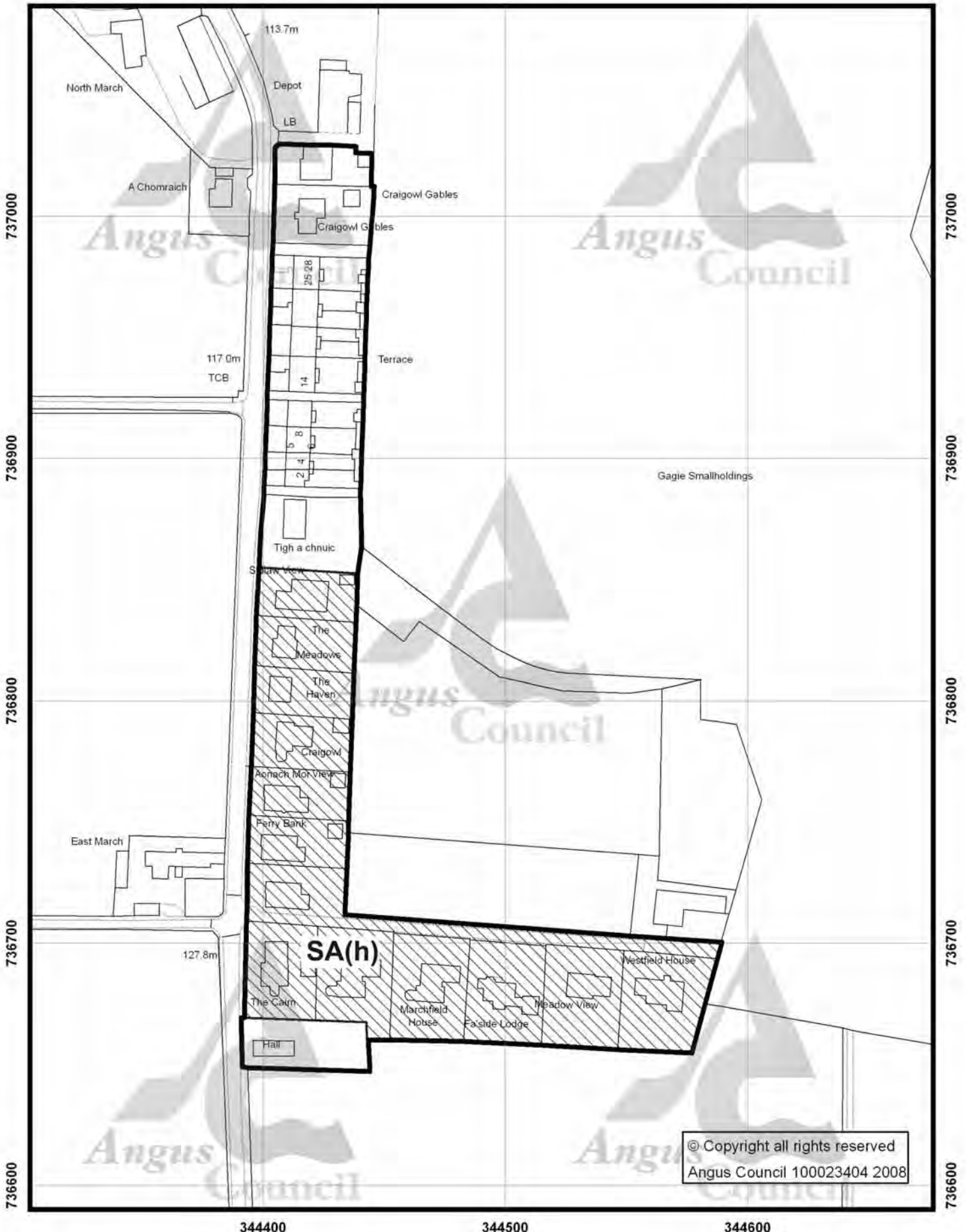


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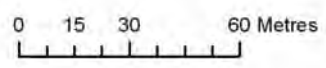
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Westhall Terrace
Angus Local Plan Review



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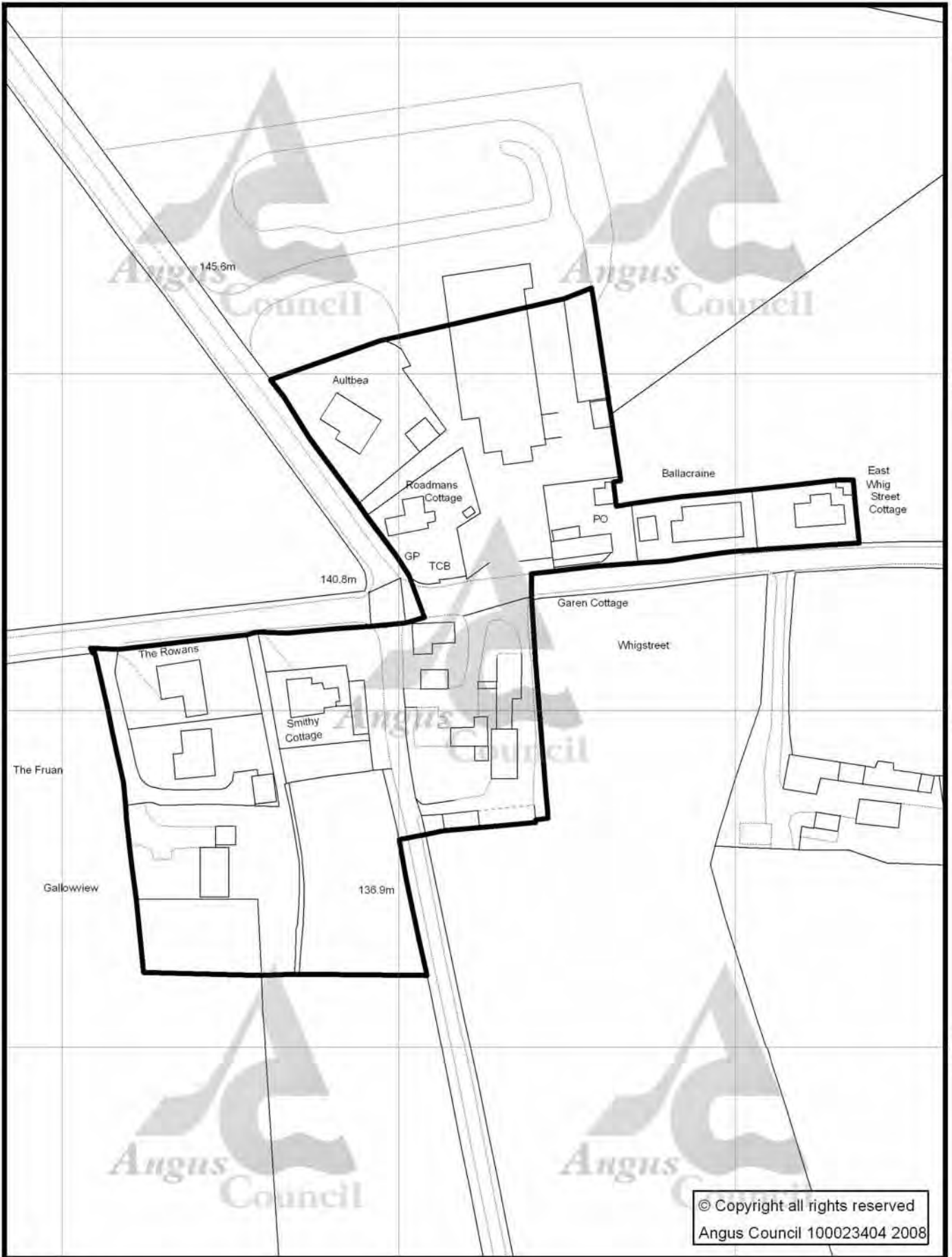
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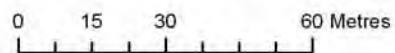
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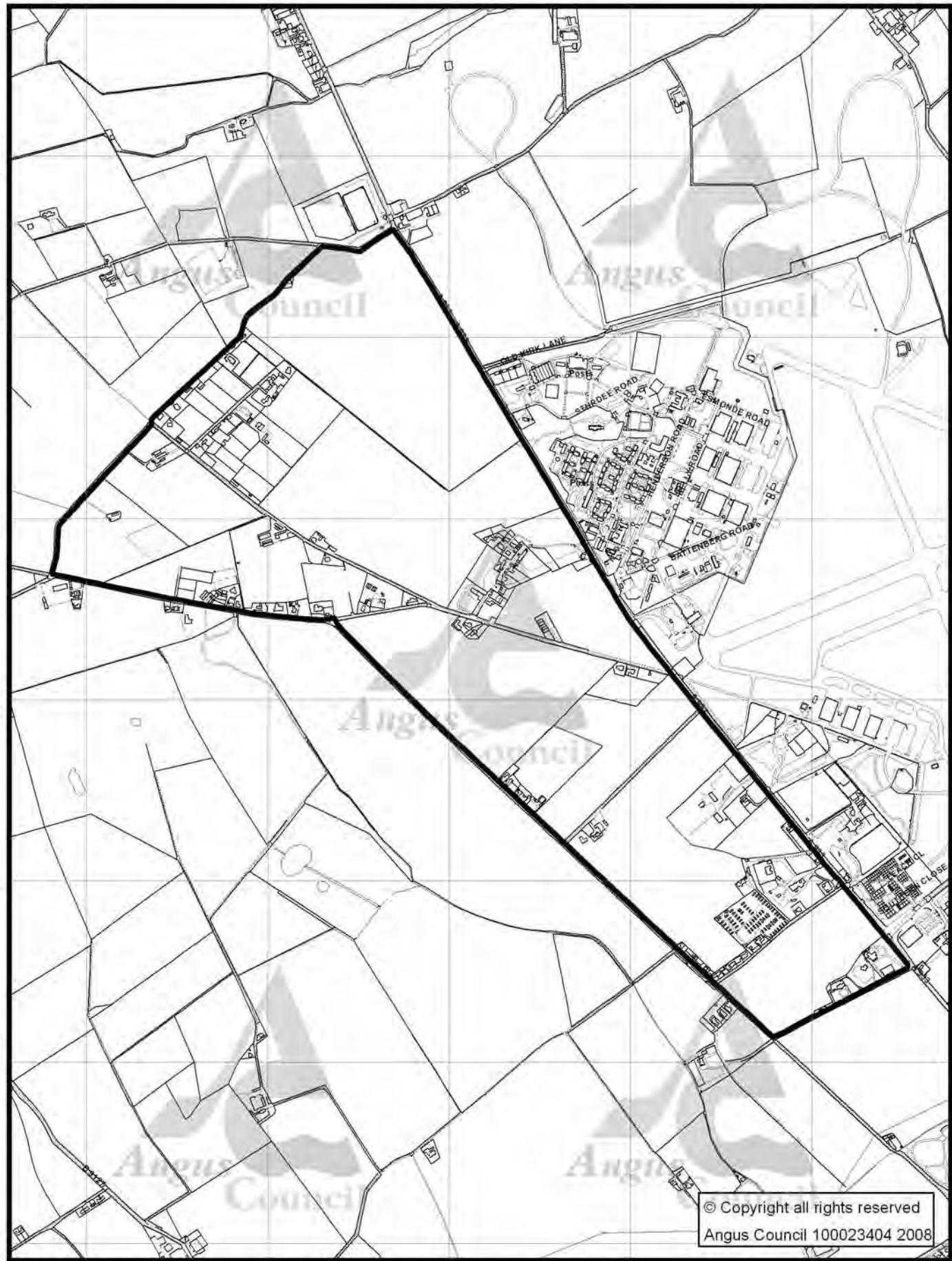
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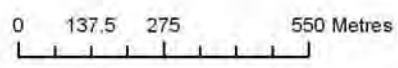


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Woodville

Angus Local Plan Review



WOODVILLE

1. Woodville, located north of Arbroath to the west of the A933, is an area where urban uses are encroaching into the countryside on the fringe of the town and incrementally changing its character from countryside to suburban. The area is characterised by loose groupings of individual houses, smallholdings, a hotel, two caravan sites and scattered commercial and industrial premises (some of which are agriculturally based).

KEY ISSUE/DEVELOPMENT STRATEGY

2. The Woodville area continues to experience pressure for the development of housing and other urban uses to the detriment of its countryside character. The Local Plan approach is to restrict urban sprawl and resist the increasing urbanisation of Woodville. Development will generally only be considered acceptable for essential worker housing or where the use is directly associated with agriculture or horticulture.

Wv1: Woodville Development Approach

Within the development boundary identified for the wider Woodville area, only proposals directly associated with agriculture or horticulture will be permitted. New housing will only be supported where it provides essential worker housing for established businesses.

PROFILE

Role:

The Woodville area is a loose grouping of houses, smallholdings, an hotel, caravan site and scattered commercial and industrial premises situated on the outskirts of Arbroath

Housing Land Supply June 2003:

existing - 0

Drainage:

The area is not served by public sewers. Development is dependent on private drainage arrangements with discharge to ground soakaway or local watercourse.

PART 5: Implementation, Monitoring and Review

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IMPLEMENTATION

Introduction

5.1 This local plan provides a framework for managing land-use change and development, and as such must be capable of implementation. The status of the Development Plan in the decision making process provides for a greater degree of consistency and certainty in how the Plan will be implemented and underpins the overall approach of putting the Plan into action.

Partnerships and Related Strategies

5.2 Developing partnerships is one of the key themes guiding the work and priorities of Angus Council. This includes partnerships with the community; with statutory bodies and other public, private and voluntary agencies and organisations; and with private interests. In helping to translate these partnerships into action the local plan forms part of an important two-way process which is informed by and in turn seeks to inform various other plans, strategies and initiatives developed both by the Council and its partners. The Local Plan therefore has an important role in providing a land use framework and land management overview. A broad indication of some of the links to other strategies, plans and initiatives is summarised in Appendix 4 which identifies a matrix of associated documents.

Proposals

5.3 Proposals are intended actions of significance to the Plan area to be undertaken by Angus Council, or by other public or private bodies or individuals that will be implemented within about five years of the adoption of the Plan. The specific proposals applying to individual settlements identified in Part 4 of this Written Statement concern the allocation of land for development together with various actions in support of the Development Strategy for each settlement. These proposals and actions will be implemented by various measures including via the development control process in respect of applications to develop specific sites.

5.4 Further guidance on the development of various sites allocated in the local plan will be published in the form of more detailed development briefs. These briefs will set out the development phasing, mix of uses, infrastructure requirements and guidance on site layout and design matters. They will also indicate requirements for vehicular, pedestrian and cyclist access; landscape and open space provision; and the need for related community facilities and developer contributions.

Resources and Developer Contributions

5.5 While Angus Council has published this Finalised Local Plan other agencies and developers will fund many of the development proposals and opportunities. This includes various aspects of infrastructure necessary to implement the Development Strategy. The Council will prepare supplementary guidance to provide an indication of the nature of

Section 25 states:-

Where, in making any determination under the Planning Acts, regard is to be had to the development plan, the determination shall be made in accordance with the plan unless material considerations indicate otherwise.

Town and Country Planning (Scotland) Act 1997

Development Briefs have been prepared for:

- Sunnyside Royal Hospital, Hillside
- Orchardbank, Forfar
- Bearehill/Rosehill, Brechin
- Brechin Business Park
- Inverkeilor
- Ashludie Hospital, Monifieth
- Newton Road, Carnoustie
- Brechin Road, Montrose

Development Briefs will be prepared for:

- Montrose Road, Arbroath
- Dubton Farm, Brechin
- Hillhead, Kirriemuir
- Montrose Airfield
- South of Gardyne Street, Friockheim
- Jubilee Park, Letham
- Strathmartine Hospital

public services, community facilities and infrastructure for which developer contributions may be anticipated on a settlement-by-settlement basis. The guidance will be revised as and when circumstances dictate.

5.6 A key consideration will be to secure sufficient resources from both the public and private sectors to ensure service and infrastructure provision. This includes encouraging the private sector to contribute towards the removal of infrastructure constraints in accordance with the Development Strategy through appropriate planning agreements taking account of opportunities for delivering planning gain.

5.7 New development has an important role in funding measures to mitigate any adverse impacts in a way that is consistent with the delivery of wider planning and environmental objectives. Indeed, in Angus, as elsewhere in Scotland, the bulk of the funding for infrastructure and facilities arising from major new greenfield housing developments will probably have to come from contributions by developers.

5.8 Circular 12/1996 advises that development plans should give guidance on the particular circumstances in which planning authorities will seek to use Section 75 Planning Agreements. Developer contributions will be sought where the impacts of a scheme warrant them. Such contributions should be designed to avoid a significant negative impact as a result of the development, and to ensure a high quality and properly serviced development. Contributions may be appropriate both on-site and off-site, depending on the nature of the prospective impact. In appropriate cases, Angus Council may take the joint impact of several related schemes into account. The provision of contributions will not make a fundamentally inappropriate scheme acceptable in planning terms. They are designed to apply to cases where there is a significant impact that is capable of mitigation to produce an acceptable scheme.

Circular 12/1996: The Town and Country Planning (Scotland) Act 1972

Policy Imp1 : Developer Contributions

Developer contributions will be required in appropriate circumstances towards the cost of public services, community facilities and infrastructure and the mitigation of adverse environmental impacts that would not have been necessary but for the development. Such contributions will be consistent with the scale and effect of the development and may relate to both on-site and off-site items that are required to produce an acceptable development in the public interest.

Enforcement of Planning Control

5.9 In order to assist a structured and proactive approach and provide the general public, developers and applicants for planning permission with further information, advice and guidance Angus Council have prepared a Code of Practice for Enforcement of Planning Control. Effective enforcement is an essential element underpinning the planning system, complementing and supporting the development planning process. Under the Town and Country Planning (Scotland) legislation a range of planning enforcement powers are available to ensure that

development is not carried out in breach of planning control or against the public interest. In assessing the need for planning enforcement action, one of the key issues to be determined by Angus Council is whether the breach of control would unacceptably affect public amenity or any existing use of land and/or buildings. The policies and proposals of the Local Plan provide broad guidance on what may or may not be acceptable and will form one of the main considerations taken into account by the Council.

5.10 The level and nature of enforcement action will be in scale with the breach of planning control to which it relates. As outlined in the Enforcement Charter the initial approach of Angus Council will generally be to seek a voluntary solution to the situation through negotiation with the owner or occupier of the site or through the submission of a planning application. However, where negotiation fails and the circumstances warrant, a more proactive enforcement response may be needed. The weight of enforcement action will be dependent on the severity of the breach and whether public safety and/or health are endangered. Areas of particular sensitivity include town centres, heritage designations particularly conservation areas and listed buildings, residential property and areas of landscape importance.

5.11 Where enforcement action is instigated, a right of appeal may exist to Scottish Ministers, which would be determined by an independent assessor from the Scottish Office Inquiry Reporters' Unit. It should however be noted there is no right of appeal for third parties and in this respect Angus Council are charged with looking after their interests and those of the wider community.

Policy Imp2 : Enforcement of Planning Control

Where there has been a breach of planning control, Angus Council will take enforcement action where it is considered necessary to remedy the breach including where it will secure compliance with the policies of this Local Plan.

MONITORING AND REVIEW

Introduction

5.12 Monitoring of the local plan is a statutory responsibility placed on Angus Council to assess the continuing relevance of the plan and identify the need for and timing of alterations or a full review. By regularly undertaking systematic monitoring of the plan, the Council can ensure the policies and proposals contained in the plan continue to be relevant and provide a firm basis for investment guidance and development control over the plan period.

Planning Advice Note 49
“Local Planning” para 14

Planning authorities should ensure that statutory plans maintain their relevance by addressing current and emerging land use and environmental issues and that they contain robust policies for the promotion and control of development.

Monitoring requirements and data tracking

5.13 Effective monitoring involves an assessment of a variety of factors including the following:-

- the implications arising from monitoring the approved Dundee and Angus Structure Plan;
- changes in national planning legislation or guidance;
- changes in local priorities;
- emergence of new issues or development pressures the local plan has not catered for;
- changes in spending programmes of the local authority or other agencies;
- performance of local plan policies and proposals in dealing with issues and proposals for development;
- the extent to which local plan policies and proposals have been fully implemented or overtaken;

5.14 Existing informal/formal data sources and mechanisms which will be used and further developed to gather information include:

- annual housing land audit;
- annual employment land assessment;
- annual survey of derelict and vacant land and premises;
- audit of community facilities;
- analysis of development control decisions to ensure consistency;
- assessment of appeal decisions;
- monitoring of proposals granted which are departures from the Structure or Local Plan;
- research into emerging policy issues;
- relevant biodiversity indicator.

Review

5.15 The Finalised Angus Local Plan Review has been prepared with an element of flexibility (e.g. in relation to housing land allocations) in order to be sufficiently robust to accommodate some changes arising from the inevitable uncertainty associated with longer term forecasting and planning. The need to adjust, amend and update parts of the plan as part of the monitoring and review process is, however, also recognised. The Plan has been prepared in a form and following a format that will allow for selective updating of specific parts of the Plan without compromising its overall integrity. Clearly major shifts in overall strategy would require a comprehensive review and full replacement of the Plan. However it is expected that this will not be needed on a frequent basis.

PART 6: Appendices

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2. Housing Land Supply	307
3. Letham Unadopted Roads Policy	311
4. Matrix of Associated Documents	314
5. Profile of Angus	317

APPENDIX 1 – DEVELOPMENTS REQUIRING A TRANSPORT ASSESSMENT

A Transport Assessment will require to be submitted for all development proposals which fall at or above the size thresholds set out below.

USE	SCALE
Retail	1,000 sq.m Gross Floor Area
Cinemas and Conference Facilities	1,000 sq.m Gross Floor Area
Leisure Facilities	1,000 sq.m Gross Floor Area
Business/Office	2,500 sq.m Gross Floor Area
Industry	5,000 sq.m Gross Floor Area
Distribution and Warehousing	10,000 sq.m Gross Floor Area
Hospitals/Health Care Facilities	2,500 sq.m Gross Floor Area
Education Facilities	2,500 sq.m Gross Floor Area
Stadia	1,500 seats
Housing	100 dwellings

Appendix 2 : Housing Land Supply in each Housing Market Area by Site

	Sites with Planning Permission at June 2004	No. of Units	Sites Previously Identified by first Angus Local Plan	No. of Units	Allocated Sites	No. of Units
ARBROATH HMA						
Arbroath	A(a) The Elms/ Cairnie Road A(b) McGregors Walk A(c) Lochlands Drive/ Cairnie Street A(d) East Newgate 2 A(e) Clifftown Road A(f) Millgate/ Alma Works A(g) Abbeybank House A(h) Seagate A(i) Elliot A(j) Etradour Gardens	6 15 10 13 7 8 9 14 31 12 125	A1 : Montrose Road A2 : James Street Hall A3 : Millgate Loan/ East Mary Street A4 : Benedict Road	200 17 20 20	A5 : Clifftown	125
Landward						
Auchmithie						
Frickheim	Fk(a) Millgate 1 Fk(b) Millgate 2 Fk(c) Kinnell Gardens	3 1 9			Am1 : Kirkbank Fk1 : Millgate 3 Fk2 : South of Gardyne Street	15 16 40
Inverkeilor	Ik(a) Village Field Ik(b) Lunan Avenue/ Kirkton Farm Ik(c) Railway Field	4 2 45			Ik1 : Lunan Avenue Ik2 : Kirkton Farm Steading	4 3
Letham Grange	LG(a) Letham Grange	3				
Other	ARB(a) Tarriebank House, Marywell ARB(b) Legaston Farm, Frickheim ARB(c) Rosecroft Court, Mossston, Carmyllie ARB(d) Cotton of Colliston	5 3 1 6 82				
Sub total		207		0		78
Arbroath Area Total		207		257		203

	Sites with Planning Permission at June 2004	No. of Units	Sites Previously Identified by first Angus Local Plan	No. of Units	Allocated Sites	No. of Units
BRECHIN/MONTROSE HMA						
Brechin	B(a) River Street B(b) Bearhill/ Rosehill B(c) Witchden Road B(d) Guthrie Park	8 93 8 10			B1 : Dubton Farm B2 : Andover School	100 20
Montrose	M(a) Waldron Road M(b) Charleton Road M(c) Chapel Works M(d) Western Road/ High Street M(e) Brechin Road/ Tayock M(f) Hill Place M(g) New Wynd M(h) Provost Johnstone Avenue M(i) Bridge Street M(j) Rosemount Road M(k) Lower Balmain Street	8 2 8 10 9 12 15 20 22 7 8 121	M1 : Brechin Road M2 : Dungmans Tack M3 : Lochside Distillery Tower	0 200 18 40		120
Landward Edzell	E(a) Lethnot Road/ Slateford Road E(b) Lindsay Place	18 14			E1 : Edzell School Annex	0 6
Other	BM(a) North Craigo BM(b) Mains of Farnell BM(c) Barns of Craig Farm	5 5 9				
Sub total		51		0		6
Brechin/Montrose Total		291		258		126

	Sites with Planning Permission at June 2004	No. of Units	Sites Previously Identified by first Angus Local Plan	No. of Units	Allocated Sites	No. of Units
SOUTH ANGUS HMA						
Carnoustie	C(a) Westhaven Farm C(b) Lochend Road C(c) Newton Road 1 C(d) Ravensby Road C(e) Taymouth Terrace	12 10 31 10 81 144	C1 : Newton Road 2	158	C2 : Former Maltings	130
Monifieth	Mf(a) South Grange Mf(b) Ashludie Terrace Mf(c) West Grange Road	25 1 3 29	Mf1 : Ashludie Hospital Phase 2	158 25 25		130
Landward						0
Ballumbie House	Ba(a) Ballumbie House	184				
Liff	Li(a) Henderson Park	8				
Monkie	Mk(a) Panmure Road	7	Mk1 : Granary Site	60		
Newbigging			Nb1 : Pitairlie Road	20		
Piperdam	Pd(a) Piperdam	45				
Other	SA(a) Bridgefoot Farm Steading, Bridgefoot SA(b) Balruddery SA(c) Flocklones Farm, Invergowrie SA(d) Berryhill Farm, Invergowrie SA(e) Dronley Road, Muirhead SA(f) Balmuir Farm SA(g) Templeton Farm, Dronley SA(h) Quarry Site, Westhall Terrace SA(i) Kingennie Fishings SA(j) Craigton Poultry Farm, Monikie SA(k) Old Dairy Farm, Muirdrum SA(l) Hospital Road, Auchterhouse	4 2 7 9 69 2 5 1 14 1 5 16 379		80		0
Sub total		552		263		130
South Angus HMA Total		1263		825		1066

Appendix 3

L1 : Letham Unadopted Roads policy

Letham has a unique problem which serves to constrain development, that is the number of unmade and unadopted roads. The roads in Letham have been inspected by the Roads Department and the following comments set out the position regarding the possibility of development being accessed from these roads. In general, roads would be required to be brought up to full adoptable standard before development of adjacent land would be possible.

Road (Referenced on Plan)	Comments
A) Burnside Road	Generally fair to good condition. 3 metres wide with system of street lighting. Potential for single plot development only otherwise no further new development permitted.
B) Guthrie Street (west)	Deteriorating, poor to fair condition. 3.5 metres wide and lit. Significant development potential in field on west side. No new development permitted in current condition. Limited development may be permitted if road brought up to adoptable standards
C) Guthrie Street (north)	Fair condition but deteriorating. 3.5 – 4.0 metres wide and unlit. Significant development potential in field to north. No new development permitted unless road brought up to adoptable standards.
D) Drimmie Road	Fair to good condition. 2.5 – 3.0 metres wide and unlit. Potential for single plot development otherwise no further new development.
E) Park Road (west)	Fair condition. Width varies but lit. No further development permitted.
F) Park Road (east)	Very narrow, 2.5 metres wide but in good condition with wide verges and is lit. Possibility of single plot development and some potential in field to south side via access track. No new development permitted.
G) Auldbar Road track	Unlit, unmade track with poor visibility at junction with Auldbar Road. Possible backland development. No new development permitted.
H) North Watson Street (north)	Unmade, unlit track in poor condition leading to two houses. Potential backland development beyond. No new development permitted.
I) North Watson Street (central/mid)	Fair condition but very narrow (2.0 – 2.5 metres wide). Lit. No further development permitted.
J) Duncan Road (extension)	Generally poor to fair condition. 4.5 metres wide. Potential development on north side and in stables. No development permitted unless road brought up to adoptable standards.

Road (Referenced on Plan)	Comments
K) Watson Street	<p>Wide carriageway in good condition with street lighting. Road narrows at south end. No footways but generous flat verges with kerblines. Limited potential for permitted infill development.</p> <p>Recently approved two house proposal if developed will block off possible access for major development from Watson Street.</p>
L) Greenhills	<p>Good bitumen surface from East Den Brae westwards to last cottage but then deteriorates to unmade farm track. Well formed junction with East Den Brae but unlit. Potential for development on both sides. No new development permitted unless road brought up to adoptable standards.</p>
M) East Blairs Road	<p>East leg – narrow, but good surfaced condition. Poor junction with The Den. Limited development potential in adjacent fields. No new development permitted.</p> <p>West leg – 3.5 metres wide, good condition, part lit at west end. Extensive potential for development on both sides. Poor junction with Gardyne Street. No new development permitted unless road brought up to adoptable standards.</p>
N) Lane off Gardyne Street	<p>Very narrow track in poor condition. Extensive areas for potential development on both sides. No new development permitted unless road brought up to adoptable standards.</p>
O) Braehead Road (east)	<p>Good condition and width over the majority of its length. Lit. Area for potential development on west side. Limited development permitted if road brought up to adoptable standards.</p>
P) Vinney Den	<p>Unmade and unlit track in poor condition. Limited development potential due to ground levels. No development permitted.</p>
Q) Braehead Road (west)	<p>Good surfaced condition. 4 metres wide along east section narrows to 3 metres wide at west. East section is lit. Extensive potential for development on both sides. No new development permitted unless road brought up to adoptable standards.</p>
R) Woodside Road	<p>Fair surfaced condition adjacent to poultry factory with well formed junction with Dundee Street. Becomes green lane beyond factory. Potential development of field on north side although this should be accessed from existing residential development at Jubilee Park/Bractullo Gardens. Otherwise no new development permitted.</p>
S) Lane from The Square	<p>Very narrow unmade track in poor condition. Serves four existing houses and joinery workshop. Potential backland development. No new development permitted.</p>

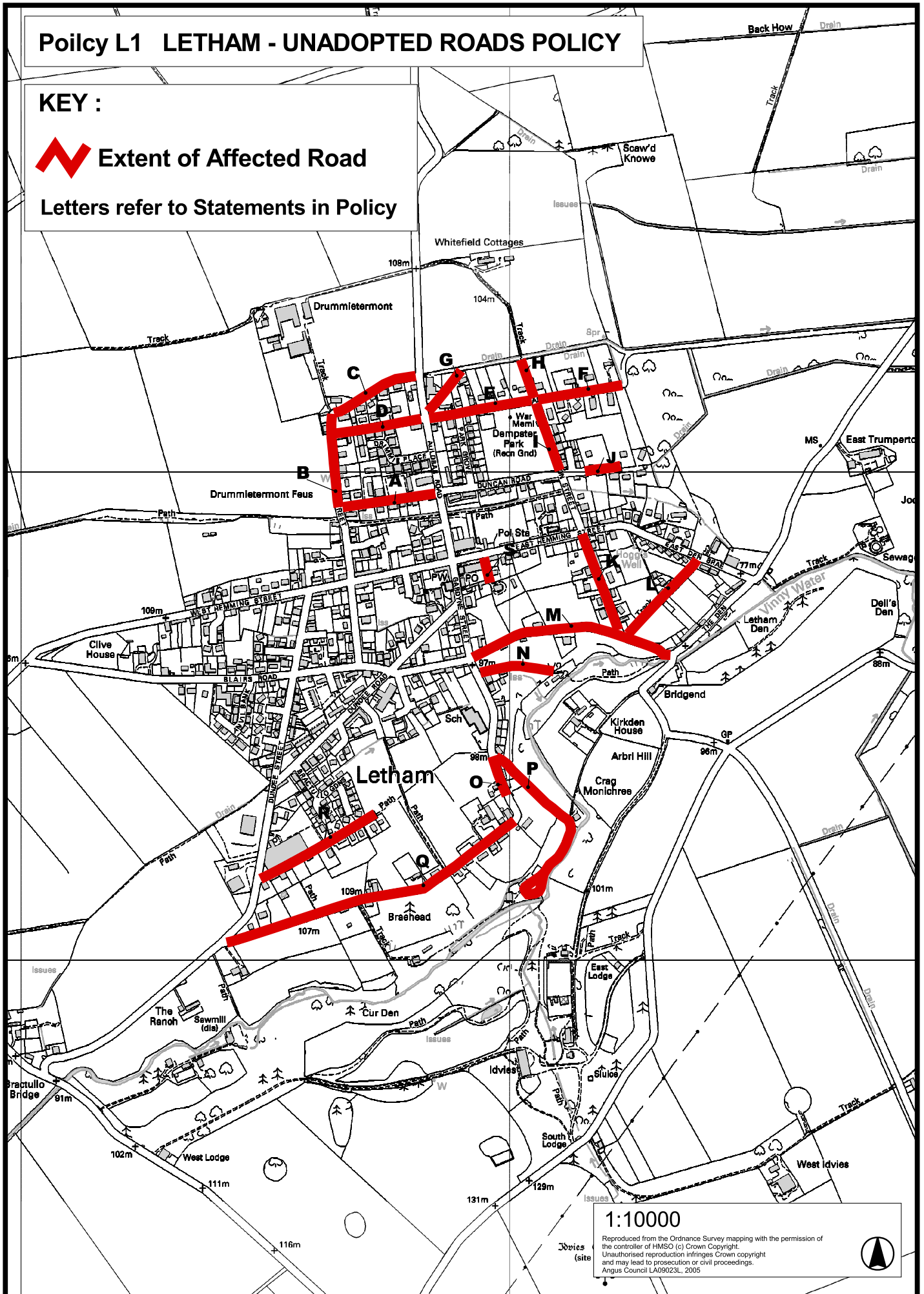
Poily L1 LETHAM - UNADOPTED ROADS POLICY

KEY :



Extent of Affected Road

Letters refer to Statements in Policy



1:10000

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APPENDIX 4 - MATRIX OF ASSOCIATED DOCUMENTS

			Finalised Angus Local Plan Review Section		
			(1)	(2)	(3)
			INTRODUCTION AND STRATEGY	BUILDING SUSTAINABLE COMMUNITIES	ENVIRONMENT AND RESOURCES
(1) NATIONAL GUIDANCE AND ADVICE					
SPP	1	The Planning System (2002)	●		
	2	Economic Development (2002)	●	●	
	3	Planning for Housing (2003)	●	●	
	7	Planning and Flooding (2004)	●	●	●
	17	Transport and Planning Maximum Parking Standards (2003)	●	●	
NPPG	4	Land for Mineral Working (1994)			●
	5	Archaeology and Planning (1994)			●
	6	Renewable Energy Developments (Revised 2000)	●		●
	8	Town Centres and Retailing (Revised 1998)		●	
	9	The Provision of Roadside Facilities on Motorways and Other Trunk Roads in Scotland (1996)		●	
	10	Planning and Waste Management (1996)		●	
	11	Sport, Physical Recreation and Open Space (1996)		●	
	12	Skiing Developments (1997)		●	
	13	Coastal Planning (1997)	●	●	
	14	Natural Heritage (1999)	●	●	●
	15	Rural Development (1999)	●	●	●
	17	Transport and Planning (1999)	●	●	
	18	Planning and the Historic Environment (1999)	●	●	●
	19	Radio Telecommunications (2001)		●	
PAN	33	Development of Contaminated Land (Revised 2000)			●
	36	Siting and Design of New Housing in the Countryside (1991)		●	●
	38	Housing Land (Revised 2003)		●	
	39	Farm and Forestry Buildings (1993)			●
	42	Archaeology (1994)		●	
	43	Golf Courses and Associated Developments (1994)		●	
	44	Fitting New Housing Development into the Landscape (1994)	●	●	●
	45	Renewable Energy Technologies (Revised 2002)			●
	46	Planning for Crime Prevention (1994)		●	●
	47	Community Councils and Planning (1996)	●		
	49	Local Planning (1996)	●		
	50	Controlling the Environmental Effects of Surface Mineral Workings (1996)			●
	51	Planning and Environmental Protection (1997)			●
	52	Planning and Small Towns (1997)	●	●	●
	53	Classifying the Coast for Planning Purposes (1998)			●
	57	Transport and Planning (1999)	●	●	●
	59	Improving Town Centres (1999)		●	
	60	Planning for Natural Heritage (2000)			●
	61	Planning and Sustainable Urban Drainage Systems (2001)		●	●
	62	Radio Telecommunications (2001)		●	
	63	Waste Management Planning (2002)			●
	64	Reclamation of Surface Mineral Workings (2002)			●
	65	Planning and Open Space (2003)		●	
	67	Housing Quality (2003)	●	●	
	68	Design Statements (2003)	●	●	●
	69	Planning and Building Standards Advice on Flooding (2004)		●	●

		Finalised Angus Local Plan Review Section		
		(1)	(2)	(3)
		INTRODUCTION AND STRATEGY	BUILDING SUSTAINABLE COMMUNITIES	ENVIRONMENT AND RESOURCES
(2) STRATEGIC, CORPORATE AND GENERAL GUIDANCE				
	Approved Dundee and Angus Structure Plan (October 2002)	●	●	●
	Angus Council Strategic Statement	●	●	●
	Angus Council Corporate Plan	●	●	●
	Angus Council Economic Development Strategy		●	
	Angus Countryside Access Strategy (2004)		●	
	Angus Local Housing Needs Assessment (2003)		●	
	Angus Local Housing Strategy (2004)		●	
	Angus Local Transport Strategy	●	●	
	Angus Council Public Transport Policy Statement	●	●	
	Rural Shops and Community Post Office Grant Scheme		●	
	Angus Rural Strategy	●	●	●
	Angus Environmental Strategy			●
	Angus Shoreline Management Plan (2004)			●
	Sustainable Angus - LA21 Strategy for Angus	●	●	●
	Tayside Local Biodiversity Action Plan			●
	Cairngorms Local Biodiversity Action Plan (Cairngorms Partnership)			●
	Angus Council Contaminated Land Strategy			●
	Dundee and Angus Tourism Strategy (Dundee and Angus Tourist Board)		●	
	Angus Tourism Signing Policy			●
	Tayside Indicative Forestry Strategy			●
	National Waste Strategy (SEPA)			●
	Tayside Area Waste Plan			●
	Angus Waste Implementation Plan		●	●
	Managing the Cairngorms - The Cairngorms Partnership Management Strategy (SNH)		●	●
	Tayside Landscape Character Assessment (SNH)			●
	An Inventory of Gardens and Designed Landscapes in Scotland (SNH)			●
	Memorandum of Guidance on Listed Buildings and Conservation Areas (1998)			●
	Scottish Water Indicative Needs Profile 2001 - 2010		●	●
	Ground Water Protection Strategy for Scotland			●
	A Guide to Surface Water Best Management Practices			●
	The Six Acre Standard, Minimum Standards for Outdoor Playing Space (NPFA) (2001)		●	
	Guide to Transport Assessment in Scotland - Consultation Paper from Scottish Executive January 2003		●	

			Finalised Angus Local Plan Review Section		
			(1)	(2)	(3)
			INTRODUCTION AND STRATEGY	BUILDING SUSTAINABLE COMMUNITIES	ENVIRONMENT AND RESOURCES
(3) ANGUS COUNCIL PLANNING ADVICE NOTES					
	1	Farm Buildings		●	●
	2	Shopfronts and Signs in Conservation Areas			●
	3	Roof Space Extensions		●	
	4	Car Parking in Front Gardens		●	
	5	Houses in the Open Countryside		●	●
	6	Backland Housing Development		●	
	7	Advertising in the Countryside			●
	8	Dutch Canopies/Sun blinds			●
	9	Window Alterations			●
	10	Shop Window Security			●
	11	Residential Homes		●	
	12	Satellite Antennae		●	
	13	Residential Caravan Sites		●	
	14	Small House Sites		●	
	15	Front Extensions		●	
	16	Garages Off/Within Communal Parking Areas		●	
	17	Miscellaneous Planning Policies		●	●
	18	Hot Food Takeaways			●
	19	House Extensions		●	
	20	Listed Buildings and Conservation Areas			●
	21	The Siting and Landscaping of Built Development in the Countryside			●
	22	The Survey of Trees on Development Sites			●
	23	The Specification of Landscaping Proposals for Development Sites			●
	24	Residential Boundary Treatment		●	
	25	Agricultural Land to Garden Ground		●	●
	26	Telecommunications Developments		●	
	27	Planning and Contaminated Land			●
	28	Public Rights of Way		●	

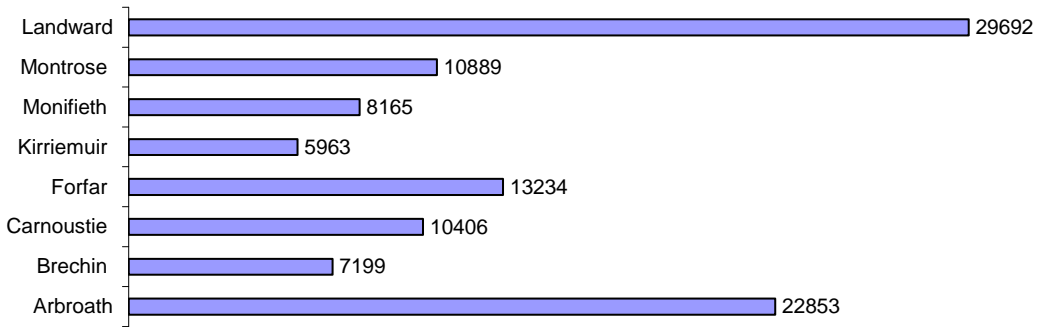
APPENDIX 5

Profile of Angus

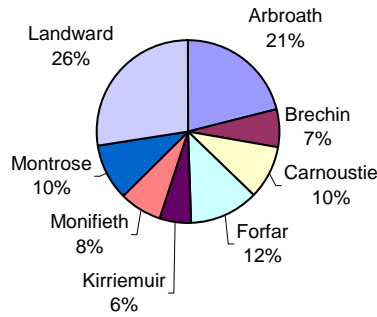
AREA (ha)	POPULATION	
	2001	108400
218,248	1991	108670
190,878 ^a (87%)	% change 1991-2001 -0.3%	
4,150 (2%) - built up		

Population Statistics (2001 Census)

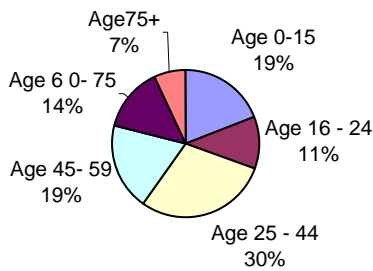
Population - Total 108,400



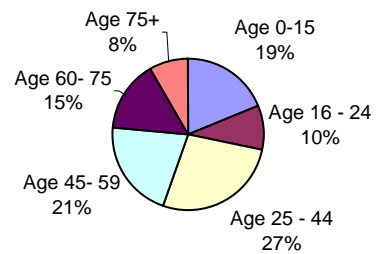
Population Distribution by Area



Scotland - Population Structure

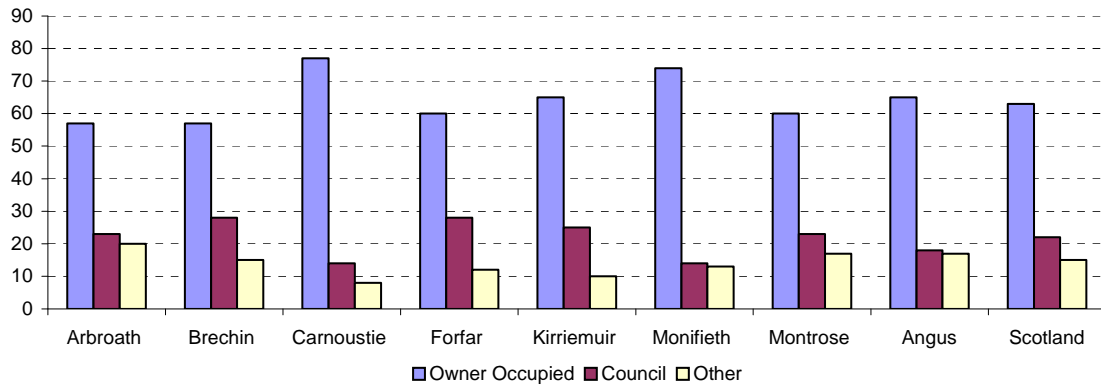


Angus - Population Structure

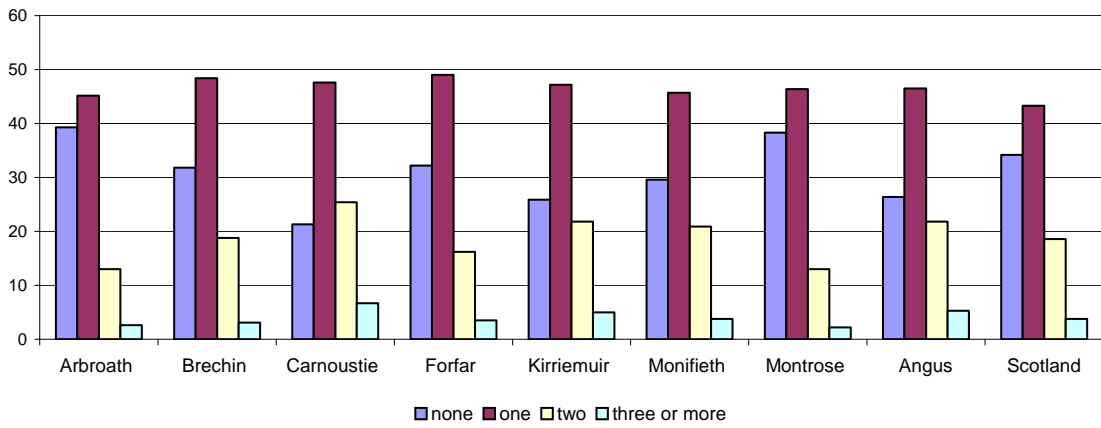


Social Characteristics (2001 Census)

Housing Tenure

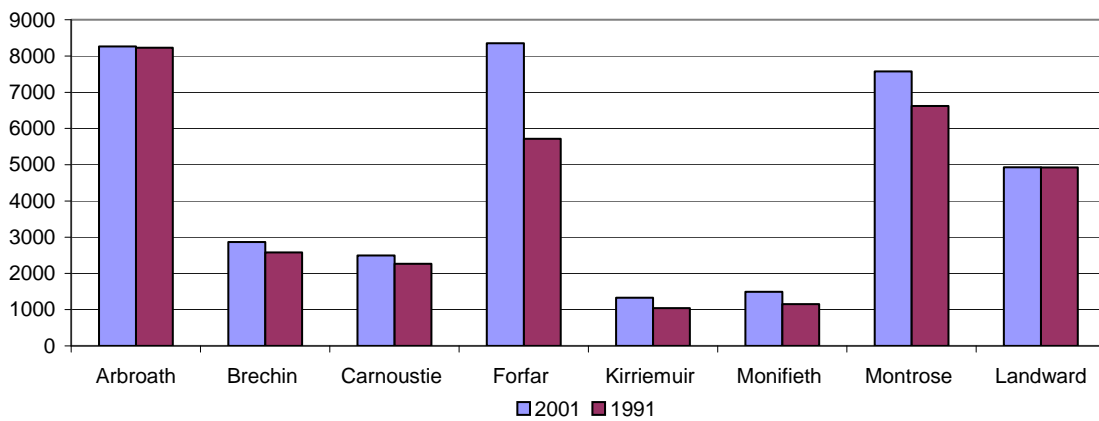


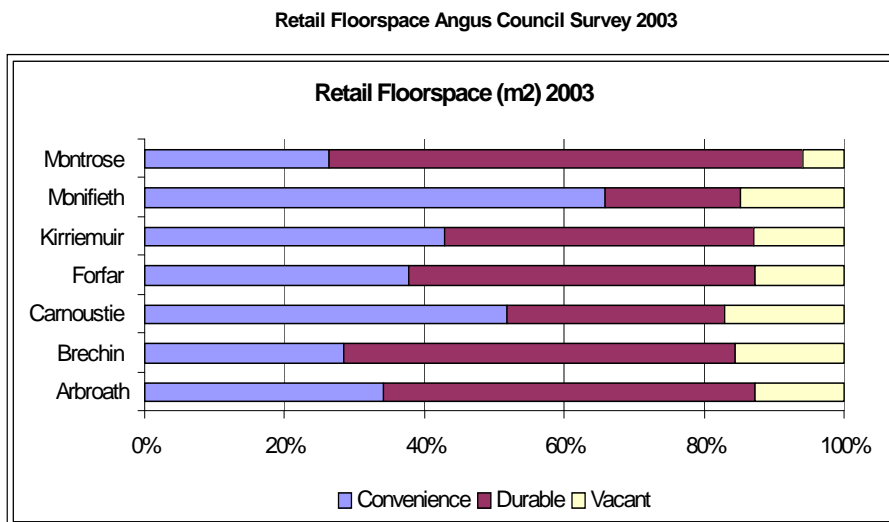
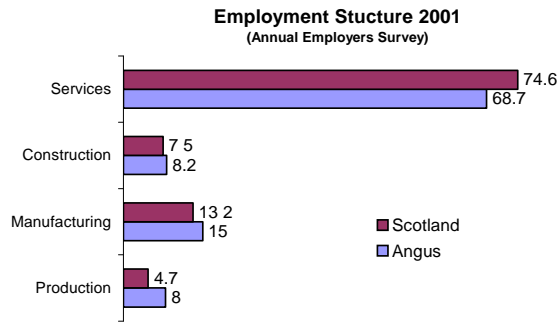
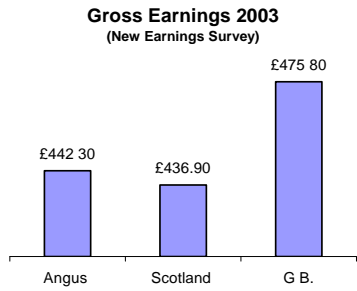
Car Ownership (by Household)



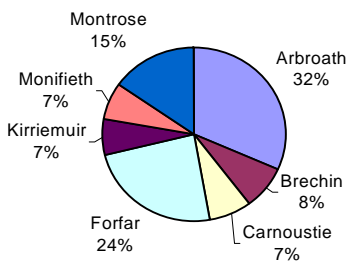
Economic Characteristics

**Employees in Employment
(Annual Employers Survey)**

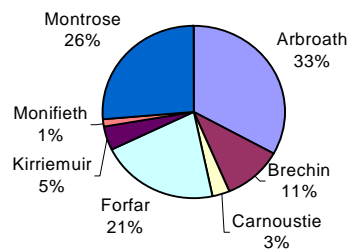







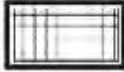






Convenience Retail Floorspace
- % by town



Durable Retail Floorspace
- % by town



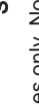
SETTLEMENTS		TOPIC CHAPTERS
	Development boundary	Policy S1
	Safeguard areas	Policy S5
<i>Housing & Associated Uses</i>		
	Existing sites Allocated sites	See Part 4 of Written Statement and Appendix 2
<i>Working</i>		
	Employment land supply	G1, I4 Policy SC16
<i>Sport & Recreation</i>		
	Open space protection	Policy SC32
<i>Community Facilities & Services</i>		
	School facilities - community use	Policy SC38
	Safeguard of land for cemetery use	Policy SC39
	Opportunity Site	E2
<i>Environment</i>		
	Conservation Area	Policies ER 12 - 14, 21
	Ancient Monument (in care of the Scottish Ministers)	Policy ER18

Angus Local Plan Review Proposals Map

(This Proposals Map should be read in conjunction with the Written Statement)



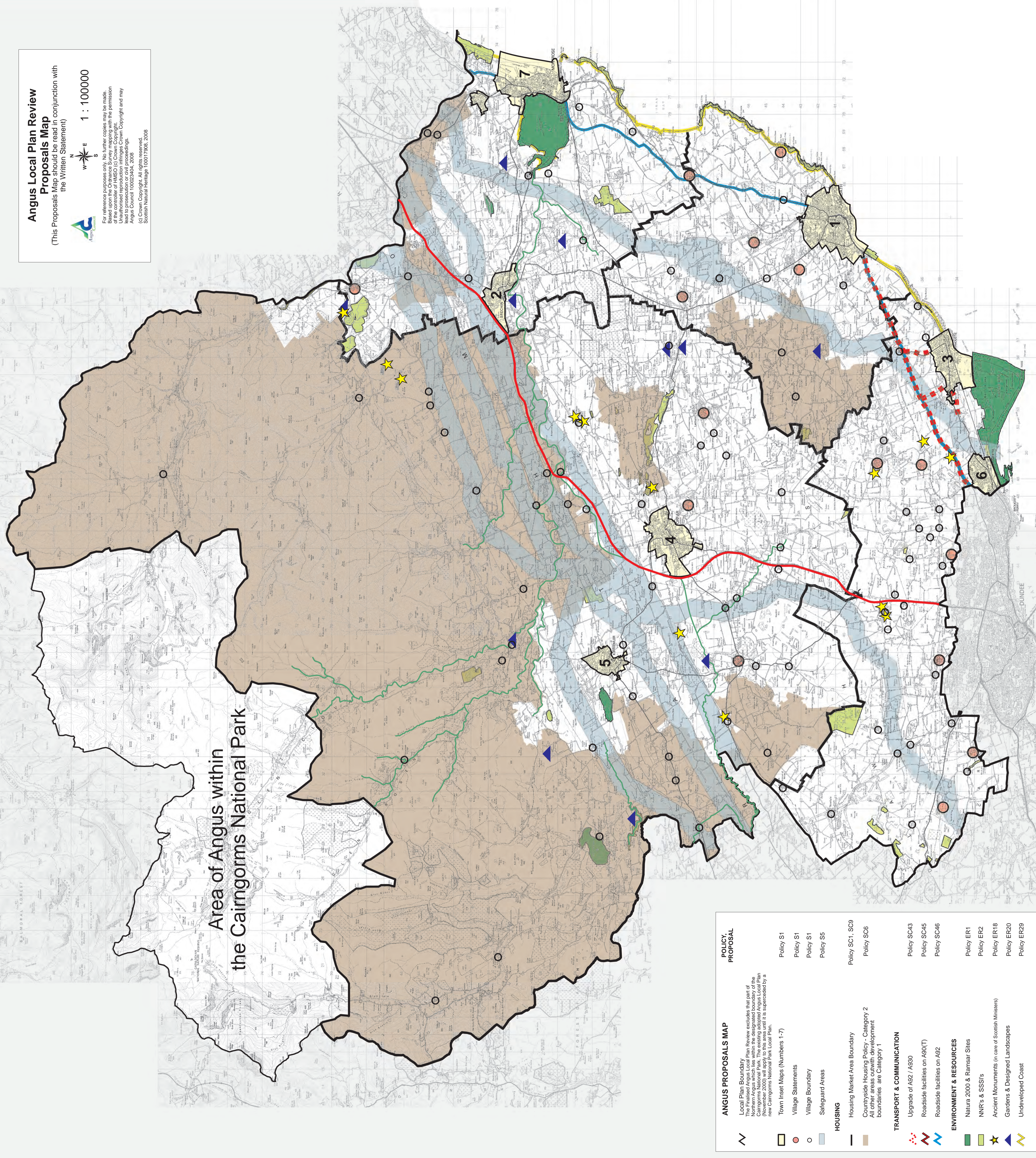
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Scottish Natural Heritage 100017205, 2008

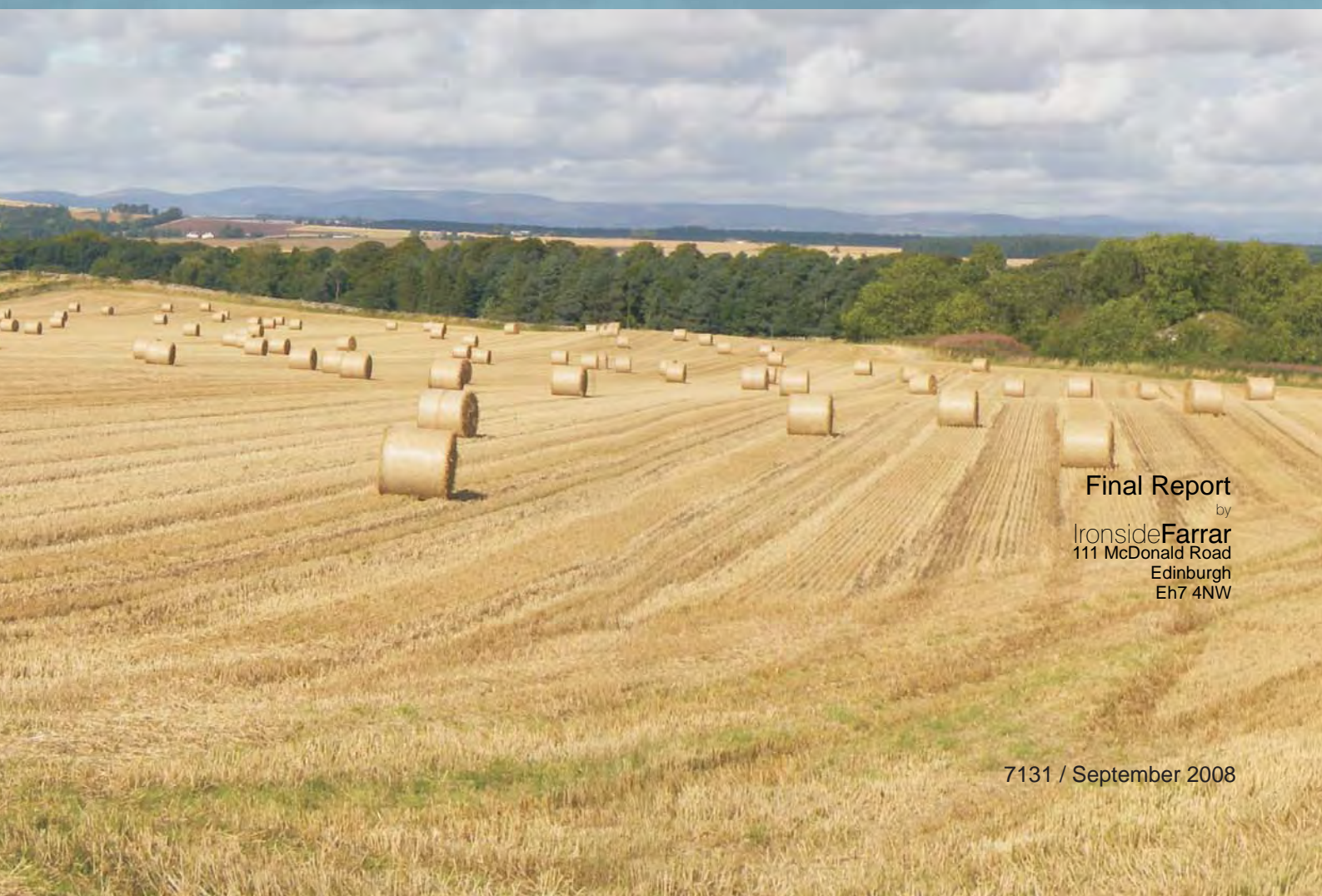
Area of Angus within the Cairngorms National Park

ANGUS PROPOSALS MAP	
	LOCAL PLAN BOUNDARY The Finalised Angus Local Plan Review excludes that part of Northern Angus which lies within the designated boundary of the Cairngorms National Park. The existing adopted Angus Local Plan boundary for the area of Angus which is superseded by a new Cairngorms National Park Local Plan.
	Town Inset Maps (Numbers 1-7)
	Village Statements
	Village Boundary
	Safeguard Areas
	HOUSING
	Housing Market Area Boundary
	Countryside Housing Policy - Category 2 All other areas outwith development boundaries are Category 1
	TRANSPORT & COMMUNICATION
	Upgrade of A92 / A930
	Roadside facilities on A90(T)
	Roadside facilities on A92
	ENVIRONMENT & RESOURCES
	Natura 2000 & Ramsar Sites
	NNR's & SSSI's
	Ancient Monuments (in care of Scottish Ministers)
	Gardens & Designed Landscapes
	Undeveloped Coast
	Policy S1
	Policy S1
	Policy S1
	Policy S5
	Policy SC1, SC9
	Policy SC6
	Policy SC43
	Policy SC45
	Policy SC46
	Policy ER1
	Policy ER2
	Policy ER18
	Policy ER20
	Policy ER29



Angus Windfarms

Landscape Capacity and Cumulative Impacts Study



Final Report
by
Ironside **Farrar**
111 McDonald Road
Edinburgh
Eh7 4NW

ANGUS WINDFARMS

Landscape Capacity and Cumulative Impacts Study

Ironside Farrar

Final Report

7131/ Sept 2008

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- 5.4 Roads and Viewpoint Locations**

APPENDICES

Appendix A: Angus Local Plan. Landscape and Renewable Energy Planning Policies

Appendix B: Zone of Theoretical Visibility Map Extracts from Environmental Statements

1.0 INTRODUCTION

1.1 Background

Angus Council has received applications for a number of proposed windfarm developments within its boundaries. The Council requires to undertake detailed consideration of the applications, which include Environmental Statements and supporting information. The applications include:

- Erection of 11 wind turbines at Montreathmont Moor, Friockheim
- Erection of 3 wind turbines at Dusty Drum, Carmyllie;
- Erection of 3 wind turbines at East Skichen, Monikie;
- Erection of 3 wind turbines at Mountboy, Rossie Moor, Montrose; and
- Erection of 6 wind turbines at Mile Hill, Kirkton of Kingoldrum, Kirriemuir

Angus Council wishes to ensure that it has all the necessary information to consider the environmental implications of the proposed developments. An Environmental Statement (ES) or Report (ER) has been submitted with the planning application for each wind farm. In particular Angus Council requires the landscape and visual impact assessment within the ESs/ERs to be reviewed in terms of its methodology and robustness.

In addition, the Council requires to be advised on the cumulative landscape and visual impacts of the developments and the capacity of the landscape to accommodate each application individually and cumulatively.

1.2 Appointment

Ironside Farrar has been appointed by the Council to undertake the review of landscape and visual assessments in the ES/ERs for the above proposals and to advise on cumulative impacts. The need to consider proposed or consented windfarms within Angus and other proposed and consented windfarms in the neighbouring local authority areas is necessary to fully understand the potential for cumulative landscape and visual impacts within Angus.

1.3 Public Inquiry

The promoters of Mountboy windfarm, Novera Energy, and Montreathmont Moor Windfarm, Wind Prospect, have secured a conjoined Public Inquiry on the basis of non-determination of their application by Angus Council. Critical in the Council's consideration of both proposals is the issue of cumulative impacts. The Council were unable to determine the applications due to a lack of information on cumulative

impacts and landscape capacity. The assessment of cumulative impacts and their acceptability is accordingly a critical issue.

1.4 Cumulative Impact Assessment

This study has been prepared to inform the Council on the issues of landscape capacity and cumulative impact. Accordingly it comprises two main themes:

- A strategic landscape capacity study investigating the capacity of landscapes within Angus to accommodate windfarm development
- A cumulative assessment examining the cumulative effect of operating, consented and proposed windfarms on the landscape and visual receptors in Angus.

It is emphasised that this is a strategic level study providing a context for the consideration of the cumulative effects of existing and potential future windfarm developments. No site specific conclusions should be drawn from it in relation to currently proposed windfarms or potential future windfarms. All windfarm proposals should be considered on their own unique locational and design characteristics as well as their strategic context and should be subject to consideration of a full environmental assessment, including a cumulative impact assessment.

2.0 CUMULATIVE ASSESSMENT CRITERIA AND METHODOLOGY

2.1 Background

Cumulative impact is the combined impacts of more than one development proposal or change in the environment within a defined area over a defined period of time.

Cumulative impact is a critical consideration in the case of landscape and visual impacts of windfarms in Scotland due to the current number of existing developments in the landscape, proposed developments in the planning system and the long term implications of national policy that encourages the development of renewable energy generation. The characteristics of windfarms that lead to cumulative impacts include:

- The scale and striking visual appearance of wind turbines and windfarms;
- The great extent of their visibility and the potential for intervisibility between windfarm developments and from receptors;

As acknowledged by PAN 45, wind turbines cannot be sited in a landscape without some degree of effect on the character of the landscape and on views:

‘There are no landscapes into which a wind farm will not introduce a new and distinctive feature’.

They are prominent, large scale, man-made features and there are few precedents in terms of scale, height and appearance for modern turbines in a rural landscape. Topography aside, they are much taller than any natural features such as trees or most buildings and other structures. Of similar built structures in rural landscapes, electricity pylons are significantly smaller than the largest turbines and although communications masts are often taller they are usually singular whereas wind turbines are built in multiples, often in great numbers. Furthermore, most landscape features are static whereas wind turbines rotate.

This study on behalf of Angus Council requires the assessment of impacts to “*provide advice on the capacity of the landscape to accommodate the scale and number of turbines of each application individually and cumulatively*”. A number of concepts need to be reviewed and the meaning and implications of the word ‘*capacity*’ needs to be defined and interrogated in order to address the question.

Definitions of capacity that apply generally refer to the ability to accept a development without a ‘significant’ or ‘unacceptable’ level of change to the landscape. This implies that criteria must be identified and thresholds must be determined to give meaning to the words ‘significant’ and ‘unacceptable’.

Guidance on the assessment of cumulative impacts and landscape capacity is available from a number of sources, most particularly Scottish Natural Heritage (*Guidance: Cumulative Effects of Windfarms, version 2. SNH, 2005*) but also in UK guidance (eg. *Landscape Character Assessment Guidance for England and Scotland Topic paper 6: Techniques and Criteria for Judging Capacity and Sensitivity. SNH and The Countryside Agency, 2002*) and will be referred to in the following sections.

The determination of 'cumulative impacts' and 'capacity' is subject to debate. No clear guidance is given in the published information beyond the need for the individual impact assessor or Development Plans to determine what the assessment criteria and significance thresholds are. Reasoned argument applicable to the specific circumstances applies, rather than the establishment of an absolute or universal definition. Inevitably this approach is subject to differences of opinion, with thresholds of significance and views on acceptability often differing depending on the background or vested interests of those involved in the debate.

In the absence of any clearly stated or agreed criteria or thresholds and to progress this study some form of threshold or thresholds need to be defined. In order to do this a number of terms and concepts need to be clarified, defining exactly what is being assessed and how. The purpose of the following section is to focus the subsequent assessment and to provide guidance and a basis for decisions to be made by the appropriate authorities.

2.2 Defining Terms: Sensitivity, Significance, Capacity and Acceptability of Change

Topic Paper 6 of Landscape Character Assessment: Guidance for England and Scotland (2002) refers to the fact that the terms 'sensitivity' and 'capacity' have often been used in an interchangeable manner in landscape character assessment, essentially referring to the ability of a landscape to absorb change without a significant effect on its character. A landscape of high sensitivity is often considered to have a low capacity for change, and vice-versa. Furthermore sensitivity is used as a key criterion in determining both significance of impact and landscape capacity. In fact there are subtle but important differences between sensitivity and capacity. This section discusses the differences and interrelationships between sensitivity, capacity and significance in landscape character assessment and how the acceptability of change may be determined.

2.2.1 Landscape Sensitivity

The sensitivity of a landscape is a measure of its inherent ability to accept change without significant or unacceptable effect on its character. This can be considered in two ways:

- 1) An inherent part of the landscape's characteristics, regardless of possible types or scales of change; or
- 2) In relation to a specific proposed type and scale of change.

In the former case the assessment of sensitivity would be applied in landscape character assessment where no particular change is being contemplated or assessed, and the landscape is being considered in a resource planning context. In the latter case the assessment of sensitivity would typically be applied in an environmental impact assessment where specific changes are envisaged. In the EIA case the sensitivity of the receiving landscape would be assessed against the magnitude of change in order to determine impact significance.

2.2.2 Landscape Capacity

Landscape capacity is variously described as the ability of a landscape to accommodate (or absorb) change without a significant (or unacceptable) change in fabric or character. This is usually taken to mean whether or not one or more of the key defining characteristics of the landscape is changed such that the overall fabric or character of the landscape is changed, ie. a 'capacity threshold' is crossed. In the case of windfarms it is primarily landscape character that is being considered, particularly in cumulative assessments.

The determination of landscape capacity is closely related to landscape sensitivity and the determination of significance of impact. However assessment of capacity is a not necessarily based around the assessment of known development proposals, but rather the hypothetical ability to accommodate particular types of development, such as windfarms before a threshold or series of increasing thresholds are crossed.

According to *Topic Paper 6*, in determining capacity not only the sensitivity of the landscape to the particular type of development is considered but also the *landscape value* of the area concerned. Value may be determined in a number of ways, including by landscape designations (national, regional or local); cultural and historic associations and in terms of how it is valued by those who live in it or use it in some way.

The determination of capacity is primarily a planning tool rather than a reactive or assessment tool. Nevertheless the determination of capacity thresholds can also be used to assess existing levels of development or potential development scenarios such as is the case with windfarm developments in Angus.

2.2.3 Determination of Impact Significance

The principles involved in determining impact significance are the same whether a single or multiple developments are being considered. This involves assessing:

- 1) the sensitivity of the receptor to the type of change proposed; and
- 2) the magnitude of change that would result from the proposals.

Sensitivity and magnitude are considered in combination, leading to an overall assessment of impact. This informs a determination of whether the impact is significant in terms of the EIA regulations. In doing this the considerations about what exactly is being assessed should be taken into account and clearly delineated including baseline, types of impacts and specific developments.

The threshold at which significance is determined in relation to the EIA regulations should also be defined prior to assessment. However, this threshold is particularly open to debate and often subject to the influence of vested interests.

2.2.4 The Nature of Impacts

The issue of whether impacts are positive, beneficial or neutral is also an important consideration when making decisions on the acceptability of impacts, regardless of their significance. If an impact were considered positive or neutral in nature it is likely that its level of significance would be considered less critical than were it considered negative. Most windfarm developers equivocate this issue by reference to public opinion polls indicating support for renewable energy and the division of public opinion that is apparent over most windfarm developments. This masks the underlying landscape issue that should be considered independently of a windfarm's primary function or other effects.

The purpose of a windfarm is to provide energy using a method that is renewable and does not involve atmospheric carbon pollution. This accords with current policy and is considered positive and beneficial. Conversely, wind turbines are objects that are unprecedented in scale and appearance in most landscapes, especially the rural ones in which they are mainly located. Many published landscape character assessments of rural areas do not specifically mention wind turbines and windfarms, although increasingly there are guidelines relating to placing them within particular character types. Furthermore, whilst government policy and advice (eg. SPP6, PAN45, SNH advice) and local authority policy (Development Plans) support their development, it is always with a precautionary note relating to balancing benefits and impacts.

The tone of most guidance is that of achieving a balance of impacts against the positive returns of renewable energy. For example SPP6 states in paragraph 25:

"In all instances, applications should be assessed in relation to criteria based policies to provide clarity on the issues that must be addressed to enable development to take place. This criteria will vary depending on the scale of development and its relationship to the characteristics of the surrounding area but are likely to include impacts on landscapes and the historic environment; ecology (including birds), biodiversity and nature conservation; the water environment, communities; aviation; telecommunications; noise; shadow flicker; and any cumulative impacts that are likely to arise."

And in paragraph 54:

"Consideration of the significance of any adverse impacts of a renewable generation proposal should have regard to the projected benefits of the proposal in terms of the scale of its contribution to the Scottish Executive's targets for renewable energy."

PAN 45 states in paragraph 75:

"A cautious approach is necessary in relation to particular landscapes which are rare or valued, such as National Scenic Areas and proposed National Parks and their wider settings. Here, it may be difficult to accommodate wind turbines without detriment to natural heritage interests. In a regional context

care should also be exercised within Areas of Great Landscape Value and Regional Parks. Other landscapes are not especially valued and a significant change in some landscapes may be considered acceptable”

Wind turbines are placed in the landscape for a purpose other than landscape enhancement. Given this fact and the nature of Government advice, a precautionary approach should be taken in the assessment of impacts by concluding that the impacts are to some degree negative. The degree of negative impact and level of significance will of course depend on the characteristics of the landscape in which the windfarm is located. It is conceivable that in some degraded landscapes the construction of a windfarm could be considered a neutral or positive change. Indeed Pan 45 states:

‘For example, areas recovering from past degradation, such as those semi-rural areas of the central belt affected by historic mineral extraction, may be appropriate areas to accommodate wind farm development’.

In terms of visual impacts the issue of public opinion is more relevant, but a precautionary note applies in this case as well. Particularly the issue of positive responses to the provision of clean energy needs to be separated from the consideration of visual impact of turbines in the landscape.

2.2.5 Acceptability of Change

As discussed above there is some published guidance on methods of assessment of cumulative landscape and visual impacts of windfarms (eg. SNH, 2005) and separate guidance on the factors that determine impact significance (eg. LI & IEMA, 2002). However there is currently no generic guidance that defines how to determine the *acceptability* of impacts. Indeed generic guidance on acceptability may be inappropriate as any judgement on this is contextual and often a case of weighing perceived impacts against perceived benefits. The impacts and benefits will often be different in type and the balance of judgement is to an extent subjective. The acceptability of change in any particular landscape will depend on the nature of the landscape, the significance of the impacts and the purpose of the change. The final judgement is often informed by and weighed against specific development plan policies and material considerations.

The determination of significant change should theoretically be a clearly defined stage in this process, similar to an impact assessment. Nevertheless, as previously discussed, significance in landscape and visual impact assessment is not universally defined and is open to debate. If the significance of change is open to interpretation, then ‘acceptability’ of change is a still less definable term that is often based on opinion and is open to debate.

What is acceptable to one individual or organisation may not be acceptable to another. What may be seen as unacceptable change in a narrow context (eg. landscape and visual impacts) may be seen as acceptable when considering the overall balance of positive and negative impacts (eg. provision of carbon-neutral energy). In a study of windfarms in the Western Isles (SNH, 2004) the idea of a

predetermined 'carrying capacity' is questioned and the concept of *Limits of Acceptable Change* (LAC) is discussed:

'LAC is first and foremost a process through which decisions are made on the conditions which are acceptable and then prescriptions are made for the actions needed to protect or achieve those conditions. So the objective of the LAC process is not to prevent change but rather to control it and to decide on the actions required to maintain or achieve the desired conditions. Other key features of LAC are the use of indicators and a monitoring programme. As a process, LAC is always participatory and multi-disciplinary, and may or may not involve a wide range of stakeholders. Whilst the term capacity may still be used in LAC, (recreational) carrying capacity is not a simple, single, absolute value. It is the amount, kind and distribution of use that can occur without causing unacceptable impacts on either natural resources or the perceptions and experiences of the users'.

This concept requires qualitative judgements about what is important in a landscape or to people using that landscape and what level of change is acceptable (ie. what types and levels of change can take place before the landscape is considered to be critically or significantly changed). In the context of this study, acceptability of change will be related to cumulative landscape and visual impacts judged against landscape capacity as determined by structured a process of judgement; the provisions of criteria-based landscape policies; other material considerations and the wider Scottish picture of windfarm development. No account will be taken of the other potential impacts or benefits of windfarms. The resulting judgements of this study will need to be balanced against the other benefits or disadvantages of the proposals.

2.3 National and Local Policy

The acceptability of proposed windfarms and cumulative landscape and visual impacts of multiple windfarm development has to be considered in the light of national and development plan policy.

2.3.1 National Policy and Guidance

National policy in relation to renewable energy development is expressed in *SPP6 Renewable Energy* with related guidance in *PAN 45*. SPP6 reflects the Scottish Government's commitment to greatly increasing the amount of energy produced by renewable sources. Inevitably it focuses on wind power as, at least in the short term, the most available resource suitable for expansion.

SPP6 is thus very positively disposed to renewable energy production and directs all councils to create development plan policies that encourage renewable energy generation capacity, including onshore wind power.

SPP6 and PAN 45 recognise that wind energy developments are likely to have significant impacts on the environment, including the landscape. SPP6 therefore underlines the need to ensure that developments do not have *unacceptable* impacts.

In this respect Annex A of SPP6 describes the need for development plans to set out a Spatial Framework for windfarms of more than 20MW capacity. The Annex lists the criteria that should be considered in the location of windfarms. It suggests the extent to which developments below this capacity are considered in this way would depend on the scale of the development proposed.

2.3.2 Development Plan Policies

The Dundee and Angus Structure Plan 2001-2016

The structure plan policy ER10: Renewable Energy is supportive of renewable energy developments provided '*...they deliver quantifiable environmental and economic benefits and any significant or adverse cumulative impacts on the natural and historic environmental, landscape and local communities can be satisfactorily addressed*' Development will be considered in the context of wider environmental policies of the structure plan and detailed criteria based policies and locational guidance and, where appropriate, areas of search are to be developed by Local Plans.

In respect of landscape Policy *Environmental Resources 1: Natural Heritage Designations* and Policy *Environmental Resources 2: The Wider Natural Heritage* provide for protection of designated landscapes and the wider landscape character of the area. In particular ER2 cites the Tayside Landscape Character Assessment (Land Use Consultants, 1999) as a material consideration for determining development proposals and providing for new development within Local Plans and states that '*All developments must respect main features and characteristics of the natural heritage and contribute to landscape restoration or improvement*'.

The Structure Plan thus carries forward national policy in the encouragement of renewable energy development but recognises the balance to be achieved between the benefits of the development and potentially significant or adverse effects, including cumulative effects, on the natural heritage. It instructs the Local Plans to take account of this by developing specific criteria-based policies.

The Angus Local Plan

The Adopted Angus Local Plan (2000) has two policies that are most relevant to renewable energy and windfarms: *INF12: Renewable Energy Development* and *INF13: Wind Power*.

Policy INF12 is positively disposed towards renewable energy when considered against criteria relating to '*the impact of the proposal on the natural and built environment including residential amenity*' and '*on the landscape and visual qualities of the area*'. INF13 requires development of windfarms to meet certain environmental criteria including: '*the proposal would nothave a significant detrimental effect on residential amenity...*' or '*...result in an unacceptable intrusion into the landscape character of the area*' or '*...contribute to an unacceptable cumulative impact*'.

The justification for Policy INF13 also discusses the potential locations of windfarms in relation to windspeeds and landscape character. Whilst on the one hand upland

areas, hills and coast may be suitable from a windspeed aspect, it is noted that a number of areas are likely to be sensitive to windpower development:

- *'extensive upland areas where development is sparse and views extensive*
- *designated areas of landscape or nature conservation value and built heritage*
- *small scale landscape and skyline sites*
- *prominent locations used or visited by large numbers of people'*

Accordingly locations such as highland summits and plateaux, the Highland boundary fault line and along the coast are considered unlikely to be suitable for windpower development.

The emerging Local Plan has undergone two inquiry reviews and is close to adoption and therefore a significant material consideration. *The Finalised Angus Local Plan Review 2005* has three policies that are most relevant to wind energy development: *ER5: Conservation of Landscape Character; ER33 Renewable Energy Developments* and *ER34: Wind Energy Developments*. The Reporter has recommended changes to the published policies. A consolidated version of the relevant policies and justifications is appended to this report in Appendix A.

Policy ER5 covers the issue of conserving the landscape character of Angus which is considered one of the greatest assets to the area. In doing so it cites the *Tayside Landscape Character Assessment (SNH 1999)* (TLCA) as the basis for defining landscape character and providing guidance for the assessment of development proposals. It is notable that there are no local landscape designations within Angus, a policy adopted on the advice of SNH.

Policy ER33 adopts a positive approach in principle to all renewable energy development proposals, including wind energy. It recommends they are assessed against a number of environmental criteria, including that there shall be *'no unacceptable landscape and visual impacts'*.

Policy ER34 is the most relevant to this study. It underwent considerable debate and modification in the Local Plan Inquiry process. The policy is referenced to meeting the requirements of ER33 which supports renewable energy development in principle but also requires that there will be no unacceptable landscape and visual impacts. Criterion (e) addresses the issue of cumulative landscape and visual impact in that *'the proposal must be capable of co-existing with other existing or permitted wind energy developments in terms of cumulative impact particularly on visual amenity and landscape, including impacts from development in neighbouring local authority areas.'*

In ER34 the TLCA is used as the basis for considering the effects of development on landscape character and the capacity of the landscape to absorb windfarm development. The policy justification explains that there are three main geographic areas within Angus: *Highland, Lowland & Hills* and *Coast*. It is considered that the character of landscapes within these areas varies in its sensitivity to windfarm

development. The Highland and Coastal areas are considered likely to be less suitable to windfarm development.

In summary national and development plan policy is therefore supportive of windfarm proposals. This is subject to specific developments avoiding unacceptable landscape and visual impacts and with limitations on the cumulative impact of more than one development within Angus or in neighbouring local authority areas.

A particularly important strategic step in the avoidance of potentially unacceptable impacts is the Spatial Framework required by Annex A of SPP6. It is notable that, due to the timing of the Angus Local Plan process relative to SPP6, there is no reference in ER34 to Spatial Frameworks and Supplementary Planning Guidance (SPG) for windfarms. Nevertheless Angus Council is preparing SPG as required by SPP6. The criteria in the local plan policies and the background information such as the TLCA will inform the process.

2.4 Developing a Cumulative Impact Assessment Methodology

2.4.1 Cumulative Impacts

For the purposes of this study, cumulative impacts are taken to be those arising from more than one development of the same type, rather than the accumulation of changes making up one development. In the case of windfarms, cumulative studies concentrate on other windfarms. In practice, other features in the landscape or views should also be taken into account. Nevertheless, given the singular appearance of windfarms and their generally isolated rural locations, the potential for overlap of cumulative impacts with other developments is more limited.

2.4.2 Baseline

The baseline for a cumulative, or indeed any, assessment is usually taken to include the existing landscape and visual receptors in the study area at the time of assessment. The baseline should include all operating windfarms and, arguably, all consented windfarms as this is effectively the 'permitted landscape'. The assessment of change and significance of impact should be carried out relative to this baseline whether carrying out a standard or cumulative assessment.

Nevertheless, a landscape capacity study leading to the determination of an 'acceptable' level of windfarm development requires consideration of a full picture of all the windfarms in the landscape; operating, consented and proposed, in order to determine the extent and acceptability of change. The fact that there are operating or consented windfarms in an area is not necessarily an indication that the landscape is less sensitive to further development and that capacity is available. Indeed, depending on the landscape type, degree of development and objectives of policy in relation to landscape character, it may mean that most or all of the capacity is already occupied. Therefore, despite the existing baseline, the development must also in effect be considered relative to the pre-windfarm landscape.

2.4.3 Types of Cumulative Impact

Landscape

The assessment of cumulative landscape impacts involves an assessment of change in the fabric and character of the landscape as a result of the combined changes of more than one development. The changes are assessed in relation to defined areas of landscape such as a project study area, landscape character area or designated landscape. As previously discussed, it is effects on landscape character that is the primary focus in relation to windfarms from which all other assessments are derived.

Visual

The assessment of cumulative visual impacts involves an assessment of the change in views and visual amenity as a result of combined changes of more than one development, as experienced by people in their homes and during recreation, travel or work. There are three types of cumulative impact in relation to visual receptors:

- 1) Combined: more than one development is seen from a single static viewpoint in one arc of view (ie. Within the span of one view, without the receptor turning around). This would include particular directional viewpoints or the view from the principal aspect of a residential property.
- 2) Successive: more than one development is seen from a single static viewpoint by a receptor turning around to encompass more than one arc of view, up to 360°. This includes high and open viewpoints, or views from all aspects of a residential property.
- 3) Sequential: more than one development is seen by a receptor visiting a series of viewpoints. This may involve travelling along a linear route or through an area in which views of the developments may be continuous or intermittent and different developments may be seen at different locations. This includes roads, railways, paths and other defined routes or could involve an area such as a designated landscape.

In practice most assessment will include all of these types of impact in order to gain a full picture of how cumulative impacts will be experienced by receptors.

2.4.4 Effect of Pattern of Development on Perception of Impact

Cumulative studies tend to focus on the number of windfarms, turbines or output capacities within a particular area as an indication of level of cumulative impact. Nevertheless, there is not necessarily a simple relationship between numbers, areas and cumulative impact. The pattern of windfarm development, in terms of size, layout and proximity may also affect the perception of cumulative impacts.

The effect of proximity of different windfarms to one another has a bearing on impacts. Whilst close proximity of two or more windfarms may reduce the total area visually affected, the level of perceived cumulative impact may be increased by

juxtaposition of windfarms of significantly different appearance (due for example to differing turbine sizes or site layouts) leading to a jarring visual clash.

Furthermore, studies and planning decisions have indicated that there is less resistance to expansion of existing windfarms than to creation of separate new windfarms. In particular, respondents to a survey on impacts of windfarms on tourism in Scotland (Glasgow Caledonian University and others, March 2008) showed little concern about views being affected by one windfarm compared with more than one windfarm being visible in the same view.

“A significant proportion of respondents (44%) agreed that they don’t like to see several Wind farms in the same view. These results suggest that those respondents who have indicated having a neutral or even positive perspective on individual Wind farm sites are less likely to have a similar opinion on a landscape that has several developments in view.

This clear result compares with analysis in the previous section where there was a small increase in the negative response as the visual impact increased for an individual Wind farm development. This suggests that people see one large scale development in an area as preferable to several smaller scale developments dotted on the landscape.

On the other hand, both sets of results also confirm that a definite tipping point exists where Wind farm development becomes untenable for a significant number of visitors”.

Current guidance and recent planning decisions are tending towards the concept of concentration of wind turbines into large clusters in certain areas. This is on the basis that this reduces the potential for a widespread dispersal of effects over a larger area and allows areas more sensitive to windfarm development to remain free of windfarm development. The reporter for the recently consented 150 turbine Clyde Windfarm noted that SNH favours this approach, although as yet has no formal policy stating so (Gordon, May 2007). The policy may also offer advantages in terms of economies of scale for site servicing and electricity transmission. The disadvantages are likely to be that areas chosen for concentration of the turbines are likely to be significantly and adversely affected by development – this being effectively a ‘sacrificial’ landscape policy.

2.4.5 Setting Assessment Objectives

What exactly is being assessed depends on the purpose of the cumulative assessment. In the case of an EIA for a single development it is primarily the impacts of the proposal and its contribution to cumulative impacts that is being assessed. Such a study would therefore typically concentrate on areas in which the impact of the windfarm under consideration is significant and give only slight consideration to areas in which it is not, even if there were significant cumulative impacts from other windfarms.

In the case of a more broad-based cumulative study such as this, it is the overall impact of windfarm developments on a defined study area that is being assessed. Nevertheless this study requires a consideration of the both the full cumulative impact *and* the contribution that specific developments (proposed or operating) make to that impact, in order to inform decisions.

2.4.6 Defining Thresholds of Cumulative Development

The discussion above has defined the terminology and our approach to cumulative assessment. It has isolated the central issues that inform the assessment of acceptability of levels of change. The key requirement is to develop a methodology for defining thresholds of significance and acceptability that are clear and robust enough to be accepted by all sides of the debate. We see this study as a stage in the debate about acceptable levels of change in the landscape of Angus. Whilst we can describe and define what those levels of change might be it is difficult to enforce a universal view as to what levels of change are significant or acceptable.

The methodology proposed therefore seeks to set out defined levels of change to the landscape and visual environment that might occur or be experienced depending on the number, size and location of windfarms to be built within an area.

The descriptions in Table 2.1 below set out a graduated landscape typology that defines the terms of reference for levels of cumulative landscape and visual impact of windfarms. It does this by describing their effect on landscape character and the experience of those living in or travelling through the landscape.

The purpose of this approach is to address the gap between results of cumulative impact assessment and the judgement of acceptability of change. It does not set thresholds of significance or acceptability but it does present a framework that describes levels of change in landscape character and the experience of visual receptors in the landscape. This can then be used to inform and shape a debate concerning the degree of change in a landscape from a particular baseline (which may or may not already include windfarms). This in turn contributes to an assessment of significance of impact and informs arguments concerning the acceptability of cumulative impacts or indeed *Limits of Acceptable Change*.

The following descriptions of levels of windfarm development within a landscape are necessarily simple, factual and generic. They can be applied to any chosen scale of study area, from a region to a landscape type or a single landscape character area. They do not apply to any specific baseline landscape type or types: indeed the character of the landscape is likely to affect judgements on the assignment to a particular level of development. For instance, a large scale landscape may be less dominated and affected than a smaller scale landscape; or a more complex topography, or a densely wooded landscape may reduce the visibility of wind turbines within an area and hence affect the perception by visual receptors. A large landscape character area will require a greater extent and frequency of development than a smaller area to become affected by wind turbines. Furthermore, as discussed in 2.4.4, there are a number of windfarm design factors that affect the perception of cumulative impacts. This includes not only size and number of turbines in any

windfarm but also the juxtaposition of different windfarm layouts including turbine size and positioning.

The descriptions assume conditions of good visibility covering the 30-35km range that windfarm visibility studies and visual impact assessments adopt as best practice.

The descriptions are intended to be neutral in that they are purely descriptions of levels of development and the frequency or proximity at which windfarms and wind turbines may be seen. They do not attempt to define the levels of development as being good, bad, acceptable or unacceptable. This is a judgement that would be made when considering specific cases against the landscape type, its inherent capacity, existing policy and other material considerations. However, it would be appropriate to give detailed consideration to the merits of developing an area which would move up more than one level as a result of proposed development, or an area that reaches one of the higher categories of development, particularly if it is in a landscape with limited capacity for windfarm development.

Section 2.5 follows table 2.1, addressing the issues and method of assessing landscape capacity.

Table 2.1: Description of Levels of Cumulative Windfarm Development

Landscape Type	Landscape Character	Visual Experience
Landscape with no Windfarms	A landscape type or area in which no windfarms or wind turbines are present and none are clearly visible from neighbouring areas	There would be no discernable effects on visual receptors.
Landscape with Views of Windfarms	A landscape type or area within which, or immediately adjacent, there are no windfarms or wind turbines physically located, but from which windfarms are clearly visible in a separate landscape character area. Character may vary considerably according to proximity and scale of neighbouring windfarm(s).	The experience of a visual receptor would be noticeably affected, but windfarms are a background feature clearly not associated with the landscape in which the receptor is located. Visual effects may vary considerably according to proximity and scale of neighbouring windfarm(s)
Landscape with Occasional Windfarms	A landscape type or area in which windfarms or wind turbines are located or are very close to and visible. However they are not of such a size, number, extent or contrast in character that they become one of the defining characteristics of the landscape's character.	Visual receptors would experience occasional close-quarters views of a windfarm or turbines and more frequent background views of windfarms or turbines. Some turbines may or may not be perceived as being located in the landscape character area. No overall perception of windfarms being a defining feature of the landscape.
Landscape with Windfarms	A landscape type or area in which a windfarm, windfarms or wind turbines are located and visible to such an extent that they become a defining characteristic of the landscape character. However, they are clearly separated and not the single most dominant characteristic of the landscape.	Visual receptors would experience frequent views of windfarms or wind turbines as foreground, mid-ground or background features, affecting their perception of the landscape character. However there would be sufficient separation between windfarms and turbines and sufficient areas from which wind turbines are not visible such that they would not be seen as dominating the landscape over all other landscape features.
Windfarm Landscape	A landscape type or area in which windfarms or wind turbines are extensive, frequent and nearly always visible. They become the dominant, defining characteristic of the landscape. Nevertheless there is a clearly defined separation between developed areas.	Visual receptors would experience views of windfarms as foreground, mid-ground and background features, to the extent that they are seen to dominate landscape character. Few areas would be free of views of wind turbines.
Windfarm	Landscape fully developed as a windfarm with no clear separation between groups of turbines. Few if any areas where turbines not visible.	Visual receptors would always be close to and nearly always in full view of wind turbines.

2.5 Capacity Assessment Method

2.5.1 Assessment Process

The methodological considerations discussed in 2.2 - 2.4 have been taken into account in the staged methodology. This is illustrated by the flow diagram in Figure 2.1. There are 5 stages in the process as shown in Table 2.2:

Table 2.2. Stages in Landscape Capacity Assessment

Scoping:	Define the purpose of the study, the study area and the windfarm development scenario that is to be assessed.
Data Gathering:	Gather information on receptors (visual and/or landscape) and windfarms/ turbines (existing, proposed etc).
Analysis:	Determine landscape character sensitivity, visual sensitivity and landscape value. Determine visibility, direct and indirect landscape effects of the windfarms.
Assessment:	Determine landscape capacity from landscape sensitivity and value. Determine level of cumulative change caused by windfarms, leading to a windfarm landscape/ visual typology.
Conclusions:	Determine significance and/ or acceptability of cumulative change to the landscape and visual environment.

This is a flexible framework which can be adapted to include the whole study area or focus on subdivisions of landscape, windfarm groupings or development scenarios as required. In this case local landscape character areas have been considered, then building up to a picture of the whole of Angus. The stages of our assessment are:

- 1) Landscape capacity assessment of landscape character types and areas
- 2) Assessment of cumulative impacts on broad landscape areas of Angus: Highland, Lowland & Hills and Coast
- 3) Assessment of impacts on the visual experience of Angus
- 4) Assessment of landscape capacity and potential cumulative impacts on Angus as a whole

The cumulative impacts will be expressed via the landscape/ visual typologies described in Table 2.1. They are considered at two levels of development:

- 1) Including operating and consented windfarms, where there is a high degree of certainty in the cumulative assessment scenario.

- 2) Including the above plus all windfarms currently under planning application – where there is a level of uncertainty regarding the potential cumulative scenario.

This allows an assessment to be made of change from the existing ‘consented’ landscape to the potential landscape that would result from development of all the planned windfarms. This information can be used to determine the significance and acceptability of change in relation to the capacity of the landscape.

Further comment is made on the extent to which the type and pattern of development (eg. turbine size and windfarm size) affects the cumulative impacts and how a change in the proposed development pattern might change this (eg. by reducing turbine sizes or by not proceeding with all developments).

The assessment is carried out on the basis of the structured methodology in combination with professional judgement, on the basis of a desk analysis of available information on the landscape and on windfarm developments and through site visits. The primary data used to determine the potential levels of change is in the landscape and visual assessment material provided by the windfarm developers in their environmental statements and reports.

Mountboy Wind Farm Environmental Statement. West Coast Energy, Nov 2006

Mountboy Wind Farm Supplementary Environmental Information. LUC, Aug 2008

Montreathmont Moor Wind Farm Environmental Statement. Wind Prospect, Nov 2007

Dusty Drum Wind Cluster, Landscape and Visual Assessment. Stephenson Halliday, April 2008

East Skichen Wind Farm Environmental Report. Entec UK Ltd, Oct 2006

East Skichen Windfarm Additional Landscape and Visual Impact Assessment, Entec UK Ltd, June 2008

Mile Hill Wind Farm Environmental Statement. Atkins, March 2008

Where suitable data is not available, or is considered to be less than required to make an assessment, further analysis and assessment has been undertaken both through interpretation of other available data and through site visits. This material has been used to inform the assessments given in this report.

The following sections detail the stages in determining landscape capacity.

2.5.2 Determining Landscape Character Sensitivity

The determination of landscape character sensitivity for an area requires a breakdown of the physical and perceptual aspects that contribute to landscape character. This is followed by an evaluation of each of these in turn and how they would relate to patterns of windfarm development to arrive at an overall assessment. The following aspects are considered:

FIG 2.1 METHODOLOGY FLOWCHART

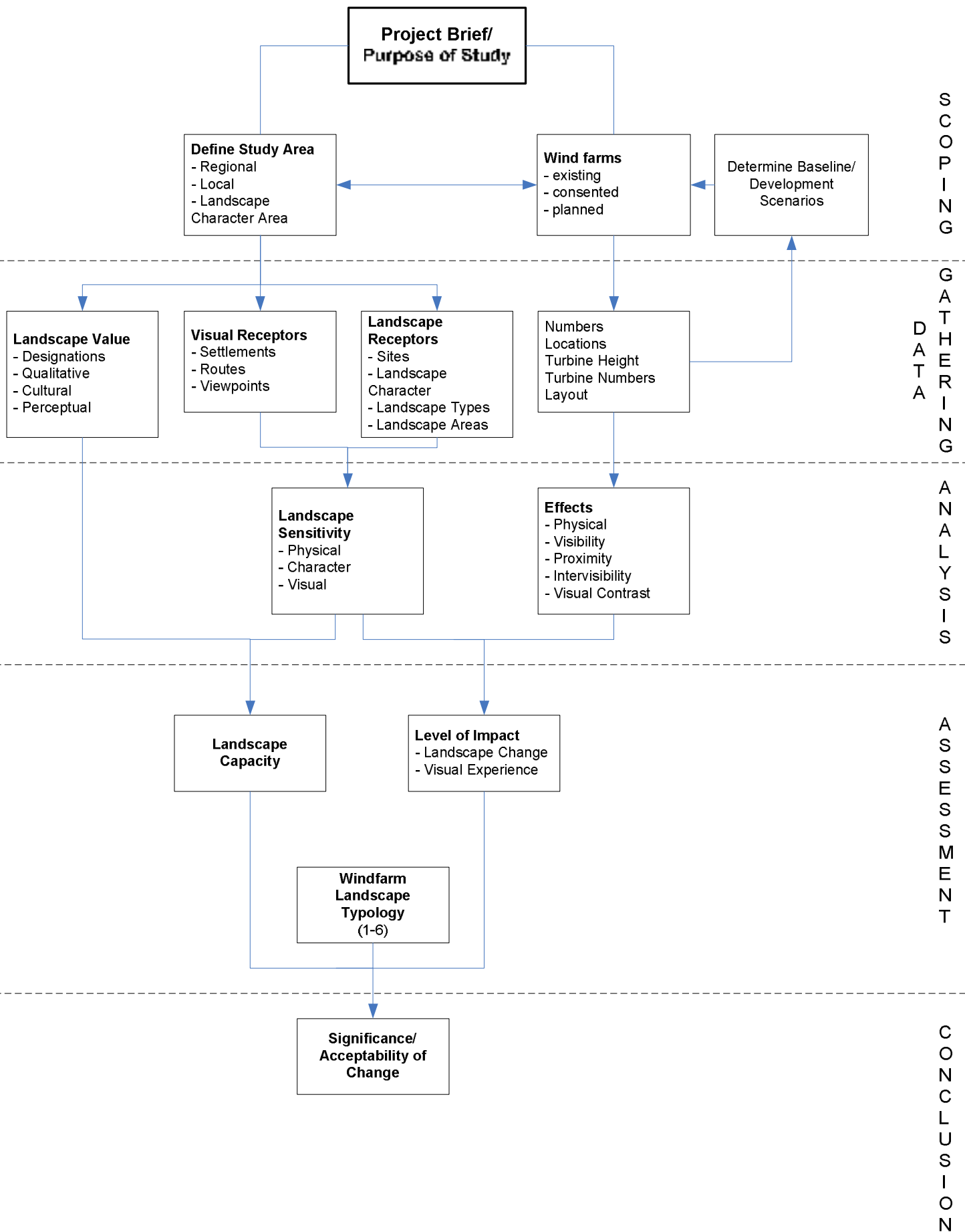


Table 2.3. Determination of Landscape Character Sensitivity

Landscape Character Factors	Criteria /Thresholds
Scale (primarily in character but also in geographical size of area)	Consideration of horizontal and vertical scale. Larger scale landscapes are generally considered more able to absorb the impacts of commercial wind turbines, although a smaller size of turbine may reduce impacts. A larger physical area would be able to accommodate more development depending on other aspects determining capacity.
Landform	The relationship between wind turbines and landform is complex and also dependent on scale. Generally simple landforms: flat, undulating or gently rolling, are considered less sensitive and complex landforms more sensitive, especially if smaller scale. Landforms of sufficient scale may provide opportunities for screening or backgrounding turbines, reducing their visual sensitivity.
Pattern	The pattern of landcover (woodland, field boundaries, crops, roads, settlements etc). Degree of strength, regularity, fragmentation. Minimal or simple landscape patterns are considered less sensitive to windfarm development. Again the relationship to scale is important.
Development	<p>The degree of built or infrastructure development will affect suitability. In general a greater level of development is more suitable, particularly large scale industrial and extractive industries, or potentially large scale agriculture.</p> <p>Areas with small scale residential development would potentially be more sensitive. Undeveloped areas with remote or wilderness characteristics would also be more sensitive.</p>
Quality	This is a measure of the condition and integrity of the landscape fabric and character. A landscape in good condition with a high degree of integrity is more likely to be sensitive to development. A landscape of poor quality may represent an opportunity to compensate for impacts.
Elements and Features	The elements that make up a landscape, such as woodlands, fields, hedges, buildings and landforms create its pattern but add to its distinctive composition and character. Prominent or distinctive focal features such as steep hills, towers, lochs add further distinctiveness. The relationship of windfarms to these affects overall sensitivity.
Context	The characteristics of surrounding landscape areas provide a context that affects perception of a landscape and may affect how wind turbine developments are perceived. Landscapes acting as a backdrop or foreground to other areas are particularly sensitive.
OVERALL RATING	High/ Medium/ Low

2.5.3 Determining Visual Sensitivity

The visual sensitivity of a landscape area is determined by who is likely to see it, (types and numbers of receptors) and how visible in general the area is. The assessment is made in relation to the visibility of tall structures.

Table 2.4. Determination of Visual Sensitivity

Visual Sensitivity Factors	Criteria
Receptors	A greater number of potential receptors including higher population densities, visitor attractions or the presence of busy transport routes will lead to a higher visual sensitivity. The sensitivity and expectations of the receptors is also a contributory factor.
Internal Visibility	Views within a landscape area may be open or restricted by landform, vegetation or buildings. The greater the degree of openness and intervisibility the greater the sensitivity.
External Visibility	A landscape area that is visible from surrounding areas by virtue of its prominence or being overlooked is more visually sensitive than an area that is seldom seen.
OVERALL RATING	High/ Medium/ Low

The combination of landscape character and visual sensitivities leads to an overall assessment of landscape sensitivity for an area. No consistent weighting is given to either factor as it is likely that different landscapes will present these to varying extents depending on their unique characteristics. Each case is assessed on its particular characteristics.

2.5.4 Determining Landscape Value

Landscape value reflects the value that society and individuals put on a landscape. This can be officially recognised by some form of local or national designation, or simply by its value to a 'community of interest' (this could be for example a local population, recreational users or conservation interest). Other characteristics affecting value of a landscape include its historic and cultural associations, particularly if expressed by surviving features and patterns in the landscape. Finally there are more intangible characteristics generally valued by society, such as tranquillity remoteness and wilderness.

Table 2.5. Determination of Landscape Value

Landscape Value Factors	Criteria
Designations	International, national, regional or local designations relating to landscape in particular, although ecological designations also contribute to the landscape value of an area.
Community value	An undesignated area may be particularly valued by a community of interest: local, or activity-based.
Cultural value	Valued landscapes will have historic associations, be rich in historic features and buildings and/or have literary or artistic associations.
Perceptual	Tranquillity, remoteness or wilderness are valued characteristics, whereas landscapes that are highly modified, developed and populated would have low value in this respect. Landscapes regarded as particularly scenic would also be more sensitive.
OVERALL RATING	High/ Medium/ Low

2.5.5 Determining Landscape Capacity

The final assessment of capacity combines sensitivity and value and is expressed as **High, Medium** or **Low**:

- Landscapes of high sensitivity and value would be considered to have a low capacity for windfarm development.
- Landscapes of low sensitivity and value would be considered to have a high capacity for windfarm development.

We have not employed the use of a matrix in this study: a balance of judgement is made in each case as landscape value may be a more important factor than sensitivity in some cases; and vice versa in others.

2.6 Determining Acceptability of Impacts

The final stage involves bringing together the cumulative impact assessment and the landscape capacity assessment in a reasoned judgement of the effects of windfarm development on the Angus landscape. As explained in 2.4.6 the likely acceptability of a proposed level of development may be determined by considering the inherent capacity of the landscape together with the change in level of development and the absolute level of development. This should also be considered against policy criteria and objectives.

2.7 Scope of Assessment

As explained in 2.5.1 the scope of the assessment can be varied according to the extent of the study area and the purpose of the study. It can also vary according to the depth and detail required to assess impacts within the defined study area. In the case of a detailed study the method should build up to the wider study area from smaller units.

The current study focuses primarily on the local authority area of Angus, although areas beyond the boundary are being considered in terms of the visual influence of nearby windfarms and neighbouring contiguous landscape types. Nevertheless the results of the study will be discussed in terms of Angus and its landscapes.

3.0 LANDSCAPE AND VISUAL BASELINE

The following section defines and describes the study area, including the geographical extent and landscape character of Angus and its surroundings. It also reviews other relevant information including landscape-related designations, SNH natural heritage constraints and visual receptors.

3.1 Study Area

The study area for this assessment is shown in Figure 3.1. It focuses on the local authority area of Angus for the purposes of assessing the main windfarm applications listed in the brief and in terms of determining landscape capacity. Nevertheless, given the fact that there are a number of existing, consented and proposed windfarms in neighbouring local authority areas, some consideration has been given to these due to the extensive visual influence exerted by most windfarms. In particular windfarms in Perth & Kinross to the west and Aberdeenshire to the north and northeast are considered as the boundaries are entirely land based, with upland and lowland landscape types grading seamlessly across the administrative boundaries. Although predominantly an urban landscape, the City of Dundee is also considered due to its shared land boundary and the presence of wind turbines.

Fife to the south has not been considered as it is clearly separated from Angus by the Firth of Tay and any windfarm visible from Angus would be clearly perceived as being in a separate area. Western Aberdeenshire lying to the north is not considered in detail, as the boundary with Angus lies within the Cairngorms National Park which acts as a wide buffer in which windfarm development is highly unlikely for environmental and accessibility reasons.

3.2 Baseline Landscape Character Assessment

3.2.1 Landscape Context

The local authority area of Angus is located in eastern Scotland, between the Firth of Tay and Dundee in the south and the Grampian Mountains in the north. It lies between Perth & Kinross to the west, Aberdeenshire to the north and east. Fife faces it to the south of the Firth of Tay. It has a total area of 2,181km² and a population of approximately 100,000.

The landscape of Angus represents a transition from coastal landscapes in the southeast progressing northwest to agricultural lowland and lowland hills, thence to highland landscapes. The bulk of the population lives in small towns and villages in the lowland area, through which the main transport routes pass. The landscape of Angus and of the more extensive Tayside area is described in detail in the TLCA (*Tayside Landscape Character Assessment SNH, 1999*).

The *Finalised Angus Local Plan* has adopted the TLCA as the base data informing its landscape character related policies. It identifies the landscape types in *Figure 3.2: Landscape Character Zones* as part of the justification for *Policy ER5: Conservation of Landscape Character*. In *Policy ER34: Wind Energy Development*, the zones are amalgamated into three main regional areas shown in the *Local Plan Figure 3.4: Wind Energy Development: Geographical Areas*:

- Highland
- Lowland and Hills
- Coast

These are slightly modified following the inquiry process, with Montrose Basin included in the Coastal area.

3.2.2 Landscape Character

Table 3.1 and Figure 3.2 consider the landscape in more detail. There are a total of ten landscape character types from the Tayside assessment: 4 Highland; 4 Lowland and Hills and 3 Coast.

These are further subdivided into a number of individual character areas depending on whether there is more than one example of the landscape type geographically separated or distinct from the other(s).

The coastal area, although important to the character of Angus, covers little of its surface area, being a predominantly narrow strip, with the exception of Montrose Basin. In contrast the Lowland and Highland areas cover most of Angus. The dividing line between the two is the Highland Boundary Fault between Lintrathen in the west and Edzell to the east. To the north of the Highland Boundary Fault lie the extensive rolling uplands and mountains of the Mounth Highlands and the Angus Glens. To the south of the Boundary Fault lie the Tayside Lowlands. In Angus the division between these landscape types is approximately 50:50 in area. Most of the characteristics of the landscape including topography, vegetation cover, land use and settlement patterns are subservient to this major division.

The following section briefly describes the context and character of the landscape in each of these areas. More detailed descriptions and analysis is given in the TLCA.

Angus Local Authority
Boundary

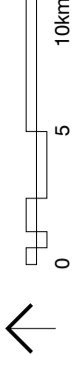
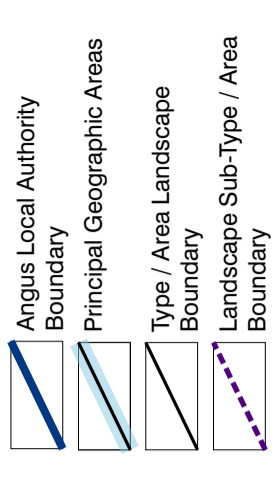


Figure 3.1
Study Area



Angus Landscape Types

From Tayside Landscape Assessment

Highland

- 1a Upper Highland Glens
- 1b Mid Highland Glens
- 3 Highland Summits & Plateaux
- 5 Highland Foothills

Lowland and Hills

- 8 Igneous Hills
- 10 Broad Valley Lowland
- 12 Low Moorland Hills
- (12a) Lowland Forest and Farmland Sub Type
- (12b) Low Moorland Hills Sub Type
- 13 Dipslope Farmland
- (13a) Rossie Moor Sub Area
- 15 Lowland Basin

Coast

- 14a Coast with Sand
- 14b Coast with Cliffs

Aberdeenshire Landscape Types

From South and Central Aberdeenshire Landscape Assessment

Agricultural Heartlands

- 8 Howe of the Mearns
- 9 Gavock & Glenbervie

Moorland Plateaux

- 18 The Mounth

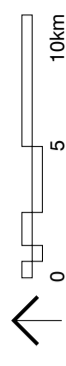
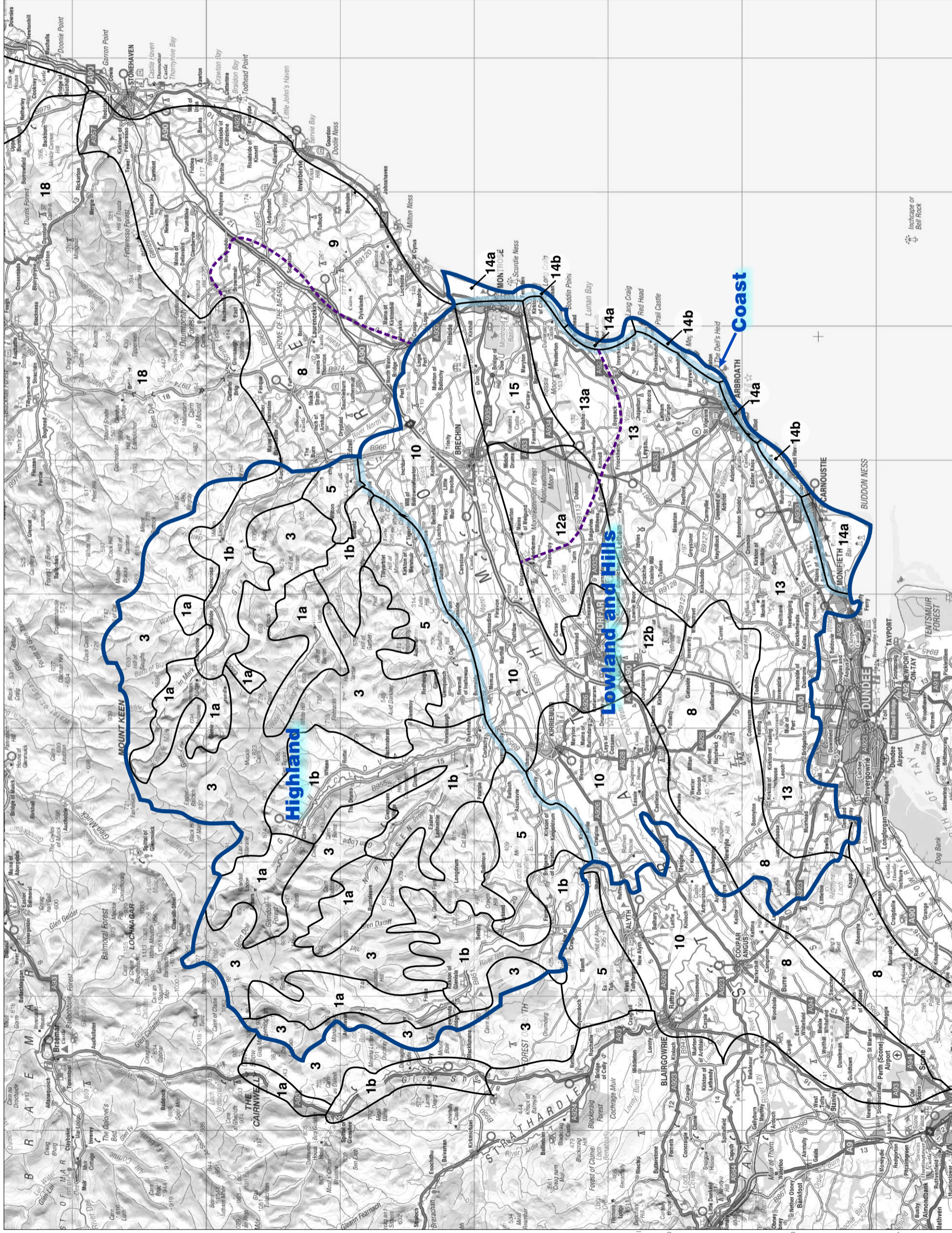


Figure 3.2
Landscape Character



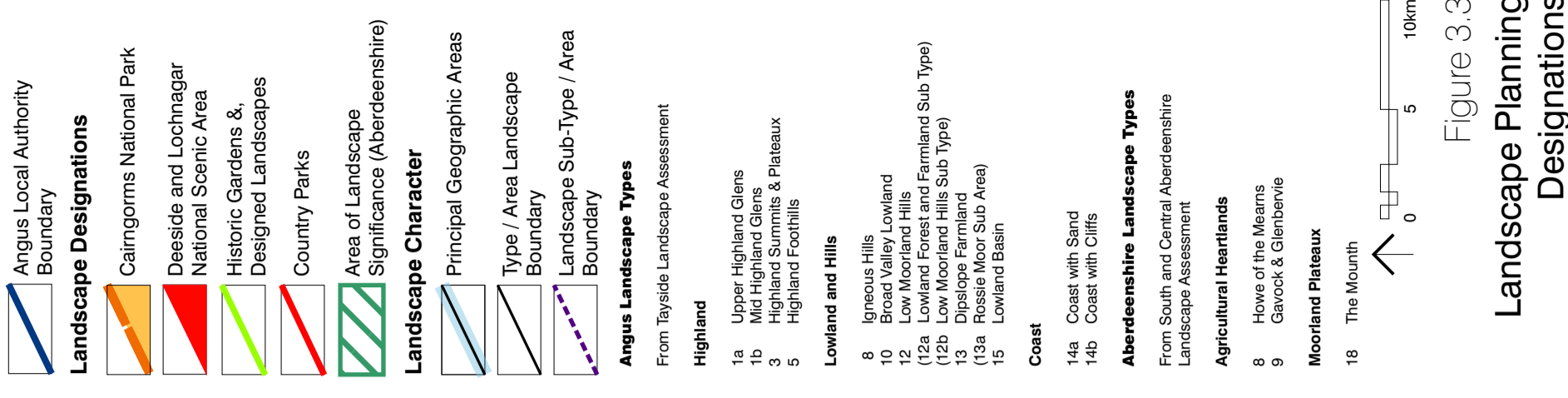


Figure 3.3

Landscape Planning Designations

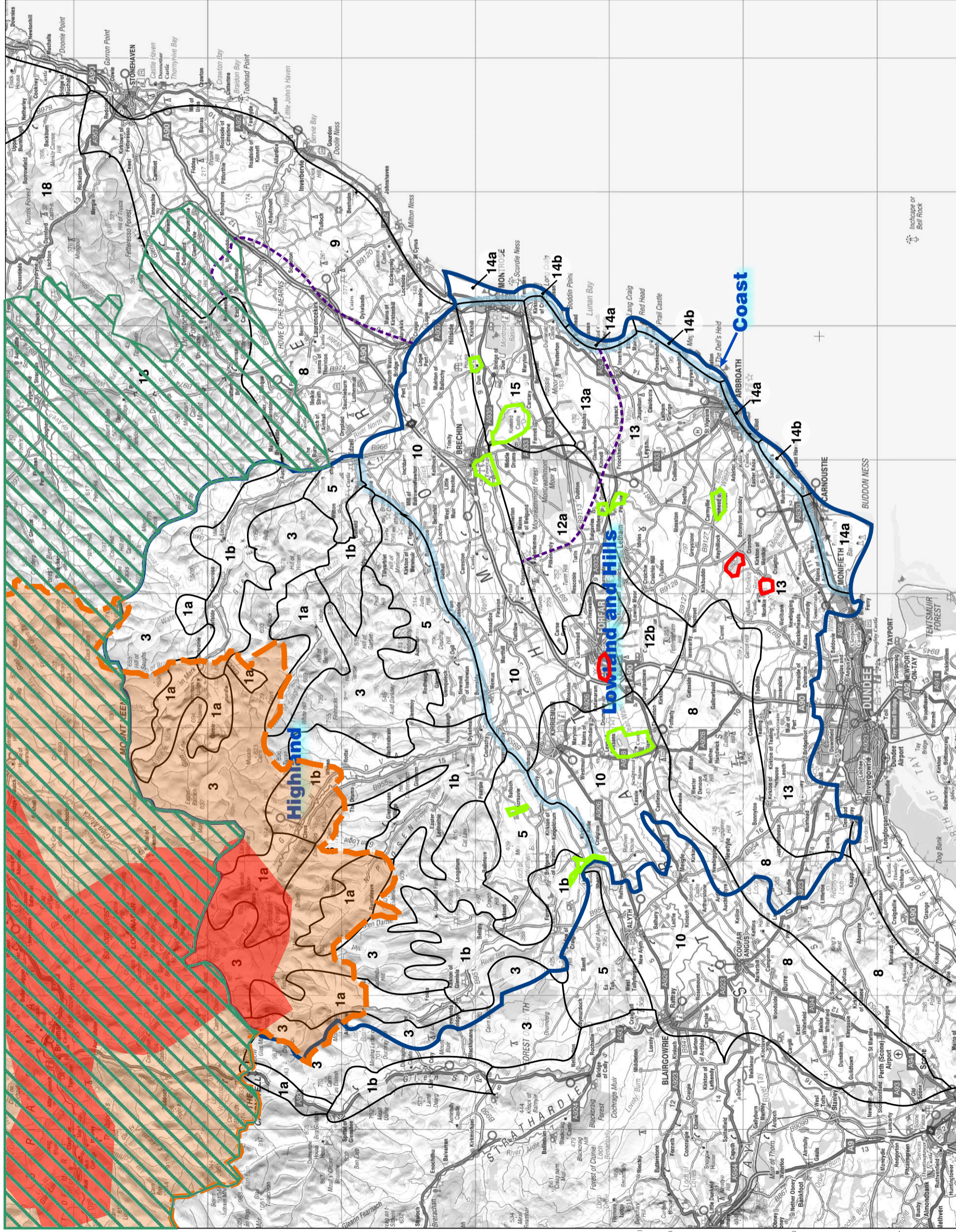


Table 3.1. Landscape Character Areas in Angus (SNH Tayside Assessment)

Regional Type	Landscape Type	Landscape Units
Highland	1a. Upper Highland Glens	<i>Glen Isla</i> <i>Glen Prosen</i> <i>Glen Clova</i> <i>West Water Valley</i> <i>Glen Mark</i>
	1b. Mid Highland Glens	<i>Glen Isla</i> <i>Glen Prosen</i> <i>Glen Clova</i> <i>West Water Valley</i> <i>Glen Esk</i>
	3. Highland Summits & Plateaux	<i>Forest of Alyth</i> <i>Caenlochan Forest/ Glendoll Forest</i> <i>Muckle Cairn/ Hill of Glansie/ Hill of Wirren</i> <i>Hills of Saughs/ Mount Battock</i>
	5. Highland Foothills	<i>Kirriemuir Foothills</i> <i>Menmuir Foothills</i> <i>Edzell Foothills</i>
Lowland and Hills	8. Igneous Hills	<i>Sidlaws</i>
	10. Broad Valley Lowland	<i>Strathmore</i> <i>Lower South & North Esk Valleys</i>
	12. Low Moorland Hills	<i>Forfar Hills</i>
	13. Dipslope Farmland	<i>SE Angus Lowland</i>
Coast	14a. Coast with Sand	<i>Montrose</i> <i>Lunan bay</i> <i>Elliott</i> <i>Barry Links</i>
	14b. Coast with Cliffs	<i>Usan</i> <i>Auchmithie</i> <i>Carnoustie</i>
	15. Lowland Basins	<i>Montrose Basin</i>

Highland Area

Within the Highland area there are four landscape character types divided into a total of 17 landscape character areas. This reflects the dissected plateau nature of the Mounth with deep glens penetrating the mountains. The Highland Boundary fault along the southern edge is reflected in the transitional *Highland Foothills* Character type, comprising three areas of smaller scale complex topography and mixed arable and hill farming separated by the mouths of the Angus Glens. This character type extends west into Perth & Kinross.

The Angus Glen character areas comprise *Glen Isla*, *Glens Prosen & Clova*, *West Water Valley* and *Glen Esk*. They run from southeast to northwest, dividing the *Highland Summits and Plateaux* into a series of broad, rolling ridges. The *Mid Highland Glens* are shallower and more settled with some agriculture on the flat valley floor, whereas the *Upper Highland Glens* are narrower, deeper and less settled or cultivated.

The *Highland Summits and Plateaux* forms the most extensive Highland character type, separating the glens and merging into broader and higher mountain areas to the north of Angus. This character type continues west into Perth & Kinross and merges with other upland character types, including *Moorland Plateaux*, to the north and to the east in Aberdeenshire.

The northern parts of both the *Upper Highland Glens* and *Highland Summits and Plateaux* fall into the Cairngorms National Park although this designation does not extend into the lower hills northeast of Glen Esk.

Lowland Area

Within the lowland landscape area there are four landscape character types, further subdivided into five landscape character areas. The predominant lowland landscape types within Angus are the *Broad Valley Lowlands*, lying south of the Highland Boundary Fault, represented by Strathmore and the Lower South and North Esk Valleys and the large area of *Dipslope Farmland* between Dundee, Forfar and Montrose. Both of these areas are dominated by arable agriculture and are settled with towns, villages and networks of roads. Fields are medium to large in size with intermittent hedges and trees. There are areas of shelterbelts and small plantation woodlands. Three of the main settlements in Angus (Kirriemuir, Forfar and Brechin) and the main transport artery (the A90) lie in the *Broad Valley Lowlands*. The *Dipslope Farmland* is on higher undulating ground with smaller settlements and more open aspects.

The two main lowland areas are separated by ranges of lowland hills: To the west the *Igneous Hills* of the Sidlaws divide the *Dipslope Farmland* and Dundee from Strathmore, this pattern extending west into Perth & Kinross. To the east the smaller scale *Low Moorland Hills* around Forfar separate the *Dipslope Farmland* from the Lower Esk Valleys.

Northeast into Aberdeenshire the lowland landscape area is represented by the *Agricultural Heartlands* type (from the *South & Central Aberdeenshire Landscape Assessment, SNH*) which merges with the *Broad Valley Lowlands*.

Coastal Area

There are three Coastal Types: *Coast with Sand* divided into four landscape character areas and *Coast with Cliffs* divided into three. These form a narrow strip along the Firth of Tay and North Sea, with rocky headlands alternating with dunes and sandy beaches. Only the Barry Links area of dunes between Monifieth and Carnoustie has a width of more than a kilometre or two.

Four of the main towns of Angus: Monifieth, Carnoustie, Arbroath and Montrose punctuate these areas and there are main roads and a railway passing along the coast from Dundee to Arbroath and again around Montrose. There are small fishing villages and remains of castles on the rocky sections of coast. Otherwise there is little development with arable land often extending close to cliff edges. There is little in the way of trees, the areas being open and windswept. There are links golf courses located in dunes along the sandy sections of coast and Barry Links is a military firing range.

Between the Forfar Hills and Montrose the landscape lowers in elevation forming the *Lowland Basin* of Montrose Basin, which is part flat agricultural land and parkland and part inland tidal lagoon separated from the North Sea by the spit of land on which lies Montrose.

Further Analysis of Landscape Character

Further analysis of the lowland *Low Moorland Hills* landscape type south and east of Forfar indicates that, although clearly higher than the Lower Esk Valleys and Montrose Basin, much of it is of lower elevation than the adjacent *Dipslope Farmland*. On analysis we consider it comprises two sub-types: the lower, flatter and mainly afforested Montreathmont Forest & Moor and surrounding farmland to the east of Turin Hill and north of Guthrie and the area of widely separated steep sided hills in rolling farmland to the west, surrounding the east and south sides of Forfar. This subdivision is shown in Figure 3.2 as *Lowland Forest and Farmland* and *Low Moorland Hills*.

The *Dipslope Farmland* covers a wide area and accommodates significant variation within this character type, varying from relatively small scale enclosed farmland to large open fields or small areas of heather moorland. Nevertheless we note that the area around Rossie Moor is separated from the bulk of the *Dipslope Farmland* area to the southwest by the valley of the Lunan Water. To the north it falls steeply to the flat Montrose Basin area and to the east it abuts the low-lying coastal zone. Despite its modest maximum elevation (130-150m AOD as opposed to other areas at nearly 200m AOD) this area appears more prominent than much of the *Dipslope Farmland* due to surrounding lower ground around the Lunan Water, Montrose Basin and the coast. The area is shown in Figure 3.2 but is not considered to be a further sub-type as, other than the topographic separation, it is not considered to be of sufficiently different character from the rest of the *Dipslope Farmland*.

3.3 Landscape Designations

Landscape designations are an indication of landscape value as determined by society and have been taken into account in the assessment of landscape capacity. This section gives a brief indication of what has been taken into account. The principal areas are shown in Figure 3.3

3.3.1 National Designations

The only area of national landscape designation within Angus is the Deeside and Lochnagar National Scenic Area (NSA), the southern end of which lies in the northwestern part of Angus, including the highest mountains and Glen Doll at the head of Glen Clova.

The Cairngorms National Park is a landscape-related national designation. It is located in the north of the area and extends beyond into Aberdeenshire. It includes the NSA within its boundaries. The area does not include Perth & Kinross but a boundary extension in that local authority area is currently under consideration. This will not affect the area within Angus. The National Park area includes the northern parts of the *Highland Summits and Plateaux* and *Upper Highland Glens* areas.

It is unlikely that commercial windfarm proposals would be considered acceptable within the NSA or the National Park and whilst buffer areas are not specifically encouraged, the effects of windfarms nearby to the NSA or National Park could be a material consideration (see *SPP6 Annex A*).

Other national designations are primarily related to sites of natural or cultural heritage value (eg. SPAs, SSSIs and Scheduled Ancient Monuments), which are not the subject of this study. Nevertheless some of these areas such as Montrose Basin and the numerous castles, churches, prehistoric monuments and hillforts in Angus are notable for their contribution to landscape character and are considered, where appropriate, in the assessment of landscape value and capacity.

3.3.2 Local and Regional Designations

There are no local landscape designations such as AGLVs within Angus. The protection of landscape character outside the National Park is based on local plan policy which is informed by the TLCA. This is taken into account in the assessment of landscape capacity. In Aberdeenshire local landscape designations are Areas of Landscape Significance. One large area extends to include all of the upland area bordering Angus, overlapping with the Cairngorms National Park.

3.3.3 Other Designations

There are a number of Historic Gardens and Designed Landscapes (HGDLs) within the study area. Whilst this is not a statutory designation it is a landscape factor that contributes to the assessment of landscape character and value. These are taken into account in the assessment. There are also three country parks in the area between Dundee, Carnoustie and Forfar at Monkie, Crombie and Forfar Loch.

3.4 SNH Natural Heritage Sensitivity

SNH have a policy document which includes a map of Scotland showing 'natural heritage sensitivity', based on landscape and natural heritage designations (*Policy Statement no 02/02 updated 2005*). The designations include National Scenic Areas,

AGLVs, SPAs, SSSIs and Nature Reserves. The map shows three categories of area based on increasing sensitivity:

Zone 1: *Lowest natural heritage sensitivity identifies areas at the broad scale with least sensitivity to wind farms, with the greatest opportunity for development, within which overall a large number of developments could be acceptable in natural heritage terms, so long as they are undertaken sensitively and with due regard to cumulative impact.*

Zone 2: *Medium natural heritage sensitivity identifies areas with some sensitivities to wind farms. However, by careful choice of location within these areas there is often scope to accommodate development of an appropriate scale, siting and design (again having regard to cumulative effects) in a way which is acceptable in natural heritage terms.*

Zone 3: *High natural heritage sensitivity identifies areas of greatest sensitivity to wind farms, which place the greatest constraint on their development, and where, in general, proposals are unlikely to be acceptable in natural heritage terms. There may however be some sites in this zone where wind farm development of appropriate scale and careful design could be accommodated if potential impacts on the natural heritage are fully explored and guarded against by employing the highest standard in siting and design.*

Much of Angus is categorised as Zone 1. This includes most of the lowland and coastal area as well as the southern part of the highland area. Within this area are small areas of higher natural heritage sensitivity. These include Montrose Basin, Barry Links and smaller sites or rivers designated for conservation purposes and categorised as Zone 3 and designed landscapes such as Kinnaird Park, which are designated as Zone 2.

Only in the northern part of Angus are there extensive areas of higher conservation sensitivity. These areas are overlapping and include:

- the NSA and an overlapping area of Wild Land Search which are Zone 3;
- the Cairngorms National Park and a 10km buffer to the NSA (which lies largely within the national park) which are Zone 2;
- the hills further south which are partially Zone 2, relating to sensitive bird interests.

3.5 Visual Receptors

Although this is primarily a study of landscape capacity and cumulative landscape impacts it is important to consider the effects of cumulative impact on visual receptors. This not only feeds into the assessment of landscape sensitivity and capacity (see 2.5) but also builds up a picture of how visual receptors in and around Angus would perceive windfarms within the Angus landscape.

The types of potentially sensitive visual receptors within Angus are broadly categorised into three groups, represented by the locations in brackets:

- Residents (dwellings and settlements)
- Travellers (roads, railway, paths and cycle routes)
- Visitors (visitor destinations and viewpoints)

Although it is recognised that people also work in Angus, these have not been included as sensitive visual receptors. This is in accordance with common practice in LVIA, where people at work are considered to be low sensitivity visual receptors

An assessment of effects on principal areas is made in section 5.3 and taken account of in the overall assessment.

4.0 WINDFARMS

The following section lists and describes the operating, consented and proposed windfarm developments in the study area

4.1 Windfarm Distribution

The study area includes Angus, eastern Perth & Kinross, southern and western Aberdeenshire and Dundee. There are a total of 17 windfarm sites within this area, including 2 operational, 5 with planning consents and 10 as registered planning applications. There are 7 within Angus, 8 within Aberdeenshire and one each in Perth & Kinross and Dundee.

These are listed, together with details of location, number and height of turbines etc in Table 4.1 overleaf. Their locations are shown in Figure 4.1.

4.2 Operating and Consented Windfarms

Considering first the operating and consented windfarms, there are seven within the study area. There are currently no operating windfarms in Angus but one relatively small development of 8x78m turbines is consented at Ark Hill, located in the southwest of Angus on the higher ground of the *Igneous Hills* separating the *Dipslope Farmland* north of Dundee from the *Broad Valley Lowland* of Strathmore. Outwith Angus the nearest operating windfarms are the 16x108m turbines at Drumderg, located in the *Highland Summits and Plateaux* type just to the west of the boundary with Perth & Kinross and the two 120m turbines of the Michelin factory in Dundee, in an urban area, but close to the southern edge of the *Dipslope Farmland*.

To the northeast lie four consented windfarms in Aberdeenshire. Tullo (8x101m) and St John's Hill (9x79m) are located on hills within the lowland *Agricultural Heartlands* Type, 9km and 20km north of the boundary. Two more are located to the north of this: Mid Hill (25x110/125m) in the upland landscape type *Highland Moorland Plateau* and Clochnahill (4x76m) just within the lowland *Agricultural Heartlands* type. These are both over 15km away from the boundary with Angus.

4.3 Proposed Windfarms

A further ten windfarms are at the planning applications stage.

Five out of the six proposed windfarms within Angus are located in the lowland area, all south of Strathmore and the North/ South Esk Valley. Inevitably the lowland windfarms are located on areas of higher ground within this regional landscape type. Three of the proposed windfarms (Mountboy, Dusty Drum and East Skichen) have three turbines each and are located on the *Dipslope Farmland*, with the largest proposal for 11x126m turbines at Montreathmont being close by on the edge of the

Low Moorland Hills. A single 80m turbine is proposed at Scotston Hill in the Sidlaw Hills near Ark Hill.

Only the proposed 6x100m turbines at Mile Hill in the west are located north of the Highland Boundary, within the *Highland Foothills* landscape type of Kirriemuir Foothills, 6km northwest of Kirriemuir.

Three of the four proposed Aberdeenshire windfarm sites are located in the lowland *Agricultural Heartlands* type. The proposed 3 turbines at Hillhead of Aquhirie are very close to Clochnahill, some 4km SW of Stonehaven and over 20km north and east of the Angus boundary. Droop Hill (3 turbines) and Herscha Hill (one turbine) are either side of Glenbervie, on opposite hills 6-7km west of Clochnahill. They are approximately 15km from the Angus boundary.

The other proposed site at Meikle Carewe comprises 12 turbines located in the upland *Moorland Plateaux* landscape type over 25km north and east of the Angus boundary.

Table 4.1: Windfarm Database (Operational = Green; Consented = Yellow) (see Fig 4.1 for locations)

LPA Area	Windfarm Name	Location	Turbine Nos.	Turbine Hub/ Blade Tip	Landscape Type/ Other Comments	
Angus	Ark Hill	10km S of Kirriemuir	8	49	Sidlaw Hills, Igneous Hills	
	Dusty Drum	7km E of Arbroath	3	70	Dipslope Farmland	
	East Skichen	6km N of Monifeith, Dundee	3	60	Dipslope Farmland	
	Mile Hill	6km W of Kirriemuir	6	65	Highland Foothills	
	Montreathmont	6k S of Brechin	11	80	In Montreathmont Forest, Low Moorland Hills	
	Mountboy	6km SW of Montrose	3	65	Rossie Moor, Dipslope Farmland	
	Scotston Hill	3km NE of Auchterhouse	1	??	Sidlaw Hills, Igneous Hills	
	Aberdeenshire	Clochnahill	6km SW of Stonehaven, 22km NE of Angus	4	45	Agricultural Heartlands
		Droop Hill	2km NW of Glenbervie, 18km NE of Angus	3	??	Agricultural Heartlands
		Herscha Hill	3km W of Glenbervie, 15km NE of Angus	1	??	Agricultural Heartlands
Hillhead of Aquhirie		4km SW of Stonehaven, 25km NE of Angus	3	55	Agricultural Heartlands	
Meikle Carewe		5km NW of Stonehaven, 26km NE of Angus	12	44	Moorland Plateaux	
Mild Hill		14km W of Stonehaven, 14km NW of Angus	25	70/85	Moorland Plateaux	
St John's Hill		4km N of Inverbervie, 18km NE of Angus	9	49	Agricultural Heartlands	
Tullo		3km E of Laurencekirk, 10km NE of Angus	8	60	Agricultural Heartlands	
Dundee		Michelin Factory	NE Dundee, 1km S of Angus	2	85	Urban area, close to Dipslope Farmland
		Drumderg	10km N of Blairgowrie, 3km W of Angus.	16	67	Highland Summits and Plateaux

4.4 Landscape of Windfarm Locations

Figure 4.1 and Table 4.2 show the location of existing, consented and proposed windfarms in relation to lowland and upland landscape types.

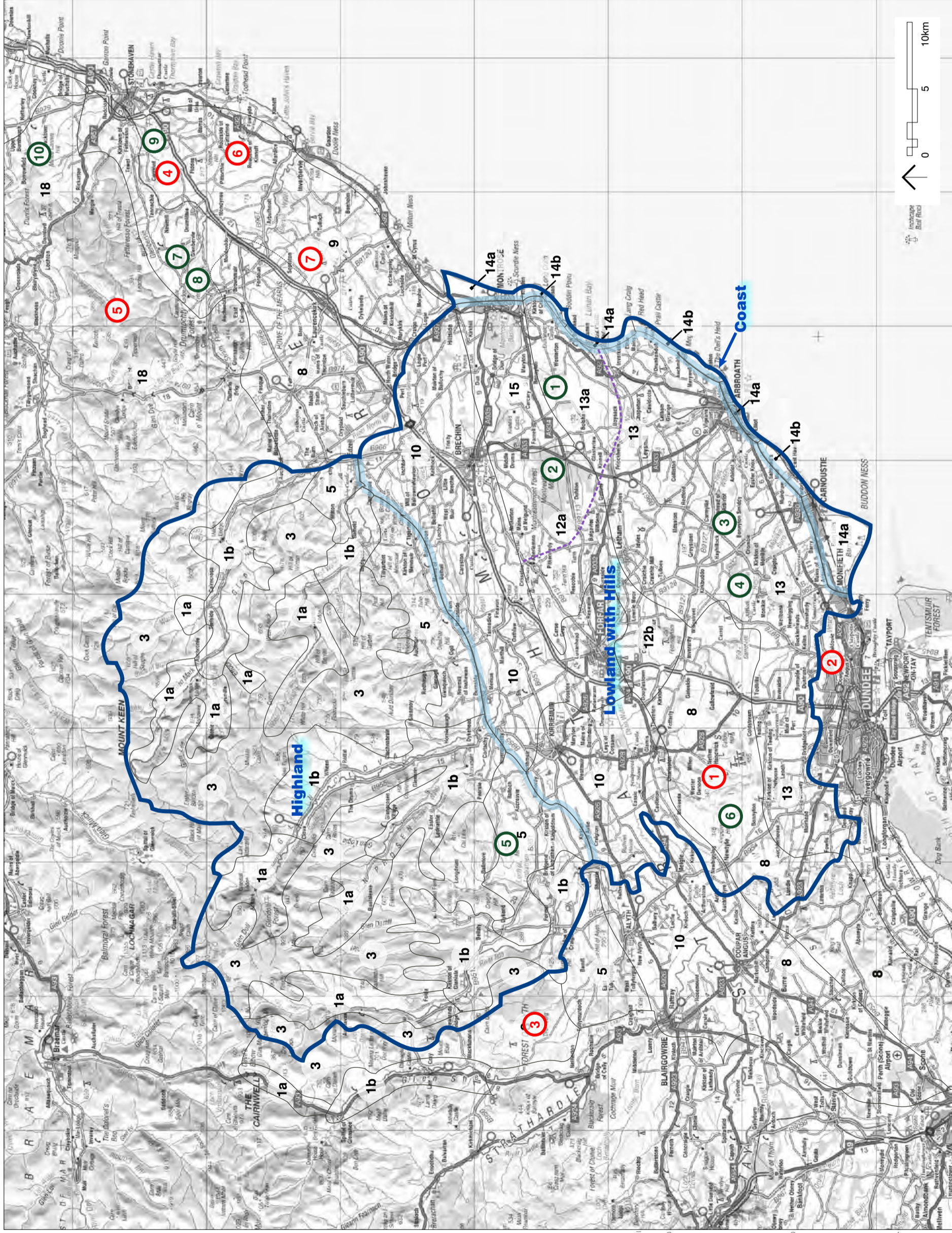
Table 4.2: Windfarm Location in Relation to Landscape Character

LOWLAND LANDSCAPES	UPLAND LANDSCAPES
<p>Operating/ Consented</p> <p>Ark Hill</p> <p>Michelin (Dundee)</p> <p>Tullo (Aberdeenshire)</p> <p>St John's Hill (Aberdeenshire)</p> <p>Clochnahill (Aberdeenshire)</p>	<p>Mid Hill (Aberdeenshire)</p> <p>Drumderg (Perth & Kinross)</p>
<p>Planning Application</p> <p>Mountboy</p> <p>Montreatmont</p> <p>Dusty Drum</p> <p>East Skichen</p> <p>Scotston Hill</p> <p>Droop Hill (Aberdeenshire)</p> <p>Herscha Hill (Aberdeenshire)</p> <p>Hillhead of Aquhirie (Aberdeenshire)</p>	<p>Mile Hill</p> <p>Meikle Carewe (Aberdeenshire)</p>

It shows that the majority of operating, consented and proposed applications within the study area are, or would be, located in lowland areas, south of the Highland Boundary fault. This is within a settled, working landscape of fields, plantations, settlements and roads as opposed to the rolling, moorland upland backdrop to the north and west.

In terms of potential effects on the landscape there are both advantages and disadvantages to a lowland location:

- 1) The position within a settled, working landscape with strong patterns of fields, shelterbelts, forests and roads means that the turbines and associated tracks, electricity lines and buildings lie in an area in which human modification and development is already a defining characteristic. In contrast the Highland landscape within Angus is largely devoid of development and has remote and wilderness characteristics meaning that the wind turbines and associated infrastructure, as industrial/ infrastructure built elements, would be in strong contrast.



Angus Local Authority Boundary

Windfarm Locations

1 Operational & Consented Windfarms

1. Ark Hill
2. Michelin
3. Drumdreg
4. Clochnahill
5. Mid Hill
6. St John's Hill
7. Tullo

1 Planning Applications

1. Mountboy
2. Montreatmont
3. Dusty Drum
4. East Skichen
5. Mile Hill
6. Scotston Hill
7. Droop Hill
8. Herscha Hill
9. Hillhead of Aquhirie
10. Meikle Carewe

Landscape Character

- Principal Geographic Areas
- Type / Area Landscape Boundary
- Landscape Sub Type / Area Boundary

Angus Landscape Types

From Tayside Landscape Assessment

Highland

- 1a Upper Highland Glens
- 1b Mid Highland Glens
- 3 Highland Summits & Plateaux
- 5 Highland Foothills

Lowland and Hills

- 8 Igneous Hills
- 10 Broad Valley Lowland
- 12 Low Moorland Hills
- (12a) Lowland Forest and Farmland Sub Type)
- (12b) Low Moorland Hills Sub Type)
- 13 Dipslope Farmland
- (13a) Rossie Moor Sub Area)
- 15 Lowland Basin

Coast

- 14a Coast with Sand
- 14b Coast with Cliffs

Aberdeenshire Landscape Types

From South and Central Aberdeenshire Landscape Assessment

Agricultural Heartlands

- 8 Howe of the Mearns
- 9 Gavock & Glenbervie

Moorland Plateaux

- 18 The Mounth

Figure 4.1
Windfarm Locations

- 2) The location within the lowland area better reflects the relationship between energy production and the consumer as well as generally being easier to service in terms of both access and connection to the electricity grid.
- 3) In terms of disadvantage, the scale of the lowland landscape topography and pattern is generally smaller than that of the highlands, meaning that the large scale wind turbines may appear incongruous and dominating. Furthermore they would dwarf nearby landscape 'reference features' such as trees and buildings. The landscape is better able to accommodate a larger scale of development in the uplands, where the scale of the landscape and general lack of reference features would better accommodate large turbines.
- 4) Although not strictly a landscape issue, the settled lowland areas will have a greater problem of adverse effects on the visual amenity of sensitive receptors in residential properties and on well used roads; whereas in the highland area the affected receptors will be predominantly recreational.

4.5 Turbine Numbers and Windfarm Size

There is no current 'accepted' classification of commercial windfarm sizes in Scotland. Existing and proposed developments vary in turbine numbers and sizes, with windfarms from single turbines to over 150 turbines. Turbines vary in size from below 60m to more than 125m, with maximum outputs from well under 1MW to up to 3MW. For the purposes of this study it is necessary to refer to small, medium and large size developments when describing windfarms and addressing capacity. It is also necessary to refer to turbine heights when considering scale and visibility. For clarity we have adopted windfarm size categories related to published guidance or planning application procedures (see table 4.3 overleaf).

A size of 50m is used by SNH in their criteria for determining whether or not an EIA is required (*SNH, 2008*). However, it is assumed in the current case that, being commercial windfarms, turbines would range in size from ca. 70m minimum to ca.125m maximum height to blade tip but where appropriate turbine size is discussed as a separate but related issue to overall windfarm size.

The windfarms considered in this study area are mostly small to medium size. The largest is Mid Hill, with 25 turbines at 110 and 125m in height. This would be considered large. Drumderg with 16x108m turbines is medium. The largest proposed within Angus is the medium size Montreathmont with 11x126m turbines. By comparison with the range of existing windfarms and applications in Scotland, all but Mid Hill are of a modest scale in terms of turbine numbers.

If all the windfarms in Angus were constructed this would amount to a total of 35 wind turbines. Another three operational and consented windfarms, comprising 26 turbines, lie within 10km of the Angus boundary.

This reflects a dispersed pattern of development, as opposed to a concentrated one such as can be seen in the Scottish Borders and Lanarkshire where windfarms

comprising tens of turbines each are operating, consented or proposed. The smallest windfarms in this study area, with three turbines, are in lowland locations that are constrained by their surroundings, in particular by the proximity of isolated properties and small settlements scattered across this landscape.

Table 4.3. Windfarm Size Categories

Size Category	Size Criteria	Comment/ Examples
Small	A development of 3 or fewer turbines of more than 50m height.	As defined by SNH guidance on assessment of small scale wind energy development (<i>SNH 2008</i>)
Small/Medium	A windfarm of more than 3 turbines up to 20MW output	Windfarms above 20MW are required to be covered by SPG in SPP6 Annex A. <i>Eg. Between 4 turbines over 50m and 10x2MW turbines or 6x3MW turbines</i>
Medium	A windfarm between 20MW and 50MW output	Windfarms up to 50MW are dealt with as local planning authority applications. <i>Eg. Between 7x3MW and 16x3MW turbines</i>
Large	Windfarms greater than 50MW output	Windfarms over 50MW are section 36 Applications dealt with by Scottish Ministers. <i>A minimum size of 20x2.5MW or 17x3MW turbines</i>

4.6 Review of Landscape and Visual Assessments

As required by Angus Council, a review has been carried out on each of the ESs or ERs accompanying five of the six windfarm applications within Angus, including Mountboy and Montreathmont. The findings are summarised below and fuller reviews have been issued as separate reports.

No detailed review of the windfarms outwith Angus has been carried out, although the details of their location, turbine number, size etc. have been noted and incorporated into the assessment.

4.6.1 Mountboy

Mountboy Wind Farm Environmental Statement. West Coast Energy, Nov 2006

Mountboy Wind Farm Supplementary Environmental Information. LUC, Aug 2008

This windfarm comprises 3x105m wind turbines located in mixed farmland on Rossie Moor, 6km SW of Montrose. The site lies in a lowland landscape type, *Dipslope Farmland*, which is extensive over Angus. The turbines would be prominently located near a hilltop and consequently have an extensive ZTV within 10km of the site and on higher ground to the north, although this is much reduced over Strathmore and to the southwest, where intervening higher ground screens views.

It is concluded that significant landscape impacts would be limited to the Rossie Moor area of the Dipslope Farmland. Significant visual impacts would be limited to within 3-5km of the site, with 5 out of 28 representative viewpoints experiencing significant impacts, at a maximum distance of 3km from the site. In terms of receptors there would be significant impacts on local residential properties in the Rossie Moor area and on local roads and paths, but no settlements or main roads are considered to be significantly affected. The most affected route is considered to be the A933 Arbroath to Brechin Road.

It is stated that if all the windfarms in the cumulative study area were constructed, this would lead to them being a characterising feature on a broad regional scale. However, it is concluded there would be no significant cumulative landscape or visual impacts resulting from Mountboy being added to the other windfarms in the assessment.

Whilst the assessment is generally competent and reasonable we conclude that some of the information provided on effects on settlements and properties is inadequately detailed and that some of the potential impacts have been underestimated. In particular we consider significant visual impacts to be more extensive than the 3km indicated by the viewpoint assessment and that the cumulative assessment does not properly consider the cumulative impacts between Mountboy and the nearby Montreathmont windfarm proposal.

A further cumulative assessment recently prepared assesses the significance of effects of Mountboy windfarm in addition to the other proposed windfarms in the study area. The study is comprehensive. It identifies that potentially significant cumulative impacts are limited to those with the nearby proposed Montreathmont Moor windfarm and that there is only one location, the A934, where Mountboy would make a significant contribution to the cumulative impacts.

4.6.2 Montreathmont

Montreathmont Moor Wind Farm Environmental Statement. Wind Prospect, Nov 2007

This windfarm proposal comprises 11x126m turbines located 6km south of Brechin. It is located on Montreathmont Moor, on an area of undulating topography within an extensive area of forestry. The landscape character type is *Low Moorland Hills*, although the windfarm site is located in an area of forestry at a lower level than much of the LCA. The ZTV is similar in extent and area covered to that of Mountboy, although slightly less extensive due to the lower elevation of the site.

The SNH landscape character area of *Low Moorland Hills* is further subdivided into forestry, hills and farmland and it is concluded that significant landscape impacts would be limited to the farmland area surrounding the forest, with the forest not sensitive enough to be significantly affected. Significant visual impacts would be limited to high sensitivity receptors within 7.7km of the nearest turbine. A detailed residential assessment includes all properties within 4km, and properties on high ground within 8km and concludes that 8 properties will experience significant visual impacts. Significant visual impacts on other receptors would be limited to users of tracks within the forest, short sections of the A933 north of Friockheim and the A934 west of Little Carcary and the B965 approaching Friockheim from the east. There would be no significant effects on settlements or other receptors.

Significant cumulative impacts would be limited to the area between Montreathmont Moor and Mountboy windfarms, including parts of the Montreathmont Moor, Montrose Basin and Dipslope Farmland LCAs. Visual impacts would be limited to local residents and road users. No other cumulative impacts involving other windfarms are anticipated due to the distance of separation between them.

4.6.3 East Skichen

East Skichen Wind Farm Environmental Report. Entec UK Ltd, Oct 2006

East Skichen Windfarm Additional Landscape and Visual Impact Assessment, Entec UK Ltd, June 2008

The proposal comprises 3x91m turbines located 7km north of Monifieth, near Dundee. It is located in pastoral farmland on a rounded hilltop, with nearby areas of forestry plantation. It is located in the *Dipslope Farmland* landscape type.

In the original Environmental Report (October 2006), the ZTV covers a radius of 20km. No hub height ZTV is supplied. Within 5km it covers an extensive area of the surrounding farmland, breaking up as lower ground beyond this distance is screened by intervening landforms. Between 10 and 20km only a few areas of higher ground are affected including parts of Dundee and Rossie and Montreathmont Moors.

The assessment in the ER considers that there would be no significant landscape impacts. It implies that there may be some significant visual impacts on local properties, Monikie Country Park, Monikie and Greystone villages, the NCR1, and possibly the A92 and A930. However the assessment tends to 'average out' these impacts over the whole length or area of the receptor, allowing it to claim that the impacts would not be significant. There are only 6 representative viewpoints, which is too few for a windfarm assessment and does not cover enough locations within the ZTV. Of these two are shown as wireframes only, with a viewing distance of less than 30cm.

No cumulative impact assessment has been carried out despite nearby Dusty Drum (5km east) and Ark Hill (15km west) being in the public domain at the time of the assessment.

Overall the assessment in the ER is inconsistent and unclear in its approach and conclusions. It tends to understate impacts by a process of 'diluting' them over a wider receptor area and is not clear as to what is considered to be a significant impact.

An Additional Landscape and Visual Assessment was submitted in June 2008. This report complements the Environmental Report, in that it addresses some of the key areas in which the latter was lacking, as identified through correspondence with SNH. Further detailed information on mitigation and site design is provided, extra viewpoints are added to the visual assessment, and a cumulative assessment is included.

The new viewpoints are well selected and complement the few viewpoints of the ER. Inconsistencies in the assessment methodology were noted for the new viewpoints. The new photomontages are either poor or poorly reproduced.

No detailed methodology is set out for the cumulative assessment. The presentation of the assessment is brief, with little in-depth discussion of actual cumulative effects. No assessment is made of the likely cumulative effects on landscape character.

The additional document addresses shortcomings of the ER, although again there are issues of consistency and clarity, particularly regarding the methodology for assessing cumulative impacts.

4.6.4 Dusty Drum

Dusty Drum Wind Cluster, Landscape and Visual Assessment. Stephenson Halliday, April 2008

This windfarm proposal comprises 3x110m turbines located 6km north of Carnoustie in mixed farmland in the *Dipslope Farmland* landscape type. The topography is fairly flat and is open with few trees apart from a nearby coniferous shelterbelt to the south. An electricity transmission line crosses the site between the proposed turbine locations.

The ZTV is similar to that of nearby East Skichen. It is very extensive within 5km of the site covering much of the surrounding farmland. It becomes more broken from 5-15km, covering mainly higher ground to the north east and scattered high ground elsewhere. Up to 30km it is fairly broken but is visible from the coastal areas of Fife to the south and higher ground to the north of Strathmore and Montrose.

It is concluded that significant landscape impacts would be limited to within 3-5km in the *Dipslope Farmland* landscape type. Significant visual impacts are noted for a small number of properties within 4km, a short section of the A92 near and users of Monikie Country Park. 5 of the 14 representative viewpoints are assessed as experiencing significant impacts, up to a distance of 5.6km from the nearest turbine. We note that there are a number of moderate impacts considered not significant, up to a distance of 17.1km (Tentsmuir in Fife).

It is concluded that there are no significant cumulative impacts with existing and consented windfarms but that there would be some together with the proposed windfarm at East Skichen. These are limited to two viewpoints (including Monikie Country Park) and a few residents and isolated dwellings lying between the two. The impacts on the landscape are not considered to coalesce and become cumulative, due to the separation of the two windfarm proposals by distance and tree cover. A significant effect of all the existing, consented and proposed windfarms on a section of the A92 would be reinforced by Dusty Drum.

The assessment is comprehensive and technically competent and we consider it to be a fair assessment of the effects of the proposals, although more detail and firm statements could have been made in relation to some of the cumulative impacts.

4.6.5 Mile Hill

Mile Hill Wind Farm Environmental Statement. Atkins, March 2008

This windfarm proposal comprises 6x100m wind turbines located 6km NW of Kirriemuir in semi-enclosed pastureland in the *Highland Foothills* landscape type. The turbines would be enclosed by highland hills to the north and the prominent landform of Mile Hill immediately to the south, beyond which lies the lowland landscape of Strathmore.

Due to its enclosed location the windfarm would have a limited ZTV, mainly to the south along Strathmore and the north slopes of the Sidlaw Hills.

It is concluded that significant landscape impacts would be limited to the unit of Highland Foothills in which the site lies and the southern edge of the Highland Summits and Plateaux immediately to the north from which the site is visible at close proximity. Significant visual impacts would be limited to two nearby sections of minor road and a section of the CATERAN Trail long distance path. 4 out of 25 viewpoints would be significantly affected at a maximum of 5.5km from the nearest turbine. No specific assessment of impacts on nearby properties has been undertaken.

It is concluded that there will be no significant cumulative impacts with existing or proposed windfarms on the landscape or on visual receptors.

The assessment is comprehensive and generally of a high quality. Most of the conclusions on magnitude and significance of impacts seem reasonable based on the evidence shown. However, there is a reluctance to acknowledge the landscape impacts as negative, merely as significant. Nevertheless we have concerns regarding the cumulative assessment in that it does not include windfarms current at the time of the assessment (East Skichen, Dusty Drum and Mountboy) and it is not entirely clear why it has arrived at some of its conclusions. We consider that Mile Hill may at least contribute to significant cumulative impacts on the Highland Foothills landscape type.

4.6.6 Overview

The quality of the assessments we have reviewed is fairly consistent, with the exception of that for East Skichen. Nevertheless our review has identified that widely

varying levels of cumulative impact assessment have been carried out. This varies from reasonably comprehensive in the case of Mountboy to poor in the case of East Skichen. In all cases however the cumulative assessments are not fully comprehensive, demonstrating a level of inconsistency in terms of which windfarms are included in the assessment and what information relating to each is included. Inevitably most of the assessments are also no longer up to date with the developing range of consents and applications in Angus and the surrounding local authorities of Perth & Kinross and Aberdeenshire.

In our review of cumulative impacts we have compared and contrasted the assessments and undertaken the following:

- 1) Collated the primary and cumulative assessment data from each of the landscape and visual assessments
- 2) Identified shortfalls/ inconsistencies in the assessments and addressed these through reassessment where appropriate
- 3) Identified additional windfarms (other than the five) likely to have a cumulative impact or affecting landscape and visual receptors within Angus
- 4) Identified additional potential cumulative impacts on viewpoints, settlements, roads and routes

5.0 ASSESSMENT OF LANDSCAPE CAPACITY AND CUMULATIVE CHANGE

5.1 Assessment Purpose and Method

The purpose of the following assessment is firstly to identify the capacity of the Angus landscape to absorb windfarm development and, secondly, to assess the degree of cumulative change that would result from the operating, consented and proposed windfarms in the study area. A detailed assessment methodology is given in chapter 2.0.

The assessment concentrates on the assessment of cumulative landscape effects, based on the Tayside landscape character areas as modified in section 3.0 of this study. Each of the landscape types is considered, with further division into sub-types or areas as appropriate to account for identifiable variations within landscape character areas and the pattern of windfarm development.

The assessment of landscape effects includes an assessment of visual sensitivity based on settlements, roads, visitor locations and viewpoints combined with potential visibility of turbines. Nevertheless a separate brief assessment of potential cumulative visual effects on settlements, roads and viewpoints is also carried out in order to identify effects on the perception of the Angus landscape by residents, travellers and visitors.

The identification of cumulative effects on each of the identified receptors is then combined to come to an assessment of cumulative effects on each of the three main landscape areas of Angus (*Highland, Lowland with Hills and Coast*) and finally to an assessment of the overall effect on the local authority area.

Further to the cumulative assessment the potential for mitigating cumulative effects is examined. This includes considering reductions in turbine size and number and the effects of changes to the distribution of windfarms.

The information used for this assessment is primarily derived from the visibility data and visualisations within the EIAs as well as from on-site assessment. Zones of Theoretical Visibility map extracts from the landscape and visual assessments are included in Appendix B of this report. Impacts are considered firstly for existing and consented windfarms and secondly in relation to all proposed windfarms in addition to these. For the purposes of this study the first assessment is based on the assumption that consented developments will be built.

The assessment of landscape capacity and cumulative effects on landscape character is summarised in Table 5.1. Landscape capacity in relation to landscape character areas is shown in Figure 5.1. Cumulative effects of windfarms in relation to landscape character are shown in Figure 5.2 (Operational and Consented Windfarms) and Figure 5.3 (Proposed Windfarms).

5.2 Landscape Capacity and Cumulative Landscape Effects

5.2.1 Cumulative Effects on Highland Landscapes

1a. Upper Highland Glens

The *Upper Highland Glens* are the upper parts of the deeply incised valleys penetrating into the heart of the Mounth Highlands. They are narrower, deeper and steeper sided than the Mid Highland Glens, with even more restricted external visibility.

Despite being medium to large scale these landscapes have little or no capacity for windfarm development. They are mainly located in the Cairngorms National Park, have a largely undeveloped character with a high scenic quality and a degree of remoteness and wildness. They have short range enclosed views or narrow vistas. Commercial scale windfarm development would adversely affect these characteristics

ZTV diagrams indicate there is and will be very limited visibility of windfarms existing or proposed. The Upper Highland Glens are and will remain a *Landscape with no Views of Windfarms*.

1b. Mid Highland Glens

The *Mid Highland Glens* are the lower parts of the Angus Glens; deeply incised valleys that penetrate the Mounth Highlands. Within Angus there are five separate landscape character areas: *Glen Isla*, *Glen Prosen*, *Glen Clova*, *West Water Valley* and *Glen Esk*. They are glens with steep sides and broad fertile valley bottoms.

Due to their enclosed, short range or narrow views and medium scale, together with the absence of comparable development and high landscape value the *Mid Highland Glens* have little or no capacity for commercial windfarm development.

Operating and Consented Windfarms

Currently there are no consented or proposed windfarms located in these character areas. Of the consented windfarms the closest is Drumderg in Perth & Kinross, some 5km west of Glen Isla. Ark Hill is over 10km south of Glen Isla and Tullo 15km east of the mouth of Glen Esk. Due to the steep valley sides offering enclosure and screening there are few views of the windfarms. Even close to Drumderg in Glen Isla views are restricted to the southern end of the glen, with distant views of Ark Hill. Glens Prosen & Clova have restricted visibility of Ark Hill at their southern ends. Tullo is potentially visible at the southern ends of West Water Valley and Glen Esk. Currently the landscape at the southern end is *Mid Highland Glens with Views of Windfarms* but most of the type is *Mid Highland Glens with no Views of Windfarms*.

Proposed Windfarms

Of the proposed windfarms Mile Hill would potentially have the most significant effect, lying between the mouths of Glen Isla and Glens Prosen & Clova. Nevertheless its visibility is restricted by topography and would be only at the southern end of the

Glens. The proposed windfarms at Montreathmont and Mountboy would be visible from the southern ends of Glen Prosen & Clova, West Water Valley and Glen Esk. At distances of 15-20km there would be little increase in effect from the current situation and these would remain *Mid Highland Glens with views of Windfarms* with the main part remaining unaffected.

3. Highland Summits and Plateaux

The *Highland Summits and Plateaux* form an extensive upland area north of the Highland Boundary Fault in Angus, rising to over 1000m AOD in places and divided by the deeply incised Angus Glens. The four areas within Angus include, from west to east, part of *Forest of Alyth; Caenlochan Forest/ Glendoll Forest; Muckle Cairn/ Hill of Glansie/ Hill of Wirren* and *Hills of Saughs/ Mount Battock*.

Landscape Capacity

The landscape is large to very large scale. Topography comprises undulating or rolling plateaux and rounded summits, falling steeply at the edges into the glens. Landforms and landcover patterns are large scale and simple. Generally these are characteristics that are suitable for windfarm development and the landscape character would have a low to medium sensitivity. The Mounth is very open and highly visible from the lowlands to the south and further mountains to the north. It forms the backdrop to lowland Angus as well as parts of neighbouring local authority areas of Perth & Kinross and Aberdeenshire. Internally there is extensive visibility although some lower areas are screened by surrounding landforms. As there are also a high number of sensitive recreational receptors using this area, the visual sensitivity is medium to high. This leads to an overall medium landscape sensitivity.

As a backdrop to lowland Angus, an area of high recreational value and an area of remote and wild characteristics the *Highland Summits and Plateaux* are of high landscape value, evidenced by the designation of much of their area as a National Park together with a NSA in the northwest. Due to the high landscape value the Highland Summits and Plateaux have a low capacity for windfarm development. Any windfarm development should be of modest scale, outside designated areas and away from the highest landforms, making use of screening by topography.

Operating and Consented Windfarms

Of the operating and consented sites Drumderg is located in this landscape type but just 3km west of Angus, in Perth & Kinross. In Aberdeenshire the Mile Hill windfarm is also located in an upland landscape, some 15km to the north east of Angus. Within the *Highland Summits and Plateaux*, Drumderg has extensive visibility, particularly within 5km of the site. Further afield it would be seen mainly from ridges and summits, with no visibility beyond the hills east of Glen Clova.

Windfarms in the lowlands, including Ark Hill and Tullo would be visible from the southern edge and higher parts of this landscape type at distances of 15-20km or more, and therefore as minor background features. Clochnahill and St John's Hill would also be visible to the east but at least 20km distant. Overall the Highland

Summits and Plateaux within Angus are *Highland Summits and Plateaux with views of Windfarms*. However there is variation within this, with the Forest of Alyth area west of Glen Isla and south of the Forter - Glen Shee road as *Highland Summits and Plateaux with Windfarm* due to the significant direct and indirect effects of Drumderg and some of the northern areas too distant to obtain clear views and are effectively *Highland Summits and Plateaux with No Views of Windfarms*.

Proposed Windfarms

If all the proposed windfarms were consented there would be no more direct effects within the landscape type, but the 6 turbine windfarm at Mile Hill would be directly adjacent to the southern end of the Caenlochan/Glen Doll area. This would have limited visibility in this area and the Forest of Alyth area due to topographic screening. Other windfarms would all be clearly located in the lowlands at minimum distances of 15-20km and would form part of the background in views to the south. The landscape character would remain much the same as the existing situation, with a slightly increased windfarm presence (Mile Hill) affecting the south western areas already affected by Drumderg. It would remain largely *Highland Summits and Plateaux with views of Windfarms*, although the Forest of Alyth area west of Glen Isla and south of the Forter - Glen Shee road and slopes facing Mile Hill could be considered as *Highland Summits and Plateaux with Windfarms*.

5. Highland Foothills

The Highland Foothills are a distinctive and key transitional landscape located on the boundary between lowland Strathmore to the south and the hills and glens of the Mounth Highlands to the north. Within Angus they are divided into three main areas, *Kirriemuir Foothills*, *Menmuir Foothills* and *Edzell Foothills*; in close proximity but separated by the mouths of the Angus Glens. They are a rather varied complex small to medium scale landscape with irregular but often steep topography of small hills and glens. In some locations a high voltage electricity transmission line intrudes on the otherwise scenic landscape composition.

Landscape Capacity

The modest scale and complexity of this landscape type together with a relative lack of development or infrastructure makes it of medium to high landscape character sensitivity. Visual sensitivity is varied, with a significant degree of screening enclosure afforded by the landforms of the character type and to the north but a highly visible position when seen from the lowlands, settlements and transport routes to the south. Within the areas the main receptors are scattered dwellings, local road users and people using the area for informal recreation. The areas are of medium visual sensitivity and overall medium to high landscape sensitivity.

These areas are of a high recreational value and have a high concentration of historical, archaeological and scenic locations. The landscape value is medium to high. The overall capacity for windfarm development is low, with limited opportunity for a small or small-medium scale of windfarm to be located in carefully selected locations with topographic screening. Some of the capacity for tall structures has

already been taken up by the high voltage electricity line routed through the screened glens of this landscape type.

Operating and Consented Windfarms

There is currently no consented development within this landscape type in Angus, although the 16 turbine Drumderg windfarm lies within 10km to the west of the Kirriemuir Foothills and very close to a neighbouring *Highland Foothill* area. The consented windfarm of Ark Hill is visible a minimum of 12km to the south of the Kirriemuir Foothills and the windfarms at Tullo and Mid Hill lie 15km east and NE of the Edzell Foothills. These two areas are *Highland Foothills with views of Windfarms* although significant areas will have no views of windfarms.

Proposed Windfarms

Including all the proposed windfarms would lead to direct impacts on this landscape type, with the 6 turbines of Mile Hill in the Kirriemuir Foothills. Together with the effects of Drumderg this area would become a *Highland Foothills with Windfarm* landscape.

Other proposed windfarms in the lowlands to the south will have limited indirect impacts on *Highland Foothills* areas, although Montreathmont at 10-15km distance would have an extensive visual influence on the Menmuir Foothills. The proposed windfarms in Aberdeenshire to the northeast would have a very limited indirect effect on the Edzell Foothills. Areas outside the Kirriemuir Foothills will remain *Highland Foothills with Views of Windfarms*.

Due to the low capacity and restricted extent of this type, any further significant windfarm development in other *Highland Foothills* areas within Angus would lead to the whole type becoming characterised by windfarms as *Highland Foothills with Windfarms*.

Overall Effects on Highland Landscapes

The assessment of highland landscape character areas has determined that this area of Angus generally has a low capacity for windfarm development despite extensive areas of large scale landscapes. This is counter to the development pattern that has taken place elsewhere in upland areas of Scotland. This is primarily due to the highland area's high landscape value, both as a backdrop to the lowland area of Angus but as an extensive area of scenic and dramatic landscape with areas of remote and wild land qualities. The area is an important recreational destination and a substantial proportion of it lies in the Cairngorms National Park which extends further north into a wider area of higher mountains and wilderness. Within Angus there would be only limited opportunities for smaller scale developments in suitable areas that have screening topography and a lack of sensitive receptors.

Currently there are no operational or consented developments within the highland area of Angus, although the 16 turbines of Drumderg in Perth & Kinross are within 3km to the west. Mid Hill in upland Aberdeenshire is over 15km to the northeast. Ark Hill in Angus and the other consented Aberdeenshire windfarms are clearly within the

lowland areas. As Drumderg lies within a *Highland Summits and Plateaux* landscape area crossing the local authority boundary a small part of the Angus highland area is effectively a *Highland Summits and Plateaux with Windfarm* and ridges and summits east to Glen Clova are *Highland Summits and Plateaux with Views of Windfarms*. *Highland Foothills* would similarly be partially affected by views. Most of the rest of the highland area is remote enough from windfarms or screened (all of the Glens) to remain virtually unaffected.

If all the proposed windfarms in the study area were constructed one further small windfarm at Mile Hill in the *Highland Foothills* would directly affect the Highland landscape, slightly extending the area of *Landscape with Windfarms* and intensifying the effect in the area of *Landscape with Views of Windfarms* in the south west of the highland area. The additional lowland windfarms will also slightly increase the area of *Landscape with Views of Windfarms* along the southern part of the highland area but these windfarms will be clearly associated with lowland landscapes and barely visible from the northern parts of the highland area.

5.2.2 Cumulative Effects on Lowland Landscapes

The majority of windfarms and windfarm applications in Angus are located in the lowland landscape area.

8. Igneous Hills – Sidlaw Hills

This area of prominent lowland hills clearly separates Dundee and the *Dipslope Farmland* in the south from the *Broad Valley Lowland* of Strathmore in the north. Extending west into Perthshire it is a considerably more extensive and higher hill area than the *Low Moorland Hills* to the east. The hills are of medium landscape character sensitivity. Being of medium scale and fairly complex topography they are clearly farmed and managed with only the upper slopes and hilltops open pasture or heather moor, and the small glens enclosed and populated with small scale settlements and farms connected by a network of roads and tracks. There are a number of large communications masts on the highest hills and power lines cross in some locations. Visually the area is of medium sensitivity, varying from being enclosed with short distance views and a low population within, to being a prominent backdrop to Strathmore and Dundee when seen from without. Overall the landscape is of medium sensitivity.

There are no landscape designations but a number of footpaths, viewpoints and small fishing lochs as well as hillforts, scattered dwellings and settlements giving this area a medium landscape value. Overall the Sidlaw Hills have a medium capacity for development. The scale and type of landscape suggests that careful siting of windfarms of a medium to small scale only would be appropriate.

Operating and Consented Windfarms

The Sidlaw Hills is currently the one area in Angus directly affected by a consented windfarm: the 8x78m turbines of Ark Hill in the east of the area. Together with the slight visual effects of the operational Michelin turbines in Dundee 10km to the south

and the 16 Drumderg turbines 20km to the north there are slight cumulative visual effects, predominantly of a successive nature to viewers on hilltops. The Sidlaw Hills are currently '*Igneous Hills with Occasional Windfarms*'.

Proposed Windfarms

The development of all proposed windfarms would add one further 80m turbine to the area above Newtyle and a number of further windfarms that would be viewed from the landscape type - the closest being 1km distant at East Skichen and 6km at Dusty Drum, with Mile Hill some 10km distant across Strathmore. Effectively the area would remain *Igneous Hills with Occasional Windfarms*.

10. Broad Valley Lowland – Strathmore and Lower South Esk & North Esk River Valleys

This landscape type is similar in extent to the *Dipslope Farmland* to the south. It is one of the key lowland features of Angus, not only a broad valley and agricultural heartland but also a population centre and communications corridor. It is also much emphasised by the Highland Boundary Fault and the backdrop of the Angus Glens and Mounth Highlands to the north, providing a foreground to that dramatic landscape. The type is divided into two connected areas: Strathmore in the west and the Lower South & North Esk River Valley in the east.

Landscape Capacity

The landscape of Strathmore is generally of a medium scale, although some of the extensive views along the Strath and the hills to the north give it a larger feeling. The landform is predominantly gentle: undulating and often flat on the valley floor, but with some areas of more complex, rolling glacial landforms on the valley sides and floor. The predominant land use is agricultural with large rectilinear fields and it is a rich and settled landscape with numerous farms, dwellings and settlements together with some small towns. The landscape sensitivity is medium. The visual sensitivity is medium to high due to the openness of the valley, the high residential and travelling population and overlooking from higher ground on the valley sides. Despite the degradation of hedgerows and trees in some locations the landscape value is medium due to the presence of HGDLs such as Glamis and settlements and buildings of historic and visitor interest. Overall the capacity of the landscape to accommodate wind turbines is medium, with the main constraints being issues of scale and proximity to sensitive receptors.

The Lower South & North Esk River Valley east of Kirriemuir (named as Strathmore on maps) drains to the east and is similar but of a slightly smaller scale and width than Strathmore. It is more tree covered with a stronger landscape structure with more intact field boundaries. The landscape sensitivity is medium. The visual sensitivity is medium as, although the A90 passes through this area and the towns of Brechin and Forfar are located within it, the tree cover restricts receptor views. The landscape value is also medium. Overall capacity for windfarm development is medium.

Operating and Consented Windfarms

There are no operating or consented windfarms in the *Broad Valley Lowlands*. All impacts are indirect. Currently the consented Ark Hill has visual effects on Strathmore between Alyth and Forfar and the operational Drumderg is visible on the south side of the valley at 15-20km, making it a *Broad Valley Lowland with Views of Windfarms*. In the case of the Lower Esk Valleys the influence of these windfarms is minimal, being a minimum 15-20km distant. At the eastern end the 8 turbines of Tullo are at a minimum distance of 10km. Again this is a *Broad Valley Lowland with Views of Windfarms* but with little visual influence between Forfar and Brechin.

Proposed Windfarms

There are no proposals for windfarms within this landscape type. Considering the proposed windfarms in surrounding areas there would be an increased indirect effect. The most significant would be on the area of the Lower Esk Valley around Brechin from which the turbines of Montreathmont and Mountboy would be visible. Strathmore west of Kirriemuir would experience some increased but scattered impacts from Mile Hill. In both cases the windfarms would be clearly located in other landscape types and the whole character type would become *Broad Valley Lowland with Views of Windfarms*.

12. Low Moorland Hills

This lowland character area lies between the *Dipslope Farmland* to the south and *Broad Valley Lowland* to the north. Although clearly higher than this and the Montrose Basin to the east, much of it is of lower elevation than the adjacent *Dipslope Farmland* to the south and east. On analysis it has two clearly different sub-types: the lower, flatter and significantly afforested *Lowland Forest and Farmland* area of Montreathmont to the east of Turin Hill and north of Guthrie and the area of widely separated steep sided *Low Moorland Hills* in rolling farmland to the west, surrounding the east and south sides of Forfar.

Landscape Capacity

The simple topography, medium to large scale rectilinear pattern and extensive commercial forestry of the *Lowland Forest and Farmland* sub-type makes it an area of low to medium landscape character sensitivity. Views within are often screened by mature coniferous forestry although the area is highly visible from higher ground within and surrounding it. There is a scattered population within the farmland, but two well used roads and some minor roads cross the area, making it of medium visual sensitivity. Overall the landscape sensitivity of the area is medium to low.

There are no landscape designations but the mature forestry crossed by tracks provides opportunities for informal recreation, giving the area a medium value. Overall the *Lowland Forest and Farmland* area has a medium to high capacity for windfarm development due to forest cover and extensive areas with little habitation. It is mainly constrained by the limited extent of forest and the degree to which it is overlooked from surrounding farmland areas. Windfarm proposals, although

potentially larger than in the surrounding populated farmland areas should be limited by the potential for effects on views from sensitive receptors.

The *Low Moorland Hills* sub-type has a much more complex topography and semi-open appearance, with a network of roads and villages, forming a backdrop to Forfar. It is of medium-high landscape sensitivity to commercial windfarm development due to the complex topography and varied landscape pattern, modest scale of the hills and small scale of some of the elements making up the landscape. Visually it varies from enclosed in the lower lying areas and valleys between the hills to open with extensive views from the hills. As these form the backdrop to Forfar and are prominently visible from the A90, the area is of high visual sensitivity. Overall landscape sensitivity is medium-high. There are no statutory designations and one HGDL near Guthrie Castle. Nevertheless, with its network of lanes and scattered dwellings and settlements, prominent viewpoints and archaeological remains the area is of medium-high landscape value. Overall the *Low Moorland Hills* sub-type has a low capacity for windfarm development. Any windfarm development would have to be carefully sited and small scale to avoid prominent visibility and clashes of scale with the modest size hills.

Operating and Consented Windfarms

Currently there are no consented windfarms close enough to Montreathmont Moor to significantly affect the *Lowland Forest and Farmland* landscape, with Ark Hill 20km to the southwest and Tullo 20km to the northeast meaning that it would remain a *Landscape with no Windfarms*.

Similarly, much of the Moorland Hills area east of Forfar is currently a *Landscape with no Windfarms*. However Drumderg is visible at 30km and it is possible that at 10-12km from Fotheringham Hill the Ark Hill turbines would be visible, rendering the area south of Forfar a '*Landscape with Views of Windfarms*' (although much of Fotheringham Hill itself is afforested).

Proposed Windfarms

Considering the proposed windfarms there would be significant effects on the *Lowland Forest and Farmland* sub-type as a result of the 11x126m high turbines of the proposed windfarm within it. There would also be cumulative impacts from the development of the three turbines at Mountboy 5km to the east. Although clearly separate the proposed turbines are in a prominent location and would be clearly visible from roads and houses between the two and from open farmland areas north of the forest, leading to sequential and successive impacts. This would reinforce and extend the impacts of wind turbines on the landscape and on visual receptors, creating a *Lowland Forest and Farmland with Windfarms* landscape.

In the case of the *Low Moorland Hills* sub-type, development of the proposed windfarms would not lead to direct impacts but would lead to significant visual impacts overall. This would include primarily the Montreathmont Moor development at just over 5km to the east but also the more modest effects of the three *Dipslope Farmland* windfarms at Mountboy, Dusty Drum and East Skichen at 5-15km distant,

in addition to the consented windfarms at Ark Hill and Drumderg. The proposed windfarm at Mile Hill 15-20km northwest would also be visible from some of the hilltops but clearly not associated with the lowland landscape types. The whole of this sub-type would become a *Low Moorland Hills with Views of Windfarms*.

13. Dipslope Farmland

This is the largest landscape character area in Angus, covering most of the lowland farmland between the lowland hills, Dundee, Montrose Basin and the coast. It is some 40km from SW to NE and a maximum of 14km wide between Letham and Arbroath.

Landscape Capacity

Analysis of the landscape character, landscape features and elements suggests that, given its medium to large scale, gentle landform, working agricultural nature and moderately strong rectilinear field pattern it is of medium landscape character sensitivity. Due to the number of settlements and widely distributed population and number of key transport routes, together with a generally open aspect, it is of medium to high visual sensitivity. Overall landscape sensitivity is medium

There are no statutory landscape designations and much of it is a working landscape. There are nevertheless a number of HGDLs, estates and country parks. There are also long sections of the National Cycle Route and many local footpaths. The area is considered to have a medium landscape value. Together with a medium sensitivity this gives an overall medium capacity for windfarm development. Large or medium windfarms would not be appropriate in this area due to scale and visual sensitivity limitations. Any proposed development should be of limited scale and extent, reflecting the scale and pattern of the local landscape and would be limited by proximity of the settlements and scattered residential population.

Operating and Consented Windfarms

Currently there are no consented windfarms within this landscape type. Adjacent to the area are the two Michelin turbines in Dundee within ca. 2km and the consented 8 turbines on Ark Hill, high in the Sidlaw Hills at ca. 3-4km north of the area to the north of Dundee. The nearest consented turbines in Aberdeenshire are the 8 at Tullo, a minimum 15km to the northeast.

The operational and consented windfarms have a limited indirect effect on the *Dipslope Farmland*, with only the Michelin turbines being extensively visible in the vicinity of Dundee. Visibility of Ark Hill is minimal due to intervening landforms and Tullo is an intermittently visible background feature to the north. Parts of the *Dipslope Farmland* near Dundee and Montrose are a *Landscape with Views of Windfarms*, but most of the area is a *Landscape with no Windfarms*.

Proposed Windfarms

There are three proposed windfarms within the *Dipslope Farmland*: three turbines each at East Skichen and Dusty Drum in the middle and three at Mountboy in the

north. In addition the proposed 11 turbine windfarm at Montreathmont lies within 3km of this landscape type. There are no other applications that could potentially have a significant direct or indirect impact.

Development of all the proposed windfarms would lead to direct effects and cumulative impacts. Dusty Drum and East Skichen lie within 5km of one another and there would be some cumulative impacts. Due to screening by trees there would be relatively few combined or successive impacts but there would be sequential impacts on users of local roads including the A92, B9128 and B961.

Although the proposed windfarm at Montreathmont is not within the *Dipslope Farmland* it would be close and large enough to exert a significant indirect effect on the area around Rossie Moor. There would also be significant cumulative impacts between Montreathmont and Mountboy, principally of successive and sequential type, especially for travellers on the A933 between Froickheim and Brechin and the A934 from Montrose to the A933, as well as on a number of minor roads between Rossie Moor, Brechin and Letham.

There would be limitations on cumulative impacts of Dusty Drum and East Skichen with Mountboy and Montreathmont 15km to the NE, due to the distance of separation and a ridge of higher ground south of Letham restricting overlap of visibility. Nevertheless, travellers making certain SW-NE journeys between Dundee and Montrose would experience sequential cumulative effects.

On the basis of the combined effects of the Michelin turbines, the three scattered small windfarms and the adjacent larger Montreathmont windfarm, the *Dipslope Farmland* as a whole would become a *Dipslope Farmland with Occasional Windfarms*. However the areas around Monikie and Carmyllie, Rossie Moor and Montreathmont would become *Dipslope Farmland with Windfarms*. The area north of Dundee and west of the A90 would remain little affected by windfarms.

Summary of Effects on Lowland Landscapes

Assessment has determined that the lowland landscape of Angus has an overall medium capacity for windfarm development, with higher capacity in limited locations such as Montreathmont Moor and some areas with very little capacity such as the Low Moorland Hills around Forfar. The landscape is generally of a medium scale and visually sensitive due to widespread settlement and transport routes, together with openness of much of the landscape. Nevertheless, unlike the highland area, this is a settled, working agricultural landscape. There are significant areas of sufficient scale and simplicity in landform and landcover pattern to accommodate some degree of windfarm development. The overall pattern suggests that smaller scale developments are appropriate, with relatively little capacity for medium scale and no capacity for large scale developments such as may be found in upland areas elsewhere in Scotland.

Currently there is one consented development for 8 smaller turbines at Ark Hill within lowland Angus in the Sidlaw Hills. There are two operational turbines in Dundee close to the *Dipslope Farmland* and a consented windfarm at Tullo in Aberdeenshire

10km to the NE of the lowland area and Drumderg in the highland area of Perth & Kinross. As such extensive areas of the lowlands are a '*Landscape with no Windfarms*' with areas to the east and west a '*Landscape with Views of Windfarms*' and only the Sidlaw Hills '*Igneous Hills with Occasional Windfarms*'.

Construction of all the proposed windfarms would lead to 5 further windfarms within the lowland area. Three of these would be in the *Dipslope Farmland* and one in the *Lowland Forest and Farmland* area close by. With the exception of the 11 turbine Montreathmont proposal the windfarms will be small with three turbines and one with a single turbine. Together with the visual influence of the Mile Hill proposal near Kirriemuir this would lead to the lowland area of Angus overall becoming a *Landscape with Occasional Windfarms*. However the *Lowland Forest and Farmland* area and parts of the *Dipslope Farmland* would become a *Landscape with Windfarms*. With the possible exception of Tullo, the windfarms in Aberdeenshire are sufficiently distant and small scale to have little discernable effect on the lowland landscape of Angus. Drumderg and Mile Hill are clearly located in the uplands and have a visual effect only.

5.2.3 Effects on Coastal Landscapes

There are no windfarms or proposals located within the Coastal Area

14a and 14b Coast with Sand and Coast with Cliffs

These coastal landscape types are of limited extent, low elevation and generally of a medium scale, with uncluttered skylines and views and little development outside the four main towns that punctuate the coast. They would have a medium to high landscape sensitivity to windfarm development. Visual sensitivity would be high due to the proximity of settlements, roads and railway, together with golf links and beaches having high visitor numbers in good weather. There are limited screening features and landforms are modest with long open views available. Overall landscape sensitivity would be medium to high.

Landscape value would also be medium to high due to the presence of golf courses, popularity of the beaches with visitors and number of historic features such as castles and old fishing stations. Overall capacity for commercial windfarm development along the coast would be low

The operational and consented windfarms have a minimal effect on this landscape type. In terms of potentially significant visual impacts the two Michelin turbines in Dundee are potentially visible from Barry Links at 5-10km distant and the 8 Tullo turbines may be visible from Montrose at 10-15km. In both cases the turbines are seen as being clearly located in separate inland landscape character areas.

If all the proposed windfarms were built, ZTVs show that there will be more general visibility of windfarms from coastal areas. In particular the Barry Links and Carnoustie areas would be affected by East Skichen and Dusty Drum at 5-10km.

15. Lowland Basin

The *Lowland Basin* landscape type is represented by Montrose Basin, lying between Montrose and Montreathmont Moor. This is an area of low lying, largely flat topography which includes a large tidal lagoon. The middle part is taken up by mixed farmland with large open fields, with the western end comprising the extensively tree covered policies of Kinnaird Castle HGDL. It is different in quality from the exposed coastal strip, being enclosed with the inland area well tree covered. It represents somewhat of a transition between coastal and lowland landscape types.

Landscape Capacity

The landscape is of medium scale with a degree of enclosure by higher ground on three sides. The landscape character sensitivity of the Montrose Basin area is considered to be medium, although the area would also be subject to the influence of development on the surrounding higher ground. The visual sensitivity is medium to high as it is visible from the town of Montrose, two main roads on either side and from scattered settlements on the higher ground surrounding it. The overall landscape sensitivity is medium to high.

Landscape value is also medium to high due a number of designated features. The unique tidal lagoon at one end is highly protected for its wildlife. The designed landscape of Kinnaird Castle lies at the other end and House of Dun lies to the north of the A935. There are also a high number of scheduled ancient monuments and listed buildings in the area as well as the Caledonian Steam Railway.

The capacity for windfarm development in the Montrose basin area is low, restricted by land availability, designated areas and the potential for visual impact on the settlement of Montrose. The only limited possibilities would be in the farmland area between the Basin and Kinnaird Castle. The possibility of visual impacts from windfarms on surrounding higher ground is also a key consideration.

Operating and Consented Windfarms

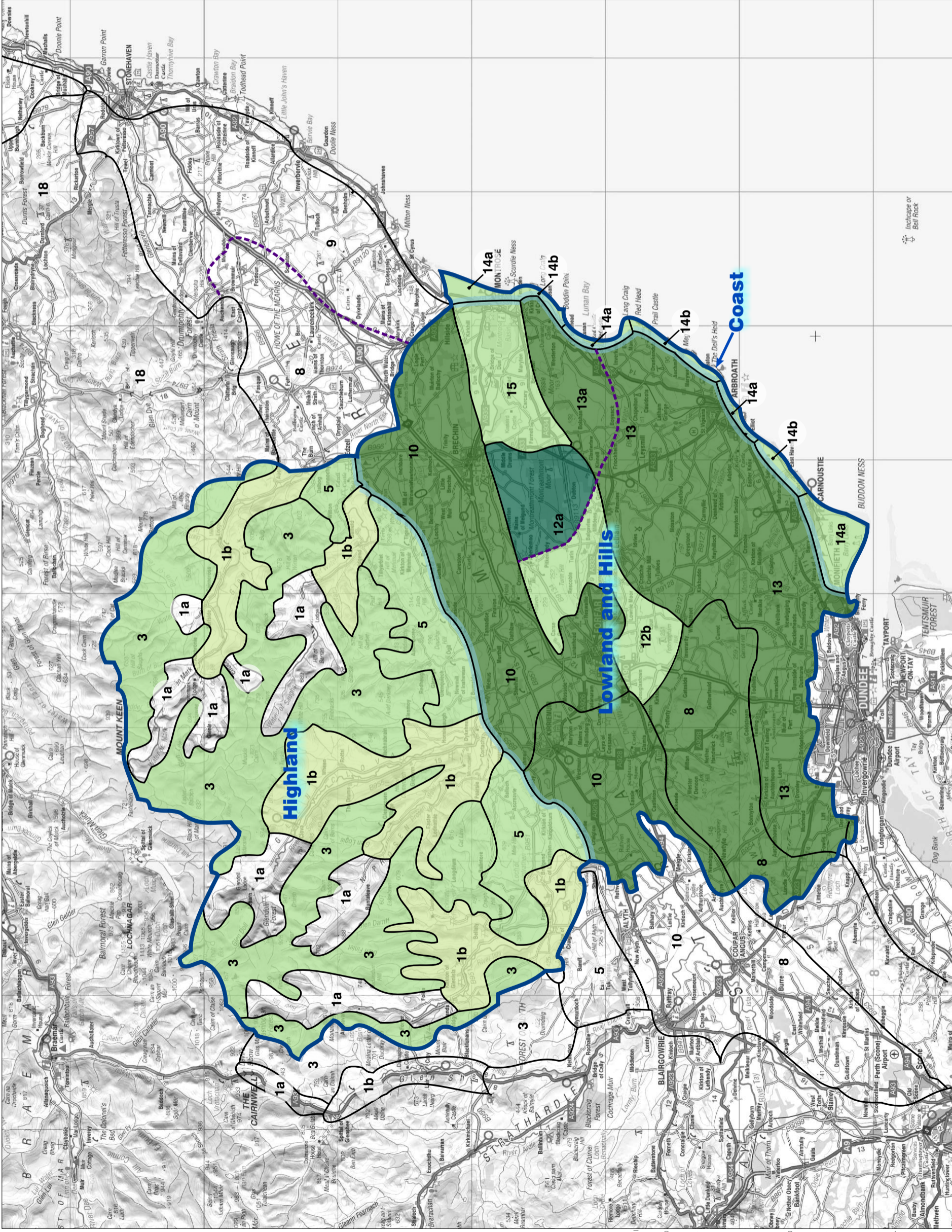
In terms of consented windfarms only Tullo, 12-20km to the north in Aberdeenshire has the potential for visual impacts, with all other consented windfarms being well in excess of 20km distant. This is therefore partially a *Lowland Basin with views of Windfarms*, but at the lower end of the category with partial coverage and views of a fairly distant windfarm.

Proposed Windfarms

Were all the proposed windfarms to be developed there would be no direct impacts. However, the windfarms at Montreathmont and Mountboy would have significant indirect impacts on the landscape, and visual impacts on receptors within the basin area, some significant. The landscape will remain largely a *Lowland Basin with views of Windfarms* but the effects would be significantly increased from the existing situation. Arguably the southwest corner of this area near Farnell, lying between the two windfarms, would become a *Lowland Basin with Windfarms*

Summary of Effects on Coastal Landscapes

In terms of cumulative effects it is likely that the consented situation will lead to only the northern and southern end of the Coastal landscape becoming a *Landscape with Views of Windfarms* type. Development of all windfarms would lead to much of the coastal strip and the Montrose Basin becoming a *Landscape with Views of Windfarms* type. The effects on Montrose basin would be the most significant, with the southeastern corner potentially becoming a *Lowland Basin with Windfarms*.



Landscape Capacity for Windfarms

- None
- Low - None
- LOW
- Low - Medium
- Medium
- Medium - High
- High

Landscape Character
(See fig 3.2 for details of Landscape Types)

- Angus Local Authority Boundary
- Principal Geographic Areas
- Type / Area Landscape Boundary
- Landscape Sub-Type / Area Boundary

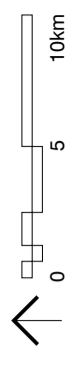
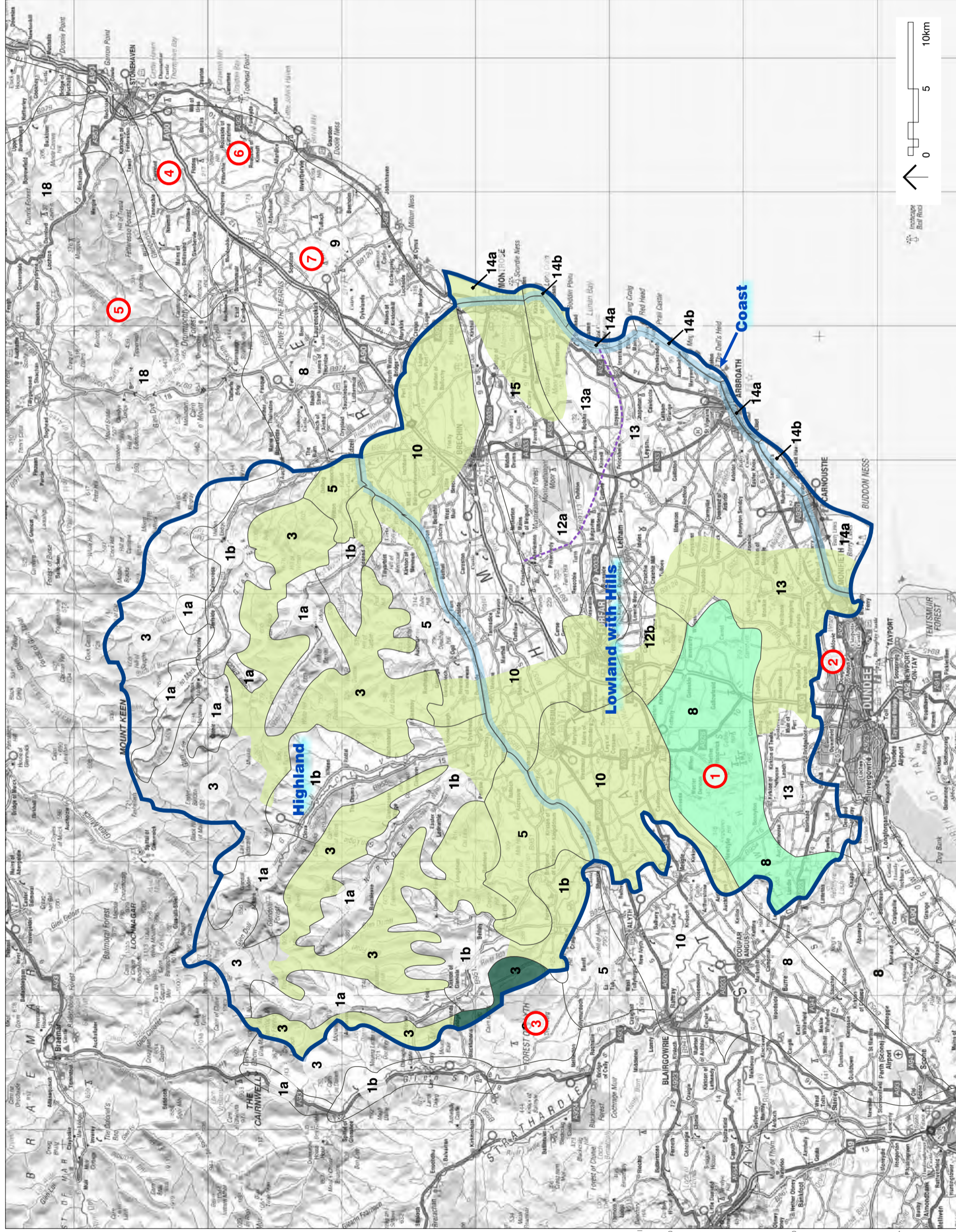


Figure 5.1
Landscape Capacity



Angus Local Authority Boundary

Windfarm Locations

1 Operational & Consented Windfarms

1. Ark Hill
2. Michelin
3. Drumdreg
4. Clochnahill
5. Mid Hill
6. St John's Hill
7. Tullo

Windfarm Character Type

- Landscape with no view of windfarms
- Landscape with views of windfarms
- Landscape with occasional windfarms
- Landscape with windfarms
- Windfarm landscape

Landscape Character

(See fig 3.2 for details of Landscape Types)

- Principal Geographic Areas
- Type / Area Landscape Boundary
- Landscape Sub-Type / Area Boundary

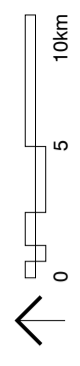


Figure 5.2

Cumulative Landscape Character Effects: Operating & Consented Windfarms

Angus Windfarms Study

Angus Local Authority Boundary

Windfarm Locations

1 Operational & Consented Windfarms

1. Ark Hill
2. Michelin
3. Drumdreg
4. Clochnahill
5. Mid Hill
6. St John's Hill
7. Tullo

1 Planning Applications

1. Mountboy
2. Montreathmont
3. Dusty Drum
4. East Skitchen
5. Mile Hill
6. Scotston Hill
7. Droop Hill
8. Herscha Hill
9. Hillhead of Aquirhie
10. Meikle Carewe

Windfarm Character Type

- Landscape with no view of windfarms
- Landscape with views of windfarms
- Landscape with occasional windfarms
- Landscape with windfarms
- Windfarm landscape

Landscape Character

(See fig 3.2 for details of Landscape Types)

- Principal Geographic Areas
- Type / Area Landscape Boundary
- Landscape Sub-Type / Area Boundary

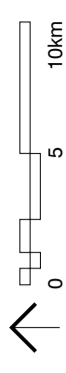


Figure 5.3

Cumulative Landscape Character Effects: All Windfarms

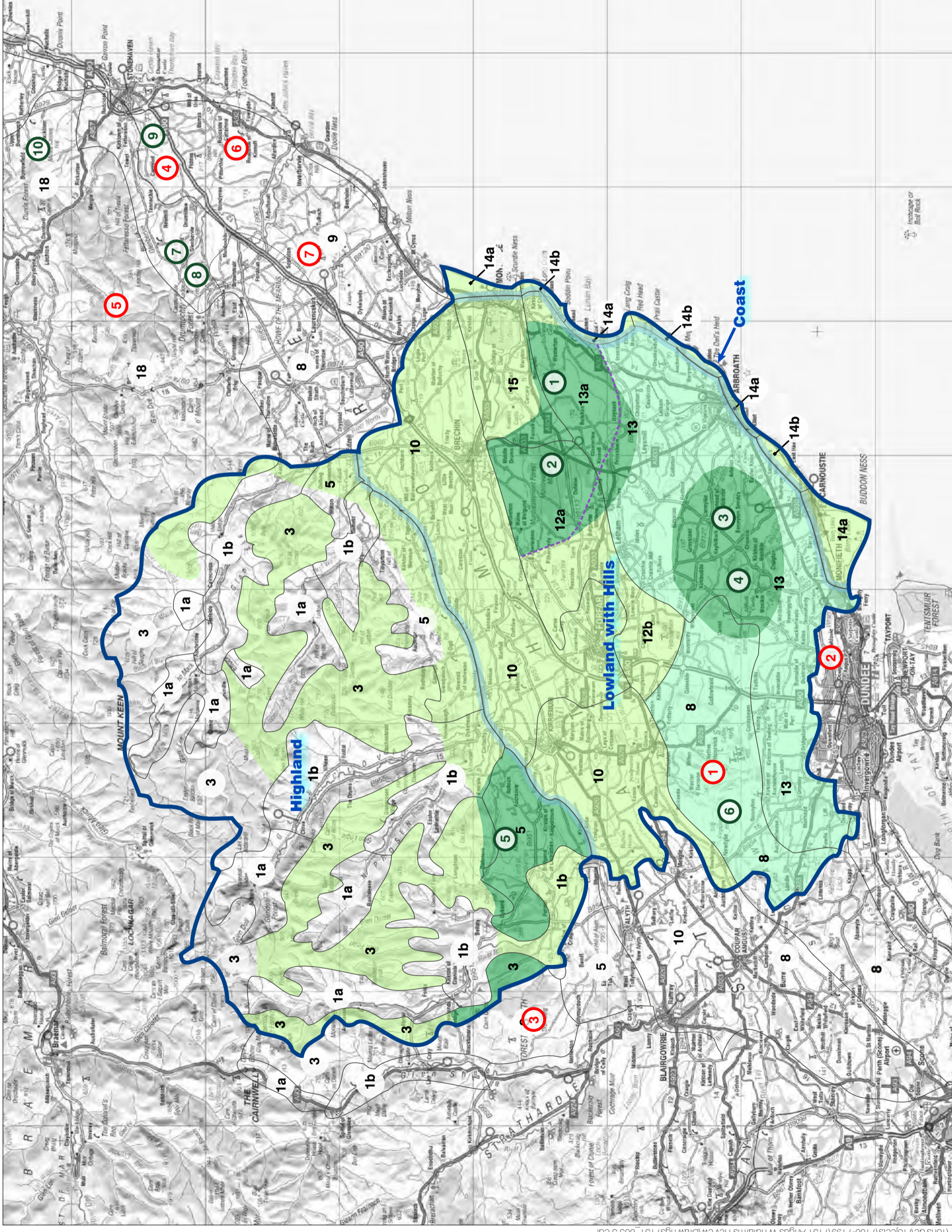


Table 5.1. Summary of Landscape Capacity and Cumulative Effects

Landscape Type	Landscape Character Sensitivity	Visual Sensitivity	Overall Landscape Sensitivity	Landscape Value	Landscape Capacity	Operational/ Consented Landscape	Operational/ Consented & Proposed Landscape	Comment
HIGHLAND AREA								
1a. Upper Highland Glens	High	Medium	Med-High	High	None	No Windfarms	No Windfarms	Extensive area lies within Cairngorms National Park
1b. Mid Highland Glens	High	Medium	Med-High	High	Low to none	No Windfarms to Landscape with Views of Windfarms	Slight increase in area of Landscape with Views of Windfarms	Angus Glens are important visitor destinations
3. Highland Summits & Plateaux	Low-Med	Med-High	Medium	High	Low	Varies from Landscape with Windfarm in SW to Landscape with Views of Windfarms over most and No Views in northern areas	Slight increase in Landscape with Views of Windfarms and Landscape with Windfarms in SW	No capacity in National Park/ NSA and very limited opportunity in areas to the south and east. Most windfarms distant. Direct effects in SW from Drumderg. Mile Hill will have limited additional effect.
5. Highland Foothills	Med-High	Medium	Med-High	Med-High	Low	Landscape with Views of Windfarms in E & W	Area of Landscape with Windfarms in W. Otherwise an increase in Landscape with Views of Windfarms	Effects of Mile Hill would be significantly adverse but limited in extent. Further development elsewhere would change all of this type
Overall Capacity/ Effect On Highland Area	Med-High	Med-High	Med-High	High	Low	Varied. Some areas of No Windfarms; mostly Landscape with Views of Windfarms to small area of Landscape with Windfarms	Small increase in area of Landscape with Windfarms in SW and increase in area of Landscape with Views of Windfarms	Direct effects limited and mostly outwith Angus boundary. Proposed windfarm development is mainly in lowland areas and clearly separated from the Highlands.

Landscape Type	Landscape Character Sensitivity	Visual Sensitivity	Overall Landscape Sensitivity	Landscape Value	Landscape Capacity	Operational/ Consented Landscape	Operational/ Consented & Proposed Landscape	Comment
LOWLAND AREA								
8. Igneous Hills	Medium	Medium	Medium	Medium	Medium	Landscape with Occasional Windfarms	Landscape with Occasional Windfarms (slightly increased)	Ark Hill is only consented windfarm in Angus. One further turbine proposed within Sidlaw Hills. Increased views of windfarms in other areas.
10. Broad Valley Lowland	Medium	Medium	Medium	Medium	Medium	Landscape with Views of Windfarms (and some areas with no views)	Landscape with Views of Windfarms	Most significant effects would be at eastern end.
12a. Lowland Forest and Farmland	Low-Medium	Medium	Low-Medium	Medium	Med-High	No Windfarms	Landscape with Windfarms	This area has highest capacity for a windfarm but is limited by extent.
12b. Low Moorland Hills	Medium-High	High	Med-High	Med-High	Low	Landscape with no Windfarms/ Views of Windfarms (southern part only)	Landscape with Views of Windfarms (all area – some significant)	This area is sensitive to issues of scale and visibility
13. Dipslope Farmland	Medium	Med-High	Medium	Medium	Medium	Landscape with Views of Windfarms in E. Landscape with No Windfarm W of A90	Landscape with Occasional Windfarms but some areas of Landscape with Windfarms	3 small windfarms, with Montreathmont close by. Significant cumulative effects in NE and some effects to SE but not between the two areas.
Overall Capacity/ Effect on Lowland Area	Medium	Med-High	Medium	Medium	Medium	Landscape with Views of Windfarms and limited area of Landscape with Occasional Windfarms)	Landscape with Occasional Windfarms but with significant areas of Landscape with Windfarms and Landscape with Views of Windfarms	Lowland area is the most affected by proposed windfarms but also has the most capacity

Landscape Type	Landscape Character Sensitivity	Visual Sensitivity	Overall Landscape Sensitivity	Landscape Value	Landscape Capacity	Operational/Consented Landscape	Operational/Consented & Proposed Landscape	Comment
COAST AREA								
14a Coast with Sand	Med-High	High	Med-High	Med-High	Low	No Windfarms/ Landscape with Views of Windfarms	Landscape with Views of Windfarms/ No Windfarms	
14b. Coast with Cliffs	Med-High	High	Med-High	Med-High	Low	No Windfarms/ Landscape with Views of Windfarms	Landscape with Views of Windfarms/ No Windfarms	
15. Lowland Basin	Medium	Med-High	Med-High	Med-High	Low	Landscape with no Windfarms/ Views of Windfarms	Landscape with Views of Windfarms (with small area of Landscape with Windfarms)	Likely to be a significant effect on landscape character from Mountboy and Montreatmont together
Overall Effect on Coastal Area	Med-High	High	Med-High	Med-High	Low	No Windfarms/ Landscape with Views of Windfarms	Landscape with Views of Windfarms/ No Windfarms	Significant increase in area of Landscape with Views of Windfarms

5.3 Cumulative Visual Effects

The potential for effects on visual receptors has been considered as part of the assessment of landscape sensitivity and capacity. However it is worth briefly reviewing the potential specific impacts on key visual receptor locations: including settlements, dwellings, roads, visitor destinations and viewpoints. This will give a further indication of the visual experience of people living, visiting, working and passing through Angus.

5.3.1 Effects on Settlements

There are a number of small towns and larger villages throughout Angus, located in the lowlands and along the coast. The suburbs of Dundee are also in close proximity to the southern boundary of Angus.

Existing and consented windfarms currently have very little impact on views from most settlements. Ark Hill would have significant visibility when seen from parts of Kirriemuir, and to a lesser extent Forfar, both at over 10km distant. Drumderg is visible at 20km. The two Michelin turbines are barely visible from parts of Monifeith and Tullo will be visible from parts of Montrose at a distance of at least 12km.

Examination of the EIAs indicates that the proposed windfarms are mainly more than 5km from significant settlements and visibility is limited. The main exceptions are East Skichen, which lies within 2km of Monikie, and Montreathmont, the nearest turbines of which lie about 4km from Brechin to the north and Friockheim to the south. The location of most settlements on lower ground, often in topographic hollows, tends to limit the exposure of settlements to visual impact due to landform screening. Finally the extent of screening by tree cover and adjacent buildings and structures tends to be greater in and around the settlements compared with the more open exposed areas in the intervening farmland and hills.

Significant impacts on main settlements are therefore limited. The effects of East Skichen on Monikie and Craigton are the most notable, with a significant number of dwellings that would have clear or partially obscured views at distances of 1-2km. Montrose and Hillside would experience some effects from Montreathmont and Mountboy at distances of 6-12km, although due to screening and distance these are unlikely to be significant impacts for the settlements as a whole. The northern edge of Friockheim and higher windows in the east of the village looking north are likely to be affected by views of Montreathmont at 4.5km, especially in winter when trees along the Lunan Water are leafless. Mountboy may also affect the eastern edge at a distance of 6.5km.

5.3.2 Effects on Residential Receptors and Dwellings

In between the main settlements there are many small villages, clusters, farms and individual dwellings scattered throughout the lowland landscape of Angus. It is clear from the EIAs that there would be significant visual impacts on many of these, resulting principally from windfarms located within the lowland areas.

Currently the existing and consented windfarms at Drumderg, Ark Hill, and Tullo have a limited effect on Angus dwellings as they are well separated and have no, or relatively few, dwellings within 5km with clear views, where the most significant visual impacts are likely to lie. The Dundee turbines are clearly visible from many dwellings in Angus but lie in an urban context.

The proposed lowland windfarms are however located in areas surrounded by farmland that is populated with farms, clusters, dwellings and minor roads. Each will have significant impacts on a number of receptors in their dwellings as well as the general amenity of those property owners using the curtilage of their properties and local roads, tracks and paths serving the scattered communities.

The locations where local residents outside settlements are likely to be most affected by site specific and cumulative impacts are in the vicinity of Rossie Moor, north of Montreathmont Moor and around Carmyllie and Monikie. These areas all have a network of lanes and a number of small settlements or isolated dwellings.

From north of Montreathmont, farms and houses generally face south and have views towards the Montreathmont site at between 800m and 3km. Many such as East, West and Middle Drums, have elevated panoramic views that include Rossie Moor and the Mountboy site at 6-7km and would experience successive cumulative impacts.

Between Rossie Moor and Montreathmont a number of properties such as Strathella, Carcary Cottages, Whanland and Farnell Mains would potentially have successive cumulative views of Mountboy and Montreathmont.

Properties experiencing successive impacts from East Skichen and Dusty Drum lie on higher ground to the north of the two sites and include Carmyllie, Greystone and West Hills.

5.3.3 Effects on Roads

Users of roads are the most likely receptor type to experience cumulative visual impacts. This may include combined and sequential impacts from any static point but critically also sequential impacts, experienced whilst travelling through the landscape. Whilst cyclists may be more sensitive to landscape than most vehicle drivers it is the latter that represent the highest number of receptors and experience the widest areas in the shortest period of time. This assessment therefore concentrates on vehicle drivers.

It is principally the main roads that are considered in the EIAs as they are the most travelled. Nevertheless some B roads are heavily used by local traffic and pass closer to sites. The roads included in this assessment are shown in Figure 5.4. Minor roads have been considered mainly in the context of residential receptors.

A90 Trunk Route (Dundee to Stonehaven)

The principal trunk route through Angus is the A90, linking Dundee with Aberdeen via Forfar and Brechin. This road passes inland north from Dundee, crossing the

Dipslope Farmland, Igneous Hills and Low Moorland Hills before passing Forfar and continuing along the Lower Esk Valley. Visibility of consented windfarms is limited between Dundee and Forfar. The Michelin turbines are briefly visible near Dundee, Ark Hill is largely screened by landform and at least 10km distant when visible and Drumderg potentially visible at over 25km distant from the vicinity of Forfar .

Were East Skichen built it would be intermittently visible to the east at distances of 7-10km. Dusty Drum would be less visible and at distances of 11-13km.

North and east of Forfar the A90 passes through the broad Lower Esk Valley. There is extensive east-west visibility and visibility of the uplands to the north and west, although this is often limited by roadside trees. Visual impacts from operational and consented windfarms are limited due to lack of proximity or visibility: currently only Tullo would be visible at a minimum of 11km when travelling east of Brechin. Of the proposed windfarms, Montreathmont is within 5km at its closest and Mountboy within 10km, with actual visibility of Montreathmont more restricted by intervening trees and woodland. Travellers heading west would gain partial views of Mile Hile at a minimum distance of 14km. In Angus visibility of windfarms would be generally intermittent and distant, and travellers on the A90 would experience a '*Landscape with Occasional Windfarms*'.

East of Angus the A90 passes through Aberdeenshire, where Tullo windfarm lies within 3km and Clochnahill within 2km of the road with Mid Hill some 10km to the north. A further three small windfarm proposals lie within 5km. If all of these windfarms were developed it is likely that the traveller would experience a '*Landscape with Windfarms*' in Aberdeenshire.

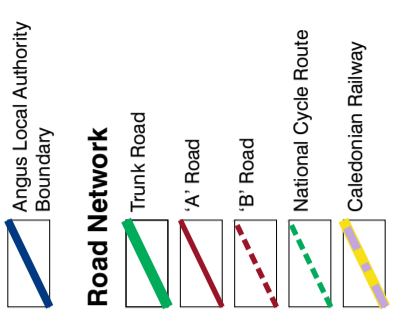
A92 (Dundee to Montrose)

The A92 between Dundee and Montrose passes through *Dipslope Farmland* close the coast, serving Carnoustie and passing through Arbroath. It is designated a coastal tourist route. Visual effects of windfarms are currently limited to the Michelin turbines at the western end near Dundee and the Tullo turbines will be visible from the northern end at a distance of over 15km.

The four proposed windfarms between Dundee and Montrose are all likely to have a degree of sequential cumulative impact. Of these it is the closest, at Dusty Drum (min. 3km) and Mountboy (min. 3km), that are likely to have the most significant impact: the former between Dundee and Arbroath, the latter between Arbroath and Montrose. Montreathmont would be only briefly visible north of Arbroath and East Skichen intermittently visible between Dundee and Muidrum.

A926 (Kirriemuir to Alyth)

The A926 passes along the north side of Strathmore between Kirriemuir and Alyth. Drumderg has limited visibility from this section of road but there will be views of Ark Hill 10km to the south. Limited views of Mile Hill would be available near Kirriemuir and Alyth.



1. Cat Law
2. Airlie Monument
3. Kirriemuir Camera Obscura
4. Kinrurney Hill
5. Balmashanner
6. Carrot Hill
7. Turin Hill
8. Trinity, Brechin
9. White Catherthun
10. B961/A933
11. Rossie Moor
12. Montrose Station

Windfarm Locations

- Operational & Consented Windfarms**
1. Ark Hill
 2. Michelin
 3. Drumdreg
 4. Clochnahill
 5. Mid Hill
 6. St John's Hill
 7. Tullo
- Planning Applications**
1. Mountboy
 2. Montreatmont
 3. Dusty Drum
 4. East Skichen
 5. Mile Hill
 6. Scotston Hill
 7. Droop Hill
 8. Herscha Hill
 9. Hillhead of Acquhire
 10. Meikle Carewe

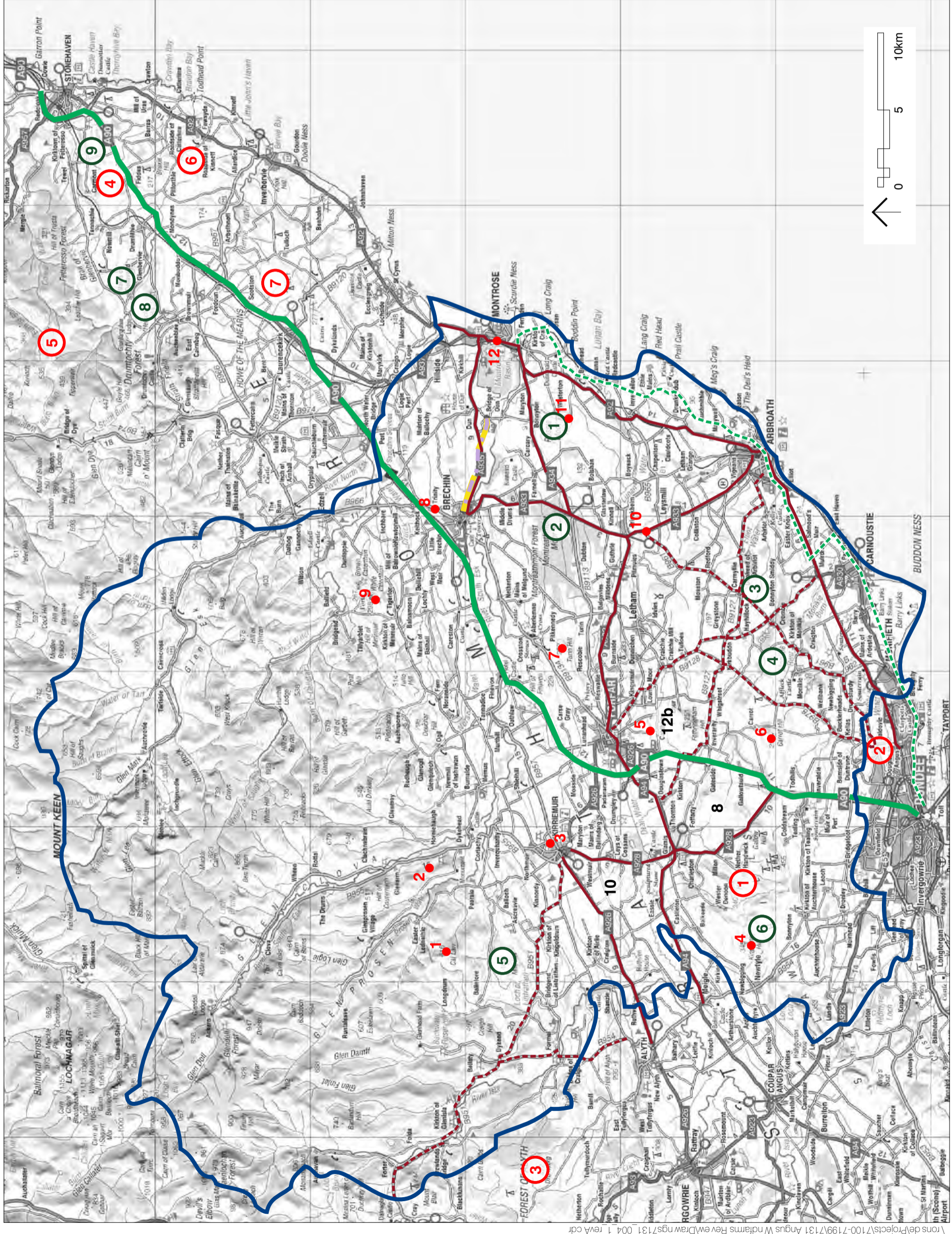


Figure 5.4

Road & Viewpoint Locations

A928 (A90 to Kirriemuir)

In the west of Angus the A928 passes through the Sidlaw Hills and across Strathmore, between the A90 north of Dundee and Kirriemuir. Drumderg is visible to the west at a minimum 20km. There would be views of Ark Hill at less than 10km travelling south across Strathmore. Partial views of Mile Hill at 10-15km would be available when travelling north through the hills and across Strathmore.

A94 (Meigle-Forfar)

The A94 passes along the south side of Strathmore between Meigle and Forfar. Drumderg is readily visible across Strathmore to the north at a minimum distance of 16km. Travellers would be subject to intermittent views of Ark Hill in the Sidlaws to the south at a closest distance of 5km. Of the proposed windfarms, there would be partially screened views of Mile Hill at a minimum 10km to the north.

A932 - A935

The roads most affected by cumulative impacts are likely to be the network of the A932, A933, A934 and A935 which all lie between Arbroath, Brechin, Forfar and Montrose. These are currently mainly unaffected by views of windfarms although views of Tullo will be available from some sections.

A932 (Forfar to Friockheim)

Travellers on the A932 from Forfar to Friockheim are likely to experience intermittent successive and sequential views of Montreathmont and to a lesser extent Mountboy windfarm at distances of 5-10km when travelling east.

A933 (Arbroath to Brechin)

There would be impacts by Dusty Drum, Montreathmont and Mountboy on travellers on the A933 travelling between Arbroath and Brechin. Views of Dusty Drum at 6km or more between Arbroath and Colliston would be oblique and partially obscured by trees. The clearest views of Montreathmont and Mountboy would appear when travelling north of Colliston, with Montreathmont ahead at 10-4km and Mountboy to the northeast and east at 10-5km, leading to combined and successive cumulative impacts. Closer to Montreathmont the turbines would mainly be screened by the trees in Montreathmont forest that line the road although intermittent views of the closest turbine (within 500-800m of the road) may be available. Travelling south from Brechin both windfarms would also be visible but intermittently through gaps between trees and woodlands.

A934 (Montrose to A933)

Montreathmont would be intermittently and openly visible from 10km down to 1km to travellers on the A934 travelling west from Montrose. Mountboy would be visible only to travellers heading east and would be visible for a distance of over 5km at a distance of 2-6km. Tullo windfarm would also be visible travelling east at a distance of 15-22km, with other windfarms in Aberdeenshire at a greater distance.

A935 (Montrose to Brechin)

Travellers on the A935 from Montrose to Brechin would have intermittent views south across Montrose Basin and farmland towards Mountboy and southwest to Montreathmont at distances of 5-10km. The latter is visible obliquely ahead when travelling west. Travelling east there would be intermittent views of Mountboy

'B' Roads

Of the more minor roads there are some that would experience significant cumulative effects.

East of the A90 the **B961** passes northeast from Dundee across *Dipslope Farmland* to the A933 near Friockheim. In doing so it currently passes within a few hundred metres of the Michelin turbines in Dundee. Were all the proposed turbines built, travellers heading north would then pass within 2km of East Skichen and 1km of Dusty Drum with clear sequential views of both. As it passes over high ground at Redford and descends towards Friockheim there would be clear combined and successive views of both Mountboy at 7-10km and Montreathmont at 6-10km. A number of Aberdeenshire windfarms would be visible at more than 30km.

The **B978** passes between Dundee and the B9128. Travelling south, intermittent views of the Michelin turbines are available descending from Carrot Hill into Dundee. At the northern end travellers may catch a view of Ark Hill. Views of East Skichen as close as 1.5km would be prominent on the higher parts of this road and Dusty Drum would be visible 5-6km away. Montreathmont would be visible from the northern end.

The **B9127** passes from Arbroath west to the A94 southwest of Forfar. Drumderg at a minimum 24km and Ark Hill at a minimum 8km are visible from the western end of this road. Considering the proposed windfarms: travelling west from Arbroath views of Dusty Drum would be available to the west at a maximum distance of 7km, interrupted by the trees surrounding the Guynd. The road then passes 1km north of the turbines at Milton of Carmyllie. Views of East Skichen would also be available on much of the route at 5km further distance. West of Carmyllie there would be views of East Skichen rising up between blocks of trees until Whigstreet, the road passing within 3km to the north at the B978 crossroads. Dusty Drum would also be visible when travelling over this stretch of road from the crossroads. Mile Hill would be occasionally visible west of the B961 crossroads, 14km at closest on the A94 junction.

The **B9128** passes from Muirdrum to Forfar, over *Dipslope Farmland* and *Low Moorland Hills*. Travellers in either direction would experience views of Dusty Drum and East Skichen within 1.5-2.5km, although with some screening by mature plantations at the closest points. Oblique views of Montreathmont at ca.10km would be intermittently available near Letham and Forfar.

In the west travellers on the **B951** from Kirriemuir to Glen Isla and the **B954** to Alyth currently experience intermittent views of Drumderg to the west at 7-15km and will experience views of Ark Hill to the south at ca.12-15km. If all windfarms were

developed there would also be views of the Mile Hill turbines as close as 3-5km and the turbine at Scotston hill near Ark Hill.

Summary of Effects on Roads

Currently there are relatively restricted views of operational and consented windfarms from roads within Angus. Only roads in the west would have occasional views of wind turbines at close hand at Dundee and Ark Hill. Drumderg in the west and Tullo and St Johns Hill in the east would be occasionally visible in the background.

Analysis of views from roads towards proposed windfarms indicates that the most significant cumulative effects within Angus are likely to be in the eastern part, particularly in the area between Brechin, Friockheim and Montrose and journeying between this area and Dundee. Sequential and successive cumulative effects on travellers on these roads would give the impression of a *Landscape with Windfarms*, particularly in the *Dipslope Farmland* and the *Lowland Forest and Farmland* area. Elsewhere, in the *Broad Valley Lowlands* and Sidlaw Hills views of windfarms would be more intermittent or at distance and travellers would gain the impression either of a *Landscape with Occasional Windfarms* or *Landscape with Views of Windfarms*. There are too few road receptors within the highland areas for there to be a noteworthy effect but travellers on some minor roads west of Kirriemuir would get an impression of a *Landscape with Windfarms* as a result of Drumderg and Mile Hill, together with the visual influence of Ark Hill.

It is notable that within Aberdeenshire travellers on the A90 trunk route between Angus and Stonehaven would experience considerably more views of windfarms at close hand than would be the case for the A90 in Angus, even if all the proposed windfarms in Angus were to be developed.

5.3.4 Effects on Cycle Routes

National Cycle Route 1 passes from Dundee to Montrose via Arbroath along 'B' and minor roads, mainly through *Dipslope Farmland* and Coastal landscape types. From west to east it first passes along the sea front in Dundee, passing within 2km of the Michelin turbines in Dundee, although has limited views of these. It then passes alongside the railway along the coast to east of Carnoustie before turning north and paralleling the A92 into Arbroath. Oblique views of East Skichen (min. 7km) and Dusty Drum (min.3.5km) would be available from much of the route. North of Arbroath the route would have more distant (11km minimum) views of Montreathmont and passes within 3.5km of Mountboy, having views of it over a number of kilometres. Views south west to Dusty Drum (min. 12km) and north to Tullo (min. 16km) would also be available. Sequential and successive cumulative views over the whole route would be sufficient to give the impression of a *Landscape with Windfarms*.

5.3.5 Effects on Visitor Destinations

The following includes the key visitor destinations and some representative locations in Angus, whether locally popular or tourism-related. There is a degree of overlap with the representative viewpoints in the following section.

Cairngorms National Park

Effects on the Cairngorms National Park would be limited as it is remote from most of the windfarm locations. Only Drumderg currently lies within 20km of the national park and has visual effects on the summits and plateaux from Glen Clova west but is not visible from the glens. Of the proposed windfarms Mile Hill would not be visible and all of the lowland windfarms would be more than 20km distant, clearly located in the lowlands and only visible from the higher or more southerly ridges and summits.

Angus Glens

The Angus Glens are a key visitor destination in themselves and a route by which the highland summits are accessed. As discussed in section 5.2 they are only marginally affected by the operating, consented and proposed windfarms. None will be directly affected and they are enclosed from views by the ridges of *Highland Summits & Plateaux*. Only the entrances to the glens are likely to have limited views of windfarms, with the most affected being Glen Isla, passing between Drumderg and Mile Hill. Even here views are limited by landforms and trees.

Montrose Basin

As an SAC and Scottish Wildlife Trust reserve this is a popular bird watching location as well as being a unique feature to the setting of Montrose. The effect on this is largely covered in sections 5.2. At present views northeast will be affected by fairly distant views of Tullo windfarm in Aberdeenshire, but both Montreathmont and Mountboy would have significant visual effects from many locations around the Basin, seen in combination, successively or sequentially.

The Caledonian Railway

The Caledonian railway is a private steam railway running over 7km from bridge of Dun near Montrose to Brechin. It runs roughly parallel to the A935. There are no views of operational or proposed windfarms. There would be intermittent successive and sequential views of Mountboy and Montreathmont at distances of 5-8km seen from Bridge of Dun and from lengths of the line that are not in cutting. No other proposed windfarm would have significant visibility.

Historic Landscapes and Houses

A number of HGDLs and country house are open to visitors and would be attractions to both tourists and local visitors.

Kinnaird Park and Castle

Kinnaird Park and Castle have theoretical visibility of Tullo at 18km would have successive and sequential views of both Mountboy and Montreathmont at ca. 3km although this would be limited over much of the parklands by extensive mature tree cover. The windfarms would be fully visible from upper windows of the castle.

House of Dun

Views of Mountboy on the skyline at 6km would be available from the house but more limited by trees when viewed from the grounds. Montreathmont would also be visible successively at 8km from the house and some of the eastern grounds but visibility would be limited by topography and trees.

Brechin Castle

Located just south of Brechin, this is surrounded by dense belts of trees on low lying ground by the River South Esk. It has theoretical visibility of up to three windfarms in parts of its grounds but in reality none are likely to be visible due to the trees

Guthrie Castle

This is located 4km southwest of Montreathmont but the turbines will not be visible due to landform and trees. Mountboy at 9km to the east is theoretically visible but this will be restricted by trees.

Cortachy Castle

This house and grounds is located at the foot of Glen Clova. Only Mile Hill and Montreathmont have theoretical visibility and both would be limited by dense belts of trees.

House of Pitmuies

This HGDL is located close to Guthrie Castle. It has a greater theoretical visibility of Mountboy and Montreathmont windfarms but views would be largely screened by trees.

Glamis Castle

Glamis is probably the most internationally renowned of the stately homes in Angus. Centrally located it will have partial views southwest of Ark Hill at 5km and west to Drumderg at 20km, although both limited by tree cover. Mile Hill will also be partially visible to the west. Views east and south east to the other windfarms that would be theoretically visible are severely limited by dense belts of trees.

Ascreavie

This is a designed landscape located northwest of Kirremuir. Views of Ark Hill would be available 13km to the south. Mile Hill 1.5km to the northwest, is theoretically visible but obscured by tree belts.

Country Parks.

There are three country parks within Angus. These are sites that would be predominantly used by local people.

The country park at Forfar Loch will have a view of Ark Hill at approx. 12km. Mile Hill would be partially visible at 15km. None of the other proposed windfarms are likely to be visible.

Monikie Country Park has no views of operating or consented windfarms. Of the proposed windfarms East Skichen windfarm at 1-2km will be dominant in views north from the reservoir although screened from much of the rest of the park by trees. The blades of Dusty Drum will also be visible above trees to the northeast at 5km, seen in succession to those of East Skichen.

Crombie Country Park, 2km northeast of Monikie has no current views of windfarms. However sequential and successive views of East Skichen and Dusty Drum at distances of between 1 and 3km would be available from parts of the park, particularly at the northern and southern entrances where tree cover is less dense.

Summary of Effects on Visitor Destinations

There would be limited effects on the National Park and Angus Glens as most of the windfarms are located within the lowlands.

The other locations assessed are generally in mature landscape settings, where trees will restrict the visibility of windfarms. It is only in close proximity to the proposed windfarms that potentially significant cumulative impacts would be experienced. This is exemplified by the effects on Monikie and Crombie Country parks near Dusty Drum East Skichen and Montrose Basin and the Caledonian Railway near Mountboy and Montreathmont.

5.3.6 Effects on Viewpoints

The following illustrative viewpoints are primarily extracted from the EIA assessments and serve as examples of locations where there are relatively extensive views and/ or frequent access or usage by visual receptors. These represent in some cases a worst case scenario in that they are mainly the best viewpoints for the maximum number of receptors. Nevertheless, it is open and extensive viewpoints that, in addition to more habitually frequented locations, give an overall impression of an area and, in this case, the extent to which windfarms are affecting or would affect the character of the landscape. Their locations are shown in Figure 5.4

1. Cat Law

Cat Law is representative of hilltop views from the southern edge of the *Highland Summits & Plateaux* in the west of Angus. It has panoramic views of the lowlands and views north and west to the hills and glens of Angus and Perthshire. Drumderg windfarm is noticeable on a ridge 15km to the east and Ark Hill will be visible on the Sidlaw ridge 20km to the south. Windfarms in Aberdeenshire would be at least 40km

distant. Due to the distance to most windfarms the view would generally appear as a *Landscape with Occasional Windfarms* over Angus as a whole.

Of the proposed windfarms Mile Hill would be prominent 3km away at the southern foot of Cat Law and the single turbine of Scotstoun Hill would be visible near to Ark Hill. All of the other lowland windfarms would be visible but at distances of at least 25km. The views would give the impression of a *Landscape with Occasional Windfarms*. However the closer proximity of Mile Hill and prominence of Drumderg may give the impression of this southwest corner of the highland area as a *Landscape with Windfarms*.

2. Airlie Tower

Airlie Tower is a prominent monument located on a ridge in the *Highland Foothills*. The tower itself is not accessible and views are gained from the surrounding open ground, but views are partly obscured by trees. Of the consented windfarms Ark Hill will be visible 18km to the south. Tullo would be nearly 40km to the east. Drumderg is screened by landform to the west. This would appear as a *Landscape with Views of Windfarms*.

Considering the proposed windfarms, Montreathmont would be visible 22km to the east and Mountboy directly behind it at 29km. East Skichen and Dusty Drum would be 24 and 27km to the south east. Mile Hill would be screened by landform. The lowlands would appear as a *Landscape with Occasional Windfarms*.

3. Kirriemuir Camera Obscura

The camera obscura is a viewpoint directly above the town of Kirriemuir with views over the town and Strathmore and Sidlaw Hills beyond. Of consented windfarms Ark Hill will be visible on the horizon 10km to the south and Drumderg is visible on the horizon 20km to the west, giving the impression of a *Landscape with Occasional Windfarms*.

If the proposed windfarms were developed only one turbine of Mile Hill would be partially visible 8km to the west and the three turbines of Dusty Drum 21km to the southeast. The overall impression would remain that of a *Landscape with Occasional Windfarms*.

4. Kinpurney Hill

Kinpurney Hill is a high hilltop viewpoint with hillfort and tower located in the Sidlaw Hills in the west of Angus above Meigle. It has extensive all round views of the Angus lowlands and towards the highlands across Strathmore. Ark Hill windfarm would be highly prominent at 3km to the east. Drumderg is visible in the Perthshire hills at 25km to the northwest. The eastern Sidlaw Hills would appear as a *Landscape with Windfarms*.

Considering proposed turbines the wind turbine at Scotstoun Hill in the Sidlaws would be prominent at 2.5km. To the north Mile Hill would be partially visible in the Alyth Foothills at 16km. Montreathmont would be visible in the east at 30km. Other

windfarms in Angus would be hidden by intervening hills. The main impression gained would be of the eastern Sidlaw Hills as a *Landscape with Windfarms* and the southern edge of the Highlands as a *Landscape with Occasional Windfarms*.

5. Balmashanner

This viewpoint is a hilltop to the south of Forfar. The principal viewpoint has panoramic views over the town and west to Strathmore with trees obscuring other views. Further views to the south and east are available from other locations on the hilltop. Of consented windfarms Drumderg is visible to the west at nearly 30km but Ark Hill is screened. At most this would appear as a *Landscape with Views of Windfarms*.

Of proposed windfarms Montreathmont would be clearly visible 13km to the east with Mountboy at 19km visible in a gap between hills slightly to the south of this. Dusty Drum would be partially visible on the southern horizon at 13km but East Skichen would be screened by trees. If the viewer moved to the west, Mile Hill would be partially visible 16km to the northwest. The overall impression gained would be of a *Landscape with Occasional Windfarms*.

6. Carrot Hill

Carrot Hill is located on the eastern edge of the Igneous Hills, being somewhat lower and more rounded than the Sidlaws to the west. It has panoramic views over the Angus lowlands and towards the highlands in the north, with shorter distance views to the Sidlaws in the west. Of the operational and consented windfarms Drumderg, Michelin and Ark Hill are partially visible, the latter two at 10km and 8km. The experience would be of a *Landscape with Occasional Windfarms*.

Considering the proposed windfarms as well, east Skichen would be prominent at 4km to the east with Dusty Drum noticeable at 9km in the same direction. Montreathmont and Mountboy would be visible to the northeast at distances of 19km and 24km. The impression gained of the *Dipslope Farmland* would be of a *Landscape with Windfarms*, with the lowlands as a *Landscape with Occasional Windfarms*.

7. Turin Hill

Turin Hill is centrally located in the *Low Moorland Hills* to the east of Forfar. It is a prominent hilltop and hillfort with panoramic views across much of Angus. Of existing and consented windfarms, Drumderg is visible at over 30km to the west and Ark Hill would be visible to the southwest at 20km. Tullo would be visible at 30km to the east, with three other windfarms at up to 40km. This is a *Landscape with Views of Windfarms*.

Of the proposed windfarms Montreathmont would be prominent at 7km to the east, with Mountboy behind it at 14km and further small windfarms in Aberdeenshire at over 30km. Dusty Drum and East Skichen would be visible on the horizon to the south at 13km and Mile Hill partially visible to the west at 20km. The Angus lowlands would appear as a *Landscape with Occasional Windfarms* but to the east, looking at

Montreathmont and other windfarms receding into the distance, an impression may be gained of a *Landscape with Windfarms*.

8. Trinity, Brechin

This viewpoint represents higher ground close to the town of Brechin and the A90 trunk road. Views are to the east and south. No consented windfarms would be visible. Of the proposed windfarms Mountboy would be visible on the southwest horizon at 9km and only the moving blades of some of the Montreathmont turbines would be visible above trees at a distance of 7km. The overall impression would be of a *Landscape with Occasional Windfarms*.

9. White Catherthun

White Cathertun is hilltop fort located in the Menmuir Foothills above Brechin and has extensive all round views of the lowland area as well as the eastern part of the highland area. Considering existing and consented windfarms there would be mainly distant views. Ark Hill would be partially visible at 30km, with Tullo, St John's Hill and Clochnahill visible in Aberdeenshire at 20-30km distant. This is a *Landscape with Views of Windfarms*.

Including all proposed windfarms, Montreathmont at 12km and Mountboy at 16km would be noticeable in the nearer lowlands and Dusty Drum and East Skichen on the distant horizon at over 25km. Mile Hill would be just visible over hills at 25km. Another three small windfarms would be apparent in Aberdeenshire at distances of 23-32km. Overall the windfarms would clearly be associated with the lowlands which in Angus would appear as a *Landscape with Occasional Windfarms* due to the distance to most, but in Aberdeenshire would appear as a *Landscape with Windfarms* due to the number of windfarms.

10. B961/A933 Junction

This road junction is located in *Dipslope Farmland* in eastern Angus, south of Friockheim. It has panoramic views to the north and east, taking in Montreathmont Forest and Rossie Moor with the highland hills and Aberdeenshire beyond. Of consented windfarms only Tullo would be visible at 28km. This is a *Landscape with no Windfarms*.

Of planned windfarms, both Montreathmont (6km) and Mountboy (8km) are close and would be prominent in views spanning from north to northeast, giving the appearance of a *Landscape with Windfarms* in this direction. No windfarms would be visible to the south and east.

11. Rossie Moor

Rossie Moor is the high point of an area of Dipslope Farmland in the east of Angus set between Montrose Basin and the Lunan Water. Extensive views are available from various locations on the moor but all round views are only available by moving about the high area. Of the consented windfarms Tullo would be noticeable 20km to

the northeast, with St John's Hill partially visible. All other consented windfarms would be more than 30km distant. This is a *Landscape with Views of Windfarms*.

Considering the proposed windfarms the turbines of Mountboy would dominate the summit of Rossie Moor and Montreathmont would be prominent in views to the west. Dusty Drum and East Skichen would be visible to the south west at 17km and 20km respectively. The impression would be gained of a *Landscape with Windfarms* in the vicinity of Rossie Moor and towards Montreathmont and a *Landscape with Occasional Windfarms* over Lowland Angus.

12. Montrose Railway Station

Montrose Railway Station is located on the edge of Montrose Basin, with open views to the west. Views to the east are restricted by the buildings of Montrose but some views to the north are available from the railway footbridge. Of consented windfarms limited views of Tullo at 14km would be available.

Including all proposed windfarms, Mountboy and Montreathmont would be visible over the Basin to the west at 6.5km and 11.5km respectively, the latter fully visible. Together with views of Tullo this would appear as a *Landscape with Windfarms*.

Summary of Effects on Viewpoints

Considering all the viewpoints the impression gained from most, whether in the highland, lowland or coastal area, is primarily of a lowland *Landscape with Occasional Windfarms*. Nevertheless in the *Dipslope Farmland* and *Lowland Forest and Farmland* or areas close by the impression gained is often that of a *Landscape with Windfarms*.

5.4 Overall Assessment of Cumulative Impacts

Existing and Consented Windfarms

There is only one consented windfarm in Angus, the 8x78m turbines at Ark Hill. Its significant landscape impacts will be limited to within the eastern end of the Sidlaw Hills. Other operational and consented windfarms close to Angus include the 8x101m turbines at Tullo in Aberdeenshire, 16x108m turbines at Drumderg in Perth & Kinross and the two 120m turbines at Michelin in Dundee. The latter is closest to Ark Hill at just over 10km but is not intervisible with it. Drumderg at 20km distance lies in a clearly separate upland landscape. The other consented windfarms in Aberdeenshire are 50-60km distant from Ark Hill. A significant part of Angus has no views of windfarms and small parts are a *Landscape with Windfarms* or *Landscape with Occasional Windfarms*. However the landscape character of Angus is primarily a **Landscape with Views of Windfarms** in which windfarms, although occasionally present or visible, are not located within, or a defining characteristic of, the landscape.

Existing, Consented and Proposed Windfarms

If all the potential windfarms in and around Angus were to be developed there would be extensive parts of the lowland landscape affected by individual windfarms and some areas in which these effects combine to give cumulative impacts.

Examining the specific effects of the proposed windfarms, our assessment has concluded that, should all the proposals go ahead, they will not dominate the lowland landscape of Angus (ie create a '*Windfarm Landscape*') but will become a defining characteristic of part of it: creating a **Landscape with Windfarms** in the *Dipslope Farmland* northeast of Dundee and south of Montrose and in the *Lowland Forest and Farmland* area east of Turin. With one additional 80m turbine the Sidlaw Hills would remain a **Landscape with Occasional Windfarms**. In other lowland areas no direct effects would be experienced but they would be a **Landscape with Views of Windfarms**. Overall the Lowland landscape would become a **Landscape with Occasional Windfarms**.

The Highland landscape has fewer existing or proposed windfarms, with Drumderg outside Angus exerting a significant direct and indirect influence on the *Highland Summits and Plateaux* landscape of Forest of Alyth and part of Caenlochan/Glen Doll. Overall the Highland Landscape would become a **Landscape with Occasional Windfarms** west of Glen Clova and south of the National Park and a **Landscape with Views of Windfarms** east of Glen Clova and south of the National Park.

The Coastal area would become a **Landscape with Views of Windfarms**. In the case of Montrose Basin this would be a significant indirect effect due to the size and proximity of the Montreathmont Turbines in combination with visibility of Mountboy and Tullo.

These conclusions represent an assessment of change in the landscape of Angus and people's experience of it. The changes resulting from proposed windfarms in addition to the operating and consented ones would lead to significant changes to a large area of the lowland landscape and a small area of the highland landscape. In relation to Angus as a whole the changes would not be significant. The limited extent of significant impact is despite the number of windfarms involved is very much related to the small scale of most of the proposals and their separation. One proposal is for a single turbine and three have only three turbines each. Windfarms with significantly larger numbers of turbines in the same locations as the proposed windfarms would undoubtedly have a more extensive significant effect on the landscape and on visual receptors experiences. Furthermore, proposals for only one or two more windfarms on high ground in the lowland area would lead to a significant extension of areas of *Landscape with Windfarms*.

Further to the discussions in section 2.2 regarding the nature of change, it is considered that the changes would be adverse in relation to the existing landscape character. Nevertheless, the degree of adversity would be at least partially independent of the magnitude of change and partially dependent on the landscape type in which the changes take place.

In section 2.2 we have identified that the negative characteristics of turbines in a landscape relate to their large scale, industrial nature and their movement. Some landscapes such as degraded post industrial or mineral extraction landscapes would be less negatively affected than more rural or wilderness landscapes as the turbines would fit within the perception of the landscape as being man-made.

This argument can be extended to consideration of types of rural landscape. In the context of Angus the lowland landscape has features and infrastructure in which human intervention is clearly expressed, whereas the upland landscape, despite being a product of human intervention, carries far less infrastructure or obvious human references. The turbines would therefore appear more appropriate (and less negative) in a working lowland landscape than in an upland landscape with remote and wilderness characteristics. Arguments concerning scale and simplicity of landscape character often work against this perception, with larger scale, simpler upland landscapes considered better able to absorb large scale turbines. Nevertheless in the specific context of Angus there are a number of factors that reduce the strength of this argument:

- 1) The lowland landscape is relatively large scale, dominated by simple landforms and landcover patterns, with large rectilinear arable fields, plantation woodlands and medium size hills, covering an extensive area.
- 2) The highland landscape forms an important and highly visible backdrop to the settled area of Angus and is an important recreational resource of high scenic quality with remote and wilderness characteristics to the north. It is also an important visitor destination and part of it is designated as a National Park.

It is our conclusion that, considering the potential magnitude of effects, appropriateness of character and potential for adverse impacts, the lowland landscape of Angus has more capacity for windfarm development than the highland or coastal landscapes. Nevertheless the form, location and pattern of development must be appropriate to landscape scale and pattern of the affected areas.

Furthermore this is primarily a strategic landscape assessment. It does not detail the effects that any development may have on specific sensitive receptors: residential, visitor and travelling. This is indicated by the individual environmental statements for each of the proposed developments.

This assessment has considered the capacity of the Angus landscape to absorb windfarm development and the potential effects of the operating, consented and proposed developments on the landscape character. Our conclusion on the extent and nature of impacts should be borne in mind when considering the acceptability of proposals. The following section considers potential ways of reducing impacts, should this be considered necessary to make the proposals more acceptable.

5.5 Potential Mitigation Strategies

Having defined the effect of the existing and proposed windfarms on the character of the landscape we also consider what factors in the design and location of windfarms could mitigate the potential impacts and whether any of these are feasible in the context of the existing proposals.

In their consideration of the applications Scottish Natural Heritage have suggested two main forms of mitigation to reduce the impacts of the proposed developments:

- 1) **Turbine Size Reduction.** In the case of the lowland developments it has been suggested that turbines are reduced in size by approximately one third. This is because SNH consider the turbines to be out of scale with the lowland landscape and smaller turbines would fit better with its character.
- 2) **Reduction in Turbine Numbers.** This was suggested for Montreathmont, with the original application for 19 turbines having been reduced to 11. The reasons for this included reducing dominance on the landscape and improving the visual composition of the windfarm when seen from surrounding locations by reducing visual overlap between turbines and visual clutter.

Turbine Size Reduction

Whilst reduced turbine size would lead to something of a reduction in landscape and visual impacts it is clear that even the reduced size turbines remain substantially larger than any other structure in the landscape and remain kinetic, unlike most other landscape features.

We have amended a number of the Mountboy and Montreathmont photomontages by reducing apparent turbine sizes to that suggested by SNH. We note the following:

- 1) There is a clear change in most images, with the turbines appearing smaller.
- 2) There is less of a change in the perception of the turbines: they remain as large structures in the landscape. Locations close to the turbines are still significantly affected and the turbines appear larger than all except foreground landscape features.
- 3) It is only when the viewer is some distance from the turbine locations that it is apparent that reducing turbine size leads to a reduction in impacts on the wider landscape and on visual receptors.
- 4) Size reduction appears more effective when there are reference features of comparable scale within the view. As there are usually none in close proximity to the turbines it is often foreground objects that provide the scale reference. In an open view size reduction is less effective.
- 5) Size reduction appears more effective on the smaller group of three turbines than it does on the group of eleven. The effect of a larger number of turbines remains more apparent, possibly because the ratio of its lateral extent in relation to vertical extent is less apparent than for the group of three. Any reduction in

turbine size should be accompanied by closer spacing allowed by technical considerations.

We conclude that turbine size reduction has limited value in mitigating landscape and visual impacts. As it has to be balanced against losses in output, size reduction should be used in specific cases where a clearly identified benefit can be achieved, such as mitigating severe impacts on a highly valued or sensitive receptor; allowing a key landform and/or forest to completely screen turbines from certain receptors or to achieve a significant reduction in overall visibility by virtue of relationship to surrounding landform. Where reduction in impact would be a matter of degree rather than a clear quantitative change the benefits are less clear cut.

Turbine Number Reduction

In the case of turbine numbers we note the overall benefits achieved by reduction of turbine numbers at Montreathmont from 19 to 11. However in comparing Montreathmont with Mountboy we particularly note the difference in visual qualities of a multi-turbine windfarm compared with that of a three turbine windfarm. Despite the wind turbines being of similar size and visibility, the lateral extent of the windfarm is limited and much closer to the vertical dimension. They present a simple, compact, visual image devoid of the 'cluttered' image that larger windfarms usually have. To this extent they would have a disproportionately lesser influence on the landscape.

Turbine Distribution

When considering cumulative impacts of turbines and windfarms it is not just the number of turbines in the landscape that affects impacts but also the pattern of windfarm development. This has an effect on the ability of the landscape to absorb change and on visual receptors. The dispersal of the turbines in small groups has some advantages in that each grouping is less dominant within the landscape and presents a less cluttered visual image. However, the increased number of windfarms also means that there is an increased likelihood of seeing a windfarm and at closer proximity than if the turbines were concentrated into fewer locations.

As discussed in section 2.3 the emerging trend in Scotland is for the concentration of wind turbines into fewer, larger, windfarms. The pattern of proposed development in Angus is currently the opposite of this, comprising scattered windfarm development of small or medium scale (albeit most are proposing large size turbines). Given the scale and pattern of the landscape in the proposed locations, and the need to avoid unacceptably close proximity to residential property, it would seem that this is an appropriate pattern of development responding to these constraints. Nevertheless there would be limits to the number of windfarms if significant cumulative change over a wide area is to be avoided and the potential changes that have been identified within the *Dipslope Farmland* underline this.

The largest proposal. at Montreathmont. is unusual in this lowland landscape in that it is set within a larger scale area of forestry with few residential properties. This area has less constraint on development than in the surrounding lowland areas but nevertheless has potentially severe adverse impacts on the nearest properties. This

development in itself is of a relatively modest size when compared with a number of consented windfarms in Scotland, reflecting the relatively restricted extent of even this area compared with the very sparsely populated upland plateau landscapes in which windfarms such as Whitelee (Lanarkshire and Ayrshire) and Crystal Rig (Scottish Borders) are located.

Distribution in Relation to Landscape Type

In a dispersed pattern of development such as is evolving in Angus the likelihood is that windfarms will be located in more than one landscape type and that some landscape types have less capacity for development than others. In this case it would be appropriate to consider the relative merits of guiding development to the areas most capable of absorbing development. Subject to the specific impacts of any particular proposal, this would reduce the potential for the most significant and adverse landscape impacts. It would also restrict the windfarm landscape typology to a more narrowly defined range of landscapes, thereby reducing the perception of unplanned proliferation of windfarms throughout a local authority area. In Angus this approach has been signalled through local plan policy ER34, the justification for which indicates that, within Angus, lowland landscapes would be more suitable for windfarms than highland or coastal landscapes.

5.6 Specific Strategies for Reducing Impact

Taking potential generic mitigation measures into account the following section explores the effects of specific amendments to the proposed developments and development pattern on overall cumulative impacts. This assessment relates only to the six proposed windfarms in Angus. It must be borne in mind that proposed changes involving reduction in turbine size or number may provide landscape and visual mitigation but would also result in a net loss of output and this would need to be considered in the decision making process.

Reducing the Number of Windfarms

A reduction in the number of windfarms would reduce the extent of windfarm affected landscape and the number of visual receptors, thereby reducing the potential cumulative impacts.

Of the proposed windfarms Montreathmont clearly has the greatest potential for landscape and visual impact, relating mainly to the number and size of turbines; significantly greater than any other of the proposals. Without this proposal there would be significantly reduced landscape effects on *Low Moorland Hills*, Montrose Basin and the northern part of the *Dipslope Farmland* as well as visual effects on properties to the north of the forest and the roads between Brechin, Arbroath, Forfar and Montrose. There would be no cumulative impacts with Mountboy.

The proposed three-turbine windfarms at Mountboy, East Skichen and Dusty Drum individually have a lesser effect on the landscape, with the more important consideration being localised visual impacts.

Mountboy, although at a lower elevation than East Skichen and at a similar elevation to Dusty Drum, has a prominent position on Rossie Moor relative to its surroundings. Not proceeding with this development would avoid impacts on a number of isolated properties on Rossie Moor and cumulative impacts together with Montreathmont on the Rossie Moor area of *Dipslope Farmland* and on Montrose Basin. There would also be avoidance of visual impacts on the A92 and the coastal side of the *Dipslope Farmland* north of Arbroath.

Cumulative impacts northeast of Dundee could be reduced or avoided by proceeding with only one of East Skichen or Dusty Drum, depending on which was considered to have the greater stand-alone impacts.

Not proceeding with one each of East Skichen/ Dusty Drum and Montreathmont/ Mountboy would avoid all but limited sequential cumulative impacts on the *Dipslope Farmland* area as the two remaining windfarms would be between 13 and 20km apart and separated by a ridge of higher ground.

Mile Hill has little cumulative interaction with the four other windfarms and limited interaction with any other consented or proposed windfarm. Due to topographic screening its effects are relatively limited. However it is located in the more sensitive highland area of Angus, has highly adverse local impacts and would have some potentially significant cumulative impacts with Drumderg.

Careful consideration should be given to the overall number and distribution of the windfarms considering the increasingly favoured strategy of concentrating larger windfarms in fewer locations. This would require careful study of the balance of reduction in cumulative impacts against potentially significant adverse localised impacts.

6.0 SUMMARY AND CONCLUSIONS

This study has considered the capacity of the Angus landscape to absorb windfarm development as well as considering the cumulative impacts that would potentially arise from all of the operating, consented and proposed windfarms in Angus and adjacent local authority areas. In doing so it has addressed a number of concepts and issues that affect the perceived significance and acceptability of cumulative changes caused by multiple windfarms in the landscape.

6.1 Landscape Character and Capacity

The landscape of Angus is divided into three main types:

- 1) A coastal strip along the Firth of Tay and North Sea coast, including Montrose Basin
- 2) An extensive area of lowland farmland and hills north and west of the coast and Dundee
- 3) An extensive area of highland summits, plateaux and glens to the north, separated from the lowlands by the Highland Boundary Fault.

An assessment of the landscape character and capacity for windfarm development has determined that the highland and coastal areas have a high landscape value and sensitivity and low capacity for windfarm development. The lowland area of Angus has the greatest capacity for windfarm development. Nevertheless capacity is limited by the medium scale and pattern of the landscape and the presence of high numbers of sensitive visual receptors within the settled, predominantly agricultural landscape.

The assessment of the operating, consented and proposed windfarms has considered landscape capacity and the distribution of windfarms, leading to a characterisation of the landscape in terms of defined windfarm development levels. This has been used to build up a picture of how windfarm development currently affects and could in future affect the landscape.

6.2 Cumulative Effects of Operating and Consented Windfarms

The only consented windfarm within Angus is at Ark Hill. This will have significant landscape impacts on a part of the Sidlaw Hills and visual impacts on receptors in the hills and across Strathmore to Kirriemuir. The two Dundee Michelin turbines are close to the southern boundary of Angus and the eight Tullo turbines are some 10km north of the eastern boundary. These will have limited effects on the Angus landscape or on visual receptors within Angus and little in the way of cumulative impact. The 16 turbines of Drumderg lie 3km to the west in the highland area of Perth & Kinross. Whilst having a significant impact on the western edge of the *Highland Summits and Plateaux* area of Angus they have relatively little effect on the lowland area. It is

concluded that the highland and coastal types are predominantly *Landscapes with Views of Windfarms* with some areas currently unaffected. The lowland area varies predominantly between a *Landscape with Views of Windfarms* to a *Landscape with Occasional Windfarms* in the Sidlaw Hills but has significant areas with no windfarm effects.

6.3 Cumulative Effects of Proposed Windfarms

The potential for cumulative impacts is significantly increased when considering all of the windfarms at planning application stage in addition to those that are in operation or consented.

The 11 turbines at Montreathmont would have the greatest landscape and visual impact of all the proposed windfarms. They would also contribute to significant cumulative landscape change in combination with the three turbines at Mountboy, 5km to the east.

At 5km separation the proposed three-turbine windfarms at East Skichen and Dusty Drum are close enough to appear cumulatively as significant objects from higher static viewpoints to the north and when travelling on roads in the area between Dundee, Forfar, Arbroath and Friockheim.

The overlap of the Mountboy and Montreathmont ZTVs with those of East Skichen and Dusty Drum is relatively limited as higher ground between the groupings tends to reduce overlap of visibility, in addition to there being separation of some 15km between the two pairs of windfarms. The main cumulative impacts would be sequential visual impacts on road users travelling between Dundee, Brechin and Montrose.

Of other windfarms the presence of Ark Hill some 15km to the west of East Skichen is unlikely to contribute significantly to the cumulative impacts of the four windfarms to the east. Its contribution to cumulative impacts would be that of an occasional background element in views and in extending the experience of views of windfarms to those travelling through the Angus lowlands. The two wind turbines in Dundee are closer to East Skichen and Dusty Drum but are clearly associated with the urban landscape of Dundee and therefore have limited effect on the rural landscape of Angus or indeed on visual receptors.

Other proposed windfarms in a lowland location are to the northeast, in Aberdeenshire. Being relatively small and at least 15km distant from Angus, these would mainly appear as background objects from static viewpoints within Angus. However travellers on the A90 in Aberdeenshire would experience significant cumulative visual impacts.

The windfarms located in the highland landscape types are clearly separated from the lowland windfarms: physically by the wide valley of Strathmore and perceptually by being located on the hills that form the backdrop to lowland Angus. Significant landscape impacts by these on the lowlands are therefore unlikely. Only one of the

proposed windfarms, Mile Hill, is close enough to have potentially significant visual impacts on receptors in lowland Angus and potential cumulative impacts when considered together with Ark Hill, 20km to the south.

The effect of windfarm size on perception of impacts is an important consideration. The number of smaller windfarm applications in Angus is unusual compared with most areas of Scotland, where windfarms that are operating, consented or proposed have turbine numbers ranging from the low teens to well over 100. Larger windfarms are seen to dominate significant areas of landscape and to appear cluttered in views. Small windfarms do not physically dominate large areas and appear as more discrete elements in distant views. Nevertheless the size and appearance of the turbines in closer views still has significant and usually adverse impacts on landscape and visual receptors.

Were all the windfarms in lowland Angus and surrounding areas to be built there would be large areas of the landscape in which wind turbines would be significant features, including some areas in which cumulative impacts would be significant. Nevertheless, there would be clear areas of separation between groupings.

Similarly the experience of visual receptors in static locations would be to see groupings of windfarms from higher viewpoints but mainly single windfarms from lower areas. Travelling receptors in most of Angus would experience occasional views of windfarms at close proximity and fairly frequent views of one or more windfarms in the background or middle ground. There would remain significant areas from which no windfarm is visible.

This would amount to lowland Angus becoming a *Landscape with Occasional Windfarms* due to the limited size of most of the proposed windfarms. However areas of *Dipslope Farmland* and *Lowland Forest and Farmland* between Forfar, Brechin, Montrose and Dundee are likely to become a *Landscape with Windfarms*.

Cumulative effects on the highland landscape would be more limited. The southwestern corner within Angus would become a *Landscape with Windfarms* due to the combined effects of Drumderg and Mile Hill. However, most of the highland area would be a *Landscape with Views of Windfarms*, with most of the visible windfarms clearly in the lowlands and some areas would be remote enough to be practically unaffected by windfarms.

Increased parts of the coastal areas would become a *Landscape with Views of Windfarms* with the Montrose basin most affected.

6.4 Potential for Mitigation

The assessment considers a number of ways by which effects on the landscape could be realistically mitigated. This includes reducing turbine size, reducing turbine numbers and reducing the number of windfarms. It is concluded that

-
- 1) Reduction in turbine size has a limited effect on primary and cumulative impacts but may be useful in addressing specific effects
 - 2) Reduction in turbine number has limited effect for a large number but small groups of turbines have a disproportionately lower impact due to lack of lateral extent and reduced 'clutter'
 - 3) Reduction in numbers of windfarms or concentration into fewer, larger groupings would significantly reduce the extent of cumulative impacts and would eliminate some significant site-specific impacts.

The spread of small windfarms throughout the area rather than concentration of turbines into a more limited number of locations inevitably contributes to the impression of a landscape with windfarms. This is by increasing the area of landscape in which wind turbines are a feature and increasing the opportunity to see wind turbines successively from a static viewpoint or sequentially as a traveller. Concentration into fewer locations would decrease this occurrence.

6.5 Conclusion

It is considered that the current proposed level of development in Angus would not result in a significant or unacceptable level of change in the landscape over Angus as a whole, or over the lowland area as a whole. However there is likely to be significant cumulative change in the lowland area to the east and south of the A90, where windfarms could become a key defining element in the landscape.

The development of windfarms predominantly in the lowland area would be in accordance with local plan policy. However, if this is considered to be an unacceptable level of development it would be possible to significantly reduce the extent of cumulative impacts by not developing all of the windfarms. In doing so first consideration should be given to the windfarms identified as having the most significant impacts for the least benefits.

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APPENDIX 1: UPDATED LOCAL PLAN POLICIES RELATING TO WINDFARMS AND LANDSCAPE

Finalised Angus Local Plan Review Policies as Modified

Policy ER5 : Conservation of Landscape Character

Development proposals should take account of the guidance provided by the Tayside Landscape Character Assessment and where appropriate will be considered against the following criteria:

- (a) sites selected should be capable of absorbing the proposed development to ensure that it fits into the landscape;
- (b) where required, landscape mitigation measures should be in character with, or enhance, the existing landscape setting;
- (c) new buildings/structures should respect the pattern, scale, siting, form, design, colour and density of existing development;
- (d) priority should be given to locating new development in towns, villages or building groups in preference to isolated development.

Policy ER33 : Renewable Energy Developments

Proposals for all forms of renewable energy developments will be supported in principle and will be assessed against the following criteria:

- (a) the siting and appearance of apparatus have been chosen to minimise the impact on amenity, while respecting operational efficiency;
- (b) there will be no unacceptable adverse landscape and visual impacts having regard to landscape character, setting within the immediate and wider landscape, and sensitive viewpoints;
- (c) the development will have no unacceptable detrimental effect on any sites designated for natural heritage, scientific, historic or archaeological reasons;
- (d) no unacceptable environmental effects of transmission lines, within and beyond the site; and
- (e) access for construction and maintenance traffic can be achieved without compromising road safety or causing unacceptable permanent change to the environment and landscape, and
- (f) that there will be no unacceptable impacts on the quantity or quality of groundwater or surface water resources during construction, operation and decommissioning of the energy plant.

Policy ER34 : Wind Energy Development

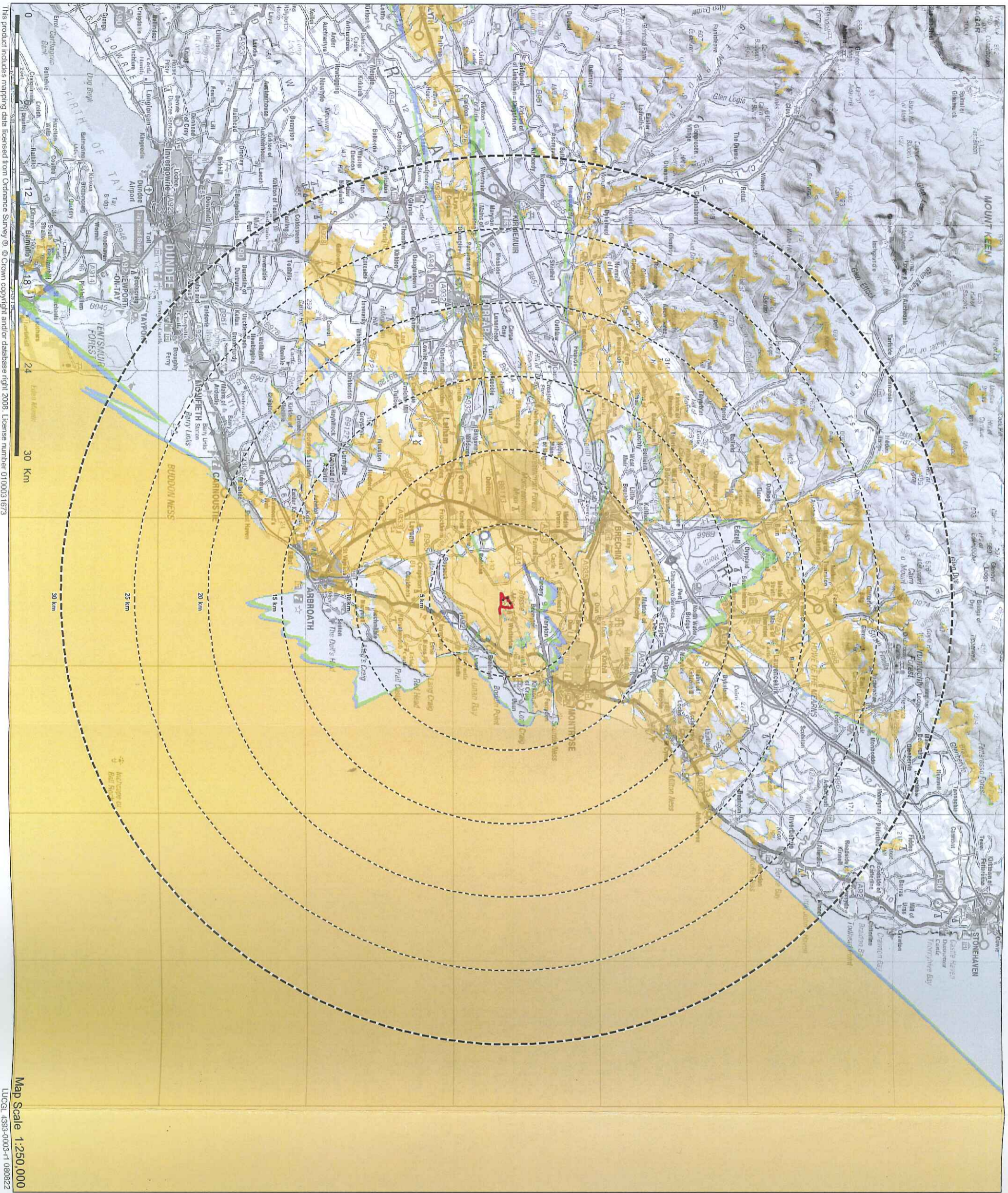
Wind energy developments must meet the requirements of Policy ER33 and also demonstrate:

- (a) the reasons for site selection;
- (b) that no wind turbines will cause unacceptable interference to birds, especially those that have statutory protection and are susceptible to disturbance, displacement or collision;



- (c) there is no unacceptable detrimental effect on residential amenity, existing land uses or road safety by reason of shadow flicker, noise or reflected light;
- (d) that no wind turbines will interfere with authorised aircraft activity;
- (e) that no electromagnetic disturbance is likely to be caused by the proposal to any existing transmitting or receiving system, or (where such disturbances may be caused) that measures will be taken to minimise or remedy any such interference;
- (f) that the proposal must be capable of co-existing with other existing or permitted wind energy developments in terms of cumulative impact particularly on visual amenity and landscape, including impacts from development in neighbouring local authority areas;
- (g) a realistic means of achieving the removal of any apparatus when redundant and the restoration of the site are proposed.




APPENDIX 2: ZONE OF THEORETICAL VISIBILITY EXTRACTS FROM ENVIRONMENTAL STATEMENTS

The following extracts are the basic blade tip ZTVs for Mountboy, Montreathmont, Dusty Drum, East Skichen and Mile Hill, taken from the landscape and visual assessments. Further more detailed ZTVs and cumulative ZTVs in the assessments were also studied.



Zone of Theoretical Visibility (ZTV) to tip height, showing the potential number of turbines visible

-  Mountbody Wind Farm
-  30K L VIA Study Area Boundary

- Potential number of turbines visible:
-  1 turbine visible
 -  2 turbines visible
 -  3 turbines visible

The ZTV is calculated to turbine tip height

Figure 4.1



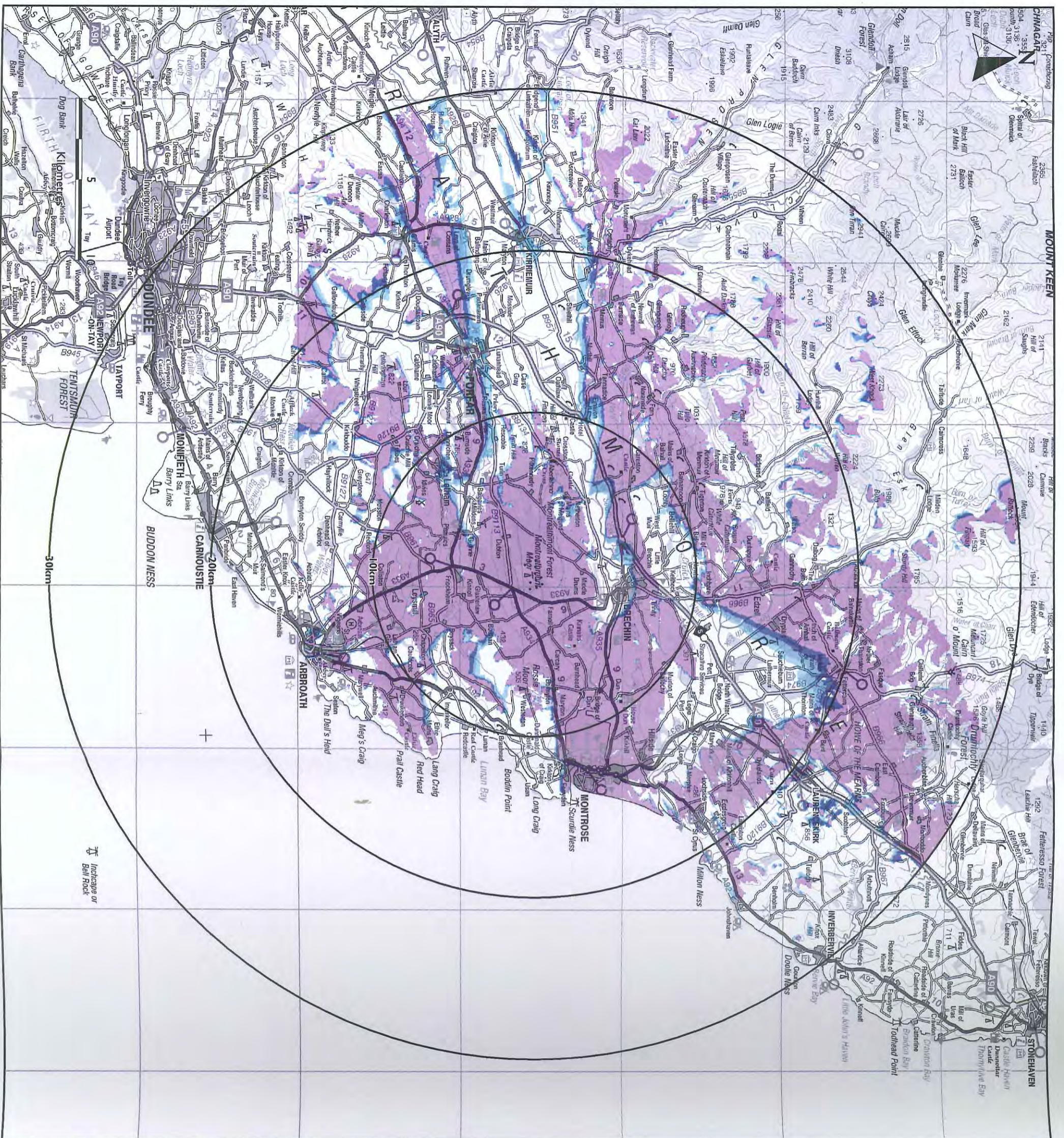


Figure 11



Montreatmont Moor Wind Farm

30km Zone of Theoretical Visibility to Turbine Blade Tip

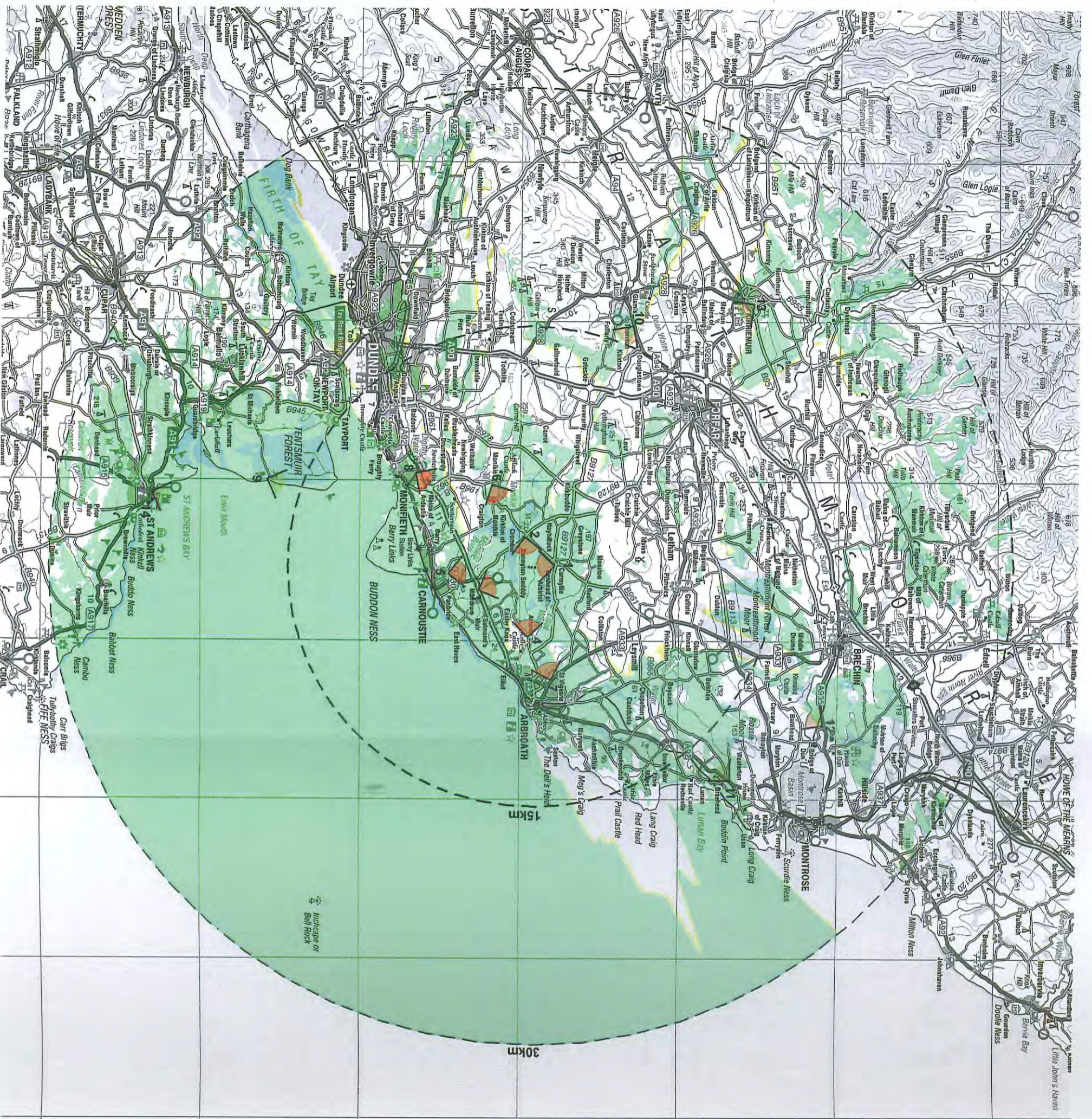
Turbine Visibility

- 1 to 2
- 3 to 5
- 6 to 8
- 9 to 11

Scale = Not to Scale

Note: ZTV generated to 126m Turbine Tip Height

Reproduced from the 2000 Ordnance Survey Road Maps with the permission of The Controller of Her Majesty's Stationery Office (c) Crown copyright Wind Prospect AL 100020176







Dusty Drum Wind Cluster

STEPHENSON
HALLIDAY
PROVISIONAL: RENEWABLE ENERGY ADVERTISING






FIGURE 3
Zone of Theoretical Visibility to Blade Tip
Height to 30km

KEY

-  Dusty Drum Wind Cluster
-  Radii from Dusty Drum Wind Cluster
-  Viewpoints with Photomontages (1-8)
-  Viewpoints without Photomontages (9-14)

Dusty Drum Wind Cluster Theoretical Visibility

-  1 turbine may be visible
-  2 turbines may be visible
-  3 turbines may be visible

Turbine Data:

- The ZTV has been calculated on the following turbine dimensions and to LDUS001 wfl
- Blade tip height (m): 110
 - Hub height (m): 70









Notes:
The calculations of this map are based on the "bare earth" model of the landform and does not allow for any effects of screening from obstacles such as buildings and vegetation. The landform data was taken from Ordnance Survey Land-Form Panorama 1:50,000 scale digital terrain model - gridded height data at 50m intervals. The visibility maps are calculated for a viewer's eye height level of 2m above ground level to upper blade tip using a calculation grid size of 50m and include curvature of the earth and atmospheric refraction.



Date	By	Paper	Scale	Rev
Dec 2007	SH	A3	1:250,000	-



Key

-  Site Location
-  20km radius indicator
-  10km radius indicator
-  One turbine visible
-  Two turbines visible
-  Three turbines visible
-  Viewpoints illustrated as photomontages
-  Viewpoints illustrated as wireframes

Turbine Parameters:

The ZVI is based on the following turbine dimensions:

- Hub Height: 60m
- Rotor Diameter: 70m
- Blade Tip: 95m














Figure 4.4
ZVI to Blade Tip with Viewpoint Locations

npower Renewables
East Skichen Wind Farm

Based upon the Ordnance Survey Map with the permission of the Controller of Her Majesty's Stationery Office. © Crown Copyright. Entec UK Ltd. AL100001776.

KEY:

-  Mile Hill Turbines
-  10 km Mile Hill Radius *
-  20 km Mile Hill Radius
-  30 km Mile Hill Radius
-  35 km Radius Study Area Boundary
-  1 Turbine Visible
-  2 Turbines Visible
-  3 Turbines Visible
-  4 Turbines Visible
-  5 - 6 Turbines Visible
-  Representative Viewpoints

Viewpoint	Viewpoint Name
1	8954 - Chaille Hill
2	Balilore Castle
3	Cat Law (Summit) (677m)
4	Minor road near Ascreaw (Designed Landscape)
5	Loch of Kinordy Nature Reserve
6	Kirkton of Kingoldrum (B951)
7	Minor Road to west of site near Brass of Coul
8	Loch of Umhathem Reservoir
9	Minor Road near Cortay Castle (Designed Landscape)
10	Hill of Kilmur (Camera Obscura)
11	A94 near Castleton Hotel
12	A928 near Glamis Castle
13	Forfar (Viewpoint at Hillside)
14	Junction of B9127 and A94
15	A928 Lumley Den
16	Meigle / Belmont castle
17	A94 Coupar Angus
18	A926 Aynh
19	Brechin (Tower)
20	Mayar (928m) murrò within NSA and National Park
21	Gas Mael (1088m) murrò within NSA and National Park
22	A932 near Pescobro Loch
23	A90 southbound near Bogindole
24	Hill of Aynh / Catevan trail
25	

* Within the 10 km radius boundary the ZTV has been generated using higher resolution 10 m OS Profile DTM data. Outside the 10 km radius boundary the ZTV has been generated using 50 m resolution OS Panorama DTM data.

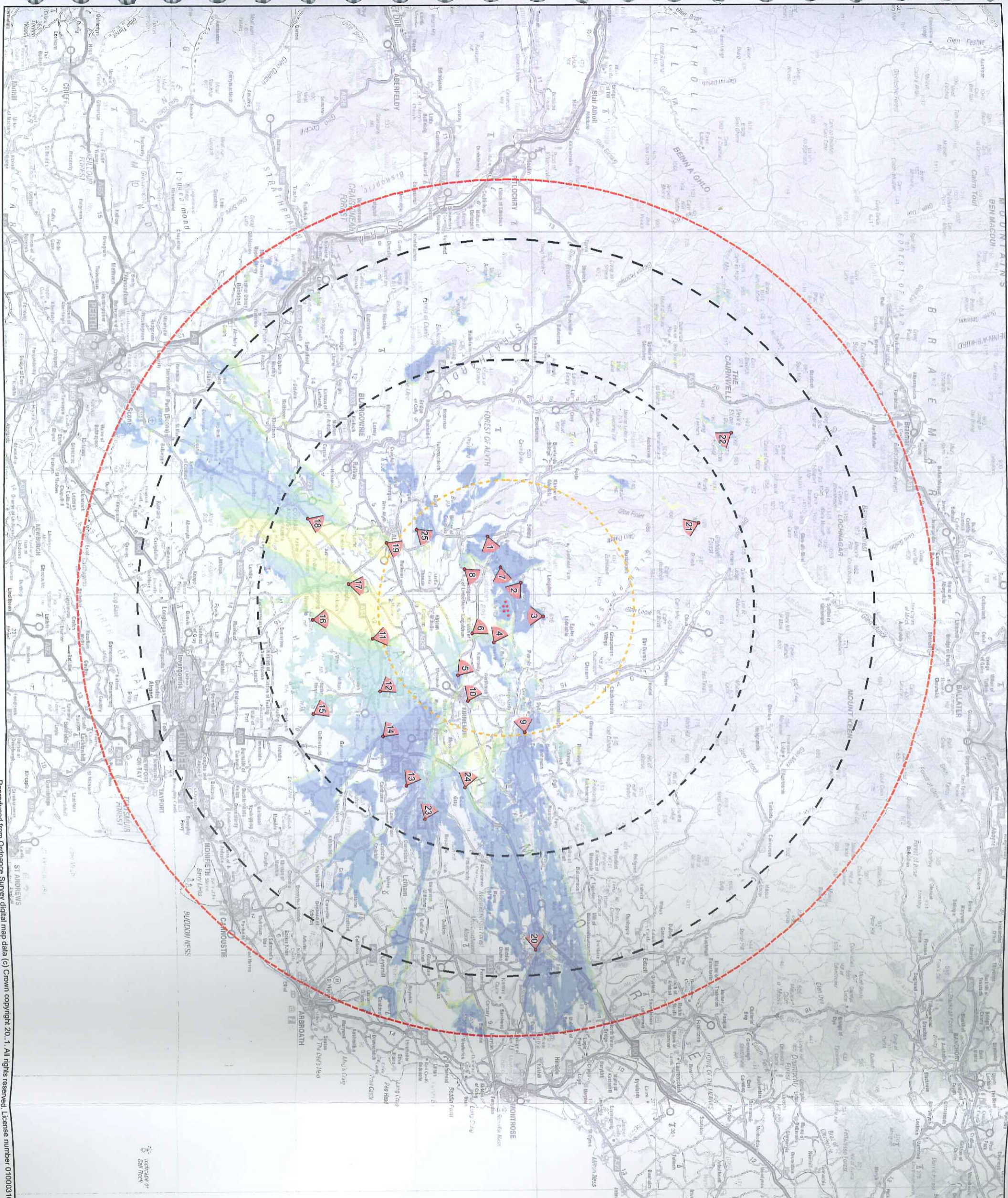


Client: **Airtricity**
 200 Bromfield
 Glasgow
 G1 4FU
 Tel: (0141) 220 2000
 Fax: (0141) 220 2001
 www.airtricity.com

PROJECT: **Mile Hill Windfarm Environmental Statement**
 DRAWING TITLE: **Blade Tip ZTV**

GENERATED BY: MB	DRAWN BY: MB	CHECKED BY: SM	AUTHORISED BY: JW
DATE: 03.08			

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Angus Local Plan Review (2009)

**Implementation Guide for Renewable Energy
Proposals**

**Policies ER34 Renewable Energy Developments
&
ER35 Wind Energy Development**

**Angus Council
June 2012**

PREFACE

There is increasing interest through both informal enquiries and planning applications for the establishment of renewable energy projects in Angus. While the majority are in connection with a range of wind turbine projects, proposals for a number of hydro schemes have also come forward.

The Angus Local Plan Review, formally adopted in February 2009, establishes the Council's land use planning policies in relation to dealing with renewable energy proposals. This Implementation Guide therefore clarifies and expands on Local Plan Review Policies ER34 Renewable Energy Development and ER35 Wind Energy Development and those factors that will be taken into account in considering and advising on proposals for renewable energy projects in Angus. It also directs developers and other interested parties to other relevant documents, policies, regulations and guidance.

The Implementation Guide has been developed through consultation with a wide range of stake holders.

A Strategic Environmental Assessment of the Implementation Guide has also been undertaken and the Environmental Report is published alongside the Implementation Guide and submitted to the Scottish Gateway.

*Angus Council
June 2012*

Glossary

Watt (W)	a unit of power defined as one joule per second measures the rate of energy conversion
Kilowatt (kW)	equal to one thousand (10^3) watts. One kilowatt of power is approximately equal to 1.34 horsepower. The average annual electrical energy consumption of the average UK household is approx 4,700 kilowatt-hours
Megawatt (MW)	equal to one million (10^6) watts. A large residential or commercial building may consume several megawatts in electric power and heat. Nuclear power plants have net summer capacities between about 500 and 1300 MW
Gigawatt (GW)	equal to one billion (10^9) watts or 1 gigawatt = 1000 megawatts. This unit is sometimes used for large power plants or power grids
Wind croft	development of group of 3 small (less than 15m) wind turbines
Wind cluster	development of group of three or four turbines 15-50m
Wind farm	development of three or more turbines over 50m
Run of river	A hydro electric scheme that abstracts water depending on the flow available within the watercourse at any given time. No storage reservoir.
ZTV	Zone of Theoretical Visibility – a mapped visualisation of the areas over which a development can theoretically be seen.
VIA	Visual Impact Assessment - part of the LVIA process, which considers potential changes that arise to available views in a landscape from a development proposal, the resultant effects on visual amenity and people's responses to the changes
LVIA	Landscape and Visual Impact Assessment - a standard process for examining the landscape and visual effects of a development.
SAS	Scottish Government on-line planning Specific Advice Sheet
Sensitive Properties	Residential properties including care homes; educational buildings, hospitals, cemeteries; some visitor facilities and accommodation; and proposed development areas
EIA	Environmental Impact Assessment - the process by which the identification, prediction and evaluation of the key environmental effects of a development are undertaken, and by which the information gathered is used to reduce likely negative effects during the design of the project and then to inform the decision-making process.
ALPR	Angus Local Plan Review 2009
DASP	Dundee and Angus Structure Plan 2002
HSE	Health and Safety Executive

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Map 1 ALPR Boundary

Map 2 International Designations

Map 3 National Designations

Map 4 Local Designations

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*The print maps are illustrative of detailed information that can be accessed via the web-based version of the Implementation Guide, They are intended to indicate the location and range of International, National and Local designation within the ALPR area.

1. Purpose and Scope of this Implementation Guide

1.1 Context

Tackling climate change is, potentially, one of the biggest challenges we face. In 1992 the United Nations Framework Convention on Climate Change (<http://unfccc.int/2860.php>) was adopted as the basis of a global response to the problem. Signatory governments have since agreed to reduce emissions which contribute to climate change and global warming. To help achieve this, the Scottish Government set initial targets to generate 80% of Scotland's electricity (8GW) from renewable sources by 2020, with an interim target 31% by 2011 (5GW). In May 2011 the Scottish Government announced that the 2011 interim target had been exceeded and raised the renewable energy target for 2020 to 100% and 16GW of installed capacity. The planning system will contribute to achieving these targets by ensuring that projects are well located and designed.

The Angus Local Plan Review establishes the development plan policies to be taken into account when assessing proposals for renewable energy projects – policies ER34 Renewable Energy Development and ER35 Wind Energy Development.

In support of the development plan position the Implementation Guide provides:-

- more detailed information and clarification of the main factors that will be taken into account in considering and determining renewable energy proposals in Angus;
- an application checklist (Section 3.3);
- specific guidance for landscape and visual assessment issues in relation to wind turbines (Section 4); and
- specific guidance for guidance on noise assessment in relation to wind turbines (Section 5).

Commentary on technical constraints such as landform, access to the transmission network, accessibility, etc is included as these may have implications for effective development. The Implementation Guide also directs developers and other interested parties to relevant documents, policies and regulations.

Angus Council has reservations about mapping specific areas of search and constraint for wind energy proposals. The identified constraints will naturally restrict development opportunity, but need not prevent it. Applying cumulative impact as a significant constraint is problematic - as each planning application approved alters the potential cumulative impact. Also, there is not a direct correlation between the number of wind energy proposals and the degree of impact. It is appropriate to consider each proposal within the development context of each application rather than apply a theoretical limit. (The Council expressed concerns during the consultation on SPP 6 Renewable Energy Development in 2006, relating to the 20MW threshold in the Location Framework given that the area, turbine size and siting are the cause of impact, not output. Committee Report 1196/06 can be viewed at www.angus.gov.uk/ccmeetings/reports-committee2006/infrastructure/1196.pdf)

1.2 Supporting Documents

This Implementation Guide has been prepared under the provisions of the Town and Country Planning (Scotland) Act 1997 and is subject to the following supporting assessments:-

- **Strategic Environmental Assessment**
This Implementation Guide qualifies for the requirements of a Strategic Environmental Assessment (SEA) under the Environmental Assessment (Scotland) Act 2005. An Environmental Report (ER) has been prepared which illustrates the SEA process and all potentially significant environmental effects associated with the Implementation Guide.
- **Habitats Regulation Assessment**
Consideration has been given to the requirements of the EC Habitats Directive (92/43EEC) as applied in Scotland through the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended). The Angus Local Plan Review 2009 and the policies that are the subject of this Implementation Guide (ER 34 and ER35) have been subject to an Appropriate Assessment.

There is no requirement to apply the Regulations to the Implementation Guide. The existing local plan policies aim to protect all sites designated for their natural heritage value from adverse impacts. In addition, any subsequent proposals for renewable energy development will be subject to specific environmental regulation.

- **Equalities Impact Assessment screening determined full Equality Impact Assessment in not required.**

2. Renewable Energy Overview

Planning permission will be required for most renewable energy developments from either the local planning authority or the Scottish Government. Some small scale renewable energy proposals on both domestic and non domestic buildings are allowed under Permitted Development Rights as defined in Planning Circular 2/2010 <http://www.scotland.gov.uk/Publications/2010/03/05114236/0> and as amended in 2010 http://www.oqps.gov.uk/legislation/ssi/ssi2010/ssi_20100027_en_1 and Circular 2/2011 <http://www.scotland.gov.uk/Publications/2011/03/17092643/0>

There are a wide range of renewable energy technologies which may be considered, and in many cases the scale of the proposal correlates with the scale of potential planning matters that may arise. It should be noted that some developments will also require to be considered under other legislation including, noise, emissions, pollution control which are not part of the planning process and may therefore require additional consents or licences.

2.1 Hydro

The primary source of hydroelectric power in Angus is anticipated to be run of river schemes where water is abstracted from a water course, diverted through pipes to a turbine and returned to the water course. The main elements for the panning system include:-

- Water abstraction – usually by a low, ground or underwater intake weir;
- Pipeline route;
- Turbine house and ancillary structures;
- Water return – usually in the form of a tailrace;
- Access routes; and
- Effect on the water course and its ecology.

Where dams are constructed these are likely to be small scale and planning matters will include:-

- Location and scale of the dam itself;
- Turbine house and other associated structures;
- Outflow/spillway; and
- Hydrogeology.

In all cases the transmission of power, construction works/compound and access routes, and environmental impact should be considered by the applicant.

Landscaping and planting proposals may reduce landscape and/or visual impact and improve biodiversity.

2.2 Bio-energy

Bio-energy or biomass ranges from small scale domestic boilers up to major commercial generators. The main issues will relate to commercial electricity generation, but proposals for domestic bio-energy facilities will still require to demonstrate there are no unacceptable adverse effects, particularly emissions. For commercial generators, not only are there the effects of the plant itself to consider, but the Scottish Government has indicated that fuel source over the life of the plant will be a valid planning consideration to ensure sustainable bio-energy can be sourced. While woody biomass is the major source, there are projects based on straw, distillery waste etc. These later sources are likely to be utilised in smaller facilities, often based around an existing business and reducing their energy costs. The primary planning issues relating to large biomass plants will include:-

- Scale, design and location;
- Emissions;
- Fuel Source;
- Access; and
- Storage facilities.

2.3 Landfill Gas

There will be limited opportunity for this method of generation in Angus, given limited landfill sites and the current waste to heat plant in operation at Lochhead Landfill site. The main planning issues will relate to:-

- Suitability of the location in terms of design and compatibility with surrounding land uses etc. Obviously the choice of location will be restricted by where landfill sites are located;
- Emissions; and
- Design.

2.4 Solar/photovoltaics

There has been no large scale commercial proposal in Angus to date. The primary interest is for roof mounted or free standing arrays associated with existing or proposed properties. In many cases small scale proposals are permitted development, but localised planning concerns can arise and include:-

- Visual impact and surrounding amenity;
- Visual impact where the property is a Listed Building or within a Conservation Area and compatibility with these designations;

2.5 Anaerobic Digestion

This generation method is likely to be of interest to the agriculture and food processing sectors in Angus, where biodegradable waste and farm slurry can be used to generate methane to produce heat and/or electricity. It is a constant and manageable process with a product that can produce energy for onsite or offsite use.

The primary planning considerations relate to:-

- Siting and location;
- Fuel source and the implications of importing material to the proposed site;
- Landscape and visual impact; and
- Proposed management and mitigation measures.

There are three types of digester which relate to the temperature of the process:

1. Psychrophilic (15-25⁰C) – stable and easy to manage but slow.
2. Mesophilic (35-40⁰C) – process takes 15 to 20 days, but process robust, simple and relatively cheap.
3. Thermophilic (50-60⁰C) – 12 to 15 days with higher conversion but more complex and costly.

Mesophilic or thermophilic digesters provide higher yields, and can require less space. The process and plant are flexible enough to meet the needs of farm units, through food processing to municipal organic waste disposal.

Proposals may also require to meet regulations relating to emissions, odour and noise.

2.6 Onshore Wind

Development proposals range from small single turbines to major windfarms subject to S36 of the Electricity Act, which are the responsibility of the Energy Consents and Deployment Unit of the Scottish Government. This is the primary area of renewable

energy proposals in Angus and the planning considerations are strongly influenced by the scale and location of the proposal including:-

- Landscape and visual impact;
- Potential adverse effects on designated natural and built heritage sites, protected species;
- Impact on residential amenity, soils and water bodies; and
- Access

2.7 Offshore Wind

Applications for offshore wind farms are submitted to and processed by Marine Scotland. Angus Council has the opportunity to feed into this process through consultation at all stages and to date input has been made on the proposals at Inchcape, Seagreen Phase 1, 2 and 3, and Neart na Gaoithe. The Council is also actively involved in the development for the landfall and transmission of the energy from Seagreen and Inchcape in Angus.

3. Guidance for Applicants

3.1 The land use planning context

The context for renewable development proposals is summarised below.

Table 1: Land Use Planning Context

<p>The National Planning Framework 2 (NPF2)</p> <ul style="list-style-type: none">• aims to 'realise the potential of Scotland's renewable energy resources and facilitate the generation of power and heat from clean, low carbon sources, including ... producing heat and power from renewable sources ...'• requires 'landscape and visual impacts ... to be important considerations in decision-making on developments'• identifies major infrastructure projects needed to deliver the national strategy, including the electricity grid through Angus. http://www.scotland.gov.uk/Resource/Doc/278232/0083591.pdf;
<p>Scottish Planning Policy (SPP 2010) - planning is about:-</p> <ul style="list-style-type: none">• where development should happen;• where it should not; and• how it interacts with its surroundings. <p>This involves promoting and facilitating development while protecting and enhancing the natural and built environment in which we live, work and spend our leisure time. http://www.scotland.gov.uk/Resource/Doc/300760/0093908.pdf</p>
<p>Planning Advice Notes (PANs) provide information and advice on technical planning matters including:-</p> <ul style="list-style-type: none">• web based Renewables Advice http://www.scotland.gov.uk/Topics/Built-Environment/planning/National-Planning-Policy/themes/renewables• PAN 45 Annex 1 Planning for Micro Renewables (2006) http://www.scotland.gov.uk/Publications/2006/10/03093936/0
<p>Dundee and Angus Structure Plan:- makes positive provision for renewable energy generating developments where they are compatible with other environmental and community interests.</p>
<p>Angus Local Plan Review aims to promote:-</p> <ul style="list-style-type: none">• renewable energy development and• low or zero carbon emissions in new development. www.angus.gov.uk/localplan/
<p>The Implementation Guide aims to:-</p> <ul style="list-style-type: none">• clarify and expand policies ER34 : Renewable Energy Development and ER35 : Wind Energy Development: and• support the Council's climate change commitment
<p>Under the Electricity (Scotland) Act 1989, Scottish Ministers determine applications for large scale renewable energy (Section 36) and overhead power lines and associated infrastructure (Section 37). Further information on Section 36 and Section 37 consents</p>

procedures can be found at www.scotland.gov.uk/Topics/Business-Industry/Energy/Infrastructure/Energy-Consents/

The established thresholds are as follows:-

Scottish Ministers	Local Authorities
onshore windfarms > 50MW	onshore windfarms < 50MW
	offshore wind farms < 1MW
Wave, tidal and hydroelectric schemes >50MW	Wave, tidal and hydroelectric schemes <50MW
overhead power lines and associated infrastructure	
large oil and gas pipelines	

3.2 Development Plan Context

The statutory development plan provides the basis for assessing development proposals and determining applications including those for renewable energy development. In Angus it comprises:-

- Dundee and Angus Structure Plan 2002 (DASP) - establishes strategic policy, and reflects national planning policy at the time. It makes positive provision for renewable energy generating developments where they are compatible with other environmental and community interests. Environmental Resources Policy 10: Renewable Energy also requires local plans to establish detailed criteria based policy, locational guidance and where appropriate areas of search for individual sources of renewable energy. www.angus.gov.uk/structureplan/
- Angus Local Plan Review 2009 (ALPR) - establishes the detailed policy basis for development management in Angus, including renewable energy development. That part of Angus within the Cairngorms National Park is excluded. www.angus.gov.uk/localplan/
- Cairngorms National Park Local Plan (2010) - applies to the Upper Angus Glens (see Figure 1) and is not covered by this Implementation Guide. <http://www.cairngorms.co.uk/park-authority/planning/>

The Planning etc. (Scotland) Act 2006 introduces Strategic Development Plans (SDPs) for the four City Regions of Aberdeen, Dundee, Edinburgh and Glasgow and Local Development Plans (LDPs) to replace current structure and local plans. The Strategic Development Plan Authority for the Dundee City Region is a partnership of Angus, Dundee City, Fife and Perth & Kinross Councils. When approved, TAYplan (the Strategic Development Plan) will replace the current approved Structure Plans of the four local authorities. Progress on TAYplan can be viewed at www.tayplan-sdpa.gov.uk

The Development Plan is supportive of renewable energy in principle, and the ALPR establishes criteria against which renewable energy proposals will be assessed. Policy ER34 addresses potential adverse impacts that could arise. Development proposals for wind energy are also considered within the context of ER35 and related text. The full wording of the policies is set out in Appendix 2. These policies provide the basis for the more detailed guidance contained within this Implementation Guide. The ALPR contains a range of other policies against which any development proposal is considered, and where relevant the Implementation Guide will refer to these in the context of renewable energy projects.

Although community owned renewable energy generation is supported in principle where proposals are compatible with development plan policy, it must be made clear that negotiating or securing local community benefit is wholly separate from the planning application process. Angus Council's position is set out in Para 3.86, page 97 of the adopted Angus Local Plan Review. It is however recognised that where renewable energy schemes accord with the development plan there may be opportunity to secure contributions from developers for local community initiatives. However any such negotiations between the community and developers and any local contributions secured are totally separate from the land use planning and planning gain processes and will not be considered as part of any planning application. Such local community benefit initiatives will therefore not fall within the obligations required under Section 75 Planning Agreements and will require to be managed by other means.

Proposals for renewable energy development in that part of Angus within the Cairngorms National Park, will be determined by the Cairngorms National Park Authority (CNPA) within the context of the policies of the Cairngorms National Park Plan. Renewable Energy proposals within Angus that may affect the National Park, or its setting, will be referred to the CNPA for comment, and their views taken into account by Angus Council in the determination of any planning application.

3.3 Applications Checklist

In accordance with the Land Use Planning Context outline above, Table 2: Applications Checklist summarises the supporting information that may be required to accompany a planning application for renewable energy development. This is an aid for applicants, and for detailed information should be read in conjunction with the rest of this Implementation Guide, the Development Plan and other relevant legislation, policy and advice.

Table 2: Applications Checklist

The checklist is designed to identify the supporting information required to determine a planning application for renewable energy development. The information should be proportionate to the proposal, and the checklist indicates the requirements for different technologies and scales of development. It is intended as an aid to applicants, and whilst it aims to be comprehensive there may be site specific considerations or changes to legislation or guidance from the Scottish Government and statutory agencies. Applications will be considered in the context of current guidance.

	Wind Energy Development (Height to blade tip unless otherwise stated)			Other Renewable Energy Development
	Turbine height up to 15m	Turbine height 15 - 50m	Turbine height greater than 50m OR groups of 6 or more turbines in excess of 25m height	
Landscape and Visual Representation	<p>Technical information from the turbine supplier often adequate. Photomontage may be requested to illustrate relationships. Eight figure grid reference for each proposed turbine</p>	<p>Basic level of VIA should include :-</p> <ul style="list-style-type: none"> ZTV map covering an area up to 20km (radius) from the turbine; wireline drawings and/or photomontages from a limited number of key viewpoints; viewpoints to be agreed with Angus Council, and SNH where appropriate; design statement may be required in the case of multiple turbines; and eight figure grid reference for each proposed turbine 	<p>Full Landscape and Visual Impact (LVIA) should address the sensitivity, magnitude and significance of landscape and visual impact and include:</p> <ul style="list-style-type: none"> ZTV map covering an area up to 35km (radius) from the turbine; wireline drawings and/or photomontages from key viewpoints; assessment of landscape sensitivity, magnitude of change and residual impacts. viewpoints to be agreed with Angus Council, and SNH where appropriate; design statement identifying design objectives and process; and eight figure grid reference for each proposed turbine. 	<p>VIA or LVIA may be required for larger structures depending on scale, type and location of the proposal.</p>

	Wind Energy Development (Height to blade tip unless otherwise stated)			Other Renewable Energy Development
	Turbine height up to 15m	Turbine height 15 - 50m	Turbine height greater than 50m OR groups of 6 or more turbines in excess of 25m height	
		Where proposals are within the ALPR area but may affect the Cairngorms National Park or its setting, applicants are advised to consult the Cairngorms National Park Authority. <u>Applications.</u>		
Cumulative Assessment	<p>A significant constraint to potential wind energy development. The proposals eligible for inclusion in a Cumulative Assessment is dynamic. An appropriate date for baseline data should be agreed with the authority and relevant proposals identified and agreed with Angus Council prior to commencement.</p> <p>Cumulative assessments will normally be required where turbines are >50m to blade tip. The assessment will require to take account of agreed existing/proposed developments over 50m. They may also require to consider agreed existing/proposed smaller turbines where they visually interact with the proposal.</p> <p>Cumulative assessments have not normally been required where turbines are 25-50m to blade tip, but as more turbines under 50m are constructed, a cumulative assessment may be required if turbine density within the area of a ZTV map is deemed to have a potentially unacceptable cumulative impact.</p>			Depending on scale, type and location of the proposal there may be a requirement to assess its impact in conjunction with other existing or proposed development.
	<p>A cumulative ZTV (CZTV) should be produced on a clear and legible 1:50k Ordnance Survey Base plan. The CZTV would typically have a radius of up to 60km, in accordance with SNH guidance. The CZTV should:-</p> <ol style="list-style-type: none"> 1. include all consents and operational turbines over 50m to blade tip; 2. include extant planning consents and submitted applications which pre-date the submission and which are assessed by the Council to have a realistic expectation of a decision within 12 months; 3. include turbines under 50m (applications at an advanced stage, consents or operational) depending on their scale and location in relation to the application site i.e. visual interaction. This will only apply in specific circumstances; 			

	Wind Energy Development (Height to blade tip unless otherwise stated)			Other Renewable Energy Development
	Turbine height up to 15m	Turbine height 15 - 50m	Turbine height greater than 50m OR groups of 6 or more turbines in excess of 25m height	
			<p>4. include consented and proposed offshore proposals;</p> <p>5. other relevant proposals in the public domain;</p> <p>6. viewpoints for cumulative assessment, selected to provide representative views of all intervisible turbines, not from viewpoints selected to assess the application site. For example, a viewpoint may provide views in succession as defined by SNH (SNH Cumulative Effect of Windfarms (revised 2005)); and</p> <p>7. Cumulative assessments to address effects in combination; in succession; in sequence and perceived in accordance with SNH Cumulative Effect of Windfarms (revised 2005) http://www.snh.gov.uk/docs/A305440.pdf</p> <p>Following the production of a CZTV, proposed viewpoints should be added and submitted to Angus Council for approval prior to carrying out the assessment. Angus Council does not use file share software. All submissions should be provided in a format which permits high resolution images to be provided. The use of CDs is advised.</p>	
Environmental Impact Assessment (EIA)	An EIA will not generally be required.		<p>Environmental Impact Assessment (EIA) may be required under the terms of The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011:-</p> <ul style="list-style-type: none"> a Screening Opinion should be sought for turbines over 15m; more than 2 turbines; or located in a 'sensitive area' to determine whether the development requires EIA under the terms of Schedule 2 of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011, taking account of the selection criteria in Schedule 3 of the Regulations as laid reproduced in ANNEX A of Planning Circular The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011 http://www.scotland.gov.uk/Publications/2011/06/01084419/10 scoping for the Environmental Report should be prepared in accordance with ANNEX B of Planning Circular The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011 	EIA may be required under the terms of The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011

	Wind Energy Development (Height to blade tip unless otherwise stated)			Other Renewable Energy Development
	Turbine height up to 15m	Turbine height 15 - 50m	Turbine height greater than 50m OR groups of 6 or more turbines in excess of 25m height	
			<p>Projects > 50MW (Section 36 applications)</p> <ul style="list-style-type: none"> an EIA will require to demonstrate potential impacts, including length and significance of effect and mitigation measures for all components of an application where EIA is not be required, environmental information may still be required to consider agreed impacts. <p>* Sensitive Areas are defined in the Regulations as :- Sites of Special Scientific Interest; Land subject to Nature Conservation Orders; International Conservation Sites; National Scenic Areas; World Heritage Sites; Scheduled Monuments; and National Parks.</p>	
			<p>Formal screening requests and determination will be publically available. Screening Determinations are valid for 12 months.</p>	
Natural Heritage Designation	<p>Applicants can use SNHi to check protected areas .</p>	<p>Applicants are advised to refer to SNH Small Scale Wind Energy Guidance and to use SNHi to check protected areas within a 20km radius of the proposal. http://www.snh.gov.uk/publications-data-and-research/snh-information-service/</p>		
	<p>International and National Designation – Supporting information must demonstrate that proposals (including all associated works) will not affect such sites to an unacceptable degree. Where proposals may have a significant effect on European Sites (SAC or SPA), they should be screened in accordance with the Habitats Regulations Directive. A Habitats Regulation Appraisal may be required. Where mitigation measures are proposed these must be shown to be:-</p> <ul style="list-style-type: none"> achievable; agreed with SNH and any organisation responsible for managing the designated site or with responsibility for the maintenance of 			

	<p>the site and the integrity of the reason for its designation; and</p> <ul style="list-style-type: none"> • subject to planning conditions or a Section 75 agreement as appropriate.
	<p>Other Natural Heritage designations should be accorded appropriate protection and/or mitigation http://www.taysidebiodiversity.co.uk/</p>

	Wind Energy Development (Height to blade tip unless otherwise stated)			Other Renewable Energy Development
	Turbine height up to 15m	Turbine height 15- 50m	Turbine height greater than 50m OR groups of 6 or more turbines in excess of 25m height	
Historic Environment	Supporting information should identify historic and archaeological sites affected by the proposal, proportionate with the scale and number of turbines; the effect of the proposal and all associated works on the integrity of a site, its setting; requirements for archaeological survey and recording; and any proposed mitigation measures.			
	Guidance on assessing impacts on historic views has recently been published by English Heritage and may be used to inform the Council's assessment of wind energy developments. http://www.english-heritage.org.uk/content/publications/docs/seeing-history-in-view.pdf			
Noise Assessment	Where a noise assessment is required the methodology and cumulative considerations must be agreed with Angus Council Environmental and Consumer Protection. Failure to agree the methodology or to provide sufficient information may result in the application being recommended for refusal on the basis of lack of information. (See Section 5)			
Peat and soils	Where proposals affect peat soils, applicants should demonstrate carbon savings are calculated in accordance with Scottish Government advice and that SEPA and SNH have been consulted. http://www.scotland.gov.uk/Resource/Doc/229725/0062213.pdf A peat depth survey will be required where appropriate.			
	Development should minimise disruption to soils in accordance with the Scottish Soils Framework http://www.scotland.gov.uk/Resource/Doc/273170/0081576.pdf			
Water Environment	Development proposals should not lead to the deterioration in the condition of any water body, in accordance with the Tay Area Management Plan.			
	Where proposals are within the source catchment area of any private water supply potential impact must be considered and, if necessary, mitigation measures implemented			

	Supporting information should include a drainage assessment as appropriate.
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	Wind Energy Development (Height to blade tip unless otherwise stated)			Other Renewable Energy Development
	Turbine height up to 15m	Turbine height 15 - 50m	Turbine height greater than 50m OR groups of 6 or more turbines in excess of 25m height	
	Identify pollution risk and mitigate through the provision of buffer zones to protect wetland and private water supplies as appropriate			
Air Quality				Proposals for bio-energy and anaerobic digestion may require an air quality impact assessment
Residential Amenity	Assessment to include properties agreed with Angus Council subject to:-		Assessment to include properties within a 2km radius of the proposed turbine(s) subject to:-	Amenity to be addressed within the context of Policy S6 and Schedule 1 as appropriate. Other amenity controls will be enforced through the relevant agencies including SEPA and HSE
	<ul style="list-style-type: none"> scale of turbine and blade size; existence of buffers including woodland, buildings, landform; and location and aspect of primary rooms and garden ground, 			
	Turbines should generally be a minimum of 10 times rotor diameter* from sensitive properties* to avoid the potential effects of shadow flicker.			
	* Sensitive properties include:- residential properties including care homes; educational buildings, hospitals, cemeteries; some visitor facilities and accommodation; and proposed development areas			

	Wind Energy Development (Height to blade tip unless otherwise stated)			Other Renewable Energy Development
	Turbine height up to 15m	Turbine height 15 - 50m	Turbine height greater than 50m OR groups of 6 or more turbines in excess of 25m height	
Access and Traffic Management	Access likely to be feasible within existing road network Angus Council Roads Division will be consulted.	Access to be agreed with Angus Council Roads Division.	Access arrangements and traffic management plan and suitable route for large vehicles to be agreed with Angus Council Roads Division. Any required road improvements to be implemented prior to commencement of construction.	Access to be agreed with Angus Council Roads Division, including management plan and suitable route for large vehicles where necessary.
	Any new tracks to be included in the planning application, supporting information and decommissioning /reinstatement agreement.			
	Transport Scotland advise that a wind turbine should be located no closer than 1.5 x the Wind Turbine height to the nearside Trunk Road kerb line. For the avoidance of doubt the nearside kerb line is either the kerb of the live carriageway or the nearside heel kerb of the Trunk Road footway if present. Angus Council will apply this principle to all turbine proposals adjacent to a public road, for reasons of road safety.			
Other	Supporting information should include reasons for site selection and evidence of viability			
	Where proposals are within the Cairngorms National Park Area, they will be referred to, and may be called in for determination by, the Cairngorms National Park Authority.			
	Where proposals are located on the coast, applications should demonstrate they have been assessed within the context of the developer/undeveloped coast as defined in the SPP and Angus Local Plan Review and Shoreline Management Plan for Angus. Advice on the sustainable use of the Tay Estuary and adjacent coastal waters can be found in the Management Plan published by the Tay Estuary Forum (http://www.dundee.ac.uk/crsem/TEF/PDFS/Management%20Plan%20Final.pdf)			

3.4 Additional Guidance for ALPR Policies ER34 and ER35

Sections 3.4 and 3.5 expand on each of the two main policies and the specific criteria and sets out in more detail those matters that will be taken into account in considering and assessing development proposals. Interconnection with other policies and background information sources is also highlighted.

Policy ER34: Renewable Energy Developments

This policy sets the criteria against which all renewable energy proposals will be assessed, and where wind turbines are proposed should be read in conjunction with policy ER35. Other development plan policies will be applied where appropriate.

Policy ER34: Renewable Energy Developments *Proposals for all forms of renewable energy developments will be supported in principle and will be assessed against the following criteria:-*

In all instances 'renewable energy developments' encompass all works associated with the proposal including formation and extension of, or improvement to, access tracks, areas of hard standing/external storage areas, borrow pits, landscaping and bunding, foundations, sub-stations, equipment cabins and any other related or ancillary works and structures . The following policy guidance applies to all renewable energy proposals as appropriate:-

Criterion (a)

'the siting and appearance of apparatus have been chosen to minimise the impact on amenity, while respecting operational efficiency;'

The choice of apparatus and its siting can significantly affect the appearance/impact of a renewable energy installation. 'Apparatus' includes generating equipment and ancillary structures such as transformer houses, transmission infrastructure, and storage facilities.

Wind and water powered renewable energy schemes, tend to be located within the rural landscape and their design should reflect this. Well sited and designed developments can, at best, enhance their setting or at least minimise potential impacts. Poorly sited or designed development can do the opposite – and may have an adverse impact on amenity for decades to come. Appropriate landscaping and planting can help a building or other appropriately scaled structure to blend into the landscape.

Where development proposals will impact on residential or recreational amenity, the choice of equipment may be of particular importance. Wind turbines for example should be chosen to reflect the scale of the landscape, light and visibility conditions and should respect residential amenity including noise and shadow flicker. Hydro-electric dams should be designed to respect the scale, colours and contours of the surrounding landscape.

It is accepted that wind energy technology is advancing rapidly and that there is a wide range of turbines available to the market. Initial discussions between the Council and developers should however seek to establish some basic characteristics such as proposed number and size of turbines, height (hub and blade tip), blade

number, colour and style although it is recognised that this may be amended as the project feasibility is developed. Similarly where a full planning application is submitted this must include details of all aspects of the proposal. Where a specific proposal has been approved by the Council any alteration to that project must be agreed in writing with the Council prior to implementation.

Other Relevant ALPR policies

Policy S3: Design Quality

Policy S6: Development Principles and Schedule 1: Development Principles

Policy ER10: Light Pollution

Policy ER11: Noise Pollution

Additional information

Tayside Landscape Character Assessment

<http://www.snh.org.uk/pubs/detail.asp?id=310>

Criterion (b)

there will be no unacceptable adverse landscape and visual impacts having regard to landscape character, setting within the immediate and wider landscape, and sensitive viewpoints;

Landscape and visual impact varies with the location, scale and type of renewable energy scheme proposed. For example wind turbines tend to be in exposed locations, and visible over a long distance; while hydroelectric schemes may be contained within a river valley; and solar panels fitted to an existing property roof tend to have a localised impact. As the extent and degree of landscape and visual impact increases so to does the need to assess potential cumulative issues and mitigation measures. The supporting information and accompanying visual/graphic information should be commensurate with the scale and location of the proposal.

It is likely the small hydro proposals will continue to come forward, and where they can be accommodated without detriment to the local environment and water courses, will be supported. Larger schemes can generate greater impact on water courses, fish, and the surrounding area as the diversion of water is much greater and more evidence of impact and mitigation will be required in order to determine any planning application. . Where river dams and associated buildings are proposed landscaping, contouring and planting can help structures blend into their setting, whilst also promoting biodiversity and habitat creation/enhancement. A range of advice is available for applicants considering hydro schemes including landscape and visual impacts. Consideration of associated infrastructure (pump house, tailrace, access, transmission, pipe routes etc) should be included in supporting information.

All forms of renewable energy development should be considered within their landscape context where applicable, Policy S6: Development Principles and Schedule 1 : Development Principles will form the basis for the assessment of small scale proposals, which have a local impact only. Scottish Natural Heritage has developed a series of Advice Notes on assessing the landscape impact of a range of renewable energy developments on the landscape, and their advice will be sought by the Council as appropriate.

Landscape and Visual Impact of Wind Turbines

Wind turbines are likely to have the greatest landscape and visual impact over the greatest distance and this aspect is addressed in Section 4 Landscape and Visual Assessment of Wind Energy Proposals.

Other Relevant ALPR policies

ER5: Conservation of Landscape Character
ER12: Development Affecting Conservation Areas
ER16: Development Affecting the Setting of a Listed Building
ER18: Archaeological Sites of National Importance
ER19: Archaeological Sites of Local Importance
ER20: Historic Gardens and Designed Landscapes
ER29: Coastal Development

Additional information

Scottish Natural Heritage (SNH) provides a comprehensive range of advice regarding landscape and visual impact on the natural heritage while Historic Scotland, Architecture and Design Scotland (ADS) and the local planning authority can advise on the built environment. Design statements can help applicants preparing development proposals to consider and articulate the processes undertaken in reaching final layout, siting and design and help inform the decision making process.

SNH Policy Statement 02/02 Strategic Locational Guidance for Onshore Windfarms in respect of Natural Heritage (updated 2009).

www.snh.gov.uk/docs/A247182.pdf

Associated Maps –

www.snh.gov.uk/docs/C208971.pdf

www.snh.gov.uk/docs/C208972.pdf

www.snh.gov.uk/docs/C208973.pdf

www.snh.gov.uk/docs/C208974.pdf

www.snh.gov.uk/docs/C208975.pdf

SNH Visual Representation of Windfarms (2006)

www.snh.gov.uk/docs/A305436.pdf

SNH Visual Assessment of Windfarms Best Practice (2002)

www.snh.gov.uk/docs/A305437.pdf

SNH Siting and designing Windfarms in the Landscape (2009)

www.snh.gov.uk/docs/A317537.pdf

Renewable energy technologies and the potential impacts on landscape and nature

<http://www.snh.gov.uk/planning-and-development/renewable-energy/>

Guidance on Hydro electric Schemes and the Natural Heritage

<http://www.snh.gov.uk/docs/C278964.pdf>

Aiding the Hydro-scheme development process - web-links to useful information sources

<http://www.snh.gov.uk/docs/C252875.pdf>

Tayside Landscape Character Assessment

www.snh.org.uk/pubs/detail.asp?id=310

Angus Windfarms – Landscape Capacity and Cumulative Impacts Study (2008)

www.angus.gov.uk/devcontrol/LandscapeCapacityandCumulativeImpactAssessmentFinal.pdf

Historic Scotland - Scottish Historic Environment Policy (SHEP)

www.historic-scotland.gov.uk/index/heritage/policy/shep.htm

Criterion (c)

the development will have no unacceptable detrimental effect on any sites designated for natural heritage, scientific, historic or archaeological reasons;

There are a number of sites throughout Angus designated for their built, cultural, biodiversity, and natural heritage qualities. These range in scale from individual listed properties up to extensive areas such as Montrose Basin or that part of Angus designated as part of the Cairngorms National Park. Their value is established, and they are safeguarded for present and future generations, through legislation. The integrity of such designations may be affected by activity beyond site boundaries and even into other authorities. Much will depend on the details of an individual proposal – scale, location and type. In assessing development proposals, priority will be given to the maintenance of the quality of the built and natural heritage. Where appropriate, mitigation measures should be investigated and their efficacy demonstrated to ensure compatibility with protected sites.

Natural heritage and scientific designations are subject to a range of legislation, policy, and guidance. Development proposals must be able to demonstrate that there will be no unacceptable direct or indirect adverse effects on the integrity of designated sites or the reason for their protection. There is a hierarchy of designated sites, habitats and species ranging from international to local significance with levels of protection proportionate to status. Where remediation measures can successfully redress potential adverse impact, these must be agreed with the relevant advisory agency and subject to a planning condition or legal agreement.

There are no international designations within the ALPR area, but there are a number of European sites (SPAs and SCAs) including The River Tay, River South Esk and Firth of Tay SACs and SPAs at Montrose Basin, Kinnordy and Lintrathen Lochs and the Firth of Tay.

There are no local nature conservation sites designated within Angus to guide developers, but where locally important habitat or beauty spots are affected, these should be afforded appropriate protection. Local factors will be assessed as part of the consideration of development proposals and where identified through EIA screening and scoping studies should be addressed by supporting information.

Where a proposal affects a designated site an Environmental Impact Assessment may be required, depending on the scale of the proposal and anticipated impact. Proposals which come within the provisions of the Electricity Act 1989 will require to meet the terms of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000.

www.scotland.gov.uk/Topics/Business-Industry/Energy/Infrastructure/Energy-Consents/Guidance/EIA-Guidance

Sites and areas designated for historic and archaeological reasons are also subject to a range of policy, guidance and legislation. No World Heritage Sites have been identified within Angus, and Historic Scotland is responsible for the protection of sites of national and international status. Angus Council is responsible for determining applications for Listed Building Consent (LBC) and the identification of Conservation Areas and their subsequent protection. Protection of the built heritage extends beyond the actual property and curtilage to encompass its character and setting. This includes Historic Gardens and Designed Landscapes; all listed buildings; and scheduled ancient monuments. Historic Scotland and the Council's

Archaeological Service are consulted as appropriate. Where local archaeological sites and areas are known, or suspected, the Council will seek advice on the assessing and recording of any features.

Appropriate Level of Assessment

Proposals of more than two turbines or a hub height more than 15m tall, or and hydroelectric scheme with a capacity of over 0.5MW, fall within Schedule 2 of the Environmental Impact Assessment (Scotland) Regulations 2011. Such applications and those within or affecting:

- Sites of Special Scientific Interest
- Land subject to Nature Conservation Orders
- International Conservation Sites
- National Scenic Areas
- World Heritage Sites
- Scheduled Monuments and their settings
- National Parks.

may require a screening opinion from the planning authority to determine whether a formal EIA of the proposed development is required.

Where appropriate, proposals will be judged in conjunction with the consultation agencies as to whether a formal EIA is required. While only a small proportion of development proposals are likely to require EIA, an EIA is *not* discretionary if significant effects on the environment are likely and should be prepared in accordance with the relevant legislation and guidance listed below.

Where a development is of a scale or in a location where a formal EIA is deemed not necessary, the applicant must submit a planning statement on impact, including any proposed mitigation measures. In the case of wind turbines, the statement should address the constraints identified in the SAS for Onshore Wind Turbines. The level of detail should also reflect the scale and location of the proposal.

Guidance can be obtained from SNH, in their publication Hydroelectric Schemes and the Natural Heritage <http://www.snh.gov.uk/docs/C278964.pdf>

Other Relevant ALPR policies

Policy ER1: Natura 2000 and Ramsar Sites

Policy ER2: National Nature Reserves and Sites of Special Scientific Interest

Policy ER3: Regional and Local Designations

Policy ER4: Wider Natural Heritage and Biodiversity

Policy and Legislation

Scottish Government

Planning Circular 3 The Town and Country Planning (Environmental Impact Assessment)(Scotland) Regulations (2011)

<http://www.scotland.gov.uk/Publications/2011/06/01084419/10>

PAN 58 Environmental Impact Assessment (1998)

<http://www.scotland.gov.uk/Publications/1999/10/pan58-root/pan58>

EIA Screening Checklist - <http://www.scotland.gov.uk/Resource/Doc/212607/0117167.pdf>

PAN 2/2011 Planning and Archaeology

<http://www.scotland.gov.uk/Publications/2011/081041322003/0>

Scottish Government – web based Renewables Specific Advice Sheets

<http://www.scotland.gov.uk/Topics/Built-Environment/planning/National-Planning-Policy/themes/renewables>

The Electricity Works (Environmental Impact Assessment) (Scotland) Amendment Regulations 2008 (Revised 2009)

<http://www.scotland.gov.uk/Topics/Business-Industry/Energy/Infrastructure/Energy-Consents/Guidance/EIA-Amendment-Regs-2008>

Town and Country Planning (Scotland) Act 1997 (As Amended)
Environmental Impact Assessment (Scotland) Regulations 2011

EU Birds Directive and Annex1
EU Habitats Directive and Annexes 1 and 2
[Habitats/protectedareas/NATURA](http://www.nature.org/uk/conservation/land/protected_areas/natura)

Additional information

IEEM

Guidelines for Ecological Impact Assessment in the United Kingdom
<http://www.ieem.net/ecia/impact-assess.html>

SNH

Handbook of Environmental Assessment (2009 Draft)

<http://www.snh.gov.uk/docs/B460796.pdf>

SNH Renewable Energy Information page

<http://www.snh.gov.uk/planning-and-development/renewable-energy/>

Wild Land

<http://www.snh.gov.uk/protecting-scotlands-nature/looking-after-landscapes/landscape-policy-and-guidance/wild-land/>

Guidance on Assessing Connectivity with Special Protection Areas (SPAs)

<http://www.snh.gov.uk/docs/A675474.pdf>

Soils and Natural Heritage

<http://www.snh.gov.uk/docs/A327906.pdf>

SNH, Perth and Kinross Council, SEPA and Angus Council

River Tay Special Area of Conservation (SAC) – Advice to Developers

<http://www.snh.org.uk/pdfs/publications/designatedareas/River%20Tay%20SAC.pdf>

SNH, SEPA and Angus Council

River South Esk Special Area of Conservation (SAC) – Advice to Developers

<http://www.snh.org.uk/pdfs/publications/designatedareas/River%20South%20Esk%20SAC.pdf>

Historic Scotland

Scottish Historic Environment Policy

<http://www.historic-scotland.gov.uk/index/heritage/policy/shep.htm>

Environmental Assessment

<http://www.historic-scotland.gov.uk/index/heritage/policy/environmental-assessment.htm>

Gardens and Designed Landscapes

<http://www.historic-scotland.gov.uk/index/heritage/gardens.htm>

Scottish Government

Historic Environment

<http://www.scotland.gov.uk/Topics/Built-Environment/planning/National-Planning-Policy/themes/historic>

Natural Environment

<http://www.scotland.gov.uk/Topics/Built-Environment/planning/National-Planning-Policy/themes/natural-heritage>

Angus Council

State of the Environment Report

www.angus.gov.uk/sustainability/pdfs/StateofEnvironment2011.pdf

Criterion (d)
no unacceptable environmental effects of transmission lines, within and beyond the site;

Ancillary works required to transmit electricity from the site should form part of any renewable energy development proposal to ensure their inclusion in any EIA. Where deemed necessary by the planning authority, consideration will be given to undergrounding of cables and pipe work.

Most overhead power lines will be determined by Scottish Government under S37 of the Electricity (Scotland) Act 1989.

Criterion (e)
access for construction and maintenance traffic can be achieved without compromising road safety or causing unacceptable permanent change to the environment and landscape,

Renewable energy projects, by their very nature, may promote sites which have limited or no existing vehicular access. The construction, repair, maintenance and decommissioning will normally require access by heavy and/or long vehicles over the life of the project. In some cases, there may be a continuation of the life of a scheme with consequent renewal, replacement or upgrading in the longer term.

Any project proposal must therefore prepare and submit a route assessment and traffic management plan, which demonstrates:-

- how access is to be achieved;
- selected routes have been assessed and are capable of accommodating traffic generated;
- traffic management over the construction phase; and
- longer term access requirements.

If road improvements are required, these must be approved by Angus Council Roads division, part of Infrastructure Services. Site access should allow all vehicles visiting the site to have space to manoeuvre to ensure safe access and egress.

The formation of new, or upgrading of existing, tracks over open countryside/uplands should be designed to avoid generating run off/surface water flooding and be reinstated on completion of construction, where they will not be regularly in use.

Provision must be made for the re-instatement of any existing and proposed tracks when the site is decommissioned.

Other Relevant ALPR policies

Policy S2: Accessible Development

Policy S3: Design Quality

Policy S4: Environmental Protection

Policy S6: Development Principles and Schedule 1: Development Principles

Additional information

SNH – Constructed Tracks in the Scottish Uplands (2005)

<http://www.snh.gov.uk/docs/A308736.pdf>

SNH and Forestry Commission Scotland – Floating Roads on Peat

<http://www.roadex.org/uploads/publications/Seminars/Scotland/FCE:SNH%20Floating%20Roads%20on%20Peat%20report.pdf>

Scottish Renewables, SNH, SEPA and Forestry Commission Scotland – Good Practice During Windfarm Construction

<http://www.snh.org.uk/pdfs/strategy/renewables/Good%20practice%20during%20windfarm%20construction.pdf>

Angus Council

The Roads Division is part of the Infrastructure Services Department, Angus Council, County Buildings, Market Street, Forfar, Angus, DD8 3LG

Contact: ROADS@angus.gov.uk

Criterion (f)

that there will be no unacceptable impacts on the quantity or quality of groundwater or surface water resources during construction, operation and decommissioning of the energy plant.

Ground and surface water – including coastal waters, water courses, standing water, peat soils, wetlands and ground water – is an important environmental and commercial asset in Angus. Their identification and quality classification has been established through the Water Framework Directive and the Tay Area Management Plan sets the framework for development that affects them. Applicants will require to demonstrate that development proposals should maintain or enhance ground and surface waters features, not cause deterioration. Groundwater wetlands should be incorporated in Phase 1 Habitat surveys and where appropriate include a buffer zone of 100m between features and roads, tracks and trenches, increasing to 250m for borrow pits and foundations.

Water Supply

The protection of drinking water, both public and private supplies, will be a priority. Where a development proposal is deemed to affect a potable supply the applicant will require to demonstrate there are no unacceptable adverse effects, or how these can be mitigated if feasible. This may include the requirement for a buffer zone of 100m between features and roads, tracks and trenches, increasing to 250m for borrow pits and foundations. Any works within these distances should demonstrate (e.g. through a hydrogeological assessment) that impacts on abstractions are acceptable.

Flooding

The SPP www.scotland.gov.uk/Resource/Doc/300760/0093908.pdf establishes a risk framework which provides a basis for planning decisions where there is a potential flood risk. Development proposals located within, or affecting known flood risk areas, will be considered within the context of this framework and referred to SEPA where necessary. Angus Council Roads are the Flood Prevention Authority and advise on flood prevention and flood risk standards for new roads, car parks and footpaths.

SEPA have produced an Indicative River and Coastal Flood Map which can be viewed at www.sepa.org.uk/flooding/flood_map/view_the_map.aspx

Water Quality

The water environment is a potential constraint to renewable energy development, particularly in relation to construction works. Applicants should demonstrate that

- no unacceptable damage to the water environment will result from their development;
- all pollution risks and mitigation measures during construction, operation and decommissioning have been identified;
- developments are designed to avoid engineering activities (such as culverts) in the water environment; and
- project management is in place to mitigate potential adverse impacts during the construction phase.

Peat Soils

Where peat soils are affected by potential renewable energy development applicants should consider:-

- Ground water contamination;
- Damage to peatland habitat, especially on or adjacent to designated sites. Early consultation with SNH and SEPA is advised where a proposed development is likely to affect peatland or mire systems;
- In relation to wind energy proposals Scottish Government advice on calculating carbon savings should be used when preparing applications. Information on this is available at <http://www.scotland.gov.uk/Topics/Business-Industry/Energy/Energy-sources/19185/17852-1/CSavings> ;
- Measures to minimise soil disturbance during construction, operation and decommissioning to maximise carbon balance savings; and
- Potential for slippage;
- Need for a peat depth survey to demonstrate that the layout and design of the proposal avoids areas of deep peat and minimises disturbance to other areas of peat.; and
- Procedures for any extraction and disposal of peat during construction.

Applicants should consult SNH and SEPA at an early stage where proposed development is likely to affect peatland or mire systems

Other Relevant ALPR policies

Policy ER27: Flood Risk – Consultation

Policy ER28: Flood Risk Assessment

Policy ER25: Water Resource Protection

Policy and Legislation

Scottish Government

Water Framework Directive in Scotland (WFD)

www.scotland.gov.uk/Topics/Environment/Water/15561/WFD

Flood Risk Management (Scotland) Act 2009

www.scotland.gov.uk/Topics/Environment/Water/Flooding/FRMAct

A Policy Statement on Hydropower and Water Environment Protection

www.scotland.gov.uk/Topics/Business-Industry/Energy/Energy-sources/19185/17851-1/HydroPolicy

Additional information

Scottish Environment Protection Agency

The Tay Area Management Plan 2009 - 2015

www.sepa.org.uk/water/river_basin_planning/area_advisory_groups/idoc.ashx?docid=442c3ee6-588d-468f-bbd5-97cbc7de9e38&version=-1

Guidance for hydropower development

www.sepa.org.uk/water/hydropower.aspx

Planning Advice

<http://www.sepa.org.uk/planning/energy.aspx>

Controlled Activities Regulations (CAR); Guidance for Applicants on Supporting Information requirements for Hydropower Applications

<http://www.sepa.org.uk/water/idoc.ashx?docid=358677fe-61f7-4fc9-baab-79cb93671387&version=-1>

Engineering Activities in the Water Environment

http://www.sepa.org.uk/planning/engineering-water_environments.aspx

Scottish Government

Wind Farms and Carbon Savings on Peatlands

<http://www.scotland.gov.uk/Topics/Business-Industry/Energy/Energy-sources/19185/17852-1/CSavings>

Angus Council

Environment and Consumer Protection and Roads Division are part of the Infrastructure Services Department, Angus Council, County Buildings, Market Street, Forfar, Angus, DD8 3LG

Contact:

ROADS@angus.gov.uk

ENVHEALTH@angus.gov.uk

Policy ER 35 Wind Energy Development

Onshore wind turbines are the main subject of renewable energy proposals in Angus. The scale, location and impacts of wind energy developments raise a number of specific issues for consideration and Policy ER35 establishes criteria to aid the assessment of such planning applications.

The ALPR addresses additional issues raised by wind energy development. It identifies three geographic areas –Highland (1); Lowland and Hills (2); and Coast (3) - based on the landscape classification that was developed in the Tayside Landscape Character Assessment (1999) www.snh.org.uk/pdfs/publications/review/122.pdf and SNH Policy Statement 02/02 www.snh.gov.uk/docs/A247182.pdf. The broad geographic areas are shown in Figure 1 (see page 39). The ALPR recognises that the open and exposed nature of the Coast and Highland areas are sensitive to potential landscape and visual impact from turbines. The Lowland and Hills area is recognised as of generally lower sensitivity to turbines in terms of visual, landscape and natural heritage interests. However, there may be areas within the Lowland and Hills Area where large turbines would have an unacceptable impact, or where properly sited and designed wind energy development can be accommodated in areas of higher natural heritage, landscape and visual sensitivity.

Policy ER 35: Wind Energy Development: *Wind energy developments must meet the requirements of Policy ER34 and also demonstrate:-*
(policy criteria a) - g) are set out and discussed below)

Criterion (a)
the reasons for site selection;

Applicants should present their rationale for site selection. Applicants should demonstrate that proposals are in locations where the technology can operate efficiently. Where a consent lapses, that proposal will be deleted from the Council's database of active proposals. Any re-application will be subject to full cumulative assessment in relation to visual, landscape and environmental impact as appropriate.

Applicants should demonstrate that site selection considered all technical, environmental, amenity, visual and landscape impact and mitigation where feasible.

Other Land Uses

Applicants should demonstrate that their selected site is compatible with other existing land uses and economic activities including:-

- tourism - proximity to visitor attractions such as historic properties, visitor centres, hotels, viewpoints and 'beauty spots';
- leisure and recreation (particularly outdoors) – foot and cycle paths, facilities (particularly outdoors) such as golf courses, activity centres;
- forestry – impact of felling for access and turbine clearance;
- quiet or remote places valued for their tranquillity;
- ancient woodland; and
- tourist routes and viewpoints.

Applicants should also demonstrate where site selection can enhance an area, and provide added value. This could include improving access, parking provision, visitor facilities on site such as interpretative facilities and amenities.

Residential Amenity

Applicants must be able to demonstrate that the site was selected to avoid unacceptable impact on the amenity of occupied residential property. The SPP advises a 2km separation distance between areas of search for windfarms over 20MW and the edge of towns and villages, and confirms the development up to this distance is likely to be a prominent feature in open landscapes. When considering potential visual impact of wind energy proposals on residential amenity, Angus Council will use 2km as a guide. Within 2km of residential properties information required will depend on the scale and location of the individual proposal.'

Applicants should be able to demonstrate that factors such as scale, location and topography will allow the development without unacceptable detrimental effect. Views from principal rooms looking towards a proposed turbine, and extent and location of garden ground will be factors in considering potential impact on residential amenity.

Additional Information

SNH

Historic and Ancient Woodlands

www.snh.gov.uk/land-and-sea/managing-the-land/forestry-and-woodlands/history/

Criterion (b)

that no wind turbines will cause unacceptable interference to birds, especially those that have statutory protection and are susceptible to disturbance, displacement or collision;

This criterion applies to areas designated under the European Habitats and the European Birds Directives for their significance to birds (Natura 2000 sites), and to the flight paths of protected species; and those protected under the Convention on Wetlands of International Importance (Ramsar sites). As well as these internationally designated sites, there are a number of nationally important sites such as Sites of Special Scientific Interest (SSSIs) and RSPB significant bird habitats (which are adjacent to and support designated sites at Kinnordy Loch and Montrose Basin). The protection afforded to these sites extends beyond their boundaries to allow for foraging, roosting and flight paths.

There is a growing body of experience on the management and design of wind farms to reduce or prevent unacceptable impact on birds which may help in the design and layout of a proposed wind farm. SNH will advise on bird surveys and guidance on assessing the impacts of wind farms on birds is available on their website at www.snh.gov.uk/planning-and-development/renewable-energy/onshore-wind/

Other Relevant ALPR policies

Policy ER1: Natura 2000 and Ramsar Sites (4)

Policy ER2: National Nature Reserves and Sites of Special Scientific Interest

Policy ER3: Regional and Local Designations

Policy ER4: Wider Natural Heritage and Biodiversity

Policy and legislation

EU Habitats Directive and Annexes 1 and 2

EU Birds Directive and Annex1

[Habitats/protectedareas/NATURA](#)

Additional information

The RSPB and SNH have produced a Bird Sensitivity Map. Details can be found at:
www.rspb.org.uk/news/details.aspx?id=tcn:9-179628

Criterion (c)

there is no unacceptable detrimental effect on residential amenity, existing land use or road safety by reason of shadow flicker, noise or reflected light;

Shadow Flicker and Reflected Light

Shadow flicker is where the moving shadow flicker appears through a narrow window opening. The occurrence of flicker can be predicted by calculation, and is therefore identifiable and can be addressed. Scottish Government on-line guidance for Onshore Wind Turbines advises that in most cases the problem can be resolved through separation between wind turbines and nearby dwellings (as general rule 10 rotor diameter).

Turbines can also cause flashes of reflected light, which can be visible for some distance. It is possible to ameliorate the flashing but not to eliminate it. Careful choice of blade colour and surface finish can help reduce the effect.

Noise

There are two sources of noise from wind turbines - the mechanical noise from the turbines and the aerodynamic noise from the blades. Mechanical noise can be reduced through engineering design. Good acoustical design and siting of turbines is essential to ensure there is no significant increase in ambient noise levels as they affect the environment and any nearby sensitive property/receptors. Where appropriate planning conditions will be imposed to control any impact to within reasonable levels. The evaluation of noise will be addressed on a site specific basis, given the range of factors to be considered and further detailed guidance is provided in Section 5 : Noise Assessment for Wind Energy Proposals

Other Relevant ALPR policies

Policy ER11: Noise Pollution

Policy and Legislation

Scottish Government – 1/2011 Planning and Noise

<http://www.scotland.gov.uk/Publications/2011/02/28153945/0>

Scottish Government - web based Renewables Specific Advice Sheets

<http://www.scotland.gov.uk/Topics/Built-Environment/planning/National-Planning-Policy/themes/renewables>

Additional Information

Working Group on Noise and Turbines, Final Report 1996 – ETSU-R-97

www.semantise.com/~lewiswindfarms/FOV1-00021BAE/FOV1-00021BD2/1996:00:00%20ETSU-R-97%20-%20Exec%20Summary.pdf?FCItemID=S000C081A

The Influence of Colour on the Aesthetics of Wind Turbine Generators' – ETSU W/14/00533/00/00

Angus Council Environmental and Consumer Protection is part of the Infrastructure Services Department, Angus Council, County Buildings, Market Street, Forfar, ANGUS DD8 3LG

Contact: ENVHEALTH@angus.gov.uk

Further information turbine noise level prediction can also be found in Section 5 : Noise Assessment for Wind Energy Proposals

Criterion (d)
that no wind turbines will interfere with authorised aircraft activity;

Military Aircraft

There are MOD bases, RAF Leuchars in Fife and RM Condor at Arbroath, with flight paths for landing and take-off which affect Angus. Parts of the area are also subject to low fly zones. Barry Buddon Camp is an army training facility, with live firing capacity.

The approach zones for the Air Traffic Control Radar at RAF Leuchars affect areas across south Angus.. The MOD has commented on/objected to a number of wind energy proposals in South Angus on the grounds of interference with radar resulting in false signals being recorded by air traffic controllers, which can threaten aircraft safety. The safety of military personnel and aircraft will be taken into account by Angus Council in considering planning applications.

Where radar interference is identified as a potential constraint and effective mitigation measures have been agreed with the MOD, these must be submitted in writing to Angus Council. Only where a scheme is demonstrated to be deliverable or can be secured through application of a condition, will planning permission be granted

Contact details and further information can be found at:

www.mod.uk/DefenceInternet/MicroSite/DE/WhatWeDo/Operations/ModSafeguarding.htm

Civilian Aircraft

There are two civilian facilities which affect Angus - Dundee Airport and the Gliding Club at Roundyhill, between Glamis and Kirriemuir.

No unofficial safeguarding maps are known to have been lodged with the Council e.g. for local emergency service Air Support Units or a former unlicensed airfield in the vicinity of Montrose.

Applicants must consult NERL Safeguarding, the Civil Aviation Authority (CAA) and the local authority before submitting a planning application. The applicant should provide an analysis of possible impact, and appropriate measures to alleviate any identified adverse effects on broadcast communications and signals. These consultees may advise on aircraft safety, including lighting. Where this is the case their advice will be acted upon by Angus Council.

There is an international civil aviation requirement for all structures of 91.4 metres or more to be charted on aeronautical charts. This is achieved by notifying Defence Geographic Centre prior to the construction/erection of wind turbines and/or anemometer/meteorological masts.

Any structure of 150 metres or more must be lit in accordance with the Air Navigation Order and should be appropriately marked. Smaller structures may also be required to be lit by aviation stakeholders particularly if they fall under Section 47 of the Aviation Act

Contacts:

Civil Aviation Authority	NERL Safeguarding
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CAA House 45-59 Kingsway London WC2B 6TE	NATS-CTC Mailbox 23 4000Parkway Solent Business Park Whitely Hampshire PO15 7FL
Dundee Airport Riverside Dundee DD2 1UH	

Policy and Legislation

Scottish Government

Circular 2/2003 Safeguarding of Aerodromes, Technical sites and Military Explosives Storage Areas.

<http://www.scotland.gov.uk/Resource/Doc/47021/0026439.pdf>

Additional Information

Civil Aviation Authority

Guidance on CAA Planning Consultation Requirements

http://www.caa.co.uk/docs/33/DAP_GuidanceOnCAAPanningConsultationRequirements.pdf

CAP 764

CAA Policy and Guidelines on Wind Turbines

<http://www.caa.co.uk/docs/33/Cap764.pdf>

Criterion (e)

that no electromagnetic disturbance is likely to be caused by the proposal to any existing transmitting or receiving system, or (where such disturbances may be caused) that measures will be taken to minimise or remedy any such interference;

Wind turbines have the potential to interfere with electronic communication media, which includes television and radio (which may cause interference, loss of sound or picture and 'ghosting'), and micro wave links (which may be affected by reflection, diffraction or blocking). Operators suggest a minimum distance of 100m between the alignment of the microwave and any turbine to prevent interference. These interference effects can be reduced through changes to turbine siting and discussion with operators will confirm an appropriate distance.

Applicants must consult Ofcom (Office of Communication - which acts as the central point of contact for any television and radio broadcasting, telecommunication and wireless communication issues); the emergency services; utility companies; and the local authority before submitting a planning application.

The applicant should provide details of possible adverse effects, and proposed measures to mitigate adverse effects on broadcast communications and signals.

Applicants should contact:

Ofcom Riverside House 2a Southwark Bridge Road London	Wind Farm Team The Joint Radio Company Limited, Dean Bradley House 52 Horseferry Road
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<p>SE1 9HA</p> <p>Further information is available at www.ofcom.org.uk/</p>	<p>London SW1P 2AF</p> <p>Telephone: +44 20 7706 5197</p> <p>Further information on The Joint Radio Company Limited is available at www.jrc.co.uk</p>
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Criterion (f)

that the proposal must be capable of co-existing with other existing or permitted wind energy developments in terms of cumulative impact particularly on visual amenity and landscape, including impacts from development in neighbouring local authority areas;

Although a number of consents have been granted in Angus for wind turbines of around 90m to blade tip, only one has yet been constructed. There are a number of large scale turbines close to the boundary of Angus; in Perth and Kinross (Drumderg 16 x 107m), Dundee (Michelin 2 x 120.5m) and Aberdeenshire (Tullo 8 x 100m). These developments are clearly visible from parts of Angus, but no cross local authority boundary landscape/capacity assessment has been undertaken as those commissioned are normally for and by individual local authorities or refer to a specific proposal. Major landscape features such as the highland boundary fault however can extend across several council areas.

The SAS for Onshore Wind Turbines identifies potential cumulative impact as a significant constraint for wind farms, but as noted previously, there is no cross boundary context. The potential impact changes as each development is constructed and the actual scale and potential impact of a windfarm or large turbine will vary depending on the site, layout and turbines selected. Cumulative effects of wind energy developments are a matter of great significance in determining any application. Assessment of landscape and visual impact is contentious and every effort should be made to provide accurate visual representations and to ensure potential cumulative impact on the natural and built environment is fully addressed.

The assessment of cumulative impact will reflect the operational, consented and planning applications for turbines, as well as the specific site characteristics. As this will be different for each application and over the passage of time, it is increasingly difficult to map areas of constraint imposed by cumulative impact. Each proposal should demonstrate how its particular characteristics relate to other proposals at the assessment stage. Regard should be given to the extensive advice available on assessing and representing potential cumulative visual and landscape impact.

Ecology, Ornithology and Hydrology

There is also potential for the combined effect of wind energy development to increase impact on sensitive habitats and/or protected species to an unacceptable level. Where existing development already affects a protected or vulnerable habitat, applicants must demonstrate subsequent proposals through the combined effect of development, will not cause impacts to be intensified to an unacceptable level. This will be particularly important where sites are designated as of international or national importance, but damage to all vulnerable habitats and species should be avoided. (Natura 2000 sites may require a Habitats Regulation Assessment (HRA) by Angus Council as competent authority)

Cumulative Impact

Cumulative ecological impact should be addressed through a formal EIA or an environmental statement, the terms of which should be agreed with the local authority, and other agencies as appropriate. Where the responsibility lies with the local authority to determine acceptable level of impact or viability of mitigation measures, advice will be sought from relevant agencies.

Where mitigation measures are proposed and agreed, these will be subject to the application of conditions or legal agreement as appropriate. Post operational monitoring of impact on habitat and species may be required and will be subject to the application of conditions or legal agreement as appropriate.

Cumulative landscape and visual assessments should establish search area identifying:-

- any constructed or consented windfarm;
- any undetermined windfarm application;
- any windfarm proposal which has been subject to an EIA scoping request to the relevant authority; and
- any other windfarm proposal that the Planning Authority, and/or SNH, considers relevant for study and which is within the public domain (eg as a result of a public announcement or community meeting).

Installed, consented and proposed offshore windfarms should also be presented on the base plan to enable a decision on whether to include these in the assessment.

The cumulative landscape and visual effect will be those which are additional to an agreed baseline of wind energy developments reflecting the scale of the development under consideration. The search area considered will relate to the height of the proposed turbine and the visual interaction with other turbines within an agreed distance

For larger turbines the study area should extend to a minimum of 35km from the outer margin of the application site. The size of the study area should also be influenced by the locations and ZTVs of other windfarms likely to interact with the new proposal; and by transport routes to be assessed for sequential effects. The study area may not be circular in shape but could be larger in some directions than others. Sequential impacts may need to be assessed for a distance of more than 60km from the proposed windfarm.

For smaller proposals appropriate distances will be agreed with the developer in accordance with SNH guidance

Policy and Legislation

Scottish Government - web based Renewables Specific Advice Sheets

<http://www.scotland.gov.uk/Topics/Built-Environment/planning/National-Planning-Policy/themes/renewables>

SNH

Assessing the Cumulative Impacts of Onshore Wind Energy Developments

<http://www.snh.gov.uk/docs/A675503.pdf>

Visual Representation of Windfarms Good Practice Guidance

<http://www.snh.gov.uk/docs/A305436.pdf>

Criterion (g)

a realistic means of achieving the removal of any apparatus when redundant and the restoration of the site are proposed.

The anticipated lifespan of a wind farm/turbine is currently around 25 years. Once established the operational capacity and equipment is likely to be reviewed. Extension of existing consents will be assessed in accordance with legislation and guidance pertaining at that time, and continued use of an existing location may be an appropriate option. Where time of operation is extended, the decommissioning statement and re-instatement plan will also be reviewed, updated to contemporary standards, and extended.

The applicant will be required by planning conditions or legal agreement to ensure acceptable re-instatement standards. A decommissioning statement and reinstatement plan should be submitted detailing removal of all apparatus and associated works; restoration of the site and any after care arrangements; and timescale. It is likely a financial bond will be required by Angus Council to ensure restoration is implemented should the applicant/operator cease to trade. The decommissioning statement should be updated prior to the cessation of energy generation.

Where a site has been inactive for six months, the planning authority will require the instigation of the decommissioning process within the six months of the site being confirmed inactive.

4. Landscape and Visual Assessment of Wind Energy Proposals

The potential landscape and visual impact of wind turbines, both individually and cumulatively is a major factor in the assessment of any planning application.

The Tayside Landscape Character Assessment (TLCA) was prepared by Land Use Consultants in 1999, as part of a series of assessments for Scotland prepared on behalf of SNH and the local authorities. It develops a landscape classification which identifies and describes a range of character areas. It also provides guidance on accommodating development and land use change. Whilst some of this guidance has been superseded, the definition of the landscape character areas and their vulnerability to some types of development remains valid, and should be used in conjunction with the evolving SNH guidance.

The landscape character areas form the basis of The Wind Energy Geographic Areas in the ALPR as follows (Figure 1, page 39):-

- Area 1 Highland - primarily the Angus Glens along and to the north of the Highland Boundary Fault;
- Area 2 Lowland and Hills - mainly rolling farmland and low hills;
- Area 3 Coast - a mix of sand, cliffs and, around Montrose, lowland basin.

The ALPR identifies areas 1 Highland and 3 Coast as having a greater potential sensitivity to the landscape and visual impact of large turbines. This principle is developed in the Landscape Capacity and Cumulative Impacts Study undertaken by Ironside Farrar on behalf of the Council in 2008. This study primarily considered landscape capacity and cumulative impact in Angus at a strategic level in order to assist in the determination of two planning applications for wind turbines and based on the TLCA character area it identifies Landscape Capacity for Windfarms and current windfarm character type.

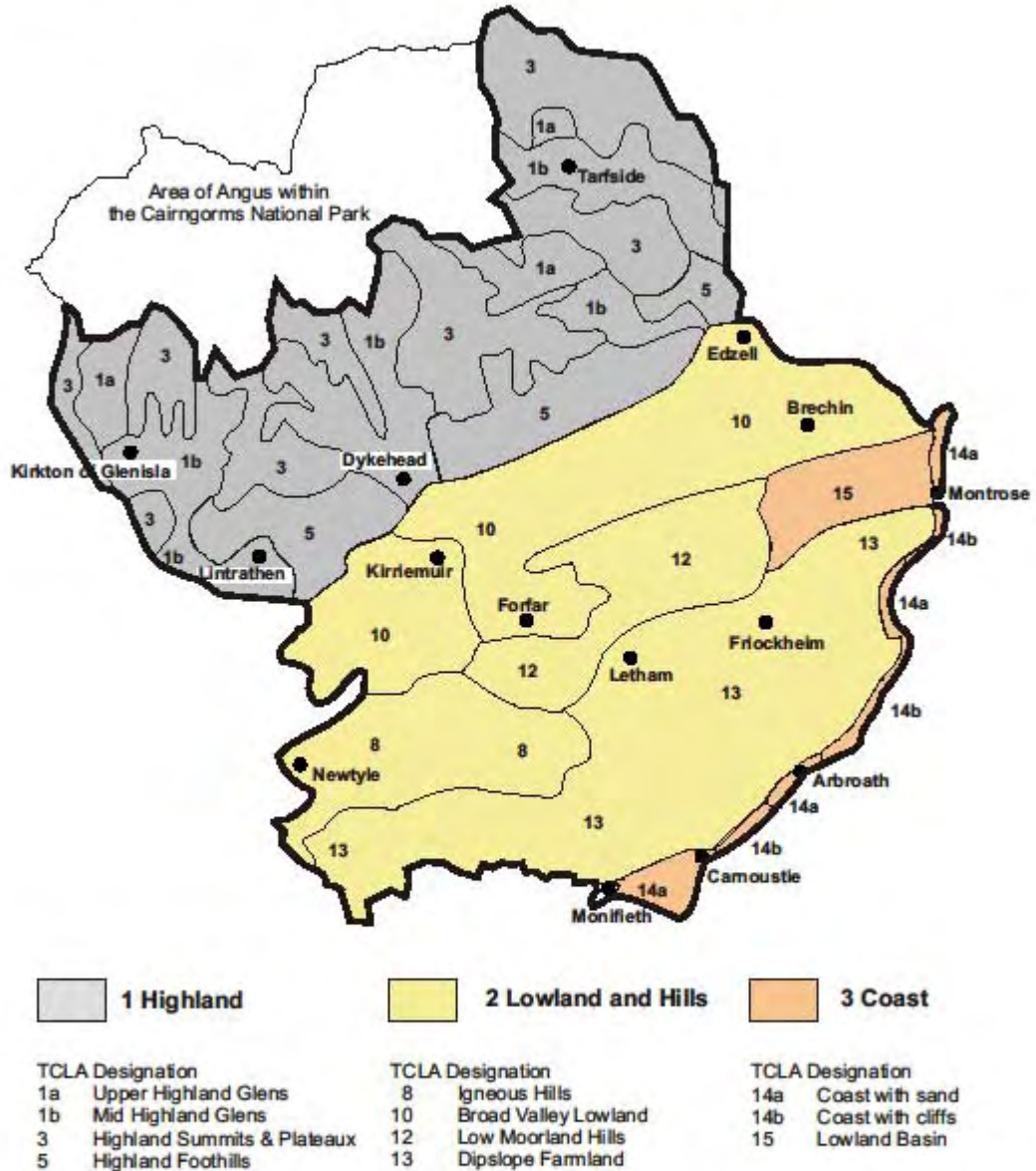
www.angus.gov.uk/devcontrol/LandscapeCapacityandCumulativeImpactAssessmentFinal.pdf

Area 3 Coast also has specific locational factors such as coastal flooding potentially exacerbated in future by rising sea levels, the protection of the undeveloped coast, shoreline management and the interrelationship with off-shore proposals. Development proposals on the coast will be required to address these issues as appropriate in any applications and supporting information.

The ALPR and TLCA form the basis for the strategic assessment of landscape capacity and potential visual and landscape impact. Applicants will require to establish the parameters for their individual site assessment with the Council taking cognisance of the detailed landscape and visual implications and suitable representations. Where proposals are for turbines between 15 and 50m are proposed a basic VIA should be submitted and for turbines over 50m a full LVIA should be undertaken as detailed in Table 2.

Scottish Natural Heritage has developed a series of Advice Notes on the impacts of windfarms on the landscape, and their advice will be sought by the Council as appropriate.

Figure 1 - Wind Energy Development Geographic areas



Map extract from Angus Local Plan Review (adopted Feb 2009)
 © CROWN COPYRIGHT, ANGUS COUNCIL 100023404, 2011.

The 'Landscape Capacity and Cumulative Impacts Study' is a strategic level study providing a context for the consideration of the cumulative effects of existing and potential future windfarm developments. It develops a classification of landscape types in terms of the degree of wind turbine development (Table 3) which is applied in Table 4: Levels of Acceptable Landscape Character Change.

Table 3: Landscape Classification

Landscape	Type	Landscape Character Visual Experience
Landscape with no Windfarms	A landscape type or area in which no windfarms or wind turbines are present and none are clearly visible from neighbouring areas	There would be no discernable effects on visual receptors.
Landscape with Views of Windfarms	A landscape type or area within which, or immediately adjacent, there are no windfarms or wind turbines physically located, but from which windfarms are clearly visible in a separate landscape character area. Character may vary considerably according to proximity and scale of neighbouring windfarm(s).	The experience of a visual receptor would be noticeably affected, but windfarms are a background feature clearly not associated with the landscape in which the receptor is located. Visual effects may vary considerably according to proximity and scale of neighbouring windfarm(s)
Landscape with Occasional Windfarms	A landscape type or area in which windfarms or wind turbines are located or are very close to and visible. However they are not of such a size, number, extent or contrast in character that they become one of the defining characteristics of the landscape's character.	Visual receptors would experience occasional close-quarters views of a windfarm or turbines and more frequent background views of windfarms or turbines. Some turbines may or may not be perceived as being located in the landscape character area. No overall perception of windfarms being a defining feature of the landscape.
Landscape with Windfarms	A landscape type or area in which a windfarm, windfarms or wind turbines are located and visible to such an extent that they become a defining characteristic of the Landscape Character. However, they are clearly separated and not the single most dominant characteristic of the landscape	Visual receptors would experience frequent views of windfarms or wind turbines as foreground, mid-ground or background features, affecting their perception of the landscape character. However there would be sufficient separation between windfarms and turbines and sufficient areas from which wind turbines are not visible such that they would not be seen as dominating the landscape over all other landscape features.
Windfarm Lands	A landscape type or area in which windfarms or wind turbines are extensive, frequent and nearly always visible. They become the dominant, defining characteristic of the landscape. Nevertheless there is a clearly defined separation between developed areas.	Visual receptors would experience views of windfarms as foreground, mid-ground and background features, to the extent that they are seen to dominate landscape character. Few areas would be free of views of wind turbines
Windfarm	Landscape fully developed as a windfarm with no clear separation between groups of turbines. Few if any areas where turbines not visible.	Visual receptors would always be close to and nearly always in full view of wind turbines.

Table 4: Levels of Acceptable Landscape Character Change also incorporates the SNH classification of landscape and visual cumulative effects :-

- a) *'in combination - where two or more features are seen together at the same time from the same place, in the same (arc of) view where their visual effects are combined;*

- b) *in succession - where two or more features are present in views from the same place (viewpoint) but cannot be seen at the same time, together because they are not in the same arc of view - the observer has to turn to see new sectors of view whereupon the other features unfold in succession;*
- c) *in sequence - where two or more features are not present in views from the same place (viewpoint) and cannot, therefore, ever be seen at the same time, even if the observer moved round the arc of view, the observer has to move to another viewpoint to see the second or more of them, so they will then appear in sequence. The frequency of occurrence in the sequence may be highly variable, ranging from frequently sequential when the features keep appearing regularly and with short time lapses between (clearly speed of travel influences this as well as distance between the viewpoints) down to occasionally sequential where there may be long time lapses between appearances, because the observer is moving very slowly and / or there are large distances between the viewpoints (even if not between the features);*
- d) *perceived - where two or more features are present but one or more is never seen by the observer, for example, because they are screened, or the observer is unable or unwilling to attend a viewpoint from where they would be seen. However, the observer is aware that others are there because, for example, they may have read or heard about them or seen signs to them; this is an apprehended or perceived effect but can be strongly felt; it could also, nevertheless, be mistaken because the observer's information or interpretation of it is wrong.' (David Tyldesley for SNH at PLI – Proposed Windfarm, An Suidhe, Inveraray, Argyll. November 2002).*

New large scale proposals close to established wind farm or turbine development in landscape and/or visual terms should consider their relationship with existing turbine type, scale, colour and layout from all directions from which the wind farms or turbines are viewed in combination.

As the number of sites generating energy from wind increase, so does potential for conflict between different scales of development, and between proposed and existing development. Where proposals are submitted, the relative height and style of turbine (e.g. tower construction, number of blades, blade length) should increasingly reflect those already consented to promoted a harmonious development pattern.

The Levels of Acceptable Landscape Character Change established in Table 4 provides guidance on the Councils assessment of the potential impact of wind energy development in Angus.

Additional Information

SNH Cumulative Effect of Windfarms (revised 2005)

<http://www.snh.gov.uk/docs/A305440.pdf>

Table 4: Levels of Acceptable Landscape Character Change

Within **Development Boundaries** (as defined in the ALPR) it is not possible to define maximum turbine heights. Proposals for turbine development in towns and villages will be considered in the context of the ALPR policies and take account of the following considerations:

- Scale and location
- Landscape setting
- Residential amenity including noise, shadow flicker, visual impact etc
- Historic environment including townscape
- Compatibility with adjacent uses
- Proximity to sensitive receptors such as educational buildings, open space and leisure facilities, hospitals, residential care homes, cemeteries, visitor facilities and accommodation and proposed development areas
- Access
- Design
- Security of equipment/facility
- Ancillary works

Outwith development boundaries, in countryside locations it is considered that there is scope for turbines to be accommodated within the following defined landscape types. The guide heights are extrapolated from sources including the Tayside Landscape Character Assessment, the Landscape Capacity and Cumulative Impacts Study, Reporters findings from planning appeals, responses from statutory consultees and reflect the particular scale and landscape of Angus.

There may be scope for turbines of greater height, where this can be demonstrated by the applicant. This will be strongly influenced by the elevation of the turbine site, the scale of the landscape and proximity of scale features and buildings.

ALPR Zone	Landscape Type (LT) Landscape Units (LU)	Existing Windfarm Character	Acceptable Future Windfarm Character	Guidance (Height to blade tip unless otherwise stated)
1	1a. Upper Highland Glens <ul style="list-style-type: none"> • Glen Isla • Glen Lethnot • Milton and Upper Tarf Valley 	Landscape with no Windfarms & Views of Windfarms	Landscape with Views of Windfarms	This LT is of medium scale; predominantly unsettled; with wild/slightly tamed level of naturalness and with narrow corridor views. Accordingly, it is considered to have no scope for turbines other than domestic scale turbines (less than 25m in height).

ALPR Zone	Landscape Type (LT) Landscape Units (LU)	Existing Windfarm Character	Acceptable Future Windfarm Character	Guidance (Height to blade tip unless otherwise stated)
	1b. Mid Highland Glens <ul style="list-style-type: none"> • Glen Esk • West Water Valley • Glen Clova • Glen Prosen • Glen Isla 	Landscape with no Windfarms & Landscape with Views of Windfarms	Landscape with Occasional Windfarms	Due to the small to medium scale of this LT and the corridor nature of views, it is considered to have scope for turbines circa 50m in height.
	3. Highland Summits & Plateaux <ul style="list-style-type: none"> • Caenlochan Forest/ Glen Doll Forest 	Landscape with Views of Windfarms	Landscape with Views of Windfarms	Considered to have no scope for wind turbines.
	5. Highland Foothills <ul style="list-style-type: none"> • Alyth Foothills • Kirriemuir Foothills • Menmuir Foothills • Edzell Foothills 	Landscape with Views of Windfarms	Landscape with Occasional Windfarms	The Highland Foothills provide a dramatic transition between highland and lowland. The contrast between the rolling topography of Strathmore (LT 10) and the foothills is important in defining the character of both LT 10 & 5. Whilst the Foothills appear big next to Strathmore, they are relatively low lying hills. In order to avoid the risk of turbines adversely affecting perceived scale, it is considered that there is scope for turbines less than circa 80m tall located on lower ground only, where they do not adversely affect the setting of landscape features and monuments such as Airlie Monument and the White & Brown Caterthuns.
	8. Igneous Hills <ul style="list-style-type: none"> • Sidlaws 	Landscape with Views of Windfarms	Landscape with Occasional Windfarms	Considered to have scope for turbines circa 80m in height which do not disrupt the principle ridgelines or adversely affect the setting of important landscape features monuments such as Kinpurney Monument and Auchterhouse hillfort.
	2			

ALPR Zone	Landscape Type (LT) Landscape Units (LU)	Existing Windfarm Character	Acceptable Future Windfarm Character	Guidance (Height to blade tip unless otherwise stated)
3	10. Broad Valley Lowland • Strathmore	Landscape with Views of Windfarms	Landscape with Occasional Windfarms	Considered to have scope for turbines circa 80m in height.
	12. Low Moorland Hills • Forfar Hills	Landscape with Views of Windfarms	Landscape with Occasional Windfarms	Considered to have scope for turbines circa 80m in height which do not disrupt the principle ridgelines or adversely affect the setting of important landscape features and monuments such as Balmashanner Monument; and Finavon and Turin hillforts.
	13. Dipslope Farmland • SE Angus Lowland	Landscape with Views of Windfarms	Landscape with Occasional Windfarms	Considered to have scope for turbines circa 80m in height.
	14a. Coast with Sand • Barry Links • Elliot • Lunan Bay • Montrose	Landscape with Views of Windfarms	Landscape with Views of Windfarms	Due to the often open nature of the Angus coastline and in order to avoid the risk of turbines being visually prominent and therefore adversely affecting the character of the undeveloped coast, it is generally considered there is scope for domestic turbines of circa 25m in height.
	14b. Coast with Cliffs • Carnoustie • Auchmithie • Usan	Landscape with Views of Windfarms	Landscape with Views of Windfarms	
	15. Lowland Basins • Montrose Basin	Landscape with Views of Windfarms	Landscape with Views of Windfarms	

Figure 2: Scale Buildings in Angus

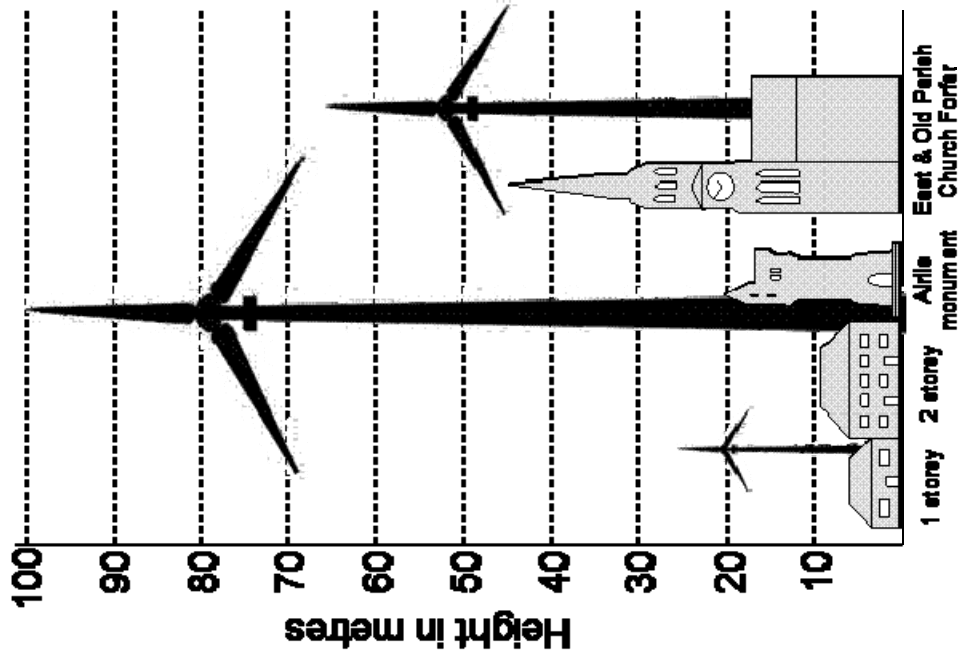
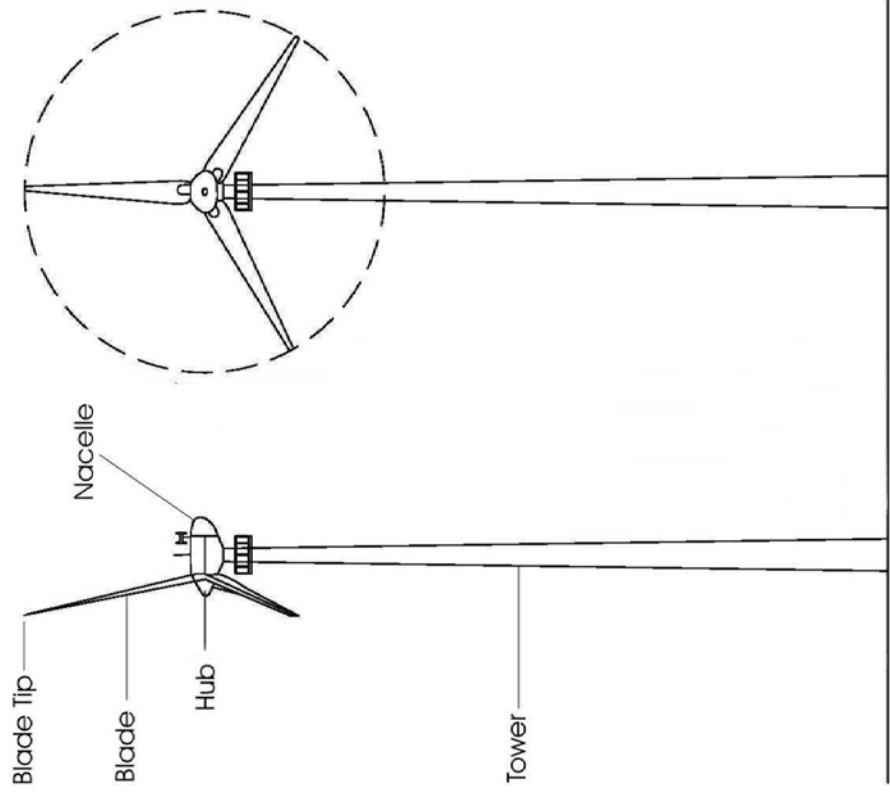


Figure 3: Wind Turbine Components



5. Noise Assessment for Wind Energy Proposals

Noise from wind turbines can be an important factor in the assessment of wind energy developments. Applicants are advised to contact the Environmental and Consumer protection Service at Angus Council at an early stage to establish an agreed methodology for noise assessment. Initial guidance is outlined below:-

Assessment Criteria

1. Subject to the points below the criteria specified in ETSU-R-97; the assessment and rating of noise from wind farms should be used as appropriate noise assessment criteria.
2. If absolute lower noise limits are to be used then the significance of these in relation to the existing background noise levels should be considered.
3. Amplitude modulation should be considered in terms of the current level of technical knowledge on the subject. Angus Council will consider the use of appropriate Planning Conditions to control AM on a case by case basis.
4. Where it is suggested that any property benefits financially from the scheme and the higher absolute lower limit of 45 dB(A) maybe applied to that property, full details of the financial benefit and how the occupiers of the relevant property will receive that benefit for the life of the development should be clearly stated. A valid financial benefit is considered to be one which relates directly to the power or income generated by the turbine. One-off lump sum payments are unlikely to be considered acceptable because occupiers could change during the life of the development.
5. Where criteria are derived from background noise measurements the additional points below should be taken into account.
6. It is generally considered that the ETSU-R-97 simplified method criteria is not suitable for small wind turbines i.e. those with a rotor diameter of less than 16m. For developments involving small turbines a noise limit of 40 dB LAEQ(10mins) assessed using the BWEA method referred to below is considered appropriate.

Background noise measurements

1. It is recommended that the type of noise meter, microphone and protection kit for each monitoring location is agreed. An appropriate windshield (usually double skinned) is required in order to prevent any wind over the microphone affecting readings.
2. It is recommended that the exact position of the monitoring equipment is agreed not just the general location and photographic evidence of the location is taken. Where monitoring data is to be used for more than one property this should be agreed before hand in order to ensure that sufficient locations are monitored to represent all of the neighbouring properties. It is recommended that a list of properties is drawn up and monitoring positions allocated to each for discussion.
3. Monitoring should be avoided next to running water or trees in leaf (unless the measurement location solely represents a single property and the noise environment is not likely to alter seasonally) or on the noisy side of a building (unless it faces the proposed turbine location)
4. It is recommended that the method for determining periods of heavy rainfall and the measurement period to be excluded due to heavy rain is agreed prior to the commencement of monitoring. Heavy rainfall should be taken to mean periods of more than 4mm per hour.
5. The period of monitoring should be sufficient to obtain a reasonable amount of data at each wind speed from 3-12m/s. Depending upon weather conditions this can take longer than 7 days so this should be considered a minimum only.

6. The method for Simultaneous wind speed measurement should be agreed before hand with Environmental & Consumer protection Service. Derived not measured 10m high wind speeds may need to be used to take account of site specific wind shear.

Turbine noise level prediction

1. Wind turbine noise predictions should follow the methodology used in ISO 9613 and take into account the detailed guidance published in The Institute of Acoustics bulletin Vol 34 no 2 2009.
2. For small wind turbines i.e. those with a rotor diameter of less than 16m the BWEA small wind turbine performance and safety standard, Feb 2008 guidance maybe used as an alternative methodology to predict the separation distance required to comply with the relevant noise criteria.
3. Turbine noise data must be referenced to test reports.
4. Where any type of noise calculator is used a detailed explanation of the formulae used and the data used should be given.
5. The noise level prediction should take into account the cumulative impact of other turbines.

Appendices

APPENDIX 1: Renewable Energy Development in Angus

Renewable Energy provides opportunities to develop locally based sources of power, with minimal impact on the local, national and global environment. It can aid progress towards sustainable development, reduce dependence on energy imports, broaden the energy supply base, and create jobs and investment. The growing number of development enquiries and proposals reflects increasing awareness of renewable energy capacity, financial incentives and technological advances all contributing to renewable energy generation across Angus. The current position is set out below.

Planning Applications and Consents (as at May 2012)

The following Tables will provide the base line for monitoring the Implementation Guide and future renewable energy development within Angus.

Table 1 - Status of Applications for Single Turbines (May 2012)

Year	<25m			25-50m			>50		
	App	Ref	Pen	App	Ref	Pen	App	Ref	Pen
2004	1	1	-	-	-	-	-	-	-
2005	2	-	-	-	-	-	-	-	-
2006	9	-	-	-	-	-	-	-	-
2007	8	-	-	-	-	-	-	-	-
2008	9	-	-	-	-	-	-	-	-
2009	10	1	-	-	-	-	2	-	-
2010	13	2	-	2	-	-	2	-	-
2011	6	1	-	7	1	8	3	3	4
2012	-	-	3	4	1	1	-	-	2
Total	58	5	3	13	2	9	7	3	6

App – planning application approved

Ref – planning application refused

Pen – decision pending

Table 2 - Status of Applications for Multiple Turbines (May 2012)

Year	No of turbines 2			No of turbines 3-6			No of turbines >6		
	App	Ref	Pen	App	Ref	Pen	App	Ref	Pen
2004	-	-	-	-	-	-	1	-	-
2005	-	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	-
2007	-	-	-	-	3	-	-	1	-
2008	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	4	-	-	-	-
2010	4	-	1	1	-	-	-	-	-
2011	12	1	2	-	-	1	-	-	2
2012	2	-	1	-	-	1	-	-	-
Total	18	1	8	1	7	2	1	1	2

App – planning application approved

Ref – planning application refused

Pen – decision pending

Table 3 – Operating and Consented Onshore Renewable Energy Development in Angus (May 2012)

Generation Method	Location	Capacity (MW*)	Status
Wind Turbines			
Wind farm/cluster - over 50m or 3 x 15m	Ark Hill (8 x 81m turbine)	10.4	Approved
	Scotston Hill, Auchterhouse (1 x 80m turbine)	0.8	Operational
	Former Tealing Airfield (1 x 93.5m turbine)	2.5	Approved
	Cononsyth, Arbroath (1 x 67m turbine)	0.33	Approved
	East Memus (1 x 86.6)	0.8	Approved
	Castleton of Eassie (3 x 25)	0.33	Approved
Total		15.16	
Landfill Gas			
	Lochhead Landfill Site	1.0	Operational
Total		1.0	
Hydro			
Run of River	Rottal Estate, Glen Clova	0.45	Operational
	Glenmarkie, Glen Isla	0.75	Operational
	Clova Farms, Glen Clova	0.18	Approved (CNPA)
	Glamis Sawmill	0.06	Operational
	WWTP, Tannadice, Forfar	0.78	Approved
Total		2.12	
Biomass- commercial			
Fuel Production Unit	Padnaram, By Forfar		Operational
All Operational and/or approved		18.28	

Table 4 – Other Renewable Energy Proposals in Angus (November 2011)

Generation Method	Location	Capacity (MW*)	Status
Wind Turbines			
Wind farm/cluster over 50m or 3 x 15m	Nathro Hill (S36)	50+	Scoping
	Carrach	7.2	Application
	Land at Nether Kelly (Corse)	17.5	Application
Total		74+	

Other Energy Related Projects

Transmission Network

SHETL has indicated that once the Beaulieu-Denny transmission line has been upgraded, the upgrade along the western side of Strathmore will proceed. This will utilise existing towers and renew cables and insulation to increase capacity from 275 to 400KV. Grid access licences are normally subject to this upgrade being implemented.

APPENDIX 2: Development Plan – Renewable Energy Policies

Dundee and Angus Structure Plan Environmental Resources Policy 1: Renewable Energy

Proposals for renewable energy development will be favourably considered where they deliver quantifiable environmental and economic benefits and any significant or cumulative adverse impacts on the natural and historic environment, landscape and local communities can be satisfactorily addressed.

Development proposals will be considered in the context of the wider environmental policies of the Structure Plan. Detailed criteria based policy, locational guidance and, where appropriate, areas of search for individual sources of renewable energy will be established by Local Plans. An Environmental Statement will be required for all large scale proposals or where development is likely to have significant effects on the environment.

Angus Local Plan Review Policy ER34: Renewable Energy Developments

Proposals for all forms of renewable energy developments will be supported in principle and will be assessed against the following criteria:

- (a) the siting and appearance of apparatus have been chosen to minimise the impact on amenity, while respecting operational efficiency;
- (b) there will be no unacceptable adverse landscape and visual impacts having regard to landscape character, setting within the immediate and wider landscape, and sensitive viewpoints;
- (c) the development will have no unacceptable detrimental effect on any sites designated for natural heritage, scientific, historic or archaeological reasons;
- (d) no unacceptable environmental effects of transmission lines, within and beyond the site; and
- (e) access for construction and maintenance traffic can be achieved without compromising road safety or causing unacceptable permanent change to the environment and landscape, and
- (f) that there will be no unacceptable impacts on the quantity or quality of groundwater or surface water resources during construction, operation and decommissioning of the energy plant.

Angus Local Plan Review Policy ER35: Wind Energy Development

Wind energy developments must meet the requirements of Policy ER34 and also demonstrate:

- (a) the reasons for site selection;
- (b) that no wind turbines will cause unacceptable interference to birds, especially those that have statutory protection and are susceptible to disturbance, displacement or collision;
- (c) there is no unacceptable detrimental effect on residential amenity, existing land uses or road safety by reason of shadow flicker, noise or reflected light;
- (d) that no wind turbines will interfere with authorised aircraft activity;
- (e) that no electromagnetic disturbance is likely to be caused by the proposal to any existing transmitting or receiving system, or (where such disturbances may be caused) that measures will be taken to minimise or remedy any such interference;
- (f) that the proposal must be capable of co-existing with other existing or permitted wind energy developments in terms of cumulative impact particularly on visual amenity and landscape, including impacts from development in neighbouring local authority areas;
- (g) a realistic means of achieving the removal of any apparatus when redundant and the restoration of the site are proposed.

APPENDIX 3: Other Relevant Development Plan Policies

Dundee and Angus Structure Plan (2002)*

The Structure Plan was approved by Scottish Ministers in October 2002. The document can be viewed and downloaded at <http://www.angus.gov.uk/structureplan/>

The main policies relevant to energy proposals are listed below:

Environmental Resources Policy 1: Natural Heritage Designations
Environmental Resources Policy 2: The Wider Natural Heritage
Environmental Resources Policy 3: Coastal Development and Protection
Environmental Resources Policy 4: Flooding and Development
Environmental Resources Policy 5: Historic Environment

Angus Local Plan Review (2009)*

The Angus Local Plan was adopted by Angus Council in February 2009. The document can be viewed and downloaded at www.angus.gov.uk/localplan

The main policies that may be relevant to energy proposals are listed below under the document headings:

General Policies

S1: Development Boundaries
S2: Accessible Development
S3: Design Quality
S4: Environmental Protection
S5: Safeguard Areas
S6: Development Principles and Schedule 1 : Development Principles

Building Sustainable Communities

SC19: Rural Employment

Environment and Resources

ER1: Natura 2000 and Ramsar Sites
ER2: National Nature Reserves and Sites of Special Scientific Interest
ER3: Regional and Local Designations
ER4: Wider Natural Heritage and Biodiversity
ER5: Conservation of Landscape Character
ER6: Trees, Woodlands and Hedgerows
ER7: Trees on Development Sites
ER10: Light Pollution
ER12: Development Affecting Conservation Areas
ER16: Development Affecting the Setting of a Listed Building
ER18: Archaeological Sites of National Importance
ER19: Archaeological Sites of Local Importance
ER20: Historic Gardens and Designed Landscapes
ER25: Water Resource Protection
ER27: Flood Risk – Consultation
ER28: Flood Risk Assessment
ER29: Coastal Development
ER30: Agricultural Land

*Hard copies of these documents can also be viewed at Angus Council libraries and ACCESS offices; and at Planning & Transport Reception County Buildings Forfar

APPENDIX 4: Print Version Maps

The print maps are illustrative of detailed information that can be accessed via the web-based version of the Implementation Guide, They are intended to indicate the location and range of International, National and Local designations and other considerations within the ALPR area.

Map 1 ALPR Boundary

Map 2 International Designations

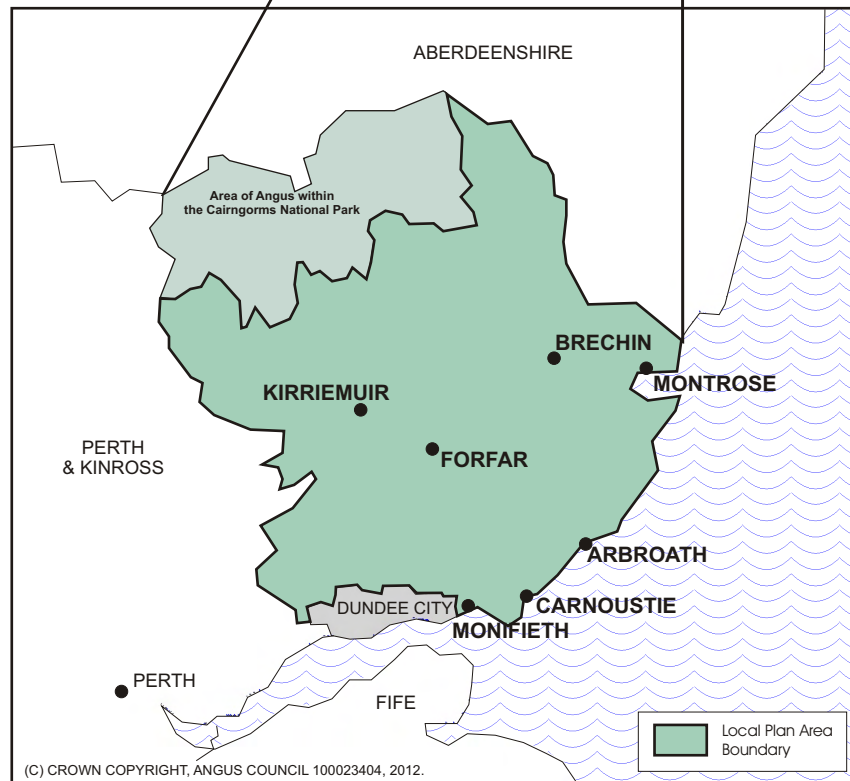
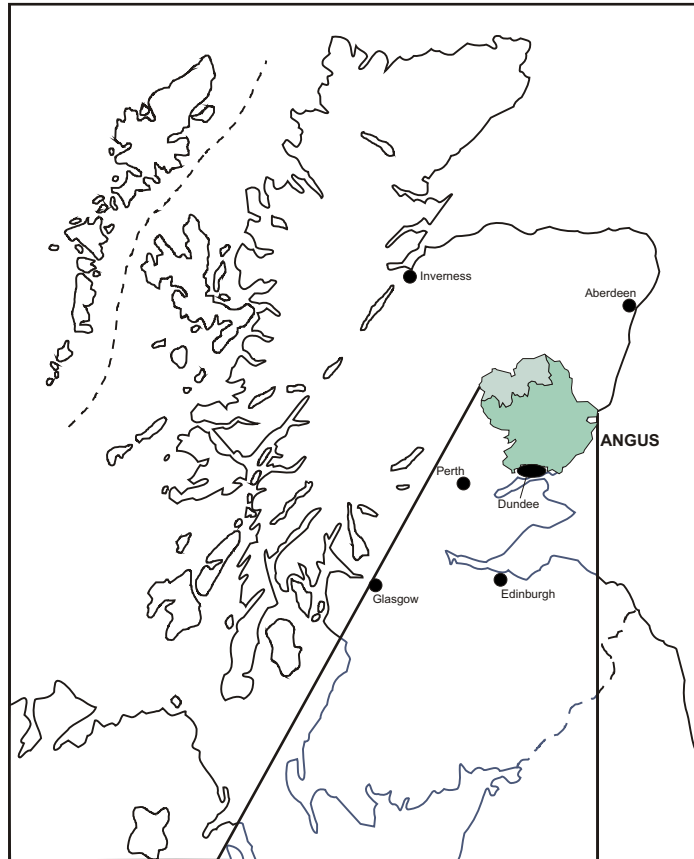
Map 3 National Designations

Map 4 Local Designations

Map 5 Other Considerations





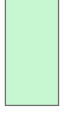
Angus - Location

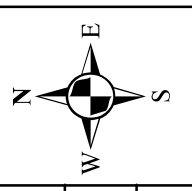
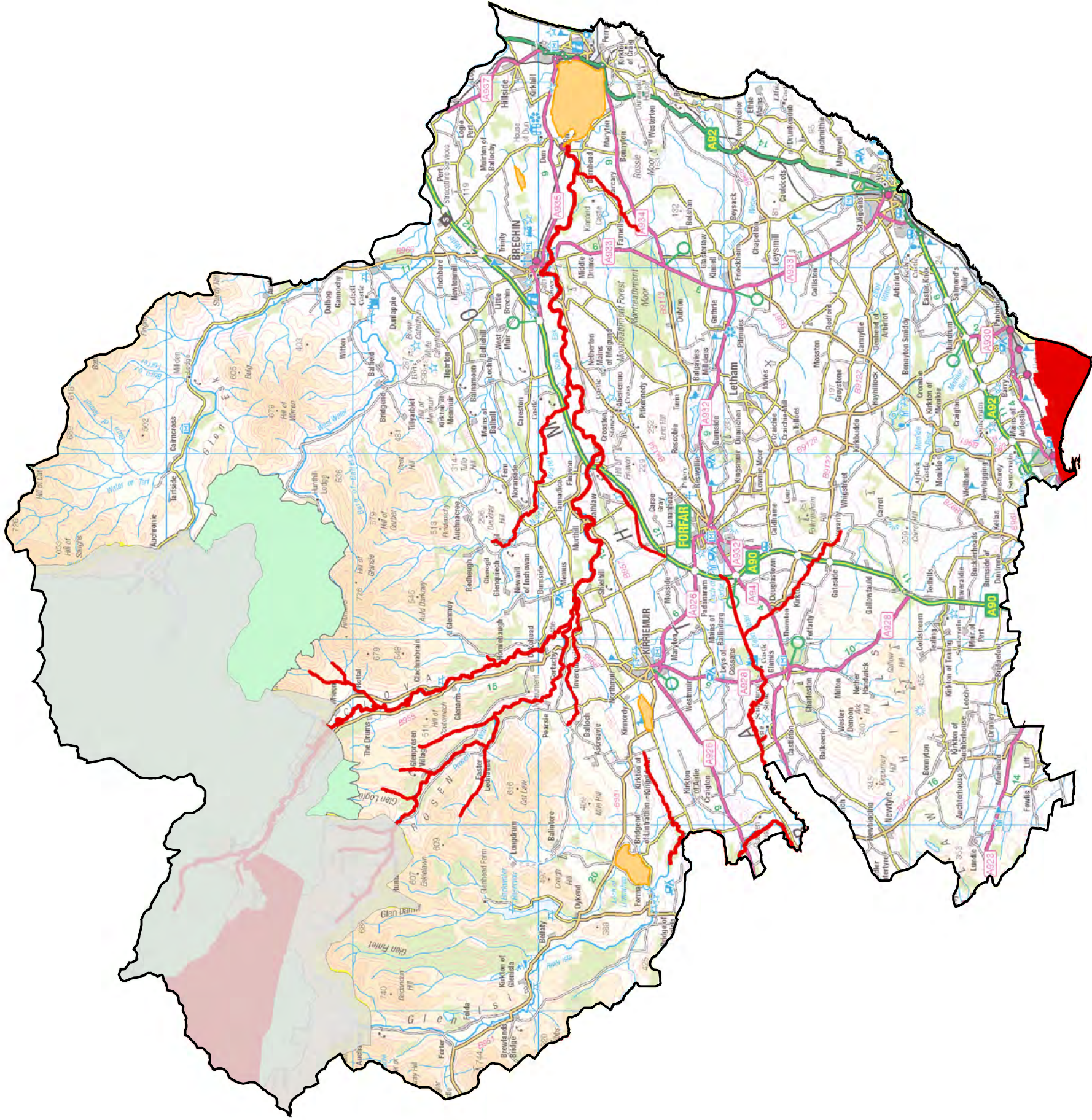
The National Context

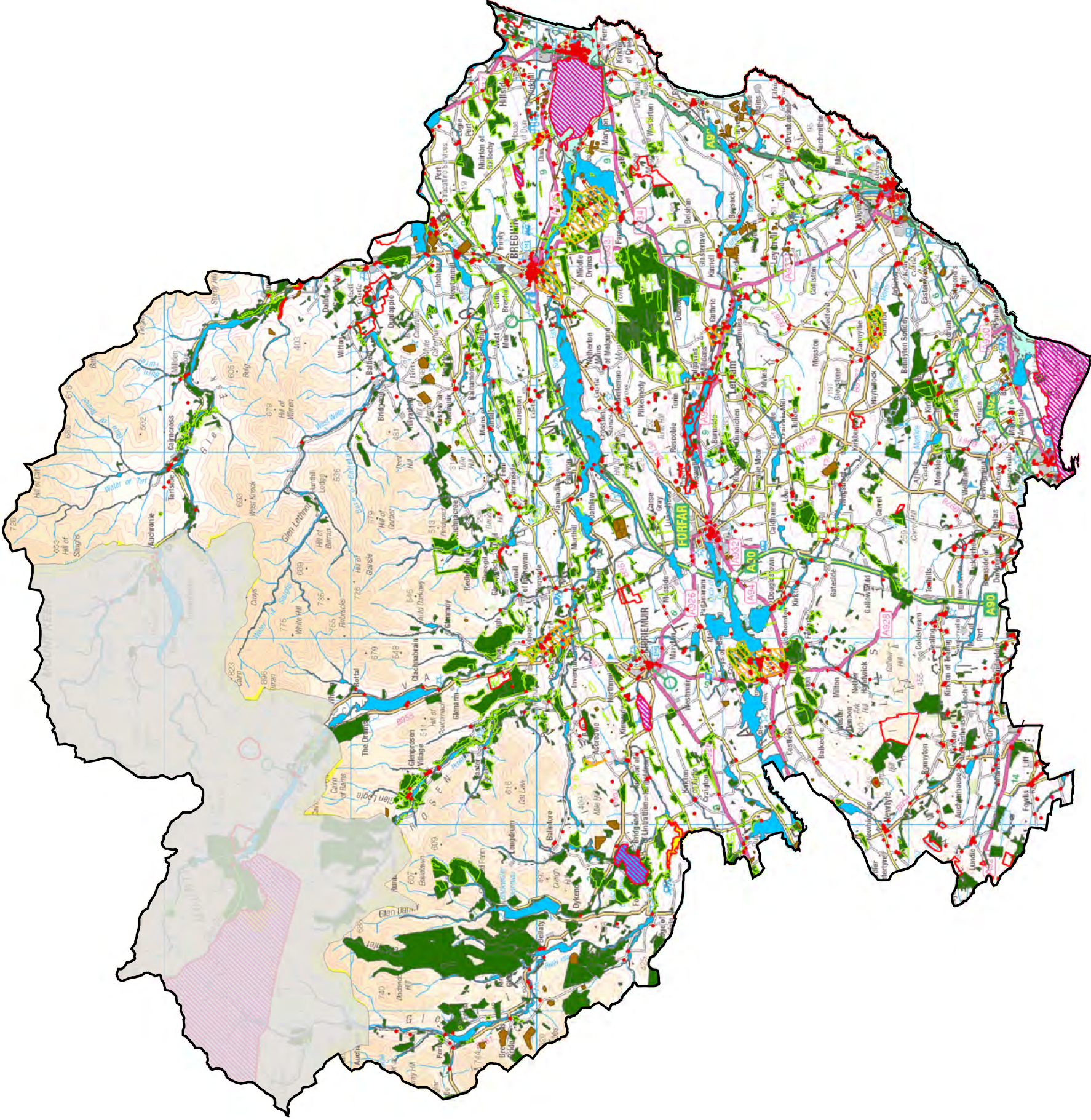


Note: The Angus Local Plan Review excludes that part of northern Angus which lies within the designated boundary of the Cairngorms National Park.













International Designations

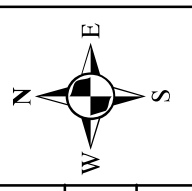
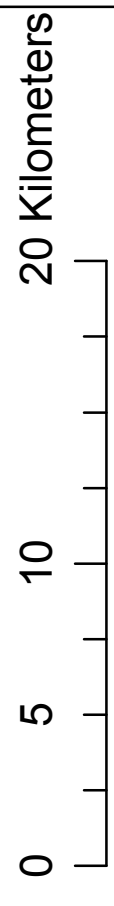
-  Angus Council Boundary
-  Area of Angus within Cairngorms National Park
-  Special Areas of Conservation (SAC)
-  RAMSAR sites
-  Special Protection Areas (SPA)

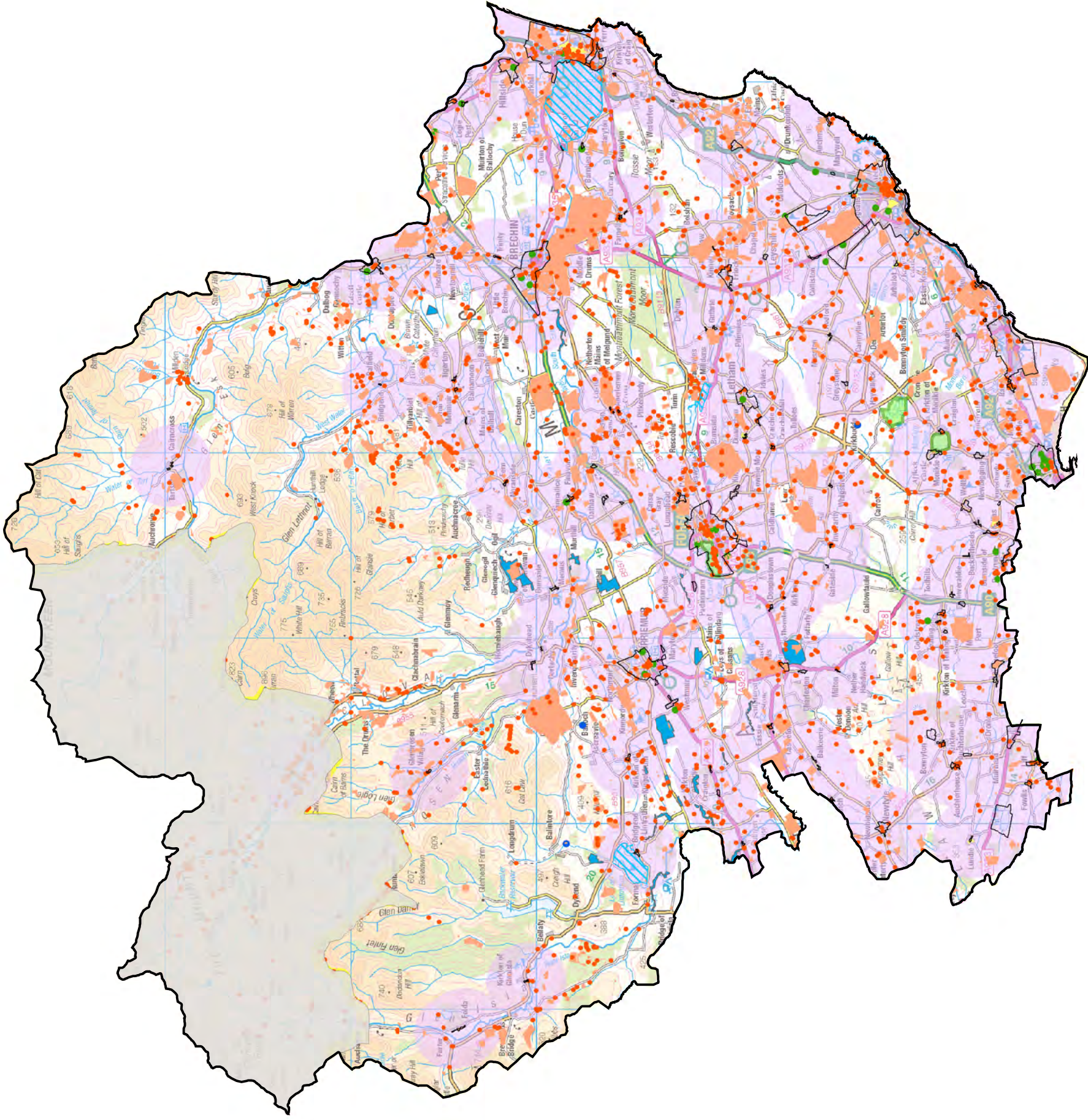















National Designations

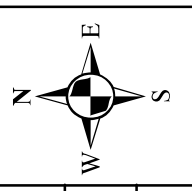
-  Angus Council Boundary
-  Area of Angus within Cairngorms National Park
-  RSPB Important Bird Areas
-  Historic Scotland Listed Buildings
-  Sites of Special Scientific Interest (SSSI)
-  Historic Scotland Scheduled Ancient Monuments
-  National Nature Reserves (NNR)
-  Scotland Ancient Woodland Inventory
-  Historic Gardens and Designated Landscapes (HGDL)
-  Woodland Map of Scotland
-  200yr SEPA map Coastal Flooding
-  200yr SEPA map Fluvial Flooding

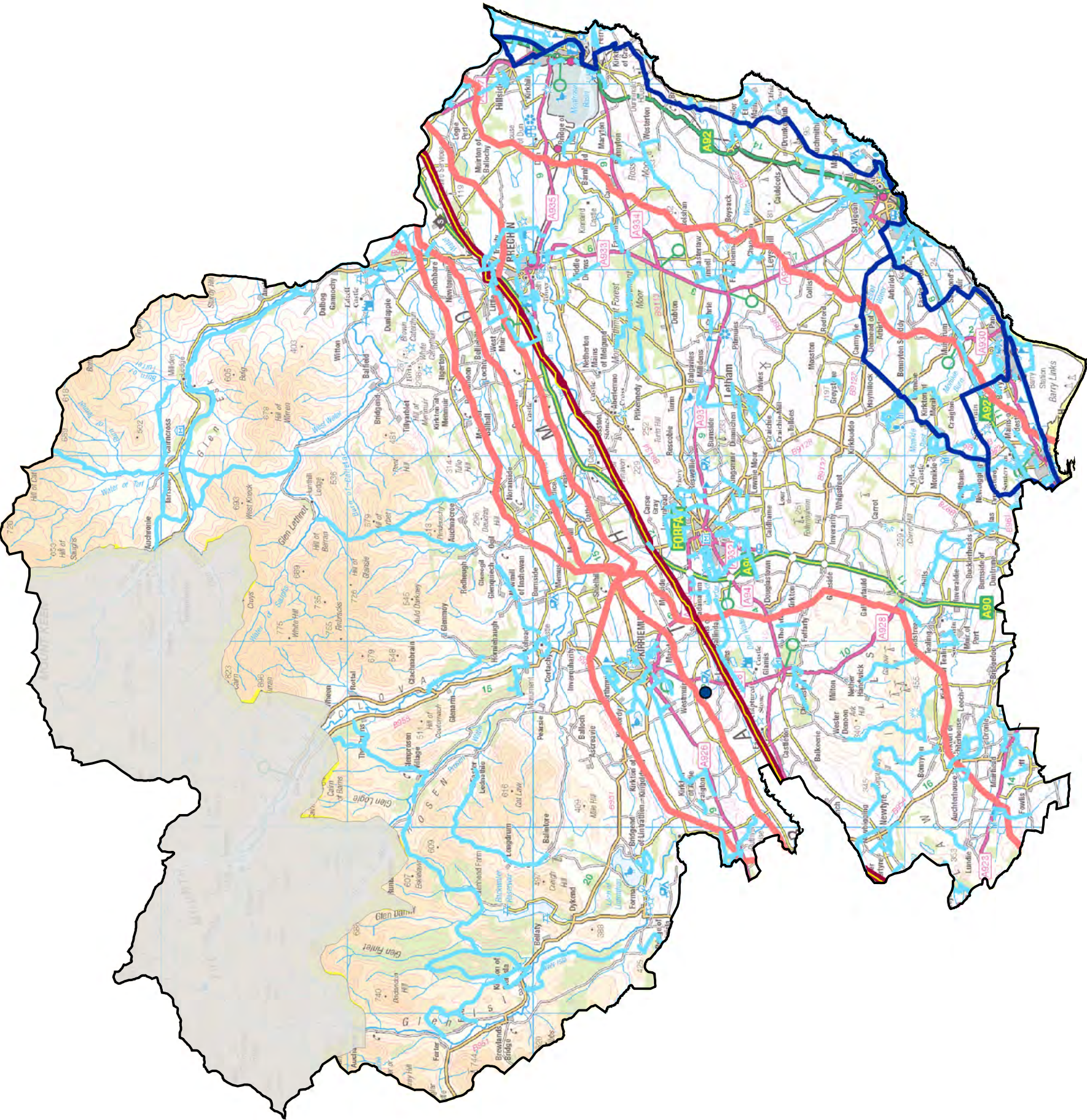












Local Designations

-  Angus Council Boundary
-  Area of Angus within Cairngorms National Park
-  Development Boundaries
-  Scottish Wildlife Trust Reserves
- Archaeological Points
-  Country Parks
-  Archeological Areas
- Angus Wildlife Sites (Points)
-  Angus Wildlife Sites (Areas)
- Tree Preservation Orders (Point)
-  Tree Preservation Orders (Polygons)
-  Conservation Areas
-  Local Nature Reserves
-  Development Boundaries Plus 2km





Other Considerations

-  Angus Council Boundary
-  Area of Angus within Cairngorms National Park
-  Private Airfields
-  National Cycle Network
-  Adopted Core Paths
-  Shell Pipeline
-  BP Pipeline
-  National Grid High Pressure Gas Pipe



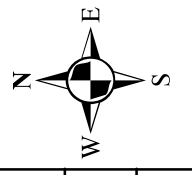
Infrastructure Services
 Planning & Transport
 County Buildings
 Market Street
 Forfar
 DD8 3LG

Map 5 - Other Considerations

Date Produced: 30/01/2012

Drawn by: CM

Scale: 1:250,000



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STANDING ORDERS

AND

RELATED DOCUMENTS

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STANDING ORDERS

OF

THE COUNCIL

NOVEMBER 2012

ANGUS COUNCIL

STANDING ORDERS

NOTE: Standing Orders in italics relate to statutory provisions

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PART I - PRELIMINARY

1. Application of Interpretation Act

The Interpretation Act 1978 applies to the interpretation of these Standing Orders as it applies to the interpretation of an Act of Parliament.

2. Commencement

These Standing Orders shall apply with effect from 16 September 2011.

3. Definitions

In these Standing Orders, the following words and expressions shall have the meanings hereinafter expressly assigned to them, that is to say:-

“Council” means the Angus Council established by the 1994 Act

“the 1973 Act” means the Local Government (Scotland) Act 1973

“the 1989 Act” means the Local Government and Housing Act 1989

“the 1994 Act” means the Local Government etc (Scotland) Act 1994

“Proper Officer” means the person designated as such and for the purpose specified by the Council

“Head of Paid Service” means the person designated as such by the Council under Section 4 of the 1989 Act

“Monitoring Officer” means the person designated as such by the Council under Section 5 of the 1989 Act, or, if that person is unable to act owing to absence or illness, the person nominated by him/her as his/her deputy under sub-section (7) of that section

“Finance Officer” means the person designated by the Council for the purpose of Section 95 of the 1973 Act

“Director” means the Director of Corporate Services, Education, Infrastructure Services, Neighbourhood Services or Social Work and Health

“Standing Committee” means a Committee referred to in Standing Order No 30 or any other Committee which may be so designated by the Council at any time

“Order of Reference” means the Order of Reference specifying the functions referred and the functions delegated to the respective Standing Committees, as appended to these Standing Orders

“Scheme of Delegation” means the Scheme of Delegation specifying the functions delegated to the respective officers, as appended to these Standing Orders

“Statutory Officers” have the meaning shown in Standing Order 44

“Working day” means any day, excluding Saturday and Sunday and any day on which Angus Council’s offices are closed.

“Clear day” means in relation to a notice, summons, or application, a working day falling between the date of the notice, summons or application and the meeting to which the notice, summons or application relates, but excluding the date of the notice, summons or application and the date of the meeting to which the notice, summons or application relates.

4. Financial Regulations

- (1) The Council shall make Financial Regulations to provide the framework within which the financial administration is to be conducted and ensure that sound financial control is operated. The provisions in Standing Orders, the Order of Reference of Committees and the Scheme of Delegation to Officers should be applied in accordance with the Council's Financial Regulations.
- (2) The provisions of the Financial Regulations made by the Council in accordance with (1) above, so far as relating to procedures for tendering and contracts, shall be deemed to be part of these Standing Orders for the purposes of Section 81 of the 1973 Act.
- (3) The provisions of the Financial Regulations shall be read in conjunction with these Standing Orders in relation to the procedures for determining the annual revenue and capital budgets.

5. Application of Standing Orders to Committees and Sub-Committees

In these Standing Orders, those marked † in the margin shall apply (with the necessary changes) to Committees and Sub-Committees.

PART II - MEETINGS AND PROCEEDINGS OF THE COUNCIL

6. First Meeting of the Council after Elections

- (1) *The first meeting of the Council after the periodic ordinary election of Councillors shall take place on such date (within 21 days of the date of the election) as the Council may have determined prior to the election.*
- (2) Business to be transacted at such meeting shall be:-
 - (i) *the election, from among the members of the Council, of the Convener of the Council, who shall be known as the Provost, and, until such election has been completed, the Returning Officer shall preside;*
 - (ii) *the election of a Depute Convener of the Council, who shall be known as the Depute Provost;*
 - (iii) the election of a Convener and Vice-Convener of each of the Standing Committees of the Council;
 - (iv) the appointment of the members of Standing Committees;
 - (v) the appointment of members to represent the Council on Joint Boards, Joint Committees of the Council and other local authorities, and outside bodies on which the Council is entitled to be represented; and
 - (vi) *the adoption of a timetable of meetings of the Council.*
- (3) *In the case of an equality of votes, the Provost shall have a second or casting vote, except in any vote relating to the appointment of a member of the Council to any office, Committee or Sub-Committee, or to represent the Council on any other body, where, in the case of equality of votes the matter shall be determined by lot the method of which will be by the cutting of cards.*

7. Conveners and Vice-Conveners

- †(1) *At a meeting of the Council, the Provost or, in his/her absence, the Depute Provost shall preside. In the absence of both the Provost and Depute Provost, the Proper Officer shall call on the members of the Council to choose a member to preside.*
- (2) The term of office of the Provost and Depute Provost and of the Conveners and Vice-Conveners of Standing Committees shall be the term of office of the Council or, in the case of a person appointed to fill a casual vacancy, the remainder of that term.
- (3) The holders of the offices mentioned in sub-paragraph (2) above shall cease to hold office immediately on their ceasing to be a Councillor and shall be entitled to resign at any time during their term of office. At the conclusion of their term of office, they shall be eligible for re-election provided that they are re-elected as Councillors.
- (4) On a casual vacancy arising in any of these offices, an election to fill the vacancy shall be held as soon as practicable at a meeting of the Council, the agenda for which shall specify the filling of the vacancy as an item of business, and the election shall be conducted in the manner specified in Standing Order 6(3).

8. Meetings of the Council

- †(1) *Meetings of the Council shall be held at the places agreed by the Council or at such other places as the Provost shall determine.*
- (2) The ordinary meetings of the Council shall be held in accordance with the timetable approved by the Council, except that the Provost shall have the power, where in his/her sole discretion special circumstances so require, to alter the date of any meeting.

- (3) Special meetings of the Council for the consideration of the annual budget shall take place in accordance with the timetable fixed from time to time by the Corporate Services Committee.
- (4) *A special meeting of the Council may be called at any time by the Provost or if required by at least seven members of the Council, and in the latter case shall be held within fourteen days of receipt of the requisition by the Head of Law & Administration.*

In the case of a requisitioned meeting, the notice required to be published in terms of Standing Order 9 shall in addition be signed by the members calling the meeting and shall specify the business proposed to be transacted at the meeting.

†9. **Calling of Meetings**

- (1) *Not less than three clear days before a meeting of the Council:*
- (i) *notice of the time and place of the meeting shall be published at the principal office of the Council; and*
- (ii) *a summons to attend the meeting, with an agenda specifying the business to be transacted and signed by the Head of Law and Administration, shall be delivered or sent by post to the usual place of residence of every member of the Council or such other place as a member may have specified by notice in writing to the Head of Law and Administration.*
- (2) *The validity of any meeting of the Council shall not be affected by the failure of any member to receive notice of a meeting.*

10. **Quorum**

- (1) *Subject to any statutory provision, seven members shall constitute a quorum at all meetings of the Council.*
- †(2) If, ten minutes after the time specified for the start of a meeting of the Council, a quorum is not present, no business shall be transacted and the meeting shall be adjourned until such date and time as the Provost shall determine.
- †(3) If, during any meeting of the Council, the Provost finds that there are fewer than seven members present, the meeting shall be suspended. At the end of ten minutes, the roll shall be called and if a quorum is not present, the meeting shall be adjourned until such other date and time as the Provost shall determine.

11. **Order of Business**

- (1) At an ordinary meeting of the Council, the business shown on the agenda shall (unless otherwise agreed by the Council at the meeting) proceed in the following order:-
- (i) Declarations of Interest;
- (ii) Reception of deputations;
- (iii) Minutes of the Council and Committees (which, unless reported for information only, shall be read or held as read, considered and disposed of);
- (iv) Questions of which due notice has been given in terms of Standing Order 23(1), in the order in which they have been received by the Head of Law and Administration;
- (v) Motions of which due notice has been given in terms of Standing Order 24(1) in the order in which they have been received by the Head of Law and Administration;
- (vi) General Business, including matters which the Council is required by statute to enact at a meeting of the authority;

(vii) Business determined by the Provost to be a matter of urgency by reason of special circumstances.

†(2) *Except as otherwise prescribed by statute, no item of business shall be considered at a meeting of the Council unless either:-*

(i) *a copy of the agenda including the item has been open in advance to inspection by members of the public in terms of the 1973 Act; or*

(ii) *by reason of special circumstances which shall be recorded in the minutes of the meeting, the Provost is of the opinion that the item should be considered at the meeting as a matter of urgency.*

†12. Reception of Deputations

- (1) Every application for the reception of a deputation must be in writing, duly signed and delivered or faxed or e-mailed to the Head of Law and Administration no later than 5pm on the working day preceding the meeting at which the deputation wish to be received. The application must state the subject on which the deputation wish to be received and the action (if any) which it is proposed that the Council should take.
- (2) If the application to be received is granted (if necessary after a vote), the deputation shall consist of not more than ten persons.
- (3) No more than two members of any deputation shall be permitted to address the meeting and they may speak in total for no more than ten minutes.
- (4) Any member of the Council may put any relevant question to the deputation, but shall not express any opinion on the subject matter until the deputation has withdrawn. If the subject matter relates to an item of business on the agenda, no debate or discussion on it shall take place until the relevant minute or other item falls to be considered in terms of the order of business.
- (5) No deputation from a party will be considered on an item relating to tenders.

†13. Applicants, Supporters and Objectors

- (1) Where the Council is acting in a regulatory capacity, applicants, supporters and objectors, along with other persons whose Convention rights (within the meaning of Section 1(2) of the Human Rights Act 1998) are or will be directly affected by the decision of the Council, shall be given an opportunity to address orally any points which they wish the relevant meeting of the Council, Committee or Sub-Committee to take into account in coming to its decision. For the avoidance of doubt, this shall not be an opportunity to table submissions, drawings, plans, show slides/make visual presentations, unless the Convener of the meeting, in his/her sole discretion, considers it appropriate in exceptional circumstances to permit this.
- (2) Subject to any statutory provisions providing differently, the following procedures shall apply to applicants, supporters, objectors and any other persons with an interest (hereinafter referred to as "relevant parties") who wish to address a meeting to which this Standing Order applies.
- (3) Relevant parties who wish to be heard at a meeting must submit an application (either in writing, by electronic mail, by facsimile transmission or by telephone) to the Head of Law and Administration no later than 5.00 pm on the working day preceding the meeting at which they wish to be heard. For the avoidance of doubt, all statutory consultees on a regulatory matter shall be exempt from the need to apply to be heard at meetings.

- (4) Relevant parties (or any spokesperson representing them) shall be allowed an appropriate time in which to present their case. However, the Convener of the meeting may restrict any lengthy speeches by parties, for example where a point is merely being repeated, and, in the interest of business efficiency, give guidance to the speakers as to what he/she considers to be a reasonable time (normally 5 minutes). After each individual relevant party has spoken, a member of the Committee or Sub-Committee (or at a meeting of the Council, a member of the Council) may put any relevant question to that speaker, but shall not express an opinion on the subject matter until the relevant parties have withdrawn to the public benches.
- (5) For the avoidance of doubt, applicants shall have the last word in relation to their application and shall therefore be permitted to speak after all other relevant parties have been heard.

†14. Order of Debate

- (1) Any member of the Council wishing to speak at any meeting of the Council shall so indicate by raised hand and, when called upon, shall stand and address the Provost and restrict his/her remarks:-
 - (i) to the matter before the meeting by moving, seconding or supporting a motion or any relative amendment;
 - (ii) to moving or seconding a procedural motion;
 - (iii) to asking a question;
 - (iv) to making a point of clarification; or
 - (v) to raising a point of order.
- (2) No member shall speak in support of a motion or amendment until it has been seconded.
- (3) No member shall speak more than once (except when raising a point of order, making a point of clarification, moving or seconding a procedural motion) in a debate on any one motion and amendment. However, the mover of the substantive motion (or an amendment which has become the substantive motion) in any debate shall have a right of reply but, in so replying, shall not introduce any new matter.
- (4) After the mover of the substantive motion has commenced his/her reply, no member shall speak in the debate except when raising a point of order or moving or seconding a procedural motion.
- (5) Any member wishing to raise a point of order may do so (but only immediately after it has arisen) by rising and stating that he/she is raising a point of order. Any member then speaking shall resume his/her seat and the Provost shall call upon the member raising the point of order to state its substance. No other member shall be entitled to speak to the point of order except with the consent of the Provost. The Provost shall give a ruling on the point of order, either immediately, or after such adjournment as he/she considers necessary. Thereafter, the member who was previously speaking shall resume his/her speech, provided the ruling so permits.
- (6) Any member wishing to ask a question relating to the matter under consideration may do so at any time before the formal debate begins.

†15. Motions and Amendments

- (1) The mover of any motion or amendment shall, immediately upon being called upon by the Provost to speak, state the exact terms of the motion or amendment before proceeding to speak in support thereof. The mover shall also deliver such terms to the Head of Law and Administration before any vote is taken, except in the case of:-
 - (i) motions or amendments to approve or disapprove without further qualification;
 - (ii) motions or amendments to remit for further consideration; and
 - (iii) motions or amendments the terms of which have been fully set out in a minute of a Committee or Report by an officer.
- (2) Every amendment must be relevant to the motion to which it is moved. The Provost shall decide as to the relevancy and shall have the power, with the consent of the meeting, to conjoin motions or amendments which are not inconsistent with each other.
- (3) All additions to, omissions from, or variations upon a motion shall be considered as amendments to the motion and shall be disposed of accordingly.
- (4) A motion or amendment once moved and seconded shall not be withdrawn without the consent of the mover and seconder thereof.
- (5) Where an amendment to a motion has been moved and seconded, no further amendment may be moved until the result of the vote arising from the first amendment has been announced.
- (6) If an amendment is rejected, a further amendment to the original motion may be moved. If an amendment is carried, it shall take the place of the original motion and any further amendment shall be moved against it. Following consideration of the original amendment, a maximum of two further amendments to a motion will be permitted, subject to the member proposing to move such an amendment giving notice of it prior to the vote being taken.
- (7) A motion for the approval of a minute (or any part thereof) or a report of a Committee shall be considered as an original motion and any proposal involving alteration or rejection of such minute shall be dealt with as an amendment.
- (8) The Provost shall have the prior right to move the approval of the minute (or any part thereof) of any meeting of the Council or any recommendations in a Report by an officer.
- (9) A motion (which has not been the subject of a report or recommendation to the Council) which would involve expenditure not provided for, or reduce income provided for in the Capital or Revenue Budgets shall not be competent unless accompanied by information provided by the Head of Finance on the costs and funding options, unless the Council in an emergency specifically resolves otherwise (see Guidance Note attached).
- (10) A motion to challenge the accuracy of a minute of a meeting shall not be competent unless intimated in writing to the Head of Law and Administration at least two working days prior to the meeting at which the minute is being submitted for approval as a correct record, unless the said minute has not been circulated with the papers for the meeting.
- (11)
 - (i) A motion or amendment moved but not seconded, or which has been ruled by the Provost to be incompetent, shall not be put to the meeting nor shall it be recorded in the minute, unless the mover immediately gives notice to the Head of Law and Administration requesting that it be so recorded.
 - (ii) Alternatively, a member may request his/her dissent to be recorded in the minute in respect of a decision with which he/she disagrees.

†16. Time allowed for speaking

- (1) A member who is moving any motion or amendment (other than a motion for the adoption of annual reports, accounts or budget) shall not speak for more than five minutes, other members shall not speak for more than three minutes and the mover in exercising a right of reply shall not speak for more than three minutes.
- (2) These time limits may be exceeded with the consent of the majority of the members present and the Provost shall be entitled to gauge such consent in relation to any speech without taking a vote.

†17. Closure of Debate

- (1) At any meeting of the Council, it shall be competent after eight or more members (including the movers and seconders of a motion and amendment) have spoken in a debate on any one motion and amendment, for any member who has not spoken in such debate to move "that the question be now put".
- (2) Such motion, if duly seconded, shall, without any discussion or amendment, be put to the vote. If the motion for closure is carried, the debate on the substantive motion shall cease except for the mover's right of reply, and the substantive motion and amendment shall immediately be put to the vote. If the motion for closure is not carried, the debate shall be resumed. Subsequent motions for closure may be made after a further three members have spoken.
- (3) No motion for closure may be made during the course of a speech.
- (4) This Standing Order will not apply to meetings of the Development Standards Committee, Civic Licensing Committee or any other Committee and/or Sub-Committee when acting in a quasi-judicial capacity.

†18. Voting

- (1) *Subject to Standing Order 26 and any statutory provisions regarding a minimum number of votes required to decide a matter, every question shall be determined by a majority of votes of the members present and voting.*
- (2) *In the case of an equality of votes, the Provost shall have a second or casting vote, except in any vote relating to the appointment of a member of the Council to any office, Committee or Sub-Committee, or to represent the Council on any other body, where, in the case of equality of votes the matter shall be determined by lot.*
- (3) Every vote shall be taken by roll call beginning with the Provost, except:-
 - (i) where prior to the vote on any particular matter, the members present agree unanimously that it be taken by show of hands;
 - (ii) where prior to the vote on any particular matter, the members present resolve (in the event of a division, by a roll call vote) that it be taken by ballot;
 - (iii) in the case of any matter relating to the appointment of a particular member of staff or relating to disciplinary or grievance proceedings affecting a particular member of staff, when the vote shall be taken by show of hands, or, if so resolved, by ballot.
- (4) Immediately prior to any vote being taken, the Head of Law and Administration shall read out the question on which the vote is to be taken. Thereafter, no one shall interrupt the proceedings until the result of the vote has been announced.

†19. Voting in the case of vacancies and appointments

- (1) In the filling of vacancies in the membership of any Committee or Sub-Committee and the making of appointments of members of the Council to any body, where more than one candidate has been nominated and seconded, members shall be entitled to vote for up to as many candidates as there are places to be filled. Candidates shall be appointed in the order of number of votes received until all vacant places have been filled.
- (2) In the event of two or more candidates tying with the lowest number of votes to fill the last vacant place, a further vote shall be taken between or among those candidates, each member having one vote, and in the event of a further tie, the appointment shall be determined by lot.

†20. Adjournment and duration of meetings

- (1) During any meeting of the Council, it shall be competent for a member, at any time, except in the course of a speech by another member, to move that the meeting be adjourned, but no motion for adjournment may be made within thirty minutes of a motion for adjournment having previously been rejected if the Council is still considering the same item of business.
- (2) A motion for adjournment shall have precedence over all other motions and, if moved and seconded, shall be put to the meeting without discussion or amendment.
- (3) If the motion is carried, the meeting shall be adjourned until the time specified in the motion, or such other time as the Council may then fix, being on the same day or any other day within a period of four weeks.
- (4) Where a meeting has been adjourned without a time for its resumption having been fixed, it shall be resumed at such other time as may be fixed by the Provost.
- (5) When an adjourned meeting is resumed, the proceedings shall be commenced at the point at which they were interrupted by the adjournment.
- (6) The Provost may adjourn any meeting of the Council if he/she is of the opinion that the business of the meeting cannot properly be conducted by reason of disorder. Such adjournment shall be signified by the Provost rising and quitting the Chair and shall be for one hour or such shorter period as may be specified by the Provost at that time.
- (7) Every meeting of the Council, or meeting of the final committee of a number of consecutive committee meetings, shall end not later than 3 hours (excluding any period as a result of (6) above) after the time at which the Council, or the first committee meeting of that group, commenced.
- (8) It shall, however, be competent, before the expiry of the time limit, for any member to move that the meeting be continued for such further period as is deemed appropriate.

†21. Powers and Duties of Provost

- (1) It shall be the duty of the Provost:-
 - (i) to preserve order and ensure that any member wishing to speak is given due opportunity to do so and a fair hearing;
 - (ii) to call members to speak according to the order in which they caught his/her eye;
 - (iii) to decide all matters of order, competency and relevancy.
- (2) The decision of the Provost on all matters referred to in this Standing Order shall be final and shall not be open to question or discussion in any meeting of the Council.

- (3) Deference shall at all times be paid to the authority of the Provost. When the Provost commences speaking, any member then standing shall resume his/her seat, no other member shall rise and the Provost shall be heard without interruption.

†22. Suspension of Members

- (1) If any member of the Council disregards the authority of the Provost, obstructs the meeting or, in the opinion of the Provost otherwise acts in an offensive manner at a meeting, the Provost may move that such member be suspended for the remainder of the meeting. If seconded, such a motion shall be put to the vote immediately without discussion.
- (2) If such a motion is carried, the suspended member shall leave the meeting room immediately. If the member fails to comply, the Provost may order the suspended member to be removed from the meeting by the Council Officer or by any other specified person or persons.
- (3) A member who has been suspended in terms of this Standing Order shall not re-enter the meeting room except with the consent of the meeting.
- (4) In the event of a motion for suspension of a member being defeated, the Provost may, if he/she thinks it appropriate to do so, adjourn the meeting as if a state of disorder had arisen.

23. Questions

- (1) At any ordinary meeting of the Council, a member may put a question to the Provost, or to the Convener of any Standing Committee relating to the functions of that Committee, irrespective of whether the subject matter of the question relates to business which would otherwise fall to be discussed at that meeting, provided that notice in writing of the question, duly signed, has been delivered to the Head of Law and Administration, not later than 4 working days before the meeting.
- (2) One supplementary question, limited to clarifying any answer given, may be asked by the original questioner.
- (3) No discussion shall be permitted on any question or answer which does not relate to an item of business otherwise falling to be considered at that meeting.
- (4) Questions of which notice has been given in terms of paragraph (1) above, and the answers thereto, shall be recorded in the minutes of the meeting only if the questioner so requests, but any supplementary questions and the answers thereto shall not be so recorded.

†24. Notice of Motions

- (1) At any ordinary meeting of the Council, a member may propose a motion which does not directly relate to an item of business under consideration at the meeting, only if prior notice in writing of such motion has been given to the Head of Law and Administration at least 7 clear days before the meeting.
- (2) The terms of motions of which notice has been given in terms of (1) above shall appear as items of business for consideration at the next ordinary meeting of the Council.
- (3) If a member who has given notice of a motion is absent from the meeting when the motion falls to be considered or, if present, fails to move it, any other member shall be entitled to move it, failing which the motion shall fall.

†25. Alteration or Revocation of Previous Decision

- (1) Subject to (2) below, a decision shall not be altered or revoked within a period of 6 months from the date of such decision being taken.

- (2) Where the Provost rules that a material change of circumstances has occurred to such extent that it is appropriate for the issue to be reconsidered, a decision may be altered or revoked within 6 months by a subsequent decision arising from:-
- (i) a recommendation to that effect, by an officer in a formal Report; or
 - (ii) a motion to that effect, of which prior notice has been given in terms of Standing Order 24.
- (3) This Standing Order shall not apply to the ongoing progression or development of an issue on which a decision is required.

†26. Suspension of Standing Orders

- (1) It shall be competent for a member at any time during a meeting to move suspension of the whole or any specified part of any of the following Standing Orders:-
- 12 Reception of deputations;
 - 13 Applicants, Supporters and Objectors;
 - 23 Questions;
 - 24 Notices of motion;
 - 25 Alteration or revocation of previous decision
 - 35 Rights of Members to attend meetings, etc.
- and such a motion, if duly seconded, shall be put to the vote immediately without amendment or discussion.
- (2) No motion for the suspension of Standing Order 25 (alteration or revocation of previous decision) shall be held to have been carried unless it has received the vote of not less than two thirds of the members present and voting.

†27. Admission of Public and Press

- (1) *Except where otherwise required by statute, every meeting of the Council shall be open to the public and press.*
- (2) *The Council may, however, by resolution exclude the public and press while considering any matter which falls within the categories of "exempt information" specified in Schedule 7A to the 1973 Act. (appended hereto)*
- (3) *The terms of any such resolution specifying the part of the proceedings to which it relates and the categories of exempt information involved shall be specified in the minutes.*

†28. Exclusion from Meeting of Members with other Interests

- (1) Members should be aware of their need to comply with The Councillors' Code of Conduct.
- (2) A member who has made a declaration in terms of Section 112 of the Local Government Finance Act 1992 (by reason of being in arrears with Community Charge or Council Tax) shall be entitled to be present during the discussion of and to speak in relation to any matter to which that section applies but not to propose or second any motion relative thereto or to vote on the matter.
- (3) This Standing Order shall apply to persons other than members of the Council who are members of any Committee or Sub-Committee in the same way as if they were members of the Council.

PART III - COMMITTEES AND SUB-COMMITTEES

29. Appointment of Committees

- (1) Subject to any statutory provision, the Council shall appoint the Standing Committees referred to in Standing Order 30, and may at any time appoint Committees for any purpose it deems necessary.
- (2) The Council shall delegate or refer to such Committees such matters as it may from time to time think fit. The matters so delegated or referred to Standing Committees shall be those set out in the Order of Reference of those Committees appended hereto.

30. Standing Committees

The Standing Committees of the Council shall be:-

Civic Licensing
 Corporate Services
 Development Standards
 Education
 Infrastructure Services
 Neighbourhood Services
 Social Work and Health
 Scrutiny and Audit
 Strategic Policy

31. Membership of Standing Committees

- (1) The Development Standards and Civic Licensing Committees shall consist of 13 members of the Council comprising two members from each four member ward and one member from each three member ward.
- (2) The Education Committee shall consist of 15 members of the Council, and in addition, five persons who are not members of the Council, being:-
 - (i) *three persons representative of church interests, appointed in terms of Section 124 of the 1973 Act; and*
 - (ii) two teachers employed in educational establishments under the management of the Council, nominated in such manner as the Council may determine.
- (3) All other Standing Committees of the Council shall consist of 15 members of the Council except for Scrutiny and Audit Committee which shall consist of 13 members with not less than 8 of those appointed being councillors who are not members of the Administration.
- (4) In appointing members to Committees, the Council shall, so far as possible, give effect to the principles regarding political balance set out in the 1989 Act except in the case of the Scrutiny and Audit Committee where the majority of members must not be members of the Administration. The Leader and Depute Leader of the Council are not permitted to be members of the Scrutiny and Audit Committee.
- (5) Members shall be appointed to Committees at the first meeting of the Council after the ordinary election of Councillors. It shall, however, be competent for the Council to vary the membership at any time, provided:
 - (i) that the political balance referred to in (4) above is maintained; and
 - (ii) that each member of the Council is afforded proper opportunity to serve on Committees.

- (6) Persons who are not members of the Council (but who are appointed to any Committee in terms of these Standing Orders) shall, subject to their right to resign, or to any disqualification, remain members of those Committees from the date of their appointment until the next ordinary election of Councillors.
- (7) Substitutes shall be permitted on all Standing Committees of the Council with the exception of the Development Standards and Civic Licensing Committees, subject to intimation being made to the Head of Law and Administration not later than the commencement of the meeting. It shall not however be possible for a member to substitute for only part of a meeting. The Leader and Depute Leader of the Council are not permitted to act as substitutes at meetings of the Scrutiny and Audit Committee.

32. Appointment of Sub-Committees

- (1) Subject to any statutory provision, and to these Standing Orders, each Standing Committee shall appoint the Standing Sub-Committees specified in its Order of Reference, and may at any time appoint such other Sub-Committees for any purpose as it deems necessary.
- (2) Each Standing Committee (excluding Development Standards and Civic Licensing) shall appoint an Executive Sub-Committee comprising three members of the Committee, with delegated powers to decide any matter (other than a matter affecting Council policy):-
 - (i) which would normally be decided by the Standing Committee but which, by reason of its urgency, requires to be decided upon during the annual recess of the Council or, in the case of acceptance of tenders, outwith the approved timetable of meetings and the delegated powers contained in Section 16.8 and Appendix 1 of Financial Regulations; and
 - (ii) which has been specifically referred by the Committee for consideration, at other times of the year.

The Convener of the Committee, in consultation with the Head of Law and Administration, shall determine whether a matter is urgent or is policy in terms of this Standing Order.

- (3) The Executive Sub-Committee of the Strategic Policy Committee shall have delegated powers to consider applications for early retiral/voluntary redundancy from those employed under the Chief Officers Scheme.
- (4) Members of the Executive Sub-Committee appointed in terms of (2) above shall be entitled to appoint substitute members (who need not be members of the parent Committee) to attend in their place. The Leader and Depute Leader may not serve as substitutes to attend the Executive Sub-Committee of the Scrutiny and Audit Committee.
- (5) Subject to any statutory requirement, any two or more Standing Committees may appoint a joint Sub-Committee to discharge such functions of mutual interest as the Standing Committees concerned may determine, and each Standing Committee may delegate to such joint Sub-Committees such of its own delegated functions as it may determine.
- (6) Without prejudice to the foregoing sub-paragraph, any Standing Committee(s) may establish such joint advisory and/or consultative groups, without delegated powers, as it thinks fit. The membership of such groups may include persons who are not members of the Council.

33. Membership of Sub-Committees

- (1) In appointing members to Sub-Committees, a Standing Committee shall, so far as possible, give effect to the principles regarding political balance set out in the 1989 Act save in the case of the Scrutiny and Audit Committee.

- (2) Members shall be appointed to Standing Sub-Committees at the first meeting of the parent Committee after the ordinary election of Councillors. It shall, however, be competent for the Committee to vary the membership at any time thereafter, provided the political balance referred to in (1) above is maintained, so far as possible.
- (3) In appointing any Sub-Committee, a Standing Committee shall appoint members to be Convener and Vice Convener thereof, who shall hold office for such period as the Committee shall specify at the time of appointment (or if no period is fixed, for the life of the Council). The Convener of any Sub-Committee of the Scrutiny and Audit Committee must not be a member of the Administration.

34. Days and Times of Meetings

- (1) The ordinary meetings of the Standing Committees shall be held in accordance with a timetable approved by the Council.
- (2) Special meetings of Standing Committees, and all meetings of Standing Sub-Committees and any other Committee or Sub-Committee, shall be held on such dates and times (including during the recess) as the respective Conveners of those Committees or Sub-Committees shall determine.
- (3) It shall be within the discretion of the Convener of any Committee or Sub-Committee to cancel, advance or postpone an ordinary meeting if, in his/her opinion, there is a good reason for doing so.
- (4) Four or more members of a Standing Committee or two or more members of any other Committee or Sub-Committee, may, by notice in writing, require a special meeting of that Committee or Sub-Committee to be called to consider the business specified in the notice. Such a meeting shall be held within fourteen days of receipt of the notice by the Head of Law and Administration.

35. Right of Members to attend meetings and/or place items on agenda

- (1) Any member of the Council shall be entitled to attend any meeting of any Standing Committee or Standing Sub-Committee (other than those mentioned in Standing Order 39(4)(iii) where the public and press have been excluded) and shall, with the consent of the Committee or Sub-Committee concerned, be entitled to speak for a maximum of three minutes but not to propose or second any motion or to vote.
- (2) A member of the Council, who is not a member of a particular Standing Committee or Standing Sub-Committee and wishes that Committee or Sub-Committee to consider an item of business which is within its remit, shall, at least 7 clear days (or where a meeting is called at shorter notice, as soon as practicable) before an ordinary meeting, give written notice of the item and its general import to the Head of Law and Administration who shall arrange for it to be placed on the agenda of the Committee or Sub-Committee. The member shall be entitled to attend the meeting and speak in relation to the item, but shall not be entitled to propose or second any motion or to vote.
- (3) A member of a Standing Committee or Standing Sub-Committee who wishes to raise any item of business which is within the remit of that Committee or Sub-Committee shall, at least 7 clear days (or where a meeting is called at shorter notice, as soon as practicable) before an appropriate meeting give written notice of the item, its general import and any motion which he/she proposes to move thereon, to the Head of Law and Administration who shall arrange for it to be placed on the agenda of the Committee or Sub-Committee.

36. Notices and Order of Business of Meetings

- (1) Except in cases of urgency, every notice calling a meeting of a Committee or Sub-Committee shall be given in writing at least three clear days before the date of the meeting.

- (2) The agenda issued with the notice calling each meeting of a Committee or Sub-Committee shall specify the business to be transacted and the order in which it will be brought before the meeting. The business shall proceed in that order, unless otherwise resolved by the Committee or Sub-Committee at the meeting.
- (3) Except as mentioned in (4) below, every member of the Council shall be entitled to receive, on request, a copy of every notice calling a meeting of any Committee or Sub-Committee, together with the agenda and any reports.
- (4) The preceding sub-paragraph shall not apply to the agenda and any reports issued in connection with a meeting of the Committee or Sub-Committees listed in Standing Order 39(4), except with the consent of the Committee or Sub-Committee concerned.

37. Quorum

The quorum of Standing Committees and Sub-Committees shall be as follows:-

All Standing Committees	5 members
Executive Sub-Committees	3 Members
All other Committees and Sub-Committees comprising 4 or more members	At least $\frac{1}{4}$ of the whole membership, providing that the quorum shall never be less than 3 members.

38. Minutes of Meetings of Committees and Sub-Committees

- (1) The minutes of each meeting of a Standing Committee shall be submitted as soon as is practicable to an ordinary meeting of the Council for information purposes only. The minutes of each meeting of a Standing Sub-Committee shall be submitted as soon as possible to an ordinary meeting of the parent committee for information purposes only. Minutes of meetings of special Committees and special Sub-Committees may, if the Committee or Sub-Committee so determine, be submitted after the Committee or Sub-Committee has exhausted its remit.
- (2) The minutes of each meeting of a Standing Committee or Sub-Committee shall be submitted to the next meeting of the Committee or Sub-Committee for approval as a correct record and signature by the Convener.

39. Delegation to Committees and Sub-Committees

- (1) The Standing Committees and Sub-Committees of the Council shall have the terms of reference and specific delegated authority specified in the Order of Reference appended hereto.
- (2) Each Standing Committee or Standing Sub-Committee shall have delegated authority to determine any matter within its Order of Reference, with the exception of any specific restrictions contained in Standing Orders or in its Order of Reference.
- (3) Subject to the provisions of Standing Orders 40 and 41, the delegation conferred by the previous sub-paragraph shall not apply where:
 - (i) following a division in Committee (or Sub-Committee), two members immediately indicate that they wish the matter to be referred to the Council (or Committee) for decision; or
 - (ii) within 3 working days of the date of the Committee (or Sub-Committee) meeting (the day of the meeting being considered as one of those days), 2 members give notice in writing to the Head of Law and Administration that they wish the matter to be referred to the Council (or Committee) for decision,

and in either case the matter shall be so referred, and such matters, together with those excluded from delegation under the provisions of any other Standing Order, shall be specially identified in the minutes submitted to each meeting of the Council.

- (4) The provisions of sub-paragraph (3) above shall not apply to:-
- (i) any matter where the Committee or Sub-Committee is required to act quasi-judicially;
 - (ii) any proceedings of any Committee or Sub-Committee specifically established in terms of statute for the purpose of those proceedings;
 - (iii) any proceedings at meetings of the following Sub-Committees:-
 - School Attendance Sub-Committee
 - Education Special Cases Sub-Committee
 - Staffing Sub-Committee
 - Education Records Review Sub-Committee
 - Social Work Case Sub-Committee
 - Personnel Appeals Sub-Committee
- (5) Committees and Sub-Committees shall conduct their business within their terms of reference and, in exercising the authority delegated to them, shall do so always in accordance with the following provisions. However, in relation to any matter (i) not specifically referred to in the Order of Reference, or (ii) in Standing Order 40, it shall be competent, for the Committee, whose remit the matter most closely resembles, to consider such matter and to make any appropriate recommendation to the Council. In the interest of efficiency whenever possible business should only be presented to one committee being the committee whose order of reference includes the principal issues to be considered.
- (6) Committees and Sub-Committees shall exercise the authority delegated to them having regard to, and in accordance with, the policy of the Council.
- (7) Committees and Sub-Committees shall conduct any business relating to contracts always in accordance with the Standing Orders, Financial Regulations and administrative procedures adopted by the Council.
- (8) Committees and Sub-Committees shall conduct their business having regard where appropriate to the constituency interests of local members in the matters under consideration.
- (9) The Council may, if it so resolves, deal with any matter falling within the Order of Reference of any Committee or Sub-Committee without the requirement of receiving a report or minute of that Committee or Sub-Committee referring to that matter.
- (10) Subject to any statutory requirement, the Council may at any time vary, add to, restrict or recall any reference or delegation to any Committee or Sub-Committee, and any specific direction by the Council in relation to the remit of a Committee or Sub-Committee shall take precedence over the terms of any provision in the Order of Reference.
- (11) A Committee may, at any time, deal with any matter falling within the Order of Reference of any of its Sub-Committees without the requirement of the submission of a report or minute of that Sub-Committee referring to that matter.
- (12) Subject to any statutory requirement, a Committee may, at any time, vary, add to, restrict or recall any reference or delegation to any of its Sub-Committees and any specific direction by a Committee shall take precedence over the terms of any provision in the Order of Reference.
- (13) A Committee may at any time refer any item of business to a Standing Sub-Committee for consideration and report and may, if the Committee considers it appropriate to do so, delegate to the Sub-Committee such additional powers to dispose of the business as the Committee thinks fit.

- (14) If any matter is of interest to a Committee or Committees other than the one to which the matter is referred or delegated, either or any of the Committees concerned shall be entitled (in the case of a matter referred but not delegated, without the necessity of the prior approval of the Council) to submit a proposal or recommendation relative to the matter to any other Committee or Committees, and any such proposal or recommendation shall appear as an item of business on the agenda of the next convenient meeting of such Committee or Committees. However, no action shall follow on the submission of any such proposal or recommendation without the approval of the Committee within whose remit the matter falls.
- (15) If a matter is of common or joint interest to a number of Committees, and is a delegated matter, no action shall be taken until all Committees have considered the matter.
- (16) In the event of disagreement between Committees in respect of any such proposal or recommendation which falls within the delegated authority of one Committee, the decision of that Committee shall prevail. If the matter is referred but not delegated to any Committee, a report summarising the views of the various Committees shall be prepared by the Head of Law and Administration and shall appear as an item of business on the agenda of the next convenient meeting of the Council.

40. Exclusions from Delegations

There shall be excluded from any delegation:-

- (i) any of the Council's functions in respect of the setting of the Council Tax or resolving to borrow money;
- (ii) the incurring of capital expenditure for which no provision or insufficient provision has been made in the capital budget;
- (iii) the undertaking of borrowing or investment activity which is not in accordance with the annual Treasury Management Strategy Statement and Investment Strategy;
- (iv) the incurring of revenue expenditure for which no provision or insufficient provision has been made in the revenue budget;
- (v) the acquisition (other than by the Corporate Services Committee, the Infrastructure Services Committee (in terms of paragraph 2(i) of its Order of Reference), or the Neighbourhood Services Committee (in terms of paragraph 6(2)(6) of the Order of Reference) of any land or buildings or other interests therein required for the purposes of any service controlled by a particular Committee;
- (vi) the dismissal of Directors;
- (vii) the making, alteration or revocation of Byelaws and Management Rules;
- (viii) the making, alteration or revocation of Standing Orders and Financial Regulations;
- (ix) the making and amendment of the Structure Plan and the Local Plan;
- (x) any matter involving determination of differences between Committees;
- (xi) proposals for the promotion of, or opposition to, parliamentary powers;
- (xii) the appointment of elected members to outside bodies.

41. Attendance at Meetings, Conferences or other Functions

- (1) Each Committee, subject to any statutory provision, shall have power to appoint representatives to attend any meeting or conference relevant to the interests of the Committee.

- (2) The Convener of any Committee may attend meetings convened by or with other local authorities, government departments or other statutory bodies or organs of the European Union at which matters relevant to the interests of that Committee are to be considered. Any such Convener may be accompanied at such meetings by any appropriate officer and may authorise such officer and/or another member of the Committee to attend any such meeting in his/her absence.
- (3) Subject to the constitution of the Convention of Scottish Local Authorities, the members appointed by the Council to the Convention shall be entitled to attend all meetings of the Convention or its Committees, including the Annual General Meeting and Annual Conference. The Convener of any Standing Committee of the Council may attend any meeting of the Convention or one of its Forums or subordinate bodies where he/she reasonably considers such attendance to be in the interest of the Council.
- (4) Where a member of the Council has been appointed to any office by the Convention and such appointment has been notified to and approved by the Council, he/she shall be entitled, without further approval by the Council, to attend all meetings, conferences, etc necessarily arising out of such appointment.
- (5) The Convener of the Strategic Policy Committee or any other member of that Committee nominated by him/her shall be entitled to attend, with the appropriate officers, all meetings of the joint negotiating bodies responsible for the negotiation of conditions of service for the Council's employees.
- (6) The expenses and allowances payable to any member of the Council in attending any meeting or conference in terms of these Standing Orders or as otherwise authorised by the Council shall, subject to any enactment, be in accordance with the scheme prepared by the Head of Finance and approved by the Corporate Services Committee in terms of the Council's Financial Regulations.
- (7) The delegated authority conferred by this Standing Order shall apply only to members attending meetings, conferences or other functions held within the European Union where appropriate budget provision has been made.

42. Expenditure on Hospitality Etc

- (1) Any Standing Committee may, within the sum provided for that purpose in the approved Revenue Budget for the department or function in question, incur expenditure:-
 - (i) on the provision of hospitality consisting of the reception and entertainment by way of official courtesies, of distinguished persons and persons representative of or connected with local government or other public services whether within or outside the United Kingdom where the occasion giving rise to such hospitality relates mainly to the function of that Committee;
 - (ii) on the provision of hospitality in connection with any inspection or ceremony affecting any Department controlled by that Committee;
 - (iii) on the provision of hospitality to persons who may be interested in the promotion of industrial or commercial developments or other activities which may create employment opportunities in Angus; or
 - (iv) to persons who are assisting or co-operating with the Council or its officers in relation to the functions of the Committee.
- (2) The Convener of any Standing Committee may authorise the provision of hospitality in the circumstances specified above and related to the functions of a service under the control of the Committee (or in the case of the Strategic Policy Committee to the functions of the Council), provided that the expenditure on any one occasion does not exceed £400 and that the expenditure can be met out of the sum provided in the appropriate budget for that purpose.

PART IV - OFFICERS OF THE COUNCIL

43. Returning Officer for Elections

- (1) The Chief Executive shall be the Returning Officer for each election of councillors in accordance with Section 41 of the Representation of the People Act 1983 and the Head of Law and Administration shall be Depute Returning Officer.
- (2) The Head of Law and Administration shall be Returning Officer for all Community Council elections.

44. Statutory Officers of the Council

- (1) The Chief Executive, the Head of Law and Administration and the Head of Finance shall be respectively the Head of the Council's Paid Service, Monitoring Officer and Proper Officer for the administration of the Council's financial affairs, in terms respectively of S4 and S5 of the 1989 Act and S95 of the 1973 Act and be entitled to discharge all the powers and duties conferred upon such officers by the 1989 Act or other statutory provisions.
- (2) The Director of Social Work and Health shall be the Chief Social Work Officer in terms of S3 of the Social Work (Scotland) Act 1968.

45. Proper Officers of the Council

The Proper Officers of the Council shall be as follows (unless otherwise stated, references are to the 1973 Act):-

- (1) the Chief Executive, or the Head of Law and Administration, for the purposes of -
 - S33(A) - declaration of acceptance of office as a councillor
 - S34 - receipt of resignations of councillors
- (2) the Head of Law and Administration, or the Senior Service Manager (Law and Administration), or Principal Solicitors for the purposes of -
 - S40 - receipt of notices and recording of disclosures
 - S189(2) – institute, defend or appear in summary jurisdiction proceedings
 - S190 - service of legal proceedings, notices etc
 - S191 - claims in sequestrations and liquidations (excluding those for outstanding local taxes etc)
 - S193 - authentication of documents
 - Schedule 2 of the Requirements of Writing (S) Act 1995
 - S197 - inspection and deposit of documents
 - S202 and 202B - procedure etc for and register of byelaws
 - S204 - evidence of byelaws
 - S231 - application to Sheriff in cases of difficulty
 - S50B, 50C and 50F - access to information
 - S223 - property held on trust (unless the Council have otherwise specified the appointment of another officer for any of such purposes)
 - Schedule 5 of the Representation of the People Act 1983 - lists of meeting rooms

S43, Sched 7, para 2 - notice of and summons to attend meetings

S19 of the Local Government and Housing Act 1989 - members' interests

S112 of the Education (Scotland) Act 1980 - procedure in preparation of reorganisation schemes

The Scottish Local Government Elections Order 2007 Schedule 1
Scottish Local Government Elections Rules 2002

S82(2) of the Representation of the People Act 1983 - declaration as to election expenses

S113 of the Civic Government (Scotland) Act 1982 - evidence of management rules

Section 7(1) of the Ethical Standards in Public Life (Scotland) Act 2000 - set up, maintain and make available for public inspection the register of interests

- (3) the Head of Finance, or the Senior Service Manager (Finance Services), for the purposes of -

S92 - transfer of securities

S95 - financial administration

- (4) the Assistant Chief Executive or the Senior Service Manager (Human Resources) for the purpose of S2 of the Local Government and Housing Act 1989 – politically restricted posts

- (5) the Head of Planning and Transport or the Senior Service Manager (Planning and Transport), for the purposes of -

The Building (Scotland) Act 2003

- (6) the Head of Information Technology, for the purposes of -

S145 and the Ordnance Survey Act 1841 - applications to the Council

- (7) the Head of Housing, for the purposes of signing Notices of Proceedings for Recovery of Possession of Houses under Section 47 of the Housing (Scotland) Act 1987

- (8) the Director in whose name a report is issued for the purposes of S50D - identification of and inspection by members of the public of background papers for reports.

46. Execution of Deeds

All deeds which, in the opinion of the Head of Law and Administration, require to be formally executed on behalf of the Council, shall be signed by the proper officer and either:

- (i) sealed with the Common Seal of the Council; or
- (ii) sealed with the Common Seal of the Council and signed by 2 members; or
- (iii) attested by one witness.

47. Reports to Members

- (1) Reports to the Council, Committees and Sub-Committees shall be submitted by the Chief Executive or the appropriate Director when requested by the Council, Committee or Sub-Committee, by the Monitoring Officer or the Head of Finance in exercising their duties as the Proper Officer or when, in the professional opinion of the Chief Executive or Director, a report is required to enable the Council to comply with any enactment or other rule of law or when the exigencies of the service under his/her control so require.

- (2) Any report to be submitted in terms of this Standing Order shall be provided in draft not later than fourteen days prior to the meeting at which it is proposed to be considered, to:-
- (i) the Chief Executive, the Director of Corporate Services, the Head of Finance and the Head of Law and Administration;
 - (ii) the Assistant Chief Executive, Head of Property and Head of Information Technology in cases where the report concerns matters within their professional remit, and the Director of any other Department whose service or budget may be affected by the proposals contained in the report;
- and any observations by those officers on matters within their professional remit shall be incorporated into the report.
- (3) Reports by the Director of Infrastructure Services which relate to a Planning Application, including enforcement action and Reports by the Director of Corporate Services which relate to Licensing Applications or Planning application reviews are exempt from the consultation process detailed in (2) above.

48. Appointment of Staff

- (1) The appointment of staff shall be based on merit and shall have regard to the Council's Recruitment and Selection Procedures.
- (2) The appointment of the Chief Executive shall be undertaken by an Appointments Sub-Committee of the Council, comprising the Leader and Depute Leader of the Council and four other members (one Administration, three non-Administration).
- (3) The appointment of a Director shall be undertaken by an Appointments Sub-Committee of the appropriate service committee comprising the Leader or Depute Leader of the Council and the Convener and Vice Convener of, and three members of non-administration members from, the appropriate service committee.
- (4) The appointment of a Head of Service shall be undertaken by an Appointments Sub-Committee comprising the Convener and Vice Convener, and three other members (one Administration, two non-Administration), of the appropriate service committee.
- (5) The appointment of all other staff (except the appointment of teaching staff in terms of statutory requirements) shall be delegated to the appropriate Directors.
- (6) The list of applications for any appointment shall be treated as confidential and only the name and particulars of successful candidates shall be recorded in the minutes of the relevant meetings.
- (7) For the purpose of appointment of Headteachers, and Depute Headteachers, the Education Committee shall establish appointment committees in accordance with section 14 of the Scottish Schools (Parental Involvement) Act 2006.
- (8) For the avoidance of doubt, the person presiding at any relevant meeting shall, in the case of equality to votes, have a second or casting vote in relation to matters falling within this Standing Order.

49. Relatives of Members and Certain Officers not to be employed without approval of Council

- (1) Subject to the provisions of any enactment, a person who is a relative of , or a person in the same household as, a member of the Council (or a member of any Committee or Sub-Committee who is not a member of the Council) or of any officer employed under Chief Officers Scheme of Salaries and Conditions of Service, shall not be appointed to any remunerative post in the service of the Council without the approval of the Committee controlling the department in which the appointment is to be made.
- (2) The Chief Executive shall be advised immediately an application falling within the terms of this Standing Order is received. He/she shall satisfy him/herself that the related member or officer:-
 - (i) has not been and will not be in any way involved in the appointment procedure; and
 - (ii) will not be involved in any direct working relationship with the appointee which might give rise to allegations of favouritism or other form of embarrassment within the Council or Department(s) concerned;

and thereafter a Report shall be submitted to the Committee responsible for approving the appointment incorporating such observations as the Chief Executive may consider appropriate.

50. Property Transactions involving Members, Certain Officers or their Relatives

- (1) This Standing Order applies where a property transaction, (whether purchase, sale, lease, servitude, excambion or of any other description) is proposed between the Council and a member of the Council (including for this purpose a non-elected member of any Committee or Sub-Committee) or any officer employed under Chief Officers Scheme of Salaries and Conditions of Services , or where to the knowledge of such member or officer such a transaction is proposed between the Council and any relative of his/her or person in the same household as him/her.
- (2) The member or officer shall, when he/she intimates his/her interest in the proposed transaction, or as soon as he/she receives a proposal from the Council or becomes aware of a proposal involving a relative or person in the same household, give notice of the possible transaction to the Chief Executive.
- (3) The Chief Executive shall thereupon submit a report to the Committee or Sub-Committee by whom the transaction is to be considered, containing (i) such observations as he/she considers to be appropriate or necessary regarding the transaction or (ii) the procedure to be applied in formulating or approving its terms, including the exclusion of persons from the process.
- (4) When considering a transaction falling within this Standing Order, the Committee or Sub-Committee concerned shall satisfy themselves, after due consultation with the Chief Executive, that the person giving the notice required by paragraph (1) has not in any way been involved in the negotiations and has not exercised influence or pressure in relation to the negotiations and that there is no way in which the transaction can give rise to allegations of favouritism.
- (5) For the purpose of this Standing Order and Standing Order 49, "relative" shall include a first cousin and any nearer degree of relationship whether by blood or marriage.

51. Restriction on staff engaging in other remunerative employment

- (1) All staff who are in the employment of the Council shall not engage in any other regular remunerative employment without the consent of the Chief Executive or appropriate Director, with the exception of reserve forces employment who will only be required to give notice.
- (2) No member of staff shall engage in any work in competition with any department of the Council.

- (3) All rights of copyright in all works of whatever kind created by an employee of the Council in the course of their employment with the Council shall remain with the Council and shall be dealt with in accordance with the policy of the Council.

PART V - GENERAL

52. Public Notices, Invitations to tender etc

Subject to the provisions of any enactment, all public notices, advertisements and invitations to tender, whether by press advertisement or otherwise, required to be given by or on behalf of the Council or any Committee or department thereof, shall be made by and in the name of the Director of the department concerned or the Head of Law and Administration.

53. Annual Return of Payments to Members

The Head of Finance shall prepare and issue an annual return showing for the previous financial year the salaries, allowances, expenses (including travelling expenses) paid to each member of the Council, in accordance with the legislation governing members' remuneration, allowances and expenses.

54. Custody of Title Deeds

The Head of Law and Administration shall be responsible for the safe custody of the title deeds of all land and property in the ownership of the Council, the minutes and other records of the proceedings of the Council, its Committees and Sub-Committees and all other records belonging to or relating to the Council which are not more appropriately retained by the Director of a particular department. The requirements of this paragraph may be exercised in terms of an agency arrangement with any other local authority or authorities.

ORDER OF REFERENCE

OF

COMMITTEES

1. Civic Licensing Committee

- (1) The development and approval of policy so far as related to the functions of this Committee.
- (2) The functions of the Council in relation to all licensing matters under the Civic Government (Scotland) Act 1982 and all other Acts covering personal or other licences, certificates and permits (excluding all matters dealt with by the Licensing Board), including (but not restricted to) licences and permits in respect of cinemas and theatres, betting, gaming and lotteries, animal boarding establishments and riding establishments'
- (3) All other matters relating thereto, including fixing of fees, taxi fares and taxi stances.
- (4) The licensing of caravan sites under the Caravan Sites and Control of Development Act 1960, as amended.
- (5) Consideration of applications for permission to hold public processions.
- (6) The functions of the Council under the Safety of Sports Grounds Act 1975.
- (7) The functions of the Council under the Marriage (Scotland) Act 2002 and any associated Regulations, with regard to the approval of premises.
- (8) the consideration of applications for registration as a Door Steward where there are objections and the revocation of registration hearings.
- (9) The licensing of Houses in Multiple Occupation under Part 5 of the Housing (Scotland) Act 2006.

NOTE: This Committee shall act with full delegated powers in respect of the granting or refusal of all applications for licences, certificates and permits

- **Public Processions Sub-Committee** (to act with delegated powers)

To deal with notifications of public processions where the Chief Constable considers the march should be prohibited.

2. Corporate Services Committee

- (1) The supervision and control of the Corporate Services Department.
- (2) Advising the Council on financial matters not referred to any other Committee, the supervision of the whole financial administration of the Council and the consideration and development of policy so far as related to the functions of this Committee.
- (3) Subject to Standing Orders/Financial Regulations and the provisions of the Order of Reference of the Strategic Policy Committee, the functions of the Council (i) as rating authority under Part VII of the 1973 Act; (ii) under the Abolition of Domestic Rates Etc (Scotland) Act 1987 and the Local Government Finance Act 1992, and (iii) under other related enactments, regulations or subordinate legislation including the functions of the Council relating to housing benefit and rebates from Council Tax and the disposal under any enactment of all other claims or applications for relief from or repayment of non-domestic rates.
- (4) The determination of the most appropriate method of raising any money which the Council are authorised under a statutory borrowing power to borrow.
- (5) The consideration of the report to be made jointly by the Director of Corporate Services and the Head of Finance on the borrowing and lending operations of the Council's Consolidated Loans Fund as provided for in Financial Regulations and all other matters relating to the supervision and control of that Fund.

- (6) The consideration and determination of all applications for loans, grants, donations and subscriptions in respect of services which are not linked to or associated with functions referred or delegated to any other Committee or Sub-Committee.
- (7) The determination of all matters relating to the insurance of the Council and its members and employees against any appropriate risks including ensuring that persons acting within the scope of their official functions and genuinely attempting to promote the interests of the Council are properly indemnified against civil and criminal liability.
- (8) The consideration of any recommendations to the Council for the variation or revocation of any major aspect of the Financial Regulations of the Council, having regard to the exclusions from delegation as referred to in Standing Order 40 (vii)
- (9) The consideration on behalf of the Council of matters arising out of the Money Laundering Regulations 2007.
- (10) All matters arising under Sections 46-50 of the Local Government (Scotland) Act 1973; the Local Authorities Etc (Allowances) (Scotland) Regulations 1995 (as amended); the Local Government (Scotland) Act 2004 (Allowances and Expenses) Regulations 2007. relating to allowances and expenses of members (but excluding always matters relating to the reception and entertainment by way of official courtesy of distinguished visitors and others under Section 48(1)(b)).
- (11) The functions of the Council relating to the Pension Funds.
- (12) The functions of this Committee in relation to the Annual Revenue and Capital Budget in accordance with Financial Regulations.
- (13) The implementation and monitoring of the Council's treasury management policies and practices subject to the provisions within Financial Regulation 15.4 for the reporting of certain items to full Council.
- (14) The functions of this Committee in relation to the administration of Council Tax, housing and Council Tax benefits and non-domestic rates.
- (15) The functions of this Committee in relation to debt management and collection of sundry debts, Council Taxes, non-domestic rates and housing benefit overpayments, including the approval of debt write-offs for such items.
- (16) The determination of all matters relating to information technology and telecommunication services.
- (17) The following functions in respect of the Council's property, excluding property held under the Housing Acts and land and buildings included in paragraph 2 of the Order of Reference of the Infrastructure Services Committee:-
 - (i) the overall allocation and control of the Council's land and building resources;
 - (ii) the consideration of all proposals which would involve (i) the acquisition of land or buildings, or (ii) the erection, extension, renovation, adaptation, improvement and demolition of buildings (excluding from (ii) works of engineering construction for the Infrastructure Services Committee and buildings associated therewith); provided that in the event of any disparity in the advice given to any other Committee of the Council regarding such acquisition or provision the matter shall be referred to the Council for determination;
 - (iii) subject to the Order of Reference of the Strategic Policy Committee, the acquisition whether by way of purchase, feu, lease or otherwise, of all land and buildings identified by the Council as required for any of its functions, subject to the reservation to the Council of any decision to acquire by compulsory purchase;

- (iv) (a) the selection of tenderers for contracts for the execution of building works and the provision of related services in terms of Standing Orders/Financial Regulations;
- (b) the invitation, consideration and acceptance of tenders for the execution of building works and provision of related services; and
- (c) the supervision of contracts for the erection, extension, renovation, adaptation, improvement and demolition of all buildings held or to be held for the purpose of functions of the Council.

(excluding from (a), (b) and (c) works of engineering construction by the Infrastructure Services Committee and buildings associated therewith).

- (v) subject always to the operational requirements of the user departments, the factoring of land and buildings owned or occupied by the Council including:-
 - (a) the maintenance of all buildings occupied by the Council including the selection of contractors or lists of contractors for the execution of works of maintenance;
 - (b) all matters relating to afforestation and disposal of timber;
 - (c) the periodic review of rents.
- (vi) the preparation and maintenance of a Central Land and Property Register;
- (vii) the consideration and determination of all proposals including proposals initiated by other Standing Committees to lease land (including all buildings thereon and rights therein) owned by the Council including the determination of rents and other terms and conditions of lease;
- (viii) (a) the determination of the future use or appropriation by the Council of any lands or buildings owned by or leased to the Council, the former use of which has been discontinued in whole or in part;
- (b) the disposal (whether by way of sale, feu or lease or otherwise) on such terms and conditions as the Committee may determine of any land or buildings which the Committee deem to be no longer required for any of the purposes of the Council;
- (c) the execution of such works of repair, improvement or adaptation or, where the powers of the Council permit, the acquisition or excambion of such interest in land or buildings as the Committee may deem necessary or desirable to facilitate the disposal of any lands or buildings in terms of sub-paragraph (b) hereof;

provided in the case of (a), (b) or (c) that if any other Committee of the Council has requested that any lands or buildings be allocated to or used by that Committee for the purposes of any of that Committee's functions and this Committee proposes to refuse or defer that request, the matter shall be referred to the Council for determination.

- (18) Any question regarding the future use of any land or buildings owned by or leased to the Council.
- (19) The functions of the Council as police, fire and valuation authorities so far as not delegated to the appropriate Joint Board or referred to any other Committee.
- (20) All the functions of the Council under the enactments governing electoral registration and the election of councillors.
- (21) To prepare and submit to the Council for consideration, schemes for the establishment of Community Councils under Part IV of the Local Government (Scotland) Act 1973, and to organise and supervise elections for Community Councils, and consider all applications for grants and other forms of assistance thereto.

- (22) Supervision of the placing of contracts for miscellaneous goods and services, where in the opinion of the Committee after consultation with any other Committee having an interest in the purchase of such goods, materials or services, bulk purchase or a centralised contract would lead to overall economies to the Council.
- (23) The functions of the Council relating to the fixing of local holidays.
- (24) The acceptance, administration and disbursement of charitable and common good funds.
- (25) The functions of the Council relating to public clocks, statues, monuments and war memorials.
- (26) The functions of the Council as local registration authority for the purpose of the Registration of Births, Deaths and Marriages (Scotland) Act 1965.

3. Development Standards Committee

- (1) The consideration and development of policy so far as related to the functions of this Committee.
- (2) The functions, powers and duties of the Council as planning authority under any enactments so far as they relate to development control, including processing of all notifications and applications for permission or consent as provided under the Town and Country Planning (Scotland) Acts and subsidiary legislation; including:
 - (i) enforcement action in respect of unauthorised development and Wasteland Notices;
 - (ii) non statutory development control guidance;
 - (iii) applications for financial assistance in respect of listed buildings and other buildings in Conservation Areas; and
 - (iv) Tree Preservation Orders.
- (3) The functions of the Council under the Building (Scotland) Act 2003 and all Regulations made thereunder; including:
 - (i) applications for relaxation of Building Regulations; and
 - (ii) responsibilities in relation to dangerous buildings.

Note re planning applications (including enforcement action)

- (4) All applications requiring determination at member level (ie those not delegated to the Head of Planning and Transport) shall be considered only by this Committee.
- (5) Applications where a pre-determination hearing is required will be heard by the Council.
- (6) All other applications requiring consideration at member level shall be fully delegated to this Committee.
- (7) As the Council is acting in a regulatory capacity when considering planning applications, enforcement actions etc, the provisions of Standing Order 39(3) (ie the power of 2 members to refer a matter to the Council) shall not apply.

4. Development Management Review Committee

- (1) The consideration and determination of appeals against a decision of the planning authority in relation to a planning application in accordance with the provisions of the Town & Country Planning (Scheme of Delegation and Local Review Procedure) (Scotland) Regulations 2008 and of the Town & Country Planning (Development Management Procedure) (Scotland) Regulations 2008.

The Development Management Review Committee shall consist of 5 members to be drawn from the membership of the Development Standards Committee. Substitutes for the Department Management Review Committee are to be drawn from the Development Standards Committee.

5. Education Committee

- (1) The consideration and development of policy so far as related to the functions of this Committee.
- (2) The supervision and control of the Education Department.
- (3) The functions of the Council as education authority under the Education (Scotland) Acts and all other legislation relating thereto.
- (4) All matters relating to the establishment, recruitment, rates of pay, conditions of service and all other personnel matters relating to persons employed as teachers in educational establishments (including instrumental music instructors in schools, quality improvement officers and educational psychologists).
- (5) The provision of a Community Learning and Development Service.

The Committee shall appoint the following Standing Sub-Committees to act with full delegated powers

(i) School Attendance Sub-Committee

- (1) The consideration and determination of cases of school attendance default under Sections 34 to 44 of the Education (Scotland) Act 1980 and submissions in relation to the education of children at home under Section 30 of the Act.

The Sub-Committee comprises one person drawn from the list of Parent Council nominees retained by the Head of Law and Administration and two members of the Education Committee.

The quorum is two persons, at least one of whom must be the Parent Council representative.

(ii) Special Cases Sub-Committee

- (1) The consideration and determination of appeals against decisions of the Director of Education in respect of the early admission of children to primary school education.
- (2) The consideration and determination of requests for provision of transport of pupils to schools by reason of special circumstances.
- (3) The consideration and determination of appeals against decisions relating to the granting of bursaries, allowances and other financial aid to assist persons to take advantage of education facilities.

The Sub-Committee comprises three members of the Education Committee, with two members forming a quorum.

(iii) Staffing Sub-Committee

Consideration and determination of any matters relating to the conditions of service for individual teachers, being functions conferred on the authority and not otherwise delegated to the Director of Education; including, but without prejudice to the foregoing generality:-

- (1) the approval of local agreements relating to the devolved conditions of service set out in Circular SNCT/8;
- (2) the hearing of grievances raised by teaching staff in accordance with the grievance procedure for teaching staff as approved by the Education Committee;

- (3) the hearing of appeals by teachers against any disciplinary action taken by the Director of Education (or nominated depute);
- (4) the consideration and determination of applications from teachers in educational establishments for premature retirement, or continued employment at the age of 65 years; and
- (5) the consideration and determination of cases involving any teacher whose period of sickness allowance has ended and whose circumstances the Director of Education requires to report to the Education Committee in accordance with nationally agreed Conditions of Service.

The Sub-Committee comprises three members of the Education Committee, with two members forming a quorum, except when the Sub-Committee considers (1) above, in which case three members will form the quorum with provision for the appointment of substitutes.

(iv) Education Records Review Sub-Committee

- (1) The determination of any request for review of any decision made in terms of the Pupils' Educational Records (Scotland) Regulations 2003.

The Sub-Committee comprises three members of the Education Committee, selected on a rota basis, with two members forming a quorum.

(v) Special Appeal Sub-Committee

To consider appeals against dismissal in accordance with the provisions of the Angus Joint Negotiating Committee for Teachers Circular AJNCT/11.

The Committee shall appoint the following statutory Committee:-

(vi) Education Appeal Committee (to act with powers, in terms of statutory provision)

The consideration of appeals by parents against the Council's refusal of requests for places in schools of their choice for their children, or against the decision to exclude their children from school, in accordance with the terms of the Education (Scotland) Act 1980 as amended by the Education (Scotland) Act 1981.

In terms of the statutory provisions, the required quorum for an Appeal Committee is all three members. The legislation stipulates that a person who is a member of the Education Committee shall not be the Chair of the Appeal Committee. The Chair of the Appeal Committee will be the person with experience in education.

6. Infrastructure Services Committee

- (1) The supervision and control of the Economic Development and Environmental and Consumer Protection Service, Planning and Transport Service and the Roads Service.

(2) Economic Development and Environmental and Consumer Protection

- (1) The functions of the Council in respect of economic development and industrial promotion in terms of the Local Government (Scotland) Act 1973 as amended by the Local Government and Planning (Scotland) Act 1982 and the Local Government etc (Scotland) Act 1994, including, in respect of these functions:-

- (i) the consideration and determination of questions relating to the acquisition and development of land and buildings;
- (ii) the selection of tenderers for contracts for consultancy required in connection with the above functions;
- (iii) the approval of applications for the award of grants, loans or guarantees or equity arrangements to industrial or commercial undertakings or, where appropriate, to other bodies;

- (iv) the approval of the award of grants and loans to co-operatives;
 - (v) the provision of contributions towards expenses incurred in the promotion of tourism in accordance with Section 90 of the Local Government (Scotland) Act 1973 as amended; and
 - (vi) arrangements for trade development activities in the United Kingdom and abroad.
- (2) The functions of the Council under the Inner Urban Areas Act 1978 insofar as not otherwise dealt with in the Order of Reference (including functions relating to urban aid applications).
- (3) The functions of the Council in relation to public health including:-
- (i) statutory nuisance abatement;
 - (ii) port health services;
 - (iii) contaminated land;
 - (iv) clean air and local air quality management;
 - (v) pest control;
 - (vi) the quality of drinking water, especially private supplies;
 - (vii) sampling recreational pool water;
 - (viii) investigation of gastro-intestinal illness and other communicable diseases;
 - (ix) disinfection of premises;
 - (x) regulations of sunbeds.
- (4) The functions of the Council in relation to food etc. hygiene, including arrangements for securing bacteriological examination, and including:-
- (i) inspection of food premises;
 - (ii) milk and ice cream;
 - (iii) the functions of the Council under the Food Safety Act 1990.
- (5) The functions of the Council under the Shops Act 1950, the Offices, Shops and Railway Premises Act 1963, the Employment Act 1989 and the Health and Safety at Work Act 1974 as amended.
- (6) The functions of the Council in relation to cattle markets and slaughterhouses.
- (7) The functions of the Council under the Animal Health Act 1981, the Animal Welfare Act 2006 and the Agriculture (Miscellaneous Provisions) Act 1968.
- (8) The functions of the Council relating to weights and measures, consumer protection, consumer credit and trading standards including the following:-
- (i) the functions of the Council as local weights and measures authority for the purposes of the Weights and Measures Act 1985, all other enactments and directives of the European Union for which such authority is the appropriate authority;
 - (ii) the functions of the Council under the Petroleum (Regulation) Acts 1928 and 1936; Section 67 (Enforcement of Standards for Fertilisers and Feeding Stuffs) of the Agriculture Act 1970; the Poisons Act 1972; Section 17 (Specification and Design of Motor Cyclists' Helmets) of the Road Traffic Act 1988; Sections 94 and 99 (Disused Petrol Containers) of the Civic Government (Scotland) Act 1982; the Agricultural Produce (Grading and Marking) Acts 1928 and 1931; Sections 18-26 of the Health and Safety at Work etc Act 1974; Sections 90, 108, 109, 117 (Medicated Animal Feeding Stuffs) of the Medicines Act 1968 and the Children and Young Persons (Protection from Tobacco) Act 1991;
 - (iii) any functions the Council is entitled to exercise under the Trading Stamps Act 1964, and the Unsolicited Goods and Services Act 1971.

- (9) The functions of the Council under enactments involving the services of the Public Analyst.
- (10) The functions of the Council under Section 10 of the Riotous Assemblies (Scotland) Act 1822 (Compensation for Damage by Riot); to the extent to which the functions under these enactments (as amended by the 1973 Act) are vested in the Council, by virtue of the 1973 Act.
- (11) The functions of the Council in dealing with unfit housing under the Housing (Scotland) Acts and other Housing Legislation and Regulations and Orders made thereunder.
- (12) The functions of the Council associated with licensing caravans in terms of the Caravan Sites and Control of Development Act 1960.
- (13) The functions of the Council in arranging the burial or cremation of deceased persons under the National Assistance Act 1948.
- (14) The functions of the Council in relation to dog control.
- (15) The functions of the Council in relation to mortuary facilities under the Public Health (Scotland) Act 2008.
- (16) The functions of the Council in relation to co-ordinating implementation of the requirements of The Bathing (Scotland) Regulations 2008.
- (17) The consideration of grant aid applications under the Angus Council Community Grant Scheme.

(3) Planning and Transport Service

- (1) With the exception of those matters delegated or referred to the Development Standards Committee or the Council, all the functions, powers and duties of the Council as planning authority including:-
 - (i) the preparation of statutory development plans and related non-statutory planning policy and guidance;
 - (ii) environmental improvements and public art projects;
 - (iii) public rights of way, the development of path networks and all other aspects of rural planning.
- (2) The relevant functions of the Council in terms of the Transport Acts 1985, 2001 and 2005 relating to public transport and related matters, including:-
 - (i) the acceptance of tenders for service subsidies; and
 - (ii) all matters relating to the registration of local services and applications for imposition of traffic regulation conditions by the Traffic Commissioner;
 - (iii) regional transport partnerships;
 - (iv) national and local travel concession schemes.
- (3) The functions of the Council under the Countryside (Scotland) Act 1967 and the Land Reform (Scotland) Act 2003 relating to public rights of way and to public access generally.
- (4) The relevant functions of the Council in terms of the Water Environment and Water Services (Scotland) Act 2003 as they relate to the service
- (5) The consideration of proposals for development by the Council which, in the opinion of the Chief Executive after consultation with the Head of Planning and Transport, raise a major planning issue and the provision of advice to the Corporate Services Committee thereon.
- (6) The functions of the Council relating to ancient monuments, archaeological areas, and designated nature conservation and landscape interest.

- (7) The Council's functions under the following provisions of the Land Reform (Scotland) Act 2003 (insofar as not delegated to the Head of Planning and Transport);
- Section 11 (power to exempt particular land from access rights) exemptions for 6 days or longer.
 - Section 17, 18 and 20 (Core paths plan)
 - Section 22: (compulsory powers to delineate paths in land over which access rights are exercisable)
 - Section 25: (local access forums)

(4) Roads Service

- (1) All the functions of the Council as roads or traffic authority under Public General Acts together with functions relating to both public and private roads and footways in terms of any local enactment in so far as such latter functions are vested in the Council and, in particular:-
- (i) the preparation and revision from time to time of all lists of highways, bridges, roads and footways requiring to be kept by the Council in terms of any enactment and all formal resolutions pertaining thereto;
 - (ii) the maintenance of lists of persons to be invited to tender for contracts for the execution of works of engineering construction required for the purpose of functions of this Committee and the provision of related services;
 - (iii) the selection of tenderers, the invitation, consideration and acceptance of tenders for the execution of works of engineering construction required for the purpose of functions of this Committee and provision of related services;
 - (iv) the supervision of contracts for the erection, extension, renovation, adaptation, maintenance, improvement and demolition works of engineering construction held or to be held for the purpose of functions of this Committee;
 - (v) consideration and determination of applications for consent for the construction of new roads and extensions of existing roads in terms of Section 21 of the Roads (Scotland) Act 1984;
 - (vi) the setting of a winter maintenance policy in compliance with Section 34 of the Roads (Scotland) Act 1984;
 - (vii) to consider the need for all proposals for the making of Traffic Regulation Orders, Stopping-Up Orders, Side Road Orders, Redetermination Orders and Stopping-Up of Private Accesses Orders under the Road Traffic Regulation Act 1984, Roads (Scotland) Act 1984 and Town and Country Planning (Scotland) Act 1997, to undertake all necessary consultations;
 - (viii) to consider objections to proposed Traffic Regulation Orders and where appropriate to arrange hearings in accordance with the Local Roads Authorities' Traffic Orders (Procedure) (Scotland) Regulations 1999; and
 - (ix) to consider all matters relating to the proposed location and installation of traffic calming measures and the relative statutory procedures.
- (2) The functions transferred to the Council by virtue of Section 153 of the 1973 Act in relation to ferries and by virtue of Section 154 of that Act in relation to harbours, piers, boatslips and jetties, together with any functions in relation to such matters in terms of any local enactments in so far as such latter functions have become vested in the Council, including the control and management of the harbour at Arbroath.
- (3) The functions of the Council under the Reservoirs Act 1975.

- (4) The functions of the Council relating to road safety in terms of inter alia the Road Traffic Act 1988, the Road Traffic Regulation Act 1984, and the Roads (Scotland) Act 1984.
- (5) The functions of the Council in relation to street names and property numbers.
- (6) The functions of the Council under the Flood Risk Management (Scotland) Act 2009 and the Coast Protection Act 1949.
- (7) The making of Traffic Orders under the relevant legislation.
- (8) The relevant functions of the Council in terms of the New Roads and Streetworks Act 1991 and the Transport (Scotland) Act 2005 relating to road works and related matters.
- (9) The relevant functions of the Water Environment and Water Services (Scotland) Act 2003 as they relate to the service.

The Committee shall appoint the following Standing Sub-Committees to act with full delegated powers in respect of the specified functions:

(1) Land Reform Sub-Committee

- (1) To consider reports regarding individual enforcement cases under Part 1 of the Land Reform (Scotland) Act 2003.

(2) Environmental Appeals Sub-Committee

- (1) To consider any representation made by or on behalf of a person served with a fixed penalty notice served in relation to an offence committed in no smoking premises under the Smoking, Health and Social Care (Scotland) Act 2005.
- (2) To hold a hearing at the request by or on behalf of a person served with a fixed penalty notice served in relation to an offence committed in respect of dog fouling under the Dog Fouling (Scotland) Act 2003.
- (3) To consider any representation made by or on behalf of a person given a penalty charge notice in relation to an offence committed in respect of failing to make available energy performance certificates to prospective buyers or tenants under the Energy Performance of Buildings (Scotland) Regulations 2008, as amended.
- (4) To consider any representation made by or on behalf of a person served with a fixed penalty notice served in relation to an offence committed in respect of sunbeds under the Public Health etc. (Scotland) Act 2008.
- (5) To consider any representation made by or on behalf of a person served with a fixed penalty notice served in relation to an offence committed in respect of the provision of information on sale of a house under the Housing (Scotland) Act 2006.
- (6) To consider any representation made by or on behalf of a person served with a penalty notice served in relation to an offence committed in respect of engaging in estate agency work whilst not being a member of an approved redress scheme under the Estate Agency Act 1979.
- (7) To consider any representation or hold any hearing in respect of any fixed penalty or similar notice that the Council is entitled, or may become entitled, to serve, give or issue by or under any enactment, insofar as they relate to the functions within the remit of the Infrastructure Services Committee.

7. Neighbourhood Services Committee

(1) General

- (1) The supervision and control of Housing, Environmental Management, Leisure Services and Cultural Services.
- (2) The making of an Exclusion Order in terms of Section 117 of the Civic Government (Scotland) Act 1982 in respect of breach of Management Rules in respect of land or premises under the control of the Director of Neighbourhood Services.
- (3) The management and administration of the functions of the Council in relation to the ACCESS Offices and ACCESS Line.

(2) Environmental Management Services

- (1) The consideration and development of policy so far as related to the functions of this Committee.
- (2) Ensuring that an appropriate marketing policy is adopted in respect of all functions and activities associated with Environmental Management.
- (3) Subject to any policy laid down by the Council, the consideration of applications for grants or loans towards projects for the provision of parks, play and recreation grounds, open spaces, roadside seats and the management of beach facilities.
- (4) The functions of the Council relating to Waste Management Operations including:-
 - (i) The control and supervision of all staff so far as exclusively employed for the purposes of Waste Management Operations.
 - (ii) Subject to the provision of Standing Orders and Financial Regulations relating to contracts, the purchase or disposal where surplus to requirements of all vehicles, plant machinery, goods, materials and supplies required for the purposes of Waste Management Operations.
 - (iii) The supervision of all depots or other buildings or yards held or to be held for the purposes of Waste Management Operations.
- (5) The functions of the Council relating to Parks Maintenance Operations including:-
 - (i) The control and supervision of all staff so far as exclusively employed for the purposes of Parks Maintenance Operations.
 - (ii) Subject to the provision of Standing Orders and Financial Regulations relating to contracts, the purchase or disposal where surplus to requirements of all vehicles, plant machinery, goods, materials and supplies required for the purposes of Parks Maintenance Operations.
 - (iii) The supervision of all depots or other buildings or yards held or to be held for the purposes of Parks Maintenance Operations.
- (6) The functions of the Council relating to Fleet and vehicular Maintenance Operations including:-
 - (i) The control and supervision of all staff so far as exclusively employed for the purposes of Fleet and vehicular Operations.
 - (ii) Subject to the provision of Standing Orders and Financial Regulations relating to contracts, the purchase or disposal where surplus to requirements of all vehicles, plant machinery, goods, materials and supplies required for the purposes of Fleet and vehicular Operations.
 - (iii) The supervision of all depots or other buildings or yards held or to be held for the purposes of Fleet and vehicular Operations.

- (7) The functions of the Council in relation to public cleansing including:-
- (i) Refuse collection and disposal including salvage arrangements.
 - (ii) Sweeping of streets and other areas as required.
- (8) The provision and management of public conveniences.
- (9) The supervision, control, maintenance and administration of parks, play and recreation grounds, open spaces, roadside seats and the management of beaches so far as the Council have an interest therein.
- (i) The functions of the Council under the Allotments (Scotland) Acts.
 - (ii) The functions of the Council under the Burial Grounds (Scotland) Act 1855 and other legislation so far as relating to the provision and maintenance of burial grounds.
 - (iii) Provision of events and entertainments.
- (10) Liaison with other agencies and organisations in relation to Environmental Management

(3) Housing Services

- (1) The consideration and development of policy so far as related to the functions of this Service.
- (2) The functions of the Council as housing authority under the Housing (Scotland) Acts, the Antisocial Behaviour (Scotland) Act 2004 and other housing legislation, Regulations and Orders made thereunder.
- (3) Consideration and approval of the Council's Local Housing Strategy and the Strategic Housing Investment plan.
- (4) The purchase, sale, excambion or lease of property held on the Housing Revenue Account subject to obtaining all necessary consents.
- (5) The determination as to whether or not an application for an Anti Social Behaviour Order under the Crime and Disorder Act 1998 should be made otherwise than where the decision is delegated to the Head of Housing.

(4) Leisure Services

- (1) The functions of the Council relating to the Sports Trading Account Operations including:-
 - (i) The control and supervision of all staff so far as exclusively employed for the purposes of the Sports Trading Account Operations.
 - (ii) Subject to the provision of Standing Orders and Financial Regulations relating to contracts, the purchase or disposal where surplus to requirements of all vehicles, plant machinery, goods, materials and supplies required for the purposes of the Sports Trading Account Operations.
 - (iii) The supervision of all depots or other buildings or yards held or to be held for the purposes of the Sports Trading Account Operations.
- (2) The supervision, control, maintenance and administration of Country parks, nature reserves, nature trails, golf courses and recreational water so far as the Council have an interest therein.
- (3) The provision, management and maintenance of caravan parks owned by the Council so far as the Council has an interest therein.

- (4) The provision, management and maintenance of community centres, sports and leisure centres, swimming pools, outdoor recreations and football pitches, and public halls.
- (5) Ensuring that an appropriate marketing policy is adopted in respect of items (1), (2) (3) and 4) above.
- (6) Liaison with other agencies and organisations in relation to sports development and sporting, leisure and other recreational facilities.
- (7) Subject to any policy laid down by the Council, the consideration of applications for grants or loans towards projects for the provision of recreational, sporting, or social facilities or activities.

(5) Cultural Services

- (1) The provision, management and maintenance of theatres, libraries, museums, art galleries and archive services.
- (2) Ensuring that an appropriate marketing policy is adopted in respect of Cultural Services.
- (3) Liaison with other agencies and organisations in relation to cultural facilities.
- (4) Subject to any policy laid down by the Council, the consideration of applications for grants or loans towards projects for the provision of cultural facilities or activities.

8. Social Work and Health Committee

- (1) The supervision and control of the Social Work and Health Department.
- (2) The consideration and development of policy so far as related to the functions of this Committee.
- (3) The functions of the Council under all enactments relating to social work including:-
 - (i) The Social Work (Scotland) Act 1968 as read with Sections 1 and 2(1) of the Chronically Sick and Disabled Persons Act 1970 and the Disabled Persons (Services, Consultation and Representation) Act 1986.
 - (ii) The National Assistance Act 1948.
 - (iii) The Chronically Sick and Disabled Persons (Scotland) Act 1972.
 - (iv) The Disabled Persons (Employment) Act 1958.
 - (v) The Regulation of Care (Scotland) Act 2001.
 - (vi) The Children Act 1958.
 - (vii) Section 11 of the Matrimonial Proceedings (Children) Act 1958.
 - (viii) The Children Act 1975.
 - (ix) The Foster Children (Scotland) Act 1984.
 - (x) The Children (Scotland) Act 1995.
 - (xi) The Adoption and Children (Scotland) Act 2007.
 - (xii) The National Health Service and Community Care Act 1990.
 - (xiii) The Community Care and Health (Scotland) Act 2002.
 - (xiv) The Adults with Incapacity (Scotland) Act 2000.

- (xv) The Mental Health (Care and Treatment) (Scotland) Act 2003.
- (xvi) The Community Service by Offenders (Scotland) Act 1978.
- (xvii) The Criminal Procedure (Scotland) Act 1995.
- (xviii) The Antisocial Behaviour etc.(Scotland) Act 2004.
- (xix) The Criminal Justice and Licensing (Scotland) Act 2010.
- (xx) The Health and Social Services and Social Security Adjudications Act 1983.
- (xxi) The Carers (Equal Opportunities) Act 2004.
- (xxii) The Equality Act 2010.

The Committee shall appoint the following Standing Sub-Committee (to act with full delegated powers):-

(1) Case Sub-Committee

- (1) Matters relating to individuals, who have a long term illness or disability, persons and other individuals in need, as required; the supervision and care of individuals on probation or released from prison or other forms of detention; individual children, including children looked after by the local authority as determined by the Social Work and Health Committee.

The Committee shall appoint the following statutory Committee

(1) Social Work Complaints Review Committee (to act with powers in terms of statutory provision)

To review complaints which have previously been investigated but where disagreement exists regarding the findings or proposed action resulting from the complaint, and where the complainer has formally requested such a review.

(“Complaints” refer to those representations which come within the terms of section 5B of the Social Work (Scotland) Act 1968 and the subsequent statutory complaints’ procedure operated by the Social Work and Health Department.)

Membership of this Committee is made up of independent persons drawn from a Social Work Review Panel.

9. Scrutiny and Audit Committee

- (1) To review all aspects of corporate governance, risk management and internal control, ensuring systematic appraisal of the council’s control environment and framework to provide reasonable assurance of effective and efficient operations.
- (2) To promote and maintain high standards of conduct by councillors, co-opted members and employees, and advise on the adoption or revision of the code of conduct.
- (3) To consider matters concerning the establishment, maintenance and public availability of the Register of Interests of Councillors and Employees.
- (4) To consider reports on the adequacy and effectiveness of the Council’s counter fraud and corruption arrangements.
- (5) To assess the scope and effectiveness of the systems established by management to identify, assess, manage and monitor risk to the achievement of objectives.
- (6) To approve the Internal Audit Charter.
- (7) To consider and approve the risk based internal audit plan.

- (8) To consider reports from the Chief Internal Auditor on the internal audit activity's performance relative to its plan; the outcomes of internal audit reports; action plans and management response to recommendations.
- (9) To make appropriate enquiries of management and the Chief Internal Auditor to determine whether there are inappropriate scope or resource limitations.
- (10) To receive the Chief Internal Auditor's annual report and opinion.
- (11) To advise the Council in matters relating to the programme of internal audit work and findings and recommendations from Audit Reports.
- (12) To consider reports and plans presented by the External Auditor including the Annual Report to Members and the Controller of Audit and the annual Internal Standard on Auditing (ISA) 260 Report to "Those Charged with Governance".
- (13) To scrutinise the Council's unaudited and audited annual accounts prior to their consultation by the Council, subject to adherence to statutory timescales.
- (14) To scrutinise both treasury management strategy and performance prior to these matters being considered by the Council, subject to adherence to statutory timescales.
- (15) To consider reports by external agencies insofar as they contribute to the overall assessment of governance, risk and internal control.
- (16) To review the performance and effectiveness of the standard and level of service provided by council services.
- (17) To review and oversee the operation of the council's complaints procedure.
- (18) To consider any report by the Scottish Public Services Ombudsman in respect of any finding of maladministration against the council.
- (19) To consider the Chief Executive's Annual Report on Corporate Governance and the Annual Governance Statement.
- (20) To commission an annual programme of reviews of service performance and/or the implications of policy decisions subject to the latter not being undertaken until at least six months after implementation.

10. Strategic Policy Committee

- (1) The supervision and control of the Chief Executive's Department.
- (2) To consider, in the light of the financial, property and personnel resources available to the Council, the broad social and economic needs of the area of the Council and the strategic policy objectives and priorities to be adopted to meet these needs; and thereafter to recommend to the Council such programmes and other measures as may be necessary to achieve these policy objectives and priorities either in whole or in part, over such timescale as the Committee may consider appropriate.
- (3) Without prejudice to the duties and responsibilities of the other Committees, to receive periodic reports with a view to ensuring that all the Committees and Departments of the Council are implementing the Council's agreed strategic policies and programmes, and to advise the Council whether additional resources should be made available for any such policies and programmes.
- (4) Except as specifically provided in the Order of Reference of this or any other Standing Committee, all matters relating to the recruitment, rates of pay, conditions of service and all other personnel matters affecting the interests of more than one department and, in particular, all questions relating to:-
 - (i) staff development and training;
 - (ii) recruitment policy;

- (iii) the formulation, variation and supervision of the operation of grievance and disciplinary procedures;
 - (iv) the functions of the Council in respect of the hearing, consideration and determination of appeals by employees in terms of any nationally agreed schemes and of appeals falling to be determined by a Committee of the Council in terms of the Grievance and Disciplinary Procedures adopted by the Council;
 - (v) the health, safety and welfare of all employees;
 - (vi) the salaries/wages and conditions of service of all Council employees except where delegated; and
 - (vii) staff relations, including the appointment of the Council's representatives to Local Joint Councils.
- (5) The development and monitoring of policy promoting equal opportunities.
 - (6) The establishment, deletion and grading of posts on JNC Conditions of Service.
 - (7) The functions conferred on this Committee in relation to the Annual Revenue and Capital Budget in accordance with Financial Regulations.
 - (8) In accordance with Standing Orders/Financial Regulations, to consider and determine any proposal remitted by any Committee for expenditure for which no provision or insufficient provision has been made in the Annual Estimates.
 - (9) The determination on behalf of the Council of the medium to long term strategic policy and resource framework within which the Council should operate, after taking into account any general advice of the Corporate Services Committee.
 - (10) To keep under review the overall allocation and control of the Council's resources after taking into account any general advice from the Corporate Services Committee.
 - (11) To ensure that the organisation, administrative and management procedures of the Council are such as to make the most efficient contribution to the achievement of the Council's objectives; to keep these procedures under review in the light of changing circumstances and in the context of best value and to make recommendations as necessary for improvements in them through changes in either the Committee or departmental structure, in the distribution of functions and responsibilities or otherwise.
 - (12) Without prejudice to the duties and responsibilities of the other Standing Committees, to review the effectiveness of all the Council's work and the standards and level of service provided; and, subject to compliance with the statutory obligations of the Council, to make such recommendations as may be considered necessary concerning the expansion, modification or abandonment of existing services and the provision of new services.
 - (13) The functions of the Council as it relates to its arrangements for securing best value.
 - (14) The functions of the Council as it relates to its arrangements for community planning.
 - (15) The duties placed on the Council by Section 5(1) of the Ethical Standards in Public Life etc (Scotland) Act 2000.
 - (16) The duties placed on the Council by the Carbon Reduction Commitment Energy Efficiency Scheme Order 2010 and the Climate Change (Scotland) Act 2009.
 - (17) The functions of the Council relating to research and the collection of information concerning the area of the Council exercisable under Section 87 of the 1973 Act and the provision of information and other activities authorised under Section 88 of that Act.

- (18) To consider and report on all matters which affect or which are likely to affect the interests of the area of the Council (including Parliamentary Bills, draft Statutory Instruments and Orders, etc) and which do not relate exclusively to the functions of any other Standing Committee.
- (19) The co-ordination of all press, publicity and promotional work undertaken by the Council.
- (20) The formulation and monitoring of the Council's Environmental Strategy and Local Agenda 21 Strategy.
- (21) The co-ordination and promotion of corporate European matters, including European funding programmes and partnerships.
- (22) The functions of the Council relating to civil protection under the Civil Contingencies Act 2004 including Business Continuity and Emergency Planning.
- (23) The recommendation to the Council of the promotion of, or initiation of opposition to, any private legislation in Parliament in accordance with the procedure provided by Section 82 of the 1973 Act.
- (24) Consideration of any recommendations to the Council for the variation or revocation of any of these Standing Orders, having regard to the exclusions from delegation as referred to in Standing Order 40 (vii).
- (25) The making and variation of Codes of Conduct for members and officers of the Council (including any registration of interests prescribed by such Codes).
- (26) Responding to major consultations and government initiatives that impact on the Council as a whole.
- (27) Consideration of the annual timetables of meetings of the Council and its Standing Committees and Standing Sub-Committees.
- (28) All matters relating to the twinning or linking with Regions, Towns, Municipalities or other Local Government Areas or entities outwith the United Kingdom, including:-
- (i) consideration of the scope or range of activities to be undertaken in pursuit of twinning or linking arrangements;
 - (ii) consideration of proposals for entering into twinning or linking arrangements;
 - (iii) the taking of action within the terms of any policy or arrangements approved by the Council in terms of sub-paragraphs (i) and (ii) above including:-
 - (a) arrangements of visits by representatives of the Council to twinned or linked local authorities or to local authorities with whom twinning or linking arrangements are being discussed and vice versa (including the provision of suitable hospitality); and
 - (b) liaison with any twinning association or other associations or bodies in Angus whose purposes or activities are conducive to the promotion or maintenance of an established twinning or linking relationship.
 - (iv) the making of grants to associations, individuals or groups for purposes connected with the promotion or maintenance of twinning or linking arrangements.
- (29) The making of all arrangements for hospitality, receptions, entertainments, etc.
- (30) Without prejudice to the duties and responsibilities of any other Standing Committees, to consider matters within the order of reference of any Committee on which a decision was required for reasons of urgency or expediency.
- (31) All functions of the Council which are not referred or delegated to any other Committee.

The Committee shall appoint the following Standing Sub-Committees:-

(1) Personnel Appeals Sub-Committee

To consider and determine appeals raised by employees in respect of the following matters:-

- (i) appeals against dismissal; and
- (ii) appeals raised under the terms of the grievance procedure.

(2) Police and Fire & Rescue Sub-Committee

To consider and carry out the following actions:-

- (i) approval of the Local Policing and Fire & Rescue Plans;
- (ii) monitoring and providing feedback on Local Policing and Fire & Rescue;
- (iii) scrutiny of local performance;
- (iv) making recommendations for improvements to Local Policing and Fire & Rescue; and
- (v) consideration of reports of Local Policing and Fire & Rescue matters.

(3) Sounding Board Sub-Committee

To act as a sounding board for the purpose of providing formal expressions of opinion to COSLA on matters such as the annual pay award.

SCHEME OF DELEGATION

TO

OFFICERS

SCHEME OF DELEGATION TO OFFICERS

This Scheme of Delegation to Officers is made under Section 50G(2) of the Local Government (Scotland) Act 1973.

1. General Provisions

- (1) In exercising the authority hereby delegated to them, officers must act in accordance with the policy of the Council, its Committees and Sub-Committees.
- (2) In exercising the authority hereby delegated to them, officers must act in accordance with the terms of Standing Orders and Financial Regulations.
- (3) Officers specified in this Scheme of Delegation may make arrangements, which must be in writing, for other specified officers to exercise any of the powers delegated to them in terms of this Scheme, unless prohibited from doing so by law.

2. General Delegation to Directors

The Chief Executive and all Directors are authorised:-

- (1) to appoint to their departments all staff at and below the level of senior service manager, so long as such appointments are based on merit and have regard to the Council's recruitment and selection procedures and are within the approved establishment and approved estimates of expenditure of the department;
- (2) to attend and to approve the attendance of staff at conferences, courses or other functions/events within the European Union provided allowance is in the revenue budget, and in accordance with approved Council policy;
- (3) to attend and to approve the attendance of staff at meetings of appropriate local authority professional associations;
- (4) to dismiss a member of staff in accordance with the relevant Council policy or procedure;
- (5) to approve overtime payments to members of staff in accordance with Council policy, provided such payments can be contained within the revenue budget of the department;
- (6) to approve the payment of removal/relocation expenses, in accordance with the relevant Council policy, provided appropriate allowance is made in the approved estimates of expenditure;
- (7) to designate members of staff as car users, in accordance with the relevant Council policy;
- (8) to approve the payment of telephone allowances to appropriate members of staff, in accordance with the relevant Council policy;
- (9) to incur expenditure not exceeding £400 (and in the case of the Chief Executive, not exceeding £1,000) on any one occasion on the provision of appropriate hospitality to members and officers of HM Government, other local authorities or public bodies visiting Angus, or to consultants, official delegations, or prospective investors at the discretion of the Head of Service, or others who are assisting or co-operating with officers of the Council in carrying out any of the Council's functions, provided appropriate allowance is made in the approved estimates of expenditure;
- (10) to transfer amounts between budget heads under the direct control of the relevant department in accordance with the provisions of Financial Regulations;
- (11) to approve grants to organisations up to £1,000 in value subject to annual report to Committee and sufficient budget provision;

- (12) to be responsible for compliance with corporate business planning and management arrangements;
- (13) to make arrangements for tenders and to award contracts in accordance with the Council's Financial Regulations, up to the maximum values stated in Appendix 1 thereof;
- (14) where appropriate, to object to an application for, or to make a complaint regarding, any licence in terms of the Licensing (Scotland) Act 1976 (as amended), the Civic Government (Scotland) Act 1982 and any other Licences issued under miscellaneous legislation where the local authority is a competent objector;
- (15) to determine for their department the information to be disclosed, including the application of any exemptions, in relation to requests for information in terms of the Freedom of Information (Scotland) Act 2002;
- (16) to declare surplus to their department's requirements any land and/or property no longer required for their department's operational purposes (excluding property held under the Housing Acts), such declaration to be by way of written notification to the Head of Property and by submission of biannual reports to their own Service Committee summarising land and/or property declared as surplus under delegated authority;
- (17) to carry out the functions of the Council in relation to Health and Safety Regulations for those services delivered by their department;
- (18) to negotiate settlements of claims arising from their departments' contractual workloads;
- (19) to purchase supplies and equipment subject to provision having been made within the approved estimates of expenditure in accordance with the Council's Financial Regulations.

3. Chief Executive

The Chief Executive is authorised-

- (1) to act as the Head of the Council's Paid Service in terms of Section 4 of the Local Government and Housing Act 1989;
- (2) to act as Returning Officer for Parliamentary and Local Government elections;
- (3) in consultation with appropriate local members, as Parliamentary Returning Officer, to make minor changes to the polling scheme in the run up to any statutory election in order to ensure the smooth conduct of the poll;
- (4) to act as the Proper Officer of the Council for the functions specified in Standing Order 45(1);
- (5) in an emergency, to initiate action under any statutory procedure related to a function of the Council, subject to a report being made to the appropriate Committee at the first opportunity on any item for which Committee approval would normally be necessary;
- (6) to appoint consultants to provide specialist input and expertise on specific projects in approved spending programmes, within the approved estimates of expenditure and in accordance with the Financial Regulations;
- (7) to authorise officers of the Council to act as authorising officers and other named functions in terms of the Regulation of Investigatory Powers (Scotland) Act 2000;

- (8) in conjunction with the Head of Law and Administration, to comply with requests for a review of the Council's actions and decisions in relation to requests for information in terms of the Freedom of Information (Scotland) Act 2002 and take decisions for that purpose;
- (9) in consultation with appropriate elected members, to agree for the interest of the Council all matters arising at the Community Planning Partnership or any of its constituent groups which are not the subject of a specific decision of the Council.

3a. Assistant Chief Executive

The Assistant Chief Executive is authorised-

- (1) to represent the Council in respect of specific dismissal, disputes, grading and grievance matters at external bodies/tribunals and, with the approval of the Chief Executive, to settle claims against the Council in respect of employment tribunal proceedings;
- (2) to maintain the list of politically restricted posts under Section 2 of the Local Government and Housing Act 1989;
- (3) to process and, in consultation with the Chief Executive, Head of Finance and appropriate Director, approve applications for early retirements and voluntary redundancies for individual members of staff, in line with approved Council policy;
- (4) in consultation with the Head of Finance, to approve the payment of honoraria to individual members of staff, on the recommendation of the appropriate Director and in accordance with the relevant Council policy;
- (5) to determine regrading applications provided there are no additional financial implications to the service revenue budget;
- (6) to agree extensions to the Employee Benefits Package if it is considered they add value to the package;
- (7) in consultation with the Head of Finance, to establish a new post, or regrade an existing post to, an SJC grade in excess of LG13;
- (8) to make all establishment changes other than those referred to in (10) above, those in regard to teaching posts and the establishment, deletion and grading of posts on JNC conditions of service;
- (9) to ensure that employment practices and procedures within the Council comply with the Data Protection Act 1998.

4. Director of Corporate Services

- (1) The Director of Corporate Services is authorised to take overall responsibility for the functions of the Department, to oversee all staff and to act in all departmental matters excluding paragraphs 4a(1), 4b(7) and 4c(1) below.
- (2) To act as the Senior Officer of the Council for the functions specified in the Carbon Reduction Commitment Energy Efficiency Scheme Order 2010.

4a. Head of Finance

The Head of Finance is authorised-

- (1) to act as the Proper Officer of the Council for the functions specified in Standing Order 45(3);
- (2) to act as the Proper Officer of the Council for the functions specified by Financial Regulations and to manage the day to day functions of the financial administration of the Council;

- (3) to discharge the obligations outlined in the Council's Financial Regulations including the powers delegated to him/her in terms of the Regulations and to approve and implement minor amendments to the Regulations;
- (4) in consultation with the Head of Law and Administration, to determine ex gratia payments in respect of claims against the Council of up to £5,000, provided appropriate allowance is made in the approved estimates of expenditure;
- (5) in consultation with the appropriate Head of Department and the Head of Law and Administration, to determine ex-gratia payments in respect of claims against the Council, provided appropriate allowance is made in the approved estimates of the Council;
- (6) to administer the Council Tax and Housing Benefit Schemes;
- (7) to instigate all collection recovery procedures with regard to the collection of local taxes;
- (8) to grant remission of non-domestic rates in accordance with approved Council policy;
- (9) to make appropriate technical amendments to the Scheme of Members' Allowances;
- (10) to undertake all treasury management activities in accordance with the Council's agreed treasury strategy and treasury management practices (TMPs);
- (11) to exercise all functions on behalf of Angus Council relating to the operation of the Tayside Procurement Consortium (TPC), including the award of contracts, provided the same is within approved budget expenditure and is in accordance with the Procurement Strategy and any other TPC policy approved for that purpose by the Council;
- (12) to be the Council's nominated Proceeds of Crime Reporting Officer in accordance with the requirements of the Money Laundering Regulations 2007;
- (13) to undertake the assessment of applications for free school meals and clothing grants in accordance with the Council's policies.

4b. Head of Information Technology

The Head of Information Technology is authorised:-

- (1) to determine the specification of the type and nature of information technology and telecommunications services, systems, equipment and software and systems and telecommunications systems to be utilised by the Council;
- (2) to select contractors for inclusion on tender lists for contracts for information technology and telecommunications from Government Procurement Service, Scottish Procurement, Public Contracts Scotland and Scotland Excel or from those responding to a public advertisement in accordance with the Council's Financial Regulations;
- (3) to approve the purchase and disposal of information technology and telecommunications related supplies, subject to provision having been made within the approved estimates of expenditure and in accordance with the Council's Financial Regulations;
- (4) to award the placing of information technology and telecommunications related servicing contracts in accordance with the Council's Financial Regulations;
- (5) to appoint information technology and telecommunications consultants, subject to provision having been made within the approved estimates of expenditure and in accordance with the Council's Financial Regulations;
- (6) to select consultants for inclusion in tender lists for information technology and telecommunications from Government Procurement Service, Scottish Procurement, Public Contracts Scotland and Scotland Excel or from those responding to a public advertisement in accordance with the Council's Financial Regulations;

- (7) to act as the Proper Officer of the Council for the functions specified in Standing Order 45(6).

4c. Head of Law and Administration

The Head of Law and Administration is authorised-

- (1) to act as the Proper Officer of the Council for the functions specified in Standing Order 45(1) and (2);
- (2) to act as the Returning Officer for Community Council elections;
- (3) to institute, defend or appear in any legal proceedings or any inquiry held by or on behalf of any minister or public body under any enactment (including, for the avoidance of doubt, proceedings before any statutory tribunal, board or authority); in an emergency (and with the approval of the Chief Executive) to settle legal actions of all descriptions; and to appoint or consult with Counsel where it is considered expedient to do so for the promotion or protection of the Council's interests provided appropriate allowance is made in the approved estimates of expenditure;
- (4) to execute (including, when required, the application of the Seal of the Council), publish or serve on any person or body any notice, direction, order, licence, summons, writ or other document which the Council is required or authorised to execute, publish or serve under the 1973 Act or any other Act or any regulation or order made thereunder, other than where the execution, publication or service of any document has been delegated by the Council to another Director;
- (5) to sign binding missives on behalf of the Council relating to the purchase or sale of heritable property, and to execute any notice, order, declaration or other document which may be required relative to any compulsory purchase which has been authorised by the Council;
- (6) to issue permits under Section 19 of the Transport Act 1985;
- (7) to issue prohibition notices in terms of Section 10 of the Safety of Sports Grounds Act 1975;
- (8) to act as Private Prosecutor (Truancy) in terms of Section 56(1) of the Local Government (Scotland) Act 1973 and also in terms of Section 43(2) of the Education (Scotland) Act 1980;
- (9) to administer and make appointments to the panels of persons established under the Social Work (Panels of Persons to Safeguard the Interests of Children) (Scotland) Regulations 1984;
- (10) on the instructions of the Reporter to the Children's Panel, to arrange for the appointment of legal representatives under the Children's Hearing (Legal Representatives) (Scotland) Rules 2001;
- (11) in conjunction with the Head of Roads and after consultation with the Chief Constable, to approve non-controversial processions and to make orders imposing conditions on the holding of such processions under the Civic Government (Scotland) Act 1982;
- (12) when requested by the Head of Roads, to impose any temporary restriction on traffic on roads by means of public notice and/or traffic regulation order in terms of the Road Traffic Regulation Act 1984 and the Roads (Scotland) Act 1984.;
- (13) in consultation with the Head of Finance, to determine ex gratia payments in respect of claims against the Council of up to £5,000, provided appropriate allowance is made in the approved estimates of expenditure;
- (14) in connection with the Council's licensing functions under the Civic Government (Scotland) Act 1982:

- (i) to grant taxi drivers and private hire car drivers licences, and taxi and private hire car operators licences, on advice from the Chief Constable that there are no current convictions and no objections whatsoever;
 - (ii) to renew taxi drivers and private hire car drivers licences, and taxi and private hire car operators licences, if there are no new convictions since the Civic Licensing Committee's last consideration of the matter (whether in connection with a grant, renewal or default report);
 - (iii) to grant licences for second-hand dealers, window cleaners and street traders, on advice from the Chief Constable that there are no current convictions, and no objections whatsoever;
 - (iv) to renew licences for second hand dealers, window cleaners, street traders, market operators and late hours caterers, if there are no new convictions or adverse information received since the Civic Licensing Committee's last consideration of the matter and the licence sought is the same as the licence previously granted;
 - (v) to grant and renew boat hirers, public entertainment and indoor sports entertainment licences, subject to no objections whatsoever;
 - (vi) to grant and renew permits for amusements with prizes machines in premises other than hotel and public houses, where they are outwith the class of premises specified in the Council's resolution and there are no objections or adverse comments received;
 - (vii) to grant and renew permits to install all-cash amusements with prizes machines in amusement arcades where there are no objections or adverse comments received;
 - (viii) to refuse to either grant or renew any applications made under the Civic Government (Scotland) Act 1982 which have not provided the required supporting documentation, including the relevant fee;
 - (ix) to grant new applications for late hours catering licences which fall within the Council's policy and where no objections or observations are received;
 - (x) to determine whether good cause had been shown to deem an application for renewal of a licence under the Civic Government Scotland (Act) 1982 made up to 28 days after the expiry of the licence to be an application made before the expiry.
- (15) to confirm that no order will be made following upon notifications made under Section 63 of the Civic Government (Scotland) Act 1982 where no objections have been received from Tayside Police;
 - (16) to grant applications where observations are received from Tayside Police containing details of only single minor road traffic offences, single fixed penalties, or minor road traffic offences all of which are more than 4 years old;
 - (17) to grant and renew licences for pet animals, dangerous wild animals, venison dealers, riding establishments, animal boarding establishments, breeding of dogs, and film exhibitions subject to no objections or adverse comments being received from the Chief Constable, Firemaster or Head of Economic Development & Environmental and Consumer Protection;
 - (18) to grant period and temporary approvals for places of Civil Marriages and/or Civil Partnerships where no objections, adverse comments or representations are received;
 - (19) to renew period approvals for places of Civil Marriages and/or Civil Partnerships where no objections, adverse comments or representations are received and the place applied for is the same as previously granted;

- (20) to approve applications for the registration of society lotteries in accordance with the Lotteries and Amusements Act 1976 where there are no current convictions and no objections whatsoever;
- (21) to grant permission to voluntary organisations for the use of the Piazza, Montrose;
- (22) in conjunction with the Chief Executive, to comply with requests for a review of the Council's actions and decisions in relation to requests for information in terms of the Freedom of Information (Scotland) Act 2002 and take decisions for that purpose;
- (23) to act as Data Protection Officer and Freedom of Information Officer for the purpose of ensuring that the Council's obligations in terms of the Data Protection Act 1998 and the Freedom of Information (Scotland) Act 2002 respectively are complied with;
- (24) in conjunction with the Head of Economic Development and Environmental and Consumer Protection, to appoint and authorise suitably qualified and experienced officers to enforce the provisions of The Working Time Regulations 1998 (as amended);
- (25) to accept and sign tenders on behalf of the Council which are above the delegated limits set out in Appendix 1 of Financial Regulations.
- (26) to appoint lay representatives in proceedings relating to heritable property in terms of the Lay Representation in Proceedings relating to Residential Property (Scotland) Order 2010.
- (27) the setting of local traders holidays.
- (28) to grant and renew licences for Houses in Multiple Occupation in terms of Part 5 of the Housing (Scotland) Act 2006 subject to no objections whatsoever.

4d. Head of Property

The Head of Property is authorised-

- (1) to instruct immediate repairs to property which has become damaged, in order to mitigate any loss, damage or injury to property or persons;
- (2) to instruct minor works of a repair, maintenance, construction or alteration nature subject to provision having been made within the approved estimates of expenditure and in accordance with Financial Regulations;
- (3) to select contractors for inclusion in tender lists for contracts for construction and related works from Constructionline or from those responding to a public advertisement in accordance with the Council's Financial Regulations;
- (4) to approve the purchase and disposal of property related supplies, subject to provision having been made within the approved estimates of expenditure and in accordance with the Council's Financial Regulations;
- (5) to award the placing of property related servicing contracts in accordance with the Council's Financial Regulations;
- (6) to approve the acquisition or leasing in of land and property by tender, negotiation, appropriation or excambion subject to there being appropriate provision in the approved estimates of expenditure, including all transactions relating to Common Good properties as delegated in Appendix 1 of, and in accordance with the Council's Financial Regulations;
- (7) to approve the disposal of land and property declared surplus to the requirements of the Council, by tender, or termination of leasing, appropriation, negotiation, auction (when deemed appropriate and generally for the disposal of properties of a relatively low value (<£10,000) which have been exposed to the market for a reasonable period of time without selling) or excambion including all transactions relating to Common Good properties as delegated in Appendix 1 of, and in accordance with, the Council's Financial Regulations;

- (8) to appoint construction and property consultants and through collaborative arrangements, commission support from neighbouring local authorities, subject to provision having been made within the approved estimates of expenditure, where appropriate with the agreement of customers and in accordance with the Council's Financial Regulations;
- (9) to select consultants for inclusion in tender lists for construction and property services from Constructionline or from those responding to a public advertisement in accordance with the Council's Financial Regulations;
- (10) to carry out the construction and property related functions of the Council in relation to Health and Safety Regulations including the issue of property related health and safety legislation and best practice guidance to other departments, including sustainability, energy management and water management standards;
- (11) to carry out the functions of the Council in relation to the Construction (Design and Management) Regulations and associated legislation with regard to contracts for construction and property related works as appropriate;
- (12) to carry out the functions of the Council in relation to the management of asbestos containing materials in non-housing Council properties in accordance with the Control of Asbestos Regulations 2006 and subsequent legislation and regulations;
- (13) to approve the leasing out of land and property by tender, negotiation or excambion, the granting of wayleaves, servitude rights of access, undertaking rent reviews, lease renewals and the management of dilapidations schedules including all transactions relating to Common Good properties as delegated in Appendix 1 of, and in accordance with, the Council's Financial Regulations;
- (14) to respond, on behalf of the Council, to Neighbour Notifications received by the Council under the Planning Acts;
- (15) to carry out the maintenance and associated operating issues in respect of Open Space CCTV;
- (16) to carry out the Primary Contact functions of the Council in accordance with the Carbon Reduction Commitment Energy Efficiency Scheme Order 2010 and to appoint Secondary Contact and Account Representatives as appropriate;
- (17) to manage Angus Council's response to the new duties specified in the Carbon Reduction Commitment Energy Efficiency Scheme Order 2010;
- (18) to make payment of the annual charge for Carbon Allowances under the CRC Energy Efficiency Scheme Order 2010 scheme, and associated supplementary charges without limit, subject to adequate funding provisions having been established;
- (19) to make payment of the single advance annual payment for Corporate water services charges, without limit, subject to adequate funding provisions having been established;
- (20) to manage rental payment, rental income and initiate debt recovery for all properties leased by Angus Council;
- (21) to exercise Corporate property oversight responsibilities regarding all property related matters but particularly the disposal of land and property as detailed in the specific guidance encompassed within Standing Orders.

5. Director of Education

The Director of Education is authorised-

- (1) to ensure that the education provided in schools managed by Angus Council is directed to the development to their fullest potential of the personality, talents and mental and physical abilities of each child or young person enrolled in these schools, and to have due regard, so far as is reasonably practicable, to the views (if there is a wish to express them) of the child or young person in decisions which significantly affect that child or young person, taking account of the child or young person's age and maturity;
- (2) to take an overview of the work of all schools managed by the Council with a view to securing improvement in the quality of school education and to raising standards of education;
- (3) to make arrangements for pupils to be enrolled in the school within whose delineated area they normally reside;
- (4) to make available information to parents to enable them to enrol their children in the delineated area school or to make a placing request for another school;
- (5) to grant all placing requests whenever possible and to explain the right of appeal to any parents whose placing requests are refused;
- (6) to authorise school transport arrangements for all children who are entitled to such transport statutorily, or as a result of Council policy and to award contracts for such transport in accordance with Financial Regulations;
- (7) to make provision for the education of children with Additional Support Needs;
- (8) to exercise the powers available to the Council with regard to the provision of education for pupils belonging to areas of other education authorities;
- (9) to grant leave of absence with salary to enable teaching staff to undertake approved courses, subject to appropriate provision having been made in the approved estimates of expenditure;
- (10) to authorise all teaching establishment changes;
- (11) to implement and monitor the Council's scheme of Staff Development and Review for teaching staff;
- (12) to arrange programmes of in-service training for teachers, for School Chaplains, and for non-teaching staff in association with the Assistant Chief Executive;
- (13) to transfer teachers within the policy established by the Council;
- (14) to authorise the premature retirement of teachers without any actuarial reduction to their pension benefits in certain very tightly defined circumstances as agreed by the Education Committee;
- (15) to maintain the equipment, material resources and physical fabric of all schools and educational establishments, in accordance with the Council's agreed policies and procedures, and in association with the Head of Property;
- (16) to carry out the administration, assessment and award of Educational Maintenance Allowances and further education bursaries, in so far as the Council has the power to award such bursaries, subject to appropriate provision having been made in the approved estimates of expenditure;
- (17) to issue licences in terms of the Children (Performance) Regulations 1968;
- (18) to control the employment of children in terms of the Council's byelaws;

- (19) to approve or refuse applications received from schools for visits and excursions, in accordance with the Council's policies;
- (20) to make arrangements to monitor the attendance of pupils at school, and to implement measures to combat truancy and other unauthorised absence;
- (21) to approve amendments to Attendance Orders in accordance with Section (39) of the Education (Scotland) Act 1980 where the parents have made no representations against;
- (22) to oversee the arrangements made by head teachers for allocating pupils to classes, for the delivery of an effective curriculum, and for all matters relating to the safety and well-being of pupils;
- (23) to be responsible for the provision of a Community Learning and Development Service, including work with children and young people, educational support for community development, and adult education;
- (24) to be responsible for the provision of a Psychology Service;
- (25) to oversee school-based arrangements for the maintenance of Parent Councils;
- (26) to administer the Council's scheme for the letting of school premises;
- (27) to administer the Council's scheme of Devolved School Management;
- (28) to respond on behalf of the Council, to any formal and informal consultation exercises organised by the Scottish Government's Education and Lifelong Learning Department or any other national body;
- (29) to determine the suitability of drivers or escorts who wish to be employed by the Council or persons contracted by the Council to undertake the conveyance of pupils to and from school.

6. Director of Infrastructure Services

The Director of Infrastructure Services is authorised:-

- (1) to take overall responsibility for the functions of the Department, to oversee all staff and to act in all departmental matters;
- (2) to exercise all responsibilities on behalf of Angus Council for the functions specified in the Climate Change (Scotland) Act 2009.

6a. Head of Economic Development and Environmental and Consumer Protection

- (1) in respect of the Council's Economic Development functions:-
 - (i) to approve, leases and disposals of sites of up to 1 hectare and premises of 500 m², in consultation with the Head of Property;
 - (ii) to approve leases outwith the limits set out in sub-paragraph (i) above in cases of urgency in consultation with the Convener of the Infrastructure Services Committee and the Head of Property;
 - (ii) to approve disposals outwith the limits set out in sub-paragraph (i) above in cases of urgency in consultation with the Convener of the Corporate Services Committee and the Head of Property;
 - (iii) to approve travel, subsistence, accommodation and other expenditure incurred by officers of the Department in relation to exhibitions and promotional events within the United Kingdom, in accordance with Council policy and subject to appropriate provision having been made in the approved estimates of expenditure;

- (iv) in consultation with the Head of Property, to authorise all expenditure on the maintenance of properties held on the Economic Development account within the approved budget;
 - (v) to appoint marketing and economic development consultants and specialist suppliers, subject to provision having been made within the approved estimates of expenditure and in accordance with the Council's Financial Regulations;
 - (vi) to select consultants for inclusion in tender lists for marketing and economic development services in accordance with Financial Regulations;
 - (vii) in addition to the general delegation granted in 2(9), to incur expenditure not exceeding £1,000 on any one occasion on the provision of hospitality for major inward investment delegations or foreign trade delegations provided allowance is made in the revenue budget;
 - (viii) in conjunction with the Head of Law and Administration, to appoint and authorise suitably qualified and experienced officers to enforce the provisions of The Working Time Regulations 1998 (as amended).
- (2) In respect of the Council's Environmental & Consumer Protection Functions:-
- (i) to issue licences and registration certificates in terms of the Manufacture and Storage of Explosives Regulations 2005;
 - (ii) when appointed by the Scottish Ministers, to act on any Emergency Order made under Part 1 of the Food and Environmental Protection Act 1985;
 - (iii) to issue petrol storage licences under the Petroleum (Consolidation) Act 1928;
 - (iv) to register sellers of Part II poisons under the Poisons Act 1972;
 - (v) to issue suspension and other official notices under Section 14 of the Consumer Protection Act 1987, and under the General Product Safety Regulations 2005 (made under section 2(2) of the European Communities Act 1972) for goods which are suspected to be unsafe;
 - (vi) to ensure redundant petrol tanks are made safe under Section 94(2) of the Civic Government (Scotland) Act 1982; with additional powers to authorise work to be carried out on behalf of the Council, with cost recovery from occupier or owner of property;
 - (vii) to ascertain and deal with 'statutory nuisance' under the Environmental Protection Act 1990 (as amended) and as necessary to serve notice of abatement in terms of the Act;
 - (viii) to discharge the function of the Council in relation to stray dogs under the Environmental Protection Act 1990;
 - (ix) to arrange for the burial or cremation of deceased persons where no one is available to make such arrangements, under the National Assistance Act 1948;
 - (x) to issue approvals for Food Premises requiring approval under EU Directive 853/2004;
 - (xi) under the Health Services and Public Health Act 1968, to exclude from work, food handlers suffering from infectious diseases;
 - (xii) to serve notice under the Water (Scotland) Act 1980, to secure necessary improvements to unsatisfactory drinking water supply;

- (xiii) to serve notice requiring occupiers to comply with requirements to clean common property (stairs etc) and to paint or decorate common stairs or passageways under the Civic Government (Scotland) Act 1982, Section 92(4) and (6);
- (xiv) to serve notice to require treatment for rats and mice under the Prevention of Damage by Pests Act 1949, Section 4;
- (xv) under Section 40 of the Food Safety Act 1990, to be the responsible person for the requirements of the Act in terms of the Food Safety Act 1990 Code of Practice, Scotland and be authorised to approve the annual Feed, Food and Safety Service Plan;
- (xvi) under the Health and Safety at Work etc Act 1974, to be the responsible person for ensuring the Council's observance of the requirements as an enforcement authority;
- (xvii) under Sections 19 and 53 of the Animal Welfare Act 2006, powers of entry to ascertain if offences are being committed related to welfare of domesticated animals;
- (xviii) to issue licences to firework suppliers in terms of the Fireworks Act 2003 and Fireworks Regulations 2004;
- (xix) without prejudice to the foregoing specific matters, to designate individual officers, jointly with the Head of Law and Administration, to be authorised to carry out the statutory and other functions, which from time to time are delegated to the Infrastructure Services Committee, in respect of legislation relating to:-
 1. Agriculture Produce & Materials
 2. Animal Health & Welfare; and Pest Control
 3. Animal Feedingstuffs
 4. Anti-Social Behaviour
 5. Consumer Fraud (Trade Marks etc.)
 6. Consumer Protection & Safety
 7. Contaminated Land
 8. Dog Patrol
 9. Environmental Health & Protection, including Pollution Control
 10. Fair Trading
 11. Food Safety and Food Standards
 12. Health & Safety at Work etc.
 13. Housing Standards including caravans and migrant worker accommodation
 14. Licensing/Registration
 15. Pest Control
 16. Petroleum and Explosives
 17. Public Health
 18. Waste Collection, Disposal and Recycling
 19. Water Supplies
 20. Weights & Measures
 21. Working Time
- (xx) to appoint a suitably qualified officer as the Council's Chief Inspector of Weights & Measures, to carry out the functions of the Council as the local Weights and Measures authority and to carry out such other functions delegated to the Infrastructure Services Committee, as are appropriate;
- (xxi) to undertake the transfer of enforcement responsibilities between enforcement authorities at a local level in terms of the Health and Safety (Enforcing Authority) Regulations 1998;
- (xxii) to act under Parts 3 and 8 of the Public Health (Scotland) Act 2008, powers of entry and other investigatory powers with regard to public health investigations and regulation of sunbeds;

- (xxiii) take action under the Environmental Act 1990, as amended, to deal with remediation of contaminated land;
- (xxiv) take action under the Environmental Act 1995 with regard to Local Air Quality Management;
- (xxv) to act as the Appropriate Officer in terms of the Bathing Waters (Scotland) Regulations 2008;
- (xxvi) to issue penalty notices under The Energy Performance of Buildings (Scotland) Regulations 2008;

6c. Head of Planning and Transport

The Head of Planning and Transport is authorised-

- (1) In respect of the Council's Development Standards functions:-
 - (i) to approve planning applications, with the exception of:-
 - (a) applications defined as being National or Major;
 - (b) applications which attract five individual objections (i.e. excluding five letters of objections from an individual, individual household, or organisation);
 - (c) applications which are significant departures from the Development Plan which are recommended for approval;
 - (d) applications which attract objections from statutory consultees, including Community Councils;
 - (e) applications which are submitted by any Angus Council department or Division, or where Angus Council owns the land, subject to application or where Angus Council has a financial interest in the land;
 - (f) applications which are submitted by elected members of Angus Council, senior members of staff employed by Angus Council or those staff working closely with elected members; or
 - (g) applications that are subject to Environmental Assessment Regulations.

For the avoidance of doubt, planning applications for determination by the Head of Planning and Transport, will include:-

 - (a) *the refusal of applications which are contrary to the Development Plan;*
 - (b) *applications attracting up to four individual letters of objection but excluding objections from Statutory consultees;*
 - (c) *applications which are not progressing satisfactorily due to protracted delays in the submission of essential information e.g. Retail assessments, traffic impact assessment, by the applicant or agent; or*
 - (d) *applications requiring a Section 75 Agreement of the Town and Country Planning (Scotland) Act.*
 - (ii) to refuse minor planning applications that are clearly contrary to planning policies (eg illuminated signs, satellite antennae, certain householder applications, etc);

- (iii) to determine the validity of a “representation” to a planning application (this would mean that where the Head of Planning and Transport determined that an objection or representation did not constitute valid planning or human rights grounds, was immaterial, or the point of objection was addressed by changes or conditions, the application would not be referred to Committee);
- (iv) to determine the necessity or otherwise for an environmental impact statement (including requests for a screening opinion) to accompany a planning application;
- (v) to accept minor non-material amendments to planning consents/conditions;
- (vi) to instigate enforcement action following refusal or significant changes imposed, or retrospective applications;
- (vii) to determine the necessity to pursue enforcement action in cases of minor, uncontentious breaches;
- (viii) to issue provisional Tree Preservation Orders as a matter of urgency;
- (ix) to grant agreement to works on trees affected by Tree Preservation Orders or planning conditions;
- (x) to determine, in accordance with the provisions of the Town and Country Planning (General Permitted Development) (Scotland) Order 1992, whether the prior approval of the planning authority will be required in respect of a development referred to in the Order therein; and to thereafter determine such applications where prior approval is required;
- (xi) to enter into Section 75 Agreements of the Town and Country Planning (Scotland) Act 1997 in respect of applications which the Head of Planning and Transport has delegated powers to determine;
- (xii) to discharge Section 75 Agreements of the Town and Country Planning (Scotland) Act 1997 where the Head of Planning and Transport determines that the terms and/or conditions have been met or where the Agreement no longer serves as useful planning purpose;
- (xiii) to determine eligibility for award of listed building/conservation grants, Townscape Heritage Initiative grants;
- (xiv) to determine eligibility for use of Wasteland Notice;
- (xv) to serve Stop Notices or Temporary Stop Notices where in the opinion of the Head of Planning and Transport, planning consent is unlikely and where a serious safety or nuisance problem exists;
- (xvi) to serve a Fixed Penalty Notice when an Enforcement Notice or Breach of Condition has not been complied with;
- (xvii) to take appropriate action in cases of fly-posting including removal;
- (xviii) to take action against advertisements/signs erected contrary to Council policies;
- (xix) to “spot” list a potential listed building prior to reporting to Committee for confirmation;
- (xx) to serve Urgent Works Notices in respect of listed buildings prior to reporting to Committee for confirmation;
- (xxi) to issue Planning Contravention Notices under Section 272 of the Town and Country Planning (Scotland) Act 1997 Notices, as and when required;

- (xxii) to exercise the planning authority's powers to authorise entry in accordance with Section 269 of the Town and Country Planning (Scotland) Act 1997 and Section 76 of the Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997 and all other powers enabling the planning authority in that behalf.
- (2) to make objections to the issue of operators' licences on behalf of the Council as planning authority in terms of Section 12 of the Goods Vehicles (Licensing of Operators) Act 1995;
 - (3) to respond to the Forestry Authority on Woodland Grant Scheme Applications where no major planning issues are raised;
 - (4) to assess grant applications received under the Rural Shops Grant Scheme and Community Post Office Conversion Scheme including the award of financial assistance in appropriate cases, subject to appropriate provision having been made in the approved estimates of expenditure;
 - (5) to administer the Tree Planting Scheme including the arrangements for the distribution of grant aid in approved cases;
 - (6) in respect of the Council's Building Control functions;-
 - (i) to approve Building Warrants in compliance with Building Regulations;
 - (ii) to grant Building Warrant Relaxations where acceptable to other appropriate consultees (eg the Fire Authority);
 - (iii) to issue initial Dangerous Building Notices;
 - (iv) to determine necessity to apply for retrospective Building Warrant in the case of minor unauthorised works;
 - (v) to act as deemed appropriate where there is an immediate danger to the public in respect of building/building work;
 - (vi) to determine eligibility for award and to issue improvement/repair/conversion grants when uncontentious and in compliance with Council policies;
 - (vii) to issue letters of comfort in respect of building works for which there is no building warrant;
 - (viii) to issue notices under Section 28 of the Building (Scotland) Act 2003;
 - (ix) to enforce Regulation 9 of the Energy Performance of Buildings (Scotland) Regulations 2008;
 - (x) to issue notices under Section 25(3) of the Building (Scotland) Act 2003 requiring the display of Energy Performance Certificates in buildings highlighted in the Directions issued by Scottish Ministers.
 - (7) to make arrangements for tenders and to award contracts for supported bus services under the Transport Acts 1985 and 2001, including:-
 - (i) renewal, variation or termination of existing local bus service contracts subject to provision having been made within the approved estimates of expenditure of the Council;
 - (ii) provision of replacement contracts, in response to the deregistration of commercial bus services, on an interim basis and subject to a Council decision on longer term action;

- (iii) provision of contracted emergency transport through the operation of additional vehicles in order to maintain public transport services for the public during road closures, except those closures undertaken by statutory undertakers in which case operators should seek costs directly from the statutory undertaker.
- (8) to make arrangements for the provision of transport for authorised scholars under the Education (Scotland) Act 1980, including:-
- (i) amendments to existing local bus services and tendering for school conveyance contracts;
 - (ii) purchase of season tickets for scholars using local bus services.
- (9) to operate Travel Concession Schemes approved by the Council, including:-
- (i) assessing eligibility of clients to participate in the schemes;
 - (ii) serving participation notices on bus operators.
- (10) to provide public transport services information, publicity and minor infrastructure, including:-
- (i) provision of bus stops, shelters, real time information and information panels;
 - (ii) entering into service agreements with Further Education establishments to organise and administer transport for authorised students.
- (11) to act as the Proper Officer of the Council for the functions specified in Standing Order 45(4);
- (12) to appoint consultants to provide specialist input and expertise on specific projects in approved spending programmes, within the approved estimates for expenditure and in accordance with the Council's Financial Regulations;
- (13) to carry out the Council's functions under the following provisions of the Land Reform (Scotland) Act 2003, namely:
- Section 11 (power to exempt particular land from access rights) exemption for less than 6 days.
 - Section 13(duty of local authority to uphold access rights) including to institute or defend legal proceedings in consultation with the Head of Law and Administration (without prejudice to the terms of Article 4(3) of the scheme of delegation), and subject, in the case of legal proceedings, to a report being made to the Land Reform Sub-Committee.
 - Section 14 (prohibition signs, obstructions, dangerous impediments etc.)
 - Section 15 (measure for safety, protection, guidance and assistance)
 - Section 19 (power to maintain core paths etc)
 - Section 21 (delineation by agreement of paths in land over which access rights are exercisable)
 - Section 23 (Ploughing etc.)
 - Section 26 (power of entry)
- (14) to manage Angus Council's response to the new duties specified in the Climate Change (Scotland) Act 2009.

6d. Head of Roads

The Head of Roads is authorised-

- (1) to instruct immediate repairs to road related infrastructure which has become damaged in order to mitigate any loss, damage or injury to property or persons;
- (2) to instruct minor engineering and related works in accordance with the Council's Financial Regulations;
- (3) to instruct works of repair and maintenance, subject to provision having been made therefore within the approved estimates of expenditure of the Council, in accordance with the Council's Financial Regulations;
- (4) to act as Engineer (or equivalent named role) in respect of works contracts awarded by the Council through the Roads Division;
- (5) to select contractors for inclusion in tender lists for contracts for engineering and related works from approved lists or from those responding to a public advertisement in accordance with the Council's Financial Regulations;
- (6) to carry out the functions of the Council in relation to the Construction (Design and Management) Regulations 2007 with regard to contracts for roads division related works as appropriate;
- (7) to carry out the functions of the Council under the Flood Risk Management (Scotland) Act 2009 and such preceding Acts until fully repealed including the preparation of maps of bodies of water, the assessment of relevant bodies of water and clearance and repair works to manage flood risk and to propose flood protection schemes in accordance with the requirements of Section 60 and Schedule 2 of the Flood Risk Management (Scotland) Act 2009
- (8) to carry out the functions of the Council under the Reservoirs Act 1975 in respect of-
 - (i) the keeping of the register of reservoirs
 - (ii) commissioning inspections and reports from Reservoir Panel Engineers;
 - (iii) ensuring the carrying out of repairs by reservoir undertakers;
- (9) to carry out the functions of the Council under the Roads (Scotland) Act 1984 in respect of-
 - (i) maintaining the list of public roads under Section 1 (including additions or deletions);
 - (ii) granting consents under Section 21 where there are no objections and any conditions have been agreed with the applicant, and under Part IV, V and VIII (except for permitting trading on A class roads under section 97);
 - (iii) serving notices under Parts II, IV, V and VIII;
 - (iv) taking action under section 15 and Parts IV, V, VII and XIII;
 - (v) recovering costs under Parts IV, V, VIII and XIII;
 - (vi) the consideration of comments received during the Promotion of Stopping Up and Side Roads Orders, Redetermination Orders and Stopping Up of Private Access Orders and arranging for the Order to be made and confirmed in the following circumstances:-
 - (a) where no objections are received; or
 - (b) where any objections received are subsequently withdrawn.

- (vii) in any other circumstances the proposed Order shall be remitted to the Scottish Ministers.
- (10) to carry out the functions of the Council under the Road Traffic Regulation Act 1984 in respect of:-
- (i) the consideration of comments received during the promotion of Traffic Regulation and Parking Places Orders, and arranging for the order to be made in the following circumstances.
 - (a) where no objections are received; or
 - (b) where any objections received are subsequently withdrawn; and
 - (c) where the Head of Roads in consultation with the Head of Law and Administration and the Chief Constable considers any change to the proposed terms of the order arising in consequence of observations raised to be non-controversial.
- In any other circumstances the proposed order shall be referred back to the relevant Standing Committee of the Council.
- (11) to carry out the functions of the Council under the Road Traffic Act 1988;
- (12) to carry out the functions of the Council under sections 112, 115, 117, 118, 120, 122, 123, 124, 131 and 134 of the New Roads and Streetworks Act 1991;
- (13) to manage the day to day operations, and developments of Arbroath Harbour under Section 154 of the Local Government (Scotland) Act 1973 and any local enactments;
- (14) in consultation with the Convener and local elected member(s), to carry out the functions of the Council under Section 97 of the Civic Government (Scotland) Act 1982 to name any street or road, to alter an existing name and give each of the premises in it such distinguishing number as thought fit, subject to the proposed name not being contentious;
- (15) to make agreements with the Scottish Water Authority under Section 7 of the Sewerage (Scotland) Act 1968, as amended, regarding the provision, management, maintenance or use of surface water drains;
- (16) to carry out all the functions of Angus Council (including those of the Angus Council Representative) under the A92 (Dundee to Arbroath) Upgrading: Design, Build, Finance and Operate Contract in consultation with the Head of Finance and the Head of Law and Administration as appropriate;
- (17) to make objections to the issue of operators' licences on behalf of the Council as local authority in terms of Section 12 of the Goods Vehicles (Licensing of Operators) Act 1995;
- (18) to carry out the functions of the Council under the Coast Protection Act 1949 in respect of:-
- (i) dealing with the administration arrangements for coast protection works by private individuals and other bodies under Sections 16 and 17;
 - (ii) entering into land for inspection purposes under Section 25; and
 - (iii) establishing land ownership under Section 26;
- (19) to respond to consultation from the Planning Authority on behalf of the Roads Authority.

7. Director of Neighbourhood Services

The Director of Neighbourhood Services is authorised to take overall responsibility for the functions of the department and to oversee all staff and to act in all departmental matters.

The Director is also authorised:-

- (1) to carry out the functions of the Council in relation to the Construction (Design and Management) Regulations 2007 with regard to Neighbourhood Services contracts as appropriate;
- (2) as "Undertaker" to carry out statutory inspections and maintenance procedures at Monikie Island, North Denfind and Crombie Reservoirs as determined under the Reservoirs Act 1975;
- (3) in consultation with the Convener and the Head of Finance, to vary the charge for Neighbourhood Services facilities for promotional activities, public events and performances to allow the Department to react to market forces;
- (4) in consultation with the Convener, to introduce marketing and promotional campaigns for Neighbourhood Services activities and facilities to allow the Department to react to market forces, etc and, in consultation with the Convener, to approve applications for the sale of alcohol at such events;
- (5) to administer the Council's Management Rules with regard to all leisure and cultural activities and facilities;
- (6) in consultation with the Convener and the Head of Finance, to approve assistance to clubs/organisations through the relevant Division's Marketing Budget;
- (7) to maintain an adequate library and information service, an adequate museum service and make proper arrangements for the preservation and management of the Council's historic records in relation to the Local Government (Scotland) Act 1995;
- (8) to advise the Acquisitions Sub-Group and administer and support the Museums Fund;
- (9) to develop, manage and co-ordinate local community planning and applicable budget.

7a. Head of Environmental Management

The Head of Environmental Management is authorised:-

- (1) to appoint consultants, subject to provision having been made within the approved estimates of expenditure and in accordance with the Council's Financial Regulations;
- (2) to select consultants for inclusion in tender lists for Environmental Management from approved standing lists or from those responding to a public advertisement in accordance with the Council's Financial Regulations;
- (3) to carry out the functions of the Council in relation to the Construction (Design and Management) Regulations 2007 with regard to Environmental Management contracts as appropriate;
- (4) to administer the Council's Management Rules with regard to Parks play and recreation areas, open spaces beaches and Burial grounds;
- (5) to carry out the Council's functions in waste management including:-
 - (i) all responsibilities for waste collection and disposal including recycling and the disposal of recycle;
 - (ii) all policy, strategy delivery and enforcement related to street cleaning and fly tipping under the Environmental Protection Act 1990; and
 - (iii) all responsibilities relating to public toilets;

- (iv) the discharge of the functions of the Council as litter authority under the Environmental Protection Act 1990.
- (6) ensure that the Council maintains an adequate cemetery provision and that systems are in place to maintain accurate records of all burials;
- (7) to make burial arrangements under the Burial Grounds (Scotland) Act 1855;
- (8) to approve the sale of lairs and to approve the issue of free lairs where circumstances dictate;
- (9) to exercise the local authority's powers under Section (3) of the Local Government (Footpaths and Open Spaces) (Scotland) Act 1970 where the open space area has been provided to the standards required by the Council and adoption of its maintenance causes no detriment to the Council's budgets.

7b. Head of Housing

The Head of Housing is authorised-

- (1) to allocate council houses, lock-up garages and garage sites in accordance with current legislation and Council policy;
- (2) to maintain Waiting and Transfer Lists including any Common Housing Register;
- (3) to carry out routine maintenance of Housing Revenue Account properties, instructing work on dwelling-houses, garages and other relevant Housing Revenue Account assets in accordance with Financial Regulations and the approved estimates of expenditure;
- (4) in consultation with the Head of Finance and the Head of Law and Administration, to award ex-gratia payments, as compensation in particular circumstances, up to an approved limit;
- (5) to collect rents and other monies due to the Council;
- (6) to carry out assessment of housing need and to enable accommodation/housing to be provided to meet that need;
- (7) to operate the Homeless Persons legislation via agreed policy and current guidance;
- (8) to devise, develop and monitor Capital programmes to ensure the Council's HRA stock is kept in a satisfactory condition including meeting and maintaining the Scottish Housing Quality Standard;
- (9) to lead the implementation of the Home Energy Conservation Act 1995;
- (10) to take appropriate and proportionate action, including all necessary legal actions including serving notices of proceedings for recovery of possession of houses under Section 14 of the Housing (Scotland) Act 2001 and to take further appropriate actions as agreed by Council Policy following due legal process and to report actions to Council informing of progress and compliance with Council Policy;
- (11) to operate a Private Sector Landlords Registration Scheme under the Anti-Social Behaviour etc (Scotland) Act 2004;
- (12) in consultation with the Head of Law and Administration to make application to the Court for an Anti-Social Behaviour Order under the Crime and Disorder Act 1998, where all consultees support the making of such an application and where the application is in accordance with Council policy and the Anti-Social Behaviour (Scotland) Act 2004 and associated legislation and guidance;
- (13) to apply for a Parenting Order in line with Part 9 of the Anti-Social Behaviour (Scotland) Act 2004;

- (14) to exercise the housing authority's powers to authorise entry in accordance with Section 37 of and Schedule 10, paragraph 1(3) to the Housing (Scotland) Act 1987, along with Schedule 4, paragraph 4 to the Housing (Scotland) Act 2001;
- (15) to develop and deliver strategies for Tenant and wider Community engagement within the Community Planning Framework ensuring customers are consulted on relevant policy development and securing customer views to improve housing and related services;
- (16) to prepare the Local Housing Strategy in accordance with the Housing (Scotland) Act 2001, and associated guidance, including the preparation and implementation of the Council's Strategic Housing Investment Plan;
- (17) to deliver, with the Director of Infrastructure Services, the Director of Social Work and Health and the Head of Law and Administration, the requirements of the Housing (Scotland) Act 2006 (with the exception of Part 5 thereof);
- (18) to ensure the Council is able to deliver civil enforcement notices through the empowerment of Community Safety Wardens in accordance with Council Policy;
- (19) the monitoring and enforcing of dog fouling issues;
- (20) to instruct immediate repairs to all housing assets which have become damaged in order to mitigate any loss, damage or injury to property or persons and instruct minor works of repair, construction or alteration nature, of property assets of Housing subject to provision having been made within the approved estimates of expenditure and in accordance with the Council's Financial Regulations;
- (21) to appoint consultants, subject to provision having been made within the approved estimates of expenditure and in accordance with the Council's Financial Regulations;
- (22) to select consultants for inclusion in tender lists for Housing from approved standing lists or from those responding to a public advertisement in accordance with the Council's Financial Regulations;
- (23) to carry out the functions of the Council in relation to the Construction (Design and Management) Regulations 2007 with regard to Housing contracts as appropriate.

8. Director of Social Work and Health

The Director of Social Work and Health is authorised to take overall responsibility for the functions of the department, to manage any service within that department, to oversee all staff and to act in all departmental matters.

The Director of Social Work and Health is also authorised:-

- (1) to provide a report to the Court, on request, where the Court is considering any question relating to the care and upbringing of a child in terms of Section 11(1) of the Matrimonial Proceedings (Children) Act 1958;
- (2) to have the power to cause an inquiry to be held into the Council's functions under the Children (Scotland) Act 1995 in so far as those functions relate to children in terms of Section 6B of the Social Work (Scotland) Act 1968;
- (3) to pay expenses of parents, relatives or other connected persons in respect of visiting a person in care or attending the funeral of a person or child in terms of Section 29 of the Social Work (Scotland) Act 1968;
- (4) to ensure that persons in establishments in the Council's area and any children in establishments outside the Council area who are looked after by the Council are visited from time to time in the interests of their well-being in terms of Section 68 of the Social Work (Scotland) Act 1968;
- (5) to recover contributions in respect of children who are looked after by the authority in terms of Section 78A of the Social Work (Scotland) Act 1968;

- (6) to pay allowances in respect of the maintenance of children in terms of Section 50 of the Children Act 1975;
- (7) to provide an adoption service to children who may be adopted, persons who have been adopted and others affected by adoption as defined in Section 1 of the Adoption and Children (Scotland) Act 2007;
- (8) in coming to a decision relating to the adoption of a child, to regard the need to safeguard and promote the welfare of the child throughout the child's life as the paramount consideration in terms of Section 14 of the Adoption and Children (Scotland) Act 2007;
- (9) to consider whether adoption is likely best to meet the needs of the child or whether there is some better, practicable alternative for the child in terms of Section 14(6) of the Adoption and Children (Scotland) Act 2007;
- (10) to investigate the circumstances and submit a report to the Court in respect of a child for whom an adoption order is being sought in terms of Section 17 of the Adoption and Children (Scotland) Act 2007;
- (11) to pay adoption allowances in terms of Section 71 of the Adoption and Children (Scotland) Act 2007 and the Adoption Support Services and Allowances (Scotland) Regulations 2009;
- (12) to make an assessment of the needs of a person for adoption support services and decide on the provision of such services in terms of Section 9 of the Adoption and Children (Scotland) Act 2007;
- (13) in consultation with the Head of Law and Administration to establish and thereafter administer a panel of Curators Ad Litem and Reporting Officers as laid down in the Curators Ad Litem and Reporting Officers (Panels) (Scotland) Regulations 2001 and to consult with the Sheriff Principal and other relevant parties as required;
- (14) to respond to requests from the education authority for assessment of young person's needs;
- (15) to safeguard and promote the welfare of children looked after by the Council in terms of Section 17 of the Children (Scotland) Act 1995;
- (16) to prepare and publish a plan for the provision of relevant services for, or in respect of, children in the Council's area in terms of Section 19 of the Children (Scotland) Act 1995;
- (17) to prepare and publish information about relevant services for children in the Council's area in terms of Section 20 of the Children (Scotland) Act 1995;
- (18) to request help in the exercise of any functions that the Council has under Part II of the Children (Scotland) Act 1995 from a specified person in terms of Section 21 of the Children (Scotland) Act 1995;
- (19) to provide services to safeguard and promote the welfare of children who are in need and to promote the upbringing of such children by their families in terms of Section 22 of the Children (Scotland) Act 1995;
- (20) to ensure that services provided under Section 22 of the Children (Scotland) Act 1995 to a child with or affected by a disability are designed to minimise the effect of his/her disability, or to minimise the effect of the disability of a family member on the child and to provide the opportunity for the child to lead as normal a life as possible in terms of Section 23(1) of the Children (Scotland) Act 1995;
- (21) to carry out an assessment (if asked to do so by the child's parent or guardian) of the child with or affected by disability or any other person in his/her family in order to ascertain the child's needs as in so far as they are attributable to his/her disability or that of another person in terms of Section 23(3) of the Children (Scotland) Act 1995;

- (22) to assess a carer's ability to provide, or to continue to provide, care for a disabled child when asked to do so by the carer in terms of Section 24 of the Children (Scotland) Act 1995;
- (23) to provide accommodation for children in terms of Section 25 of the Children (Scotland) Act 1995;
- (24) to provide accommodation for children looked after by the Council in terms of Section 26 of the Children (Scotland) Act 1995;
- (25) to provide day care for children in need within the Council's area who are aged 5 or under and who have not yet started school in terms of Section 27(1) of the Children (Scotland) Act 1995;
- (26) to provide appropriate care for school children in need within the Council's area outside school hours or during school holidays in terms of Section 27(3) of the Children (Scotland) Act 1995;
- (27) to provide advice, guidance and assistance for children under 19 years of age but over school age who were previously in the care of a Council or voluntary organisation in terms of Section 29 of the Children (Scotland) Act 1995;
- (28) to provide financial help towards maintaining, educating or training people over school age in terms of Section 30 of the Children (Scotland) Act 1995;
- (29) to review cases of children looked after by the Council in terms of Section 31 of the Children (Scotland) Act 1995;
- (30) to remove children from residential establishments in terms of Section 32 of the Children (Scotland) Act 1995;
- (31) upon receipt of notification in terms of Section 36(1) of the Children (Scotland) Act 1995 to determine whether the child's welfare is adequately safeguarded and whether to exercise any functions under the Act in terms of Section 36(2);
- (32) to have the power to provide short-term refuge to children who appear to be at risk of harm and who themselves request to be provided with such refuge in terms of Section 38 of the Children (Scotland) Act 1995;
- (33) to make enquires and provide information to the Reporter to the Children's Panel where children may require compulsory measures of supervision in terms of Section 53 and 56(1) of the Children (Scotland) Act 1995;
- (34) to have the power to apply to a Sheriff for a child assessment order in terms of Section 55 of the Children (Scotland) Act 1995;
- (35) to provide reports on children and their social background for a Children's Hearing in terms of Section 56(2) and/or (7) of the Children (Scotland) Act 1995;
- (36) to have the power to apply for a child protection order in terms of Section 57 of the Children (Scotland) Act 1995;
- (37) to provide and maintain such residential and other establishments as are required for the Council's functions in terms of Section 59 of the Social Work (Scotland) Act 1968 or under Part II of the Children (Scotland) Act 1995, or arrange for the provision of such establishments;
- (38) to have the power to apply to a Justice of the Peace for an emergency child protection authorisation in terms of Section 61 of the Children (Scotland) Act 1995;
- (39) to agree, with the person in charge of the establishment, the period during which a child shall be liable to be placed and kept in secure accommodation in terms of Section 70(9) and 70(10) of the Children (Scotland) Act 1995;

- (40) to put into effect a supervision requirement made by a Children's Hearing in terms of Section 71(1) of the Children (Scotland) Act 1995 and to recommend a review of such a supervision requirement or ask for an advice hearing to be held in terms of Section 73(4) of the Children (Scotland) Act 1995;
- (41) to have the power, in any case of urgent necessity, to direct that a child who is obliged to reside in a specified place be transferred to another place in his/her interests or in the interests of other children in terms of Section 72(1) of the Children (Scotland) Act 1995;
- (42) to have the power to apply to a Sheriff for an exclusion order in terms of Section 76 of the Children (Scotland) Act 1995;
- (43) to have the power to apply for the attachment of a power of arrest at any time while an exclusion order has effect in terms of Section 78(2) of the Children (Scotland) Act 1995;
- (44) to have the power to apply to a Sheriff for a parental responsibilities order transferring the appropriate parental rights and responsibilities relating to a child to the Council in terms of Section 86 of the Children (Scotland) Act 1995;
- (45) to fulfil the transferred responsibilities in respect of a child for whom a parental responsibilities order has been made while that order remains in force in terms of Section 87 of the Children (Scotland) Act 1995;
- (46) to allow reasonable contact with relevant persons for a child in respect of whom a parental responsibilities order has been made in terms of Section 88 of the Children (Scotland) Act 1995;
- (47) to approve or de-register foster carers and to pay fostering allowances to approved foster carers under the Fostering of Children (Scotland) Regulations 1996;
- (48) to approve prospective adopters under the Adoption Agencies (Scotland) Regulations 1996;
- (49) to ensure that there is an assessment of need in relation to any person to whom they have a duty under Section 29 of the Children (Scotland) Act 1995 (aftercare for persons who have been looked after by local authorities) and as amended by Section 73 of the Regulation of Care (Scotland) Act 2001;
- (50) to operate a procedure as approved by the Council for considering representations (including complaints) made by any relevant person under Section 29 of the Children (Scotland) Act 1995 with a regard to the discharge of function under Section 73 of the Regulation of Care (Scotland) Act 2001;
- (51) to supervise and care for persons put on probation, released from prison, or subject to a community service order, and to provide the necessary social background reports and other reports to the court as required in terms of Section 27 of the Social Work (Scotland) Act 1968;
- (52) to provide supervision for the purpose of assisting and advising an offender in regard to payment of a fine in terms of Section 217 of the Criminal Procedure (Scotland) Act 1995;
- (53) to supervise people placed on Supervised Attendance Order for default of a fine in terms of Section 235, 236 or 237 of the Criminal (Procedure) Scotland Act 1995;
- (54) to ensure that persons who have been convicted of sexual offences are assessed and supervised under the terms and guidance of the Sex Offenders Act 1997;
- (55) to assist in the diversion of persons suffering from mental disorder who may be at risk to themselves from a custodial remand, either to hospital or to appropriate bail accommodation in accordance with the Criminal Procedure (Scotland) Act 1995 - Section 2000;

- (56) to operate a bail information and supervision scheme in accordance with the Bail (Scotland) Act 1995;
- (57) to supervise as required offenders made subject to an Order for Lifelong Restriction (OLR) in accordance with the Criminal Justice (Scotland) Act 2003;
- (58) to work closely with the Community Justice Authorities and the Scottish Prison Service to manage offenders pre, during and post sentence (Integrated Case Management) in accordance with the Management of Offenders etc (Scotland) Act 2005;
- (59) to work within the Community Justice Authority to provide appropriate planned and co-ordinated delivery of community offender services in accordance with Section 3 of the Management of Offenders etc (Scotland) Act 2005;
- (60) to act with the Scottish Prison Service and Police to jointly establish arrangements for assessing, managing and reviewing the risk from sex and violent offenders in accordance with Section 10 and 11 of the Management of Offenders etc (Scotland) Act 2005;
- (61) to prepare a plan for the provision of community care services in the Council's area in terms of Section 5A of the Social Work (Scotland) Act 1968;
- (62) to make assessment of need in terms of Section 55 of the NHS and Community Care Act 1990;
- (63) to make appropriate arrangements for the provision of suitable residential accommodation with nursing provision of care and after care in terms of Section 56 of the Community Care Act 1990;
- (64) to notify carers of their entitlement to an assessment of their ability to care in terms of Section 9 of the Community Care and Health (Scotland) Act 2002;
- (65) to notify carers of children with disabilities that they may be entitled to an assessment in terms of Section 11 of the Community Care and Health (Scotland) Act 2002;
- (66) to make payments towards expenditure by NHS bodies on delegated functions in terms of Section 14 of the Community Care and Health (Scotland) Act 2002;
- (67) to make arrangements with voluntary or other organisations or persons for residential accommodation where nursing is provided for people who appear to need such accommodation in terms of Section 13A of the Social Work (Scotland) Act 1968;
- (68) to provide home help and laundry facilities in terms of Section 14 of the Social Work (Scotland) Act 1968;
- (69) to arrange for the burial or cremation of any person who was in the care of, or receiving help from, the Council immediately before their death and to recover expenses not reimbursed, in terms of Section 28 of the Social Work (Scotland) Act 1968;
- (70) in terms of Section 1 of the Community Care and Health (Scotland) Act 2002, not to charge for social care provided by or secured by the department if that social care is personal care as defined in Section 2(28) of the Regulation of Care (Scotland) Act 2001;
- (71) to provide services to chronically sick and disabled persons in terms of Section 2(1) of the Chronically Sick and Disabled Persons Act 1970:-
 - (a) "the provision of practical assistance for that person in his home;
 - (b) the provision for that person of, or assistance to that person in obtaining, wireless, television, library or similar recreational facilities;
 - (c) the provision for that person of lectures, games, outings or other recreational facilities outside his home or assistance to that person in taking advantage of available educational facilities;

- (d) the provision for that person of facilities for, or assistance in, travelling to and from his home for the purpose of participating in any services provided under arrangements made by the authority (under Section 12 of the 1968 Act or Section 23 of the 1995 Act), or, with the approval of the authority, in any services provided otherwise than as aforesaid which are similar to services which could be provided under such arrangements;
 - (e) the provision of assistance for that person in arranging for the carrying out of any works of adaptation in his home or the provision of any additional facilities designed to secure his greater safety, comfort or convenience;
 - (f) facilitating the taking of holidays by that person, whether at holiday homes or otherwise and whether provided under arrangements made by the authority or otherwise;
 - (g) the provision of meals for that person whether in their home or elsewhere;
 - (h) the provision for that person of, or assistance to that person, in obtaining, a telephone and any special equipment necessary to enable him to use a telephone.
- (72) to assess needs when requested to do so by a disabled person or their carer in terms of Section 4 of the Disabled Persons (Services, Consultation and Representation) Act 1986;
- (73) to make an assessment of need having regard to the results of that assessment, shall then decide whether the needs of that person call for the provision of any such services in terms of Section 12A(1)(a) Social Work (Scotland) Act 1968;
- (74) to proceed to make a decision as to the service a disabled person requires as detailed in Section 4 Disabled Persons/Services Consultation and Representation Act 1986, based on the assessment of the person's needs;
- (75) to take into consideration the views of the person and the carer on the provision of services in terms of Section 12A(b) Social Work Scotland Act 1968;
- (76) to assess the ability to provide care in terms of Section 12AA Social Work Scotland Act 1968;
- (77) to provide information to a carer in terms of Section 12AB Social Work Scotland Act 1968;
- (78) to assess the ability of a disabled person's carer to provide care in terms of Section 8(1) of the Disabled Persons (Services, Consultation and Representation) Act 1986;
- (79) to provide information on Social Work and Health Department services for disabled people and any relevant services of other authorities or organisations in terms of Section 9 of the Disabled Persons (Services, Consultation and Representation) Act 1986;
- (80) to assess the need for the provision of social work services to any young person reaching school leaving age who is regarded as disabled in terms of Section 13 of the Disabled Persons (Services, Consultation and Representation) Act 1986;
- (81) to provide services to persons lacking capacity and make the necessary arrangements for them to take advantage of such services in accordance with the Adult Support and Protection (Scotland) Act 2007;
- (82) to provide services for persons who are not in hospital and who have or have had mental disorder, provide care and support or secure the provision of such care and support in terms of Section 25(1)(a)(i) and 25(1)(a)(ii) of the Mental Health (Care and Treatment) (Scotland) Act 2003 including residential accommodation in terms of Section 25(3)(a)(i) of the Mental Health (Care and Treatment) (Scotland) Act 2003 and personal care and support in terms of Section 25(a)(ii) of the Mental Health (Care and Treatment) (Scotland) Act 2003;

- (83) to provide, or arrange for the provision of, services to promote well-being and social development for any persons, who are or have been suffering from mental disorder, in terms of Section 26(1)(a) and 26(1)(b) of the Mental Health (Care and Treatment) (Scotland) Act 2003 and to provide assistance or such facilities as are necessary for the provision of transport to enable persons to access services provided in terms of Section 25 and Section 26 of the Mental Health (Care and Treatment) (Scotland) Act 2003 for any persons who are or have been suffering from mental disorder in terms of Section 27 of the Mental Health (Care and Treatment) (Scotland) Act 2003;
- (84) to appoint, and where necessary, terminate the appointment of Mental Health Officers in terms of Section 32 of the Mental Health (Care and Treatment) (Scotland) Act 2003;
- (85) to provide or secure the provision of suitable training and occupation for persons with a learning disability who are over school age (within the meaning of the Education (Scotland) Act 1980) in terms of Section 11 of the Mental Health (Scotland) Act 1984;
- (86) to arrange a social circumstance report in the prescribed form from the person who is to be the patient's designated Mental Health Officer following the occurrence of a relevant event in terms of Section 232 of the Mental Health (Care and Treatment) (Scotland) Act 2003;
- (i) to ensure a Mental Health Officer is designated as the mental health officer having responsibility for the patient's case as soon as is reasonably practicable after a relevant event (in terms of Section 232 of the Mental Health (Care and Treatment) (Scotland) Act 2003) occurs where the patient was resident in the Angus area prior to admission or was not resident in Scotland prior to admission, but has been admitted to a psychiatric unit within the Angus area in terms of Section 229 of the Mental Health (Care and Treatment) (Scotland) Act 2003;
 - (ii) to authorise appropriately qualified staff to undertake inquiries in relation to persons who appear to have mental disorder and who may be at risk in terms of Section 33 of the Mental Health (Care and Treatment) (Scotland) Act 2003;
 - (iii) to authorise Mental Health Officers to provide information for the purpose of the issue of a warrant to enter premises and seek medical assessment of persons who appear to have mental disorder and be at risk in terms of Sections 33 to 35 of the Mental Health (Care and Treatment) (Scotland) Act 2003 and to remove persons to a place of safety in terms of Section 293 of the Mental Health (Care and Treatment) (Scotland) Act 2003;
 - (iv) to arrange, in collaboration with the Health Board, for the provision of independent advocacy for every person with a mental disorder and to take appropriate steps to ensure that those persons have the opportunity to make use of those services in terms of Section 259(1) of the Mental Health (Care and Treatment) (Scotland) Act 2003;
 - (v) to consent or otherwise to the detention in hospital in terms of Section 36 or Section 44 of the Mental Health Care and Treatment (Scotland) Act 2003 in relation to a person with mental disorder who meets the grounds as set out in these parts of the Act;
 - (vi) to make an application for a Compulsory Treatment Order (Section 63) in terms of Section 57(2-5) within 14 days Section 57(7) and prepare report and care plan as prescribed by Section 61 and Section 62;
 - (vii) to identify named persons in terms of Section 59;
 - (viii) interview patient, named person and relevant others in relation to Section 86 renewal, Section 91 extension and variation and Section 95 application to vary and provide evidence to RMO and tribunal as appropriate;
 - (ix) to consent or otherwise to the detention in hospital; of a person already subject to a community based Care and Treatment Order in terms of Section 114; and

- (x) to be involved in decisions around suspension of detention in terms of Section 41, Section 53 and Sections 127/128.
- (87) to carry out the functions of local authorities in terms of Section 10 of the Adults with Incapacity (Scotland) Act 2000;
- (88) to take such steps upon any investigation in terms of Section 10 of the Adults with Incapacity (Scotland) Act 2000 as seem necessary to safeguard the property, financial affairs or personal welfare of the adult and to co-operate with the public guardian, mental welfare commission and other local authorities for this purpose in terms of Section 12 of the Adults with Incapacity (Scotland) Act 2000;
- (89) to supervise welfare attorneys in terms of a court order made under Section 20(2)(c) and to apply for an order under Section 20(1) of the Adults with Incapacity (Scotland) Act 2000;
- (90) to appeal to the Sheriff or the Court of Session in terms of Section 52 of the Adults with Incapacity (Scotland) Act 2000 where necessary;
- (91) to apply to the Sheriff for an intervention order in terms of Section 53(1), (3) of the Adults with Incapacity (Scotland) Act 2000;
- (92) to keep records in terms of Section 54 of the Adults with Incapacity (Scotland) Act 2000;
- (93) to notify the public guardian of any change of address in terms of Section 55(a), (b) of the Adults with Incapacity (Scotland) Act 2000;
- (94) to carry out all necessary notifications in terms of Section 76 of the Adults with Incapacity (Scotland) Act 2000 and to transfer and accept Guardianship Orders to and from other local authorities in terms of Section 76(1) of the Adults with Incapacity (Scotland) Act 2000;
- (95) to apply for registration of financial intervention orders to the General Register of Sasines or the Land Register of Scotland in terms of Section 56 of the Adults with Incapacity (Scotland) Act 2000;
- (96) to apply for guardianship orders in terms of Section 57 of the Adults with Incapacity (Scotland) Act 2000, including interim orders and deal with any financial implications arising therefrom all in terms of Section 57 of the Adults with Incapacity (Scotland) Act 2000;
- (97) to be appointed as welfare guardian for any adult within the local authority area and to discharge the functions as welfare guardian in terms of Section 59 of the Adults with Incapacity (Scotland) Act 2000 and to nominate a person to be exercised on his behalf in terms of Section 86 of the Adults with Incapacity (Scotland) Act 2000;
- (98) to apply to the Sheriff for renewal of guardianship orders in terms of Section 60 of the Adults with Incapacity (Scotland) Act 2000;
- (99) to instruct such persons as appropriate to discharge the powers under financial intervention orders applied for under Section 53 of the Adults with Incapacity (Scotland) Act 2000 as necessary;
- (100) to apply to the Sheriff in terms of Section 70 of the Adults with Incapacity (Scotland) Act 2000 in cases of non compliance of third parties with orders granted on behalf of the local authority;
- (101) to apply to the Sheriff for the replacement or removal of a guardian or the recall of a guardianship order in terms of Section 71 of the Adults with Incapacity (Scotland) Act 2000;
- (102) to apply to the Sheriff for variation of guardianship orders in terms of Section 74 of the Adults with Incapacity (Scotland) Act 2000;

- (103) to delegate any of the powers granted under guardianship and intervention orders and any functions under the Adults with Incapacity (Scotland) Act 2000 to the appropriate person in the management structure of the Social Work Department as per Section 56 of the Local Government (Scotland) Act 1973 as amended;
- (104) to make inquiries into the circumstances of adults who may be at risk of harm in terms of section 4 of the Adult Support and Protection (Scotland) Act 2007;
- (105) to request co-operation in the exercise of any functions that the Council has under Part 1 of the Adult Support and Protection (Scotland) Act 2007 from a specified public body or officer of a public body in terms of Section 5 of the Adult Support and Protection (Scotland) Act 2007;
- (106) to co-operate with specified public bodies to assist other councils exercising functions under Part 1 of the Adult Support and Protection (Scotland) Act 2007 in terms of Section 5 of the Adult Support and Protection (Scotland) Act 2007;
- (107) to delegate any of the powers and duties granted under Part 1 of the Adult Support and Protection (Scotland) Act 2007 to an appropriately qualified and experienced council officer appointed by Social Work and Health as per Section 64 of the Local Government (Scotland) Act 1973 as amended;
- (108) to have the power to enter a place to assist in conducting inquiries into the necessity of protecting an adult at risk of harm in terms of Section 7 of the Adult Support and Protection (Scotland) Act 2007;
- (109) to have the power to require any person holding health, financial or other records pertaining to an adult who is believed to be at risk of harm to produce the records for examination or give copies of the records to a council officer undertaking a function under Part 1 of the Adult Support and Protection and Protection (Scotland) Act 2007;
- (110) to have the power to apply to a Sheriff for a warrant for entry in order to fulfil functions under Sections 7 and 16 of the Adult Support and Protection (Scotland) Act 2007 in terms of Section 37 of the Adult Support and Protection (Scotland) Act 2007;
- (111) to have the power to apply to a Sheriff for an assessment order in terms of Section 11 of the Adult Support and Protection (Scotland) Act 2007;
- (112) to have the power to apply to a Sheriff for a removal order in terms of Section 14 of the Adult Support and Protection (Scotland) Act 2007;
- (113) to have the power to apply to a Sheriff for a banning order in terms of Section 19 or temporary banning order in terms of Section 21 of the Adult Support and Protection (Scotland) Act 2007;
- (114) to have the power to apply for the attachment of a power of arrest at any time while a banning order or temporary banning order has effect in terms of Section 25 of the Adult Support and Protection (Scotland) Act 2007;
- (115) to have the power in urgent cases to apply to a Justice of the Peace for a warrant for entry or removal order in terms of Section 40 of the Adult Support and Protection (Scotland) Act 2007;
- (116) to take such steps upon any removal under Section 14 of the Adult Support and Protection (Scotland) Act 2007 as seem necessary to safeguard the property of the adult at risk in terms of Section 18 of the Adult Support and Protection (Scotland) Act 2007;
- (117) to establish an Adult Protection Committee in terms of Section 42 of the Adult Support and Protection (Scotland) Act 2007;
- (118) to appoint a convenor who is not an officer of the Council to the Adult Protection Committee and any other representative or member with the necessary skills and knowledge in terms of Section 43 of the Adult Support and Protection (Scotland) Act.

- (119) to operate a procedure as approved by the Council for the receipt and investigation of complaints in terms of Section 5B of the Social Work (Scotland) Act 1968;
- (120) to promote social welfare including giving help in kind or in cash in terms of Sections 12 and 13 of the Social Work (Scotland) Act 1968;
- (121) to assess need and make direct payments in terms of Section 12A of the Social Work (Scotland) Act 1968;
- (122) to recover contributions that have not been paid in terms of Section 82 of the Social Work (Scotland) Act 1968;
- (123) to recover any charges for services provided in terms of the Social Work (Scotland) Act 1968, Part II of the Children (Scotland) Act 1995 and the Mental Health (Scotland) Act 1984, the Adults with Incapacity (Scotland) Act 2000 all in terms of Section 87 of the Social Work (Scotland) Act 1968;
- (124) to operate the Taxicard Scheme approved by the Council, including:-
 - (i) assessing eligibility of clients and operators to participate in the scheme;
 - (ii) award of grants for the provision of accessible vehicles and for the provision of swivel seats.

CATEGORIES
OF
EXEMPT INFORMATION

CATEGORIES OF EXEMPT INFORMATION IN TERMS OF SCHEDULE 7A TO THE LOCAL GOVERNMENT (SCOTLAND) ACT 1973

(Subject to the Qualifications and Interpretations set out in the Schedule)

1. Information relating to a particular employee, former employee or applicant to become an employee of, or a particular office holder, former office holder or applicant to become an office holder under the authority.
2. Information relating to any particular occupier or former occupier of, or applicant for, accommodation provided by or at the expense of the authority.
3. Information relating to any particular applicant for, or recipient or former recipient of, any service provided by the authority.
4. Information relating to any particular applicant for, or recipient or former recipient of, any financial assistance provided by the authority.
5. Information relating to the adoption, care, fostering or education of any particular child or relating to the supervision or residence of any particular child in accordance with a supervision requirement made in respect of that child under the Social Work (Scotland) Act 1968.
6. Information relating to the financial or business affairs of any particular person (other than the authority).
7. Information relating to anything done or to be done in respect of any particular person for the purposes of any of the matters referred to in Section 27(1) of the Social Work (Scotland) Act 1968 (providing reports on and supervision of certain persons).
8. The amount of any expenditure proposed to be incurred by the authority under any particular contract for the acquisition of property or the supply of goods or services.
9. Any terms proposed or to be proposed by or to the authority in the course of negotiations for a contract for the acquisition or disposal of property or the supply of goods or services.
10. The identity of the authority (as well as of any other person, by virtue of paragraph 6 above) as the person offering any particular tender for a contract for the supply of goods or services.
11. Information relating to any consultations or negotiations, or contemplated consultations or negotiations, in connection with any labour relations matter arising between the authority or a Minister of the Crown and employees of, or office holders under, the authority.
12. Any instructions to counsel and any opinion of counsel (whether or not in connection with any proceedings) and any advice received, information obtained or action to be taken in connection with:-
 - (a) any legal proceedings by or against the authority; or
 - (b) the determination of any matter affecting the authority.
 (whether in either case, proceedings have been commenced or are in contemplation).
13. Information which, if disclosed to the public, would reveal that the authority proposes:-
 - (a) to give under any enactment a notice under or by virtue of which requirements are imposed on a person; or
 - (b) to make an order or direction under any enactment.
14. Any action taken or to be taken in connection with the prevention, investigation or prosecution of crime.
15. The identity of a protected informant.

PROCEDURAL MOTIONS, ASKING A QUESTION, MAKING A POINT OF CLARIFICATION AND RAISING A POINT OF ORDER

1. Procedural Motions

Motions broadly come in two types: original and procedural. The first is one “propounding a substantial issue for consideration and action”; a **procedural motion**, as the name suggests, is one affecting matters of procedure.

Within our current Standing Orders procedural motions are either Closure of Debate (SO 17) i.e.: “the question be now put” or Adjournment and Duration of Meetings (SO 20). This type of motion must be voted on immediately, without amendment. Normally the vote would be undertaken on the basis of asking members to vote “for” or “against” the motion.

2. Asking a Question (before formal debate begins)

This is not a procedural device. It need not have priority in the process of the meeting. It must be relevant to the matter that is being considered and should not form part of either a statement or argument. A question should seek to elucidate some piece of information which up until that point in the meeting has not been disclosed. Questions must be made prior to formal debate beginning. Questions which are of a detailed or technical nature should be directed to the relevant Director before the meeting.

***NOTE:** This is different from a written question which is dealt with under the terms of Standing Order 23.

3. Making a Point of Clarification

This would normally occur after the formal debate has begun. Making a point of clarification is simply a member clarifying something that has already been stated as part of the debate. It could also conceivably be clarification on a matter within an officer’s report which has been referred to in the debate. It should not be used by the member as an opportunity to make any speech or to make any comment on any aspect of the debate.

A point of clarification is not a means of stopping the debate, i.e.: a member who is seeking to make a point of clarification does not have precedence over another member who is currently speaking.

4. Raising a Point of Order

This stops the debate, even if a member is currently speaking. A point of order is an objection directed to the Convener for a decision which is claiming some irregularity in the constitution or conduct of the meeting. The more usual irregularities can include any non-compliance with Standing Orders; that a quorum is not present; that the motion or amendment is not within the scope of the meeting’s remit.

The Convener is to give a ruling on the point of order.

It is not concerned with the arguments or the principles or the political views put forward in the debate. A difference of opinion is not a point of order. Again a member making a point of order should not abuse this by making a speech.

GUIDANCE NOTE ON THE APPLICATION OF STANDING ORDER 15(9)

1. Context

At the revision of the Angus Council Standing Orders in November 2008 (Report 1077/08 refers) a new requirement was introduced regarding the competence of motions which had financial implications. This was with a view to incorporate wording that was already included in Financial Regulations (FR's 2.12 and 5.11 refer). The requirement is captured in Standing Order 15(9) which reads as follows:-

“A motion (which has not been the subject of a report or recommendation to the Council) which would involve expenditure not provided for, or reduce income provided for in the Capital or Revenue Budgets shall not be competent unless accompanied by information provided by the Head of Finance on the costs and funding options, unless the Council in an emergency specifically resolves otherwise.”

2. Arrangements for Committee Reports

At present Standing Order 47(2) requires the Head of Finance to be consulted on all Committee reports prior to their release to elected members. The only exceptions to this relate to certain reports on planning enforcement and licensing matters. Standing Order 47(2) is an essential governance requirement because it ensures that the financial implications (and any other matters within the Head of Finance's professional remit) are given due consideration prior to the report being finalised.

Essentially Standing Order 47(2) seeks to ensure that within Committee reports elected members:-

- have the relevant financial information and issues available to them; and
- know, in broad terms, what the expected financial implications of the Report's recommendations are before they decide on whether to accept those recommendations or not.

Clarity of the financial implications in Committee reports is also necessary for keeping the public and other interested parties informed of the consequences of decisions in terms of Corporate Governance.

3. Purpose of Standing Order 15(9)

Although the appropriate steps are taken for Committee reports to ensure the financial consequences of decisions are known the 2008 review of Standing Orders highlighted that no such provision existed for motions or amendments not covered by a Committee report.

In theory therefore a motion or amendment could be put forward and subsequently agreed by elected members without the financial consequences of such a decision being known or fully appreciated. Although low risk the potential for such a scenario (where the financial implications are material) is an important omission in the Council's governance arrangements and accordingly Standing Order 15(9) introduced a requirement for members moving a motion or amendment to make available information on the costs and funding options involved. Ultimately Standing Order 15(9) seeks to ensure that elected members have available the same information on the financial consequences of decisions on motions or amendments as they would have if these motions or amendments were covered in a Committee report.

4. Application of Standing Order 15(9)

It is important to stress that Standing Order 15(9) is not intended to stifle discussion or debate among elected members nor is it intended to inhibit the bringing forward of motions or amendments. In applying Standing Order 15(9) elected members are therefore asked to bear in mind that the spirit and intention of the Order is as outlined in Section 3 above.

Although the intention of Standing Order 15(9) is clear it is recognised that further guidance on its application would be helpful. The following guidance is given on the application of Standing Order 15(9) under 5 categories and should be read in conjunction with Section 9 on Materiality Levels:-

Category 1 – Motions (which do not directly relate to an item of business under consideration at a Council/Committee meeting)

In general terms elected members wishing to put forward such motions should seek to provide the Head of Finance with as much notice as possible of their intentions so that sufficient time is available to provide any financial information that may be required.

As a minimum elected members must provide 7 clear days notice of their intentions to allow sufficient time for the costs (if any) and funding options (if required) to be identified. This timescale is in line with Standing Order 24 (1) which requires 7 clear days notice in writing to be given to the Head of Law & Administration for such motions.

In practical terms elected members may wish to advise the Head of Finance at the same time as they notify the Head of Law & Administration of any Category 1 motions.

Category 2 – Motions (which do relate to an item of business under consideration at a Council/Committee meeting)

In normal course the motion relating to an item of business under consideration at a Council/Committee meeting will be to approve the recommendations of the report being considered. Occasionally however a motion may be put forward which:-

- (a) varies the report recommendations; or
- (b) proposes a particular way forward on a report where members are asked to choose from different options.

Where the proposed motion falls into either a) or b) above it will be necessary for the mover of that motion to confirm with the author(s) of the report and the Head of Finance that the financial implications outlined in the report remain appropriate and relevant to the proposed motion. In the event that the proposed motion would involve financial implications beyond or materially at variance with those outlined in the report the mover of the motion should (through the report author(s)) seek from the Head of Finance such further information on the financial implications as that officer believes is necessary to allow the Council/Committee to make an informed decision.

In general terms elected members wishing to put forward such motions should seek to provide the Head of Finance with as much notice as possible of their intentions. As a minimum elected members should provide 2 clear days notice of their intentions to allow sufficient time for the costs (if any) and funding options (if required) to be identified.

In general terms, however, members should seek comfort in a report containing options, even where one option is recommended. This is because each option will be capable of being implemented if members or a group of members wish politically to pursue an option other than the recommended one.

Category 3 – Motions Relating to Emergency Business

Standing Order 11(2)(ii) allows by reason of special circumstance, and subject to the agreement of the Provost / Committee Convener, an item of business to be considered as a matter of urgency. Such matters are however extremely rare.

An item of emergency business could give rise to a motion which has financial consequences for the Council but it may not be practical, given the emergency nature of the item being considered, for these financial consequences to have been fully explored.

Although Standing Order 15(9) allows for the requirements of that Order to be set aside if the Council/Committee in an emergency specifically agrees to this every effort should still be made to try to determine the financial consequences for the Council of any action it intends to take.

For this category of motion elected members should advise the Head of Finance of their intentions as soon as practicable in order to provide as much time as may be available for the financial consequences to be explored. The Head of Finance (or representative) can then advise members at the meeting as best he can of the financial implications arising. In such circumstances it would need to be accepted that the financial information available may not be as robust as would normally be the case.

In the event that it is not possible to give any kind of view on the financial implications arising due to lack of time or complexity members may wish to consider the merits of delegating a final decision to appropriate members and officers.

Category 4 – Amendments (known in advance)

Although Standing Order 15(9) refers to “motions” it also applies to amendments for the reasons given in Section 3 of this Guidance Note.

Given that Category 4 amendments will be identified only once the papers for a Council/Committee meeting have been released and then considered by the various political groups there is likely to be limited time available for investigating the financial implications of any amendments arising.

Nevertheless elected members wishing to put forward such amendments should seek to provide the Head of Finance with as much notice as possible of their intentions so that sufficient time is available to provide any financial information that may be required.

Elected members should also discuss with the Head of Finance potential amendments that they believe could arise from debate at the meeting in order to limit the risk of such potential amendments being ruled incompetent at the meeting on the grounds of there being insufficient financial information available.

Category 5 – Amendments (arising from debate at the meeting)

These are the most difficult type of amendments to deal with under Standing Order 15(9) because by their nature they cannot be predicted and therefore discussed with relevant officers in advance.

If an elected member wishes to put forward such an amendment and that amendment has consequences in terms of Standing Order 15(9) which exceed or are likely to exceed the de-minimis level set out in Section 9 of this Guidance Note then they should indicate their desire to do so and ask the Head of Finance or his representative for a view on the costs and funding options arising. The Convener of the meeting should propose a short adjournment to allow the Head of Finance (or representative) an opportunity to briefly discuss the matter with the relevant Director / Head of Service so that appropriate advice can be given.

A Category 5 amendment could result in one of the following scenarios arising:-

- The officers in attendance at the meeting being able to confirm that either there are no financial implications arising from the proposed amendment or that any financial implications are below the de-minimis level. On this basis the amendment would be competent to proceed under Standing Order 15(9).
- The officers in attendance at the meeting being unable to confirm the financial implications arising from the proposed amendment due to lack of detail or lack of available knowledge/information. In this instance the Convener would be entitled to rule that the amendment was not competent under Standing Order 15(9) and the member proposing the amendment would require to consider what other options were available, e.g. to propose deferment of the item or refer the matter to the Council (if applicable).
- The officers in attendance at the meeting being able to confirm that the financial implications arising from the proposed amendment exceed the de-minimis level and those officers also being able to identify the costs and funding options (in broad terms) of pursuing the amendment. In this case the amendment would be competent to proceed under Standing Order 15(9).

5. Financial Competence

In the event that an issue is raised at a Council/Committee meeting regarding the financial competence of a motion or amendment where Standing Order 15(9) applies the matter should be referred to the Head of Finance (or representative) and the Head of Law and Administration (or representative) attending the meeting for their collective view. In reaching a view it is probable that those officers will require to briefly liaise with the Director / Head of Service for the department concerned, in which case the Convener should allow a short adjournment.

6. Procedural Motions

Procedural motions by their nature do not have financial implications and accordingly are not relevant to the application of Standing Order 15(9).

7. Timescales for the Head of Finance to Respond

In circumstances where Standing Order 15(9) applies the Head of Finance will seek to provide the elected member with the required financial information as soon as practicable or within a mutually agreed timeframe. Wherever possible such information will be provided no later than the day before the Council/Committee meeting is due to take place. Unless in the case of emergency business the Head of Finance will not release his advice under Standing Order 15(9) until he is satisfied as to its accuracy and reliability.

8. Difficulties in Providing Financial Information within Timescales Required

In the event that providing the financial information required for a motion or amendment under Standing Order 15(9) would result in a substantial call on resources or could not be completed prior to the Council/Committee meeting then the Head of Finance will advise the elected member involved, the Chief Executive and the Head of Law & Administration so that a decision on how to proceed can be reached.

9. De-Minimis Level (Materiality)

The concept of materiality is critical to the successful operation of Standing Order 15(9). The Standing Order is intended as a safeguard which ensures sufficient financial information is available to inform decisions but if applied rigidly it could stifle democratic debate and members' ability to put forward motions and amendments, particularly those arising from discussion at a Council/Committee meeting.

With this in mind it is recommended that a de-minimis level of £1,000 should be used when applying Standing Order 15(9) and in Revenue Budget terms this should apply to real costs to the Council rather than the opportunity costs associated with officer time which is a cost which will be borne regardless. For Capital Budget items officer time may require to be taken into account as a true cost if that time is chargeable to the capital project involved (e.g. architects time, engineers time, etc.) A de-minimis level of £1,000 is considered to be reasonable and in part is suggested because the Council sets its budget allocations to departments to the nearest thousand pounds in any case.

There may however be practical difficulties in applying such a de-minimis and accordingly the following scenarios are given as an example to assist members in deciding when they should approach the Head of Finance for assistance and advice under Standing Order 15(9).

Scenario 1 – No cost involved

This scenario could arise if, for example, a member requests that a further report be brought forward on an area relevant to the item of business being considered but which would not prevent that item of business being progressed. In these circumstances there is likely to be no cost involved, other than officer time in preparing a further report and accordingly no need to contact the Head of Finance for advice.

In theory a proposal to defer an item of business could also be seen to have no cost implications but care would be needed on such items because deferral could have consequences for e.g. acceptance of contracts, the impact of inflation, etc.

Scenario 2 - Cost / Loss of Income is known but means of funding cost/loss of income is not

This scenario could arise if, for example, a member argues against a proposed increase in fees and charges. The cost, or in this case, loss of income would be known and the means of funding the loss of income would only need to be identified (through contact with the Head of Finance) if the sum involved was more than £1,000.

Scenario 3 - Cost is not known precisely but is obviously less than £1,000

This scenario could arise if, for example, a member proposes that the Council should provide hospitality to 20 visiting dignitaries via a buffet style lunch. In these circumstances it would be obvious that the cost would be unlikely to amount to more than £200 or so and thus there would be no need to identify the specific means of funding this cost through consultation with the Head of Finance.

Scenario 4 – Cost is not known / is difficult to gauge

This scenario could arise if, for example, a member argues that a small area of unadopted road be adopted by the Council. In this example the costs may seem relatively small but there would be merit in this being confirmed and if above the de-minimis level funding options identified.

In general it will be for elected members to decide when to seek advice under Standing Order 15(9). Members may however feel more comfortable with always checking the position with the Head of Finance or Departmental Director when it is practical to do so.

10. Finance Division Contacts

In normal course elected members requiring assistance or advice in relation to a Standing Order 15(9) matter should contact the Head of Finance directly or in his absence the Senior Service Manager (Finance Services). Advice may however also be sought from the Finance Division attendee for a particular Committee.

11. Confidentiality

All matters referred to the Head of Finance or his staff under Standing Order 15(9) will be dealt with on a strictly confidential basis and any other Council officers whose assistance is needed in identifying the financial information will be required to adhere to these same principles.

All member requests for information and any advice given under Standing Order 15(9) will be shared with the relevant departmental Director on a confidential basis so that they can provide any input that may be required. Requests for information will also be brought to the attention of the Head of Law & Administration on a confidential basis to ensure no procedural issues arise when the matter is raised formally at a Council/Committee meeting.

12. Consultation

This guidance has been agreed following consultation with the Chief Executive, all Directors and the Heads of Law & Administration and Finance.

13. Conclusion

This guidance is intended to assist members and officers in the application of Standing Order 15(9) and has sought to cover the type of scenarios which might arise. Ultimately application of the Standing Order will rely on a common sense approach which is in line with the purpose of the Standing Order set out in Section 3 of this Guidance Note. This guidance is not intended to cut across existing protocols, codes, etc. and is subservient to the Standing Orders themselves.

GUIDANCE ON PROCEDURAL MATTERS RELATING TO THE DISPOSAL OF LAND AND PROPERTY

Land and property are corporate assets and, subject to a few specific exceptions such as those held on the HRA and the Common Good accounts, the proceeds from disposals go to the corporate general fund. Although departments/services are deemed to hold and deploy property assets, this is simply an internal management and accounting arrangement and should not be considered as conferring some form of departmental ownership.

In order to acknowledge this corporate policy interpretation and improve the clarity, consistency and traceability of the disposals process the following procedures should be adhered to:-

1. The Head of Property be added as a routine consultee to all committee reports with identified property implications. The Head of Property has overall responsibility for the maintenance and management of the corporate property estate and accordingly must be consulted whenever there are any such implications.
2. All Directors be authorised to declare surplus to their departments' requirements any land and/or property no longer required for their departments' operational purposes (excluding property held under the Housing Acts), such declaration to be by way of written notification to the Head of Property and by submission of bi-annual reports to their own Service Committee summarising land and/or property declared as surplus under delegated authority. This will simplify the disposals procedure by removing the requirement to obtain service committee approval, reduce the number of committees directly involved in the disposals process, and remove the need for service committees to consider a matter not directly relevant to their particular function.
3. Land/property held by one department but occupied by another department/outside party cannot be declared surplus before arrangements have been made to terminate the tenancy/alternative management arrangements are in place. This is to ensure property holding departments do not apply actions at the expense of other departments or which ignore wider socio-economic implications.
4. A record of all applications to purchase land/property held under the Housing Acts will be maintained by the Housing Division of the Neighbourhood Services Department, for that held on the Economic Development account by the Economic Development Division of the Infrastructure Services Department, and for all others by the Property Division of the Corporate Services Department. This helps provide clarification in the disposal process by identifying which department deals with particular disposals, and simplifies the process by reducing down to three the number of departments with direct and identifiable participation.
5. All external applications received to purchase Council-owned land/property will be referred as applicable to the Housing Division, the Economic Development Division, or the Property Division, dependent on the account the land/property is held on. There are therefore only three permissible routes/destinations for all applications to purchase land/property, thus providing simplification and clarification while increasing traceability.
6. Where an external application is received to purchase Council-owned land/property which is of significant importance to the Council either strategically or operationally, this will be reported to the Chief Executive and the Director of Corporate Services. This is to ensure that significantly important matters are considered at the appropriate level.
7. Proposals to dispose of land/property held under the Housing Acts, other than disposals under the right-to-buy legislation, to be reported by the Neighbourhood Services Department to the Neighbourhood Services Committee following consultation with the Head of Property. The Housing Division has an established and identifiable process which provides the necessary consistency, clarity and traceability, and the Head of Property has overall responsibility for the maintenance and management of the corporate property estate and accordingly must be consulted whenever there are any such proposals.

8. Proposals to dispose of land/property held on the Economic Development Account to be reported jointly by the Director of Infrastructure Services/Head of Economic Development and the Director of Corporate Services for approval to the Corporate Services Committee and subsequently the decisions for noting only to the Infrastructure Services Committee. This reflects that the Corporate Services Committee has overall responsibility for all of the Council's assets and the Infrastructure Services Committee is notified of the decisions for the purposes of its business, including any made under delegated authority. The delegated authority enjoyed by the Head of Economic Development will continue to be exercised as before but also reported to the Corporate Services Committee, the same as any exercise of the Head of Property's delegated authority.
9. Procedures for disposal of land/property held on the Economic Development Account. Almost by definition, all land/property held on the Economic Development Account could be considered as being on the market and available for disposal. There is therefore no need for further advertising/marketing in the event of an application to purchase being received. After the application has been recorded, the Head of Economic Development is to consider the appropriateness of any disposal and if deemed acceptable the request is to be referred to the Property Division to provisionally agree a selling price. If agreement cannot be reached then currently the matter ends, but if agreement can be reached then a report is to be made to the Corporate Services Committee. Thus with the recommendation being made by one department, the disposal price provisionally agreed with a second department, and the final decision made by committee, the disposal can be tracked and shown to be open and above board.
10. Procedures for disposal of land/property held on all other accounts including Common Goods. The procedures for the disposal of land/property previously declared surplus to Council requirements but held on all other accounts shall be managed by the Property Division and reported for approval/noting to the Corporate Services Committee only. The Property Division shall utilise its approved Disposal Procedure Checklist to ensure consistency and traceability.
11. The Director of Corporate Services shall report to the Corporate Services Committee all cases where it is proposed that there shall be:
 - appropriation by the Neighbourhood Services department for development of affordable housing;
 - disposal to a local Housing Association for the development of affordable housing; and
 - disposal by negotiation at less than best value in accordance with the Disposal of Land by Local Authorities (Scotland) Regulations 2010.

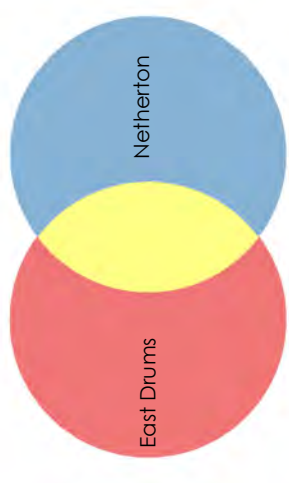
Netherton Wind Turbine



Cumulative ZTV - In planning - Netherton with East Drums

Key

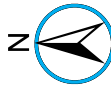
- Netherton turbine (67m)
- Netherton 20km turbine buffer
- East Drums turbine (67m)
- East Drums 20km turbine buffer



Generated using Ordnance Survey's Terrain50 dataset which does not take in to account the screening effects of buildings or vegetation.

ZTV calculated using ArcGIS 10.1. Viewshed tool with observer eye height 2m above ground and corrections for earth curvature and atmospheric refraction applied.

Distance of ZTV calculations based on SNH guidelines
 Up to 50m tip - 15km 51 to 70 m tip - 20 km
 71 to 85 m tip - 25 km 86 to 100 m tip - 30 km
 101 to 130m tip - 35 km 131 to 150 m tip - 40 km
 Above 150 m tip - 45 km

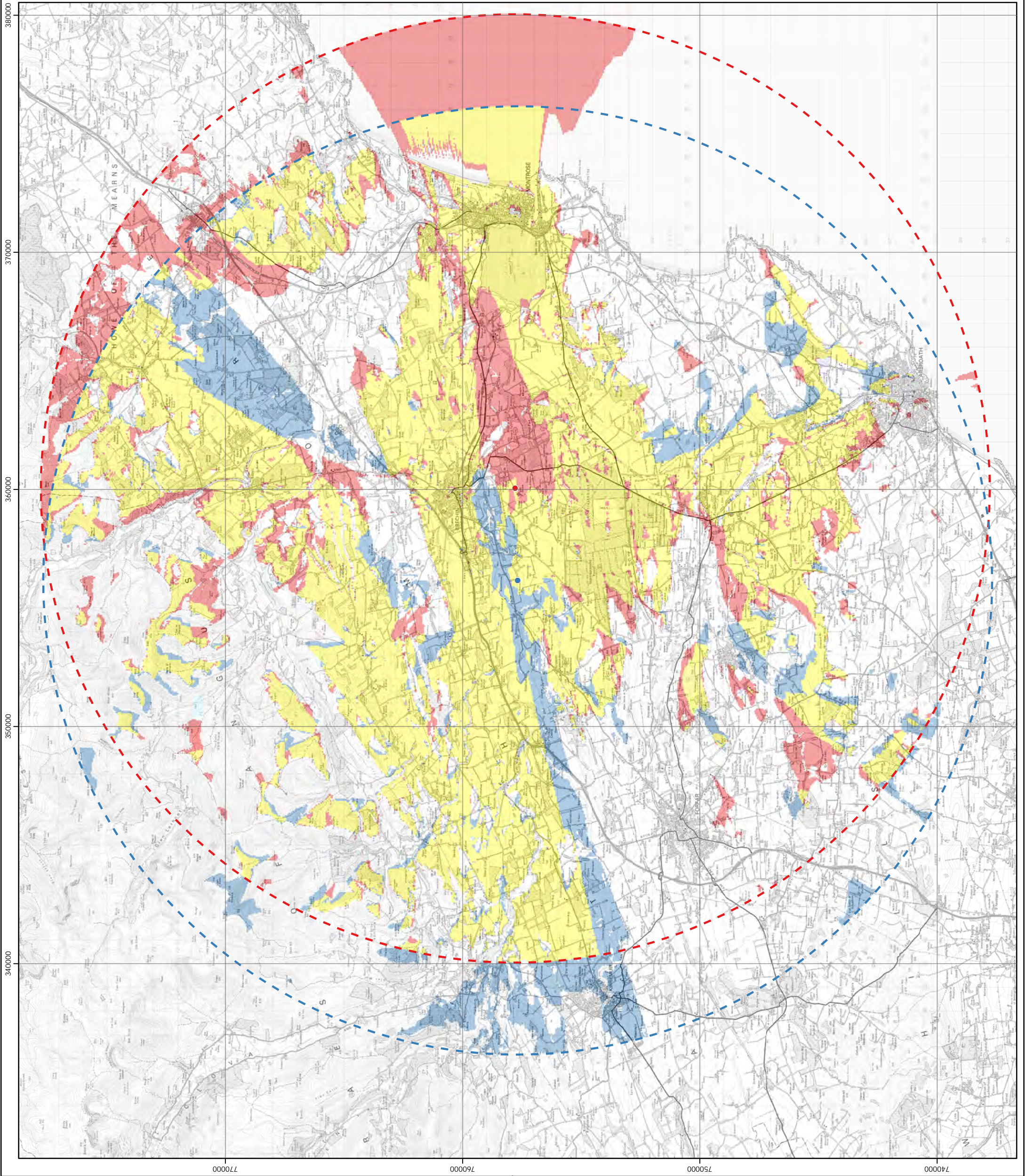


Scale @ A3:
1:150,000



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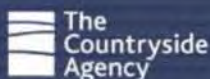
The Landscape Institute
Institute of Environmental Management & Assessment

ITEM 11



Guidelines for Landscape and Visual Impact Assessment

Second Edition



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Second edition

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The Landscape Institute with the
Institute of Environmental
Management & Assessment



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Foreword

When the Landscape Institute and the Institute of Environmental Assessment produced the first edition of these guidelines in 1995, they could have had no idea of how successful they would be – they have become the benchmark for landscape and visual assessment.

No Public Inquiry into planning matters seems complete without the guidelines being waved in the air.

That said, techniques and Government policy continue to develop and the guidelines need to keep abreast of developing legislation and new techniques. From a robust testing of the first edition, we now have the next stage in the ongoing evolution of landscape and visual assessment.



David Jarvis
President of the Landscape Institute

Preface

The good practice *Guidelines for Landscape and Visual Impact Assessment* (GLVIA) have been updated by the Landscape Institute, assisted by the Institute of Environmental Management and Assessment. They have been prepared by a Working Party and consultees comprising representatives from a wide range of interests, including professionals undertaking landscape and visual assessments, clients commissioning assessments, officers responsible for reviewing environmental statements and barristers who examine the results of assessments at Public Inquiries. Thanks must also be given to the sponsors: the Countryside Agency, Scottish Natural Heritage, the Environment Agency and National Grid for their help and support, and to the Planning Inspectorate for its useful guidance.

This second edition of the GLVIA is based on current best practice developed from the experience of Landscape Institute (LI) and Institute of Environmental Management and Assessment (IEMA) members over the last five years. It is, however, assumed that methodologies for landscape and visual impact assessment will continue to evolve in response to new approaches and different forms of development. In addition, in the rapidly changing conditions of development planning and environmental regulation, the guidelines can only reflect the conditions, terms and definitions at the time of publication. It is therefore expected that this document will continue to be periodically reviewed and updated in the light of evolving practice and legislation.

The Working Party members were:

Mary O'Conner	Bob Branson
Richard Burden	Gary Coulson
Jaquelin Fisher	Karl Fuller
Rebecca Hughes	Helen Kennedy
Martin Leay	Alan Moss
Conor Skehan	Jeff Stevenson
Ken Trew	Mark Turnbull
Sue Wilson	

The guidelines represent the consensus views of Working Party members, working on behalf of the Landscape Institute and the Institute of Environmental Management and Assessment, but not necessarily the views of their employers.



Susan R. Wilson
Chair of the GLVIA Working Group and Landscape Institute
Environment Committee

Summary

These guidelines are designed to encourage high standards for the scope and content of landscape and Visual Impact Assessments. Landscape and visual effects are independent but related issues; landscape effects are changes in the landscape, its character and quality, while visual effects relate to the appearance of these changes and the resulting effect on visual amenity. These guidelines aim to present general guidance on good practice in the preparation of landscape and visual impact assessments.

The statutory framework for Environmental Impact Assessment provides the basis for the methodology set out in the guidelines. However, it is also recognised that the Environmental Assessment process used in EIA may benefit other projects, for which an EIA is not formally required, in helping to achieve environmentally sensitive and sustainable development. Landscape and visual impact assessments can thus be an important part of the iterative process of development planning and design, through which the best environmental fit for development may be achieved. Within this context, the EIA process can help to achieve new developments that are sustainable and may also contribute to environmental enhancement.

An understanding of the nature of the proposed development is vital to landscape and visual impact assessments, including consideration of alternatives and all aspects that could affect the landscape and visual amenity throughout a project's life cycle. The baseline information for the assessments, obtained through comprehensive desk and field studies, should include description, classification and analysis of the landscape and visual resource. The assessment process identifies likely landscape and visual effects, establishes their magnitude and sensitivity of the receptor, and determines the significance of the effects. Mitigation measures – designed to avoid, reduce, remedy or offset negative or adverse effects – are identified, and their likely effectiveness also assessed.

EIA informs both decision makers and the public of the environmental effects of a development and presentation of the assessment requires careful consideration. Descriptions of the project and its likely effects should be supported by pertinent illustrative material. Consultation with decision-making authorities, statutory bodies and the public is an important part of the process. Finally, following receipt of a planning consent for the development, monitoring should be carried out during implementation of the project and the establishment of the mitigation measures, in order to ensure these meet agreed performance standards.

Part 1

Introduction

Background

Environmental Impact Assessment (EIA), of which landscape and visual assessments are essential components, is an environmental management tool which has been in use on an international basis since 1970. It is a process by which the identification, prediction and evaluation of the key environmental effects of a development are undertaken and by which the information gathered is used to reduce likely negative effects during the design of the project and then to inform the decision-making process. 1.1

EIA became a statutory part of the planning process within the European Union through Council Directive 85/337/EEC [1]. In 1997, Directive 97/11/EC, which amends the 1985 Directive, extended the range of qualifying development to which the Directive applies and makes a number of changes to the way that EIA should be carried out [2]. The guidelines have been amended to accommodate these and related changes to the regulations. The terminology of the Directive has also been adopted in the guidelines; thus *impact* assessment refers to the process of environmental, landscape or visual impact assessment, while the changes resulting from the development that are assessed are referred to as the *effects*. It is noted, however, that the terms impact and effects are used synonymously in practice to refer to the changes brought about by development. 1.2

In the United Kingdom (UK), the majority of development tends to be dealt with under the Town and Country Planning Acts and related regulations. However, EIA is also a requirement for various types of development or activity falling within the ambit of other regulations, including forestation, land drainage improvement works, highways, pipelines, harbour and electricity works. 1.3

It is important to recognise that the guidelines do not exist in isolation and the reader's attention is drawn to other guidance that is relevant to landscape and visual assessments, in order to seek a common language and broader understanding of landscape issues. Of particular note is the Countryside Agency/Scottish Natural Heritage publication *Landscape Character Assessment: Guidance for England and Scotland* (forthcoming), which provides a basic guide to the approach and methods of landscape character assessment. In many cases, other reference documents also provide more comprehensive explanation and guidance on specific issues than could be accommodated in these guidelines. 1.4

Landscape and visual impact assessment is an evolving practice that continues developing to take account of new issues and assessment techniques. These include, among others, the continued importance of landscape character assessment and the greater emphasis on process and public participation, the development of systems for assessing environmental and 'quality of life' capital, and the increased use of Strategic Environmental Assessment. Landscape professionals 1.5

are accordingly advised to keep informed of any new guidance and techniques as they arise.

- 1.6 Since the publication of the first guidelines in 1995, there have been substantial developments and change within the landscape profession in the UK. In 1997, the Landscape Institute received a Royal Charter of Incorporation, and was thereby confirmed as the recognised professional body for all landscape matters. The holistic view of landscape professionals and scope of their interests, embodied in the charter, is of particular relevance and value in Environmental Impact Assessment.
- 1.7 Government policy has continued to embrace sustainable development, with further protection and enhancement of the environment as an integral part of planning for new development. Baseline landscape character assessments have also now been carried out for much of the UK.
- 1.8 Government guidance draws attention to the protection of landscape character and quality, placing an increasing pressure on local regulatory authorities to take these issues into account in all decision making that concerns landscapes. Planning authorities have also become more confident about exercising their power under the EIA regulations and there is greater public awareness of the effect of development on the landscape and higher public aspirations for its use and protection.
- 1.9 Landscape professionals play significant roles in the multidisciplinary teams of a substantial percentage of EIAs. Although the standard and content of environmental statements (ES) has been raised, through growing experience, there is also continuing concern that many could be improved. As a result, there continues to be a clear need for sound, reliable and widely-accepted advice on good practice for all aspects of EIA.

Aims of the guidelines

- 1.10 The principal aim of the guidelines is to encourage high standards for the scope and content of landscape and visual impact assessments, based on the collegiate opinion and practice of members of the Landscape Institute and the Institute of Environmental Management and Assessment. The guidelines also seek to establish certain principles that will help to achieve consistency, credibility and effectiveness in landscape and visual impact assessment, when carried out as part of an EIA.
- 1.11 The intent of the GLVIA is to present a general overview of a *non-specific* methodology for undertaking assessments of developments. It is the primary responsibility of landscape professionals carrying out assessments to first ensure that the approach and methodology adopted is appropriate for the particular development to be assessed. Secondly, they should ensure that, for each development proposed, the application of the method to the case in hand results in an

assessment that is in accordance with the requirements of the current legal and planning framework.

Guidance is given here on some approaches and techniques, for aspects of the assessment process, which have been found to be effective and useful in practice by landscape professionals. Case studies of projects are also included throughout the text to provide examples of current practice and clarification of points made. However, the guidelines are not intended as a prescriptive set of rules nor as an exhaustive manual of techniques. 1.12

Finally, the GLVIA aims to provide guidance for and meet the requirements of landscape professionals involved in landscape and visual impact assessments. However, it is also recognised that they may be of some value to others with an interest in the EIA process, and to aid their understanding of landscape and visual assessments. These may include: 1.13

- developers and members of professional development project teams;
- those responsible for managing EIA and for ES review;
- planners and others within local government and the government agencies;
- academics and students of landscape design and EIA;
- politicians, amenity societies and the general public.

Scope of the guidelines

Part 1 provides the background and sets out the principal aims and scope of this second edition of the guidelines. 1.14

Part 2 presents some common defining characteristics that underlie the approach to landscape and visual impact assessments, which may also be applied to all forms and scales of development for which an EIA is not formally required. It outlines the role of landscape and visual impact assessments within the process of sound landscape planning, and provides a brief explanation of the terms that are used. 1.15

Part 3 addresses the statutory framework to the EIA process including a brief consideration of the EC Directive, associated regulations and development planning in the context of the EIA process as a whole. 1.16

Part 4 considers the development proposals that may give rise to potential effects and the need to describe alternative scheme options considered by the developer. 1.17

Part 5 addresses potential mitigation measures and techniques that may be applied at all stages of the scheme development – to avoid, reduce, remedy or to offset negative effects. 1.18

- 6
- 1.19 *Part 6* describes the activities involved in the collection and collation of baseline studies and landscape character assessment.
 - 1.20 *Part 7* addresses the identification of landscape and visual effects and the impact assessment process in detail.
 - 1.21 *Part 8* sets out basic presentation techniques, which may be of use in the assessment process and in the production of the assessment report, contributions to an environmental statement and the non-technical summary.
 - 1.22 *Part 9* deals with consultation, review and implementation. The role of consultation with both statutory agencies and the general public is explored. Advice is also given for the Regulatory Authorities who have an important role in screening and agreeing the scope and technical content of the assessment and in applying and monitoring landscape conditions following planning permission.
 - 1.23 Finally, attention is also drawn to the expanded glossary of terms used in these guidelines, which includes detailed explanations current at the time of publication, and also to the information contained in the technical appendices.

Part 2

The nature of landscape and visual impact assessments

Introduction

Landscape encompasses the whole of our external environment, whether within villages, towns, cities or in the countryside. The nature and pattern of buildings, streets, open spaces and trees – and their interrelationships within the built environment – are equally important parts of our landscape heritage. 2.1

In both urban and rural contexts, the landscape is important because it is: 2.2

- an essential part of our natural resource base;
- a reservoir of archaeological and historical evidence;
- an environment for plants and animals (including humans);
- a resource that evokes sensual, cultural and spiritual responses and contributes to our urban and rural quality of life;
- a valuable recreation resource.

Landscapes are considerably more than just the visual perception of a combination of landform, vegetation cover and buildings – they embody the history, land use, human culture, wildlife and seasonal changes of an area. These elements combine to produce distinctive local character and continue to affect the way in which the landscape is experienced and valued. However, the landscape is also dynamic, continually evolving in response to natural or man-induced processes. 2.3

The assessment of landscape and visual impact has certain defining features that distinguish it from the methodologies used in the assessment of environmental impact in other topics. The sections below describe the basic principles that underlie the process and provide an introduction to the detailed parts of this book that deal with methodology and techniques. 2.4

Landscape and visual impact assessments may also be different from other specialist studies because they are generally undertaken by professionals who are also involved in the design of the landscape and the preparation of subsequent management proposals. This can allow the assessment to proceed as an integral part of the overall scheme design, rather than as a discreet study carried out once the proposals have been finalised. 2.5

EIA proceeds on several fronts at once. Site surveys and preliminary assessments can be carried out concurrently with the development of the initial project proposal, and steps can be reiterated in the process to refine the design proposal. Certain potential effects can also be identified at an early stage from the knowledge gained from the site surveys, and these can be addressed during the development of the scheme. Other effects may become apparent as the assessment progresses. 2.6

A rural landscape showing different aspects of the landscape resource: land use and management, ecological features, buildings and landforms



Landscape and visual effects are two of the issues addressed as part of an Environmental Impact Assessment

- 2.7 The role of EIA in the development process is recognised as an integral part of the planning and decision-making process. Its strength lies in its potential for analysing the associated environmental issues and for improving the siting, layout and design of a particular scheme. The assessments of landscape and visual effects are an essential part of this process. Environmental assessment can thus be appropriate for all forms and scales of development, not just for those for which an EIA is mandatory.
- 2.8 For each key topic identified in the EC Directive, it is important that the methodology used for the assessment is clearly set out. This will normally include a baseline survey, identification of effects and sensitive receptors, description and quantification of the changes to the baseline, and the evaluation of predicted effects, together with criteria used and the measures proposed to avoid, reduce, remedy or offset negative effects. The reader of the assessment – whether planning authority, member of the public, planning inspector or barrister at a Public Inquiry – must be able to recognise that a rigorous process has been applied.
- 2.9 The fundamental components of EIA, which should be followed in landscape and visual impact assessments, are set out in Part 3.



A townscape in Hampshire, illustrating the urban nature of the landscape. The interrelationship between buildings and open spaces, plants and other elements combine to create the urban landscape

Landscape and visual impact assessments are different to most studies carried out as part of an EIA because it is not possible to quantify all aspects

For some topics, such as water or air quality, it is possible to use measurable, technical international or national guidelines or legislative standards, against which potential effects can be assessed. The assessment of likely effects on a landscape resource and on visual amenity is more complex, since it is determined through a combination of quantitative and qualitative evaluations. 2.10

Landscape impact assessment, in common with any assessment of environmental effects, includes a combination of objective and subjective judgements, and it is therefore important that a structured and consistent approach is used. It is necessary to differentiate between judgements that involve a degree of subjective opinion (as in the assessment of landscape value) from those that are normally more objective and quantifiable (as in the determination of magnitude of change). (See Figure 2.1.) 2.11

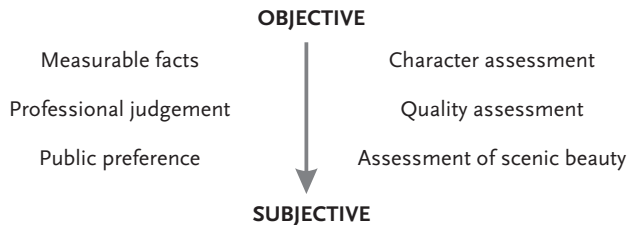


Figure 2.1 Components of EIA

Source: N.P. Brown (Principal Landscape Conservation Officer, Warwickshire County Council), *Landscape Evaluation Guidelines and their use for Land Use Planning*, February 1996.

- 12 2.12 Judgement should always be based on training and experience and be supported by clear evidence and reasoned argument. Accordingly, it is recommended that suitably qualified and experienced landscape professionals carry out landscape and visual impact assessments.

Landscape and visual effects are assessed separately

- 2.13 Landscape and visual assessments are separate, although linked, procedures. The landscape baseline, its analysis and the assessment of landscape effects all contribute to the baseline for visual assessment studies. The assessment of the potential effect on the landscape is carried out as an effect on an environmental resource, i.e. the landscape. Visual effects are assessed as one of the interrelated effects on population [2, 3].
- 2.14 Landscape effects derive from changes in the physical landscape, which may give rise to changes in its character and how this is experienced. This may in turn affect the perceived value ascribed to the landscape. The description and analysis of effects on a landscape resource relies on the adoption of certain basic principles about the positive (or beneficial) and negative (or adverse) effects of change in the landscape. Due to the inherently dynamic nature of the landscape, change arising from a development may not necessarily be significant.
- 2.15 Visual effects relate to the changes that arise in the composition of available views as a result of changes to the landscape, to people's responses to the changes, and to the overall effects with respect to visual amenity.

Assessment of effects on the landscape resource considers the different aspects of landscape

- 2.16 In order to reach an understanding of the effects of development on a landscape resource, it is necessary to consider the different aspects of the landscape, as follows:
- **Elements** The individual elements that make up the landscape, including prominent or eye-catching features such as hills, valleys, woods, trees and hedges, ponds, buildings and roads. They are generally quantifiable and can be easily described.
 - **Characteristics** Elements or combinations of elements that make a particular contribution to the character of an area, including experiential characteristics such as tranquillity and wildness.
 - **Character** The distinct and recognisable pattern of elements that occurs consistently in a particular type of landscape, and how this is perceived by people. It reflects particular combinations of geology, landform, soils, vegetation, land use and human settlement. It creates the particular sense of place of different areas of the landscape. Character is identified through the process of characterisation, which classifies, maps and describes areas of similar character.

The process of landscape character assessment can increase appreciation of what makes the landscape distinctive and what is important about an area, and can also improve the understanding of change both in urban areas and the countryside. It thereby contributes to our understanding of the form and pattern of the landscape at a range of scales (national, regional or district). However, to undertake a project-based landscape impact assessment as part of an EIA, it will be necessary to undertake more detailed localised studies. 2.17 13

Environmental impact assessment and landscape design are iterative processes

An iterative design approach enables the site planning and detailed design of a development project to be informed by and respond to the ongoing Environmental Impact Assessment, as the environmental constraints and opportunities are taken into consideration at each stage of decision making. Experience indicates that this approach can result in more successful and cost-effective developments, and can reduce the time required to complete the assessment. The iterative approach is appropriate to any new development of whatever scale or type, whether or not it requires a full EIA. The iterative approach is illustrated in Figure 2.2. 2.18

Landscape and visual impact assessments are important parts of the iterative design process because they can help to avoid or minimise potential negative effects of the development and, where appropriate, can also help in seeking opportunities for landscape enhancement. During site selection and the initial design of the layout for the development, the landscape architect may produce: 2.19

- land use/landscape strategies to evaluate and address constraints, taking advantage of environmental opportunities for each of the options available;
- comparative appraisals of alternative options, to identify those with least overall adverse environmental effect on the landscape and visual amenity.

Once the preferred development option has been selected, the landscape professional works with the design team to: 2.20

- identify and develop measures to further reduce residual adverse environmental impacts, taking into account the landscape management implications;
- indicate how the landscape strategy will work in practice, on completion of the development and throughout the lifetime of the project;
- prepare landscape and visual impact assessments to address in detail the residual landscape and visual effects of the proposed development.

<i>Initial project planning</i>	Identify site requirements; predict likely impacts of the proposed development for consideration in site selection.
<i>Screening</i>	Ascertain if EIA required.
<i>Scoping</i>	Establish content (scope) of the EIA (if required).
<i>Alternative sites (If appropriate)</i>	Carry out comparative site appraisals for alternative sites, e.g. desk studies of planning policy; site infrastructure needs; access; baseline environmental data including landscape and visual site appraisal to test the relative suitability of alternative sites for the development. Preliminary consultations with regulatory authority, statutory consultees and others (e.g. the public).
<i>Preferred solution</i>	Collate baseline environmental data and carry out technical studies, including baseline landscape and visual resources and identification of potential receptors. Consult statutory and other consultees.
<i>Conceptual design</i>	Assess the implications of the design against baseline information. Identify likely positive/negative effects to ensure 'optimum environmental fit'. Consider design options.
<i>Modify design to avoid effects</i>	Reassess potential effects. Identify potential mitigation measures to reduce negative effects.
<i>Refine design to incorporate measures to reduce adverse effects</i>	If appropriate, reassess potential negative effects. Identify further mitigation measures to remedy outstanding negative effects; Consultations with regulatory authority.
<i>Final design incorporating further remediation measures if appropriate</i>	Review the assessment of effects against the final scheme parameters. Consider proposals to compensate for residual/ unavoidable effects. Complete Environmental Statement (if an EIA is required).
<i>Planning Application</i>	Review of ES by regulatory/competent authority and consultees. Evaluation of ES by regulatory authority.
<i>Decision</i>	
<i>Implementation and monitoring</i>	

Figure 2.2 The iterative design approach

In some instances, a separate Environmental Assessment team, independent of the design team, may be appointed to explicitly demonstrate that the assessment is objective and without bias, particularly with respect to the evaluation of effects and the likely success of any proposed mitigation measures. 2.21

The description of the alternatives that have been considered by a developer is now a formal requirement of the EIA process. The iterative process can be helpful in providing evidence that alternative sites and/or designs have been assessed, and it is therefore important to record how the scheme has developed throughout the life of the project. This will demonstrate how landscape and visual effects have been taken into account and why some options have been rejected. 2.22

The baseline study includes the identification of those landscape elements, and characteristics that are valued and the people by whom they are valued

Changes in the landscape can have a direct and immediately apparent effect upon people's surroundings. It is therefore necessary to identify the landscape components that are valued by the community or society as a whole, why and how they are valued and, where possible, the people to whom they are valuable – that is 'what matters and why'. 2.23

The determination of landscape value can be based on particular characteristics that contribute to a 'sense of place' or influence the way in which a landscape is experienced, and on special interests such as cultural and literary associations, nature conservation or heritage interests. Landscape value may also incorporate a description of the condition of the landscape elements and features, and the way that they contribute to its character. 2.24

The particular characteristics of the landscape may be used to define policy areas that are deemed to reflect the value of the landscape to society as a whole. At a national scale (for example, the National Parks), the broad-brush nature of these designations and their boundaries will require more detailed studies at a site-specific scale, to establish what is important about the landscape affected by a development, and to whom it is important. 2.25

Landscapes may also have value because of the function they perform regardless of the character of the landscape. Thus urban fringe landscapes may be of poor condition with no special interest, but may nevertheless be highly valued locally because they are accessible to people and may represent a scarce landscape resource in that particular area. 2.26

16 **The capacity of a particular landscape to accommodate change varies with the type of development proposed**

- 2.27 The sensitivity of the landscape to change is reflected in the degree to which a landscape is able to accommodate change (due to a particular development or land use change) without adverse effects on its character [4]. This may be influenced by the extent of existing or new landform and/or existing vegetation or new planting. These and other factors determine the visibility of the proposed development and therefore influence the extent of its effect on the perceived character and visual amenity of the surrounding landscape.
- 2.28 Landscapes vary in their capacity to accommodate different forms of development. Sensitivity is thus not absolute but is likely to vary according to the existing landscape, the nature of the proposed development and the type of change being considered. Sensitivity is not therefore part of the landscape baseline, but is considered during the assessment of effects.
- 2.29 The capacity of the landscape to accommodate development is quite different from the importance or value of the landscape. These issues are therefore dealt with separately.

The significance of the effects may be influenced by, but not determined by, planning policies and designation.

- 2.30 In EIA, it is necessary to make a broad assessment of the likelihood of significant effects at the screening and scoping stages, based on the nature, size or location of the proposed development and the scale of its likely environmental effects. For this initial stage of assessment, it is usually assumed that formally designated landscapes are more likely to be sensitive to change than other areas. Similarly, some forms of development are also considered more likely to give rise to significant effects if, for example, they include particular operations or processes, or are of a particularly large scale.
- 2.31 Once the likely main or significant effects have been identified, the purpose of the EIA is to describe these effects and the proposals for their mitigation. EIAs deal with a specific set of proposals for a specific site (or sites) and it is important to avoid generalisations in the assessment process itself. A case-by-case approach is therefore recommended, and for each situation the likely effect on the landscape elements, characteristics and overall character is assessed and its significance judged on the basis of the nature and magnitude of effect and the sensitivity (including value or importance) of those elements, characteristics and character.
- 2.32 Landscape designation (as a reflection of value to society) is thus only one of a number of criteria that are considered in identifying the relative 'sensitivity' of the landscape to a proposed development. It should not be used in isolation.

Presentation of the findings needs to be clearly set out in the context of the defined methodology and supported by appropriate figures and illustrations

The presentation and reasoning behind professional judgements included in the assessment of landscape and visual effects need to be clear for a number of reasons: 2.33

- there may be complex interrelationships with other topics, for example, nature conservation, cultural heritage and land use;
- they are not easily measured and thus rely on precise language;
- assessment includes some subjective judgements;
- landscape and visual effects can attract emotive public responses for example, from visitors or residents, which should be distinguished from the professional's judgements.

The systematic and detailed approach to landscape and visual impact assessment set out in these guidelines may contrast with alternative responses to a development that may be presented by the public or objectors during consultations. Emotional statements do not assist in making balanced and reasoned decisions. Nevertheless, it is important that such alternative views, where available, are acknowledged in the preparation of the assessment, since they represent the stakeholders' views of the effects of the development. 2.34

General principles of good practice

General principles for good practice in landscape and visual impact assessment include: 2.35

- **clearly describe the methodology** and the specific techniques that have been used, so that the procedure is replicable and the results can be clearly understood by a lay person;
- **use clearly-defined and agreed terminology**, particularly when defining the sensitivity of landscape and visual resources, the magnitude of predicted effects and in determining their significance;
- **avoid generalisations** about designated landscapes and their ability to accommodate change;
- **be as impartial as possible**, and state the basis upon which each judgement is made;
- **draw upon the advice and opinions of others**, for example, in relation to special interests or values such as cultural and historic influences, ecology and the built environment;

- **carry out consultations** to identify, where possible, the value placed on a landscape and the effects resulting from a potential development by the local community and others;
- **organise and structure the assessment** to focus upon the key issues of relevance to decision making;
- **openly acknowledge any deficiencies** or limitations of data, techniques or resources that may have constrained the assessment;
- **consider the 'worst-case situation'**, where appropriate, in relation to seasonal or unknown effects or aspects of the proposal that are not fully developed.

Part 3

Background to the assessment

The legislative framework for EIA

This section provides a brief introduction to the legislative framework for landscape and visual impact assessments carried out as part of an EIA which in turn forms part of the system of development control for development projects within the EC. It is important to emphasise that EIA is a process that continues to evolve and as our understanding of our environment increases, so legislation evolves with it. 3.1

Good practice requires that the landscape professional, carrying out landscape and visual impact assessments as part of an EIA, should be aware that: 3.2

- the EIA process is applied by different regulations and guidance in different parts of the European Union (and United Kingdom) with respect to different forms of development and/or activity;
- its implementation through statute and regulation also continues to develop as regulations are introduced, amended and – from time to time – replaced.

EC Directive

The current statutory framework for an Environmental Impact Assessment and Environmental Statement within the European Union is Council Directive 97/1/EC. This is implemented in England and Wales by the Town and Country Planning (England and Wales) (Environmental Impact Assessment) Regulations 1999, and in Scotland by the Environmental Impact Assessment (Scotland) Regulations 1999. Additional guidance on interpretation of the Directive and regulations or equivalent for each country is normally provided by Government departments (see Appendix 1). 3.3

The Directive sets out a procedure for EIA that must be followed for certain types of project before they can be given 'development consent'. EIA is a means of systematically drawing together an assessment of a project's likely significant environmental effects. This helps to ensure that the importance of the predicted effects and the scope for reducing them are properly understood by the public and the relevant 'competent authority' before it makes its decision (see Appendix 2). 3.4

In essence, EIA (and as part of it the assessment of landscape and visual effects) considers information concerning: 3.5

- the attributes of the receiving environment;
- the nature of the development;

- the likely significant effects arising;
- measures to avoid, reduce, remedy and if possible offset any significant adverse effects on the environment;
- the main alternatives (if any) studied and the reasons for the scheme selected;
- the presentation of the above in an Environmental Statement (ES) and, in a simplified form, in a non-technical summary (NTS).

National regulations

- 3.6 Further guidance on the information to be included within an ES is given in the relevant regulations. However, neither the EC Directive nor the regulations prescribe any particular methodology to be used in carrying out the assessment.
- 3.7 The Directive also sets out the basic requirements. In their application of the Directive or in supplementary guidance, member states may – and generally do – go beyond the requirements of the Directive. An example from the regulations for England and Wales, which also reflects those for Scotland, is indicated in Box 3.1.
- 3.8 While the Directive is the starting point for a professional understanding of the legislative process, the regulations and associated advice or circulars vary in different parts of the United Kingdom and between member states, although they may follow a similar pattern. It is therefore good practice that landscape professionals not only familiarise themselves with the range of regulations, but also the individual requirements appropriate to each location.

Terminology

- 3.9 The legislative framework provides the backbone for an Environmental Statement. As the content of an ES should stand up to formal rigorous inspection, it is vital that the utmost care is taken in the use of terminology. Where terms used in the legislation are used in an Environmental Statement, they must be used in the same context. The Environmental Statement should contain a clear and unambiguous definition of such terms, which are in turn used in a consistent manner throughout.

The EIA process

- 3.10 A common assessment process for EIA is now emerging and the main steps in the process of landscape and visual assessment closely mirror the sequence of events that characterise the formal EIA process as a whole (see Appendix 3 and Figure 3.1). This section provides an overview of the process, which is summarised in Figure 3.1 and the flowchart in Figure 3.2.

Box 3.1 Extract from the EIA Regulations

The assessment of landscape and visual effects arises within the EIA process essentially through Article 3 of the 1997 Directive, which states

The environmental impact assessment shall identify, describe and assess in an appropriate manner, in the light of each individual case and in accordance with Articles 4 to 11, the direct and indirect effects of a project on the following factors

- **human beings**, fauna and flora;
- soil, water, air, climate and **the landscape**;
- material assets and the cultural heritage;
- **the interaction between the factors** mentioned in the first, second and third indents.

In England and Wales, the requirements of the Directive are interpreted in Schedule 4 Part 1 (3) of the 1999 Regulations as

A description of the aspects of the environment likely to be significantly affected by the development, including, in particular, **population**, fauna, flora, soil, water, air, climatic factors, material assets, including the architectural and archaeological heritage, **landscape** and the **inter-relationship between the above factors**.

While Schedule 4 Part I (4) also requires

A description of the likely significant effects of the development on the environment, which should cover the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the development resulting from

- the existence of the development;
- the use of natural resources;
- the emission of pollutants, the creation of nuisances and the elimination of waste, and the description by the applicant of the forecasting methods used to assess the effects on the environment.

together with Schedule 4 Part I (5), which requires

A description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment [2, 3].

<i>Screening</i>	Determines the need for an EIA.
<i>Scoping</i>	Identifies the scope and content of the EIA.
<i>Project description</i>	Provides a formal description of the development for the purpose of assessment including alternatives.
<i>Baseline studies</i>	Describes, classifies and evaluates the existing landscape and visual resource.
<i>Assessment</i>	The systematic identification of potential effects, prediction of their magnitude, and assessment of their significance.
<i>Mitigation</i>	Measures designed to avoid, reduce or offset negative effects of the development proposals.
<i>Presentation of findings</i>	These require a clear structure, plain language and good illustrative material.
<i>Monitoring</i>	Monitors the effects on sensitive elements of the construction and operation of the development to identify/prevent negative effects.

Figure 3.1 Elements in the EIA process

3.11 Screening is the crucial first step of an EIA. It is the formal process through which the decision on the need for an EIA is taken or confirmed by the ‘competent authority’, usually the local regulatory authority. This decision is based on the nature, location and size of the proposed development and a broad assessment of the likelihood and scale of the main or significant effects. The criteria for significance are usually defined in terms of the scale of the proposals, the sensitivity of the location and the nature of the development. An EIA may still be required even if there are no likely significant landscape or visual effects. An applicant may formally request a screening opinion from the local planning authority. The applicant’s request would normally include basic information about the proposed development such as:

- a plan indicating the location of the proposed development;
- a brief description of the nature and purpose of the proposal;
- an indication of its possible main environmental effects;
- other information or representations as the applicant may wish to provide or make, such as a broad indication of the potential scale of the likely effects.

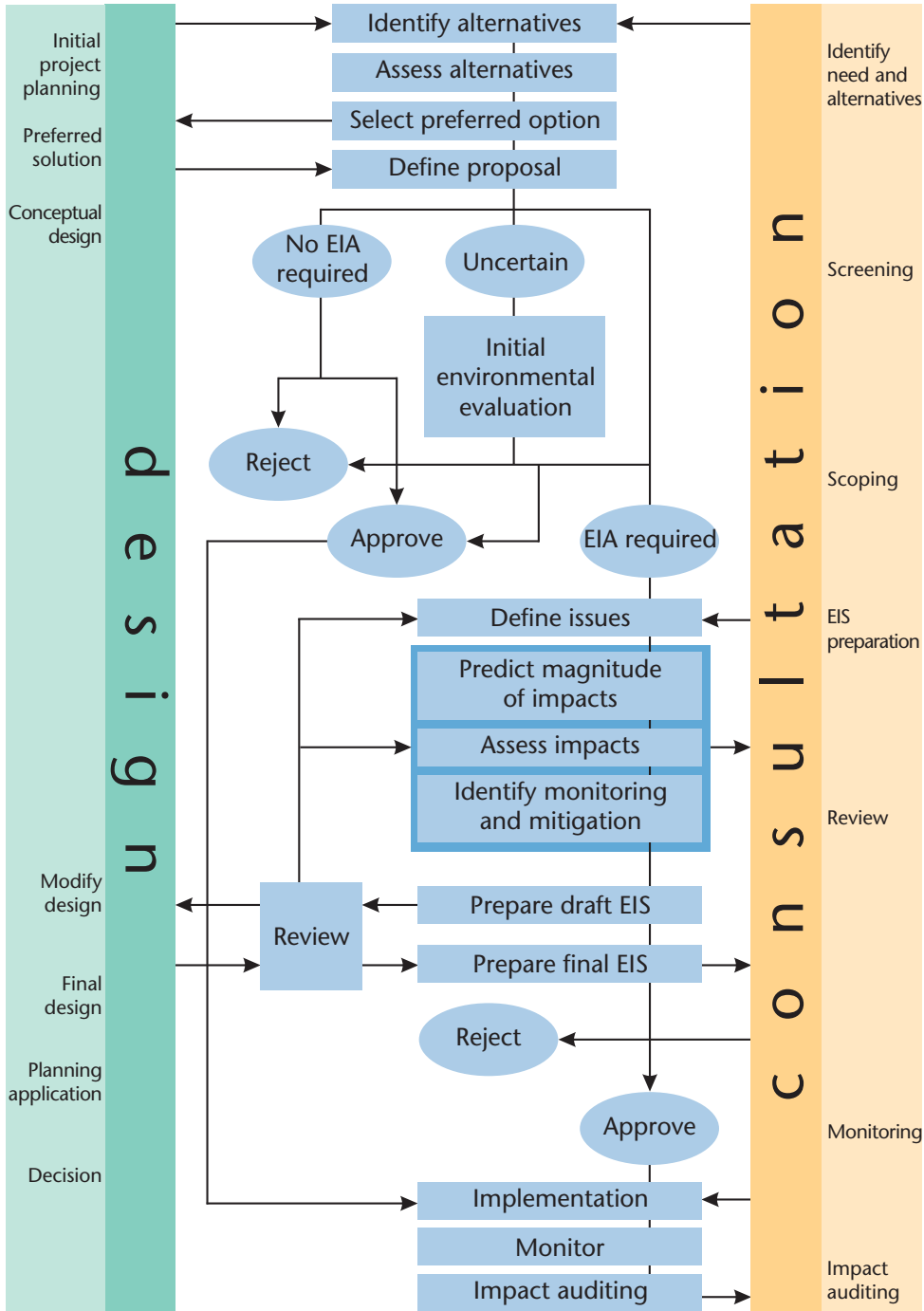


Figure 3.2 The EIA process

- 26 3.12 At this stage, landscape designations may be used as an indicator of the potential sensitivity of the landscape and likelihood of significant negative effects. The landscape professional may be called upon to provide a professional, albeit informal, opinion as to the potential sensitivity of the landscape or visual effects of a scheme. In making any judgements and providing such advice and opinion, the landscape professional should adopt a structured and systematic approach from the outset and record all actions undertaken, information gathered, issues taken into consideration, assumptions made and opinions offered, together with reasoned justification.
- 3.13 Scoping comprises the second stage in the EIA process and is the procedure of examining key topics and identifying areas of likely significant effects. The objective of scoping is to ensure that all relevant issues are addressed in the EIA. It is one of the most critical activities in the whole process; if it is wrong or incomplete, it can undermine the validity of the ES. It should not however be used to pre-judge the effect of a development at this early stage.
- 3.14 Scoping entails a desk study, site and scheme familiarisation and informal consultations with the 'competent authority' and the main consultees. Available national guidance on scoping should also be consulted. A request may also be made to the regulatory authority for a formal scoping opinion concerning the information to be supplied in the ES. This can help to ascertain the authority's opinion on what the main or significant effects are likely to be and to define the content or scope of the ES.
- 3.15 The landscape professional may seek agreement with the regulatory authority on the study area for the landscape and visual impact assessments, the potentially sensitive receptors and important or sensitive viewpoints.
- 3.16 An ES is not necessarily rendered invalid if it does not cover all the matters specified in the scoping opinion or directive, or because an applicant fails to provide further information when required to do so. However, if it is deemed that the applicant has failed to provide sufficient information on the environmental effects to enable the regulatory authority to make an informed decision, the planning application is likely to be refused.
- 3.17 If produced, a scoping document can set out the range of possible issues, explaining why each will or will not be evaluated in the assessment. It may also include brief details on methods, assessment techniques and the presentation of information to be included in the final ES. Although not mandatory, a scoping document can be helpful and may be prepared as a free-standing document or incorporated in the ES.

Methodology

The methodology for the landscape and visual assessments may be agreed with the regulatory authority at the scoping stage. However, it must be recognised that the methodology will need to be sufficiently flexible to allow modification, as appropriate, in response to information collected during the baseline studies. 3.18

The methodology should be appropriate for the nature, location and scale of the project and the potential sensitivity of the site, as established through screening and scoping. For simple schemes, a relatively brief overall assessment of the effects on the landscape and visual amenity may be sufficient; while large complex schemes may require separate detailed assessments of each component of the project in addition to an assessment of the overall effects of the development. 3.19

National designation may be an indication of the potential for significant effects. Accordingly, sites within or adjacent to nationally designated landscapes require detailed and rigorous assessments that are appropriate to the status of the landscape. Particular attention should be given to the special attributes and characteristics that justified the original designation, together with the policy objectives of the designation. The assessment of visual effects should also consider the potential effects on views of as well as from the designated landscape from important or valued viewpoints. 3.20

The likely means and extent of consultations may also be identified at this stage and if appropriate discussed or agreed with the regulatory authority. 3.21

Planning policy context

Landscape and visual impact assessments are invariably carried out in order to comply with the requirements of the development planning process. Landscape professionals should be aware of the planning framework and context to the proposed development that is being assessed, as this can be of benefit in helping to identify and establish the issues which need to be considered in scoping the EIA, particularly in relation to designations and policy objectives. 3.22

The EC Directive and EIA Regulations (England and Wales) make no reference to supplying policy-relevant information within the EIA, although within England and Wales Government guidance suggests that such information should be included in the ES [5]. An analysis of relevant plans and policies, including the degree of compliance or conflict of the development with the policies and other relevant issues, is helpful in order to demonstrate how these policy guidelines have been taken into account in developing the project and compiling the ES. It should also provide a picture of the decision-making context in which the environmental 3.23

effects will be evaluated. In order to obtain benefit from this process, it is important to consider the planning context for the development at an early stage of site planning/design and assessment.

- 3.24 Where policy-relevant information is not provided as a separate section in the ES, the relevant planning policy information should be included in the report of the landscape and visual impact assessments.
- 3.25 The principal planning reference for determining an application is the development plan. This may be a combination of a strategic structure plan and local plan or a unitary development plan supported by supplementary planning guidance documents. It is particularly important because it allocates land uses and defines landscape policy and designation. In addition, there is generally a wide range of planning advice from Government, environmental agencies and other interest groups, which should also be considered where relevant (see Appendix 1 for further information).

Special interests

- 3.26 It is important for landscape assessments to consider the ecological, historical or cultural associations that contribute to the character and importance of a landscape. Habitats and wildlife have a visible effect on the appearance and also the appreciation and value of landscape, and planning policies for nature conservation and landscape are generally linked through a common approach to land use. Historic associations are often more intangible. However, there are also numerous interrelationships between landscape and cultural heritage and it is important that these links are not overlooked.
- 3.27 Historic landscapes can include gardens, battlefields and the statutory settings of listed buildings and ancient monuments. It may sometimes be unclear where priorities lie when non-statutory designations exist, or even which discipline is best-placed to assess them. Sometimes their cultural heritage value can run counter to any landscape value (as may be the case for some derelict industrial sites), with the possibility that assessments of landscape settings of historic sites by archaeologists and landscape architects could vary, due to the different focus of study and objectives. Such problems can be avoided by establishing a close liaison between landscape and cultural heritage specialists in the preparation of the EIA, and by each party focusing on their own planning policy context. This will also be of assistance in decision making, as it will enable information in the ES to be directly related to the relevant policy requirements [6].
- 3.28 Proposals for mitigating significant negative or adverse landscape effects can themselves have the potential to adversely affect cultural heritage sites and influence or change the nature conservation value or potential of an area. Any such potential problems should be reduced or avoided by close liaison between the professionals involved at all stages of the assessment and design process.

Sustainable development

The concept of sustainable development aims to conserve and enhance our environment for the benefit of present and future generations through development that meets the needs of the present without compromising the ability of future generations to meet their own [7]. This does not mean that the landscape should not change at all. This objective would be impossible to achieve, even if it were desirable, as landscape change is inevitable. The land is intrinsically a living resource and, in most developed countries, it is almost exclusively managed by human intervention in natural processes. Changes in land management and the effect of other developments in the area will alter its appearance and character. Similarly townscapes evolve over time as buildings are replaced or added and land use changes. 3.29

Box 3.2 Sustainability reference

The British Government has made 'Sustainable development' the cornerstone of both its rural and planning policies. This is interpreted as meaning that the countryside should be managed in ways that meet current needs without compromising the ability of future generations to meet their own needs.

The guidance goes on to state that development should respect and, where possible, enhance the environment.

(See Appendix 1 and Planning Policy Guidance (PPG) 1)

Three principles from the Rio Earth Summit declaration (1992) are of particular relevance to landscape and visual assessments: 3.30

- the promotion of environmental protection as an integral part of the development process, in order to achieve sustainable development;
- the participation at the relevant level of all concerned citizens in handling environmental issues with appropriate access to information;
- the need for Environmental Impact Assessment on developments that are likely to have adverse effects on the environment.

Since 1995, the planning context for landscape assessment has changed. The guidance on sustainability gives greater attention to the value of all landscapes (rather than just designated ones), and the need to accommodate change while maintaining and, where possible, enhancing the quality of the environment for local people and visitors. New development is also required to respect the environment in its location, scale and design. 3.31

- 30
- 3.32 The implications of sustainable development for the assessment of landscape and visual effects are considerable. It is accepted that development may create effects not just for the site itself and its immediate environs, but also for other areas. Thus the choice of construction materials for the construction of a new road, for example, may result in significant associated landscape and visual effects from quarrying, whereas the re-use of construction waste may actually help to avoid adverse landscape effects elsewhere as a result of its disposal.
- 3.33 EIA creates opportunities to contribute to sustainable development by seeking opportunities to 'conserve and enhance' landscape character and visual resources. Loss of landscape or visual resources due to development may be offset through landscape enhancement and additional measures, which genuinely compensate for any elements or particular features lost or damaged. These issues are considered in more detail in the section on mitigation in Part 5.

Strategic Environmental Impact Assessment

- 3.34 It is widely recognised that project-level EIA alone cannot lead to comprehensive environmental protection or sustainable development. The nature of assessing the impacts of individual proposals is a reactive approach that cannot fully address the cumulative effects that may arise from several projects. These may be avoided with a more proactive approach, which could predict or anticipate such effects. In recognition of such problems, the process of Strategic Environmental Assessment (SEA) was developed to address the environmental effects of proposed policies, plans or programmes. SEA is a process that evaluates the likely significant environmental consequences of a policy, plan or programme.
- 3.35 SEA is also one of the tools by which sustainable development and use of resources can be most effectively achieved. Simple steps toward sustainability such as efficient energy use, multi-modal transport design and specific land-use policies can be appraised and restructured through SEA to ensure that policies, plans and programmes are sustainable and hence that the projects which fall under these will be equally sustainable.
- 3.36 At an early stage of assessment, many SEAs rely on landscape designations as indicative of landscape importance and possible sensitivity. However, a more fundamental review that considers the contribution of landscape elements or features, characteristics and values as indicators of landscape sensitivity may be more appropriate for regional and district planning policy purposes, drawing on available character assessment information (see Appendix 4 for further information on Strategic Environmental Assessment).

Part 4

Description of the proposed development

Introduction

An assessment of landscape and visual effects is based on information concerning the attributes of the receiving environment and the location, scale and nature of the development. 4.1

Information about the development of relevance to the assessment needs to be assembled, kept under review during the planning and design stages, updated where appropriate and then 'fixed' to enable the assessment to be finalised, including: 4.2

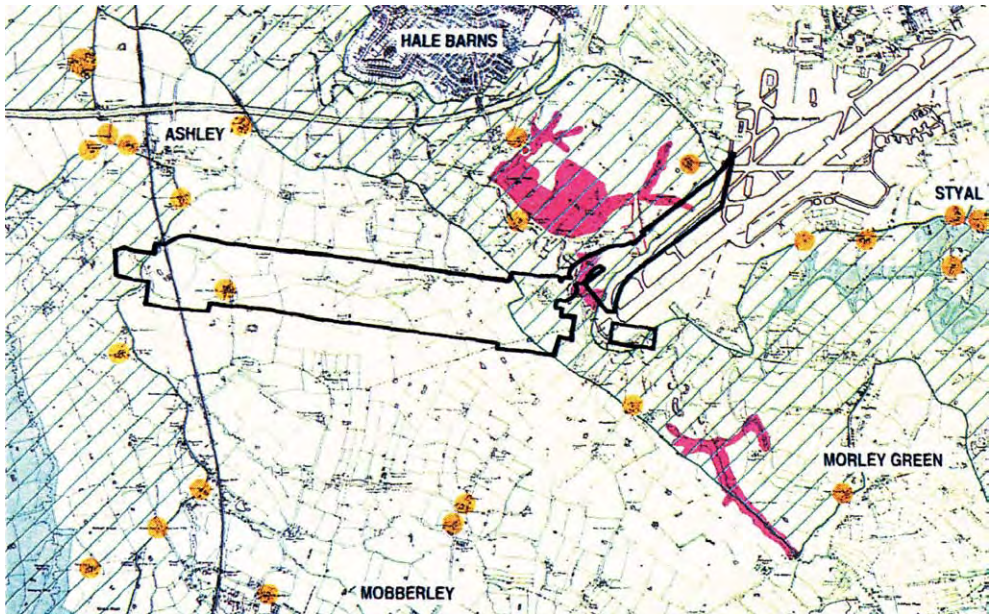
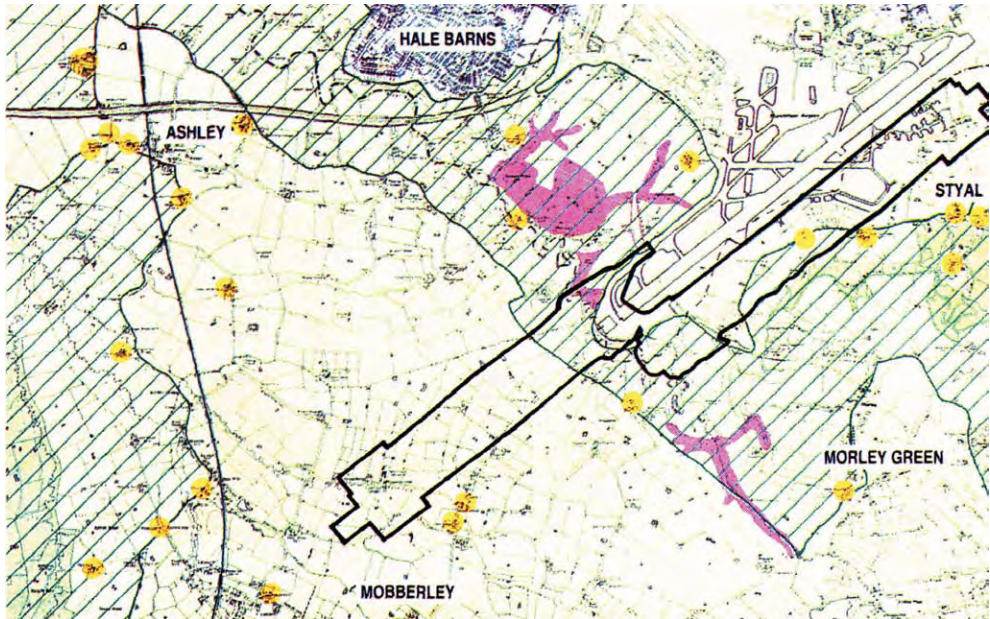
- description of the development;
- consideration of alternatives;
- knowledge of the stages in the project's life cycle, extending from commencement of construction to restoration;
- the measures proposed to avoid, reduce and, if possible, offset any significant adverse effects on the environment. These are addressed in Part 5.

A general description of the siting, layout and characteristics of the proposed development is a formal planning requirement. A clear, concise but comprehensive description can also make an important contribution to the credibility and effectiveness of the EIA study. 4.3

The point at which the design is finalised for the purposes of assessment and preparation of the planning application must also be agreed, to permit assessment to proceed upon firm assumptions, forming the factual basis for impact identification and prediction. It is essential that the description of the development on which the impact assessment of the scheme is carried out is sufficiently detailed, to ensure the effects of the proposed development can be clearly identified. The level of detail provided will vary from project to project, but the minimum information usually required for an outline application will be insufficient for an EIA. 4.4

Consideration of alternatives

Where alternative development proposals have been considered by the developer, it is a requirement of the EIA regulations to provide an outline description of the main alternatives considered and an indication of the main reasons for the final development choice, taking into account the environmental effects. This may be particularly relevant for sensitive locations. Increasingly, consideration of alternative approaches to the development is seen to be good development practice and is encouraged as a means of achieving potentially more sustainable development. For some projects, such as those undertaken by the Highways Agency, the 'do nothing scenario' – against which the development will be compared – may be presented as an alternative. 4.5



In this example illustrating alternative layouts, two options for runway alignments have been assessed

4.6 The landscape professional may be required to advise on alternative solutions that could include:

- alternative locations or sites that are suitable and available;
- different approaches in terms of scheme design, or the size/scale/orientation of the proposed development;
- alternative site layouts, access and servicing arrangements.

An important benefit of exploring alternatives is that they may offer significant opportunities for mitigating potentially negative (adverse) effects by avoidance of such effects or through the redesign of features that would otherwise give rise to negative effects. For example, if there are serious landscape constraints associated with a particular site, avoidance of effects through the selection of an alternative location is likely to be a preferred solution. 4.7 35

Depending on the type of study that is being carried out and the stage reached in the assessment process, more than one project alternative may be taken forward for comparative assessment, with a detailed project description required for each alternative. The most common examples occur in the development of transport infrastructure, where route option appraisals for a number of alternative routes are frequently undertaken before a decision is made on the preferred route. Once the preferred route is selected, a more detailed assessment is then carried out. Many other types of project could benefit from a similar approach. 4.8

Stages in the project life cycle

It is recognised that project characteristics, and hence sources of effects, will vary through time. The construction, operation, decommissioning and restoration phases of a development are characterised by quite different physical elements and activities. The duration of the effect is also a material consideration, since a lesser effect may be less tolerable if it continues for a significant period. A separate, self-contained description of the development at each stage in the life cycle greatly assists the prediction of landscape and visual effects. 4.9

For the **construction stage** of the project, the relevant information may include: 4.10

- site access and haul routes, including traffic movements (which often differ from permanent access proposals);
- cut, fill, borrow and disposal areas;
- materials origins;
- materials stockpiles;
- staging areas;
- construction equipment and plant;
- utilities, including water, drainage, power and lighting;
- temporary parking and on-site accommodation and working areas;
- temporary screening measures;
- protection of existing features;
- lighting of the works.

- 36 4.11 During the **operational stage**, the matters likely to be most relevant to the landscape and visual impact assessments include:
- access;
 - infrastructure;
 - buildings and other structures;
 - delivery, loading and unloading areas;
 - outdoor activities;
 - materials storage;
 - land management operations and objectives;
 - utilities;
 - lighting of roads and buildings;
 - car parking;
 - vehicle lights and movement (and the effect of noise on landscape character);
 - landform, structure planting and hard landscape features;
 - entrances, signs and boundary treatments;
 - the programme and details, including duration of any proposed phasing of the operations;
 - areas of possible future development.
- 4.12 Decommissioning and restoration may also give rise to effects to be addressed, including:
- access;
 - after-use potential;
 - residual buildings and structures;
 - disposal or recycling of wastes and residues;
 - restoration activities, including movement of materials and construction plant around the site.

Information requirements

- 4.13 For each stage in the project life cycle, similar types of qualitative and quantitative data are required to assist in assessments of landscape and visual effects, including:

- form (including shape, bulk, pattern, edges, orientation, complexity and symmetry);
- materials (including texture, colour, shade, reflectivity, opacity);
- design (including layout, scale, style, distinctiveness);
- programme and duration of key site activities;
- site areas under different uses;
- physical dimensions of major construction plant, buildings and structures;
- volumes of material;
- numbers of scheme components such as houses and parking spaces;
- movements of construction plant, materials and workforce;
- the duration of the effect.

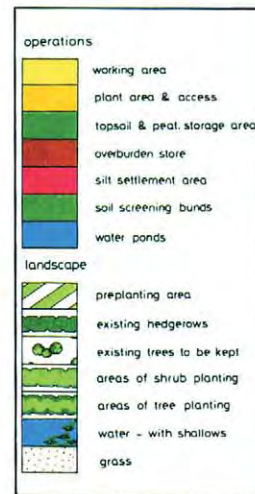
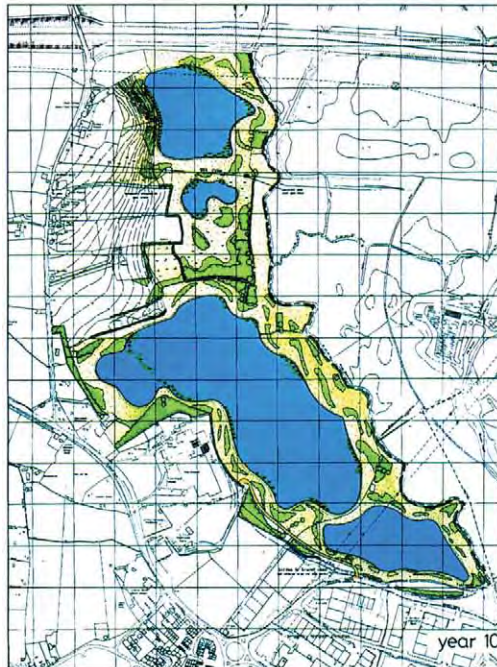
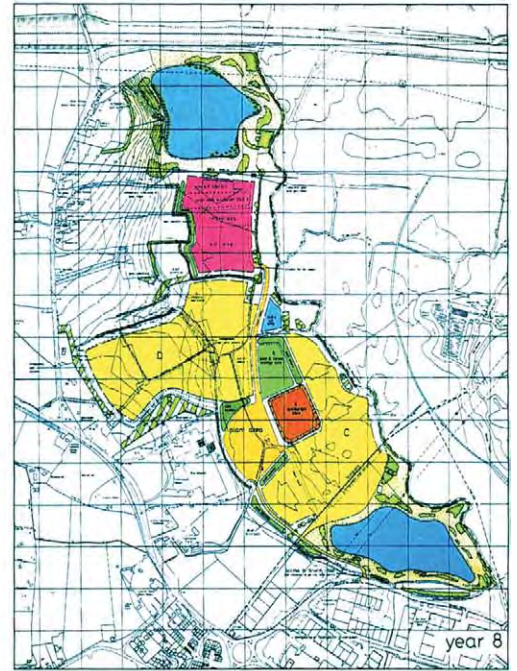
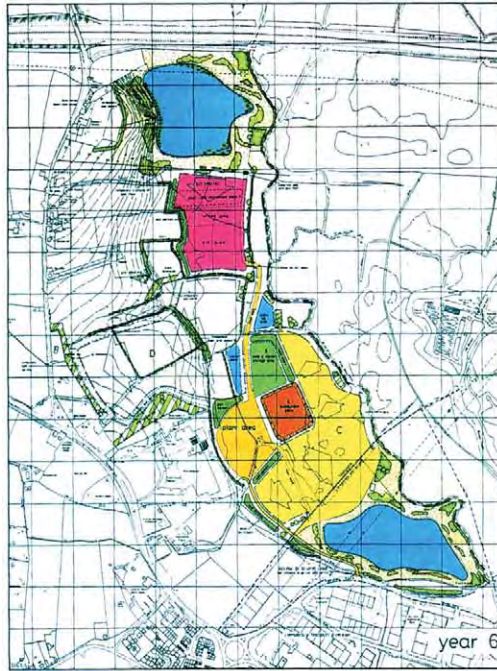
It is recognised that it is often difficult to provide accurate and complete information on all these varied aspects of a development. Nevertheless, the importance of such information cannot be over-stressed, as it is the foundation for all predictions of effects. It also assists the overall design process and leads to the best and most sustainable environmental solution. Where key data on project characteristics is lacking, there may be a need to make explicit assumptions as to what will happen, based on the 'worst-case situation' or on a range of options. The source of information on the potential effects on landscape and visual amenity must also be clearly set out. Prior to finalising the Environmental Statement, assumptions should be checked to ensure they are still applicable and updated in the light of any new data. 4.14

Integration

Within the context of the iterative process of environmental appraisal, landscape planning, design and impact assessment, the information about the development is examined and the design refined to avoid, reduce or offset likely negative or adverse landscape and visual effects. Those elements that continue to give rise to likely effects on the landscape and on visual amenity can be identified, described in detail and integrated into the wider framework of impact assessment. Part 6 addresses this process in more detail. 4.15

The development proposals, which are common to all topics addressed in the ES, are usually described in a separate section. Only those key elements giving rise to effects on the landscape and visual amenity need to be addressed in the assessments of landscape and visual impact. The development proposals are generally illustrated in simple, easy-to-read proposal maps at A3 or A4 size, together with other selected drawings such as cross sections. For complex projects, or for those of 4.16

a long duration such as power stations or major mineral workings, a series of drawings at different stages such as construction, operation and decommissioning, or phases in the development may be needed. Essential illustrations include:



Using clear and concise graphic techniques this series of drawings communicates the sequence of parallel operations where minerals are extended and a new landscape is formed

- layout plans of the main design elements, including access and site circulation, land uses, contours and site levels;
- cross sections and elevations of buildings and other important structures where available, including key dimensions;
- the proposed landscape framework including landform and planting.

Information on presentation techniques is given in Part 8.



In this example, appropriate colour treatment of the buildings has been used to help the structures fit in with the landscape



Furzey Island in Dorset, part of the BP Wytch Farm Complex. Extensive screening results in a development with minimal visual impact but nevertheless has landscape impact on the landscape character of the area

Part 5

Mitigation

Introduction

The purpose of **mitigation** is to avoid, reduce and where possible remedy or offset, any significant negative (adverse) effects on the environment arising from the proposed development. 5.1

Mitigation is thus not solely concerned with 'damage limitation' but may also consider measures that could compensate for unavoidable residual effects. If good environmental planning and design principles are applied, together with a flexible approach to design, a high degree of mitigation can be built into the scheme from the outset, which can thereby reduce the extent or scale of adverse effects. 5.2

Mitigation measures may be considered under two categories: 5.3

- primary measures that intrinsically comprise part of the development design through an iterative process;
- secondary measures designed to specifically address the remaining (residual) negative (adverse) effects of the final development proposals.

Mitigation measures are generally more effective if they are designed as an integral part of an iterative process of project planning and design. Mitigation is thus used as a design approach that is, where possible, implemented from project inception when alternative designs or site options are being considered. In such circumstances it can be used to adapt and modify the development to take account of constraints and opportunities, and achieve the optimum environmental fit as part of an environmentally integrated design. 5.4

Primary mitigation measures that form integrated mainstream components of the project design are included in the project description. This should focus on factual explanation of the basic design elements – such as siting, access, layout, buildings, structures, ground modelling and planting – in so far as they affect landscape and visual resources. The design philosophy can also describe the benefits to the design of alternative solutions, introduced to reduce potential negative effects, and indicate how these have been addressed. 5.5

Secondary measures designed specifically for mitigation of the negative effects of the final development are considered in the assessment of landscape and visual effects. They also meet any formal requirement to identify measures for the avoidance or reduction of negative effects. 5.6

Landscape proposals that are most likely to be a long-term success are those which meet the environmental objectives and any technical, locational or financial development constraints. It is also important to demonstrate that long-term control and management is secured, including 'off-site' measures such as habitat 5.7

restoration or planting, proposed on land outside the developer's control, to mitigate a localised negative change in visual amenity. The aim is to effect an overall benefit to landscape character, condition and value, while offsetting any negative environmental effects.

Strategies to address likely negative (adverse) effects

- 5.8 The *ideal* strategy for each identifiable negative effect is one of avoidance. If this is not possible, alternative strategies of reduction, remediation and compensation may each be explored. If the consideration of mitigation measures for negative landscape or visual effects is left to the later stages of scheme design, this can result in increased mitigation costs, because early opportunities for avoidance of negative effects are missed. Thus remediation and compensation of residual negative effects are generally less cost effective than avoidance. Some of the main issues associated with the different mitigation strategies are outlined below.

Avoidance

- 5.9 Avoidance of negative landscape and visual effects can be achieved through careful siting, planning and design. For almost every major development, time, costs and public concern can be reduced if serious environmental constraints can be identified and avoided during the development of the planning and design of the scheme. This may be achieved through the selection of a site that can more readily accommodate the proposed development, or through innovative design.

Reduction

- 5.10 Where negative effects cannot be avoided, the reduction of any remaining conflict with the landscape and other environmental constraints requires detailed consideration of site characteristics. Setting a development into the ground can often help it to be integrated into the landscape. New landforms and planting, as part of mitigation measures, can increase the ability of the landscape to accommodate development, always provided that they are in keeping with the character of the area and are appropriate to the specific circumstances. However, poorly-designed new landscape features can give rise to negative landscape or visual effects.

Remediation

- 5.11 Mitigation measures that rely solely on 'add-on' or 'cosmetic' landscape measures such as screen planting to remedy the negative effects of an otherwise fixed scheme design, are likely to be the least successful. Nevertheless, the sympathetic treatment of external areas should augment the integration of a

new development with the surrounding landscape. Remediation should be seen as part of the overall process of avoiding and reducing adverse impacts.

Compensation

Where a negative effect cannot be mitigated to an acceptable degree, other compensatory measures or related environmental improvements may offset or compensate for unavoidable residual effects. For compensation to be effective, a reliable assessment is needed of the nature, value and extent of the resource that would be lost, so that like can be replaced with like or, where this is not possible, measures of equivalent value are provided. However, it is questionable that true compensation is ever possible as, for example, a new area of woodland may eventually – over several decades – compensate for the loss of an existing mature woodland in purely visual terms, but may never compensate for the loss of established habitat or amenity value. In general, compensation should be regarded as a last resort. Where habitat creation is attempted, expert advice should always be sought. 5.12

Increasingly, compensation may be offered or sought by local communities or local authorities as an ‘appeasement’ for unavoidable negative effects due to the scale or character of a new development. Such measures may include off-site planting carried out in the gardens of affected properties to screen negative views of a development, the provision of new local amenity areas or parks, or the creation or provision of a work of art as part of or separate from the development. These measures need not be associated with issues of ‘planning gain’. 5.13

Enhancement

The landscape and visual impact assessment may identify measures to manage necessary change (arising from the development), while maintaining and, where possible, enhancing the quality of the environment for local people and visitors (see Appendix 2 and PPG 7 para 3.1). 5.14

Although often linked to mitigation, enhancement is a separate issue that explores the opportunities and appropriateness for a development project to contribute positively to the landscape of the development site and its wider setting. Enhancement proposals are based on a sound initial assessment of landscape character, quality and trends for change in which the following questions may be addressed: 5.15

- Can the development help restore or reconstruct local landscape character and local distinctiveness?
- Can it assist in meeting regulatory authority landscape management objectives for the area?
- Can it help solve specific issues such as derelict land reclamation?

- 46 5.16 Enhancement may take many forms, including improved land management, or restoration of historic landscapes, habitats and other valued features; enrichment of denuded agricultural landscapes; measures to conserve and improve the attractiveness of town centres; and creation of new landscape, habitat and recreational areas. Such measures allow environmental enhancement to make a very real contribution to sustainable development and the overall quality of the environment.

Guidelines for mitigation

5.17 The application of the following good practice principles can increase the effectiveness of the mitigation measures in that:

- All negative (adverse) landscape and visual effects that are likely to occur throughout the project life cycle – including construction, operation, decommissioning and restoration – should be considered for mitigation, although the statutory requirement is limited to significant effects.
- Consultation with local community and special interest groups on the proposed mitigation measures is important and can also be helpful in identifying local needs and preferences.
- Landscape mitigation measures should be designed to suit the existing landscape character and needs of the locality, respecting and building on local landscape distinctiveness and helping to address any relevant existing issues in the landscape.
- It must be recognised that many mitigation measures, especially planting, are not immediately effective. Advance planting can help to reduce the time between the development commencing and the planting becoming established. Where planting is intended to provide a visual screen for the development, it may also be appropriate to assess residual effects for different periods of time, such as day of opening, year five and year fifteen.
- The developer should demonstrate a commitment to the implementation of mitigation measures to an agreed programme and budget. Responsibility for the implementation of all the mitigation measures (normally the developer) should be clearly defined.
- The proposed mitigation measures should address specific issues, and performance standards should be identified for the establishment, management, maintenance and monitoring of new landscape features, describing exactly what is required for mitigation to be effective. This could be achieved through a method statement, which could also incorporate contingency plans, in the event that mitigation measures prove to be unsuccessful.

- A programme of appropriate monitoring may be agreed with the regulatory authority so that compliance and effectiveness can be readily monitored and evaluated.

Box 5.1 Common mitigation measures

- **Sensitive location and siting** can offer significant opportunities for effective mitigation, through choice of site and location within the site.
- **Site layout:** careful consideration of the site layout can help to reduce landscape or visual effects. For example, buildings can be located to screen unsightly features or activities from a sensitive viewpoint.
- **Choice of site level:** landscape is three-dimensional and can provide scope for reducing adverse effects in the careful choice of site level or vertical alignment.
- **Appropriate form, materials and design of built structures:** many buildings and structures cannot be screened; nor is it always desirable or practicable to do so. In these circumstances, the design of the structures themselves, their colour treatment and textual finishes, can be designed to fit comfortably with their surroundings.
- **Lighting** for safety or security purposes is often unavoidable and can give rise to considerable adverse visual effects. Modern lighting designs are now available to minimise or avoid upward and lateral light pollution by design of the lantern, directional fittings, or screening the light source by the use of baffles. It is also possible to minimise the use of lighting with systems that light the minimum area required to be lit for the minimum period of time.
- **Ground modelling** may be undertaken where the natural landform or site levels do not give optimum screening effect. However, major earthworks in themselves may create adverse landscape and visual effects, and care is required to ensure that new landforms look natural and appear as an integral part of the landscape.
- **Planting:** structural planting can help to integrate a development with the surrounding landscape, and can soften the edges of intrusive buildings and structures. Where possible, the planting should be appropriate to the landscape reflecting local species of national provenance. Advance planting and, where appropriate, off-site planting, offer particular potential for effective mitigation.
- **Use of camouflage or disguise:** visual effects may be reduced by changing the perceived appearance of a development or structure to one that may be more visually acceptable to the local community, or one that fits more readily into the landscape.

Case study

Felsted Sugar Beet Factory *Felsted Essex*

February 2001

Principal author: Novell Tullett



CONTEXT

Urban fringe/rural

DETAILS OF PROPOSAL

Summary description	Scheme for 650 new houses, 25 hectares of landscape setting and new nature reserve on derelict sugar beet works site.
Nature and scope of issues	Scale: Comprehensive large-scale site including factory buildings, silos and 50 hectares of derelict land. Sensitivity: High; set within an SLA and including a main river and tributary and a local nature reserve. Policy: Topical; PPG 3 sequential approach, weaknesses outweighed by net environmental benefits.
Planning/regulatory content	Sustainability issues in PPGs 3, 7 and 13; design issues in PPGs 1 and 3. Located in countryside within an SLA. Consultation with Environment Agency on river flood and conservation issues, and with English Nature on nature conservation issues. Essex Design Guide. Local plan allocation as a sustainable urban extension.

CASE ANALYSIS

Approach	The principal objectives were to structure the housing development with reference to the morphology of traditional Essex villages; to avoid impact on sensitive countryside; and to employ the 50 hectares of reclamation to a new landscape setting to reverse the negative effect of the former industry on the SLA and river valleys.
Methodology	GLVIA, Essex Design Guide.
Application of methodology	Desktop studies, field work, computer modelling (AutoCAD), Photoshop, aerial photography, 50mm photography, photomontage, public consultation and evidence at Local Plan Inquiry. The landscape architect led the master-planning stage, which involved co-ordinating planning, transport and engineering issues with the design objectives.



CRITIQUE/CONCLUSIONS

<p>Critique</p>	<p>Site has a range of difficult constraints. Investigations included topographical models, gas generation monitoring, Stage 2 habitat surveys, river corridor habitat surveys, floodplain modelling, sewage treatment works, <i>cordon sanitaire</i> (air quality), archaeological investigations and landscape and visual impact assessment. Combined computer and traditional methods successful at technical level (Public Inquiry evidence, ES) but hard to convey to public.</p>
<p>Solution</p>	<p>Planning issues report: a less technical document than ES to explain design in response to issues and planning gain (improved landscape, visual amenity and nature conservation). Public exhibition explained important issues and tested preferences for options. Outline consent used to create setting for new village structure, and to set out design brief for new housing layout and design. House-builders helped interpret brief in detailed planning applications and ensured design philosophy and objectives were maintained. Sustainability initiatives included re-use of 200,000 m³ of reclaimed material on site giving benefit from re-use of brownfield land.</p>
<p>Conclusion</p>	<p>Authorities persuaded of benefits of proposals through investigation and analysis with positive, beneficial plans for environmental improvement.</p>

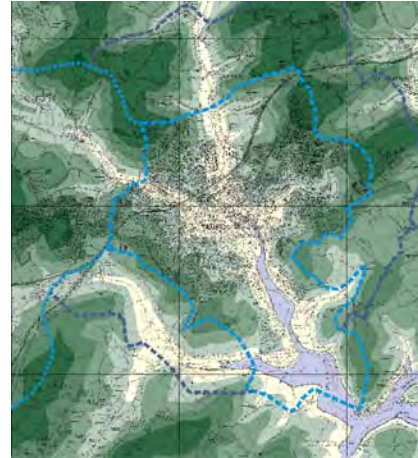
Case study

Landscape Strategy for Truro, Falmouth and Penryn

Cornwall

December 2000

Client: Carrick District Council
Principal author: Landscape Design Associates



Truro, topography

CONTEXT

Urban/urban fringe The settlements of Truro, Falmouth and Penryn

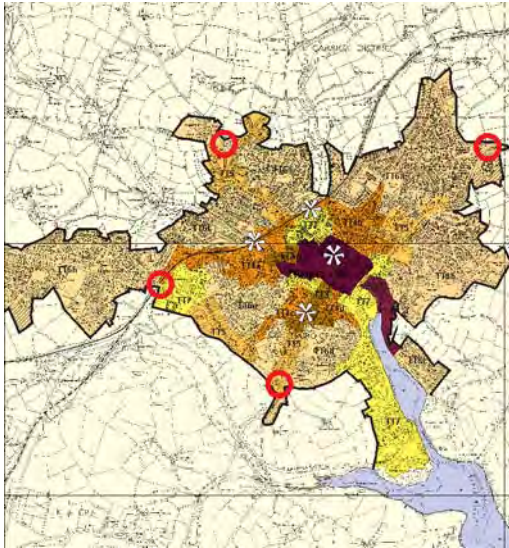
Rural Their immediate landscape setting

DETAILS OF PROPOSAL

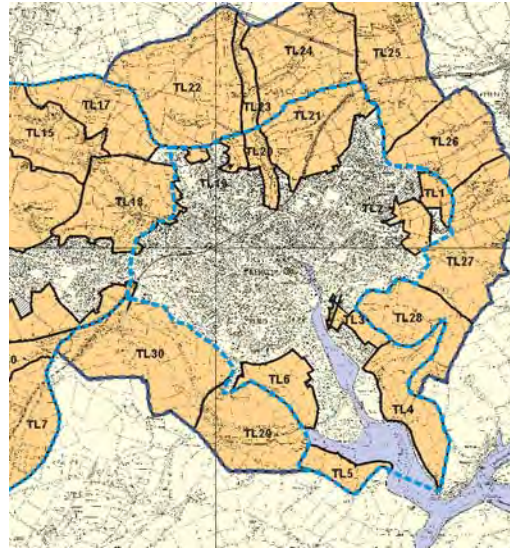
Summary description	The preparation of a landscape strategy for Truro, Falmouth and Penryn to guide the identification of potential directions of growth and development within the rural areas surrounding the three principal towns in Carrick District.
Nature and scope of issues	Analysis of towns within their landscape setting. Integrated townscape and landscape assessment. Evaluation of local landscape character areas and assessment of development capacity. Identification of potential directions for growth and development sites. Guidelines and principles for the design of development.
Planning/regulatory content	To inform the review of the Carrick District Wide Local Plan.

CASE ANALYSIS

Approach	A robust and transparent approach was required to withstand close scrutiny within the Local Plan Review process.
Methodology	<p>Baseline study and analysis of the landscape and townscape character and setting of each town. Evaluation of the overall sensitivity and potential of each character area to accommodate change. This involved an assessment of the impacts upon the following three factors, with the degree of impact graded according to the classifications indicated:</p> <ul style="list-style-type: none"> • The intrinsic character and quality of the receiving landscape: high, moderate or low. • The setting and character of the town: critical, supportive, connective or beyond setting. • Visual prominence and intervisibility: high, moderate or low. <p>A matrix of the findings of the impact assessment on these three factors informed the evaluation of the overall sensitivity of each character area, and the potential for development.</p>



Truro, townscape character areas



Truro, landscape character areas and potential for development

Character Areas	Intrinsic Quality			Role in Setting of Town				Visual Characteristics						Overall Sensitivity and Potential for Development				
	High	Moderate	Low	Critical	Supportive	Connective	Beyond Setting	Visual Prominence			Intervisibility			Overall Sensitivity			Development Potential	
								High	Mod	Low	High	Mod	Low	High	Mod	Low	Suitable	Some Potential
1		•		•				•			•			•				•
2			•			•		•	•			•				•		
3		•		•				•		•				•				•
4	•			•				•			•			•				•
5	•			•				•			•			•				•
6		•		•				•		•				•				•
7		•		•				•		•				•				•
8	•			•				•	•		•			•				•
9		•		•				•		•				•				•
10	•			•		•		•		•				•				•

Extract from table summarising landscape evaluation and identification of potential for development

CRITIQUE/CONCLUSIONS

Critique	<p>The success of the methodology relies on a clearly defined, systematic approach, with a comprehensive baseline study and analysis guiding the integrated landscape and townscape assessment and identification of local landscape character areas. These provide the framework for the assessment of potential impact and evaluation of overall sensitivity and development capacity.</p> <p>The matrix analysis of the factors that contribute to sensitivity provides a clearly identifiable format for representing the evaluation of overall sensitivity, and analysing and identifying potential development areas.</p>
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Case study

Land at Downton Road, Salisbury *Salisbury, Wiltshire*

November 1999

Principal author: Landscape Design
Associates



Setting of Salisbury, topography

CONTEXT

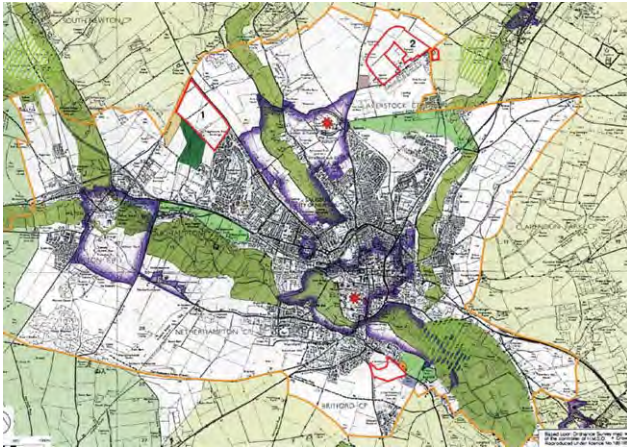
Urban fringe

DETAILS OF PROPOSAL

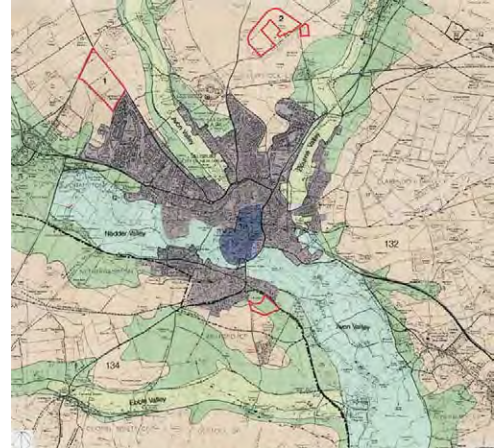
Summary description	Promotion of a 38 acre site for housing development on the southern perimeter of Salisbury through the Local Plan Review.
Nature and scope of issues	Setting of city: Evaluation of landscape and townscape character areas and impact of development of site on the setting of the city. Capacity assessment: Categorisation of areas of influence within Salisbury and setting; determination of capacity to accept development. Comparative assessment of impact of development: Appraisal of site and other allocated sites and evaluation of impact.
Planning/regulatory content	The impact assessment formed part of the proof of evidence prepared for presentation at Salisbury District Local Plan Inquiry on behalf of Westbury Homes.

CASE ANALYSIS

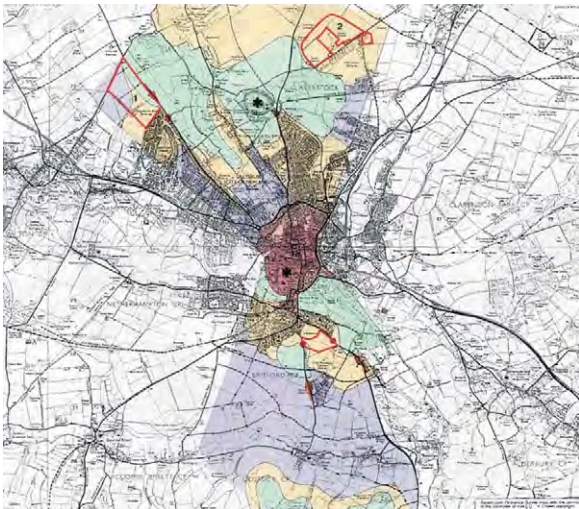
Approach	The study's main purpose was to demonstrate the acceptability of the landscape and visual impact of residential development within an area of land on the southern perimeter of Salisbury in the context of the wider setting of the city. An appraisal of Salisbury's setting was undertaken to evaluate the landscape's capacity to accept development and minimise adverse impacts.
Methodology	Baseline study including a topographical analysis, identification of the planning context and a Landscape Character Assessment. This informed the analysis stage and guided the evaluation of the areas of influence within the setting of Salisbury. Landscape and townscape character areas were classified into visually cohesive or visually fragmented in respect of the historic core, and distinctive, supportive and connective townscape/landscape within the remainder of the study area. These findings guided the identification of the capacity of each character area to accommodate change, and provided a basis for a comparative analysis of the capacity of the site with other potential development areas.



Salisbury's setting: landscape planning context



Salisbury's setting: landscape character areas



Salisbury's setting: capacity assessment



Salisbury's setting: site context

CRITIQUE/CONCLUSIONS

<p>Critique</p>	<p>The identification of the capacity of an area to accept development relies on a robust and defensible methodology. Thorough and systematic baseline study and analysis informed:</p> <p>The identification of townscape and landscape character areas and the distribution of areas of influence within the setting of the city.</p> <p>The evaluation of the overall sensitivity and capacity of the landscape to accept development.</p> <p>These findings guided the comparative assessment of alternative sites and provided a sound and defensible basis for promoting the site.</p>
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Case study

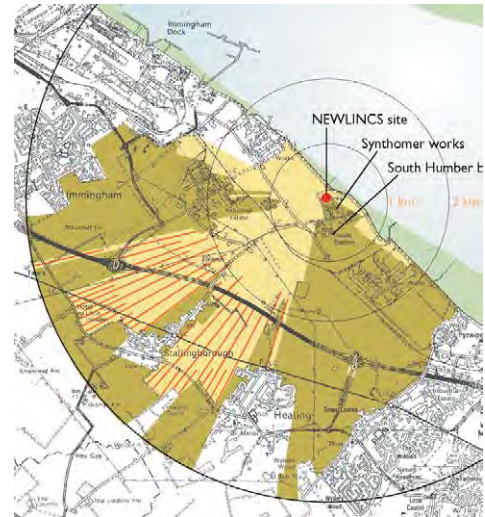
NEWLINCS Integrated Waste Management Facility

Stallingborough, Lincolnshire

April 2000

Client: NEWLINCS Development Ltd

Principal author: Landscape Design Associates



Zone of visual influence

CONTEXT

Urban/urban fringe Located between Immingham and Grimsby on flat coastal plain. Visually dominated by concentration of existing industrial buildings

Rural Surrounding area agricultural, but dominant influence of existing industrial structures diminishes site's rural character

DETAILS OF PROPOSAL

Summary description	Development of an integrated waste management facility including: Energy from waste plant with combined heat and power capability. Composting facility for green waste. Recycling facilities for glass, plastic, cans and paper waste.
Nature and scope of issues	The primary issues were air quality and natural heritage. Despite the size of the proposals, the location meant that landscape was not a primary issue.
Planning/regulatory content	Production of the ES to accompany the planning application to North East Lincolnshire Council.

CASE ANALYSIS

Approach	Baseline studies demonstrated the site's openness and extensive views. Industrial buildings dominate the flat landscape and significantly diminish the character of the rural landscape; large-scale planting and earthworks would be inappropriate and ineffectual. The main mitigation measures were the building's architectural elements, the main factor in determining impact.
Methodology	CCP423, CCP326 and GLVIA
Application of methodology	Detailed computer modelling of both landform and height of tree cover to establish the precise extent of the required accommodation works..
Presentation	Plan and map-based information within ES and non-technical summary. Photographs and photomontage.



Existing view looking north east from level crossing



Photomontage view, trees shown at 5m on 2m earthbound



Zone of visual influence

CRITIQUE/CONCLUSIONS

<p>Critique</p>	<p>Use of photomontage and ZVI work, which distinguished between the stack and the remainder of the development, meant that the precise nature of any impact was properly communicated.</p>
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Case study

Farnborough Aerodrome Farnborough, Hampshire

September 1999

Client: TAG Aviation

Principal author: Terence O'Rourke plc



Master plan

CONTEXT

Urban/urban fringe Immediately west of Farnborough's urban centre

Rural The aerodrome extends across a broad swathe of landscape types including both urban and rural

DETAILS OF PROPOSAL

Summary description	Expansion and upgrading of civil airline facilities on former MoD airfield. Extension of runway, new passenger terminal and hangars. Continuing provision for the biennial Airshow.
Nature and scope of issues	Visual, landscape character and the impact of new facilities. Effects of aircraft landing and take off safety zones on surrounding land, vegetation and buildings. Nature conservation issues and opportunities arising from required changes to landform and tree cover.
Planning/regulatory content	The planning application including ES to Rushmoor Borough Council. Civil Aviation Authority licensing requirements.

CASE ANALYSIS

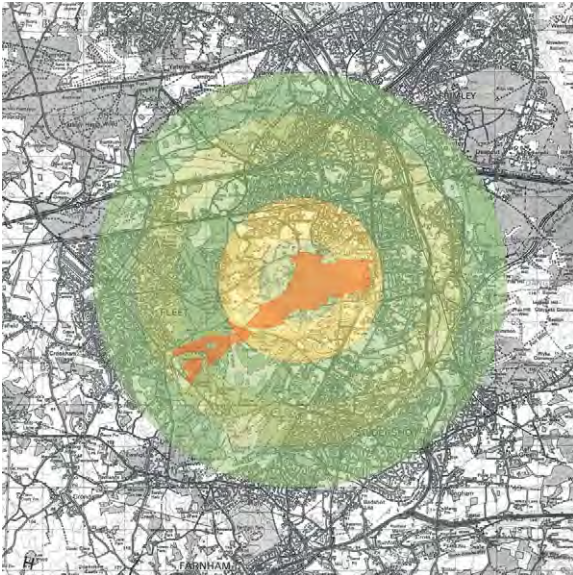
Approach	To demonstrate acceptability of visual impact of a new Substation building from any viewpoint within the Study Area and at a variety of different ground levels. The concept of 'relative scale' needed to be explained to nearby residents to demonstrate that a new 45 m tower could appear relatively smaller than a nearer, existing 35 m tower.
Methodology	CCP423, CCP326 and GLVIA
Application of methodology	Detailed computer modelling of both landform and height of tree cover to establish precise extent of required accommodation works.
Presentaion	Plan and map-based information within the ES and non-technical summary. Photographs and photomontage. Very complex computer modelling in the ES was shown in a format (photographs and plans) designed to give greater clarity to a largely non-technical audience.



Location of hangar and control tower



Location of hangar and control tower with photomontage of proposals



Distance from control tower



ZVI for control tower

CRITIQUE/CONCLUSIONS

<p>Critique</p>	<p>Detailed computer studies within a user-friendly document facilitated a very readable ES, allowing complex issues to be clearly conveyed.</p>
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Case study

Coal Clough Wind Farm Extension *Cliviger, Lancashire*

December 1999, January 2001

Client: Renewable Energy Systems
Principal author: Landscape Design
Associates



Photomontage of proposed extension from nearby viewpoint at similar altitude to site. Variations in turbine height not especially apparent due to the effects of perspective

CONTEXT

Urban fringe Hilltop site that contributes to the setting of the town of Burnley

Rural Located within open landscape of the South Pennines

DETAILS OF PROPOSAL

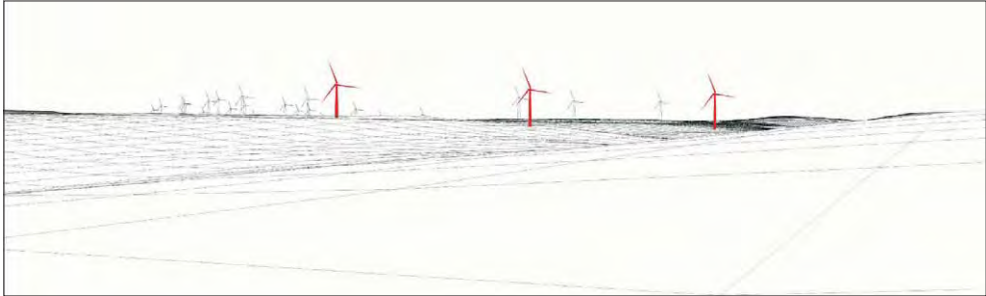
Summary description	Two alternative configurations for the extension of an existing 24-turbine wind farm by three additional larger turbines.
Nature and scope of issues	<p>Extension: The impact of three additional turbines on an existing wind farm cluster of 24.</p> <p>Height: The effect of a 50 per cent increase in new turbines' height on visibility.</p> <p>Variation: The degree to which larger turbines with a slower rotation speed would affect the unified appearance of the existing wind farm.</p> <p>Cumulative effects: The contribution of the extended site to the presence of wind farms within the South Pennine Moors landscape.</p>
Planning/regulatory content	Contribution to the EIA accompanying the planning application and the subsequent hearing statement at appeal location within the Standing Conference of South Pennine Authorities (SCOSPA) Heritage Area and an Area of Special Landscape Proximity to the Pennine Bridleway National Trail and Burnley Way Recreational Footpath.

CASE ANALYSIS

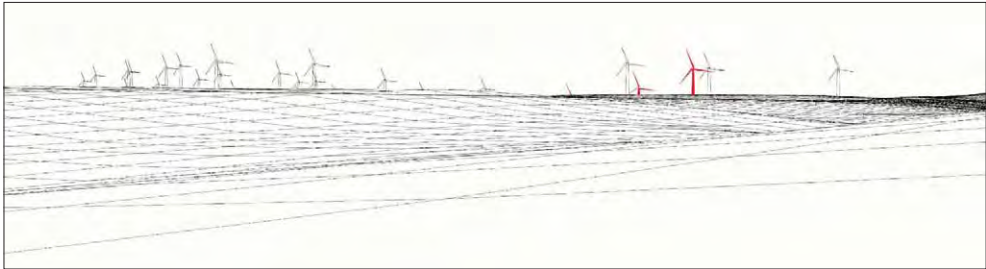
Approach	Landscape character established by reference to the published SCOSPA Heritage Area Landscape Assessment and confirmed on site. A viewpoint assessment (locations agreed with Burnley Borough Council) investigated the appearance of the extended wind farm from various distances and altitudes.
Methodology	Computer-generated wireframe images of the two alternative configurations were produced. Additional turbines shown in different colours. Reference to the wireframes during site visits enabled the assessor to accurately predict the view and assess the likely impact of the additional larger turbines. Existing turbines acted as reference points within the landscape. Videomontage helped assess the effects of variation in rotation speed.
Presentation	Photographs of the existing view, the wireframes and photomontages of selected key views. Juxtaposition of the existing view and the wireframes provided a clear impression of the potential view.



Existing view



Wireframe of the proposed western option



Wireframe of the proposed southern option

CRITIQUE/CONCLUSIONS

<p>Critique</p>	<p>Juxtaposition of photographs of existing view and wireframes help the assessor overcome problems caused by poor visibility and adverse weather conditions that can hinder production of high-quality photomontage images. Production of wireframes based on a computer model enabled investigation of the wind farm’s appearance from different viewpoints. Reference to the real view was always essential to identify whether landscape elements acting as visual reference points for scale were present in the view.</p>
<p>Variation</p>	<p>Full investigation of subtle differences in altitude/variations in ground level/distance/perspective made to degree turbine height variations are apparent.</p>
<p>Cumulative effects</p>	<p>Demonstrated that additional turbines would integrate well with the existing cluster, that variations in their size and rotation speed would not generally be apparent, and that the site’s contribution to potential cumulative effects in the area was unlikely to be significantly greater than the existing cluster.</p>

Case study

Portobello Wastewater Treatment Works and Sludge Recycling Centre

Portobello, East Sussex

February 1999

Client: Southern Water plc

Principal author: Terence O'Rourke plc

CONTEXT

Urban/Urban fringe Site located within coastal belt of suburban development between Brighton and Newhaven

Rural One of the few remaining open areas where the South Downs AONB extends to the coast



The proposals

DETAILS OF PROPOSAL

Summary description	Replacement of existing headworks with new wastewater treatment works and sludge recycling centre. Preparation of full ES for the proposals. Preparation of Proofs of Evidence for Section 78 Inquiry.
Nature and scope of issues	Scale: Large-scale industrial facility on 9.4 hectares within cliff recess and foreshore platform. Sensitivity: High. Partially within South Downs AONB and SSSI covering the cliffs and cliff tops with extensive coastal views.
Planning/regulatory content	Need to conform with EU wastewater directive (91/27/EER). Consideration given to PPGs 7, 9, 15, 16, 17 and 20. Located in Sussex Downs AONB, Countryside Gap and SSSI.

CASE ANALYSIS

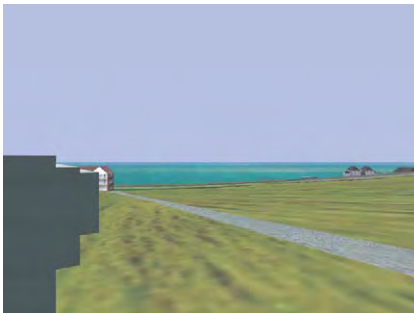
Approach	Aim to safeguard character and views to and from the AONB and from local residences by the design of the foreshore platform, the arrangement of buildings and the retention of the cliff.
Methodology	CCP423, CCP326 and GLVIA
Application of methodology	Desktop studies, fieldwork, computer modelling, Photoshop, aerial and 50mm photography, MiniCad, Vectorworks 3D and exaggerated sections.
Presentation	Plan and map-based information within the ES and non-technical summary. Photographs and photomontage. Complex computer modelling within the ES shown clearly, making it readily understood by a non-technical audience.



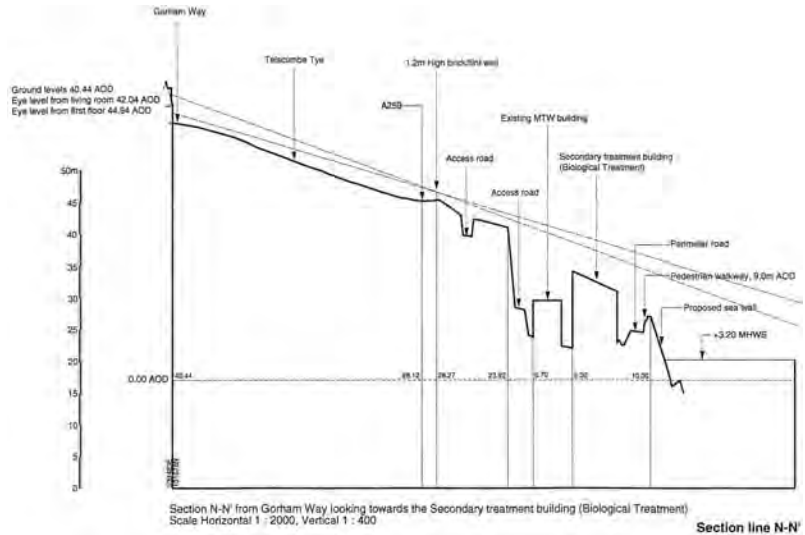
View 4



View 4 with photomontage of proposals superimposed



Computer-generated 3D image and corresponding exaggerated vertical section



CRITIQUE/CONCLUSIONS

<p>Critique</p>	<p>Combination of traditional and computer studies provided good accurate results. Limitations of OS level data are overcome by additional on-site topographic study. Exaggerated long sections were an accurate method for assessing views. 3D computer-generated images add clarity to the results.</p>
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Part 6

Baseline studies

Introduction

The initial step in any landscape or visual impact assessment is to review the existing landscape and visual resource – that is, the baseline landscape and visual conditions. The data collected will form the basis from which the occurrence, estimation of magnitude and significance of the landscape and visual effects of the development may be identified and assessed. 6.1

The purpose of baseline studies is to record and analyse the existing landscape features, characteristics, the way the landscape is experienced, and the value or importance of the landscape and visual resources in the vicinity of the proposed development. This requires research, classification and analysis of the landscape and visual resources as follows: 6.2

- **Research/survey** involves both desk and field studies to assemble basic information.
- **Classification** entails sorting landscape into units or groups of distinct and recognisable type and character.
- **Analysis** involves the detailed examination of the constituent parts of the landscape and visual resources in order to understand how they are made up and experienced. It can also include the process of ascertaining the relative importance of the various aspects of the landscape and visual resource.
- **Presentation of findings.**

Methods and tools

The level of detail provided should be appropriate to the scale and type of development, the sensitivity of the receptors and the potential for adverse (negative) or beneficial (positive) effects to occur. It should also be appropriate to each stage of the assessment process. Thus at the scoping and site selection stage, the primary aim is to identify key issues and constraints. For this purpose, a fairly broad-brush, preliminary site assessment with mainly desk-based studies may be adequate, based on landscape designations, existing landscape character assessments, areas of ancient woodland, and known sites of recreational interest that will influence site selection. Once the preferred site has been selected, more comprehensive and detailed baseline studies are carried out. The level of detail required must suit the purpose of each stage. 6.3

Landscape and visual baseline studies play an important part not only in the assessment process but also in the design process, providing an overview of the environmental constraints or opportunities that may influence the design of the final development. It is important that the information collated is considered in 6.4

relation to that for other parallel studies such as cultural heritage and flora and fauna to ensure an integrated approach to design development. Principal sources of background information include the regulatory authority, government agencies and local special interest groups and organisations.

- 6.5 It is important to bear in mind that the baseline landscape is not static. The landscape may already be changing for reasons unrelated to the development. The baseline studies therefore address not only the existing landscape, but also such landscape dynamics as may be identified, together with the likely future character of the landscape without the proposed development. Account is also taken of any landscape management strategy or guidelines that exist or are in preparation for the area of study. The baseline studies are a strict record and analysis of the existing landscape and visual resources. They must not be confused or combined with impact analysis, which is not attempted at this stage. The following sections consider separately the landscape and visual baselines in more detail.

Landscape baseline

- 6.6 When commencing a landscape impact assessment, it is essential to visit the site in order to review and supplement existing map and written data about the development site and surrounding area. These studies may initially extend well beyond the development site, both to assist in site selection, and to help establish and understand the wider landscape setting and context.

Area of study

- 6.7 When deciding on the area of study, it is important to distinguish between the study of the physical landscape and the study of visual amenity. The former will address the site itself and its wider landscape context, within which the proposed development may influence landscape character.

Desk study

- 6.8 Information of relevance to the proposed development is extracted and summarised, either as written text or in map form. In particular, the desk study explores:
- **patterns** and scale of **landform, land cover, land use and built development**, which give guidance on the general landscape character of the surrounding area, and lead to the definition of character areas;
 - **any special values** that may apply, for example, those recognised by international designation or treaty, national (statutory) landscape designation, local (non-statutory) landscape designations and Conservation Areas or features of architectural importance;

- **special interests** including nature conservation, historical or cultural heritage associations;
- other **professional evaluations** or studies on the landscape within the study area;
- past and present perceptions of **local value** available from the regulatory authority, local amenity groups/residents.

Box 6.1 Useful sources of information

Useful sources of information include

- Supplementary or informal planning documents such as countryside strategies and landscape character assessments or guidelines; current and historical Ordnance Survey and other maps.
- Geology, soils and land use maps, hydrological survey.
- Vertical aerial photographs.
- Structure and local plans showing landscape designations, Conservation Areas and other relevant planning policies (including associated environmental survey and issues reports).
- National planning policy guidance.
- National Parks and AONB management plans.
- Data on archaeology, ecology and buildings and settlements and other conservation interests within the area.
- Common Land and Rights of Way maps.
- Meteorological Office data.
- Site plans including topographical survey, tree condition survey, development plans.

The desk study provides a sound basis for subsequent field surveys. It may also help in defining draft landscape character areas for the landscape surrounding the development and highlight sensitive receptors. 6.9

Field survey

Information collated in the desk study requires confirmation in the field, particularly in urban and urban fringe settings where map and even data from aerial photography may be out of date. On larger projects it may be helpful for the field survey to be carried out by more than one person to facilitate discussion and obtain a consensus view between professionals as part of the process of verification. 6.10

A common technique for field survey and assessment of landscape character involves the completion of a structured field survey report, based upon 6.11

observations recorded from selected viewpoints across the study area, using a standard survey form. The viewpoints selected should provide representative coverage of the area including, where relevant, how it is experienced. The survey form permits recording of both objective description and subjective impressions of the landscape, as well as details of landscape condition, land use, management and trends for change. If the development is likely to result in different noise types or levels, the current noise status should also be recorded. Units of common landscape character may be defined from analysis of the findings of the field and desk studies (see [4], where Countryside Agency publications provide more detailed advice on survey forms).

Sensitive receptors

- 6.12 The field survey identifies and records specific sensitive receptors. The term 'receptor' is used in landscape and visual impact assessments to mean an element or assemblage of elements that will be directly or indirectly affected by the proposed development.
- 6.13 Landscape receptors include elements of the physical landscape that may be directly affected by the development such as topographic, geological and drainage features; woodland, tree and hedgerow cover; land use; field boundaries and artefacts. The importance and value of landscape receptors should also be established where practicable.

*Landscape elements
(including features)*

- Trees, woodlands, hedgerows, meadows.
- Landform and topographic features, e.g. open hill tops, coastlines, valleys, open green space, etc.
- River corridors, streams, ponds, lakes and rivers.
- Built elements, e.g. walls, paved squares, bridges, walks, parks, buildings, roads.

*Landscape characteristics
(tangible and intangible)*

- Characteristic patterns and combinations of landscape features including landform, landcover and cultural elements which contribute to landscape character.
- Scenic quality.
- Sense of place (genius loci).
- Tranquillity or wildness qualities.

Landscape character

The distinct and recognisable pattern of elements that occurs consistently in a particular type of landscape, and how this is perceived by people. It reflects particular combinations of geology, landform, soils, vegetation, land use and human settlement. It creates the particular sense of place of different areas of the landscape.

Figure 6.1 Examples of landscape receptors

Landscape baseline analysis

The analysis draws upon the information gathered during the desk study and field survey work, supported by illustrations and documentary evidence. The baseline studies section of the report covers the existing elements, features, characteristics, character, quality and extent of the landscape. The baseline studies and analysis must be clearly explained in the assessment. The findings should be presented in a clear and structured fashion as they form a key component of the landscape and visual impact assessments. A distinction is made between: 6.14

- the description and assessment of the individual elements, features, and characteristics of a landscape and their value or importance; and
- analysis of the way in which these components interact to create the character of the landscape.

Landscape character and characterisation

Landscape character assessment and particularly the stage of characterisation is the basic tool for understanding the landscape and is the starting point for baseline surveys. There is a well-established methodology developed in the UK by the Countryside Agency and Scottish Natural Heritage [4]. The baseline report provides a concise description of the existing character of the site and its surrounding landscape, including the physical and human influences that have helped to shape the landscape and any current trends for change. This will often include, as appropriate, a classification of the landscape into distinct character areas or types, which share common features and characteristics. It may also take into account other landscape character assessments that may have been prepared for the study area. The description of character may be illustrated by photographs or analytical sketches, or both, showing representative views. 6.15

Landscape condition

The condition of the landscape refers to the state of an individual area of landscape and is described as factually as possible. Reference to the maintenance and condition of individual elements or features such as buildings, hedgerows, woodland or drainage systems can be helpful. It should be recognised that landscapes in poor condition, such as degraded or damaged landscapes, can be still be highly locally valued (see paragraph 6.18), for example, if open land is scarce or possibly because of cultural associations, as in the case of sites of industrial archaeological value. The assessment therefore sets out what weight has been attached to the condition of the landscape and may also consider the scope for the development to contribute to the restoration or enhancement of the landscape. 6.16

Box 6.2 Landscape character assessment

On a broad scale, the Countryside Agency's and English Nature's joint **Character of England map** (1996) illustrates the natural and cultural characteristics of the English countryside based on biodiversity and landscape. The character map also includes contributions from English Heritage on the historic features of the landscape.

The approach identifies the unique character of different areas of the countryside without making judgements about their relative worth. Broad areas of cohesive character have been identified, which can be described in terms of their landscape character, sense of place, local distinctiveness, characteristic wildlife and natural features, and nature of change [12].

New guidance on *Landscape Character Assessment*, jointly produced by the Countryside Agency and Scottish Natural Heritage, is due to be published in 2002 [4].

In Scotland, Scottish Natural Heritage (SNH) has completed the national programme of **landscape character assessments**. The series of 29 individual reports, mostly at a scale of 1:50,000, was produced in collaboration with local authorities and other relevant bodies. SNH has also identified **Natural Heritage Zones**, which provide a comparable strategic framework, of 21 zones defined on the basis of a combination of aspects of natural heritage and landscape character [13].

On a similar basis the Forestry Commission has developed a method of landscape assessment for use in the preparation of Indicative **Forest Strategies** and the Environment Agency has a closely-related approach for the assessment of river corridors. This includes a '**Macro**' **scale assessment** of the wider river valley and a '**Micro**' **scale assessment** of the immediate river corridor. This has also been extended to the assessment of the whole river catchment area in a number of studies in the Thames and Midlands regions of the Environment Agency [14].

The Countryside Council of Wales is currently promoting **LANDMAP**, a method of mapping and evaluating the rural landscape, in terms of the aspects that contribute to the whole. Landmap is used by Welsh planning authorities as the basis for countryside policy making and strategies for development or protection. All these methods provide vocabularies to describe the wider countryside and are important starting points in investigating the landscape resource [15].

Landscape value

- 6.17 A judgement needs to be made on the value or importance to society of the affected landscape. This will be based on and take into account views of

consultees including (if possible) the public, about what is important in a landscape and why. This information is required in order to:

- establish the level of importance of the affected landscape and whether this is at local, regional or national level;
- enable any losses of landscape features, characteristics, or functions to be assessed in relation to the importance or value attached to them;
- enable the effects on other, less tangible, perceptual landscape characteristics to be assessed such as scenic quality, tranquillity or wildness;
- assist in identifying features which could be enhanced;
- identify mitigation proposals, through avoidance or relocation, by appropriate remedy or offsetting negative effects through compensatory measures.

When describing landscape value, it is important to identify the people or groups who could be affected by the proposals because the landscape is valuable to people in different ways. Consideration is therefore given to: 6.18

- people who live or work in an area may have a different perception of the landscape to that held by visitors because of their more regular contact with the landscape and the ongoing changes within it;
- special interests: for example, the ecological, cultural or historic value of the landscape, as knowledge of these issues can often affect peoples' perception and appreciation of the landscape;
- landscapes valued by a wider public than the local population, because they have a strong image or are well known and valued nationally or internationally, such as the Giant's Causeway, Stonehenge, Edinburgh Castle or Trafalgar Square.

For criteria to help determine landscape value see Reference 4. (Further guidance on consultation is given in Part 9 of these guidelines.)

The analysis of landscape value or importance aims to reflect the value of the landscape at a specific scale, identify the group to which it is important and why. The assessment distinguishes between importance at different scales, for example, some features are locally abundant but may be nationally or internationally scarce, or nationally abundant but locally scarce. 6.19

The assessment of landscape importance includes references to policy or designations as an indicator of recognised value. If the site is located in, or close to, a designated landscape, the evaluation also examines the basis of the designation. These include the specific features or characteristics that justified designation of the area, for example, the selection criteria at the time of designation and the 6.20

definition of boundaries, and whether or not the landscape has subsequently changed. This information is needed as part of the baseline to establish why the landscape is considered to be of value at a national, regional or local level.

- 6.21 The particular characteristics of a designated landscape are unlikely to be spread evenly throughout the designated area. It is therefore important to consider the variations in landscape elements, characteristics and character to establish the contribution or importance of the proposed development site within the designated area. A decision needs to be made as to whether the site is special, distinctive, representative or includes characteristic features. At a local scale, a site may have a landscape value that is different (either more or less important) to that given by formal designation in terms of its contribution to its immediate environment.

Enhancement potential

- 6.22 The analysis of landscape character helps to determine the potential for landscape enhancement. It may be possible to identify, for example, those landscapes:

- which have a highly distinctive character and sense of place or have many features that are notable, for example, their scenic, historical or ecological interest;
- where individual elements or features have suffered decline, but where there is still scope to restore the current character, or aspects of it;
- where the overall character has been significantly altered, so that reconstruction, or even creation of a new landscape is required.

- 6.23 These are not rigid distinctions and clearly form part of a continuum of landscape quality and condition. However, such an analysis can give a general indication as to where, and how, new development can be sensitively accommodated in the landscape. It can also indicate important issues of degradation or adverse landscape effects, which may be compensated for through landscape or environmental enhancement or as 'planning gain' associated with new development.

Visual baseline

Area of study

- 6.24 The area of study for the visual assessment may extend to the whole of the area from which the development is visible (the visual envelope). In practice the extent of the area to be reported on may be limited by agreement with the regulatory authority on the distance from the proposed development within which the view is expected to be of interest or concern.

In open landscapes, where higher ground provides views of the site, the potential visual influence of the proposed development could extend beyond any predetermined limit fixed from map data alone without a site visit. Conversely, within enclosed landscapes with restricted views the potential effect may be concentrated within a smaller area than that previously determined. It is therefore important to define the study area (and scale) for the assessment within the methodology for each individual site and, where possible, agree this with the regulatory authority at the outset. 6.25 73

Desk study

The desk study explores: 6.26

- the nature of the visual amenity of the area along with the approximate **visibility** of the development, which is determined through topographic analysis from contour data, either manually or by computer;
- specific potential **receptors of visual effects**, including residents, visitors, travellers through the area and other groups of viewers;

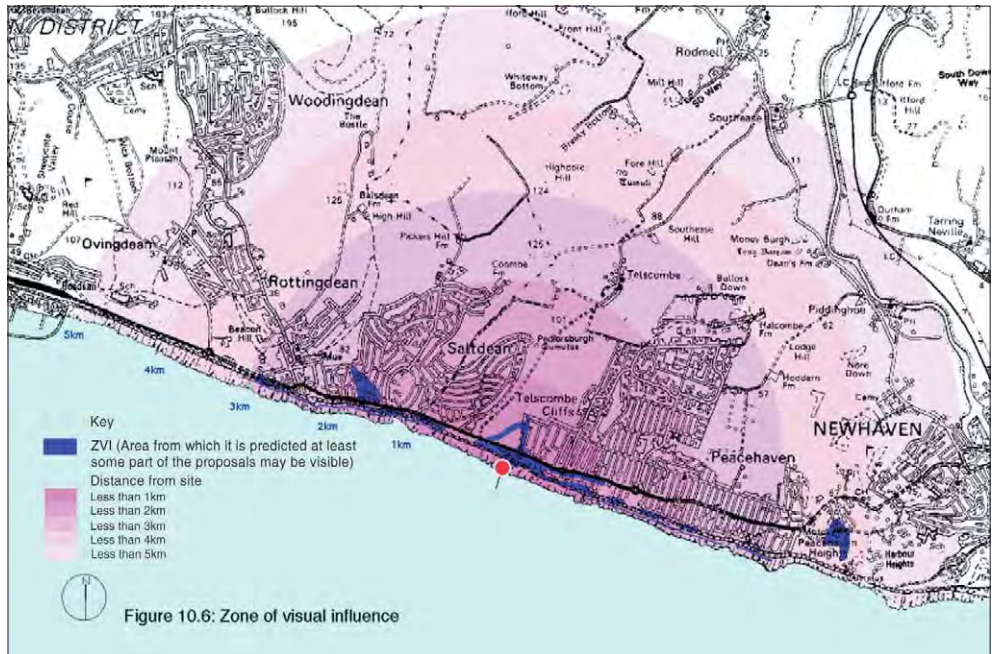
The desk study provides the basis for subsequent field surveys and may: 6.27

- delineate the likely zone of visual influence;
- identify the principal viewpoints;
- highlight sensitive visual receptors.

Field survey

Site visits provide the opportunity for the landscape professional to become familiar with the site and identify landmarks for use as reference points when looking back towards the site from the surrounding landscape. Looking outwards from the site can often be the best or only way of identifying certain viewpoints, for example, residential properties with windows with views of the site or development. The actual **extent of visibility** will need to be checked in the field due to the localised screening effects of buildings, walls, fences, trees, hedgerows and banks. In order to achieve this, knowledge of the precise siting and dimensions of the proposed development is required and artificial landmarks indicating the height and location of proposed structures may also be helpful. When new lighting is a significant part of the proposed development, it may be important to carry out 'dark' night-time surveys of the existing conditions in order to assess potential effects of lighting. The visibility survey will need to be reviewed and updated as siting, layout and design proposals are progressively refined or amended. 6.28

Principal **representative viewpoints** within the study area are also identified during the site visit, which may include walking public footpaths and bridleways 6.29



Zone of visual influence

Figure 10.6: Zone of visual influence



Impact of road lighting and lights from passing cars on a dual carriageway

(making an allowance for the height of horse riders) and visiting areas of open public access. Public viewpoints are clearly important, but private viewpoints may also be relevant and should be considered on site. The visual survey also includes and is supported by a comprehensive photographic record from the principal and other relevant viewpoints.

Visual receptors include the public or community at large, residents, visitors, and other groups of viewers as well as the visual amenity of people affected. Records are produced of the types of viewers affected, an estimate of their numbers where practical and appropriate, duration of view and important views or views of and from valued landscapes. Potential seasonal screening effects should also be identified and recorded. 6.30

<i>Visual amenity of the affected population viewing the landscape</i>	<ul style="list-style-type: none"> ● users of recreational landscapes/public footpaths and bridleways including tourists and visitors; ● residents; ● users of public sports grounds and amenity open space; ● users of public roads, railways; ● workers; ● views of or from within valued landscapes.
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Figure 6.2 Examples of visual receptors

Visual baseline analysis

The analysis of the visual baseline information identifies the extent and nature of the existing views of the site from the principal representative viewpoints, and the nature and characteristics of the visual amenity of the potentially sensitive visual receptors. 6.31

The potential extent to which the existing site is visible from surrounding areas can be presented on a plan using visibility mapping techniques such as zones of visual influence, visual envelopes or visual corridors. Elements such as landform, buildings or vegetation that may interrupt, filter or otherwise influence views are also identified. Principal viewpoints are mapped and these views illustrated by photographs and/or sketches, with annotations to describe any important characteristics, and the changes that will arise as a result of the development. The preparation of photomontages may assist in this process. Where photomontages are to be produced, it is useful to seek agreement with the regulatory authority on the viewpoints to be represented. 6.32

Case study

National Grid GIS Substation Northfleet, Kent

June 1999

Principal author: Insite Environments

CONTEXT

Urban fringe

Adjacent to residential area
Prominent hillside location



DETAILS OF PROPOSAL

Summary description	New Gas Insulated Substation and alteration of adjacent transmission towers.
Nature and scope of issues	Scale: Building and associated infrastructure occupies approx. 4 hectares of land. Sensitivity: Medium, but cumulative impacts considered with substantial existing transmission equipment.
Planning/regulatory content	Virtual reality model and Environmental Report to accompany an application for planning permission.

CASE ANALYSIS

Approach	To demonstrate acceptability of visual impact of a new Substation building from any viewpoint within the Study Area and at a variety of different ground levels. The concept of 'relative scale' needed to be explained to nearby residents to demonstrate that a new 45 m tower could appear relatively smaller than a nearer, existing 35 m tower.
Methodology	Virtual reality modelling with standard photomontage techniques.
Application of methodology	Type/techniques: Field survey, AutoCAD 2000 plans, digital terrain and building modelling, 50 mm photography. Digital projection of interactive 3D models at public and planning meetings to show different options.



CRITIQUE/CONCLUSIONS

<p>Critique</p>	<p>Calibration of the VR model against standard visual impact techniques persuaded people new to virtual reality that the model was an accurate representation of reality.</p> <p>Once confidence in the technique was established, a variety of built options were tested and the screening benefit of planting over time was illustrated. The public found VR enabled them to understand the nature of the development better than static 2D plans.</p>
<p>Flexibility</p>	<p>VR offered the planning authority the ability to:</p> <ul style="list-style-type: none"> ● switch instantly between existing and proposed views from any angle; ● examine the influence of other proposed developments; ● visualise the effect of incrementally raising and lowering the substation to determine an optimum level to balance visual impact against removal of additional spoil from site.
<p>Additional issues</p>	<p>The VR model also demonstrated that no undue visual impact would result from leaving a substantial volume of fill material on site. This produced other environmental benefits in terms of reduction of dust, fuel consumption, road movements and need for additional landfill capacity.</p>

Case study

Kent Power Station Environmental Impact Assessment

Isle of Grain, Kent

May 1998

Principal author: RSK Environment Ltd



CONTEXT

Coastal Estuary-side location within a dominantly industrialised area



DETAILS OF PROPOSAL

Summary description	Proposed 1200 MW Combined Cycle Gas Turbine (CCGT) electricity generating station with new National Grid pylons, on reclaimed industrial land of former British Gas storage site, Isle of Grain, Kent.
Nature and scope of issues	Scale: Large-scale industrial facility on 8 hectares, with an approx. max height of 80 m (combined stack height) Sensitivity: Medium – sited within predominantly industrial area subject to ongoing development, local topography generally flat/low lying; extensive long range views from areas of special landscape and high nature conservation value.
Planning/regulatory content	Designated as 'primarily general industrial use and warehousing' in local plan. Outside industrial area, local plan policies of 'Areas of Special Significance', a 'Special Landscape Area' and an 'Area of Nature Conservation Value.' Environmental Statement required under the Electricity and Pipeline Works (Assessment of Environmental Effects) Regulations 1990.

CASE ANALYSIS

Approach	Principle concern to safeguard views from surrounding open, low-lying areas and local residential properties by the design of the development in keeping with the existing industrial installations and appropriate screen planting.
Methodology	GLVIA.
Application of methodology	Desktop study, detailed site survey, ground level and aerial (digital) photography, computer modelling using AutoCAD 13, Mapinfo, 3D-Studio Viz and Adobe Photoshop. Detailed OS grid references for proposed site boundaries, tall structures including existing and proposed electricity pylons, together with tall structures in close proximity to establish accurate locations and scaling of proposed development. Detailed 3D wire frames provided by engineers to enable detailed colour modelling of turbine halls and stack.



CRITIQUE/CONCLUSIONS

Critique	Use of latest computer technologies and high-quality aerial and ground level images created a very realistic rendering of the proposed development within the existing environment. This assists a more accurate assessment of visual impacts and is extremely useful for public consultation purposes. Photomontage images subsequently used on public information literature and exhibition panels and to support a planning application by the National Grid for provision of additional pylons.
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Presentation of findings

6.33 Baseline studies are presented at differing scales according to the detail shown and focus on the landscape context for the development, and visual resources. At this broad scale, presentational materials may include:

- a map of landscape character areas within the zone of visual influence of the development;
- photographs showing the typical appearance of the landscape within each area, together with key views;
- representative views with respect to visual receptors;
- a map or diagram summarising the key issues, where appropriate;
- at a more detailed level, maps to indicate the specific landscape and visual receptors that influence scheme design.

Further guidance on presentation is given in Part 8.

6.34 On completion of the baseline studies, the general nature and extent of potential landscape and visual effects will be apparent and it may be possible to advise on the overall ability of the landscape and visual environment to accommodate the type of development envisaged.

Part 7

Identification and assessment of landscape and visual effects

Introduction

The assessment of effects aims to: 7.1

- identify systematically the likely effects of the development;
- indicate the measures proposed to avoid, reduce, remedy or compensate for those effects (mitigation measures);
- estimate the magnitude of the effects;
- provide an assessment of the nature and significance of these effects in a logical and well-reasoned fashion.

A distinction is drawn between the potential effects addressed during the design development of the scheme and the residual effects after the mitigation measures have been taken into account. In describing the residual effects, the likely success or typical performance of the mitigation measures, together with the arrangements to ensure their implementation, should also be considered. 7.2

Although impact assessment is the responsibility of developers and their advisers, the opinions of the regulatory authority, relevant statutory consultees, conservation bodies and, where practicable, local residents should be taken into account. Some agreement may also have been reached with these groups during scoping in order to identify and focus study or debate on the potentially significant effects (see the sections on consultation in Part 9). 7.3

Assessments of both landscape and visual effects are required for most developments. There may, however, be occasions when greater attention is placed on only one aspect, for example, when a development is wholly screened from public or private views, but nevertheless results in an adverse effect on landscape elements or landscape character within the site boundary. Alternatively, but less likely, a development may have significant visual effects, but insignificant landscape effects. 7.4

Sources of effects

Landscape and visual effects can arise from a variety of sources and it is important that potential sources of effect arising throughout the life cycle of the development – their extent, scale, timing and duration – are, where possible, systematically identified. Effects can arise from all types of development, including: 7.5

- changes in land use, for example those arising from mineral extraction, afforestation, recreational use or land drainage;
- the development of buildings and structures such as power stations, industrial estates, roads and housing;
- changes in land management, such as intensification of agricultural use, which can be a vehicle for biological and landscape change;
- changes in production processes and emissions, which are less common, including those from chemical, food and textile industrial plants.

Nature of effects

- 7.6 Effects can be negative (adverse) or positive (beneficial); direct, indirect, secondary or cumulative and be either permanent or temporary (short, medium or long term). They can also arise at different scales (local, regional or national) and have different levels of significance (local, regional or national).

Direct and indirect effects

- 7.7 A direct (or primary) effect may be defined as an effect that is directly attributable to a defined element or characteristic of the proposed development, for example, the loss or removal of an element or feature such as a hedgerow or a prominent group of trees.
- 7.8 An indirect (or secondary) effect is an effect that is not a direct result of the proposed development but is often produced away from the site of the development or as a result of a complex pathway or secondary association. Indirect effects can arise from consequential changes in the landscape or visual amenity that may be delayed in time or located some distance from the source of the effect. For example, alterations to the drainage regime in the vicinity of a site, such as a quarry, could result in changes to the vegetative cover and a consequent change to the landscape character downstream.
- 7.9 Indirect effects may result from *associated development*, including:
- upgrading of transport infrastructure and new signs;
 - associated mineral extraction and waste disposal requirements;
 - new or improved off-site utilities such as water and waste water treatment plants, surface water drainage systems, gas pipelines, electricity substations and transmission lines, and telecommunications facilities.
- 7.10 Longer-term indirect effects, which could potentially arise as a consequence of the development, might include housing development associated with a large

new industrial development; retail development in response to a new road junction; or increased recreational activity following improvements to access. Although such issues cannot be addressed in detail due to lack of information, it may be appropriate to acknowledge them in the assessment, particularly where they could form part of the concerns expressed by consultees and the public.

Such longer-term effects will normally be beyond the scope of the detailed assessment and are primarily issues to be dealt with by the regulatory authority as part of the development control and planning process. In such cases the limitations of the assessment should be acknowledged and agreed, where possible, in discussion with the regulatory authority during scoping. 7.11

Cumulative effects

Cumulative landscape and visual effects result from additional changes to the landscape or visual amenity caused by the proposed development in conjunction with other developments (associated with or separate to it), or actions that occurred in the past, present or are likely to occur in the foreseeable future. They may also affect the way in which the landscape is experienced. Cumulative effects may be positive or negative. Where they comprise a range of benefits, they may be considered to form part of the mitigation measures. 7.12

Cumulative effects can also arise from the intervisibility of a range of developments and/or from the combined effects of individual components of the proposed development occurring in different locations or over a period of time. The separate effects of such individual components or developments may not be significant, but together they may create an unacceptable degree of adverse effect on visual receptors within their combined visual envelopes. Intervisibility depends upon general topography, aspect, tree cover or other visual obstruction, elevation and distance, as this affects visual acuity, which is also influenced by weather and light conditions. 7.13

Box 7.1 Examples of cumulative effects

- 1 The cumulative effects arising from a range of developments can lead to an unacceptable degree of adverse effect on receptors, within their combined visual envelopes. Such a combined effect may be subtle, far-reaching and irreversible. Such a situation may arise where a restored landscape, left after temporary mineral workings have ceased, may be markedly different in terms of scenic value and character to the original landscape and thereby extend the effects of the development over a considerably longer time scale than the mineral operations themselves. The possibility of such long-term effects will, therefore, also need to be taken into account in subsequent applications for extensions to a mineral development, or a similar but separate development nearby.

- 2 On large-scale projects, in particular, the duration of construction and decommissioning may be an important consideration. For instance, in relation to power stations, the tallest site structures may be the construction cranes, the effect of which could be underestimated due to their temporary nature and thus assumed to be short term. However construction may last for several years or more. The longer-term landscape or visual effects of decommissioning the site or facility, and subsequent restoration could also be significant. These could arise from demolition activity, which may use the same equipment as is used in construction, but could also result from residual large scale structures such as reactor cores, which may need to remain for many years after the plant has ceased to operate. Where relevant detailed information is unavailable at the time of the assessment, this should be noted in the assessment and assumptions made on the best information available.
- 3 For schemes which seek to extend an existing development the assessment will be considering those changes in the landscape likely to occur as a result of the extension, because the base line landscape already includes the existing development, such as a motorway, factory or mineral working. Some people may object to this approach because it appears to favour the development as the greatest change (or harm) to the landscape was caused when the initial road or factory was built, which then makes it easier to apply for road widening or more development. Some objectors argue that the change to the landscape should be described by comparing the effects of the extended scheme with the effects of the existing scheme. This methodology requires an impact assessment of the existing development and information about the pre-development landscape. However the emphasis of the assessment process is on the changes the proposal would bring to the existing landscape, to inform the decision-making process. Nevertheless extensions or additions to existing developments do need to take into account changes of scale and the potential for the receiving landscape to accommodate the larger composite feature. This may be addressed in an assessment of cumulative effects.

Landscape effects

- 7.14 The landscape impact assessment describes the likely nature and scale of changes to individual landscape elements and characteristics, and the consequential effect on the landscape character, resulting from the proposed development. When identifying and assessing landscape change, it is important to take into account the existing trends for change within the landscape, which may be due to natural processes or human activities.

The initial lists of likely effects, identified during the screening and scoping stages, should be reviewed and amended to take into account the additional information obtained through consultation, baseline survey and development of the scheme design, including any integrated mitigation measures. Checklists and matrices can assist in this process where, for example, development features and construction activities are shown on one axis, with the potential landscape receptors on the other. (Examples of the potential sources of effects are identified in paragraph 7.5.) 7.15 87

Sensitivity of the landscape resource

The degree to which a particular landscape type or area can accommodate change arising from a particular development, without detrimental effects on its character, will vary with: 7.16

- existing land use;
- the pattern and scale of the landscape;
- visual enclosure/openness of views, and distribution of visual receptors;
- the scope for mitigation, which would be in character with the existing landscape;
- the value placed on the landscape.

Variations of these characteristics within the local landscape and within the site need to be identified.

The determination of the sensitivity of the landscape resource is based upon an evaluation of each key element or characteristic of the landscape likely to be affected. The evaluation will reflect such factors as its quality, value, contribution to landscape character, and the degree to which the particular element or characteristic can be replaced or substituted. 7.17

Scale or magnitude of landscape effects

In the evaluation of the effects it may be helpful to rank or quantify individual effects within a series of levels or categories, indicating a gradation from high to low. Where used, a minimum of four levels or categories is recommended for both negative (adverse) and positive (beneficial) effects, as shown in Box 7.2. Different sets of criteria will be applicable to landscape and visual effects, but in all cases the criteria and thresholds should be clearly defined, simple, readily understood and applicable for all circumstances in which they are applied. 7.18

There is no standard methodology for the quantification of the scale or magnitude of relative effects. However, it is generally based on the scale or degree of change to the landscape resource, the nature of the effect and its duration 7.19

Box 7.2 Example of levels or grades used in the evaluation of effect

Adverse	Beneficial
High/Substantial	High/Substantial
Medium/Moderate	Medium/Moderate
Low/Slight	Low/Slight
No change	No change

(Examples of criteria used by practitioners are set out in Appendix 6)

including whether it is permanent or temporary. It may also be appropriate to consider whether the effects are reversible.

- 7.20 Some effects may be quantified, such as the number of mature trees and length of hedgerow to be lost as a result of the development. The details of any phasing, duration of the active operations (particularly relevant for landfill or mineral extraction development), and the extent of new and replacement planting to take place at restoration should also be described. This type of factual data is especially useful when comparing the effects at different stages of the project.
- 7.21 A distinction is made between the scale of the effect, the nature of the change and the duration, as follows:
- scale: large, medium, small, etc.;
 - nature: negative (adverse) or positive (beneficial);
 - duration: short, medium, long term/permanent or temporary.
- 7.22 Alternatively, the definitions and criteria for each level or scale or magnitude may combine the scale of the change in the landscape and its duration or degree of permanence. A judgement will need to be made about the weight to be given to each aspect in arriving at an overall value for scale or magnitude for each effect. The reasoning for these judgements should be recorded by description or in tabular form so that the assessment process is clearly set out and may be readily understood by the decision makers and members of the public.
- 7.23 More weight is usually given to effects that are greater in scale and permanent or long term. Therefore, a temporary change that is confined to a small area and visible only from a few private residential properties may be considered to be of low scale or magnitude. In assessing the duration of the effect, consideration should be given to the effectiveness of mitigation, particularly where planting is proposed for screening purposes. Where the planting may be out of character

with its surroundings, this may increase the scale of the negative (adverse) changes to the landscape.

Visual effects

The assessment of visual effects describes:

7.24

- the changes in the character of the available views resulting from the development;
- the changes in the visual amenity of the visual receptors.

Identification of effects

The first task is the systematic identification of potential sources of effects with respect to the potential visual receptors. As with landscape effects, checklists and matrices can often assist in this process. For example, a matrix showing different sources of visual change on one axis and the principal visual receptors affected on the other may assist in the initial identification of potential key effects for further study. The description of the effects should include cross references, if appropriate, to plans and other graphic material.

7.25

In the assessment of views there is likely to be a continuum in the degree of visibility of the development from full view to no view. In order to assist in description and comparison of the effects on views, it may be helpful to use simplified categories which consider:

7.26

- the extent of the view that would be occupied by the development (degree of visual intrusion): full, partial, glimpse, etc.;
- the proportion of the development or particular features that would be visible: full, most, small amount, none;
- the distance of the viewpoint from the development and whether the viewpoint would focus on the development due to proximity or the development would form one element in a panoramic view;
- whether the view is transient or one of a sequence of views, as from a moving vehicle or footpath.

Changes in visual amenity may arise from both built or engineered forms and soft landscape elements of the development. Consideration may also be given to the seasonal differences in effects arising from the degree of vegetative screening and/or filtering of views that will apply in summer and winter. Thus assessments may be provided for 'average' and 'worst-case' situations (the latter being the season with least leaf cover and therefore minimal vegetative screening).

7.27

- 90
- 7.28 People generally have differing responses to views and visual amenity depending on the context (location, time of day, degree of exposure) and purpose for being in a particular place (recreation, passing through a landscape, residence or employment, for example).
- 7.29 During passage through the landscape, certain activities or locations may be specifically associated with the experience and enjoyment of that landscape, such as the use of footpaths and tourist routes. It may therefore be appropriate in some circumstances to differentiate between the sensitivity of potential receptors for those using these routes as opposed to alternative routes.
- 7.30 Although residents may be particularly sensitive to changes in their visual amenity, most land use planning regimes consider that public views are of greater value than views from private property. However, the cumulative effects on a number of residents may be considered to give rise to an effect on the community. (See PPG 1 para 64). It is therefore important to assess all effects on public views and those from the curtilage of adjacent or nearby owners or occupiers within the same locality. (Note: when considering views from windows, views from rooms normally occupied during waking/daylight hours are generally deemed to be more important than those used for sleeping, from which only occasional views may be obtained.)

Sensitivity of visual receptors

- 7.31 The sensitivity of visual receptors and views will be dependent on:
- the location and context of the viewpoint;
 - the expectations and occupation or activity of the receptor;
 - the importance of the view (which may be determined with respect to its popularity or numbers of people affected, its appearance in guidebooks, on tourist maps, and in the facilities provided for its enjoyment and references to it in literature or art).
- 7.32 The most sensitive receptors may include:
- users of all outdoor recreational facilities including public rights of way, whose attention or interest may be focused on the landscape;
 - communities where the development results in changes in the landscape setting or valued views enjoyed by the community;
 - occupiers of residential properties with views affected by the development.

(See the guidance in the *Design Manual for Roads and Bridges* on scheduling properties and describing the effects in [16].)

Other receptors include:

7.33 91

- people engaged in outdoor sport or recreation (other than appreciation of the landscape, as in landscapes of acknowledged importance or value);
- people travelling through or past the affected landscape in cars, on trains or other transport routes;
- people at their place of work.

The least sensitive receptors are likely to be people at their place of work, or engaged in similar activities, whose attention may be focused on their work or activity and who therefore may be potentially less susceptible to changes in the view. 7.34

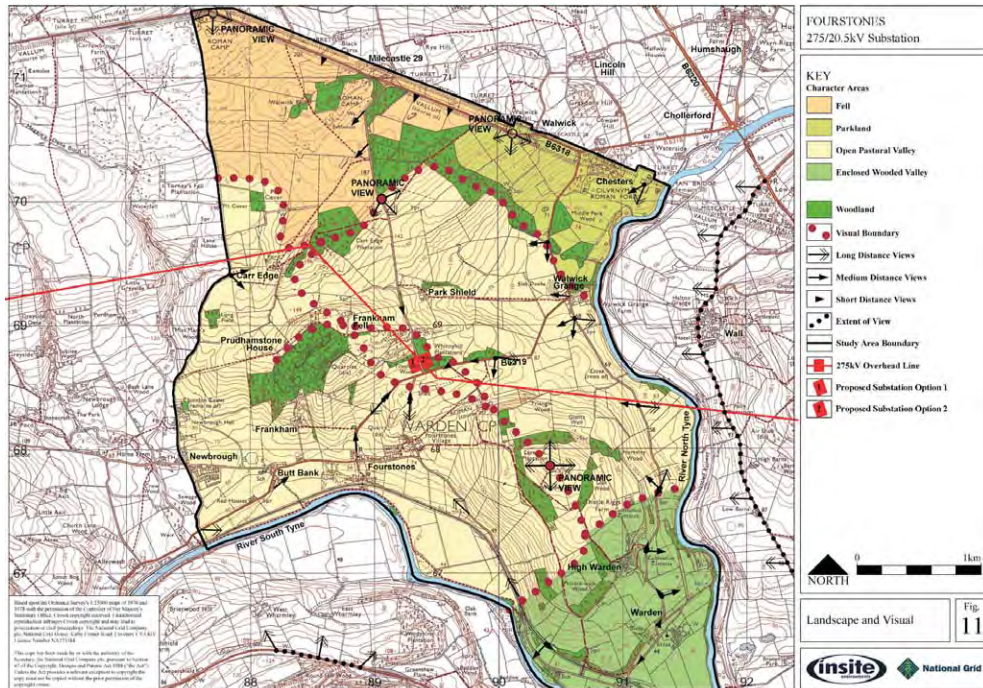
In this process more weight is usually given to changes in the view or visual amenity which are greater in scale, and visible over a wide area. In assessing the effect on views, consideration should be given to the effectiveness of mitigation measures, particularly where planting is proposed for screening purposes. 7.35

Scale or magnitude of visual effects

In the evaluation of the effects on views and the visual amenity of the identified receptors, the magnitude or scale of visual change is described by reference to: 7.36

- the scale of change in the view with respect to the loss or addition of features in the view and changes in its composition including the proportion of the view occupied by the proposed development;
- the degree of contrast or integration of any new features or changes in the landscape with the existing or remaining landscape elements and characteristics in terms of form, scale and mass, line, height, colour and texture;
- the duration and nature of the effect, whether temporary or permanent, intermittent or continuous, etc.;
- the angle of view in relation to the main activity of the receptor;
- the distance of the viewpoint from the proposed development;
- the extent of the area over which the changes would be visible.

Numbers and types of viewers affected may be quantified where possible and appropriate. These may also be indicated on plans with map symbols or tones used to denote the distribution of visual effects. The selection of viewpoints is important and normally reflects the principal representative viewpoints identified and, where possible, agreed with the regulatory authority during the baseline studies. The qualitative effects of the development on the character and quality of views requires careful consideration. Photomontages and other forms of visualisation can be useful supplements to the written description where appropriate. 7.37



Significance of effects

- 7.38 Significance is not absolute and can only be defined in relation to each development and its location. It is for each assessment to determine the assessment criteria and the significance thresholds, using informed and well-reasoned judgement supported by thorough justification for their selection, and explanation as to how the conclusions about significance for each effect assessed have been derived.
- 7.39 The two principal criteria determining significance are the **scale or magnitude of effect** and the environmental **sensitivity of the location or receptor**. A higher level of significance is generally attached to large-scale effects and effects on sensitive or high-value receptors; thus small effects on highly sensitive sites can be more important than large effects on less sensitive sites. It is therefore important that a balanced and well-reasoned judgement of these two criteria is achieved.
- 7.40 For straightforward projects, separate assessments may be provided of the overall effect of the development proposal on the landscape as a whole and of the overall effect on visual amenity. More complex or very large projects and projects in environmentally sensitive locations require separate assessments of the effects of the different components of the development proposal, on each aspect of the landscape, i.e. landscape elements including special features and

Box 7.3 Determining the significance of environmental effects

The biggest challenge for all environmental professionals is assessing which impacts are significant and which are not. In England, a significant impact may be a material consideration for assessing the suitability of a planning application, but that is not how significance is defined in the Regulatory regime governing EIA, in part because it is set out in European legislation, where the English terminology is not used.

Thus significance cannot be defined in any context independent of the proposal under consideration and its geographical context. That is, significance is unique for each proposal, although it is recognised that certain types of impact (for example, visually intrusive development [within or] adjacent to a National Park), might be generally considered significant.

In North America, EA has been part of the Regulatory regime since 1969 under the National Environmental Policy Act (NEPA), which is under the control of the President's Council on Environmental Quality (CEQ). There, practitioners and the government agencies have accepted that significance is assessed on a case by case basis.

The significance of effects should be determined based on context and intensity (40CFR and 1508.27). Significance may vary with the setting of the proposed action:

Thresholds and criteria (i.e., levels of acceptable change) used to determine the significance of effects will vary depending on the type of resource being analysed, the condition of the resource, the importance of the resource as an issue (as identified through scoping). Criteria can be quantitative units of measure such as those used to determine threshold values in economic impact modelling, or qualitative units of measure such as the perceptions of visitors to a recreational area. No matter how the criteria are derived, they should be directly related to the relevant cause-and-effect relationships. The criteria used, including quantitative thresholds if appropriate, should be clearly stated in the assessment document.

(CEQ, January 1997)

characteristics of the resulting effect on landscape character. The visual assessment may similarly assess separately the effects on individual views and on visual amenity for the individual receptors.

The aim of this approach is to increase the transparency of the assessment process and provide the relevant information to the decision makers in a useful format. Separation into components will also help to reveal conflicts between them – for example, a scheme may have a beneficial effect on biodiversity (by

habitat creation through new woodlands and ponds) but it may also have an adverse effect on landscape character and visual amenity if the new habitats are not appropriate to their setting.

- 7.42 In the context of EIA, 'significance' varies with the type of project and the topic under assessment. For some topics such as noise, air and water quality, levels of magnitude or scale will be based on established, measurable technical thresholds, and the sensitivity of receptors may also be defined in statutory regulations or planning guidance. No such formal guidance exists for the assessment of significance for landscape and visual effects and the assessor must clearly define the criteria used in the assessment for each project, using his or her skill based on professional judgement. The important objective is to identify to whom and to what degree an effect is significant. It may be helpful to define levels or categories of significance (including 'not significant') appropriate to the nature, size and location of the proposed development. Within the framework of an EIA, the levels of significance may need to be consistent with the overall approach applied to the other topics.

Significance of landscape effects

- 7.43 In establishing a judgement concerning the significance of landscape effects, the following general guidance should be noted:
- The loss of mature or diverse landscape elements, or features, is likely to be more significant than the loss of new or uniform/homogenous elements.
 - Effects on character areas, which are distinctive or representative, may be more important than the loss of areas in poor condition or degraded character which may, however, present greater opportunities for enhancement.
 - The loss of landscape elements, features or characteristics will be given greater weight if they are identified as being of high value or importance. Thus, effects on landscape areas or characteristics recognised for their national importance are likely to be of more significance than effects on areas or characteristics of local importance. The test is whether the integrity of the landscape and objectives of designation are compromised or not.
 - The sensitivity of the landscape is dependent on both the attributes of the receiving environment and the characteristics and effects of the proposed development and can only be established by carrying out the assessment. However, landscapes with a high value and sensitivity to the type of change proposed are likely to be more seriously affected by development than those with a lower sensitivity.
 - The test of significance is not directly related to planning policy. However, this may be an important consideration where policies identify commonly held objectives and values.

An approach in which landscape effects are assessed in relation to individual components of the landscape provides a clearer analysis of the effects of the proposals. It can also highlight differences between the sensitivity of the landscape (its ability to accommodate change caused by a particular development without adverse effects on its character) and landscape value/importance. The balance between these two aspects needs to be carefully considered. The methodology adopted should make it clear how the different issues have been assessed and what weight has been given to each in determining the overall significance. 7.44

It will be evident that the analysis of criteria involves considerable judgement in balancing the complex relationships between the different components of the landscape. The critical part of this process is to explain how the assessment has been built up, and how the criteria have been selected and applied. This is particularly important at the final assessment stage, where a further judgement has to be undertaken in order to identify the significant effects and, if required, their degree of significance. 7.45

The results of the analysis may be presented in a table or schedule, which summarises the information on which the assessment is based and concludes with a statement of significance. Further detailed information can be provided in the text if required, including an indication of how the opinions of others have been taken into account. This may be particularly relevant where there is a difference of opinion, when it may be helpful to explain why these differences have arisen. 7.46

The relationship between the sensitivity of the receptor and the nature and scale or magnitude of the effect is sometimes presented in the form of a simple matrix. However in such a matrix the relationship between the two axes is not linear. The axes are also likely to have different weightings, as the nature and scale of effects are largely derived from objective data, while the sensitivity and value of a landscape resource is largely derived from subjective judgements. 7.47

Significance of effects on visual amenity

As for landscape effects, the significance of visual effects will be assessed by taking into consideration the sensitivity and importance of the receptor and the nature, scale or magnitude and duration of the change or effect. 7.48

In establishing a judgement concerning significance of visual effects, the following general guidance should be noted: 7.49

- Large-scale changes which introduce new, discordant or intrusive elements into the view are more likely to be significant than small changes or changes involving features already present within the view.

- Changes in views from recognised and important viewpoints or amenity routes are likely to be more significant than changes affecting other less important paths and roads.
- Changes affecting large numbers of people are generally more significant than those affecting a relatively small group of users. However, in wilderness landscapes the sensitivity of the people who use these areas may be very high and this will be reflected in the significance of the change.

7.50 The results of a visual analysis may be usefully summarised in table form, setting out the numbers of receptors (properties, roads, paths, etc.), importance of the view, sensitivity of the receptors, magnitude of effect and the overall assessment of significance.

7.51 The examples given in Appendix 6 present different approaches to specific situations. The individual carrying out landscape and visual impact assessments should use a method and criteria that is appropriate to their assessment. It should also be remembered that the assessment is not required to describe every effect of the proposed development, only the main or likely significant effects on the environment which are required to inform the decision-making authority, in their determination of the planning application. (See Part 9 for further information on consultation.)

Part 8

Presentation techniques

Good practice

Introduction

This section provides information on presentation techniques that may be used to communicate the results of landscape and visual assessments, whether free-standing or as part of an EIA. In all cases the appropriate techniques must be carefully chosen and rigorously applied, as they will be subject to close scrutiny and, in the case of contentious developments, they may need to be explained and substantiated at a Public Inquiry. 8.1

Presentation of findings

The precise content of a landscape and visual impact assessment may vary considerably, depending on factors such as the scope of work agreed with the regulatory authority and consultees and the sensitivity of the affected landscape and visual resources. 8.2

The general opening sections of the landscape and visual impact assessment present basic information on the objectives, responsibilities and methodology, and may include: 8.3

- the planning and legal context, including published policies and guidance on landscape designations and landscape character areas in the vicinity of the development;
- the remit, qualifications and experience of those responsible for preparing the assessment;
- the methodology used, including the overall assessment process, the link to scheme design, and the specific techniques used at each stage in the assessment;
- the scope of the assessment, key issues, how these were determined and any constraints or data deficiencies that may apply.

Text should be concise, to the point and impartial, with definitions provided for any technical terms that are used, supported by the glossary of terms. The assessments should include: 8.4

- a clear description of the basic elements of the development of relevance to the landscape and visual assessments;
- an understanding of landscape constraints and opportunities;
- a systematic identification and evaluation of potential effects;

- a sound prediction of the magnitude of effects;
 - reasoned criteria and judgements for evaluating the significance of effects;
 - measures to address adverse effects.
- 8.5 Landscape and visual impact assessments are not usually carried out in isolation but generally form part of a wider assessment of environmental impact that may arise from a proposed development. Nevertheless, the report resulting from the landscape and visual impact assessments can be presented as a 'stand-alone' document. The information may be integrated into a formal Environmental Statement, or where a formal EIA is not required, it may be used as a supplementary report to accompany a planning application.
- 8.6 The preparation of a non-technical summary (NTS) of the Environmental Statement is a formal requirement, and is expressly intended to help the general public and interested parties to participate in the decision-making process from an informed position. The NTS is normally illustrated with photographs and easily understood plans. Summary descriptions are cross-referenced back to the full ES, so that the reader can refer to it for more detail if required.
- 8.7 **Illustrations** communicate information more quickly and easily than text. They have a more important role in relation to landscape and visual effects than any other topics, as much landscape and visual information is best communicated through maps, plans, photographs and other illustrative media. The choice of scale and presentational techniques is crucial, with illustrations limited to information of specific relevance to the assessment. The inclusion of detailed design and technical drawings is generally not appropriate. Illustrations should be closely linked to the text, complementing rather than duplicating its content. It is important to illustrate how the development will relate to both the human scale and the scale of the surrounding landscape.
- 8.8 **Photographs** have a special role in the description of landscape character and key views, but need to be impartial and objective to avoid misleading impressions. The choice of viewpoints should be justified, and the location and precise direction of view shown on an accompanying map. Seasonal and atmospheric effects and lens type and focal length are also stated, together with reasons for the choice of lens.
- 8.9 **Charts and tables** can be effective, providing a useful summary of data. In particular they can permit ready comparison, between different scheme options and types of effect, which can be valuable, especially in the early stages of planning and design. In addition, they are probably the best way of making complex information more accessible to consultees and the public. Preparation must be careful and consistent, as they may be relied upon by decision makers.

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- Step 1* Discuss the project with the client to establish the precise objective. Assess the type of graphics and presentation likely to be most appropriate for the proposed development. There is little advantage in using advanced techniques if a simple thumbnail sketch may be more appropriate.
- Step 2* Explore the further scope of the project to determine other options available to the client from two-dimensional photomontages to three-dimensional animation or fully interactive virtual reality.
- Step 3* For any given project, be precise about the level of costs associated with each presentation style to enable the client to make an informed choice – a cost–benefit analysis chart may be prepared for each technique.
- Step 4* Identify delivery dates for the presentation material and chart this back from critical milestones such as a submission for planning, to ensure an appropriate lead-in time is allowed for delivery of Ordnance Survey data or preparation of a site survey.
- Step 5* Agree with the client the technique to be used, projected costs and a programme.
- Step 6* Allow time for consultation with the client at an intermediate stage to permit slight changes in the direction or emphasis of the project.
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Figure 8.1 Choosing the right illustrative technique

Figure 8.1 provides a framework for identifying appropriate techniques with a client, which include a selection of computer graphics applications that can be tailored to make presentations more informative and cost effective. Attention is also drawn to the detailed advice on the use of computer presentation techniques, including visual envelope maps, in Appendix 8. 8.10

Visibility mapping

Visibility mapping and visualisation techniques are central to the effective prediction and communication of landscape and visual effects. The following comprises a brief synopsis of common techniques, but reference may also be made to the more detailed guidance in Appendix 9. 8.11

A visibility map can indicate the visibility of the site (the baseline conditions), or the proposed development within it. Both may be relevant, as the existing visibility of the site may contribute to the visual amenity of the surrounding area. In addition, for complex developments, it may be appropriate to indicate separately the areas from which the whole development will be visible, or one part of the development such as the top of a tall structure, such as the turbines from a wind farm. 8.12

- 102 8.13 Manual estimation of visibility from topographic maps is possible, but computer mapping of visibility is particularly helpful for large-scale or complex developments. However, when using a bare ground ZVI to measure the extent of visibility, its application can be limited, particularly in a flat landscape where visibility is determined by land use rather than topographic features. For distant views, an allowance should be considered for the curvature of the earth's surface and refraction effects of the earth's atmosphere.
- 8.14 It is essential for visibility to be checked and confirmed in the field because of the localised screening effects of built elements, minor landform features and vegetation. Summer and winter effects may also need to be examined separately to ensure that the limited screening effect of deciduous winter vegetation is taken into account. Accurate estimation of the visibility of proposed tall structures can pose particular problems. Although there are ways of dealing with this, such as flying a balloon and using scaffolds and cranes to act as a reference point at the same height and location as the proposed structure, the practicality of such measures must obviously be taken into account. It is generally simpler and more accurate to input the heights of proposed structures, tall buildings, plantations, etc. into a three-dimensional computer model where alternative height options may be also examined more readily.

Visualisations

- 8.15 Since the first guidelines were produced in 1995, the quality of presentation techniques and technical drawing using computer-aided drafting has advanced substantially. There is, however, a responsibility to make a discerning use of technology – in some instances blending traditional techniques with the new – to ensure that the choice of graphic technique is determined by the need to communicate the required information in the most accurate way.
- 8.16 Visualisations are one of the best means of communicating the landscape and visual effects of a development to decision makers and the public, but accuracy is essential. Viewpoints should be selected with respect to the location, season and timing relative to a project's life cycle and include conditions indicating the worst-case situation.
- 8.17 A growing range of visualisation techniques is available, and computer technology and multimedia now present significant opportunities for landscape and environmental professionals engaged in all aspects of EIA, planning and design work. At the upper end of the range are three-dimensional computer simulations, such as virtual reality models built up from Ordnance Survey, digital terrain maps and data from aerial photography, drawing on a sufficiently wide area to demonstrate the context of a proposed development. Once the three-dimensional model has been created, it becomes possible to view any aspect of a development from any viewpoint contained within the boundary of the model. These techniques

have great potential, especially in relation to linear developments such as roads and transmission lines, as once baseline conditions are modelled, variations to a scheme can be relatively easily produced and compared.

The precise choice of technique for a particular scheme will depend on the nature of the development, data available, timing and budget. A number of methods for creating a variety of presentation techniques are considered below. 8.18

Photomontages

A photomontage is the superimposition of an image onto a photograph for the purpose of creating a realistic representation of proposed or potential changes to any view. Traditionally, these were created manually by hand rendering. Today most are generated using computer imagery. 8.19



Photomontages are a popular visualisation technique. Their main advantage is that they can illustrate the development within the 'real' landscape and from known viewpoints. Technically-accurate photomontages may require specialist advice. This requires the precise locations and dimensions of the development, for other features forming reference points in the view, the accurate location and height from which the photograph was taken, and focal length and precise direction of view of the camera, to correctly place the development within the photograph. A computer-generated perspective of key structures will also be required for built developments. Technical accuracy and skill are needed to alter photographs to realistically illustrate the new buildings, ground form and planting within the photographic view (see Appendix 7 for additional information). 8.20

Other visualisation techniques may be appropriate under certain circumstances, including overlays; perspective sketches, which may be constructed over computer-generated wire lines; physical models, which tend to be expensive but can be useful in public consultations; and video simulations, which can show movement, for example, of wind turbines. Photographs of similar projects can also be helpful, provided it is made clear that they are indicative only. Artist's impressions that are not accurately constructed are not recommended. 8.21

Case study

Glebe Farm

Wavendon, Buckinghamshire

October 2000

Client: Gallagher Estates Ltd/
Wilcon Homes Ltd

Principal author: Terence O'Rourke plc



Illustrative perspective sketch

CONTEXT

Urban/urban fringe Site south east of Milton Keynes' urban centre close to Wavendon village and adjacent to a principal entrance road to the city from M1

Rural Land contributes to village setting and immediate landscape character. However, adjacent employment allocations in local plan for Milton Keynes' eastern expansion may alter perception

DETAILS OF PROPOSAL

Summary description	Evolution of sketch proposals for mixed use development maximising location proximity to local facilities and catering for future highway growth. Presentation of a distinctive development character based on a network of streets within a landscape framework, generating variety of form/texture.
Nature and scope of issues	Relationship to nearby development; public/pedestrian links. Visual/acoustic/aesthetic consideration of proximity to road development. Site drainage considerations and visual assimilation into the landform. Scale and form in relation to village setting and sustainability of proposals.
Planning/regulatory content	Promotion of the site through the local plan process. Sensitive location adjacent to a Conservation Area.

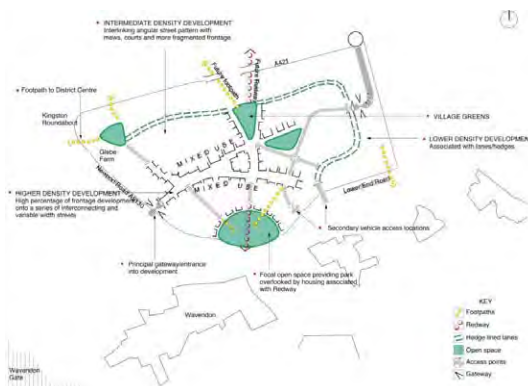
CASE ANALYSIS

Approach	Understanding the receiving and future landscape using site appraisal and development studies was fundamental in shaping proposals. Public views were also critical. The aim was to promote a distinctive development character with a strong visual identity. The landscape framework provides functional opportunities for accommodation and mitigation works, bringing significant ecological and visual benefits.
Methodology	CCP423, CCP326 and GLVIA.
Application of methodology	Detailed site appraisal.

<p>Presentation</p>	<p>Aerial photographs, artists impressions, plan and map-based information to promote development concepts/form, demonstrating evolution of proposals.</p>
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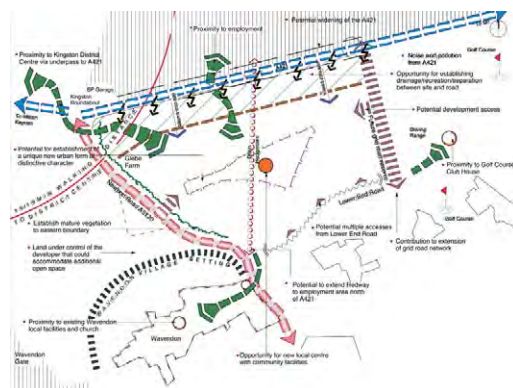
Sketch illustrative layout



Issues and opportunities



Additional facility provision



Proposals concept – central form



Development forms

CRITIQUE/CONCLUSIONS

<p>Critique</p>	<p>A combination of detailed computer-drawn sketch plans identifies the significant issues and opportunities illustrating a clear and simplified approach to site planning and resultant proposals within a very 'user-friendly' document. This approach allowed the complex issues to be clearly conveyed.</p>
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Case study

Sandown Wastewater Treatment Works Sandown, Isle of Wight

1996–2000

Client: Southern Water Services Ltd
Principal author: Terence O'Rourke



Zone of visual influence

CONTEXT

Urban/urban fringe Located within the coastal plain adjacent to the northern boundary of Sandown

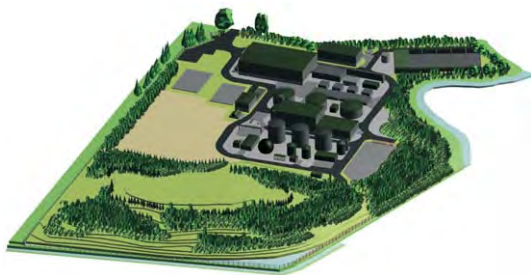
Rural Lies adjacent to the Sandown Levels and bordered by the Eastern Yar River

DETAILS OF PROPOSAL

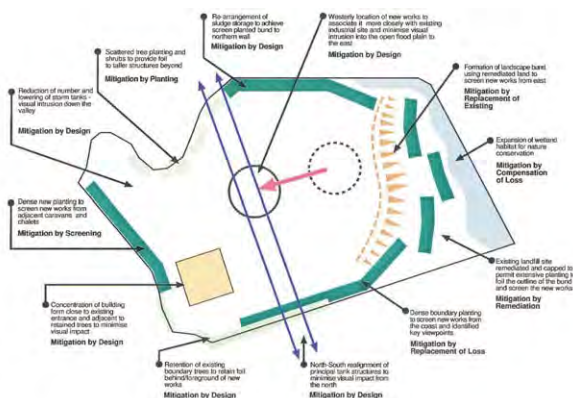
<p>Summary description</p>	<p>Proposals for the development of major new wastewater treatment and recycling plant to serve the Isle of Wight on and adjacent to existing treatment works. Development included extensive temporary construction of pipelines, outfalls, and construction yards. Initial proposals for primary treatment expanded to include dryer building and secondary treatment facilities.</p>
<p>Nature and scope of issues</p>	<p>Sensitive location in generally flat coastal landscape visible from attractive high land to the north/north west. Overlooked by downland with prime coastal view. Extensive potential visibility from adjacent coastal/residential locations; within clear site of extensive AONB chalk downland. Scale of buildings and extent of development on constrained site. Portion of site composed of contaminated land requiring amelioration. Site not identified for expansion; promoted through application and ES.</p>

CASE ANALYSIS

<p>Approach</p>	<p>Extensive land appraisal resulting in detailed understanding of site, setting, character and visibility; also the nature and extent of proposals and potential effects in relation to carefully identified viewpoints. Identification of the resulting key landscape issues with extent and significance of predicted landscape change. Mitigation strategy resulted in development of visual principles to guide building form and location.</p>
<p>Application of methodology</p>	<p>Desktop studies and research; extensive fieldwork; photographs – both 35mm for presentation and 210 zoom for accuracy and definition; visual envelopes; ZVI; photograph annotation; mitigation strategies; 3D computer modelling; and computer prediction of views to understand visual significance of layout.</p>
<p>Presentation</p>	<p>Presentation included sketches, diagrams, drawings and computer-generated 3D models and elevations.</p>



Isometric views and elevations of 3D model



Landscape mitigation measures

CRITIQUE/CONCLUSIONS

<p>Critique</p>	<p>A comprehensive understanding of the site and setting and clear identification of receptors enabled the final proposals to minimise the visual profile of the proposal from principal viewpoints. Principles such as tank alignments, building location and built profile evolved from identified mitigation measures.</p>
<p>Conclusion</p>	<p>This process ensured subsequent development changes were considered against established principles and tested by computer modelling. This ability to model the predicted view of the final proposals enabled the relocation of structures within the site to ensure impact was minimised from key locations.</p>
<p>Cumulative effects</p>	<p>The resulting constructed proposals clearly demonstrate the effectiveness of the adopted techniques in enabling accommodation of a significant development of large-scale buildings and structures within a relatively confined and contaminated site in a sensitive location visible from an AONB.</p>

Digital plans and masterplans

- 8.22 CAD also facilitates the production of composite plans from multiple layers of different types of information. Thus any combination of information 'layers' such as drainage, ecology, landscape assessment, etc. may be brought together to enable ready comparison of data and enable special interests to inform the design process.
- 8.23 To complement technical plans in CAD, computer graphics now also play an increased role in the preparation of presentation plans. In particular, elaborate masterplans can be rendered in the computer using scanned or hand-drawn textures to create realistic 'aerial view' impressions.
- 8.24 Digitally-rendered plans are more flexible than traditional hand-rendered drawings in a number of areas. As a digitally coloured masterplan is developed, multiple copies may be run off rapidly and inexpensively at various sizes for discussion. Similarly, a series of alternative plans can be readily produced from the original base to illustrate the development and associated landscape proposals through time. Revisions and amendments to a part or parts of the proposal can be carried out much more easily than an art medium would permit, and the final drawing can be reproduced in colour at a variety of scales with little apparent reduction in quality. Alternatively, it may be supplied as a CD-Rom or incorporated in a presentation software program such as Powerpoint, distributed over the Internet or made available on web sites.

Part 9

Consultation and review

Consultation and the assessment process

Consultation is an essential part of the landscape and visual impact assessment process, whether for the purpose of gathering specific information about the site, or for canvassing the views of the public on the proposed development. It can be a valuable tool in seeking understanding and agreement about key issues and can highlight local interests and values, which may otherwise be overlooked. With commitment and engagement in a genuinely open and responsive process, consultation can also make a real contribution to scheme design. 9.1

Consultation may take a variety of forms and fulfil many purposes at different stages in the assessment. It offers the opportunity to gain advice and help from a wide range of organisations, individuals, local communities and interest groups on a formal and informal basis. It may involve the regulatory authority, statutory consultees, amenity and conservation bodies and local residents. Without effective consultation, the assessment process as a whole may be diminished. 9.2

In the initial stages of project planning, consultation with the regulatory authority aims to establish the likely acceptability of the proposed development, and the preferred development site. When an EIA is required, or when an applicant advises the regulatory authority of the decision to prepare an ES voluntarily, the regulatory authority will inform the statutory consultees. This places them under an obligation to provide, on request, information that is likely to be relevant to the assessment, such as previous landscape surveys or assessments of the area, and advice on the basis for landscape and other designations. The aim of consultations with the regulatory authority and other statutory consultees is to arrive at consensus on matters such as terms of reference, methodology and assessment techniques. 9.3

The interim presentation of information about the project to interested parties can help to maintain goodwill, especially where a two-way exchange of ideas and views on scheme design can be initiated. The timing of involvement will depend upon many factors, including the nature of the development, but generally the earlier the better. Such participation may not always result in full agreement, but it may serve to resolve some issues and to clarify any remaining objections. In its most useful form, participation in consultation will improve the quality of the information influencing the scheme design, and may result in positive changes to the design. Later in the assessment process, consultation will be more concerned with information dissemination, particularly to the regulatory authority and statutory consultees. 9.4

Guidelines for consultation

- 9.5 The views of the regulatory authority, or consultees, are not necessarily representative of the views of local people, which may be sought directly, through exhibitions, meetings, questionnaires or by other means. This form of consultation can provide an opportunity to set out clearly the issues involved in the proposed development and to draw out local concern, and identify the aspects of the proposal that are important in local opinion.
- 9.6 The particular agenda and terms of reference of any organisation consulted is taken into account when assessing the weight to be given to their views, and how they may influence the project proposals. While important, such views will need to be weighed in the balance with many other factors, such as government policy, or the provisions of the development plan. For both statutory and non-statutory consultees it is important to distinguish between ‘in principle’ objections (which may colour their judgement) and specific comments on the proposals.
- 9.7 Consultation can be a difficult process. The developer may be reluctant to release information about the development for reasons of commercial sensitivity or uncertainty. There may also be a perception that to invite discussion and debate is to subject the project to ‘unnecessary’ interference. Statutory consultees and members of the public may be suspicious about the consultation process and could be uncompromisingly hostile to the proposed development. They may also be concerned that they will prejudice their future position, by becoming too closely involved and may need to be persuaded that the offer to participate is genuine. In such circumstances, a poorly-managed programme of consultations could generate adverse publicity.
- 9.8 Most of these reservations can be overcome if the consultation programme is guided by the following principles:
- Consultation must be **genuine and open**. The temptation to make the most of consultation for information gathering, while being reluctant to disseminate information, is to be resisted.
 - The **timing of consultation** should be **carefully planned** to prevent premature disclosure, which might encourage blight or make developers commercially vulnerable. There may be occasions where controlled release of information or confidentiality safeguards are required.
 - Requests for **participation** should be **timely**. There is no point in seeking ideas and views if it is actually too late for the scheme design to be modified. Sufficient time must also be allowed for consultees to be able to consider and act on the information provided.

- The **objectives of consultation** should be **clearly stated**. Information presented to consultees should be appropriate in content and level of detail, clearly identifying those issues on which comment is being sought.

Consultation methods

The objectives for consultation and the stage in the assessment process will dictate the method or combination of methods used for consultation, but informal and early consultations have the greatest potential for success. The main consultation methods that can be used are described below. Public consultation methodology is an expanding area, and new techniques such as referenda, local juries and the Internet are being introduced. The following techniques represent those in current widespread use. As other techniques emerge, the landscape professional should ensure that the most appropriate consultation method is adopted for the particular circumstances of the project and consultees. 9.9

Correspondence

This is used for information gathering and dissemination, inviting comment and recording issues that have been discussed and agreed. 9.10

Face-to-face discussion

Direct discussion with relevant parties, particularly the planning or regulatory authority, conservation agencies and other statutory or informal consultees is an important element of consultation. For some developments, a liaison or advisory group may also be cost effective, make the consultation process less time consuming, and assist in achieving a consensus view. Early joint site visits could be helpful in exploring landscape opportunities and constraints. 9.11

Presentations and informal public meetings

Selective presentations, such as those to local council members may be useful, but can alienate excluded parties. Open public meetings may facilitate public participation, but can be difficult to record and manage in order to avoid fruitless confrontation between objectors and the developers. 9.12

Exhibitions

Exhibitions can present a great deal of information to a broad range of parties including the general public. They present an opportunity for friendly and constructive exchange of views between the design or assessment team and members of the public who may be directly affected by the proposals. Feedback from public consultations should be produced in a suitable form for analysis, which can then be taken into account in the development of the project proposals. 9.13

Workshops

- 9.14 Workshops are highly structured, sometimes public, meetings, in which those attending are expected to participate and produce results, which can be fed into the decision-making process. They can be particularly useful for examining options for impact mitigation. Workshop participants may be selected as representative of particular interest groups or as a cross section of interests. To be effective participants should be limited to a maximum of twenty, with five to six for intensive 'brain-storming' on particular topics.

Leaflets and mailings

- 9.15 Lastly, consultation material may also be presented to the public through leaflets or mailings to representative groups or to all affected local residents. This approach is often used in conjunction with public exhibitions, and may include a questionnaire to allow written responses to be gathered. In relation to landscape and visual impacts, views can be sought on preferred landscape enhancement measures and on the form of mitigation that would meet local needs and support.
- 9.16 Whatever method of consultation is chosen, a means of recording response is essential to ensure the exercise is meaningful and fruitful. The methodology must be clearly explained when reporting the results.
- 9.17 The non-technical summary can also be useful in public consultation, if it is available, particularly as it is prepared with the lay audience specifically in mind.
- 9.18 A balanced assessment of the views of consultees may be presented as a separate section of the EIA, explaining whether and how these views have been taken into account. Where there is a difference between professional judgement and the views of consultees or the public, it is helpful to suggest the possible reasons for the differences.

The role of the regulatory authority

How the authority can help

- 9.19 The principal issues for the regulatory authority, and those statutory consultees who have a strong interest in the landscape, are:
- how to encourage the best result from the developer;
 - the adequacy of the landscape and visual components of an ES;
 - successful implementation and monitoring of scheme proposals.

With appropriate professional expertise, the regulatory authority's role in guiding the developer will serve the interests of the general public and of the authority itself, as well as those of the developer. It will also ensure that the scope of the ES submitted is adequate, that the appropriate degree of consideration has been given to the factors affecting the landscape and visual amenity, and will enable the authority to assess the quality of the ES. 9.20 115

Guidance to the developer

Regulatory authorities can give support and guidance to those responsible for the planning, design and assessment of new developments, in accordance with their own policies, interests and objectives. The developer may rely on information or opinions provided by the authority over a long period of time. It is therefore important that the advice is consistent and reflects the authority's position (rather than the views of individual officers). The authority may provide guidance on the landscape planning context, the scope and content of an ES, and the authority's expectations for the landscape design proposals. 9.21

Landscape context and design principles

The general planning context for new development is contained in statutes and regulations, in government guidance, and in formal development plan policies, which indicate in broad terms what types of development will be acceptable in what locations. Regulatory authorities can also make a positive contribution to the development process in producing development briefs for specific sites. 9.22

Area-wide landscape character assessments and strategies may provide a clear framework for the consideration of landscape issues in development control, and an indication of the preferred or most suitable areas for particular developments. They can also provide useful information on landscape character; areas identified for landscape conservation, restoration or reconstruction; and on issues such as urban fringe landscape degradation or industrial dereliction. At a more detailed level, landscape design guidance can indicate preferred materials, and choice of plant species. 9.23

Content of the landscape and visual impact assessment

The regulatory authority may be expected to work closely with the developer on the terms of reference, scope and methodology for the landscape and visual impact assessment. The authority is required to comment on the specific content of the ES and the level of detail that they consider would be appropriate to the assessment. They may also be a source of useful information, including: 9.24

- checklists of information held by the authority, and additional baseline survey information as available;
- advice on environmental constraints including landscape designations;

- general principles and objectives regarding landscape enhancement and mitigation measures.
- 9.25 This advice can be helpful to developers, especially at an early stage in the assessment process, but it is no substitute for a comprehensive landscape and visual impact assessment. It may also be helpful for the authority to review and agree baseline survey findings, criteria and thresholds for the assessment of effects, and 'performance standards' for mitigation of key impacts.
- 9.26 The future management and maintenance of a landscape scheme or restoration proposals may be agreed with the regulatory authority and embodied in the submitted proposals and ES. Similarly, the authority may wish to agree in advance appropriate planning conditions, subject to an approval, to ensure implementation of the landscape proposals, or in the case of minerals and waste disposal sites, phased programmes of working and restoration, or monitoring mechanisms.

Review of the landscape and visual impact assessment

- 9.27 The regulatory authority has a key role in the collation and consideration of relevant comments from statutory consultees and reviewing the adequacy of the landscape and visual impact assessment. The review process will check that the assessment meets the requirements of the EIA regulations and also the specific terms of reference discussed and agreed with the developer, during scoping or subsequent consultations. The authority may consider whether it would be advisable to seek specialist advice or expertise, or indeed to appoint an independent third party as assessor. Whichever approach is used, the review should consider:
- the scope and content of baseline studies;
 - the methodology and techniques applied; accuracy and completeness of identification and evaluation of potential effects;
 - the criteria and thresholds used to assess the effects predicted;
 - the effectiveness of proposed mitigation, and success in communicating results.
- 9.28 The IEMA has developed a set of general criteria for reviewing ESs that can also be applied to the landscape and visual impact assessment section of the ES. In addition, the University of Manchester, in work published by the Countryside Agency and endorsed by the Countryside Council for Wales, has developed specific criteria for review of landscape impact assessments.

Implementation and monitoring

The granting of development consent is not the end of the process. The developer and the regulatory authority have a responsibility to ensure that commitments made in the application and the ES are honoured during construction, operation, subsequent site management and restoration. Usually implementation is achieved through the enforcement of consent conditions, legal agreements, undertakings or other requirements. 9.29

To be effective, these conditions and requirements must be relevant, fair, reasonable and enforceable. They can be based in part on standard landscape conditions, such as those provided in government guidance, tailored to reflect the particular needs of the scheme concerned. The most important undertakings for highways development are likely to relate to ground modelling and screen planting while planning conditions for mineral extraction schemes will focus on phased working, progressive restoration and aftercare of restored areas. Where the effectiveness of proposed mitigation measures is uncertain, performance standards may be applied, and appropriate monitoring procedures incorporated in the implementation process. Non-compliance with planning conditions can lead to statutory enforcement proceedings. In certain cases a financial bond or legal agreement attached to the planning consent may be appropriate, to ensure mitigation measures are successfully completed. 9.30

Mitigation measures may require long-term management and monitoring. Monitoring can fulfil a number of very useful purposes including: 9.31

- establishing whether or not predicted impacts have actually occurred;
- identifying unforeseen impacts and omissions from the original ES and ensuring an appropriate response;
- checking compliance with proposed mitigation measures and planning conditions;
- checking the effectiveness of mitigation measures in avoiding or reducing adverse impacts.

There are many advantages to be gained from monitoring impacts and mitigation in this way. With appropriate feedback to similar future assessments, the quality of impact prediction can be improved through time. Remedial action can sometimes be taken to address unforeseen impacts and enforcement action carried out where necessary to ensure that the mitigation measures that were promised are implemented, and are effective. The development of explicit monitoring programmes for landscape and visual impacts is therefore strongly encouraged. 9.32

118 9.33 The responsibility for monitoring lies jointly with the developer and the regulatory authority. For the developer, monitoring can enhance credibility and public confidence, as well as ensuring the successful outcome of the project. For the regulatory authority, monitoring offers the opportunity to check on the effectiveness of mitigation and take appropriate action to ensure that landscape conservation and enhancement objectives have in fact been achieved. Finally, monitoring can also help to improve the future practice of landscape and visual impact assessment, by providing feedback on the accuracy of assessment techniques.

Glossary

Analysis (landscape) The process of breaking the landscape down into its component parts to understand how it is made up.

Assessment (landscape) An umbrella term for description, classification and analysis of landscape.

Biodiversity The concept of variety in all species of plants and animals through which nature finds its balance.

Classification A process of sorting the landscape into different types using selected criteria but without attaching relative values to the different kinds of landscape.

Compensation The measures taken to offset or compensate for residual adverse effects that cannot be mitigated, or for which mitigation cannot entirely eliminate adverse effects.

Constraints map Map showing the location of important resources and receptors that may form constraints to development.

Countryside The rural environment and its associated communities (including the coast).

Cumulative effects The summation of effects that result from changes caused by a development in conjunction with other past, present or reasonably foreseeable actions.

Diversity Where a variety of qualities or characteristics occurs.

'Do nothing' situation Continued change/evolution of landscape or of the environment in the absence of the proposed development.

Element A component part of the landscape (for example, roads, hedges, woods).

Enhancement Landscape improvement through restoration, reconstruction or creation.

Environment Our physical surroundings including air, water and land.

Environmental appraisal A generic term for the evaluation of the environmental implications of proposals (used by the UK Government in respect of policies and plans).

Environmental fit The relationship of a development to identified environmental opportunities and constraints in its setting.

Environmental Impact Assessment The evaluation of the effects on the environment of particular development proposals.

Field pattern The pattern of hedges and walls that define fields in farmed landscapes.

Geographical Information System Computerised database of geographical information that can easily be updated and manipulated.

Heritage Historic or cultural associations.

Indirect impacts Impacts on the environment, which are not a direct result of the development but are often produced away from it or as a result of a complex pathway. Sometimes referred to as secondary impacts.

Landcover Combinations of land use and vegetation that cover the land surface.

Landform Combinations of slope and elevation that produce the shape and form of the land.

Landscape Human perception of the land conditioned by knowledge and identity with a place.

Landscape capacity The degree to which a particular landscape character type or area is able to accommodate change without unacceptable adverse effects on its character. Capacity is likely to vary according to the type and nature of change being proposed.

Landscape character The distinct and recognisable pattern of elements that occurs consistently in a particular type of landscape, and how this is perceived by people. It reflects particular combinations of geology, landform, soils, vegetation, land use and human settlement. It creates the particular sense of place of different areas of the landscape.

Landscape character type A landscape type will have broadly similar patterns of geology, landform, soils, vegetation, land use, settlement and field pattern discernible in maps and field survey records.

Landscape effects Change in the elements, characteristics, character and qualities of the landscape as a result of development. These effects can be positive or negative.

Landscape evaluation The process of attaching value (non-monetary) to a particular landscape, usually by the application of previously agreed criteria, including consultation and third party documents, for a particular purpose (for example, designation or in the context of the assessment).

Landscape factor A circumstance or influence contributing to the impression of a landscape (for example, scale, enclosure, elevation).

Landscape feature A prominent eye-catching element, for example, wooded hilltop or church spire.

Landscape quality (or condition) is based on judgements about the physical state of the landscape, and about its intactness, from visual, functional, and ecological perspectives. It also reflects the state of repair of individual features and elements which make up the character in any one place.

Landscape resource The combination of elements that contribute to landscape context, character and value.

Landscape sensitivity The extent to which a landscape can accept change of a particular type and scale without unacceptable adverse effects on its character.

Land use The primary use of the land, including both rural and urban activities.

Landscape value The relative value or importance attached to a landscape (often as a basis for designation or recognition), which expresses national or local consensus, because of its quality, special qualities including perceptual aspects such as scenic beauty, tranquillity or wildness, cultural associations or other conservation issues.

Magnitude A combination of the scale, extent and duration of an effect.

Methodology The specific approach and techniques used for a given study.

Mitigation Measures, including any process, activity or design to avoid, reduce, remedy or compensate for adverse landscape and visual effects of a development project.

Perception (of landscape) The psychology of seeing and possibly attaching value and/or meaning (to landscape).

Precautionary principle Principle applied to err on the side of caution where significant environmental damage may occur, but where knowledge on the matter is incomplete, or when the prediction of environmental effects is uncertain.

Preference The liking by people for one particular landscape element, characteristic or feature over another.

Quality See **landscape quality**.

Receptor Physical landscape resource, special interest or viewer group that will experience an effect.

Regulatory authority The planning or other authority responsible for planning consents or project authorisation (synonymous with determining authority or competent authority).

Scenario A picture of a possible future.

Scoping The process of identifying the likely significant effects of a development on the environment.

Sense of place (*genius loci*) The essential character and spirit of an area: *genius loci* literally means 'spirit of the place'.

Sensitive/sensitivity See **landscape sensitivity**.

Sieve mapping Technique for mapping environmental constraints, working from a series of overlays, sieving out less important factors.

Sustainability The principle that the environment should be protected in such a condition and to such a degree that ensures new development meets the needs of the present without compromising the ability of future generations to meet their own needs.

Technique Specific working process.

Threshold A specified level in grading effects, for example, of magnitude, sensitivity or significance.

Visual amenity The value of a particular area or view in terms of what is seen.

Visual effect Change in the appearance of the landscape as a result of development. This can be positive (i.e. beneficial or an improvement) or negative (i.e. adverse or a detraction).

Visual envelope Extent of potential visibility to or from a specific area or feature.

Visualisation Computer simulation, photomontage or other technique to illustrate the appearance of a development.

Worst-case situation Principle applied where the environmental effects may vary, for example, seasonally to ensure the most severe potential effect is assessed.

Zone of visual influence Area within which a proposed development may have an influence or effect on visual amenity.

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- Swanwick, C. Department of Landscape, University of Sheffield and Land Use Consultants (forthcoming) *Landscape Character Assessment: Guidance for England and Scotland*, Countryside Agency/Scottish Natural Heritage.
- Town and Country Planning, England and Wales (1999) *Town and Country Planning (Environmental Impact Assessment) Regulations 1999*, HMSO.

Appendices

Appendix 1

Planning guidance and sources

Useful web sites

**Countryside Agency and Scottish Natural Heritage; Landscape
Character Assessment Guidance for England and Scotland**

<http://www.countryside.gov.uk/cci/guidance>

Department of Environment Planning Service

<http://www.doeni.gov.uk/planning>

**Department of Environment, Transport and the Regions (DETR);
Environment Assessment Guidance**

<http://www.planning.detr.gov.uk/eia/assess/doc12htm>

**Department of Environment, Transport and the Regions (DETR);
Planning Policy Guidance Notes**

<http://www.planning.detr.gov.uk/ppg/index.htm>

Department of Environment's Environment and Heritage Service

<http://www.ehsni.gov.uk>

Scottish Development Department (SDD); Planning Policy Guidance

<http://www.scotland.gov.uk/library3/planning/nppg/tpsr-oo.asp>

Appendix 2

The legislative framework to EIA

Useful web sites

Department of Environment, Transport and the Regions Environmental Assessment page

<http://gdetr.gov.uk/eia/assess/index.htm>

and

<http://www.hmso.gov.uk/legis.htm>

EIA Centre, Manchester University

<http://www.art.man.ac.ukZeia/eiac.htm>

EIA Unit of the European Commission

<http://europa.eu.int/comm/dg11/eia/home.htm>

IEMA, Lincoln and Edinburgh, UK

<http://www.iema.net/>

Oxford Brookes University Impacts Assessment Unit

<http://www.brookes.ac.uk/schools/planning/research/iau.html>

Penelope Project, Imperial College, London (UK EIA legislation and case studies)

<http://www-penelope.th.ic.ac.uk/>

Appendix 3

The IEMA review grades and criteria for review of EIAs

Institute of Environmental Management and Assessment: EIA review grades

A	Excellent, no tasks left incomplete
B	Good, only minor omissions and inadequacies
C	Satisfactory despite omissions and inadequacies
D	Parts well attempted, but must, as a whole be considered just unsatisfactory because of omissions and/or inadequacies
E	Poor, significant omissions or inadequacies
F	Very poor, important tasks poorly done or not attempted
N/A	Not applicable. The review topic is not applicable or relevant in the context of this statement.

Institute review criteria

Description of the development, the local environment and the baseline conditions

Description of the development

The purpose and objectives of the development should be explained. The description of the development should include the physical characteristics, scale and design, as well as quantities of material needed during construction and operation. The operating experience of the operator and the process, and examples of appropriate existing construction plant, should also be given.

Site description

The area of land affected by the development should be clearly shown on a map and the different land uses of this area clearly demarcated. The affected site should be defined broadly enough to include any potential effects occurring away from the construction site (for example, dispersal of pollutants, traffic,

changes in channel capacity of watercourses as a result of increased surface run off, etc.).

Residuals

The types and quantities of waste matter, energy and residual materials and the rate at which these will be produced should be estimated. The methods used to make these estimations should be clearly described, and the proposed methods of treatment for the waste and residual materials should be identified. Waste should be quantified wherever possible.

Baseline conditions

A description of the environment as it is currently and as it could be expected to develop if the project were not to proceed. Some baseline data can be gathered from existing data sources, but some will need gathering and the methods used to obtain the information should be clearly identified. Baseline data should be gathered in such a way that the importance of the particular area to be affected can be placed into the context of the region or surroundings and that the effect of the proposed changes can be predicted.

Identification and evaluation of key impacts

Identification of impacts and method statement

The methodology used to define the project specification should be clearly outlined, in a method statement. This statement should include details of consultation for the preparation of the scoping report, discussion with expert bodies (for example, planning authority, Environment Agency, English Nature, Countryside Commission or Scottish Natural Heritage, etc.) and the public, and reference to panels of experts, guidelines, checklists, matrices, previous best practice examples of Environmental Assessments on similar projects (whichever are appropriate). Consideration should be given to impacts that may be positive or negative, cumulative, short or long term, permanent or temporary, direct or indirect. The logic used to identify the key impacts for investigation and for the rejection of others should be clearly explained. The impacts of the development on people, flora and fauna, soil, water, air, climate, landscape, material assets, cultural heritage or their interaction should be considered. The method statement should also describe the relationship between the promoters, the planning, engineering and design teams and those responsible for the ES.

Prediction of impact magnitude

The size of each impact should be determined as the predicted deviation from the baseline conditions, during the construction phase and during normal operating conditions and in the event of an accident when the proposed development involves materials that could be harmful to the environment (including

people). The information and data used to estimate the magnitude of the main impacts should be clearly described and any gaps in the required data identified. The methods used to predict impact magnitude should be described and should be appropriate to the size and importance of the projected disturbance. Estimates of impacts should be recorded in measurable quantities with ranges and/or confidence limits as appropriate. Where necessary, qualitative descriptions should be as fully defined as possible (for example, 'insignificant means not perceptible from more than 100m distance').

Assessment of impact significance

The significance of all those impacts that remain after mitigation should be assessed using the appropriate national and international quality standards where available. Where no such standards exist, the assumptions and value systems used to assess significance should be justified and the existence of opposing or contrary opinions acknowledged.

Alternatives and mitigation

Alternatives

Alternative sites should have been considered where these are practicable and available to be developed. The main environmental advantages and disadvantages of these should be discussed in outline, and the reasons for the final choice given. Where available, alternative processes, designs and operating conditions should have been considered at an early stage of project planning and the environmental implications of these outlined.

Mitigation

All significant adverse impacts should be considered for mitigation and specific mitigation measures put forward where practicable. Mitigation methods considered should include modification of the project, compensation and the provision of alternative facilities as well as pollution control. It should be clear to what extent the mitigation methods will be effective. Where the effectiveness is uncertain or depends on assumptions about operating procedures, climatic conditions, etc., data should be introduced to justify the acceptance of these assumptions.

Commitment to mitigation

Clear details of when and how the mitigation measures will be carried out should be given. When uncertainty over impact magnitude and/or effectiveness of mitigation over time exists, monitoring programmes should be proposed to enable subsequent adjustment of mitigation measures as necessary.

Communication of results

Presentation

The report should be laid out clearly with the minimum amount of technical terms. An index, glossary and full references should be given and the information presented so as to be comprehensible to the non-specialist.

Balance

The environmental statement should be an independent objective assessment of environmental impacts not a best case statement for the development. Negative impacts should be given equal prominence with positive impacts, and adverse impacts should not be disguised by euphemisms or platitudes. Prominence and emphasis should be given to predict large negative or positive impacts.

Non-technical summary

There should be a non-technical summary outlining the main conclusions and how they were reached. The summary should be comprehensive, containing at least a brief description of the project and the environment, an account of the main mitigating measures to be undertaken by the developer, and a description of any remaining or residual impacts. A brief explanation of the methods by which these data were obtained and an indication of the confidence which can be placed in them should also be included.

Strategic Environmental Assessment (SEA)

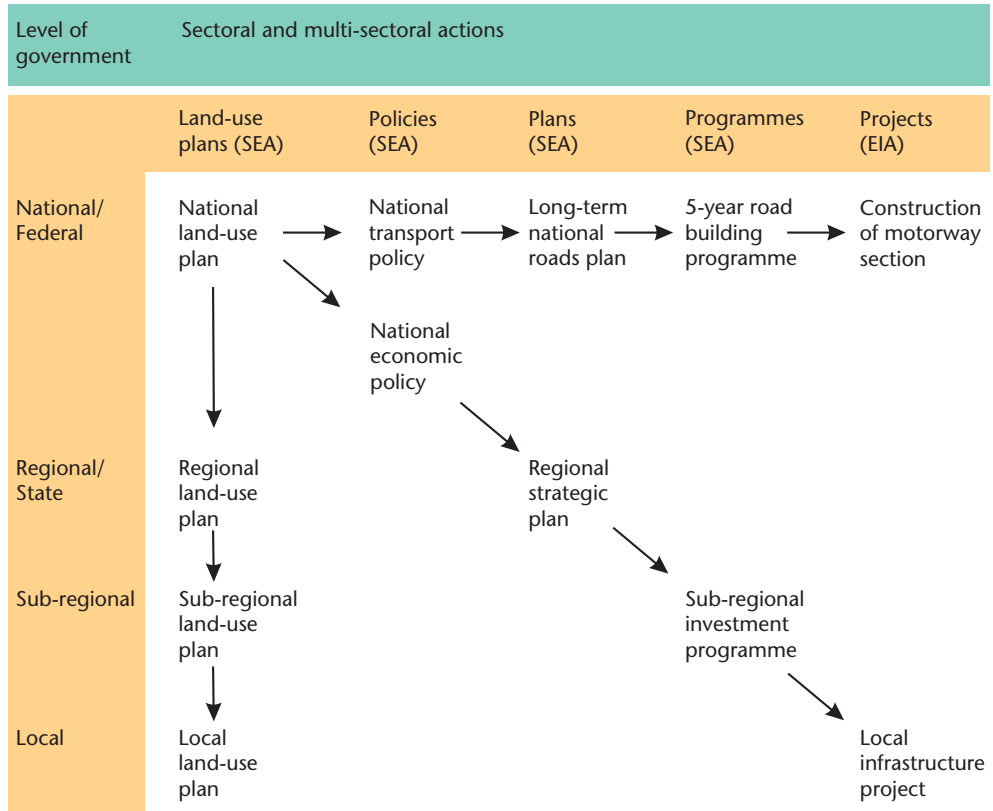
The proposed Strategic Environmental Assessment Directive (COM(99)73), which is currently in consultation, is seen as the second phase in the process begun in 1985 with the adoption of the EIA Directive for projects. The European Commission has amended the proposed SEA Directive to address a limitation inherent in project EIA, namely that a number of important policy decisions will have been taken before the project level is reached which then limit the room for manoeuvre at the detailed project level (EC, 1999).

SEA is one of the tools by which sustainable development and use of resources can be most effectively implemented. Simple steps toward sustainability such as efficient energy use, multi-modal transport design and specific land-use policies can be appraised and re-structured through SEA to ensure that planning policies, plans and programmes are sustainable and hence that the projects that fall under these will be equally sustainable. This is known as 'tiering'. The figure overleaf shows the hierarchy of decision-making processes that may take place within the planning system. Effective SEA at early stages in the 'tiering' will result in shorter, better focused and more cost-effective assessment at lower levels.

Advantages of SEA

SEA therefore presents many advantages for the effective strategic consideration of environmental issues including:

- SEA encourages the **consideration of environmental objectives** during policy, plan and programme activities within non-environmental organisations.
- Facilitates **consultations** between authorities on, and enhances public involvement in, evaluation of environmental aspects of policy, plan and programme formulation.
- May remove the need for project-EIA for certain activities if their impacts have been anticipated and assessed adequately at the strategic level.
- Allows formulation of standard or **generic mitigation measures** for later projects.
- Encourages **consideration of alternatives** ignored or not feasible in project-EIA.



Sequence of actions and assessments within a tiered planning and assessment system

Source: *Sectoral and Multi-sectoral Actions* (EIA Centre, 1995).

Note

(...) category of action and type of assessment.

- Can help determine appropriate sites for projects subsequently subject to EIA.
- Allows more effective **analysis of cumulative effects** of large and small projects.
- Encourages and facilitates the consideration of **synergistic effects**.
- Allows more effective consideration of ancillary or secondary effects and activities.
- Facilitates consideration of **long range and delayed impacts** and impacts that are felt at the **global scale** (for example, greenhouse gases).
- Allows analysis of the **impacts of policy**, which may not be implemented through projects.

These attributes of SEA contribute to its value as an instrument in promoting sustainable development. However, there are some technical and procedural limitations to SEA.

Technical limitations

The collection and analysis of relevant baseline data for assessment purposes at the strategic level is often extensive and time-consuming. The spatial limits are less well defined, the number of alternative options are greater and the impacts are often more diverse. The level of uncertainty (i.e. confidence in the data) is usually greater with SEA due to the large number of variables affecting the future after the policy, plan or programme has been implemented due to economic, social and environmental changes that may not be feasibly predicted during the SEA process. Any SEA represents a snapshot of the current state of the environment and knowledge available at that time.

Procedural limitations

Unlike project-EIA, SEA does not have a definitive end point where the proposal achieves consent or rejection. Like EIA, SEA is an iterative process, with the outcomes of the assessment being fed back into the design stage. However, SEA is more complex with the outcomes of impact evaluation being continually recycled and the Planning Policy Programme (PPP) reviewed until the impact is mitigated or minimised. Ideally, SEA should be carried out at the earliest possible stage and be undertaken in parallel to the development of the PPP, rather than as an 'add-on' process at the end.

Tasks and methods

The stages of the SEA process are often prescribed by legislation, or as in the case of the UK, by official guidance and studies of best practice.

- **Screening:** to decide if SEA is necessary, using prescriptive lists, thresholds or criteria. Consultations between relevant authorities and consultees and the public may also be helpful to determine whether the PPP has environmental significance.
- **Description of the action and the environment:** the baseline condition of the environment under consideration is described as accurately as possible using standard data retrieval and monitoring, GIS, previous studies and consultations.
- **Scoping the action and the individual characteristics of the environment** against the characteristics of the proposed action in order to identify potential environmental impacts. This task may require a preliminary

Environmental Assessment, checklists, matrices, simulations, case studies or expert opinion.

- **Impact prediction:** the magnitude of the environmental impact is calculated using computer modelling, population and economic forecasting and cause–effect analysis.
- **Impact evaluation** to assess the significance of the impact magnitude predicted using objective evaluation methods, for example, a comparison with environmental standards or cost–benefit analysis.
- **Mitigation measures** to be identified to prevent, minimise, reduce or reverse the significant environmental impacts noted in the process.
- **Evaluation of alternatives:** the viable alternative options should then be compared and evaluated using a cost–benefit analysis, goals achievement matrices, scoring and weighting systems or the application of evaluation criteria.
- **Report preparation:** the report should present the results of the SEA process in a form suitable for evaluation by the public and other interested bodies.
- **Review:** evaluation or review of the report using consultation, in-house or external review checklists or comparison to official guidance or legislation.
- **Consultation and participation** should feature throughout the SEA process from the earliest possible stages through public meetings, exhibitions and distribution of questionnaires.
- **Decision making:** the results of the SES should enable the ‘competent authority’ to determine the modifications that may be necessary to the action prior to implementation.
- **Monitoring and post-auditing** to ensure that the SEA process was accurate and can assist in measuring any ‘uncertainties’ previously identified during scoping and prediction.

Appendix 5

Sources of useful information in the UK

Ancient Monuments Society
British Astronomical Society
The British Horse Society
CADW (Historic Wales)
The Civic Trust
The Council for British Archaeology
Council for the Protection of Rural England
Countryside Agency
Countryside Council for Wales
Department for Environment, Food and Rural Affairs
English Heritage
English Nature
Environment Agency
Forestry Commission
The Garden History Society
The Georgian Group
Historic Scotland
Local Planning Authorities
Local Tourist Offices
Meteorological Office
National Park Authorities
National Trust
Northern Ireland Environment Service
Northern Ireland Heritage Service
The Ramblers Association
Regional Development Agencies
Regional Tourist Boards
The Royal Fine Arts Commission
Scottish Natural Heritage
SMR's held by County Councils
Society for the Protection of Ancient Buildings
The Victorian Society
Wildlife Trusts

Appendix 6

Examples of threshold criteria used by practitioners

Example 1 Based on criteria of Terence O'Rourke plc

Definition of magnitude/Degrees of effects on visual amenity

The following is based on six classifications of the degree of impact.

None No part of the development, or work or activity associated with it, is discernible.

Negligible Only a very small part of the proposals is discernible and/or they are at such a distance that they are scarcely appreciated. Consequently they have very little effect on the scene.

Slight The proposals constitute only a minor component of the wider view, which might be missed by the casual observer or receptor. Awareness of the proposals would not have a marked effect on the overall quality of the scene.

Moderate The proposals may form a visible and recognisable new element within the overall scene and may be readily noticed by the observer or receptor.

Substantial The proposals form a significant and immediately apparent part of the scene that affects and changes its overall character.

Severe The proposals become the dominant feature of the scene to which other elements become subordinate and they significantly affect and change its character.

It should be noted that these definitions can apply to either existing or proposed situations and that impacts need not necessarily be detrimental. For example, a proposed prominent group of trees might have a 'substantial' impact, but the effect on the landscape and views would be beneficial.

Example 2 WynThomasGordonLewis

Extracts from Proof of Evidence of Mary O'Connor, DipLA, MSc, MLI, November 1997.

Public Inquiry for the extension of an existing opencast coal site, 500m south of the boundary of Brecon Beacons National Park. Reasons for refusal: detrimental effects on the landscape and enjoyment of the National Park. Main sources of impact: clearance operations; the excavation, overburden mounds; haul roads/vehicles; workshops, coal stocking, water treatment areas and lighting.

Criteria applied to the assessment of visual impact

Distance The greater the distance, the less detail is observable and the more difficult it is to distinguish the site from its background, diminishing potential impact.

Elevation When a viewpoint is lower than the site feature, it is more likely to be viewed against the sky, increasing its impact. When the viewpoint is higher than the site, it is viewed against a backdrop, diminishing the impact.

Size The greater the proportion of the view occupied by the features and activities, the greater the impact. Colour and form can increase or diminish impact, by drawing the eye or by providing camouflage.

Context The degree to which the development is in character with the context, whether urban or rural; features in the view such as landform or vegetation which frame, mask, filter, highlight, etc., the view of the site.

Weather conditions Clarity of the air and the angle and direction of the sun at different times of year affect visibility. Upland areas are more prone to misty, cloudy and rainy conditions, reducing visibility. Haze is frequently present, especially in views towards the coast even in fine weather conditions.

Activity Movement of vehicles and light reflection changing with movement, draw the eye, increasing impact. Static, neutral-coloured, sympathetic form diminishes adverse impact.

Change The degree of change in the view and the rapidity of the process of change affect the degree of impact.

Criteria applied to significance and sensitivity

The **significance** of impacts, whether adverse or beneficial, was graded by relating the degree of change to the **sensitivity** of the feature or view. **Sensitivity** was related to the importance of a landscape feature within the site, or of the landscape of the site within its wider context. **Indicators** of significance and sensitivity included protective designations, areas of nature or heritage conservation interest, scenic quality or the presence of detracting features.

The criteria for grading impact significance were summarised as follows:

- Where a **sensitive** viewpoint or feature is subject to great or moderate change, then the impact is described as **significant**.
- Where the change is moderate and the view or feature is **moderately sensitive**, then the impact is described as **moderate**.
- Where the change is small, and the view or feature is of **low or moderate sensitivity**, then the impact is described as **slight**.
- In landscape terms, the ability of the extension site to accommodate change was assessed as **good** with potential for enhancement, and the sensitivity of the landscape as **low** to **moderate**.

Example 3 Nicholas Pearson Associates

Criteria taken from scoping report.

Visual impacts

Visual impacts on properties, rights of way, roads and recreational areas within the Visual Envelope, are assessed against the representative viewpoint analysis, and changes to the view are factually described. These are then assessed against the defined significance criteria based on the Highways Agency guidance set out in the DMRB volume 11.

Significance criteria for visual impact

Substantial adverse impact Where the scheme would cause a significant deterioration in the existing view.

Moderate adverse impact Where the scheme would cause a noticeable deterioration in the existing view.

Slight adverse impact Where the scheme would cause a barely perceptible deterioration in the existing view.

Slight beneficial impact Where the scheme would cause a barely perceptible improvement in the existing view.

Moderate beneficial impact Where the scheme would cause a noticeable improvement in the existing view.

Substantial beneficial impact Where the scheme would cause a significant improvement in the existing view.

No change No discernable deterioration or improvement in the existing view.

Significance criteria for landscape effects

A textual ranking is given depending on the extent to which the proposals improve, cause damage, or are neutral with respect to landscape features.

Significance

Severe adverse

Definition

The proposed scheme would result in effects that

- are at a complete variance with the landform, scale and pattern of the landscape;
- would permanently degrade, diminish or destroy the integrity of valued characteristic features, elements and/or their setting;
- would cause a very high quality landscape to be permanently changed and its quality diminished.

<i>Major adverse</i>	The proposed scheme would result in effects that cannot be fully mitigated and may cumulatively amount to a severe adverse effect; are at a considerable variance to the landscape degrading the integrity of the landscape; will be substantially damaging to a high quality landscape.
<i>Moderate adverse</i>	The proposed scheme would be out of scale with the landscape or at odds with the local pattern and landform; will leave an adverse impact on a landscape of recognised quality.
<i>Minor adverse</i>	The proposed scheme would not quite fit into the landform and scale of the landscape; affect an area of recognised landscape character.
<i>Neutral</i>	The proposed scheme would complement the scale, landform and pattern of the landscape; maintain existing landscape quality.
<i>Minor beneficial</i>	The proposed scheme has the potential to improve the landscape quality and character; fit in with the scale, landform and pattern of the landscape; enable the restoration of valued characteristic features partially lost through other land uses.
<i>Moderate beneficial</i>	The proposed scheme would have the potential to fit very well with the landscape character; improve the quality of the landscape through removal of damage caused by existing land uses.

Example 4 Jeff Stevenson Associates

Determination of quality – Alternative 1

The approach adopted for landscape assessment is normally based upon the methodology developed by the Countryside Agency where consideration is given to both the objective and the subjective or aesthetic factors associated with the landscape before a judgement can be given. In this way there is a balance between landscape character and individual landscape features and elements. This could result in a process of categorisation as follows

Exceptional/Very good Areas that exhibit a strong positive character with valued features that combine to give the experience of unity, richness and harmony. These are landscapes that may be considered to be of particular importance to conserve and which may be sensitive or very sensitive to change.

Good/Medium Areas that exhibit positive character but which may have evidence of degradation/erosion of some features. Change may be unlikely to be detrimental.

Poor/Very poor Areas generally negative in character with few, if any, valued features. Scope for positive enhancement.

Determination of quality – Alternative 2

Concerning landscape quality, the following definitions might also be considered

High Areas that exhibit a very strong positive character with valued features that combine to give an experience of unity, richness and harmony. These are landscapes that may be considered to be of particular importance to conserve and which may be particularly sensitive to change in general and which may be detrimental if change is inappropriately dealt with. ‘Exceptional’ may be used to describe smaller areas of especially high quality or landscapes which, by virtue of the geographical extent of their positive attributes, may also be described as exceptional, for example AONB’s, National Parks.

Medium Areas that exhibit positive character but which may have evidence of alteration to/degradation/erosion of features resulting in areas of more mixed character. Potentially sensitive to change in general; again change may be detrimental if inappropriately dealt with but it may not require special or particular attention to detail.

Low (Poor/Very poor) Areas generally negative in character with few, if any, valued features. Scope for positive enhancement frequently occurs.

The table below has been assembled from various proofs of evidence supplied to public inquiries. Criteria to determine categories of landscape quality are not exhaustive and final classification should take account of the location and relative condition of adjacent areas. The applicability of these criteria is based on the subjective judgement of the landscape professional who may also consider scenic value, completeness, scale, unity, harmony and visual amenity.

Category	Criteria	Typical example
<i>High – exceptional</i>	Strong landscape structure, characteristics, patterns, balanced combination of landform and landcover; Appropriate management for land use and landcover; Distinct features worthy of conservation; Sense of place; No detracting features.	Internationally or Nationally recognised e.g. all or great majority of World Heritage Site, National Park, AONB

<i>High</i>	<p>Strong landscape structure, characteristic patterns and balanced combination of landform and landcover;</p> <p>Appropriate management for land use and landcover but potentially scope to improve;</p> <p>Distinct features worthy of conservation;</p> <p>Sense of place;</p> <p>Occasional detracting features.</p>	<p>Nationally, Regionally recognised e.g. parts of National Park, AONB, all or great majority of AGLV</p>
<i>Good</i>	<p>Recognisable landscape structure, characteristic patterns and combinations of landform and landcover are still evident;</p> <p>Scope to improve management for land use and land cover;</p> <p>Some features worthy of conservation;</p> <p>Sense of place;</p> <p>Some detracting features.</p>	<p>Nationally, Regionally recognised e.g. localised areas within National Park, AONB, AGLV. Locally recognised e.g. all or great majority of Area of Local Landscape Importance.</p>
<i>Ordinary</i>	<p>Distinguishable landscape structure, characteristic patterns of landform and landcover often masked by land use;</p> <p>Scope to improve management of vegetation;</p> <p>Some features worthy of conservation;</p> <p>Some detracting features.</p>	
<i>Poor</i>	<p>Weak landscape structure, characteristic patterns of landform and landcover are often masked by land use;</p> <p>Mixed land use evident;</p> <p>Lack of management and intervention has resulted in degradation;</p> <p>Frequent detracting features.</p>	
<i>Very poor</i>	<p>Degraded landscape structure, characteristic patterns and combinations of landform and landcover are masked by land use;</p> <p>Mixed land use dominates;</p> <p>Lack of management/intervention has resulted in degradation;</p> <p>Extensive detracting features.</p>	
<i>Damaged landscape</i>	<p>Damaged landscape structure;</p> <p>Single land use dominates;</p> <p>Disturbed or derelict land requires treatment;</p> <p>Detracting features dominate.</p>	

Source: Bradshaw, A.D. and Chadwick, M.J. *The Restoration of Land*.

Note

Derelict means 'land so damaged by industrial or other development that it is incapable of beneficial use without treatment'.

Determination of value

The following is based on the DETR's *Guidance on the Methodology for Multi-Modal Studies* and subsequently modified/extended.

Value		Typical criteria	Typical scale	Typical examples
<i>High</i>	<i>Exceptional</i>	High Importance (or Quality) and Rarity. No or limited potential for substitution.	International, National	World Heritage Site, National Park, AONB
	<i>High</i>	High Importance (or Quality) and Rarity. Limited potential for substitution.	National, Regional, Local	National Park, AONB, AGLV, LCI, ALLI
<i>Medium</i>	<i>Medium</i>	Medium Importance (or Quality) and Rarity. Limited potential for substitution.	Regional, Local	Undesignated but value perhaps expressed through non-official publications or demonstrable use.
<i>Low</i>	<i>Poor</i>	Low Importance (or Quality) and Rarity	Local	Areas identified as having some redeeming feature or features and possibly identified for improvement.
	<i>Very poor</i>	Low Importance (or Quality) and Rarity	Local	Areas identified for recovery.

The above could overcome the potential problem of an area being of limited value in a broad context but highly valued by local minority. An area of Low Importance or Quality and Rarity at a district-wide scale might well be regarded as of High Importance and Rarity (possibly irreplaceable) at the local or micro scale. What is required is the exercise of professional common sense, discretion and judgement on the part of the assessor in recognising the potential duality of response.

Determination of magnitude Option 1

The following is based on the DETR's *Guidance on the Methodology for Multi-Modal Studies* modified/extended.

Magnitude Typical criteria

<i>Major</i>	Loss of attribute(s); effect on integrity in terms of coherence, structure and function across an area sufficient to destroy the ability to retain/sustain the elements that give it its raison d'être.
<i>Moderate</i>	Effect on attribute(s); effect on integrity in terms of coherence, structure and function across an area sufficient to erode or undermine the ability to retain/sustain the elements that give it its raison d'être.
<i>Minor</i>	Effect on attribute(s); effect on integrity in terms of coherence, structure and function across an area sufficient to reduce the ability to retain/sustain the elements that give it its raison d'être.
<i>Negligible</i>	None of the above apply.

One of the problems with the above is that it implies all change to be adverse, or, if not expressly adverse, unwelcome. The alternative below suggests a form of words that seeks to be neutral thus avoiding any implicit judgement as to the acceptability or otherwise of change.

Determination of magnitude Option 2

Magnitude Typical criteria

<i>High</i>	Total loss of or major alteration to key elements/ features/characteristics of the baseline i.e. pre-development landscape or view and/or introduction of elements considered to be totally uncharacteristic when set within the attributes of the receiving landscape.
<i>Medium</i>	Partial loss of or alteration to one or more key elements/features/characteristics of the baseline i.e. pre-development landscape or view and/or introduction of elements that may be prominent but may not necessarily be considered to be substantially uncharacteristic when set within the attributes of the receiving landscape.
<i>Low</i>	Minor loss of or alteration to one or more key elements/features/characteristics of the baseline i.e. pre-development landscape or view and/or introduction of elements that may not be uncharacteristic when set within the attributes of the receiving landscape.
<i>Negligible</i>	Very minor loss or alteration to one or more key elements/features/characteristics of the baseline i.e. pre-development landscape or view and/or introduction of elements that are not uncharacteristic with the surrounding landscape – approximating the 'no change' situation.

LANDSCAPE IMPACTS

Topic area	Description of impact	Magnitude	Level of importance					Impact			Nature			Significance	
			I	N	R	D	L	A	N	B	ST	LT	R		IR
DISTRICT LEVEL															
LOCAL/PARISH LEVEL															
Landform	Change in landscape features, characteristics or qualities														Not significant
Landuse	Scale/context of landform change	N													Not significant
Landcover	Scale/context of landuse change	M													Medium-Low
Landscape character	Scale/content of landcover change	M													Medium-Low
Landscape quality	Overall effects	M													Medium-Low
	Overall short term effects	M													Medium-Low
	Overall long term effects	M													Medium-Low
SITE ITSELF															
Landform	Scale/context of landform change	VL													Not significant
Landuse	Scale/context of landuse change	VH													Medium-High
Landcover	Scale/context of landcover change	VH													Medium-High
Features	Loss of hedging	ML													Medium-Low
	Loss of woodland/scrub	ML													Medium-Low
	Loss of agricultural land	MH													Medium-High
	Gain of hedging	VH													Medium-High
	Gain of trees/woodland	VH													Medium-High

KEY Magnitude and sensitivity VL = Negligible; VL = Very Low, L = Low; ML = Medium-Low; M = Medium; MH = Medium-High; H = High; VH = Very High

Level of importance I = International; N = National; R = Regional; D = District; L = Local

Impact A = Adverse; N = Neutral; B = Beneficial

Nature ST = Short term; LT = Long Term; R = Reversible; IR = Irreversible

Appendix 7

Guidelines on computer-based techniques for landscape and visual impact assessment

Visibility mapping

The visual envelope map

A visual envelope map (VEM) outlines the area of land within which there is a view of any part of the proposed development. Therefore all changes in visual impact must occur within these areas. The production of VEMs requires some skill and experience and it is recommended that they are prepared either by a landscape architect or in liaison with one.

Where smaller developments are being considered this may be constrained by intervening landscape features such as fences, hedges, woodland and buildings, topography etc. Where larger developments are being considered the range of visual influence may be determined by distance from the site.

By determining the visual envelope it is possible to identify the potential extent of visibility and potential views which could be affected. It should be appreciated that VEMs are not accurate indicators of the level of significance of the impact in the view, but merely a statement of the fact of intervisibility.

Visibility mapping can be used throughout an assessment process. It is useful as an appraisal technique at the early stages of site design and assessment to determine the potential visibility of a site compared to a similar development located on an alternative site. It can also be used for the consideration of concept layout and design alternatives to establish the potential visibility of different options. At a detailed assessment stage it can be used to identify the visibility of a specific aspect or aspects of the development.

Although the VEM is used as a working tool for the designer in his or her assessment of the visual effects of alternative designs it can also be of use in presenting the results of studies. Where the potential visual envelope extends for several miles and beyond the point at which the development would be perceptible to the human eye, the VEM should clearly state the limits of visibility. The basic assumption for the preparation of VEMs is that the observer eye height is 1.8m above ground level.

In analysis of road schemes it is important to remember that visual intrusion is occasioned by traffic on the road as well as by the road itself. A height 4m above the carriageway should be taken to represent the top of the average commercial vehicle. Lighting effects are measured at lantern height. This data needs to be used in generating the 3D model of the scheme.

To prepare a VEM it is necessary to have level data for the surrounding area of the scheme under study. This can be based on either an Ordnance Survey data or aerial photography. OS Profile data (available at scale 1:10,000) however, gives no indication of the height of buildings or trees. Where aerial surveys have been carried out they are likely to be plotted to a 1:2,500 scale with contours at two-metre intervals and provide a more accurate representation of the scene than do the OS maps at a less detailed scale. VEMs are difficult to produce directly from maps for urban areas since comprehensive information about building heights is not readily available. More extensive site inspection will then be necessary. The accuracy of a computer calculated ZVI or VEM is dependent upon the level of detail of the data that is used for the calculation process. The VEM should be checked periodically to see that account has been taken of any changes in tree cover or the presence of buildings that have occurred since its preparation.

Once a terrain model is completed, the computer can be used to generate ZVIs and cross sections very quickly. These can be used to verify the visibility of part of a development or the intervisibility of different schemes, such as wind farms. Sections can also be included in this way as part of the illustration material.

Zone of visual influence

This can be carried out quickly and quite accurately using a combination of Digital Ground Modelling (DGM) software and Computer Aided Design (CAD) software. It must be remembered that the output is as accurate as the data used (see Data Input). Zone of visual influence (ZVI) or Visual Envelopes of any development can be refined by inputting elements such as buildings in the terrain model of an area. In both cases, on-site checks are needed to ensure that the final ZVI or VEM is as accurate as possible. ZVIs can be developed from cross sections but this is considerably more laborious.

Data input

OS Digital Data may be obtained in a variety of formats at different scales for inputting topographical information into a computer. Landline data based on 1:1250, 1:2500 and 1:10,000 scales is available. This information does not include topographical information. Landform information is available at 1:50,000 scale and is supplied in 20km tiles. This information is suitable for most visual impact assessment projects with 10m contour intervals. 5m contour intervals are better for flatter sites and these sheets can be ordered from the OS at 1:10,000. It may be necessary, for accuracy, to survey and digitise additional data, such as spot heights (i.e. peaks and valleys) and additional contours in the vicinity of the site from more detailed maps. An OS Digital Licence is required to hold data, and copyright permission is required from OS to digitise additional data. It is important to note that any changes to purchased OS data should always be explained and clarified, as they may either increase accuracy or introduce human error. Note all OS information comes with specified tolerances for example $\pm 1500\text{mm}$.

Stereoscopic height data from aerial surveys is very useful, particularly where access may be restricted for conventional surveying or to obtain heights of reference points, such as transmission towers or chimneys. Several specialist companies provide such a service at different scales and can provide a disc with the required data. It is important to base any assessment or new images on the most up-to-date photographs and verify information on site. It is also essential to state the degree of accuracy obtained, for example $\pm 300\text{mm}$.

It is most useful to plot out ZVIs as overlays over OS maps at an appropriate scale. This enables the potential visibility of different options to be compared, allows the study area to be refined and potential viewpoints to be identified. ZVIs can also be generated to show where part of a development may be visible from. This refinement can indicate, for example, where the whole structure such as a wind turbine, or just the blades, may be visible or the permeability of a structure, such as a stack or pylon. If an existing structure such as a transmission line is being replaced or upgraded, a ZVI should first be produced for the existing structure as part of the base-line information, to allow a comparison to be made.

The final presentation output is most useful if plotted on an original OS base map. A composite ZVI may be used, for example, in a wind farm combining individual ZVIs for each wind turbine. In such a case, it must be made clear that the visual envelope indicates areas where all or part of the development may be seen. Some software programmes can provide visibility maps that indicate the numbers of structures such as transmission towers or wind turbines, i.e. 1–10, or 10–20, which may be visible. It is also important to remember that a ZVI is a theoretical model and that since its provenance lies purely with contour data, the screening effect of above ground site features such as plantations or buildings has not been allowed for.

Appendix 8

Computer presentation techniques

Introduction

During the 1990s, the quality of presentation techniques and technical drawing, in particular computer aided drafting, advanced significantly. Driven by a geometric growth in computing power, the software industry closely matched the improved potential of desktop computing with an array of sophisticated graphics packages. The raising of public awareness of computer graphics has led to a growing expectation that all professionals with a strong visual dimension to their work should keep abreast of these advances.

While expectations may be raised, there remains a challenge and responsibility to make a discerning use of technology – in some instances mixing traditional techniques with the new – to ensure that accurately communicating an issue determines the choice of graphic technique. The following notes suggest a framework for identifying an appropriate technique with a client, followed by a selection of computer graphics applications which can be tailored to make presentations more informative and cost effective.

Spatial Information Systems

Spatial Information Systems (SIS) and Geographical Information Systems (GIS) are especially useful in Environmental Impact Assessment and in particular in an integrated approach to landscape and visual assessment on large scale projects. SIS and GIS provide powerful tools whereby layers of data on a variety of topics can be collated, sieved, selected or superimposed. This can be particularly useful in collating and comparing baseline data which may include vegetation cover and habitat distribution, topography, soils, archaeological sites, population and settlement data, drainage catchments, transportation, land use, cultural features and landscape character areas.

Potential alternative developments and their possible sources of adverse effects can similarly be tested in relation to potential receptors and baseline data. SIS and GIS systems work well in the production of base maps, but can also incorporate three-dimensional modelling to create terrain models, intervisibility zones and fly through imaging.

Illustrative techniques

Each method for creating a variety of presentation techniques is considered below. The precise choice of technique for a particular scheme will depend on the data available, timing and budget. Several economies may also be identified,

for example using the same CAD model to generate an accurate two-dimensional perspective which may then in turn form the basis of a three-dimensional animated sequence.

Two-dimensional techniques

Photomontages

Until recently, photomontages were most commonly prepared by manually painting the details of a development (often in oils or gouache) onto a photograph and then re-photographing the finished product for use in reports or as display boards. The more common approach today is to scan the photograph or panorama of photographs into the computer and, using a graphics package, eliminate the junctions between each photograph by selecting, copying and pasting areas of coloured points (pixels) from adjacent photographs over the join until it is obscured. This is more easily achieved if adjacent photographs are spliced in areas with less detail.

Once a seamless base photograph is available to show the 'before' image, details of the 'after' proposed image can be created on a separate layer in the graphics package. Technically accurate details of the proposal are usually imported from CAD software, which should offer an ability to set a camera position to view the proposal from the same location as the original photograph was taken. When the perspective has been accurately determined the proposed structure is transferred to the graphics package and rendered to produce a realistic interpretation of the proposed development.

With time and skill, a variety of filters and effects such as light and shadow may be employed to reveal a product that may be hard to distinguish as a photomontage from an 'as-built' photograph. For additional realism, additional foreground information layers may also be added, placing trees, shrubs, people and vehicles in the foreground of the montage.

Photomontages may be commissioned for a variety of purposes, for example as marketing images conveying a general impression of a proposal (where they should be described as for illustrative purposes) or as technically accurate photomontages designed to conform to the rigour of planning applications and public inquiries. The latter require painstaking attention to accuracy and detail. However as both products may appear graphically similar it is vital that all parties understand the distinction between each, the associated costs and time to prepare and the end use to which they will be applied. Before starting work it is also essential to establish the largest size output print that will be needed. Larger prints mean larger file sizes, which can be reduced if high quality outputs are not required. Modern printers can achieve clear outputs at almost any size subject to the image being prepared originally to a sufficiently high resolution.

Three-dimensional techniques

Three-dimensional animation

Often there is a need to portray complex developments in more detail than can be easily achieved using a single or several photomontages. An example may be where there is a requirement to select a large number of viewpoints, moving perhaps from an aerial to a ground perspective and on into the interior of a building. An animated sequence may also be helpful in explaining the orientation of a site more dynamically than a series of single photographs can achieve.

In exactly the same way as a traditional physical model can vary in its level of detailing, three-dimensional computer models can also range from simple massing studies to inclusion of significant levels of detail such as incorporating scanned images of site signage. Inevitably, attaining a high level of detail takes considerable time and raises costs, hence the importance of clarifying the purpose of the model before assessing an appropriate level of detail with the client.

A three-dimensional animation usually starts by importing two-dimensional OS or site survey data to establish the footprint of a proposal and the surrounding context. The third dimension of the height of existing buildings may be determined by triangulation, and the height of a proposed structure taken from the architects' or engineers' plans, preferably in CAD format. After the basic massing model is complete, static views from a series of angles are generated and a 'preview route' or 'path' around the model is agreed with the client before the process of rendering each individual frame is commenced. A three minute animation will require around 2,700 individual frames to be rendered, the speed of which will depend on the computer's ability to handle multiple calculations of perspective and lighting effects. Changes to the original agreed route through the model at this stage are time consuming and expensive, often requiring a complete re-rendering of the model.

Frequently the photo-realism of animated three-dimensional models encourages their use in documents, reports and publicity material. Since any single rendered frame within a three-dimensional model may be output as a two-dimensional image, producing a perspective is a fairly straightforward task. With both the two-dimensional and three-dimensional output, additional information can be added as text in subtitles or as interleaved frames, and for the three-dimensional animation a voice-over may offer additional explanation of the project.

Perspectives and full animation may also be cost-effectively duplicated for distribution on a CD-ROM.

Interactive virtual reality models

Photomontages though relatively inexpensive suffer the limitation of requiring early selection of a fixed viewpoint(s) and offer no ability to change the nature of the proposal without starting again. Animation sequences follow predetermined

paths, and take considerable time to amend and re-render the chosen route if changes are required. And these course corrections can be frequent in genuine planning negotiation and public consultation. Clients anticipating a need to respond rapidly to such changes may find the benefits of virtual reality (VR) come to the fore. No less important is the ability to respond to a neighbour affected by development who asks reasonably 'How will the view from my house change as a result of this proposal?'. Here again, short of preparing a photomontage for each and every viewpoint, VR can play an important role.

A virtual reality model is a three-dimensional computer model, which permits the viewer to 'fly', 'walk', or 'drive' through a representation of a development proposal. Within the bounds of the area modelled – often known as the VR world – the onlooker can select any route and stop at will to examine views in any direction. The VR model can also be set up with options to turn various development proposals on or off. Typically this may include adding or removing buildings, changing the number of storeys, altering a flat to a pitched roof, or altering the colour or texture of cladding materials until it satisfactorily respects the building line prescribed by neighbouring properties.

Each of the above options is often said to be viewed in real time, yet in some respects the VR model can also offer interactivity in the fourth dimension. Illustrating change over time is frequently important in predicting the degree to which planting may screen a development in the future. Based on growth tables for a known planting mix, the benefit of a tree belt may be shown at say five, ten, and fifteen years' growth, while still offering the facility to move freely around the site. This degree of flexibility is a powerful tool for objectively predicting and then mitigating impacts before major changes to site layout prove necessary.

The manner of creating a VR model for planning and Environmental Assessment work is largely as described above for massing out a three-dimensional animation. Perhaps the main subsequent difference between three-dimensional animation and VR is that in the latter technology the time consuming process of rendering surfaces with textures is cut down in order that movement around the model remains fluid.

Progress in the development of VR software also means that this is now available on both PC and Macintosh platforms. Most business applications are viewed on an ordinary monitor or in public consultation on a screen utilising a digital projector. Navigation around a model is achieved using a standard mouse and keyboard options.

Other techniques

Other visualisation techniques which are generally less quantitative and credible may be appropriate under certain circumstances. The possibilities include overlays and perspective sketches – often constructed over computer-generated wire lines. Physical models tend to be expensive, but are very useful in public consultation. By contrast, photographs of similar developments are generally inexpensive and can be remarkably helpful, provided it is made clear that they are indicative only. Artist's impressions, which are not accurately constructed, should be avoided.

Summary

Depending on budget, time-scale and the complexity of the proposal for which visual impacts are to be considered, each of the above methods has its strengths. Irrespective of the chosen technology, the objective – encouraged by open government and Local Agenda 21 initiatives – is to move toward a process of planning by consent. Of all the procedures discussed, virtual reality appears to be offering most promise in this area enabling the client, planners and the public to comment on and influence proposals at an early stage. Importantly the technology also permits schemes to be relatively easily adapted and modified to take account of a spectrum of opinion and professional judgement.

Appendix 9

Guidelines on photomontage and CAD

A photomontage is the superimposition of an image onto a photograph for the purpose of creating a realistic representation of proposed or potential changes to a view. Traditionally these were created manually by hand rendering, but today most are generated *using computer imagery*. Photomontages are prepared as follows:

Field photograph of development site taken from fixed viewpoint

35mm film format with a 50mm lens is recommended for most developments. If a practitioner wishes to use an alternative focal length, then a 50mm photograph of the same view should be provided for comparison. The practitioner should also explain the reasons for his choice of format and lens.

All details of the format of the photograph and the focal length should be noted and be consistent between different views of the same proposal unless otherwise stated.

The viewpoint must be fixed, either at a known Ordnance Datum, i.e. at a benchmark, due to tolerances in Ordnance Survey data or by surveying the camera position to provide a precise co-ordinate. The angle of direction through the centre of the lens should also be recorded, with the height of the camera above ground level.

The location and height of at least three reference points in the photographic view will need to be recorded or surveyed. These might include a visible building or transmission tower, or a known triangulation point, height of landform or landmark.

Panoramas

Where a wider field of view than can be achieved from a single photograph is required, a series of overlapping photographs is taken from the same viewpoint, again using the recommended 35mm film format with a 50mm focal length for the lens. There should be a 50 per cent overlap between adjacent photographs. The photographs are then scanned into a computer and 'joined together' using a graphics package; minor 'retouching' to eliminate slight variations in colour tone between photographs is acceptable. This is more easily achieved if adjacent photographs are spliced in areas with little detail.



Preparation of geometric perspective based on available information for proposals

The degree of detail in the montage will very much depend upon that available in the proposals. For all development, basic dimensions of buildings, structures or landform will be required, as will information of colour, finishes and landscape design elements. Examples of brickwork, plant material etc. can be scanned into the computer to provide a library of finished textures.

Technically accurate details of the proposal are usually imported from CAD software offering an ability to set a camera position to view the proposal from the same location as that of the original photograph. When the perspective has been accurately determined the proposed structure is transferred to the graphics package and rendered up to produce a realistic interpretation of the building.

Superimposition of perspective image onto a base photograph and rendering (black and white or colour) of that image to produce the photomontage

High-quality computer-generated montages, where the perspective has been accurately set up, are of considerable value in presentation. The use of the computer technique of photomontage allows ready incorporation of future image modifications and can rapidly be revised as the scheme is 'firmed up'. They can also later be used to test the visual impact of alternative layouts and development form and grouping.

Printing a photomontage to provide copy (prints or slides)

Before starting work it is essential to establish the largest size output print that will be needed. Larger prints mean larger file sizes, which otherwise may be reduced if high quality outputs are not required. Modern printers can achieve clear outputs at almost poster size subject to the image being scanned originally at a sufficiently high resolution. It is important to ensure that before and after photographs are reproduced using the same printer settings to achieve direct comparison of the images.

Summary

Photomontages may be commissioned for a variety of purposes. As images conveying a general impression of a proposal they must be clearly annotated 'for illustrative purposes'. As technically accurate photomontages designed to conform to the rigour of planning applications and public inquiries they require painstaking attention to accuracy and detail. Both products may appear graphically similar and it is therefore vital that all parties understand the distinction between each, the associated costs and time to prepare, and the end use to which they will be applied.

Appendix 10

Checklist for landscape and visual impact assessment

Desk studies

current and historical OS and other maps
aerial photographs
geology, soils maps, hydrology survey
land cover and land use maps
development plans/planning policies
landscape designations – statutory and non-statutory
survey and issue reports, other planning documents
countryside strategies, landscape assessments/guidelines
archaeology, ecology, buildings, settlements
other conservation interests/historic and cultural associations
common land and rights of way
meteorological office data
topographical analysis, geological and drainage features
patterns and scale of landform, land cover and built development, landscape character
potential receptors of effects

- important landscape components
- settlements
- valued landscapes
- residents, other groups of viewers
- visitors or travellers through the area

Field survey (structured survey form)

extent of visibility
localised screening effects
viewpoints within study area with photos
identify sensitive receptors
woodland, tree and hedgerow cover
landcover (or vegetation apart from trees) and land use
field boundaries and artefacts
archaeological, historic and cultural features
access and rights of way
seasonal screening effects

Consultations

agencies, for example, Scottish Natural Heritage, Countryside Commission for Wales, Countryside Agency, English Heritage, Highways Agency, Environment Agency, Cadw
 local planning/regulatory authority
 local amenity, conservation bodies, for example, Archaeological Trust, DEFRA, Royal Society for the Protection of Birds

Analysis

scale and character
 physical and human influences
 current trends for change
 destructive elements, features
 spatial organisation
 character areas

- reflecting scenic, visual, archaeological

 historical, ecological, built environment, cultural associations
 quality (condition)
 value and importance
 landscape designations

- reasons, rarity, national/regional context

 scenic quality

- context
- importance of components
- condition of important components including management and deviation from optimum

 conservation interests or features
 cultural associations

- writings, paintings

 perceptions of local value
 sensitivity

- tolerance of change/constraints upon development

 change or enhancement potential

- conservation, restoration, creation of new features, planning gain

 visual analysis

- visibility from surrounding areas
- elements interrupting, filtering, influencing views
- principal viewpoints
- annotated photos

Report structure

Landscape setting

site location, land use, settlement,
topography, drainage, vegetation
landscape context and character

Planning policies

landscape designations, TPOs
rights of way, long-distance paths
other amenity or nature conservation value

Site features

topography, drainage
land use, vegetation, settlement
features of ecological, cultural or archaeological interest
access, rights of way, level of use
views
major service routes

Landscape character (character areas)

location, character type
features and views contributing to its character, significance
landscape quality/importance

Receptors and sensitivity, ability to accommodate change

settlement
vegetation, land use
site features
landscape character
views
public paths, access

Opportunities and constraints

Sources of impact

potential construction impacts
potential operational impacts
removal of existing features, landform, vegetation
introduction of new features, landform, vegetation
change in landscape character
changes in views
magnitude of change
duration of the impact, change in effects over time

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Mitigation measures

for construction impacts
for operational impacts

Enhancements

effects on the landscape resource
effects on visual amenity

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No 122

Tayside landscape character assessment

Land Use Consultants

1999

**Land Use Consultants, Gleniffer House, 21 Woodside Terrace,
Glasgow G3 7XH**

Nominated Officer: Anne Lumb, Advisory Services
Report date: 1997
Report to: Scottish Natural Heritage
Contract No: SE967(18)

TAYSIDE LANDSCAPE CHARACTER ASSESSMENT



**LAND USE
CONSULTANTS**

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1. INTRODUCTION

ROLE OF THIS REPORT

- 1.1. Land Use Consultants were commissioned in September 1996 to undertake a landscape character assessment of the Tayside region. The aims of the assessment, as set out in the study brief, are to:
- produce in written and map form a detailed assessment of the landscape character of Tayside;
 - provide a tool for Scottish Natural Heritage (SNH) staff to use in their day to day casework, including local planning and development control issues, and in particular to provide guidance on how various types of development or land use changes might best be accommodated within the different landscape character areas identified and their capacity to accommodate these changes;
 - provide information about landscape character for use by planning authorities in the preparation and review of their development plans, in the scoping and production of environmental assessments and in the consideration of other applications relating to changes in land use;
 - consider the likely and existing pressures and opportunities for landscape change and assess the sensitivity of the landscapes to these changes;
 - identify areas of landscape that are or may be under threat and find opportunities for the enhancement of features that contribute to landscape character;
 - develop guidelines indicating how differing landscapes may be conserved, enhanced or restructured as appropriate.
- 1.2. The assessment is to be produced in two phases: These comprise the following:
- (i) Phase I: Report of survey;
 - (ii) Phase II: Planning and management guidance in response to landscape change.
- 1.3. This document comprises a synthesis of the two phases of the study.

STRUCTURE OF THIS REPORT

- 1.4. Part I of the report describes the physical and cultural evolution of the Tayside landscape and reviews the principal forces for change which have affected it in the recent past, or which may affect it in the future.
- 1.5. Part II of the report comprises the landscape classification. For each of 20 distinct landscape types, the report describes the current landscape character and the forces for change that are affecting it and sets out a series of management and planning guidelines which are designed to conserve and enhance the distinctive character of the Tayside landscape.

Part I: Evolution of the Landscape

2. EVOLUTION OF THE LANDSCAPE

PHYSICAL INFLUENCES ON THE LANDSCAPE

2.1. The following chapter outlines the main physical processes which have shaped the landscape of Tayside we see today. The physical influences are discussed under the following categories.

- Solid Geology
- Drift Geology
- Hydrology
- Climate

These four interrelated categories are considered in this report as **processes** which form the resulting topography, soil cover and vegetation. Topography, soil cover and vegetation are thus the resultant **products** of these processes. It is, therefore, the interrelation of process and product which can be taken together to mean physical influences.

2.2. Tayside Region is an extensive area which overlies two of Scotland's major geological units; the Grampian Highlands and the East Central Lowlands of the Midland Valley. These two units are separated by the Highland Boundary Fault, which crosses Scotland from Loch Lomond in the south-west to Stonehaven on the north-east coast.

2.3. This chapter describes the physical influences acting on:

- the lowlands; and
- the Highland area.

2.4. The lowlands comprise that part of the region which lies to the south of the Highland Boundary Fault. The Highlands area is the land north of the Highland Boundary Fault.

2.5. Three maps are of relevance to this section. **Figure 1** shows the solid geology of the region. **Figure 2** shows its landform and drainage patterns, while **Figure 3** provides a generalised picture of Tayside's landcover.

Tayside Lowlands

- 2.6. South and east of the Highland Boundary Fault, the lowlands form part of a structural rift valley. The valley lies between the two fault lines of the Highland Boundary Fault and the Southern Upland Fault. Both faults were initiated during the period of Caledonian mountain building in early Palaeozoic times. A prolonged period of tectonic uplift was terminated when the centre of a gigantic arch of updomed rocks began to crack along lines of weakness. These fault lines followed the north-east to south-west Caledonian grain. The result was that a large strip of land 80 kilometres wide was lowered to create basins in which Old Red Sandstone Carboniferous and Permian rocks were later deposited. This tectonic instability also caused a great deal of volcanic activity in the area. The two ranges of hills within the lowlands, the Ochils and the Sidlaws, are the result of the north-east lava flows of this time, Stirling being the centre of volcanic activity in the area.
- 2.7. The lowlands are, therefore, largely comprised of resistant igneous rock overlying softer sedimentary rocks. The igneous rocks were formed by the volcanic activity mentioned previously. The sedimentary rocks are predominantly Lower Old Red Sandstone. These rocks were formed from the deposition of material eroded from the West Highlands and Mounth Highlands to the north, and other detritus. This material was carried south by the powerful rivers of the time. As these rivers crossed what is now the Highland Boundary Fault, their flow would have been checked by the change in gradient where they met the flatter land of the Midland Valley, depositing the material into a large alluvial plain.
- 2.8. The different rock types of the lowlands - the hard igneous and softer sedimentary - result in markedly different topography. This marked contrast can be seen around Strathearn and Perth. A characteristic of this area is the contrast in form between the hard rock landforms of the igneous Ochils and the soft rock features of Strathallan-Strathearn lowlands. This contrasting topography was shaped by glacial erosion. Ice sheets moving east towards the Firth of Tay truncated the spurs of the Ochil north slopes and pushed lobes of ice into the valley of Gleneagles. The steep sided form of this valley is testament to the resistance of igneous rocks to erosion. The softer sandstones of Strathallan and Strathearn, however, were eroded more easily. The divide between these two valleys was substantially lowered in this way.
- 2.9. While ice sheets were responsible for significant amounts of erosion within the lowlands, the principal process was that of deposition. This took the form of till (or boulder clay) laid down by moving ice sheets and the spread of fluvio-glacial deposits (kames, eskers and outwash terraces and channels) as the ice sheets melted. Also, at the end of the last Ice Age, sea levels rose, flooding large parts of the Tay estuary and Strathearn, creating the raised shorelines that are visible today, together with the carseland deposits of sedimentary material.
- 2.10. The western boundary of Tayside in this area crosses the summit of Uamh Beag at 662m. This hill range has survived due to it being of a more resistant composition than the surrounding sandstones. Uamh Beag is composed of Old Red basal conglomerates known as the Dunnottar Group. This group also forms the distinctive foothills which run from Blairgowrie to Edzell, which will be discussed later.

)-CARBONIFEROUS

)-Dinantian

Tournaisian & Visean ('Carboniferous Limestone Series')

80

78
77
76

)-DEVONIAN

52
51
50
49

)-Devonian
)& Old Red
)Sandstone

38
37
36
35
34
33
32
31

)-Dinantian

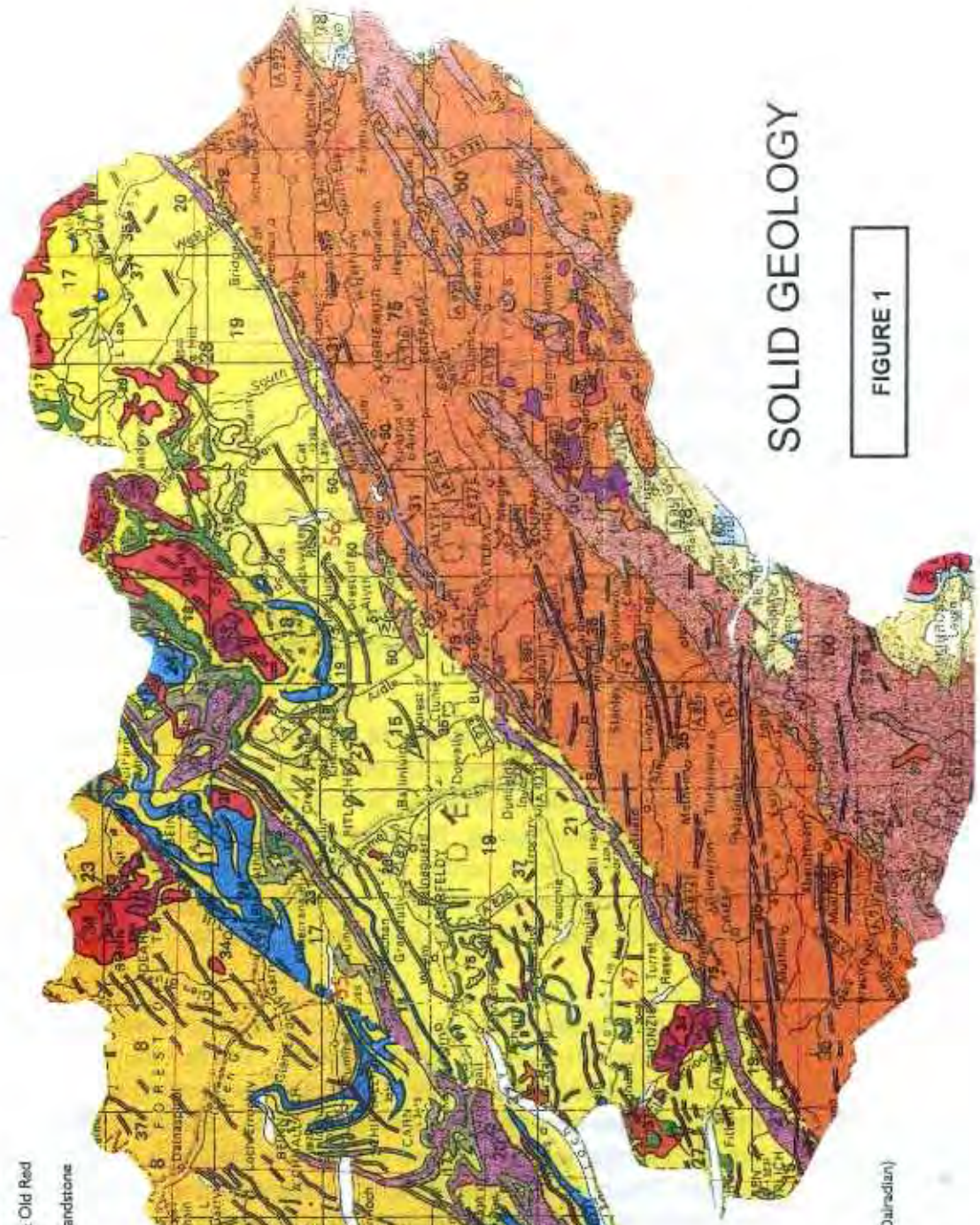
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Upper Old Red Sandstone
Middle Old Red Sandstone
Old Red Sandstone

Tuff (including ignimbrite)
Rhyolite, trachyte & allied types
Andesite & basaltic lavas & tuffs undifferentiated
Basalt & spilitic

Agglomerate in neck
Rhyolite, trachyte, felsite, elvans & allied types
Porphyrite, lamprophyre & allied types
Basalt, dolerite, camptonite & allied types
Granite, syenite, granophyre & allied types
Diorite & allied intermediate types
Gabbro & allied types
Ultrabasic rock

Limestone (Upper Dalradian)
Limestone
Graphitic schist & slate
Black shale with chert (Upper Dalradian)
Slate, phyllite & mica-schist (Upper Dalradian)
Slate phyllite & mica-schist
Quartz-mica-schist, gnt. slate & phyllite (Upper Dalradian)
Quartz-mica schist
Quartzite, gnt. interstratified quartzose-mica-schist
Boulder bed and conglomerate
Epidote-chlorite-schist, commonly hornblende-Green Beds (Upper Dalradian)



SOLID GEOLOGY

FIGURE 1

- 2.11. Perth has a strategic location where the Tay breaks through the hard volcanics of the Sidlaws. The city has historically capitalised on its surrounding geological structure. The softness of the water of the Tay, due to the low amount of calcareous mineral, promoted Perth as a centre for bleaching, dyeing and whisky bottling.
- 2.12. Upstream from Perth, mills connected with cotton, linen and jute industries were established along the Tay, Erich and Almond valleys. These mills exploited the cataracts and rapids formed where rivers cross the resistant igneous dykes which intrude through the sandstone in these parts.
- 2.13. The structural history of the tract of land to the south-east of Perth, where the Tay channel widens as it approaches the Firth of Tay, is of note, for it represents the best example in Scotland of a true rift valley. The Ochils and Sidlaws, being of the same rock type, are opposing limbs of an anticline known as the Tay Anticline. The steep north-east facing slopes of the Ochils and the equally steep Braes of Carse, are parallel fault lines along which the highest point of the anticline has been downfaulted. The volcanic rocks were covered by the Upper Old Red Sandstone which now outcrops along the Firth of Tay to Dundee.
- 2.14. To the north of the Carse of Gowrie, the Sidlaws rise sharply from the flat carse. The Sidlaws are generally lower than the Ochils, reaching around 455 metres. This is due in part to the Ochil-Sidlaw lava flow becoming less thick as it moved further away from its point of origin near Stirling. Because of their base-rich rocks, the soils of the Sidlaws, like those of the Ochils, contain important nutrients such as calcium, phosphorous and potassium. The resultant effect on vegetation is a greater extent of montane grasslands on these hills than is found on the more acidic soils of the granitic Highlands north of the fault.
- 2.15. Strathmore is a sandstone vale approximately 13 kilometres wide. It corresponds largely to the outcrop of Lower Old Red Sandstone. The fact that this sandstone coincides with an area of lowland is due partly to previous downfaulting along the Highland Boundary Fault. It is also because the softer sandstones are sandwiched between more resistant grits and schists to the north and volcanics to the south, leaving it relatively vulnerable to erosion. Strathmore is, therefore, an example of land formed by 'differential erosion', where denuding processes (including ice sheets) have been able to lower less resistant sedimentary sandstones more effectively than the more resistant metamorphic and igneous rocks, exacerbating the effect of downfaulting.
- 2.16. Within Old Red Sandstone, however, are some extremely hard formations, such as the Dunnottar Group of Old Red basal conglomerates previously discussed in relation to Uamh Beag (para 2.10). As mentioned, the foothills running north-east from Blairgowrie, including Tullo Hill and the Hill of Alyth, are also comprised of this group. These hills are separated from the Highland Boundary Fault and the Mounth Highlands by a discontinuous linear valley. This valley was also formed by a process of differential erosion. In this case, a narrow outcrop of less resistant Ordovician faulted wedges and Downtonian rocks have been eroded.
- 2.17. Where the solid geology of the area has had a strong impact on the character of Strathmore, is in the sandstone towns such as Kirriemuir. Here, the town centre is

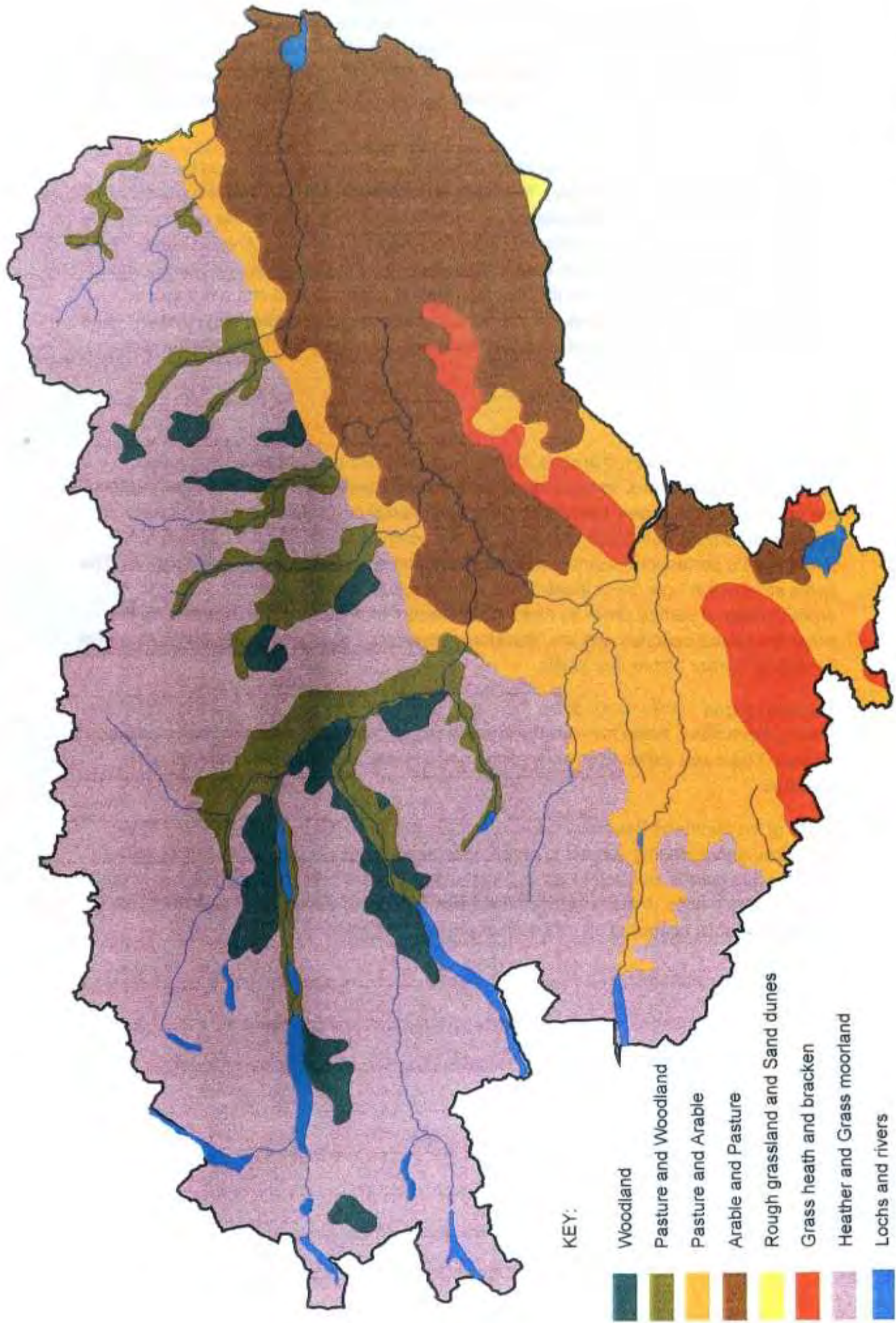
almost entirely built from red sandstone with slate roofs. This creates a strong local identity.

- 2.18. The coast of the region is composed of successive cliffs and bays. This pattern results from the alternating igneous and sedimentary rocks within the Old Red Sandstone succession. The cliffs are formed from the harder basalt lavas, igneous dykes and Old Red conglomerates. The lower coasts and bays correspond to the softer areas of sandstone.
- 2.19. The coastline is generally low with few significant topographic features until Arbroath. North of Arbroath, the presence of igneous basalts and Upper Old Red Sandstone introduces a number of coastal features characteristic of differential erosion by maritime processes. Deil's Heid sea stack and the blow hole of Graylet Pot are two such features. The village of Auchmithie sits atop spectacular conglomeratic cliffs.
- 2.20. North of Auchmithie, the Ochil-Sidlaw lava group reaches the North Sea. The coastline cuts across the various outcrops resulting in a series of bays and headlands. The headlands of Red Head and those south of Montrose, correspond with igneous outcrops resulting in some spectacular basaltic lava cliffs. In contrast, Lunan Bay corresponds to an outcrop of resistant Lower Old Red Sandstone.
- 2.21. The main drift geological features of the lowlands are the glacial plains of Strathearn, Strathallan and Strathmore and the post-glacial raised beaches of the Carse of Gowrie and Buddon Ness. The glacial plains and the Carse contain some of the richest farmland in Scotland.
- 2.22. The Carse of Gowrie, however, has not always been quality agricultural land. Prior to the agricultural improvements and drainage in the 18th century, the Carse was marshy, due to its foundation of uplifted marine clay. The number of names prefixed 'Inch' or island mark the dry areas prior to drainage: Inchturie, Inchyra, etc. The Carse of Gowrie, unlike the carse clays of the Forth, never had a cover of peat on its surface. There is, therefore, no history of peat cutting in this area.
- 2.23. As mentioned previously (para 2.15), it is the drift geology of Strathmore which today dictates the land uses and soil type - a fertile red loam. Strathmore is covered in a thick layer of glacial drift which was produced by several processes.
- 2.24. The most significant of the processes which produced the widespread bright red drifts, is the movement down the vale of a major ice sheet. Another source of superficial material is the locally restricted south-easterly advances of ice which brought grey ground-moraine and fluvio-glacial outwash from the Mounth Highlands.
- 2.25. A characteristic drift feature in the Strathmore area is the extensive 'sandur' or plains of outwash at the mouths of most of the Highland Glens, formed as the glaciers retreated into the Highland glens, and meltwater deposited material that had been scoured by the ice. To the south of Blairgowrie the moors, woods and golf course mark the presence of the gravely soils of a sandur.

- 2.26. Where the ice sheets left extensive sandur plains, or other drift features such as kame and kettle topography, the land use of the fertile straths changes also. Examples can be found in Strathmore, north of Glamis and in Strathallan around the Gleneagles Hotel. In both instances, flat farmland changes to undulating and hummocky well-drained gravelly soils. These are often covered with gorse, heather or pine. Some, such as at Gleneagles, are now used as golf courses as they are generally unsuitable for agriculture, being too steep and/or the soils too acidic for any agricultural use other than rough grazing.
- 2.27. The hydrology of the lowlands is interesting as it largely ignores the underlying structures. Whilst these structures generally run south-west to north-east, the drainage of the area is predominantly from the west or north-west. The Rivers Tay, Earn and Almond all exhibit this pattern to a greater or lesser degree. This discordant condition is believed to be the result of ancient east flowing rivers continuing their flow over an emerging landmass in which the greatest uplift was in the west. This gentle uplift was accompanied by local warping. As the consequent streams developed upon successively emerging coastal platforms, they continued to extend themselves towards the sea, but always down the steepest slopes. The rivers thus incised themselves across the underlying structural lines. Thus, the drainage of the area used to be accordant with former coastlines, but became gradually more discordant over time.

The Highland areas

- 2.28. The Highland areas lie to the north-west of the Highland Boundary Fault. They were metamorphosed from sedimentary rocks during the Caledonian Orogeny - the gigantic period of mountain building which took place around 400 to 500 million years ago. Lengthy periods of denudation have reduced these mountains to the stumps seen today.
- 2.29. Within the region, two main groups of rock outcrop: the Moinian Assemblage and the Dalradian Assemblage. Both run roughly parallel to the Highland Boundary Fault. These two groups differ in age, diversity and composition of constituent rocks. The Moinian Assemblage is the older of the two and occurs in the north-west of the region. This area has yielded to denudation in a largely uniform manner, resulting in featureless plateau lands. The Dalradian Assemblage by contrast is much more diverse in both composition of rocks and thickness of strata. It occurs to the south of the Moinian Assemblage and forms the southern edge of the Highland Boundary Fault. Three significant granite intrusions also occur in the north of the region, at Rannoch Moor, Beinn Dearg and in the Mounth Hills west of Glen Clova.
- 2.30. The Moinian Assemblage is characterised by uniform landscapes such as at Drumochter and Rannoch Moor, and their blanket bogs. These blanket bogs have formed, unlike lowland raised bogs, independently of ground water. They are more dependent upon high rainfall and atmospheric humidity. The blanket bog has thus become a typical vegetation type or 'climatic' formation in this high rainfall area.



GENERALISED LANDCOVER

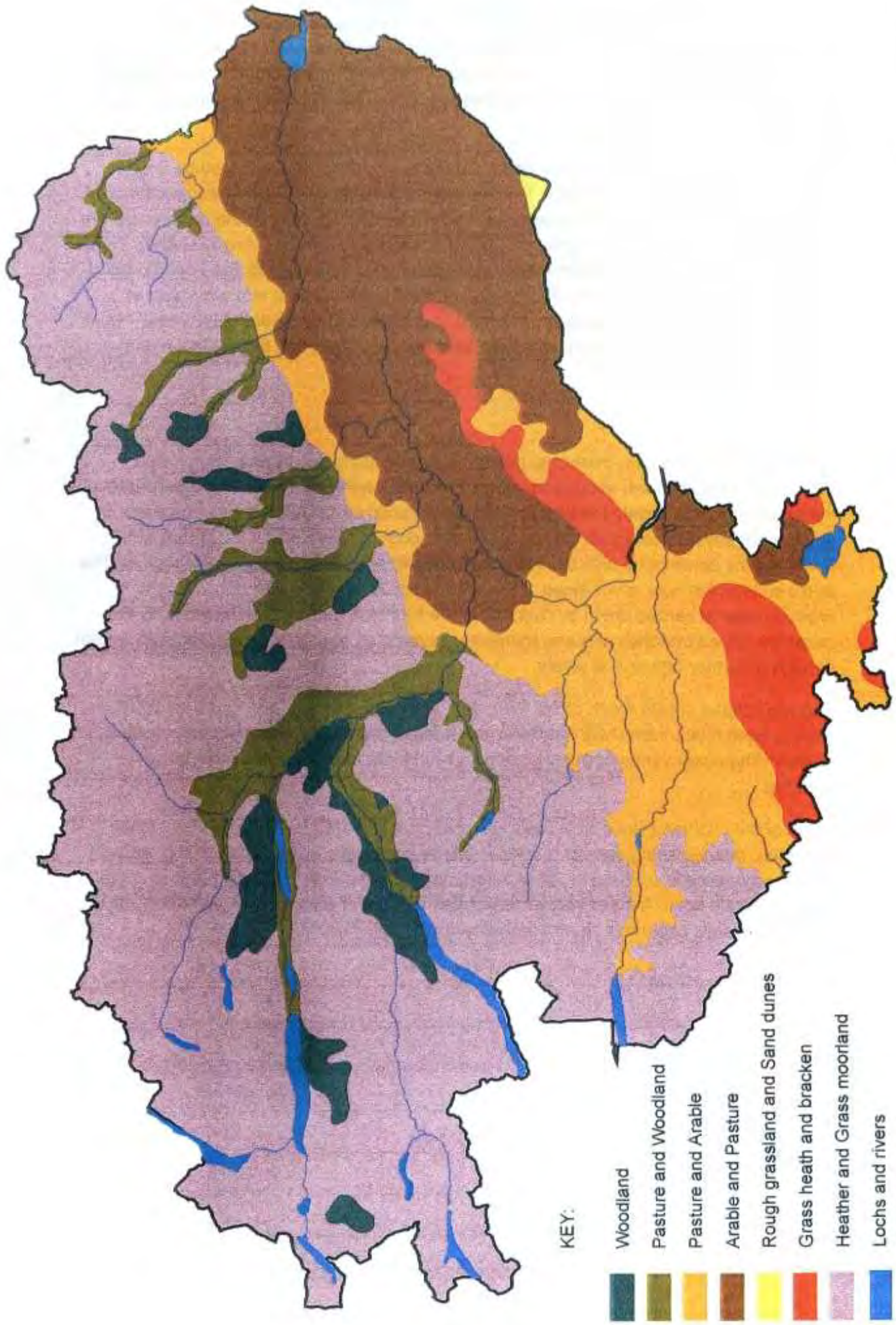
FIGURE 3

- 2.31. Rannoch Moor is one of the best examples of such a peat bog. It is, however, also interesting for its geological significance as a granite outcrop. Despite the fact that granite is an igneous rock often considered resistant to erosion, and that the high Cairngorms are also granite, Rannoch Moor is a low-lying basin. The reason for this apparent paradox is due to the nature of the surrounding rocks, quartzites, quartzose mica schists and the volcanic rocks of Glencoe. All these neighbouring rocks offer greater resistance to denudation than the granite of Rannoch Moor. Once a shallow upland basin had formed, therefore, the ice sheets of the Pleistocene times would have removed the thick accumulations of disintegrating rock for the natural amphitheatre of today.
- 2.32. East of Rannoch Moor lies the Rannoch/Tummel Valley. This valley can be discussed in relation to two significant geological/hydrological processes characteristic of this Highland area, discordant drainage and radial ice-dispersal.
- 2.33. Unlike Lochs Ericht, Laidon and Tay, Loch Tummel and Loch Rannoch are not fault-guided. This means, therefore, taken in its entirety, the valley runs contrary to the main underlying geological structure, crossing various rock types. Other examples of this are Loch Errochty and Loch Lyon. Various theories as to how this discordant condition can come about have been suggested. Where perhaps it is most interesting, however, is in its geomorphological manifestations, or the resultant topography it produces. The change along the length of the valley, from wide loch-filled alluvial basins to narrow rock sections, is the result of harder Schiehallion quartzites crossing the valley. A similar condition can be found with river valleys such as the River Garry where it crosses the complex Dalradian formations at Killiecrankie. The Falls of Tummel and the Pass of Killiecrankie are both formed by harder quartzites crossing the river's path.
- 2.34. Further examples of discordant drainage are found in the eastern part of the region in the Angus Glens. Here, the rivers which occupy Glen Esk, Glen Prosen, Glen Clova and Glen Shee all flow, against the structural grain, south-east towards Strathmore.
- 2.35. The other main process affecting the Rannoch Tummel Valley is radial ice dispersal. The valley is one of 15 major glacial troughs in the south-west Grampians. The process results from the radial dispersal of ice from Rannoch Moor.
- 2.36. Where the valley patterns did not accommodate ice dispersal, then glacial 'breaching' occurred, whereby new valleys were created. The Loch Ericht Valley is an example of one such valley.
- 2.37. The River Tay catchment covers two thirds of the region and is fed by seven other significant rivers including the Earn, Almond, Tummel, Garry and Isla.
- 2.38. The boundary of the Moinian and Dalradian Assemblages is marked for a substantial length within the region by the Iltay Boundary Slide. The boundary between the two is complicated by overfolding and thrusting as well as being severed by major north-north-east tear faults. Such tear faults often resulted in the formation of belts of shattered rock which have subsequently been denuded due to their weakness. Glen Tilt, the central section of Loch Tay, Loch Ericht and Loch Laidon in Rannoch Moor, are all the result of this faulting process.

- 2.39. The boundary between the Moinian schists and Dalradian rocks is perhaps most obvious, however, where the River Garry crosses the boundary south of Calvine. The landscape changes abruptly from the open moorland by Drumochter to the wide basin of Atholl. The effect of this change to less resistant calcareous limestone is also apparent in the soils and vegetation, where the extensive Blair Castle Estate is situated amongst large trees and fertile farmland.
- 2.40. West of here, the tract of land from Breadalbane to Aberfeldy is dominated by Ben Lawers, Glen Lyon and Loch Tay. This area is considered important as a transitional area between the more heavily glaciated Western Highlands, outwith the region, and the less deeply eroded Eastern Highlands, including the hills above the Angus Glens. This area also represents the eastern extent of the last major ice advance, the Loch Lomond Readvance. The outwash from this last ice-front has been carried into a number of broad, flat terraces. In the area around Fortingall, Kenmore and Aberfeldy, these terraces have had an important impact on land use, providing flat, fertile glacial drift plains suitable for agriculture.

Summary

- 2.41. The Tayside Region can, therefore, be seen as comprising two broadly distinctive geomorphological areas, separated by the Highland Boundary Fault. The topography of the entire region is largely the product of similar glacial processes acting upon the varying underlying geological structure. To the south of the fault line the broad, flat, fertile straths correspond with the soft areas of sandstone, eroded during glaciation. The fertile soils which now cover these areas are the result of glacial drift deposits and eroded material carried down by rivers from the Highland glens. The flat lands by the coast are raised beaches and are, therefore, covered by marine deposits originating from periods of former higher sea levels.
- 2.42. The two ranges of hills south of the fault, the Ochils and Sidlaws, are igneous intrusions. Having been tilted, these hills now form south facing dipslopes and north facing scarp slopes. The coast varies from steep cliffs to wide bays and low areas with raised beaches.
- 2.43. North of the Highland Boundary Fault, generally harder rocks have resulted in higher elevation, despite being subject to similar glacial processes as the south of the region. Much of this area is covered in either moorland or blanket bog, indicating higher rainfall and less fertile soils. Where valleys have been created or enlarged by glaciation, the more fertile soils occurring on drift deposits support agriculture.



GENERALISED LANDCOVER

FIGURE 3

- 2.44. A broad distinction can be drawn between the eastern and western halves of the Highlands. A more stable climate and lower turnover of ice in the eastern half resulted in less erosion of the Mounth than the more vigorously eroded and, therefore, more rugged western Highlands.
- 2.45. The hydrology of the region appears to be largely discordant, drainage across the region being generally north-west to south-east, against the grain of underlying structure which runs south-west to north-east. The River Tay catchment covers a large proportion of the region and is fed by seven other significant rivers. In the north-east, the North and South Esk both drain towards Montrose. In the south, the Leven flows east to Fife.

HUMAN INFLUENCES ON THE PHYSICAL LANDSCAPE

- 2.46. Humans have been present and manipulated the physical landscape in Britain since soon after the retreat of the last Devensian ice sheets around 10,000 years ago. While the greatest changes have occurred within only the last 200 years, the landscape seen today is the product of several millennia of human and animal activity.

Mesolithic Period (7000-4000 BC)

- 2.47. The earliest, and only good, evidence for human settlement in the Tayside area during the Mesolithic era, barely survives in the form of buried middens of shellfish and flint fragments, thought to date to around 6000 BC. The human societies of this period are thought to have been groups of hunter-gatherers, moving around the land as nomads. This is probably why so little evidence of them remains, for they did not need to build substantial structures to live in, and had no fixed areas of land to defend from others. The middens unearthed at Broughty Ferry in the 19th century, and the Stannergate in Dundee, are further evidence of human settlement in Tayside during the Mesolithic period. Indeed, it is easy to speculate that, despite a lack of evidence, the north side of the Tay Estuary and the wildfowl over-wintering sites in the Montrose basin, would have attracted these early hunters.

Neolithic Period (4000-2500 BC)

- 2.48. Around 6000 years ago, a society settled in Scotland who farmed the land for the first time. Far more evidence for people of the Neolithic period remains in the region, for they cleared areas of woodland for crops, built houses and enclosures for animals, and had a ritualistic society which has left stone circles and cairns still standing. This was the period when the most impressive stone circles in Scotland, such as Callanish on Lewis, were built, demonstrating fairly sophisticated engineering and organisation.
- 2.49. Evidence for this society survives as stone circles at Balgarthno by Dundee, Coleallie in Glen Esk, mortuary enclosures such as at Inchtuthil and Strone Hill by Lintrathen, and also tenuously as crop-markings on aerial photographs. During the Neolithic period, the dead were placed in communal chambered cairns and these are numerous over the whole of the region and particularly on valley sides.

Bronze Age (2500-700 BC)

- 2.50. The transition from the Neolithic period to the Bronze Age was characterised by new and extended forms of settlement, increased agricultural activity, standing stones, some rock carving art, pottery and crude metal working.
- 2.51. The Bronze Age peoples are thought to have been migrants who crossed the North Sea to Britain from the lands around the mouth of the Rhine. Confusion still exists as to whether they settled peacefully with the Neolithic inhabitants or sought to overpower them. What is clear is that they brought with them the 'magical' knowledge of metal-working. The additional power which such knowledge gave to those who possessed it brought a significant change to the previous communal Neolithic society. The Bronze Age sees the development of a hierarchical societal structure of ruling classes, warrior caste, farming peasantry and slaves. Desire for both the knowledge and materials for metal-working also gave a different form of power: economic. Trading was, therefore, established during the Bronze Age.
- 2.52. Remains of hut circles and field systems are frequent over the Tayside area. They are most obvious now on what is marginal land, particularly at the edge of the lowlands and highlands, and high on valley sides such as up Glen Isla at Brewlands Bridge and Burn of Kilry, up Glen Shee and on upper reaches of the Tay and Earn Valleys.
- 2.53. Burial habits in the Bronze Age evolved from using communal chambered cairns such as used in Neolithic times, to individual burial in stone-lined box graves or 'cists'. Also, there was a progression of cremation and burial in small cists rather than the inhumation practised earlier. Again, such sites are numerous over the Tayside area though often known only from aerial photography. Good examples survive at Bell Hillock, Kirriemuir where two urns, a spearhead and jet beads were found inside and on the tops of the Sidlaw Hills.
- 2.54. Standing stones were a continuing theme during the Bronze Age, though usually not as intricate or extensive systems such as those built by Neolithic peoples, as the habit of ritual monument building was already in decline in late Neolithic times. Frequently, these stones are single such as on the Hill of Kirriemuir, or in pairs or lines, and are found over most of the Tayside area.

Iron Age (700 BC-500AD)

- 2.55. Several important factors changed the landscape of the region during the Iron Age. Firstly, around the junction with the Bronze Age, there was a period of climatic deterioration which greatly reduced the area of productive land and caused groups to become increasingly warlike and to make fortifications in order to protect their good land from others. Secondly, the availability of iron allowed the construction of more effective tools and weapons which later allowed more felling of trees and renewed agricultural expansion. A third factor leaving an impression on the land was the period of Roman occupation.
- 2.56. Hill forts, such as the White and Brown Caterthun forts at Menmuir in Angus, are thought to date from around this period, as are a number of Duns such as the Kings Seat fort north-west of Dunkeld, and numerous crannogs on Lochs Earn, Tay and Rannoch.

- 2.57. An unusual remnant of Iron Age society in Tayside are the brochs. Most brochs in Scotland were constructed between the 2nd century BC and the 2nd century AD, the greatest concentration of them being in the Northern Isles, north and west mainland Scotland. The reason that a small number exist in Tayside, so far and so removed from the centre of activity, is still open to conjecture. One theory relies on the fact that the Tayside brochs appear to date from a period between the Flavian and Antonine Roman incursions into Scotland. They may, therefore, represent the southerly advance of colonists into a land previously depopulated by the Romans. The best example of a Tayside broch is at Laws of Monifieth.
- 2.58. In the latter part of the Iron Age, a return to unenclosed agricultural settlements such as at Tealing, encouraged construction of a new feature - the souterrain (or 'earth house') - which were used as food stores and litter much of Angus.

Roman Occupation (c.83AD-215AD)

- 2.59. In 78AD, the Roman governor and general of the province of Britannia, Gnaeus Julius Agricola, embarked on a series of campaigns to conquer the remainder of Britain. By 80AD, his armies had reached the Tay. In 82-83AD, Agricola marched into Strathearn and Strathmore. Lines of forts were established between Camelton and Ardoch and further east via Strageath to Bertha, all following the line of a Roman road, still visible today. This second line of forts and signal stations follow the Gask Ridge, a thick igneous dyke running westwards from Perth to Crieff. The importance of Tayside to Roman studies lies in these well-preserved fort lines. These forts comprise one of the largest concentrations of temporary Roman camps in Britain. This indicates Tayside's importance as one of the frontiers of the Roman Empire.
- 2.60. One further impact the Romans had was to consolidate the previously warring Celtic tribes into a more powerful confederacy - the Picts.

Pictish Period (500AD-1050AD)

- 2.61. Tayside marks the southern extent of the Pictish kingdom. References are made to the Picts in Roman literature from AD297 onwards, however, it was not until the 6th century that the Pictish kingdom was fully established.
- 2.62. Pictish culture and art was influenced both by its Celtic ancestry and the contemporary Northumberland styles absorbed during the 7th century through ecclesiastical contacts. Stone carving displaying both influences was flourishing at this time. The 7th century also witnessed the rise of Pictish Christianity. The main proponent of this being Columba. Columba's relics were brought to Dunkeld Cathedral by Kenneth mac Alpin in 850, establishing Dunkeld as the head of all Columban establishments in Scotland.
- 2.63. Due to its southern location Tayside was also strongly influenced by both religious and political ideas from Northumberland. Indeed, for about 30 years from 658 until the battle of Nechtansmere in 685, southern Pictland was under Northumbrian domination. The battle near Dunnichen, east of Forfar, saw a victory for the Picts and an end to southern domination.
- 2.64. The political union of Scots and Picts under the kingship of Kenneth mac Alpin in 843, marked the end of Pictland and the creation of Scotland. The ceremonial and symbolic

centre of this new kingdom of Alba was at Scone. At Scone, Kings were inaugurated and the hub of political activity lay.

- 2.65. The ecclesiastical importance of the region at this time is highlighted by the creation of religious establishments between the 7th and 13th centuries at Brechin, Dunkeld, Glamis and Abernethy. Other important Pictish sites within the region are the cross-slabs at Aberlemno and Cossans, both still in their original positions. A possible function was as territorial markers.
- 2.66. A special feature of Tayside Pictish monuments is a group of finely executed cross-slabs smaller in size than normal. A good example of such a slab is the Banvie slab now in the McManus Galleries, Dundee.

Medieval Period (1050AD-1600AD)

- 2.67. The death of Macbeth, killed in battle by Malcolm III in 1057, opened a new chapter in the history of the region which saw the first significant changes to the landscape since the advent of farming. Although the struggle for domination of Scotland continued between the Kings of the Canmore dynasty and the northern descendants of Macbeth, history shows it was the southern kings who proved superior. The last significant battle ended in defeat for Angus, ruler of Moray, at the hands of David I at Stracathro in Strathmore. In order to halt subsequent attacks and extend his power to the previous weak areas north of the Mounth, David I began a conquest of the north.
- 2.68. Tayside, and subsequently Scotland, became ruled by southern kings with Norman allies. These allies - often land-hungry men - were sent north to create order, assisting the kings in their policies of modernising the country, based on a feudal system. Royal estates were often given as a reward for military service. These new forms of land tenure and lordship formed one of three modernising processes initiated at this time. The other two were the reform of the church and the foundation of burghs.
- 2.69. Before moving on to discuss the other two, it should be noted that several local families also participated in the colonisation of the north. The Earls of Strathearn and Atholl, both of Celtic descent, were on the one hand reluctant to allow foreign colonisation to disrupt their own sphere of influence, whilst being equally glad to receive new lands on similar terms as those same incomers.
- 2.70. The reform of the church took several generations, but was part of the same movement as Anglo-Norman colonisation. The gradual appointment of reform-minded clerics thus followed. At the same time as the reform of the church was occurring, new monasteries of the reformed order were being established, Arbroath Abbey being one. In addition to their often dubious religious significance, these monasteries also brought, indirectly, more earthly benefits. The monasteries were seen as centres of alien culture bringing innovative techniques in crafts, trade and most importantly, agriculture. Being substantial landowners, running their estates for profit with surpluses being sold on for cash or traded overseas for luxury goods, their economic importance in the commercial development of Scotland was great.
- 2.71. The formation of the burghs as privileged trading centres of the time was ultimately a further expansion of royal power. They often served as seats of royal administration.

- 2.72. During these advances of the 12th and 13th centuries, Tayside was one of the more settled and prosperous regions of the Kingdom north of the Forth. Tayside was home to many of the royal hunting grounds and home to many royal residences and estates. The aristocracy was prospering - evidenced by the shift from building in earth and timber to stone and mortar. The early burghs such as Dundee, Forfar and Montrose were also commercial successes in medieval times.
- 2.73. The proliferation of castle building in the late medieval period, after the Wars of Independence, was an indication of a return to a more stable society. Despite the defensive form and embellishments of late 15th and early 16th century castles and tower houses, they were built more as a statement of social status, pretensions and wealth rather than for security. Examples of such castles exist at Edzell, Balbengo and Melgund Castle near Aberlemno. A clear distinction existed between people to the north and south of the Highland Boundary Fault. To the north lay the Gaelic speaking Highland clans, with an economy based on cattle. To the south lay the Lowland Scots with an arable farming economy. Though Gaelic has since died out, the distinction is evident in the distribution of Gaelic and anglicised place names.

Post Medieval Period 1600AD-1900AD

- 2.74. The Reformation of 1560 did not bring about an overnight transformation in society. However, several burghs were early converts to Protestantism. Reformation did, however, bring major changes to the landscape, the most notable change being the destruction of the already declining monasteries. New religious building was limited until the 18th century when increasing prosperity of the land and new confidence of religious men saw them investing in their spiritual future.
- 2.75. A series of changes transformed the landscape of the Highland glens in the late 18th and 19th centuries. Defeat at Culloden precipitated a change in the way that Highland clans were structured. The major landowners sought to maximise the financial return from their land, and the old crofts were cleared to provide grazing land for sheep and cattle. Crofters, forced off their land, moved to the growing cities, or emigrated, and by the middle of the 19th century the Highland glens had been virtually emptied. The decaying remains of old field systems, and even the sites of abandoned villages, illustrate the scale and severity of the changes that occurred.
- 2.76. Further changes were brought by the agricultural revolution. In the lowlands, the agricultural revolution brought equally dramatic changes. In areas such as Strathmore large areas of land were improved and enclosed by Act of Parliament. New farmsteads were established, many associated with bothies for the farm labourers. Many of the Angus burghs owed their growing wealth to the markets that were created by the agricultural and industrial revolutions. It was also during this time that many of the large designed landscapes and extravagant houses, such as those at Dunkeld, Blair Atholl, Kinross, Glamis and Taymouth, were constructed. Contrasting with the creation of new policy landscapes was the continued loss of native woodlands as the forests of Scots pine were cleared to provide timber for fuel, construction and boat building. Losses include the Glen Lyon pine woods. New woodlands were established, however, particularly for coppicing.

- 2.77. The importance of Tayside in the history of early tourism in Scotland in the early 19th century was largely due to both its abundance of the wild scenery currently in 'vogue' at the time and the stamp of approval given to the area by Queen Victoria's visits in the mid-late 19th century. A series of literary tourists, such as Rev. William Gilpin and Thomas Pennant, published accounts of their travels, writing enthusiastically on the 'picturesque' scenery of Highland Tayside.
- 2.78. Two later boosts to tourism in Tayside, and Scotland as a whole, occurred in the mid-late 19th century with the arrival of the train and the writings of Sir Walter Scott. Perthshire, in particular, became part of the 'Highlands Tour', popularised by Queen Victoria and a number of writers, poets and artists. Towns such as Pitlochry, Aberfeldy and Crieff experienced considerable growth with the development of grand hotels and elegant villas. Many of the lower parts of the glens are characterised by a wealth of Victorian buildings, most of which adopt the local vernacular, but interpret it in a classically 19th century way.

20th century developments

Agriculture/Forestry

- 2.79. By the 20th century, the native pine and broad-leaved woodland of Tayside had almost entirely vanished, only small remnants existing towards the north and west of the region. Instead, the landscape was one of agriculture in the lowlands and highland valleys, and hill grazing and limited forestry on the hills.
- 2.80. In 1919, The Forestry Commission was established from the UK's strategic requirements for timber. The Forestry Commission purchased large areas of uplands and estate forests and pursued a policy of maximum timber production from these areas. In the Tayside area, this was most pronounced in the Tay Valley, Glen Prosen and Rannoch-Tummel valley. The policy of maximum production, leading to large-scale afforestation, was later criticised for its lack of amenity and unattractive appearance. Within the past 20 years, the concept of multi-purpose forestry placing greater importance on nature conservation, landscape values and recreation, has been embraced and practised in a more comprehensive approach to forest design. Much of the forestry in Tayside should appear more attractive and diverse by the 21st century.
- 2.81. In the lowlands, the fertile soils have meant that commercial forestry has been limited. Agricultural landscapes have changed little since the beginning of the century though boundaries have become larger as holdings have become consolidated. In the highlands of Tayside, much of the land has been designated for conservation purposes as Sites of Special Scientific Interest (SSSIs), Environmentally Sensitive Areas (ESAs) or National Scenic Areas (NSAs), and as such has encouraged farmers to use sensitive farming practices and maintain the scenic and ecological values of the landscape.

Construction

- 2.82. This century has seen massive growth of the main towns such as Dundee, Perth, Crieff, Blairgowrie, Forfar, Arbroath and Montrose. Similarly, the A9 and A90 going to Inverness and Aberdeen respectively, have been expanded and improved and are now Scotland's main roads to the north.
- 2.83. A high proportion of industry, other than tourism, in Tayside is located in Dundee which is also now the region's largest settlement. For much of the region and especially in the Tay and tributary valleys, tourism is a major economic generator and while there are many established hotels of a high quality, there has been little pressure to build new facilities during recent decades. There has been some development of alternative forms of accommodation such as time-share and log-cabin developments.

3. KEY FEATURES OF THE TAYSIDE LANDSCAPE

INTRODUCTION

- 3.1. The processes of landscape evolution described earlier, have been responsible for the creation of a wide variety of 'features' which are now integral to the character of the landscape. The scale and diversity of Tayside generates a potentially huge list of noteworthy features of both natural and man-made origin. This chapter seeks to convey how these features contribute to the character of the landscape, by describing key examples and attributes rather than attempting to draw an exhaustive list.
- 3.2. The features are described under the following broad categories.
- Nature Conservation
 - Trees and Woodlands
 - Archaeological Features
 - Built Heritage
 - Seasonal and Climatic Features
- 3.3. **Figure 4** shows areas designated within Tayside for their natural heritage importance.

NATURE CONSERVATION

- 3.4. Tayside encompasses coastal, lowland, upland and transitional landscapes which support a diverse range of flora and fauna and provide a wealth of geological and geomorphological interest. These are reflected in the designation of over 150 SSSIs and 4 National Nature Reserves (NNRs) in Tayside. Several of these are designated as Special Areas of Conservation (SACs), reflecting their international importance. A number of these sites also fall within European conservation designations under the Natura 2000 scheme. Whilst these designated sites represent the most valuable and sensitive resources, there are many other areas of special value for wildlife, some of which are recorded as Wildlife Sites by the Scottish Wildlife Trust. The following paragraphs summarise the general distribution of wildlife interests.

Upland/montane habitats

- 3.5. The mountains of Tayside reach altitudes of over 3,000 feet and support a diversity of upland communities. Calcareous schists of the highest peaks support arctic alpine communities which are rare in Britain. Cliffs and rock platforms harbour lichens and liverworts and many rare montane plants. Flushes, limestone and alkaline fen are also important habitats and are protected under EC regulations. More extensive is the heath and moorland which covers much of the mountain slopes and supports a variety of wildlife, some of which is managed for game. These uplands areas are home to rarer insects, bird and animal life, the most evocative being the golden eagle. Little remains of the high mountain woodlands, although birch, rowan and Caledonian pine are present

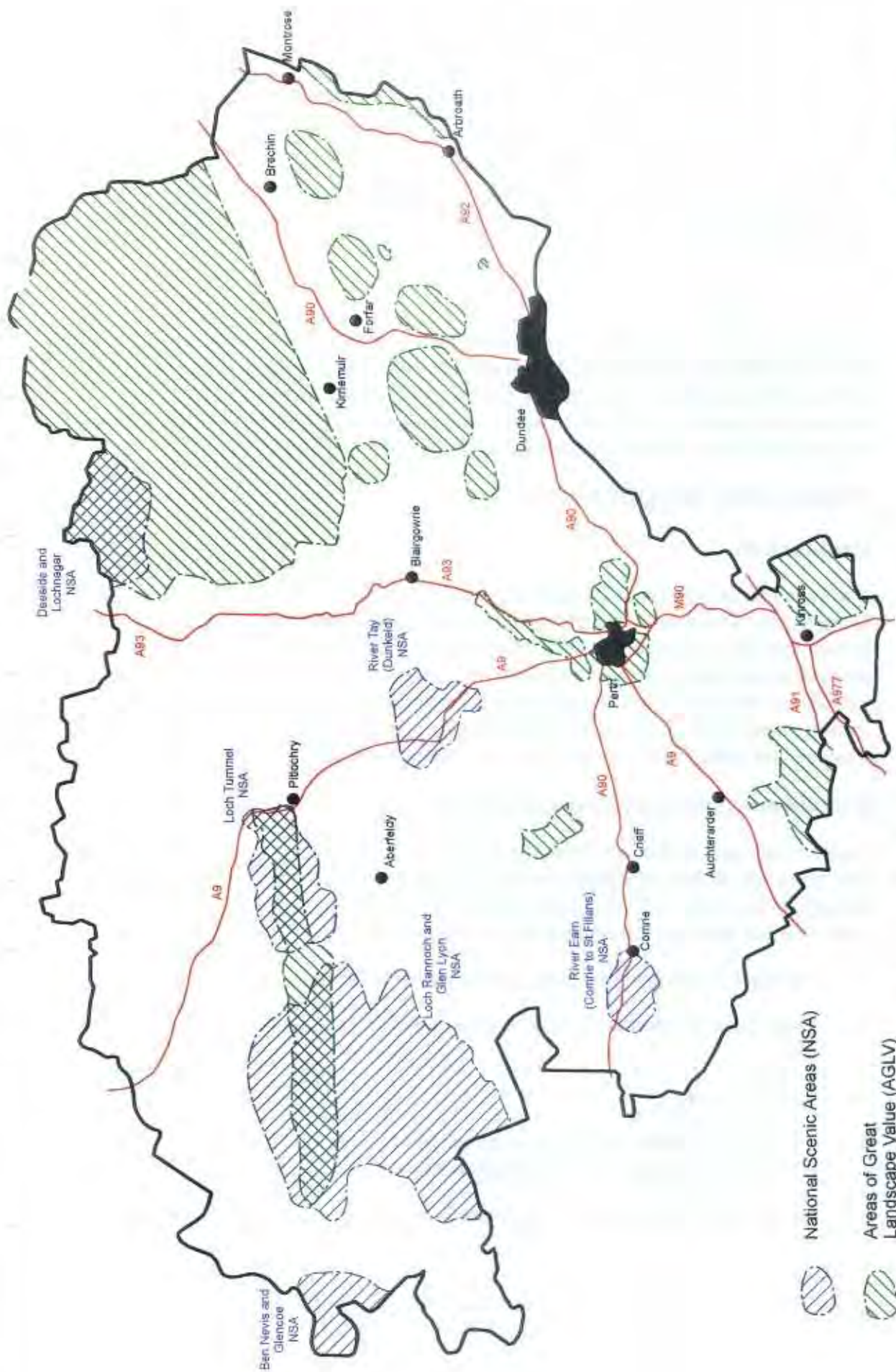
and have a significant local impact. From distant and lower ground, these upland and montane communities create mosaics of muted greens, ochres, browns and oranges, brought to life by the seasonal blooms of alpine flowers, swathes of pink heather, and the autumn russets of ericaceous shrubs, bracken and deer grass.

Valleys, slopes and glens

- 3.6. The sheltered environments of valleys and glens have supported and protected many of the region's semi-natural woodlands which include slope alder-woods, hazel, ash and elm-woods and oak-woods merging with higher birch woodland. Significant nature conservation values are found in the steeply-sided valleys and gorges where the rich woodlands are frequently called 'dens'. These also contain varied ground flora and often mosses and lichens associated with cliffs and craggy hillsides. On certain more exposed slopes, are woodlands of juniper and Caledonian pine, the most renowned being at Glen Artney and Black Wood of Rannoch respectively. The glaucous colours and uncultivated textures of the semi-natural evergreen woods contrast with the deciduous woods and make them distinctive features. Again, the presence of areas of limestone, wet flushes and alkaline fens create a varied and internationally important range of habitats. The presence of capercaillie in Tayside's pine-woods is also particularly notable due to its striking appearance (when seen) and its curious penetrating mating call.

Lochs, mires and wetlands

- 3.7. The visual impact of Tayside's largest lochs is undeniable; however, it is the many small lochs, mires and wetlands that hold the majority of natural heritage interest. These waterbodies include high, glacially-carved lochans, lochs, kettle holes, mires, bogs and river corridors which support a range of communities. Basin and raised mires are common (e.g. Gleneagles Mire, Forest of Alyth Mires, Dun Moss, Balshando Bog, Forest Muir), these frequently have fringing carr or fen vegetation and have surrounding areas of wet meadows or woodland. Open water has a diversity of aquatic plants and is internationally important for migrant and breeding wildfowl. Greylag and pinkfooted geese are particularly noteworthy and become significant characteristic features of Tayside's autumn when migrating in formation in their thousands. The Carsebreck and Rhynd Lochs, Drummond Lochs, Loch Leven, the Loch of Kinnordy and the Loch of Lintrathen, are SSSIs of particular interest for both ornithology and botany. Similarly the kettle hole lochs to the east of Dunkeld - Loch of Craiglush, Loch of Lowes, Loch of Butterstone, Loch of Clunie and Loch of Drunellie - are of considerable natural heritage interest.



National Scenic Areas (NSA)

Areas of Great Landscape Value (AGLV)

LANDSCAPE DESIGNATIONS

FIGURE 4

Lowland and mid-altitude features

- 3.8. Much of the lower, gentler landscapes are grazed or cultivated; however, there are limited areas where local ground conditions or management practice have allowed the development of natural heritage interest. Many of the wetland features described above are characteristic of the lowlands and mid-altitude areas. Grassland and meadow features are equally significant. Tayside has a range of such features: orchid-rich wet flushed meadows (e.g. Cairnleith Moss), orchid-rich dry meadows (e.g. Morenish SSSI), northern hay meadows (e.g. Brerachan Meadows, Weem Meadow) and many other unimproved grasslands. Less extensive are lowland heaths of which Diltry Moss and Methven Moss SSSIs are examples.

Coastal features

- 3.9. Tayside's coastline, while not dramatic, contains a variety of interest which complements that of its hinterland. This includes saltmarsh, brackish reedswamp, dune systems, low cliffs and links grasslands, and coastal heaths. Associated with these habitats are wildfowl and sea-birds which are essential components of the coastal character. These include eider ducks, waders, kittiwakes, fulmars, puffins and guillemots.

TREES AND WOODLANDS

Introduction

- 3.10. The trees and woodlands of Tayside play a major part in determining people's perception of the region. There are many strong cultural associations with forests, woods and individual trees and the current mixtures of forests and woodlands have created many areas of scenic value, not least of which is the River Tay (Dunkeld) NSA. Tayside's woodlands have also significant conservation value as mentioned above; however, in consideration of the importance of these features in the character of the landscape, it was deemed appropriate to provide separate descriptions.

Notable specimens and tree collections

- 3.11. Tayside has arguably the best known individual trees in Scotland due to a combination of their great age, historic and legendary significance and their dendrological value, as well as some of the best conditions for tree growth in Western Europe. The best known trees, many of which are now popular features for visitors, are:
- (i) Fortingall churchyard yew tree, believed to be 3,000 years old;
 - (ii) Birnam oak, a massive remnant of early oakwoods thought to be circa 1,000 years old;
 - (iii) Niel Gow's oak;
 - (iv) the beech hedgerow of Meikleour planted in 1746 by the Marquis of Landsdowne and considered to be the tallest hedge in the world;
 - (v) the Douglas fir at the Hermitage, Dunkeld which is said to Britain's tallest tree;

- (vi) the Dunkeld larches, which include the surviving original European larch imports, and Japanese larch imports by the Second and Fourth Dukes of Atholl;
- (vii) the stand of grand fir near Dunkeld which are the fastest growing trees in Britain.

In addition, there are many notable individual trees and collections within Tayside's designed landscapes. The huge conifers, the result of 18th and 19th century planting, are particularly important landscape features in many areas, distinguishing 'policies' from great distances. David Douglas, the great Scots plant collector and botanist, came from Scone and many of his early introductions were to Perthshire landowners.

Trees in the countryside

- 3.12. Tree lines and groups in the countryside make powerful statements in many areas. This is particularly so when viewed across flat and rolling landscapes, where landforms are emphasised and where picturesque silhouettes are possible, for example, in many parts of Strathmore. Beech, oak, lime, sycamore and ash are generally used to form hedgerow tree lines, although beech is predominant. Similar mixes are also characteristic of field corner groups and roadside planting. Riparian trees are also important linear features, often the product of deliberate planting but also of semi-natural origin; these help to define the water course within glens and straths and create attractive subjects for reflections on the water. Hedgerows, typically beech or hawthorn, are locally important where dry-stone walls are absent. These are confined to lowland areas and often associated with areas of deep moraine. These features are commonly the product of historic estate management. Contemporary changes in agriculture and Dutch elm disease have seen the loss of many such features.

Ancient, old and semi-natural woods

- 3.13. The inventories of Ancient, Old and Semi-Natural Woods for Tayside's districts (Nature Conservancy Council, 1986a, b & c), indicate there to be over 2,300 sites totalling circa 40,000 hectare within the defined categories: Ancient Woodland; Long Established Woodland of Semi-Natural Origin; Long Established Woodland of Plantation Origin; "Roy" woodland sites and "other woods". These woodlands represent under half the total woodland cover in Tayside. They comprise only a small proportion of native woodlands and are mainly introduced conifer plantations (circa 57%), semi-natural woodlands (circa 25%) and mixed/policy woodlands (circa 12%).
- 3.14. The oldest semi-natural and native woodlands are generally limited to steep and inaccessible areas where they have been afforded protection from early clearance and grazing. The 'dens' woodlands in steeply-sided valleys and gorges are typical of this situation. Alternatively, many old woodlands have survived in accessible areas due to deliberate management for timber products. The extent of birch woodlands is probably far greater than previously recognised due to their ability to spread when grazing pressures are reduced. The main native woodland types remaining in Tayside are:
- acid oakwoods, e.g. Comrie Woods, Cardney Wood;
 - oak grading to birch at higher altitude;

- primeval remnants in gorges including ash, wych-elm and hazel, e.g. Pass of Killiecrankie, Den of Airlie, Den of Riechip;
- woods of richer flushed areas including ash, alder and hazel, e.g. Bolfracks Wood, Milton Wood;
- native pinewoods, e.g. Black Wood of Rannoch, Meggernie, Crossbog;
- juniper woods, e.g. Forest of Glenartney;
- lowland native oak woodland remnants, e.g. Methven Woods, Kincardine Castle Wood.

3.15. The more extensive woodlands of long establishment are the product of deliberate planting or management. By the 17th century, the medieval hunting forests (Birnam, Clunie, Dupplin, Forest of Plater) had been largely cleared and the loss of timber was addressed by the estates. Estate woodland planting was accelerated in the 18th century by the combination of designed landscape establishment and the adoption of early commercial forestry ideas initiated by the Dukes of Atholl. The mixed policy woodlands, which are such important features of Tayside straths and glens, are a product of this period. The oldest policies generally contain beech, Scots pine, sycamore, lime, oak, yew, and sweet and horse chestnut. Later planting included more varied conifers including Douglas fir, noble fir, grand fir, hemlock, larch, western red cedar, spruce and occasionally sequoias. These woodlands now provide robust shelter and space-defining belts; they form distinctive visual boundaries and embrace attractive 'comfortable' landscapes.

Forestry and contemporary woodlands

3.16. The most extensive woodlands in Tayside are the commercial forests developed largely by the Forestry Commission since its establishment in 1919, but also by private foresters. The early forests, planted to meet Britain's crisis demand for timber, were often very successfully integrated into the landscape as witnessed by the high quality of the landscape around Dunkeld. Later planting, however, was driven by a greater desire to increase productivity and, as such, were less well-integrated into the landscape as witnessed by the geometric lines in areas such as the Ochils. Current forestry policy encourages multi-use woodlands of high design, amenity and conservation values. Recent forest plantations and rotations have, therefore, sought to create the more sympathetic integration of forests with landform and land uses. Features of modern forests, therefore, include carefully designed margins with appropriate deciduous fringes and 'feathering' into the landforms; open space patterns respecting views, wildlife movements and built heritage features; and recreational facilities associated with forest parks, for example, Tay Forest Park. The historic association of larch with Tayside makes its fairly extensive use seem appropriate. Its deciduous qualities make it a striking feature of the autumn season when it contrasts strongly with adjacent pine, spruce or firs.



Photo: SNH

← Along the Rivers Tay and Almond the natural weirs formed by bands of harder rock were exploited for water power. Mills can still be seen on the Tay, here at Stanley.

→ The hard rocks have also created sections of narrow gorge. Perhaps the most well known is here at Killiekrankie north of Pitlochry.



← On smaller rivers and burns, resistant rocks have created dramatic waterfalls such as here at the Falls of Acharn.

→ Native woodlands are an important feature of several glens, here in Glen Esk. A range of initiatives are designed to allow regeneration of these woods.



Photo: SNH

← The Highland summits and plateaux support a range of upland and sub-alpine habitats. Heather moorland, managed from grouse and deer, dominates large areas, turning the landscape purple in late summer.

FIGURE 5

FEATURES OF THE LANDSCAPE

ARCHAEOLOGICAL FEATURES

- 3.17. Tayside lacks the renowned concentrations of upstanding archaeological remains found in other parts of Scotland, for example, Kilmartin Glen, Argyll. In part this reflects the intensity of land use, particularly in the fertile lowlands. There is nevertheless, a wealth of interest widely distributed throughout the region, which represents several millennia of cultural activity. Thousands of sites have been recorded including hundreds of Scheduled Ancient Monuments. Recent aerial surveys have also identified significant archaeological potential in areas that had previously received little attention. The majority of archaeological sites are arguably minor features in the landscape due to their small-scale, buried or ruined condition. These are, nevertheless, an important cultural resource which are often representative of wider patterns of human activity or of symbolic/religious meaning which extends across large areas. For this reason, their influence should not be belittled. Conversely, there is a minority of significant archaeological sites and monuments which are distinctive and often enigmatic features in the landscape. These include major earthwork structures, cairns, barrows and upstanding stone monuments. The following paragraphs seek to illustrate by examples the nature of Tayside's archaeological resource.

Burial and ritual monuments

- 3.18. Ritual and funerary monuments in the form of chambered cairns, cairns, cists, standing stones, stone circles, henges and inscribed stones are found throughout the region, but with concentrations in the valleys, lowlands and mid-altitude slopes, generally where soils were lighter but access to water and communication routes was possible. These monuments represent the more resistant remains of human activity in the second and third millennia BC. These ritual and funerary sites were essential foci for the ancient communities who used them for generations. The use of durable stone was, therefore, important, contrasting with the more ephemeral domestic structures of which little trace remains.
- 3.19. Strathtay and Strathearn have numerous pairs of standing stones which typically include one broad and one narrow stone. In addition, there are significant stone circles and other settings of stones at Croft Moraig near Aberfeldy, Fortingall, Scone, Fowls Wester, St. Madness and Pittance.
- 3.20. Cup-marked stones are generally less noticeable, but equally enigmatic. These inscribed outcrops are typically located on valley sides, at strategic vantage points and at the junction of valley routes. Examples discovered within Tayside include Kynballoch/Ratray, Newbigging and Dalladies.



Tayside is famous for its soft fruit. Fields of raspberries and currants create patterns reminiscent of a French vineyard landscape.



Photo: SNH

Potatoes have become an important cash crop within Strathmore. Many farms have developed specialist processing and storage sheds.



Photo: SNH

A range of crops adds interest and variety to the landscape. Here spring daffodils are grown in Strathmore. Later large parts of the valley once again turn yellow as the oil seed rape flowers.



Photo: SNH

Sheep farming remains an important activity in many of the upland parts of the region - here in Glen Isla.



Photo: SNH

Beef and dairy farming is important too, particularly on the rich pastures along the Highland foothills, here near Blairgowrie.

FIGURE 6

FEATURES OF THE LANDSCAPE

- 3.21. Cairns or barrows are generally the most prominent landscape features from the Stone and Bronze Ages. They include chambered cairns, which allowed repeated use for internment and cairns under which burials were interred in stone cells (cists). These structures were usually constructed from local stone and covered with turf. They are recognisable today as irregular mounds which break the natural contours of hills, low ridges and river terraces. Cairns were frequently associated with other ritual monuments as at Clach na Tiompan, on a terrace of the River Almond, where a large chambered cairn is associated with a setting of standing stones. The Fowlis Wester site also contains a cairn, standing stone and stone circle, and commands views over Strathearn to the Ochils. Another spectacular cairn was discovered at West Mains, Auchterhouse in Angus, a high prominent site which yielded many important discoveries.

Early settlements and fortified sites

- 3.22. The Iron Age saw the development of a more political society where settlements became more concentrated and conflicts over land resulted in the development of fortifications by tribal groups and communities. Few Bronze Age settlement sites are readily identifiable, although aerial surveys have highlighted patterns of hut circles and field systems from the first millennium BC, as soil marks and crop marks. The Drumturn Burn site is one of the best such examples.
- 3.23. The more extensive use of stone for domestic and defensive buildings in the Iron Age has left a more resistant legacy. The main archaeological interest relates to souterrains, crannogs and forts from this period.
- 3.24. Souterrains are stone-built underground galleries used for food storage associated with large timber-built houses, some of which were integral structures. A number of fine examples of souterrains have been discovered in Tayside and particularly in Angus. Notable examples include those at Newton, Barns of Airlie, Tealing and Ardestie in Angus, and Newmill, Bankfoot in Perth and Kinross.
- 3.25. Crannogs are artificially constructed island residences, built at the edge of lochs with defensible causeway access structures. Many crannog bases are below the water's surface and consequently are illegible to most people. The Oakbank crannog on Loch Tay is perhaps the region's best example of this feature.
- 3.26. The Iron Age is renowned for its fort building and more extensive use of hilltops and valley ridges for strategic defences. These forts combined extensive earthworks with stone walls and timber structures. Large fortified enclosures were created at the main centres and these remain as significant landscape features. The most spectacular forts are arguably the Brown and White Caterhuns on neighbouring hilltops in the Menmuir foothills. These ring forts enclose areas of 140 x 190m (Brown) and 140 x 60m (White Caterhun), the latter use stone to reinforce its ditches. Other notable forts include Finavon (150 x 36m) which has vitrified stone walls through the use of timber lacing, Barry Hill Fort near Alyth, Abernethy Fort, Queens View Ring Fort and Dundurn Fort. These forts all commanded views over and access to ancient communication routes up the glens and straths, while retaining hospitable positions below the levels of severest mountain landscapes. The foothills of the Mounth Highlands were particularly well-

defended as reflected in the many fortifications in the form of forts, fortlets, linear earthworks. These were superseded by fortifications in later generations.

Roman features

- 3.27. Tayside represented part of the Roman frontier during Agricola's advances. This resulted in the construction of many military installations as both permanent and temporary outposts. Tayside contains sites of legionary fortresses, forts, fortlets, watch tower and temporary camps; particular concentrations re found in Strathearn and Strathmore as part of the Roman defences for the productive Midland Valley. A legionary fortress was constructed at Inchtuthil, the outline of which is still visible; at Ardoch, north of Braco, is an exceptionally well-preserved site of a turf and timber fort where the square concentric rings of defences are clearly visible. Watch towers were constructed along Roman communication routes, sites on the Gask Ridge and in Sma' Glen are visible as circular earth forms, the remnants of the watch tower bases.

Pictish monuments

- 3.28. Dark Age monuments are few, reflecting the fact that later settlement obscured Pictish or re-used Pictish remains. A number of Pictish fortified sites have been identified, some of which occupied earlier fortifications. Dundurn Hill Fort has been identified as a Pictish structure. Forts were also constructed at Abernethy and Norman's Law. The main legacy of Pictish settlement is, however, their stone carving and erection of 'cross slabs' throughout the region. These slabs were intricately carved with pictograms and abstract geometric designs. They were located in strategic positions to serve, it is believed, as boundary markers or as ceremonial/commemorative features. Tayside is particularly renowned for its numerous finely executed smaller slabs from the 9th century. Most slabs have been incorporated within local museum collections for protection. Several of these have been substituted with facsimiles in the original position and so preserving them as features in the landscape. Notable cross slabs can still be found at Aberlemno in Strathmore, at Cossans, Dupplin at Forteviot and Comnstone near Monikie.
- 3.29. Later features which reflect Scandinavian influences are the ornately carved Hogsback tombstones from the 10th and 11th centuries. These are found at Inchcolm, Meigle and Brechin.

BUILT HERITAGE

- 3.30. The built heritage interest of Tayside is rich and varied. It charts the progression from simple to sophisticated buildings and illustrates changes in style and the use of materials throughout this millennium. The region's geological foundations are expressed in the constituents of its built structures. This forges a strong relationship between buildings and their landscapes which is an essential part of the local landscape character. This vast heritage has, therefore, a significant influence on the character of the region as a whole and of its component areas. The following paragraphs seek to outline the nature of these built heritage features.



Much of the Tayside landscape is historic. Here in Glen Almond the earthworks associated with a Roman signal station are still visible.



Centuries of strife between the Highland and lowland clans are reflected in the proliferation of castles along the Highland Boundary Fault - here at Huntingtower.



The development of landed estates had a profound influence on the landscape. Here an ornate gatehouse marks an entrance to the Atholl Estate.

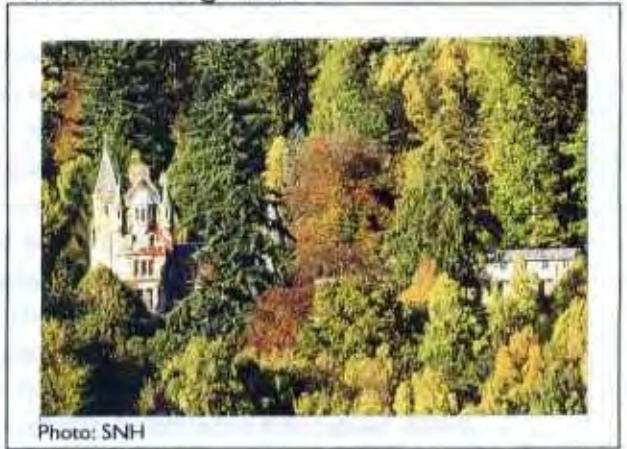


Photo: SNH

Policy woodlands, often comprising exotic and ornamental tree species often surround and signal the presence of historic houses.



Traditional farm buildings are often sited to maximise shelter, constructed from stone and slate. A typical round horsemill is visible at this Glen Shee farm.

FIGURE 7

FEATURES OF THE LANDSCAPE

Tower houses and fortified residences

- 3.31. The turbulence of the medieval period in Scotland saw the development of many fortified residences in the form of tower houses. These were initially severe defensive structures, tall and of square plan with few and only small windows. The 16th and 17th centuries saw increasing sophistication as strife diminished. Tower house designs were adapted to become less military and more comfortable as residences. Tayside contains numerous such buildings dating from the 15th century. Their scale and commanding locations and imposing design makes them powerful and romantic features in the landscape. Fine examples include Huntingtower Castle near Perth, Braikie Castle, Loch Leven Castle, Elcho Castle and Edzell Castle. The latter is also notable for its walled parterre garden, one of very few tower house gardens in Scotland. Some of the major estates had smaller tower house outposts to prevent or impede cattle thieves from poorer highland areas. The Angus Glens contain a number of these towers, of which Invermark at the head of Glen Esk, is a striking example. This served as an outpost for Edzell Castle guarding against raids from the north. Other small tower houses of note are Hynd Castle, Ballinshoe Tower and Easter Fordel.

Castles, stately homes and their designed landscapes

- 3.32. The 17th and 18th centuries saw the consolidation and development of estates. At their centres, castles and country houses were built, improved or replaced by more sophisticated buildings. The influence of Europe and the Renaissance was reflected in the adoption of classical, architectural styling and in layout of grandiose formal landscapes in the early 18th century. Between the 18th and 19th centuries, styles changed in favour of the romantic and picturesque, as reflected in the remodelling of castles, country houses and their landscapes. Scots baronial and gothic styling became favoured and the informal landscape ideas of Capability Brown and William Kent in England were introduced in place of the previous formality.
- 3.33. Tayside contains innumerable castles and stately homes which illustrate the above changes. Glamis Castle, the seat of the Earl of Strathmore and Kinghorne, is an example of an enlarged and remodelled medieval tower house which now controls an outstanding designed landscape. Kinross House, designed by and for Sir William Bruce in the late 17th century, represents one of the finest Palladian mansions in Scotland. The extensive portfolio of William Adam includes many fine classical mansions, the House of Dun in Angus is one of his most original designs. Blair, the quintessential Scots Baronial Castle, was in fact remodelled by David Bryce from an earlier Georgian mansion, also incorporating parts of an earlier castle. Blair Castle is the centrepiece of another superb designed landscape which is an essential component of Strath Garry. Meggernie Castle in Glen Lyon is a similarly modified tower house which now dominates its isolated setting on the glen floor. Taymouth Castle, formerly the imposing seat of the Marquess of Breadalbane, is a major landmark in the valley floor between Aberfeldy and Kenmore. It commands an extensive designed landscape, punctuated by follies that once extended up both valley sides. The Atholl landscape of Dunkeld House was similarly extensive and has locally influenced the setting of Dunkeld. The list of notable stately homes is too large to address in this report; however, a shortlist of the most prominent (excluding those mentioned above) includes Aberuchill Castle in Strathearn; Balmanno Castle near the Bridge of Earn; Blair Adam near Kelty; Brechin Castle; Camperdown House, Dundee;

Castle Menzies near Weem; Cortachy Castle at the foot of Glen Clova; Drummond Castle near Crieff; Fingask Castle near Rait; Grantully Castle near Ballinluig; Guthrie Castle near Forfar; Kinfauns Castle near Perth; Kinnaird Castle near Brechin; Methven Castle near Perth; Murthly Castle near Dunkeld, Ochtertyre near Crieff; and Scone Palace.

- 3.34. The above properties all have notable designed landscapes which are listed within the Inventory of Gardens and Designed Landscapes in Scotland (Land Use Consultants, 1987). There is, however, a total of 45 current inventory sites in Tayside, which in themselves represent only a limited, select proportion of the total number. A further 130 sites have been identified by the Garden History Society as being worthy of study or possible inclusion within an extended inventory. These landscapes make major contributions to the scenic diversity and apparent richness of the Tayside landscapes. The grandeur of their buildings, the extent and patterns of their policy woodlands and picturesque qualities of their follies, lodge houses and home farms, are all important features. The influence of the estates can also be seen in the broader landscape where planned settlements have been established and where estate led agricultural improvements have introduced dry-stone walls, hedgerows and tree lines.

Religious buildings

- 3.35. Medieval Tayside contained numerous monastic houses and two influential cathedrals. The former left a legacy of abbey buildings and ruins of the Cistercian, Tironensian and Augustinian orders. These include the abbeys of Arbroath, Coupar Angus, Scone and Lindores. The Cathedrals of Dunkeld and Brechin are still in use (although partially in ruins) and are important both as landmarks and as ecclesiastical centres. Little remains of earlier religious foundations, the most significant remnants being at Abernethy and Restenneth.
- 3.36. There are, of course, innumerable post-reformation churches in Tayside. These are generally of Renaissance character; classically restrained and of simple form. Some rural churches have a 'T' plan layout to allow preaching to a 3-sided congregation, whilst avoiding large roof spans. Numerous churches are built on the sites of earlier chapels; these are invariably strategic or prominent sites. Most churches represent the focus of their towns and villages and are frequently the most visible feature of these settlements from the surrounding countryside.

Vernacular buildings

- 3.37. Tayside's underlying geology is clearly reflected by the distribution of building materials throughout the region. The different qualities of the local stones determine the coloration of individual buildings and towns and the manner in which they were constructed.
- 3.38. The most striking influence is the division between the Old Red Sandstone of Strathmore and the schists to the north of the Highland Boundary Fault. The Old Red Sandstones provide a range of stone suitable for masonry. These are noticeably red/brown in colour, but vary in line and texture. Coarse-grained pink, brown and deep red stones are all evident in Strathmore, Lower Strathearn and Strathallan. These are generally used as squared and dressed masonry, in contrast to the schistose rocks further north which yield less easily dressed stone and are consequently used more extensively as rubble. Their

predominant colours are light brownish-grey, distinguished by the glitter of mica. Small-scale variations reflect the local availability of intrusive rocks, for example, grey and pink granites and dark basalts are distinctive in isolated areas. Available masonry stones are frequently mixed in practical ways, for example, the more readily dressed granites and sandstones are frequently used as quoins, lintels and sills, framing walls of coarser rubble schists or basalt. White render has been introduced in many areas (but particularly in the Highlands). This serves a practical function in the protection of coarse stonework, but is also the result of stylistic trends instigated by certain landlords. The presence of slate bands has also been important as a source of local roofing materials. The use of pantiles around Kinross and more extensively in Fife, has been attributed partially to the local absence of suitable roofing stones. Pantiles were also imported as ballast in ships, exporting coal and iron ore from Fife to the low countries. These local variations in building materials reinforce a sense of place and contribute greatly to the overall character of Tayside's landscapes.

- 3.39. The oldest surviving domestic buildings in Tayside date generally from the 17th century. Within settlements these are scarce, but easily recognisable as simple single storey cottages of crude rubble construction. In upland areas there are numerous upstanding ruins from this period; the legacy of Highland clearances. The foothills and lower mountain slopes have notable concentrations of such ruins. These generally comprise clusters of small rectangular buildings with associated walled enclosures constructed, on the whole, of dry stone.
- 3.40. The majority of inhabited vernacular buildings in Tayside date from the 18th and 19th centuries. Robert Naismith (1989) identifies a range of local building characteristics in the region related to geology and cultural influences. Some of the main characteristics are described below.
- 3.41. Typical buildings in Highland Perthshire and Highland Angus are constructed of schists with the occasional use of granite, whinstone and local sandstones. One and a half storey buildings are most common, frequently with dormers that break the eaves. Elevations are usually symmetrical; the front door and porch framed by windows. Windows are a mixture of 4 and 12 pane sash and cash. The use of horizontal panes is a distinctive feature of the Western Highlands. Squared rubble rebates are typically used around windows and at corners, with random rubble walls sometimes in a contrasting material, for example, whinstone. Projecting eaves are common throughout this area as are timber porches. The 'Breadalbane' estate is renowned for its use of rusticated log porches and other timber ornamentations, together with the use of horizontal panes. The Kenmore area provides the best examples, but these can also be found in neighbouring areas. The more polite Victorian architecture is notable for its timber ornamentation; the barge boards on the buildings of Pitlochry and Birnam are particularly fine examples. White and cream renders or paint are fairly common in this area. This is typically contrasted by the use of dark colours on window margins. Interesting examples of rendered buildings are found on the Glenlyon Estate, where a range of neo-vernacular style buildings were constructed at the end of the 19th century. These include the Balnald Cottages and the Fortingall Hotel. The latter comprises a thatched set piece village, inspired by the arts and crafts movements and designed, in part, by James McLaren of the Charles Rennie Mackintosh school.



Simple Victorian interpretations of the Scots vernacular are found throughout the region - here constructed in grey stone and slate.



A mixture of pink and grey granite blockwork in this Highland farmhouse.



Fortingall is a local curiosity, its thatched cottages reminiscent of a Devonian village. It represents one of a number of estate villages, each with a distinctive and coherent design.



At villages such as Auchmithie, simple working houses were constructed from sandstone and slate, sometimes limewashed.



Hydroelectric power has left its mark in the form of dams, enlarged lochs, pipelines, turbine houses (as here on Loch Rannoch) and pylons.

FIGURE 8

FEATURES OF THE LANDSCAPE

- 3.42. In the lowland areas, there are notable variations from north-east to south-west. Around Kinross, buildings are generally more formal and larger in scale. They retain the classic proportions so favoured by the Georgian era. They have few dormers and porches and little applied ornamentation. Masonry is typically local sandstone of creamy, grey colours. This is usually regularly coursed, snecked rubble with plain margins and rybats. The main buildings have slate roofs, but the use of pantiles on small buildings is a distinctive characteristic of this part of Tayside.
- 3.43. The red sandstones of Strathmore have allowed the construction of more highly dressed and tooled buildings, displaying a wide repertoire of masonry skills. There are local variations, however. Dressed coursers are common to South Angus, while further north, red flagstones and rubbles are found. In north-east Angus, the use of Aberdeen bond is distinctive. There are many common aspects to these buildings which include, predominantly, one and a half storeys, pane casement windows and stone slate and Scots blue slate roofs.
- 3.44. The predominant rural quality of Tayside is emphasised by the small size of most settlements and the large numbers of isolated buildings/small building clusters in the countryside. Farm complexes are key features, many of which are large estate steadings with courtyard layouts. Associated with these complexes are the small circular horse gang mills and lectern style dovecotes. Dry-stone dyke field enclosures are another essential feature of the Tayside landscapes. This legacy of 18th/19th century agricultural improvements, represents an extensive network covering large parts of the lowlands and marking boundaries throughout the mountains. Once again, the local stone is expressed in the differing colours and styles of wall construction.
- 3.45. Another aspect of estate management was the development of planned settlements. Tayside, and particularly Strathmore, has a concentration of such towns and villages established during the 18th and early 19th centuries. These include Ardler, Alyth, New Scone, Stanley, Spittalfield, Douglstown, Letham and Friockheim. Some of these settlements were developed as centres for the textile industry. Stanley was conceived as a model textile works and village, operating seven large waterwheels. Douglstown in Angus had the first power driven flax mill in Scotland. Milling using water power was widespread throughout Tayside, capitalising on the abundance of swift flowing rivers. Mill buildings (many of which have now been converted) are, therefore, a common legacy of corn milling and textile production, found both within settlements and in more isolated locations. Barry Mill in Angus is a fine working example of a 19th century water powered corn mill.

Communications and engineering structures

- 3.46. The glens and lowlands of Tayside have been important communication routes for several millennia. Many, but by no means all, of these routes are now traced by roads, farm tracks or footpaths. Several are marked by archaeological sites or ruined castles. The existing road network is the product of development and improvement since the 18th century. Military roads were succeeded by Turnpike roads which were in turn upgraded and supported by the development of railways.

- 3.47. The military roads developed after the Jacobite rebellions (largely by General Wade) laid down a strategic network of well-constructed roads, with bridge crossings over the main water courses. Most bridge structures were unremarkable stone structures; however, special attention was given to the more important river crossings. The Aberfeldy Bridge designed by William Adam is of particular architectural merit.
- 3.48. The Turnpike roads provided more extensive metalled routes throughout Scotland and particularly in the lowlands and valleys. These roads were run by 'Turnpike Trusts' who levied charges every six miles. Toll houses controlled movements and charges and are features of this era. Toll houses exist at Dunkeld, Crieff, Killiecrankie and at Marykirk Bridge. Numerous bridges were also constructed to accommodate the new roads. Dunkeld Bridge, designed by Thomas Telford in 1809, is one of the finest in the region. Other road bridges of note include the Bridge of Dun, the Marykirk and Perth Bridges designed by John Smeaton. The 'trust' organisation was reflected by a 'house-style' in the design of milestones, distance plates and directional signs. A number of these features can still be seen at the road sides, for example, Dundee to Perth milestones carry a single letter and distance figure, while Angus roads have large sandstone block milestones.
- 3.49. The development of the railway lines in Tayside involved some major feats of engineering, both in scale and complexity. Extensive rock cuttings and embankments and many bridges were required. In addition, the railway companies developed many attractive station buildings and associated hotels. The station at Birnam is a particularly good example.
- 3.50. Latterly, the road network has been enhanced by major engineering projects. This has resulted in new motorways, dual carriageways and associated bridgeworks/earthworks. The major projects include the A9, M90, A90 and A94.
- 3.51. The last major category of significant engineering features in Tayside is that of hydroelectricity generation. This development, which began in Victorian times, has harnessed the considerable resource of water power, through the construction of huge concrete dams, aqueducts and power stations. The main features are associated with the River Tummel and the River Lyon where they have a locally significant impact.

Towns and village

- 3.52. Tayside has a distinctive pattern of settlements which reflects both directly and indirectly the physical environment. Within the lowlands there is a clear distinction between inland and coastal settlements. Inland, a series of market towns developed at key crossroads, typically south of the Highland Boundary Fault, but close to the mouths of the Angus Glens. Examples include Brechin, Edzell, Forfar and Blairgowrie. These towns, which are typically nucleated in layout, provided market functions both for the lowland arable economy and the Highland cattle economy. Along the coast, towns and villages grew up around the fishing and shipping trades. Examples include Auchmithie, Arbroath, Dundee, Montrose and Perth. Within the Highland Glens, the location of settlements reflects the strategic importance of bridging points and crossroads. Comrie, Aberfeldy, Bridge of Cally and even Pitlochry, while providing important market functions, are all sited at important bridging points. The latter was amongst a number of towns which saw

considerable expansion during the Victorian era as parts of Tayside were included on Grand Tours of the Highlands.

SEASONAL AND CLIMATIC FEATURES

- 3.53. The variety of Tayside's landscapes, associated with the combination of highland and lowland terrain, provides a wealth of seasonal interest. The changing tapestry patterns of the arable lowlands is complemented by the more subtle changes of pastures and moorlands. The vibrancy of autumn colours in the woodlands, heaths and bracken is renowned in this region and attracts many visitors. The migrations of wildfowl which fill the autumn skies with awesome formations, are also evocative. The sudden transition from lowland to highland is perhaps most marked in winter, when snow covered peaks form the backcloth to lowlands of green and brown. Locally, the juxtaposition of high and low ground also generates a number of characteristic features: long shadows across the valleys, low mists and the varied distribution of frosts. These seasonal factors and many more are all essential parts of Tayside's character.

landscape. Forestry is the main viable alternative land use, and it is supported by EU and national policies that seek to increase timber production and reduce agricultural surpluses.

Changes in lowland farming

- 4.5. Lowland farming in the region comprises arable cultivation, beef cattle, sheep and pig rearing, with some soft fruit production. Farm units tend to be large and heavily mechanised, taking advantage of the gentle topography and better soils. In the last 50 years, there have been a number of changes in the nature of agricultural activities and in particular, the components of rotations. Sugar beet, once produced for a local market, is no longer grown, potato production has increased considerably over the last 10 years, while the recently introduced oil seeds are currently expanding. The increased productivity of lowland farms has been supported by the erection of large agricultural buildings: potato, machinery and overwintering sheds. Hedgerows and tree lines have become largely redundant as post-and-wire fences now constitute the main physical boundaries. The incremental loss of mature trees and hedgerows has, therefore, not been compensated by new planting on most farms.

Changes in the landscape: regional trends

- 4.6. Agricultural policies also seek to achieve more extensive farming systems to reduce agricultural over-production. Since the mid-1980s, the government has sought to make farmers have more regard for the landscape and nature conservation of their land through various schemes and initiatives. The ESA designation for Breadalbane has provided the opportunity for grant funding towards a range of farm conservation works. Under this scheme 'Farm Conservation Plans' are produced by the farmers for ratification by the Scottish Office Agriculture, Environment and Fisheries Department (SOAEFD). These have provided the framework for conserving many important characteristic features such as meadows, dry-stone walls, hedgerows, farm wetlands, etc.



A number of traditional farmbuildings have been converted for alternative uses. This must be undertaken with care (as in the above example) to avoid unnecessary 'suburbanisation' of the countryside.



Incremental changes can add up to substantial change. Here the loss of a hedge, with its trees has opened up the landscape while the incorporation of concrete kerbs has introduced suburban influences to the countryside.



Some estates have managed and replanted field boundary trees, particularly where they form avenues along roads. These create Strathmore's traditionally rich landscape.



Elsewhere, boundary trees have been removed, creating an open, prairie-like landscape in which modern farm buildings are often particularly prominent.



Modern farming techniques sometimes introduce novel landscape features such as these linear bales, wrapped in black plastic.

FIGURE 9

FORCES FOR CHANGE

- 4.7. The opportunities presented by the ESA designation have, until this year, been limited to the designated area, to the detriment of all excluded areas. This situation may change, however, with the planned introduction of the Countryside Premium Scheme (CPS) which will provide the opportunity for grant funding towards a broad range of countryside conservation works across the region (outside the ESA). It is to be hoped, therefore, that the beneficial effects of this scheme will soon become evident and that it will be a positive force for change in the landscape.
- 4.8. Farm diversification has not made a significant impact within Tayside, although the development of farm/estate based tourism is locally evident, especially in the upland areas. This is mostly related to caravanning and camping, with some recreational developments typically 'activity holiday' facilities such as 4 x 4 courses, shooting or riding schools. It is conceivable that demands for such facilities may continue, but it is unlikely that this will be a significant force for change in the landscape.

Changes in Agriculture
Summary of Key Landscape Issues

The main landscape changes related to agriculture that need to be addressed in future policies and management strategies are:

- ***how policies and funding can best sustain a viable farming community and at the same time ensure the conservation and enhancement of the landscape;***
- ***how redundant agricultural buildings can best be conserved;***
- ***how important landscape features such as hedges, hedgerow trees and walls should be maintained;***
- ***how best to exploit the change in agricultural policies and to encourage a move to more environmentally sensitive farming practices;***
- ***how best to enhance and restore patterns of agriculture that reflect the landscape character;***
- ***how best to accommodate modern agricultural practices and buildings within the rural landscape.***

General planning and management guidelines

Pastures

- Many of the pastures in the lowlands and more sheltered glens are semi-improved or improved, creating the lush grazing. The improvement of pastures has often been at the expense of wildlife rich grasslands and meadows, except within the ESA where grants are available for the conservation of such features. Whilst improved pastures are characteristic, encouragement through financial assistance to farmers from appropriate bodies to maintain, conserve and enhance herb rich meadows as a feature, should be considered from both a landscape and wildlife point of view. In both cases this would improve diversity in pastoral landscapes. The ESA scheme currently provides opportunities for grant support for such measures. The proposed CPS might do likewise for areas outside the ESA.

Heather moorland

- The mosaic of heather moorland in the landscape as a result of active management through muirburn, creates a distinct and attractive appearance. Such practices help to maintain habitats for ground nesting birds such as grouse and capercaillie, whilst ensuring a good supply of young heather for sheep. This management practice also prevents natural regeneration of woodland and can, therefore, artificially prevent the development of upland woodland/dwarf woodland. There is a need, therefore, to examine how heather moorland management could best meet both sporting/agricultural interests and landscape/wildlife interests through combinations of muirburn, natural regeneration and reduced grazing pressures.

Farm woodlands and trees

- Farm woodlands and trees are important features throughout Tayside, but become key space defining elements in the flatter lowland landscapes. The general decline of these features over the last 50 years provides considerable scope for planting new farm woodlands, and for establishing or repairing tree lines. The Farm Woodland Premium Scheme (FWPS) and the Woodland Grant Scheme (WGS) are useful grant-aid mechanisms for such work, although planting individual trees and tree lines may require alternative means of support such as the CPS. The latter are particularly important in the Broad Valley Lowlands (e.g. of Strathmore, Strathearn and Strathallan) where they determine the main patterns and visual boundaries. The introduction/restoration of hedgerow trees, roadside trees and farm woodland copses and belts should, therefore, be promoted. These should be predominantly broadleaves and used to re-establish the 'lost' fields patterns and to integrate new woodland blocks and intrusive farm developments.

Farm Buildings

- Although farm buildings enjoy permitted development rights in principle, local planning authorities are able to influence the siting, design and materials of new structures through the negotiation procedures. In very flat landscapes, such as by the coast and lowland straths, any vertical developments become very obvious, and if of any considerable breadth, these structures can be visible from considerable distances or can become blocks on the skyline. In small-scale intimate landscapes, large structures can again become very prominent, detracting from the nature of the surrounding landscape. Particular concern is the combined effect of the erection of major new agricultural sheds (often light coloured) in a landscape where the screening effect of woodland is decreasing.

Livestock

- The present livestock densities and lack of fenced woodland are preventing natural woodland regeneration. This is particularly noticeable in many of the Angus glens where semi-natural birch woodlands stand derelict and are unable to regenerate. In the upland areas, the selective grazing habits of sheep have also left the rougher grasses to dominate. Deliberate measures to reduce grazing densities may be worthy of exploration in certain upland areas, where regeneration and enhancement of wildlife values may be desirable without the need for extensive fencing. Generally, however, the current stocking densities appear acceptable in the landscape and fencing to promote regeneration is a most appropriate option. Livestock make a significant contribution to the region's landscape. Current stocking densities and balance between sheep/cattle are acceptable in the landscape, but fencing is required to allow woodland regeneration.

Field boundaries - walls

- Dry-stone walls are a key feature of the agricultural landscape, whose variations in materials and style reflect a local distinctiveness, for example, the difference between schist bouldered walls of the glen and red sandstone walls of the lowlands. The expertise for this craft exists locally, and should be used to maintain the local traditions in wall styles. Mortaring is often seen by farmers as essential to the longevity of the dyke's lifespan, but this can detract from its appearance.
- Wall repair should be further encouraged using local knowledge and craftsmen. Roadside walls and others in prominent locations should, ideally, receive priority treatments. Mortaring should be avoided or applied discreetly.

Field boundaries - hedges

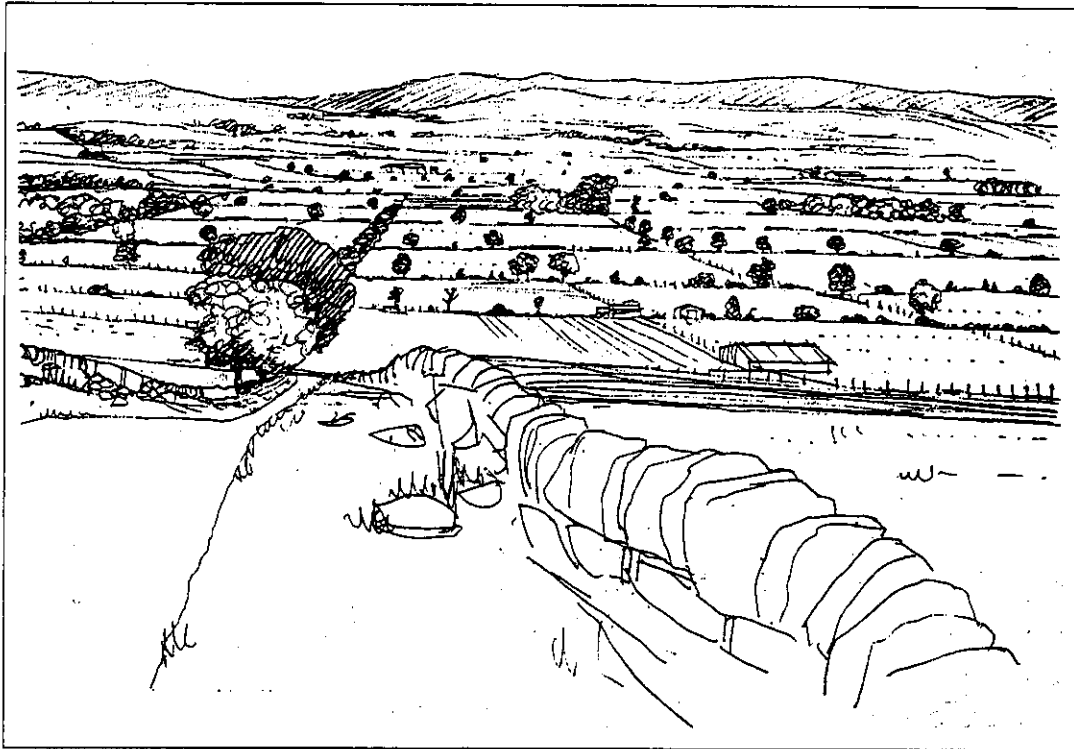
- Hedgerow boundaries are also important in this agricultural landscape, often creating a sense of enclosure and emphasising the contrast between lowlands and uplands. However, loss of hedgerow and replacement by post-and-wire fences has had a significant adverse effect on some of these landscapes. Further hedgerow losses, through field amalgamation or poor maintenance, should be strongly discouraged.

There may also be opportunities for hedgerow recreation or restoration. It is important to refer to the tradition for different materials/species in field boundaries within an area. In arable areas where there may be resistance to hedgerow restoration, in which case efforts should be concentrated along road and other boundaries. Alternatively, measures to compensate for lower yields/differential ripening around field margins should be explored.

Implementation

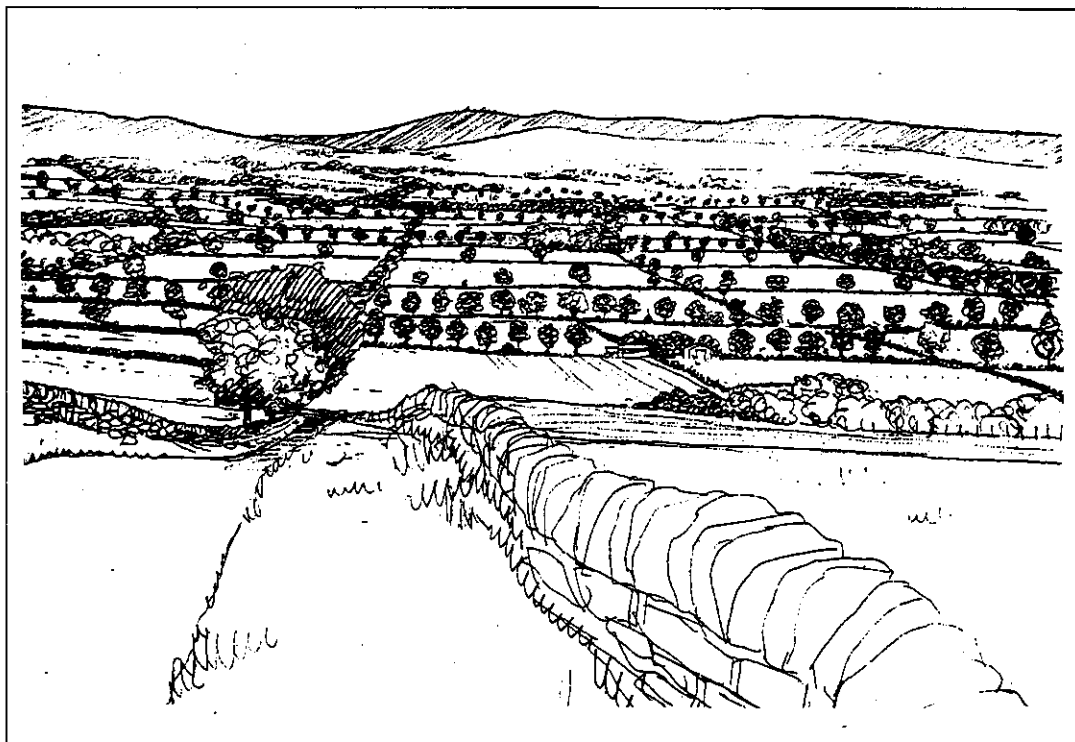
- Agriculture's central role in both shaping and maintaining the landscape means that retaining a healthy and viable farming community is essential. Large parts of the agriculture of the region, particularly in Highland areas, are dependent on subsidy. It is important that the various forms of funding are co-ordinated and complementary and that the environmental effects of policy changes are fully assessed. It is, therefore, important that farmers and landowners are involved in the process of 'countryside management'. Equally, agriculture in many parts of the lowlands is prosperous, creating the economic conditions under which farmers and landowners should be encouraged to manage the legacy of woodland and other features in an appropriate way.

- The sketches on pages 50 and 51 illustrate the possible effects of implementing management options to deal with changes in agricultural practices. Examples are given for two different landscape character types ('Broad Valley Lowlands' and 'Highland Foothills'). These landscape character types are discussed in greater detail in Part II.



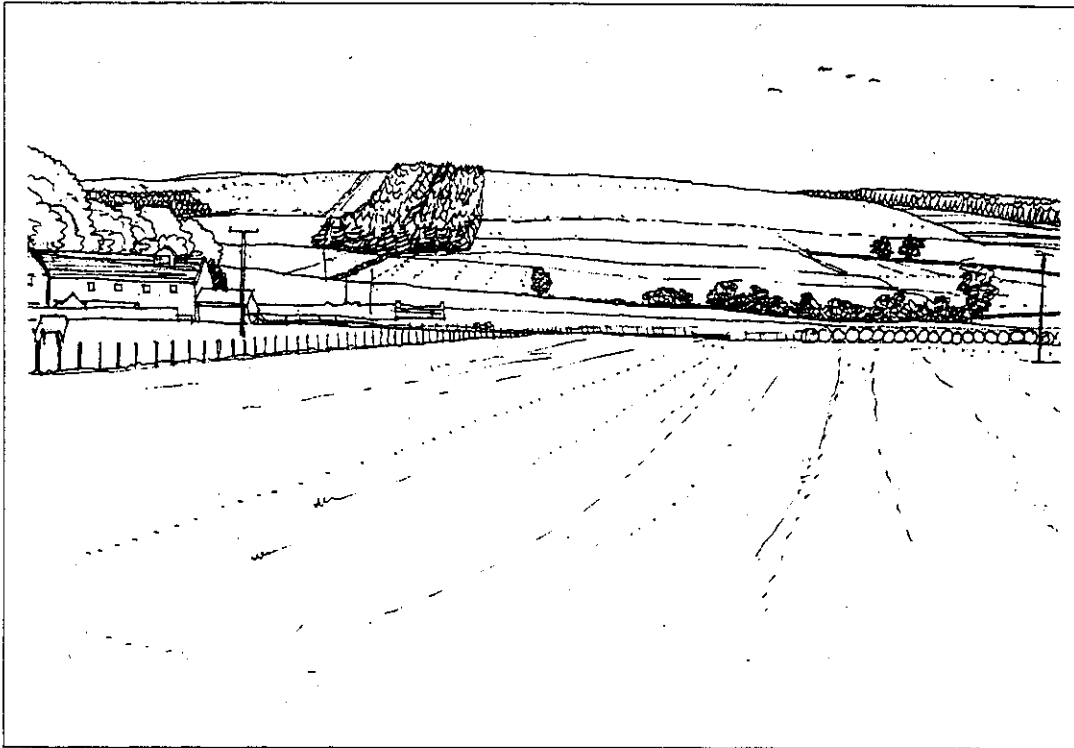
Broad Valley Lowlands

Decline of hedgerows and incremental loss of tree lines is diluting the strong character of these pattern/space-defining elements.



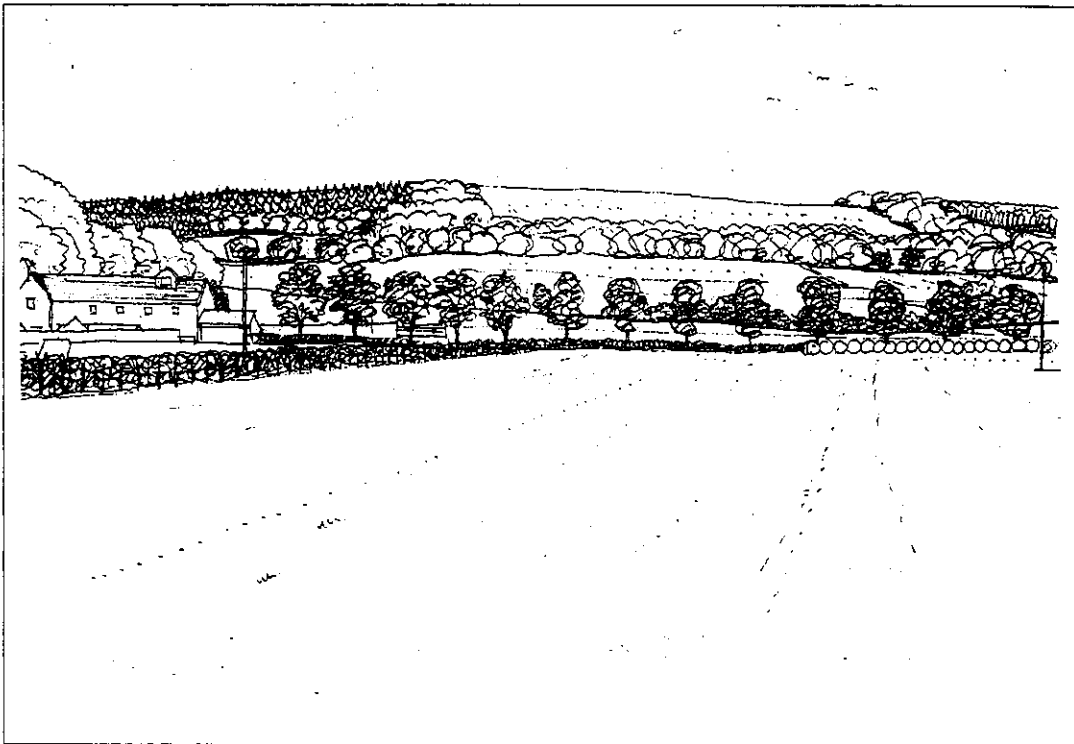
Management Option

Restoration of hedgerows and reinstatement of tree lines, combined with new farm woodland to screen potato sheds, would significantly strengthen and enhance the landscape character.



Highland Foothills

Geometric blocks of forestry and general lack of integration between upland and lowland features.



Management Option

Restoration of hedgerows and field boundaries and reinforcement of access roads by tree lines; extension of farm woodlands and broad-leaf shelterbelts to provide link with conifer plantations.

FORESTRY AND WOODLANDS

Background

- 4.9. The development and expansion of forests in Tayside is one of the most significant changes in the landscape over the last 75 years.
- 4.10. The Forestry Commission was established in 1919 with a remit to build up the country's critically depleted strategic reserves of timber. Initially, a target was set for 2 million hectares of productive woodland by the year 2000. After the Second World War, emphasis was increasingly placed on potential socio-economic benefits from forestry: rural employment and import substitution. By the 1960s, demands for rural access led to an increase in the recreational use of state forests and the development of public access and facilities. During the 1980s, the concept of multi-purpose forestry developed which placed greater emphasis on integrating recreation, conservation and landscape objectives into the traditional timber production objective. The latter was fuelled by adverse reactions to early 'blanket' afforestation and by the increasing opportunities afforded by maturing forests.
- 4.11. Between 1919 and 1980, the Forestry Commission was the main forestry developer. During the 1980s however, private forestry rapidly increased, encouraged by tax relief. This incentive ended in 1988 and resulted in a marked change in private forestry development. The Forestry Commission was restructured in the early 1990s into the Forestry Authority and Forest Enterprise. These encompassed two clear aims: the latter is responsible for state forest management, while the Forestry Authority is responsible for regulating state and private forests.

Changes in forest landscapes

- 4.12. Tayside has extensive mature forests; some of these originated in the 17th and 18th centuries as estate forests when the area around Dunkeld acted as the Cradle of the Scottish Forestry Renaissance by the "Planting Dukes" of Atholl; others are the products of Forestry Commission and private developments this century. Sitka spruce is the predominant timber species due to its productivity on low quality sites and suitability for timber processing. As a result, some larger upland forests are often lacking in diversity, although larch is widely used and firs are locally distinctive. Future timber harvests will create significant short and long term changes to these forest landscapes. The Forestry Commission's policies towards forest and woodland design have been developed and refined considerably over the last 20 years. Guidance now requires that new forest plans are sympathetic to landform, provide a greater proportion of open space and of broad-leaf/other conifer species. In addition, the design of felling coups is required to add greater age diversity to the forests. All these measures should result in the marked enhancement of many commercial-forest landscapes, in terms of visual amenity, ecological diversity and recreational potential.
- 4.13. Tayside has currently circa 12% of its area under forest and woodlands and whilst the region has several large forests, it has scope for new woodlands and forests. The Tayside Indicative Forestry Strategy (IFS) provides a framework within which new forestry proposals can be considered and provides guidance to potential forestry

developers (Tayside Regional Council, 1997a). The IFS is based on an assessment of the region's environmental constraints and sensitivities. It identifies forestry planting opportunities in the following categories: Preferred Areas; Potential Areas and Sensitive Areas. This categorisation suggests that interest in forestry development may be targeted in foothill areas and the less dramatic/less sensitive uplands (i.e. Highland Foothills, the Sidlaws and the Ochils). The whole concept of IFS is currently under review at present, though this will also present an opportunity to improve the way IFS may be used.

- 4.14. New woodlands and forests have considerable potential to enhance the landscape through a combination of measures. They can create new resources, provide timber and shelter and accommodate recreation. Landscape character can benefit through the creation of stronger spatial patterns; the provision of linkages between isolated and currently incongruous woodlands; the integration of conifers with broadleaves and the creation of more scenic and wildlife diversity in the landscape. The above beneficial changes can only be achieved through careful design that responds to the characteristics of the locality. Potential negative changes which should be avoided are:
- (i) the loss of visual diversity and opportunities for views due to the creation of imbalance between agriculture and forestry;
 - (ii) the loss of 'wilderness' or semi-natural landscape in remote upland areas where no commercial forestry currently exists, though the opportunities for expanding the native woodland resource in such areas need to be explored;
 - (iii) the obscuring of cultural features/patterns in formerly pastoral landscapes, e.g. the loss of dry-stone walls, shielings, upland rigs and ancient communication routes.
- 4.15. A recent trend has been towards the re-establishment of native woodlands in the upland areas (predominantly Caledonian pine). To date, this has focused on the less productive upland areas where there is less interest in grazing and sporting uses.



Visitor accommodation also includes chalet and log cabin developments. While these have the potential to integrate with the landscape, often they are constructed in geometric lines with little screening or interest.



Photo: SNH

The lochs are popular for a range of activities including fishing, sailing, windsurfing and power boating. There is potential for noisy activities to disturb the otherwise tranquil nature of the lochside landscapes.



Photo: SNH

Past forestry practices resulted in areas of dense, geometric and often single species planting. Current practice means that many existing plantations will be enhanced in the future.



New forestry planting should result in more sympathetic patterns of woodland which emphasise and enhance rather than hide the landscape.



Here in Glen Errochty, deciduous woodland frames pastures and provides a buffer around the conifers.

FIGURE 10

FORCES FOR CHANGE

- 4.16. The government has renewed its commitment to increasing the national forest cover. There are now more incentives towards planting woodlands on better land on the fringe of uplands and in the lowlands. The productivity of the lowland arable areas is likely, however, to limit the planting of farm woodlands except in pockets of poorer land. This may have the effect of planting wet, rough or steep ground where wildlife interest may be significant. It is likely, therefore, that the main focus for Woodland Grant applications may be the Foothills and Igneous Hills (Ochils and Sidlaws) categorised by the Tayside IFS as 'Preferred Areas', although this will depend on the complex interaction of the government's incentives. These areas are within close proximity of main settlements in the region and are, therefore, highly visible and heavily used for recreation. In addition, they contain a wealth of cultural heritage features which may be affected by forestry proposals. The Igneous Hills have, however, suffered degradation through a range of urban fringe developments and from some unsympathetic forestry schemes; there is, therefore, potential to mitigate some of these detrimental influences through new woodland and forest planting. Much has been achieved already through co-operation by forest managers and interest groups such as the "Friends of the Ochils".

Changes in policy woodlands

- 4.17. Tayside contains a wealth of designed landscapes, country houses, castles and their estates. These vary in scale and grandeur, but combine to project an image of affluence for the region as a whole. The policy woodlands make important contributions to the local landscape character and in many areas help to integrate newer adjacent forests into the landscape. Many of the policy woodlands originated over 200 years ago and have undergone a combination of rotational replanting and changes in management styles and objectives. Although maintaining the same boundaries, several woodlands have changed from diverse mixtures of broadleaves and conifers to predominantly coniferous plantations. Alternatively, the policy woodlands have suffered from inadequate management and consequently lack the age diversity required to perpetuate their presence. The implications of the above are that the richness of Tayside's landscape may ultimately be prejudiced through the loss of change in character of these important features. There is an increasing interest in preserving the heritage value of these woodlands.

Changes in semi-natural and ancient woodlands

- 4.18. Pockets of ancient and semi-natural woodland exist throughout the region, adding diversity to local landscapes and wildlife. Many of these most significant areas are protected as SSSIs; however, the register of Ancient and Semi-Natural Woodlands (Nature Conservancy Council, 1986a, b & c) does not take account of woodlands of less than 2 hectares. These small woodlands make valuable contributions to the landscape, but many are not adequately monitored or managed. Designation as an SSSI requires a list of Potentially Damaging Operations to be drawn up, which effectively protects the nature conservation and landscape value of the site. Further to this, the Forestry Commission, through the Forestry Authority, have produced a set of guidelines on the management of semi-natural woodlands (see References). Some of these woodlands remain threatened, or potentially threatened, by grazing pressure, grey squirrel encroachment and general lack of management, though the future outlook for these woods is probably better now than it has been for the last 200 years.

Changes in Forestry and Woodlands:

Summary of Key Landscape Issues

The main landscape changes related to forestry and woodlands that need to be addressed in future policies and management strategies are:

- **how forest dominated landscapes might be enhanced by future rotations by the application of the Forestry Commission's Environmental Guidelines tailored to their individual characteristics (see 4.19.);**
- **where and how 'wildland' or semi-natural characteristics should be preserved and enhanced;**
- **ensuring that significant elements of the cultural landscape are recognised in forest plans;**
- **ensuring that sites of local nature conservation interest are safeguarded and acknowledged in forest and woodland plans;**
- **ensuring that the scale and types of forest and woodland appropriate to the landscape character are encouraged;**
- **ensuring that the management of policy woodlands for visual amenity/historic design authenticity is encouraged;**
- **ensuring that all semi-natural and ancient woodlands are adequately monitored, managed and protected;**
- **encouraging the expansion of the productive woodland resource base in a way which does not compromise the inherent natural and cultural heritage values of the area.**

Forestry Commission Guidelines

- 4.19. The Forestry Commission and Forestry Authority produces a range of guidance documents related to many aspects of management and design. These seek to ensure that the social, environmental and economic benefits of forests and woodlands are realised for the community at large. The guidelines include *Forests and Water* (1993), *Forest Landscape Design* (1994), *Lowland Landscape Design* (1992), *Forest Nature Conservation* (1990), *Community Woodland Design* (1991) and *Forest Recreation* (1992). These documents represent not only invaluable guidance information, but are, more importantly, essential components of the regulatory process. Grant and Felling Licence applications must demonstrate (to the Forestry Authority) compliance with these guidelines. The guidelines are, therefore, important tools, the results of which can be recognised in the recent improvements of forest landscapes throughout the UK.

- 4.20. The Forestry Commission's guidelines are universally applicable, but like any general guidance require to be tailored to the specific circumstances of the site/area in question. The latter part of this report identifies the characteristics of different landscape types and, where appropriate, identifies the key character considerations for forest/woodland design that should be addressed at the time of applying Forestry Commission's guidelines.

General planning and management guidelines

Commercial forestry

- Patterns of open space in new forests should be developed to avoid the lack of open ground that some of the older 'blanket' forests visually and physically implied. This is particularly important in Tayside where mountain recreation is widespread.
- New large-scale forest proposals should identify and acknowledge the cultural heritage values of landscapes by maintaining patterns of open space which allow the historic and ancient landscapes to be interpreted. This would probably require additional research into the ancient and historic landscapes and particularly into the relationships between ancient patterns of movement, settlement, farming practice and ritual or religious behaviour. This is especially required in the Foothills, Lowland Hills and Igneous Hills where concentrations of archaeological sites exist.
- The location and design of new forests should seek to avoid obscuring the denser patterns of stone dykes, and where practicable, should leave the dykes as legible features in open ground without encroaching or using them as plantation boundaries. Opportunities for incorporating dykes within the new patterns of open space should also be pursued. Measures should be undertaken to maintain walls peripheral to forests, where they still fulfil an important visual function, e.g. beside public roads.
- The definition of 'wildland' or semi-natural areas could be used as a planning guide in response to a range of upland development pressures including wind farms, pylons, radio masts and forestry. It is recommended that further studies be undertaken to define appropriate wildland areas. The definition of such areas should involve an assessment of intervisibility which identifies visual boundary lines and peripheral zones of visual influence around wild land areas as a basis for planning policies.
- The open 'wild' character of these areas is partially a product of human land management in which sheep farming plays an important role. Discontinuation or decreases in grazing might allow natural woodland regeneration. This would potentially create a new type of wild landscape which should be considered in similar terms, as regards protection from development.

Upland Fringe

- Woodland and forestry proposals for Upland Fringe areas should seek to integrate lowland woods with upland forests. This should employ transitions from broadleaves to conifers and should provide linkages with existing shelterbelt patterns and riparian woodlands. Generally, broad-leaf lower margins should be introduced and field patterns preserved.

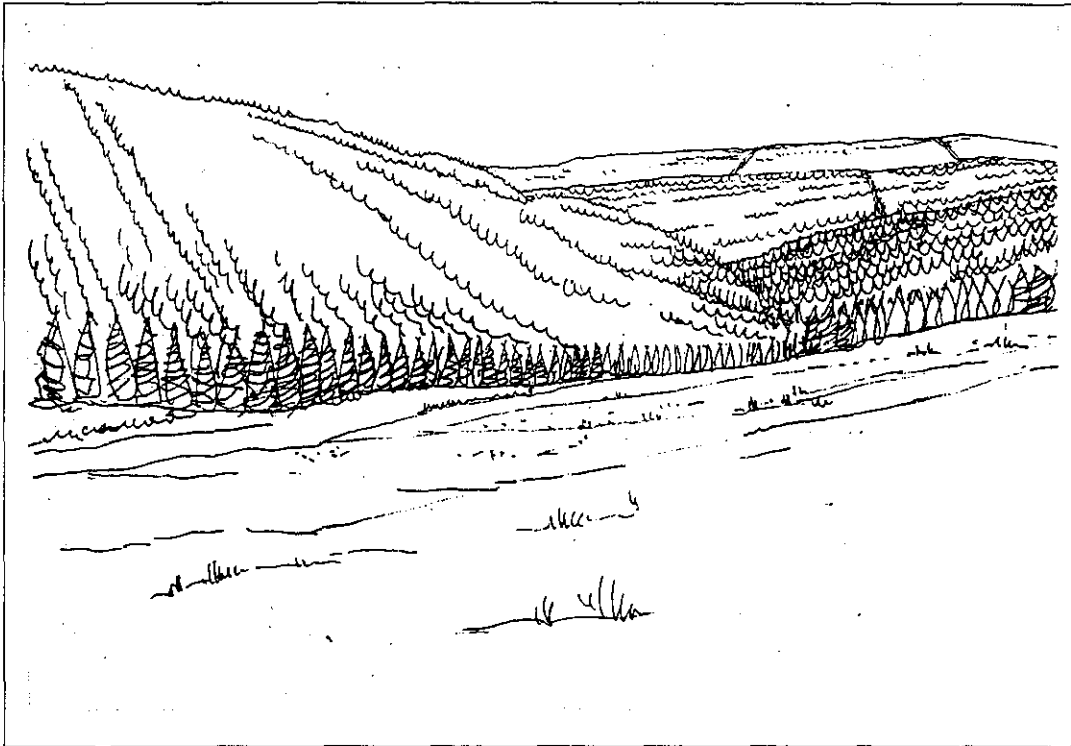
Policy Woodlands

- There is a need to further support the management of historic designed landscapes in both the production of informed management plans and the physical implementation of the works. The special contribution of policy woodlands may be lost if they become managed for solely commercial objectives, though there is already considerable liaison between the Forestry Authority, Scottish Natural Heritage and Historic Scotland to ensure such woods are managed appropriately. The exotic mixes of specimen trees are particularly important characteristics: towering conifers, beech, oak, limes and horse chestnuts are especially significant in Tayside. Policies and grants to support their management and replacement should be promoted.

Semi-Natural and Ancient Woodlands

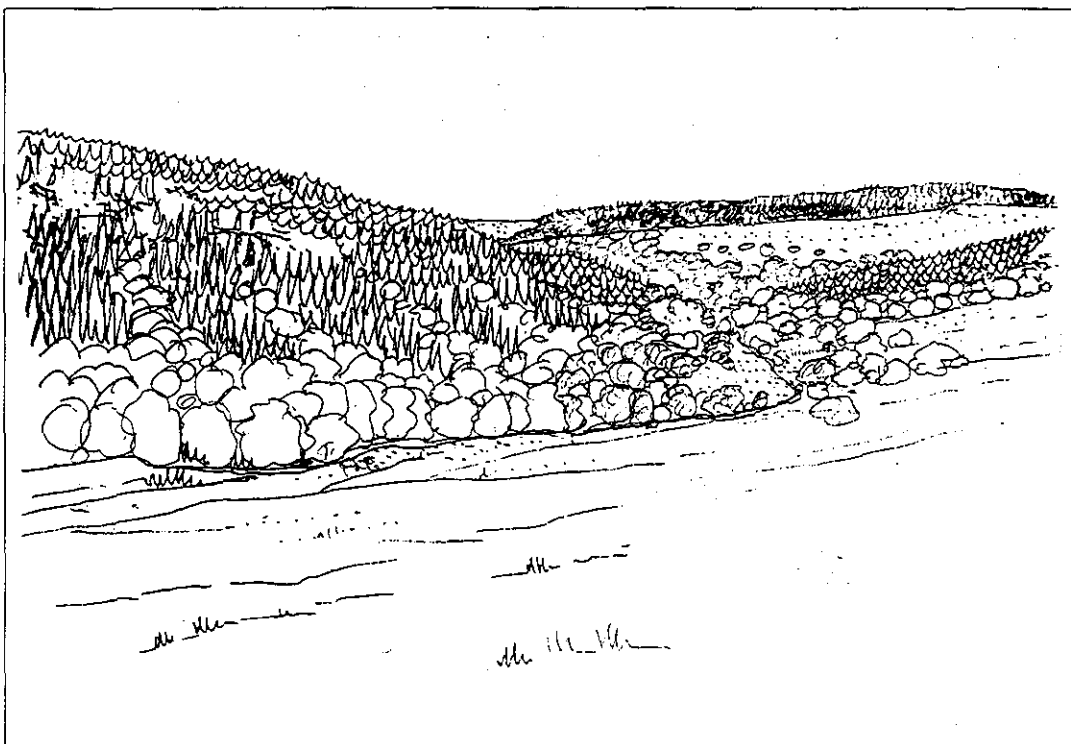
- The protection of these woodlands should be regarded as very important. Semi-natural and ancient woodlands make important contributions to the landscape of Tayside - particularly its glens. Continued support for their protection and management through the Tayside Native Woodlands and other initiatives is essential.

- The sketches on pages 59, 60 and 61 illustrate the possible effects of implementing management options to deal with changes in forestry and woodlands. Examples are given for three different landscape character types ('Igneous Hills', 'Lower Highland Glens' and 'Mid Highland Glens'). These landscape character types are discussed in greater detail in Part II.



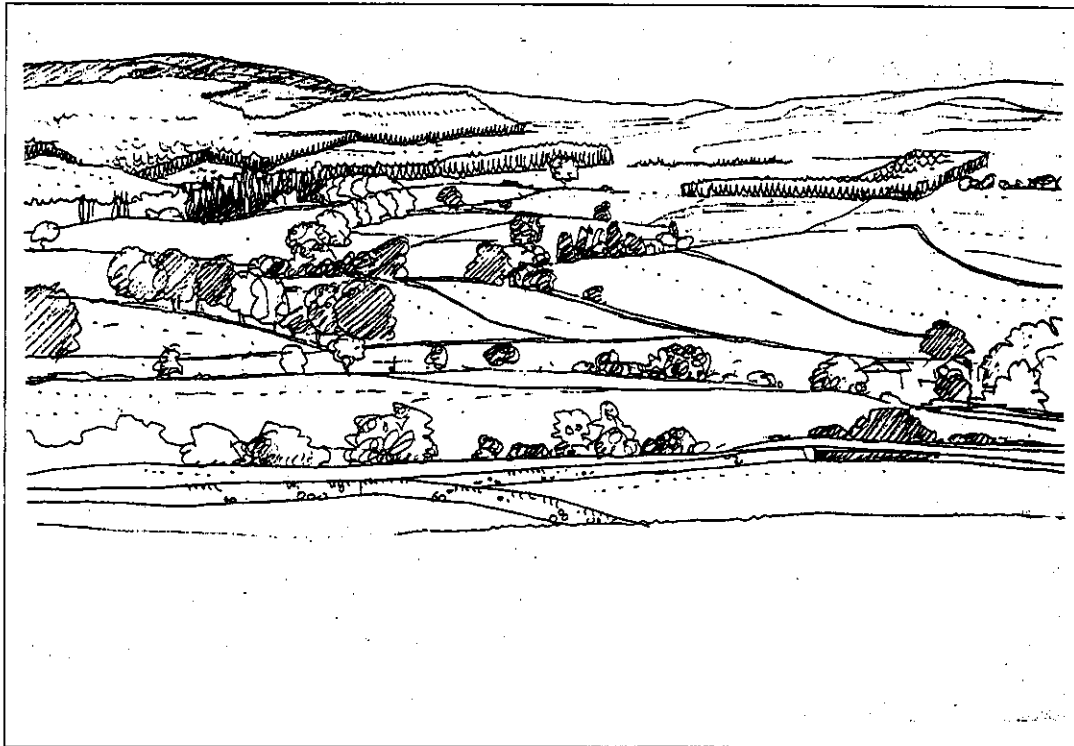
Igneous Hills

Mature 'blanket' forests of Sitka spruce cover parts of these hills, devoid of open space and species variations.



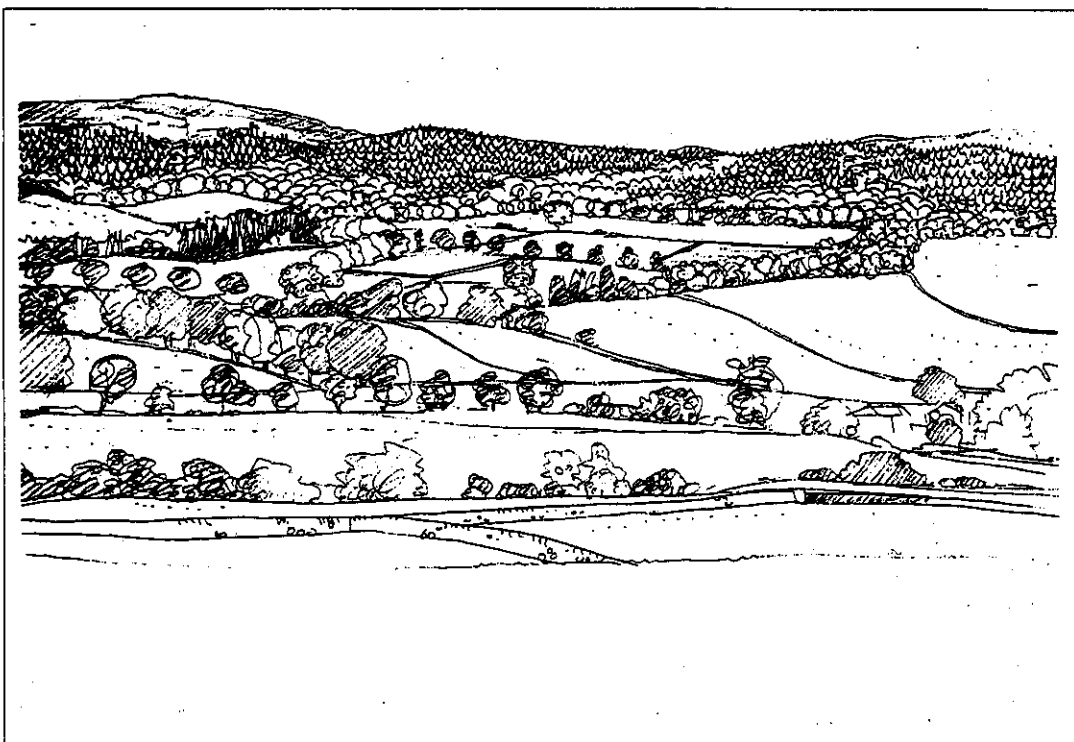
Management Option

Future rotations present opportunities for modifying the existing forests - introducing riparian corridors, large-scale patterns of interlinked open space, broad-leaf planting around low margins and along valleys and large- to medium-scale use of conifer species variations e.g. spruce and larch.



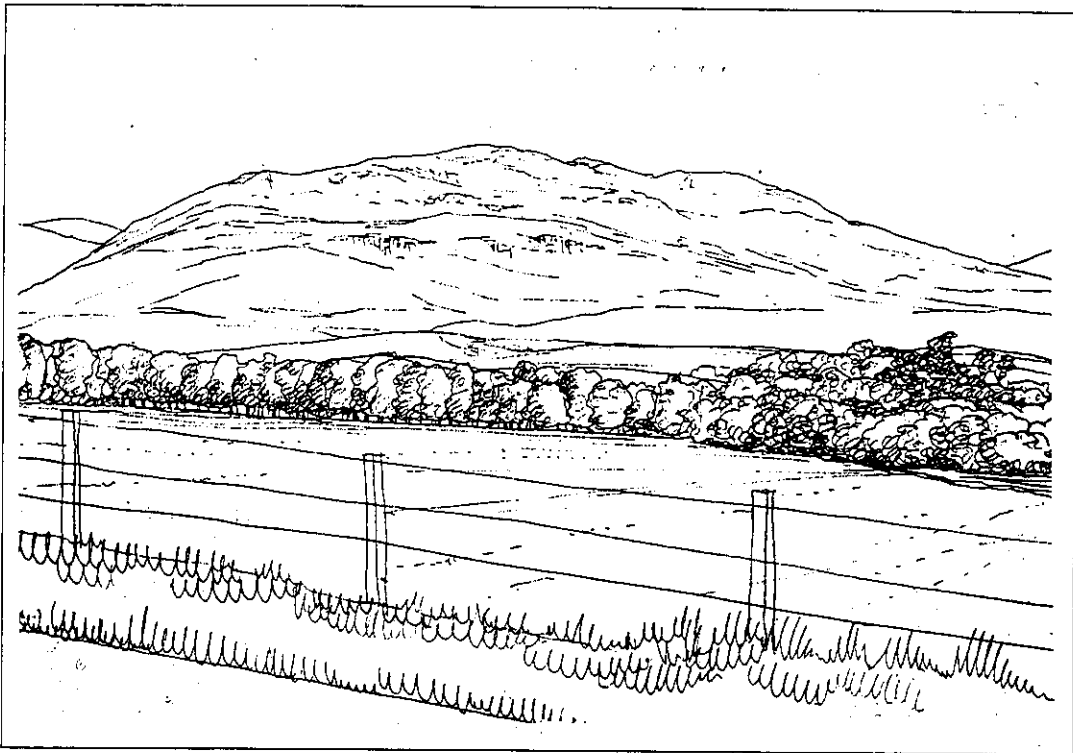
Lower Highland Glens

Lack of integration between conifer plantations and farm woodlands, loss of tree lines and walls.



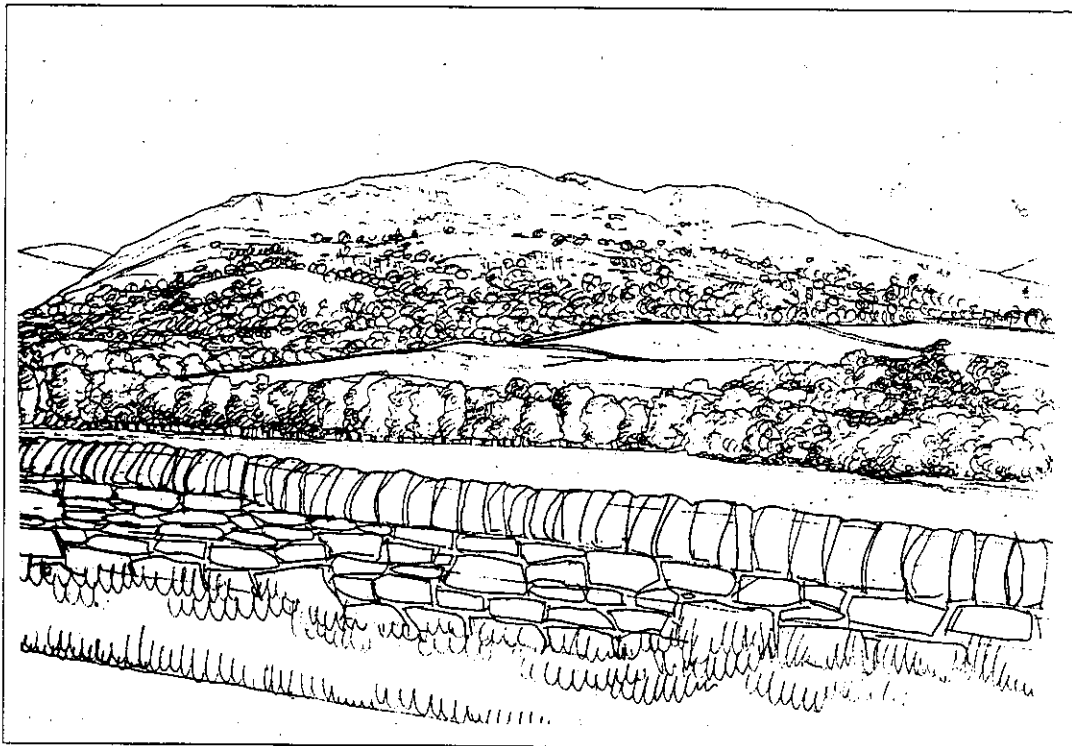
Management Option

Establish new broad-leaf woodland belts connecting with broad-leaf forest margins; restore tree lines, walls and hedges.



Mid Highland Glens

Decline of field boundary walls, loss of pastoral enclosures and prevention of natural woodland regeneration by sheep and deer grazing.



Management Option

Reduction of grazing or increased use of fencing to allow natural regeneration of woodland; restoration of dry-stone dykes and reclamation of old pastures on the glen floor and lower glen sides.

DEVELOPMENT PRESSURES

4.21. Tayside has an enviable reputation for its quality of life. It is consequently an attractive place to live and work and a popular holiday destination. These characteristics are conducive to inward investment and generate demands for a range of development in many parts of the region. This is facilitated by the region's strategic communication routes which allow ease of access along their corridors. The main development issues area as follows:

- (i) urban expansion;
- (ii) building in the countryside;
- (iii) tourism developments;
- (iv) minor and major road developments;
- (v) wind farms.

These issues are described below.

Urban Expansion

Background

4.22. Over the last 30 years, there has been a steady rise in the demand for development sites within, and in close proximity to, main settlements, which has been accommodated through strategic and local planning on a mixture of brown and greenfield sites.

4.23. Development pressures still exist as a result of high demands for new housing and demands for strategic business developments. Demands which directly affect the landscape include:

- (i) demand for greenfield sites on the periphery of existing settlements to allow urban expansion for housing and occasionally business/industrial development;
- (ii) demand for greenfield sites adjacent to strategic transport routes and in close proximity to settlements;
- (iii) potential development of new villages where the existing settlements lack capacity or are unsuitable for expansion;
- (iv) demands for isolated developments in the countryside (discussed below).

4.24. Satisfying the above demands can and does cause significant changes in the character of the landscape within the zone of visual influence of settlements. These changes include:

- (i) sub-urbanisation of the countryside through the extended visual influence of new development and the inclusion of 'suburban' design elements in peripheral developments;

- (ii) alterations to the physical and visual relationship between town and countryside;
- (iii) loss of local distinctiveness through unsympathetic building developments;
- (iv) loss of indigenous buildings through their inability to accommodate new uses, the lack of interest in expansion restoration projects or through 'over-conversion' which emasculates the original character.

4.25. These issues to a greater or lesser degree, affect all but the exposed highlands and the remotest glens. The gradual compounding change could transform the everyday experience of the landscape for the resident population and modify the perception of visitors.

Urban Expansion

Summary of Key Landscape Issues

The key landscape related issues to be addressed by planning and management guidelines are as follows:

- ***how a strong indigenous character and identity could be created for all types of new urban development, i.e. to avoid peripheral zones of ubiquitous or characterless developments;***
- ***how new and appropriate relationships might be developed between urban expansion developments and the countryside, i.e. both visual and physical;***
- ***how the limits of urban development might be determined and landscape frameworks developed for the main settlements;***
- ***how the perception of settlements on arrival or from distant viewpoints could be influenced by planning and management to achieve the best and lasting impressions;***
- ***how new housing and other developments sympathetic to the local character, could be encouraged;***
- ***how significant original buildings might be safeguarded from dereliction, demolition or unsympathetic conversion.***



While many of the large towns in Tayside have a limited impact on the wider landscape, sometimes, as in Dundee, the transition from urban to rural is abrupt.



Many smaller settlements have experienced considerable growth, often by the addition of suburban estates and with little attention paid to the urban/rural interface.



Photo: SNH

Here at Kinnesswood, suburban development has spread up the lower slopes of the Lomond Hills, with a considerable effect on the wider landscape.



In parts of the region, planning policies have allowed development in the countryside, sometimes resulting in isolated groups of suburban houses.



This recently constructed 'kit' house shows that it is possible for new build to reflect traditional designs, materials and features.

FIGURE 11

FORCES FOR CHANGE

Government and Local Authority Planning Guidance

- 4.26. The Scottish Office has published Planning Advice Notes (PANs) which are relevant to the subjects of urban expansion and building in the countryside. These are PANs 36, 39 and 44, which cover the following subjects:
- (i) PAN 36: Siting and design of new housing in the countryside (Scottish Office, 1991);
 - (ii) PAN 39: Farm and forestry buildings (Scottish Office, 1993);
 - (iii) PAN 44: Fitting new housing development into the landscape (Scottish Office, 1994a).

These address in general terms most of the issues prevalent in the siting and design of domestic (including farm and forestry) buildings and provide guidance suitable for universal application.

- 4.27. The planning framework for the region is currently adapting following local government reorganisation in April 1996. As comprehensive local plan coverage evolves, there is considerable scope for supplementary planning guidance to address issues such as settlement and building design. There is also substantial potential for the wider use of design briefs which encourage developers to respond to the landscape context, settlement form and vernacular building styles.

General Planning and Management Guidelines

- Ubiquitous imported housing designs applied throughout the UK should be avoided. Designs for new buildings which reflect local characteristics should be promoted and local industries encouraged to produce component parts suited to Tayside's landscapes.
- There is a need to promote new developments of a high architectural quality where they are highly visible, form the urban edge or define the main approaches to towns and villages.
- The potential expansion of settlement should be given defined limits to ensure the overall identity and character is not compromised. Proactive landscape planning should seek to establish landscape frameworks (e.g. new woodlands, shelterbelts, etc.) at potential development sites in order to facilitate the future integration of buildings. Where a landscape framework cannot be established, then the urban design architectural treatment should seek to produce an appropriate urban edge.
- The potential for establishing new villages should be assessed where existing settlements lack capacity for expansion without compromising their sense of place. This would require an environmental appraisal to determine viable sites that are appropriate in landscape terms.
- Design briefs and even 'urban plans' should ideally be prepared by local authorities for large and sensitive sites. This would help to ensure new developments have clear identities and respond to their landscape and townscape context in an appropriate manner.

- PAN guidance does not address the development forms of contemporary business developments that demand large sites and building footprint areas, in particular that of retail warehouses, single storey industrial buildings and certain office/workshop combinations. These are typified by low cost, rapid build forms of construction and are frequently located within close proximity to strategic road corridors, e.g. to the north of Perth. The demand for these types of development may warrant the production of design guidance and its application to potential sites. Proactive guidance may then be useful to potential developers and be a positive influence on future proposals.

Building in the Countryside

Background

- 4.28. The scenic and accessible nature of much of Tayside encourages interest in development in the countryside. These are predominantly demands for houses, agricultural buildings and tourist accommodation. Whilst the lowlands and more accessible glens and straths are characterised partially by their settled nature, continuing incremental development in the countryside could compromise the rural character and/or scenic quality of the landscape.

Changes in the landscape

- 4.29. Decades of rural depopulation affecting some of the more remote or less prosperous parts of Tayside, have prompted planning policies which encourage a certain amount of house building in the countryside as a means of supporting the rural economy. The Tayside Structure Plan (Tayside Regional Council, 1997b), for example, states a presumption in favour of small-scale housing development in the countryside, provided that certain environmental and infrastructural criteria are met. Rural Angus Local Plan (Angus District Council, 1991) policies adopt a similar approach, supporting the development of housing within certain rural areas. The results of this policy are evident in areas north of Dundee where a dispersed pattern of isolated modern houses or groups of houses can be seen. Perthshire and Kinross policies are more restrictive, stating a presumption against housing development outside settlements except where certain criteria are satisfied. Perth and Kinross Council's 'Houses in the Countryside' policy (1996) opposes housing in the countryside except where:
- (i) the development comprises sympathetic additions to existing building groups;
 - (ii) houses are required to serve a clearly defined operational need;
 - (iii) sympathetic replacement of existing houses can be justified;
 - (iv) the development comprises the restoration of existing building(s);
 - (v) the development comprises the sympathetic conversion of existing buildings.

- 4.30. This policy appears to be effective in limiting isolated and intrusive developments throughout Perth and Kinross. Local Plans in Perth and Kinross have, however, identified 'Development Zones' in which there is a presumption in favour of housing development. Particular examples are found on the northern side of Strath Tay to the east (Cluny to Strathtay) and west (Coshieville to Farleyer) of Aberfeldy. Although comparatively limited in geographic extent, these zones do have the potential to result in a semi-dispersed pattern of residential development within these parts of Perth and Kinross. To minimise adverse effects on the character of the landscape, development within these zones should be encouraged to avoid higher slopes, and to favour clustering along roads, echoing the traditional pattern of development. Design guidance will be important so as to avoid particularly prominent and unsympathetically designed buildings. Even the most restrictive planning policies do not guarantee sympathetic architectural solutions. Style, quality and occasionally placement in the landscape, are sometimes unsympathetic and project a suburban image. In general, however, the quality of Tayside's contemporary rural architecture is noticeably better than many other parts of Scotland, this perhaps reflects the success of the planning authorities and a more sympathetic approach on the part of developers. Perth and Kinross's recently published siting and design guidance (Perth & Kinross District Council, 1995) should further assist in this regard.
- 4.31. Changes in agricultural practice have brought about a range of farm building developments and conversions. Traditional buildings, being unsuited to contemporary needs for machinery or livestock, have become largely redundant. These have been replaced by large barns, potato or overwintering sheds, which dwarf the original buildings and which frequently detract from the farmsteads' composition and relationship with the landscape. This is particularly evident in lowland areas such as Strathmore, where the spread of potato growing has led to the construction of many large sheds for processing and storage. Recent legislation requires a planning application for farm buildings over 365 sq.m. and prior notification for all other buildings. The guidance contained within PAN 39: Farm and Forestry Buildings (Scottish Office 1993), coupled with the above planning controls, should result in farm building being more sympathetically positioned and designed henceforth.
- 4.32. There is a significant demand for traditional buildings as restoration projects within Tayside. Many of these are redundant farm buildings or isolated dwellings in the countryside. Generally, these restoration projects have significant environmental benefits, however, in some cases, there are associated changes in character. These are typically caused by changes to windows, whitewash treatments, the creation of driveways, gates and elaborate gardens, all of which change the building and its immediate setting.

Buildings in the Countryside:
Summary of Key Landscape Issues

The key landscape issues related to building in the countryside that need to be addressed in future policies and management strategies are:

- **the capacity of different landscape types to accommodate new isolated developments;**
- **the importance of sensitive planning policies which are able to balance the needs of the rural economy with the importance of avoiding over-development and 'suburbanisation' of the countryside;**
- **how the siting and design of new residential buildings should best achieve integration with the different landscapes of Tayside;**
- **how design guidance might prevent 'suburban' solutions from being applied in the countryside;**
- **the identification of key design requirements in the restoration of old buildings, to avoid dilution of character;**
- **how proposals for new farm buildings might be influenced by design guidance and planning policies in order to achieve more sympathetic results.**

General Planning and Management Guidelines

- 4.33. The following guidelines should be considered in conjunction with PAN guidance 36, 39 and 44 and with the guidelines included under paragraph 4.29.
- Proposals for new building in the countryside should be required to demonstrate an understanding and relationship with the local buildings in terms of scale, layout, materials and colour. While it may not be appropriate to reproduce replicas of historic buildings, modern design should respond creatively to local factors which may include:
 - (i) building materials - clear distinction between the use of grey granites and schists in the Highlands and the use of red sandstones in the lowlands. More subtle variations include use of whitewash in some of the Highland glens, the progression from dull reds to brighter reds in sandstones moving from west to east, the use of pantiles in Kinross, and variations in the appearance of stone used in dry-stone dyking;
 - (ii) building layouts, which range from simple linear villages (e.g. Auchnamithie on the Angus coast), 'planted' villages on grid layouts (e.g. Ardler in Strathmore), to nucleated settlements (e.g. Kirriemuir). At a micro scale, farmsteads and hamlets often have characteristic layouts which reflect both their function and the need to shelter from prevailing winds;

- (iii) building styles which may range from historic vernacular (often solid, low buildings of one storey or with typical dormer windows), the particular design style of estate villages such as Kenmore, Fortingall or Blair Atholl to Victorian interpretation of the local vernacular;
 - (iv) local pattern of settlement and location which historically would have had much to do with the importance of shelter, defence, communication, markets, access to lowlands and higher ground, patterns of stock keeping including transhumance, land ownership and the legacy of the clearances, quality of agricultural land and religious factors.
- The relationship with soft landscape components and with landforms to achieve shelter and allow views is an important characteristic of Tayside valleys and glens. New developments should seek to achieve similar sympathetic relationships without contrivance or extravagant site alterations.
 - New developments should seek to match local building materials (at least in appearance) in order to reinforce local character.
 - The peripheral treatment of new building sites should be given careful consideration. Boundary treatments, gateways and edge planting can sometimes be more noticeable than the house. Appropriate detailing is, therefore, essential to avoid the expression of suburban concepts in the countryside, design guidance, and examples of best practice may be the best way of influencing these factors.
 - Building on the sites of former buildings could satisfy a number of objectives for siting, integration and relationship to infrastructure, these should be encouraged providing the original building is beyond redemption.
 - PAN 39 provides concise guidance on farm and forestry buildings which can be applied to Tayside. There are, however, a number of specific factors that should be considered:
 - (i) guidance and planning policies covering the conversion of typical farm buildings could assist in the useful preservation of some of Tayside's fine farm buildings;
 - (ii) encouragement for the use of smaller buildings with more diverse roof configurations could achieve more balanced farm units where original buildings are retained beside the new; more diversity in the range of barn 'kits' available would assist in this regard.
 - As noted above, Perth and Kinross Council have also produced guidance on the siting and design of buildings in the countryside (Perth & Kinross District Council, 1995).

Tourism

Background

- 4.34. Tayside is a major holiday destination and tourism is fundamental to the region's economy. Tourism and recreation are activities which are heavily dependent on the character and quality of the Tayside landscape. In common with many other parts of Scotland, most visitors are drawn by the unspoilt nature of the region's environment, often touring, walking or cycling, and visiting castles and other monuments. It is essential, therefore, that the basic resource - the landscape - is conserved and enhanced.

Changes in the Landscape

- 4.35. Tourist activity is evident throughout Tayside and the region has a broad range of facilities and attractions. These are largely based on existing features or urban centres, but some have been newly developed. The economic benefits of tourism have supported many positive works in the landscape, e.g. building restoration and upkeep of designed landscapes. There is, however, a range of impacts which require control if they are not to have detrimental effects on landscape character.
- 4.36. The region has a number of established caravan/chalet parks, several of which are prominently positioned beside lochs, in the glen floors and beside main roads. Some of these are poorly integrated with the landscape and have unsympathetic ranks of white caravans or chalets which are visually obtrusive. Particularly obtrusive developments are at Loch Tummel near Queen's View, the south side of Loch Earn, Strath Tay near Kenmore and between Pitlochry and Killiecrankie. It is possible that proposals for additional caravan parks may come forward in the future, both in established areas such as the principal lochs (Tay, Earn, Tummel) and in areas such as the Highland Foothills. There is an opportunity to learn from past experience and to favour sites which have a limited impact on the wider landscape. Off-site screening may be provided both by the natural topography and by surrounding woodland and hedgerow trees. On-site planting can also play an important role, providing boundary screening and helping to break the caravan site into smaller areas. In some areas, notably the southern side of Loch Earn, there has been considerable caravan development over many decades - both in terms of single static caravans and larger sites. No matter how well-designed, additional caravan sites in such areas would further affect their landscape character. Opportunities may arise, however, to improve and enhance existing sites.
- 4.37. Tayside has a number of timeshare developments, notably at Kenmore, Dunkeld, Rannoch and Aberfeldy. These are permanent developments aimed at a more prestigious market. They employ, therefore, comparatively high quality architectural solutions as befitting the scenic and heritage values of their sites. These constitute a form of development in the countryside, but usually have been closely integrated with existing villages, built features of designed landscapes or with former hotels/country houses, thereby minimising impacts on the broader countryside. Only at Kinloch Rannoch do timeshares, in conjunction with other tourist facilities, give the impression of over-development. Development of existing timeshare complexes is continuing, but it is thought unlikely that there will be pressure for new timeshare developments in the future.



Photo: SNH

Recent decades have seen the rationalisation of agriculture and the construction of many large buildings including grain driers (above) and potato sheds.



While mineral working can have a major impact on the local landscape, existing quarries in Tayside have a more limited effect on the wider countryside.



Major road schemes are difficult to integrate into the wider landscape. There is often scope to use planting to screen the road, and to tie it into the structure of woodland and hedges.



Tourism and recreation, while contributing to the local economy, can have effects on the landscape. This major development was recently opened at Bruar, on the A9.



Photo: SNH

The area is popular for caravans, with a number of large static caravan parks located close to the main lochs. Without suitable screening, these can have a major effect on the landscape.

FIGURE 12

FORCES FOR CHANGE

- 4.38. Certain towns have developed as tourist centres and 'honeypots' of activity. These have enjoyed the economic benefits, allowing the built fabric to be kept in good order by proprietors and encouraging public agencies to carry out environmental improvements. These centres, e.g. Pitlochry, Dunkeld and Crieff, are the likely focus for new strategic tourist attractions and developments which may change the local character of the town or its surrounding landscape through the need to accommodate the development, associated large car parks and additional motor traffic.
- 4.39. The major communication routes which run through Tayside (in particular the A9) have generated interest in tourism developments close to the road corridors, at convenient locations close to junctions (e.g. the Macbeth Experience Centre, the Dowally Craft Centre, the House of Bruar). It is possible that there may be continued demands for such isolated developments which may have significant local impacts due to their high visibility from the main road.
- 4.40. Tourism has supported the restoration of many traditional rural properties for use as holiday homes. This has generally had a very positive effect in the landscape, although the changed function of the property can sometimes be evident in the less well-managed gardens, signage and lack of occupation during the winter months.
- 4.41. Certain forms of recreation can have implications for the landscape. The Uplands of Tayside are popular destinations for hill-walking, skiing and mountain cycling; activities that can cause erosion at a local level and introduce developments, noise and movement into otherwise 'wild' and remote landscapes. At lower levels, the noise and movement introduced by powered watersports (e.g. Loch Tay) and off-road vehicles, can be intrusive.
- 4.42. Signage related to tourism facilities can be an intrusive feature of popular holiday areas. Private signs of variable quality, positioned in an ad hoc manner close to roads, can introduce clutter and detract from views. While planning policies do address signage, enforcement of unauthorised signs is not always carried through. Furthermore, the regulation of 'official' brown signs has been relaxed. Taken together, these factors mean that signage clutter is increasing with implications for landscape character, particularly at the local level.

Tourism:

Summary of Key Landscape Issues

- *the siting and appearance of caravan and chalet parks and the opportunities to enhance established facilities;*
- *the potential landscape effects of major tourism developments at 'honey pot' towns;*
- *the need to reconcile different forms of recreation and steer intrusive and noisy activities to suitable locations;*
- *landscape implications (both beneficial and potentially adverse) of rural diversification and the growth of 'green tourism';*
- *the need for control of private signs to prevent signage clutter in the landscape;*
- *landscape implications of growing volumes of visitor traffic - both direct (noise, movement, etc.) and indirect (demand for car parks, road improvements etc.).*

General Planning and Management Guidelines

- Caravan and chalet park developments illustrate how easy it is for such facilities to undermine the character of the landscape. It is important, therefore, that such developments are carefully controlled, and steered to locations where the topography or land cover limits their impact on the wider landscape. The sensitive choice of materials, colours and screen planting can reduce these impacts still further. There is a need to address the landscape impacts of existing park developments.
- The landscape implications of tourism-related traffic should be considered, both in general and in relation to specific development projects. Parking provision, minor and major road provision and signage, all have a landscape impact. Equally important are the effects of noise and vehicle movement in some of the more remote and tranquil parts of the region. Green tourism projects based on cycling, walking or horseriding, or served by public transport, could provide the opportunity to develop less car oriented tourist attractions.
- Without effective and co-ordinated management, even the most benign forms of recreation, such as walking, can result in erosion, landscape damage and conflict with other interests. With the increasing range of rural recreation activities and the growth of particularly noisy activities, the role of management and co-operation becomes even more essential.
- 'Green tourism' may provide scope to develop tourism and recreation activities that respond to an area's local distinctiveness through community involvement and emphasis on landscape conservation.

- A signage policy and guidance for private signs/tourism promotion would help to prevent signage clutter and preserve landscape character.

Road Developments

Background

- 4.43. Tayside is traversed by several major roads (A9, M90, A85, A90) which generally follow lowland coastal and major glen routes through the region. The trunk roads have been subject to varying scales of road engineering work by the Scottish Office to improve their efficiency and safety. The remainder of the public road network is the responsibility of the local authorities who have a statutory responsibility for its management.

Changes in the landscape

- 4.44. The A9 is an important strategic road which has been the subject of progressive improvements over the last 30 years. These have involved the construction of considerable lengths of dual carriageway, local widening and realignment of the original road, and considerable major engineering works (bridges, embankments, rock cuts, etc.). These works have locally affected the landscape of Strathallan, Strathearn, the valley of the Tay and Glen Garry.
- 4.45. The M90 is the other major road in the region providing motorway access from the Forth Bridge to the strategic intersection of main routes at Perth. The M90 is shorter and traverses less dramatic topography. Its corridor, nevertheless, has a significant local impact and the impressive engineering works around Perth (bridges, under/overpasses and sliproads) are dominant features in the landscape.
- 4.46. Similar works have been undertaken along other strategic routes such as the A90. These have all generated landscape impacts, not only related to the roads, but also in the surrounding areas where borrow pits, local quarry, sand and gravel extraction and temporary works have been required.
- 4.47. While these strategic improvements have increased traffic efficiency, they have changed both the local landscape character through the scale of construction works and the volumes of traffic generated; they have also affected the way in which motorists perceive the landscape due to the increased speed of traffic and the 'corridor' effect of the major roads. Future improvements, including further dualling of the A9 north of Perth, and the creation of grade separated junctions on the A9 and A90, may increase these effects.
- 4.48. Changes to minor roads are less noticeable, but the compounded effect can become significant. Local road improvements such as junction improvements and minor realignments can result in the removal of characteristic features such as hedgerows, walls, trees and old signs.
- 4.49. Improvements to rural roads may be required in the future to facilitate forestry haulage; it is important, therefore, that any such loss of characteristic features is mitigated by reinstatement works.

Road Developments:

Summary of Key Landscape Issues

The key landscape issues related to road developments that require to be addressed by planning policies and strategies are:

- ***how to reduce the impact of existing major roads;***
- ***how the landscape design of new road corridors could reflect and reinforce the character of landscapes traversed;***
- ***how the scenic qualities of certain landscapes might be acknowledged by innovative road engineering which avoids crude cutting and filling;***
- ***how the characteristic features and inherent interest of the minor road network could be preserved and maintained, i.e. hedgerows, verges, tree lines, walls and bridges;***
- ***how roadside services and facilities can best be located and designed.***

General Planning and Management Guidelines

- Design guidance contained within the Design Manual for Roads and Bridges Volumes 10 and 11 (Scottish Office Industry Department, 1993) should be applied, taking due regard for the local landscape characteristics of Tayside.
- The management of existing roads may require a different emphasis if their essential characteristics are to be maintained, e.g. tree avenues, narrow bridges, sinuous alignments. The Scottish Office is currently examining the potential for establishing a rural road hierarchy. This aims to define management types and priorities for rural roads, distinguishing between functional and categories of leisure roads. This would allow the current statutory standards to be waived in favour of a conservation led approach for many rural roads.
- For extensive ongoing road programmes, the landscape treatments for the entire road corridor should be reviewed as a strategic project to ensure that a strong regional character will ultimately be projected and that the subtleties of the local landscape character changes are also acknowledged. On and offsite landscape works should be designed to integrate the road into the broader landscape.
- For areas of designated and perhaps locally appreciated scenic value, there should be an emphasis on high quality sensitive engineering solutions, e.g. bridge design by competition, as at Glencoe.
- The adoption of a rural roads management programme could make positive contributions to the countryside, if all characteristic features of the road corridors were

addressed. Such a programme would require a multi-agency approach if all opportunities for visual amenity, wildlife and recreation were to be realised.

- Approaches and gateways to towns and villages should ideally be announced subtly in the design of roads and their landscape corridors. Roadside treatments such as tree lines, walls and hedgerows, combined with low-key carriageway alterations, may be able to create a gateway effect without the need for a proliferation of warning/speed restriction signs in the landscape. Again, this requires integration and co-operation to ensure that the messages given by the built environment and the road corridor coincide.
- Roadside services and facilities should be located so as to minimise their impact on the wider landscape. Screening, topography and woodland can help in this respect. The design should similarly seek to minimise visual intrusion. There may be opportunities to adopt local building styles and materials. The night-time landscape, in particular the effect of street lighting and vehicle lights, should be considered carefully since the principal route corridors pass through otherwise rural and undeveloped areas.

Wind Farms

Introduction

- 4.50. There is growing pressure for wind farm development in Tayside. While wind farms are a novel and exciting means of generating 'clean' electricity, many point to potential landscape and other environmental impacts, particularly when they are built in otherwise undeveloped areas. Local planning authorities have a key role to play in balancing the environmental benefits and impacts of wind farm development, and steering such schemes to locations which meet environmental as well as technical criteria.
- 4.51. Concerns about the effects of acid rain and rising concentrations of atmospheric carbon dioxide (the so-called greenhouse effect) have prompted a move away from fossil fuel power generation and towards alternatives including energy sources such as wind, wave and solar power or biofuel and waste incineration. As is described below, targets for renewable energy power generation have now been set and local authorities are required to facilitate its development. To date, most interest has focused on wind energy, with a number of wind farms (comprising groups of wind turbines) already having been built and many others proposed. However, this interest is tempered by concerns that those areas with the highest wind speeds (thus potentially most suited to wind power generation) also tend to be those areas with the most sensitive landscape (generally upland and coastal areas).
- 4.52. The National Planning Policy Guideline (NPPG 6) on renewable energy (Scottish Office, 1994b) includes an assessment of the 'realistic longer-term potential for renewable energy developments in Scotland'. This suggests that Tayside has the potential for 149 megawatts (MW) of installed generating capacity from renewable energy sources. Wind power contributes the bulk of this, accounting for a potential 92.5 MW of installed capacity. However, the policy guidelines note that realisation of this potential is likely to

be constrained by the restricted capacity of the electricity transmission system, particularly in areas north of a line drawn between Pitlochry and Dundee. This suggests that in the short- to medium-term, opportunities and pressures may be greatest in the west Highlands, the foothills, western Sidlaws and Ochils. It also suggests that there may be pressure to upgrade the power system elsewhere in the Highlands in the longer term.

Wind farms - the renewable energy context

- 4.53. NPPG 6 requires local authorities to plan *'positively for renewable energy where this can be achieved in an environmentally acceptable manner'*, and to *'safeguard sites with potential for renewable energy projects'*. It recognises that there is a need to reconcile the siting of renewable energy developments with the protection of important environmental assets within nationally important areas (such as NSAs, ESAs, NHAs and Regional Parks) such schemes should only be permitted where the integrity and underlying objectives are not affected and where adverse effects are outweighed significantly by the national benefits that would result from the development. Turning specifically to wind power, NPPG 6 states that wind turbines should only be permitted where they would *'not be significantly detrimental to areas valued for their landscape character'*.
- 4.54. NPPG 6 requires planning authorities to define areas of search for renewable energy developments, to safeguard areas considered suitable for renewable energy development and to define areas where, because of environmental and other considerations, such developments are likely to prove difficult to reconcile with other policy considerations. The development of an integrated strategy for renewable energy in Tayside should therefore be regarded as a priority. This should examine the practical potential for each type of renewable energy in greater detail, taking into account the basic resource itself and the technical constraints, along with key environmental, commercial and other planning constraints affecting realisation of the overall potential. The development of a renewable energy strategy, which is reflected in the planning policy framework, will assist in the consideration of proposals for wind turbines or wind farms. By examining and planning for the potential for other forms of renewable energy, the strategy would demonstrate a positive commitment to the overall benefits offered by alternative sources of power. Key sources of renewable energy within the region, in addition to wind, may include:
- small-scale hydro schemes at former mill sites (e.g. along the Tay and Almond, or in lochside locations); by utilising existing infrastructure, wider landscape and ecological effects can be kept to a minimum;
 - domestic and agricultural waste (incineration or anaerobic digestion to create biogas); while processing plant would be required, this approach would help reduce the need for landfilling or other forms of disposal;
 - biomass (e.g. short rotation coppice) in the lowlands and glens; although a temporary effect, this could have a local influence on landscape character;

- residues from forestry management and timber processing; again, although processing plant would be required, this would be generally small in scale and would make good use of an otherwise wasted resource;
- energy savings achieved by passive solar design, active solar technology and the use of solar cells (photo voltaics).

Most of these alternative forms of renewable energy are relatively small-scale, or require processing and generating plant which differ little from conventional industrial or agricultural developments. This section, therefore, concentrates on issues relating to wind energy. Some of the issues covered are also of relevance to other forms of development, most notably masts, aerials and other tall structures.

- 4.55. It is notable that the nominal production of over half of Tayside's energy needs from existing large-scale hydro schemes within the region compares with just 2% of energy supplies from renewable sources for the UK as a whole.
- 4.56. Appendix A to Planning Advisory Note 45: Renewable Energy Technologies provides further information and guidance on wind power developments. The Appendix sets out criteria thresholds to determine whether an environmental assessment is required under the Environmental Assessment (Scotland) Regulations 1988 (as amended in 1994):
- the proposed development is located within or is likely to have significant environmental effects on a sensitive location such as a NSA, SSSI or Natural Heritage Area (NHA);
 - the proposed development is located within or is likely to have significant environmental effects on any other area valued for its landscape character;
 - the development consists of more than 10 wind generators;
 - the total installed capacity of the development exceeds 5MW.
- 4.57. From this discussion, it is clear that planning authorities have a critical role to play in the development of wind power. The following sections outline the effects of wind farm development providing a framework for assessing the implications for individual landscape types.

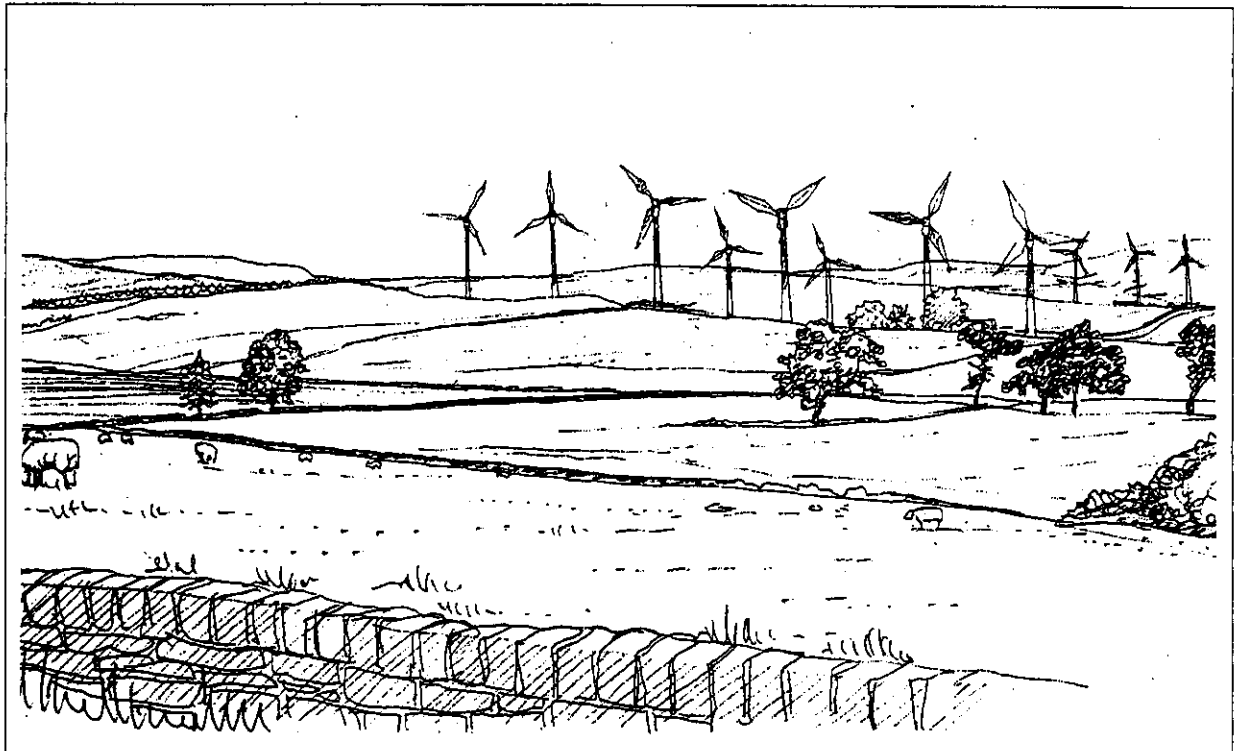
Changes in the Landscape

- 4.58. The development of wind farms is guided by three principal groups of factors. Firstly, there are the technical issues that influence location. These relate primarily to the incidence of the high wind speeds that are required for power generation. As noted above, this requirement tends to favour coastal and upland areas since average wind speeds tend to be significantly higher here than in more sheltered locations. Additional technical factors include the need to link into the National Grid at a suitable location (the grid tends to be least dense in remote areas and the installation of new cables tends to be both expensive and environmentally damaging), the need to avoid electro-magnetic interference and the need to provide road access (suitable for articulated vehicles) to the site in question. Economic factors are closely related to technical factors, further limiting the areas where the costs of development and operation will be outweighed by the revenue accruing from power generation. The third group of factors that should govern

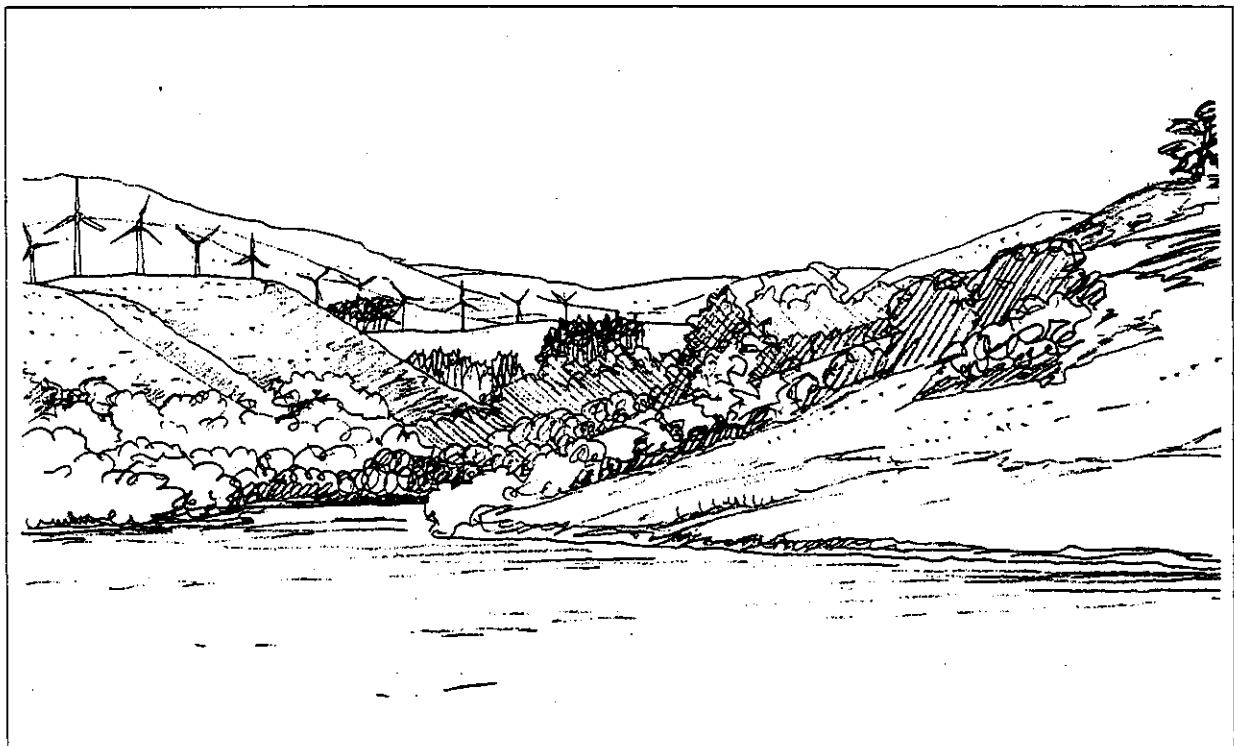
the choice of wind farm sites comprises the likely environmental effects. These may include:

- visual intrusion and effect on landscape character;
- effect on nature conservation;
- noise;
- secondary effects resulting from links to the National Grid or the provision of road access.

- 4.59. While the last three of these issues are important concerns, this discussion focuses on the implications of wind farm development on visual intrusion and landscape character.
- 4.60. The landscape impact of wind farms will, in turn, reflect a variety of factors. Most significant, perhaps, is the size of individual turbines (30-35m high with a rotor diameter of 30-35m), their vertical, modern and industrial appearance and the movement that they introduce into the landscape. While in some situations the structures can be almost sculptural, turbines can appear incongruous, particularly in a sparsely developed upland or coastal location. Clearly, the effects increase with the number and density of turbines in any single wind farm development. Associated infrastructure, including buildings and service roads can also be visible features.
- 4.61. A critical influence on the scale and nature of wind farms' visual impact is the nature of the landscape in which they are developed. Thus, in a large-scale landscape (e.g. an exposed upland area) the visual impact of turbines may be comparatively small, though they will be visible over a considerable area. Conversely, in a small-scale landscape, wind turbines are likely to be particularly obvious, though they are less likely to be visible over a wide area. A further factor is the degree of existing development. Impacts are likely to be greater in unsettled landscapes, and least where the landscape has already been affected by masts, pylons and other structures. A further influence on wind farms' landscape impact is their prominence. Thus, turbines sited on the skyline are likely to be far more noticeable than those located a little further down the hillslope. Topography and landcover may further influence these impacts, providing screening or backclothing for all or part of the wind turbines. It is useful to consider the landscape impacts in terms of the development's viewshed. Where can the wind farm be seen from? Who can see it? How does it appear, against a backdrop or on the skyline? Local residents, farmers, tourists, visitors, and walkers (for example) are all likely to have different perceptions of a given wind farm.
- 4.62. Since wind farms may be visible over a considerable area, it is important that the impacts on surrounding landscape types and designated areas is taken into account during the consideration of planning applications.



Example A Siting of wind turbines within the Sidlaw Hills using the low ground between ridges to accommodate low level structures and roads without visual intrusion. This example also illustrates how the turbines might be located inside the main watershed/visual horizon, thereby limiting visual impacts to one geographic zone i.e. south of the hill range.



Example B Siting of wind turbines within the more dramatic topography of the Ochil Hills using the high ground to the north for 'backclothing' the turbines. This example also illustrates how the irregular topography could be used to absorb low structures and roads without significant visual effects.

Wind Farms

Summary of Key Landscape Issues

- ***interest in wind power is likely to increase over the next few years; can the environmental benefits of this renewable energy generation be balanced with the need to protect other aspects of the environment?***
- ***wind turbines are often visible features in the landscape, in part reflecting their size, modern and industrial design, vertical orientation and the movement of their blades; how can they best be incorporated into the landscape ?***
- ***given the common coincidence between areas of high scenic value and areas with the highest average winds, how can the planning system balance the need to select prominent sites with the need to protect the most sensitive landscapes?***
- ***how can natural topography and land cover be exploited to screen and backcloth wind farms?***
- ***are some landscape types better suited to wind farm development than others?***

General for Planning and Management Considerations

- 4.63. In accordance with the approach recommended by NPPG 6 it is considered that the local authorities should take a proactive role in defining areas with potential for wind farm development and those areas where such development cannot be reconciled with other policy objectives. Although factors such as noise, safety, proximity to National Grid connections and communications may influence this analysis, it is the effect on landscape, and upon nationally protected landscapes, which are likely to be most significant in defining these areas. The analysis of landscape types provides broad guidance on the acceptability of wind farm development in different areas. However, it would be simplistic, and probably misleading, to calculate the actual scope for wind farm development on this basis since many more local factors are likely to be significant in defining suitable sites within areas of search. Some of these factors are considered below and the importance of environmental assessment in the design process is outlined.
- 4.64. The following locations are likely to be particularly sensitive to wind farm development:
- extensive upland areas where development is sparse and views extensive;
 - areas designated for their landscape or nature conservation value;
 - small-scale landscapes;
 - skyline sites;
 - sparsely developed areas;

- prominent locations where the development can be seen by large numbers of people (e.g. residents, travellers or visitors).

4.65. Taken together, these factors apply to much of the region. The challenge, therefore, is to determine the extent to which these issues can be addressed during the design and implementation of schemes. If this is not possible, an alternative approach may be necessary.

Environmental Assessment

4.66. The process of environmental assessment should be used to influence the design of wind farm development. In particular, the assessment process should:

- examine alternative sites;
- examine the scope for alternative site layouts; there may be scope to reduce the visual impact of a scheme, for instance by removing turbines from the skyline, without making it unviable;
- the impact on the character of the surrounding landscape, taking account of those landscape types from which the development would be seen;
- the impact on sites designated for their landscape or nature conservation value;
- the scope for on-site or off-site mitigation, including the use of additional planting;
- impacts during construction and decommissioning.

Design

4.67. It is important that wind farm developments respond to the character of the surrounding landscape. As a general rule, flat or open landscapes should be avoided since here views will be long and the turbines will often be visible against the sky. More undulating landforms are likely to provide better screening. Wherever possible, skyline locations should be avoided in favour of sites where the natural land form provides a backdrop against which the wind farm would be seen. Existing land cover (particularly woodland or forestry) may accentuate the screening provided by the landform.

4.68. Locations within coniferous plantations may have the potential to reduce a number of the environmental impacts noted above for the following reasons:

- woodland would provide screening for turbines, particularly when viewed from nearby; associated buildings would be concealed from view;
- to some extent, coniferous forests already present a modified upland landscape; this offers scope for the siting of wind turbines and may help to ease the pressure on open landscapes;
- infrastructure such as forest and access roads usually already exists in these areas.

4.69. However, the option of steering wind farm development to forest locations requires technical assessment. It is recognised that commercial forestry activities usually avoid the most exposed areas. Account should also be taken of the forestry harvesting and management plans in order to ensure that the benefits of woodland screening are sustained.

Regional Overview

- 4.70. Detailed information on average wind speeds is not available for Tayside. However, taking into account the basic need for high and reliable average wind speeds, it is likely that suitable areas are likely to include:
- highland summits and plateaux;
 - transitional hills along the Highland Boundary Fault;
 - the Sidlaws and Ochils;
 - lowland hills such as the Gask Ridge and Montreathmont Moor.
- 4.71. As noted above, technical constraints, principally the need for proximity to a suitable part of the electricity distribution network, means that large parts of the Highland, particularly to the east of Glen Garry/Strath Tay, are unlikely to be viable.
- 4.72. Other parts of the Highlands are likely to be very sensitive to wind turbine development as a consequent of their extremely open 'wilderness' character and extensive views. Any structures would be very visible in this otherwise undeveloped landscape. Even where large parts of the upland have been modified by commercial forestry, any turbines would still be visible over a considerable distance and from many of the principal peaks and viewpoints. This would undermine its wild, upland character. Set against this is the fact that many parts of the Highlands are remote, and comparatively few people would be exposed to the turbines. Overall, however, given the sensitive nature of this landscape, there is a very high level of constraint affecting the development of wind farms in the Highlands. However, should the technical constraints associated with this area be reduced, the Highlands could come under considerable pressure for wind farm development. If this should happen, the areas of highest environmental constraint should be identified as a means of steering wind farms to the most suitable locations. Factors to consider might include:
- the importance of avoiding areas of high nature conservation importance;
 - the need to avoid areas of high plateau where turbines would be visible for many tens of miles;
 - the need to avoid areas of high recreation value, particularly those used by walkers and climbers;
 - the scope for backclothing provided by locations on shoulders and shelves of upland.
- 4.73. As the term suggests, the transitional foothills along the Highland Boundary Fault form a transition zone from the uplands to the lowlands. This is reflected in landform, land use, vegetation and settlement. West of Strath Tay the landform is often open and rounded. To the east it is more fragmented and smaller scale. Although wind speeds would be lower than in the Highlands, it is probable that these areas would still be viable, particularly since they are relatively close to parts of the electricity distribution network. Wind farm development in these areas would have the advantage that turbines could be set against a backdrop of the Highland mountains. However, the erection of modern

prominent structures could undermine these areas' role in marking the transition from unsettled uplands to settled lowlands. There is generally a high level of constraint in these areas, but that there may be limited opportunities where view-sheds associated with developments are relatively contained. There may also be opportunities to the north of Glen Almond, particularly where the A9 corridor has brought a measure of development. Schemes here would need to be carefully designed and assessed.

4.74. The Sidlaws and Ochils are close to the principal centres of population and, over the years, have accommodated a considerable amount of development including masts, pylons, roads, plantations and reservoirs. While the overall aim should be to reduce the impact of these past developments, the different character and quality of these areas suggests that they may be better for wind farm development. The suitability of areas will vary considerably within the hills, and it is inevitable that some degree of landscape impact will result. However, it is possible that the balance between benefits and impacts is easier to find in the Sidlaws and, to a lesser extent the Ochils, than in more sensitive landscapes. The principles of development should include:

- avoid skyline locations, particularly where this results in extensive areas of visual influence on either side of the hill range;
- favour shallows bowls on the dipslopes;
- examine the potential of areas already affected by major roads, masts or forestry;
- take into account any constraints associated with telecommunications infrastructure;
- employ environmental assessment during the design stage

4.75. An indicative map, illustrating the sensitivities of the landscape for wind farm development in the Sidlaws, is contained in **Appendix C**. It should be noted that this has been prepared on the basis of a regional scale landscape assessment and that much more detailed assessment would be required in the event of a proposal coming forward in this area.

4.76. Lowland hills such as the Montreathmont Moor near Forfar may hold potential for wind farm development. Given the concentration of commercial woodland in some of these areas, it may be worth exploring whether wind farms and forestry are compatible.

CLIMATE CHANGE

- 4.77. There has been considerable debate about the phenomenon of climate change which may result from higher concentration of carbon dioxide and other 'greenhouse' gases in the atmosphere. Potential effects include rising temperatures, rising sea levels as ice caps melt, and a decrease in climatic stability resulting in more frequent episodes of storminess or drought. It is too early to draw firm conclusions about the scale and nature of these changes in relation to the landscape of Tayside. Possible scenarios include:
- rising sea levels creating pressures along the cliff and sand coastline, and along the Tay estuary;
 - changing temperatures and rainfall patterns with implications for upland vegetation, woodland, etc.;
 - changing patterns of snow-lie, with implications for skiing and other forms of recreation;
 - increased incidence of drought with implications for agriculture and soil stability.
- 4.78. Many of these scenarios are of a major scale and, should they become reality, little could be done but modify patterns of activity, management and planning. In situations such as the Firth of Tay, however, we face a choice. We could either respond to rising sea levels by raising sea defences (thereby protecting farmland and other property, but squeezing the ecologically important intertidal zone), or we could accept the changes and institute a programme of managed retreat of the coastline.
- 4.79. Although the effects of climate change could affect most landscape types in some way, consideration of the issue in subsequent chapters has been limited to situations where management responses to such change would have serious implications for the landscape.

