SOUTHSTAFFORDSHIRE
LOCAL DEVELOPMENT FRAMEWORK

Shaping a Sustainable Future for South Staffordshire

Assessment of Physical and Environmental Constraints

January 2009

South Staffordshire Council
SOUTH STAFFORDSHIRE LOCAL DEVELOPMENT FRAMEWORK

ASSESSMENT OF PHYSICAL AND ENVIRONMENTAL CONSTRAINTS

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1. INTRODUCTION

1.1 The Council is preparing a Local Development Framework (LDF) to help shape a sustainable future for South Staffordshire. It will replace the existing Local Plan and set out the spatial planning strategy for the District up to 2026. The Local Development Framework will consist of a number of statutory and non-statutory documents that together will set out the planning policies and proposals to guide development in the District. The statutory documents are known as Development Plan Documents (DPDs) and include a Core Strategy.

1.2 The Core Strategy will be at the heart of the Local Development Framework and will set out the long-term vision, objectives and planning policies to deliver the vision and secure a sustainable future for the District. It will be informed by and draw upon other strategies produced by the Council and other organisations particularly the Sustainable Community Strategy.

1.3 As part of the Local Development Framework, the Council is developing an evidence base to support and inform the preparation of the Core Strategy and other LDF documents. The following studies have been undertaken to date:

- Housing Market Assessment (HMA)
- Strategic Housing Market Assessment (SHMA)
- Strategic Housing Land Availability Assessment (SHLAA)
- Strategic Flood Risk Assessment
- Gypsy and Traveller Accommodation Assessment (GTAA)
- Open Space Audit and Assessment
- Employment Land Study (ELS)
- Appropriate Assessment (AA)

1.4 In order to support and inform the preparation of the Core Strategy and the development of the spatial strategy for the District, it was decided to ‘refresh’ and update the Study of Physical and Environmental Constraints that was prepared for the Local Plan review in 2003.

1.5 The following assessment considers the physical and environmental constraints in the District. It is one of a series of background studies that will be used to enable the Council to make decisions about the best and least harmful locations for future development. A glossary has been provided in Appendix 4 for further clarification of terms.

2. PHYSICAL AND ENVIRONMENTAL CONSTRAINTS

Geology and Topography

2.1 The underlying rock strata of the District consists mainly of sedimentary rock of the Triassic period in a more or less continuous sequence of ancient desert deposits. These are divided into Sherwood Sandstone and Mercia
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Mudstone. Some of the underlying sandstone in the District can be up to 2000 feet thick.

2.2 Glacial sands and gravels are found in commercial quantities in the district particularly in the south around Wombourne and Seisdon. There are also deposits of boulder clay in the central and north-eastern parts of the district.

2.3 The eastern fringes of the District comprise of Carboniferous coal bearing measures of the Cannock and South Staffordshire Coalfields where extensive coal reserves have been exploited in the past.

2.4 The topography of the District is generally very undulating and the geology does not give rise to many prominent physical features (see Map 1). The northern part of the district, north of the A5, has a generally undulating landform with a flat lower lying central corridor based on the floodplain of the River Penk and Otherton Brook. The area to the east of Penkridge lies on the lower slopes of Cannock Chase.

2.5 The north-eastern area has been affected by past mining activity and mineral workings. The area is generally flat with an undulating central corridor and some higher ground around at Saredon Hill, near Great Saredon.

2.6 In the central part of the District the landform is generally undulating with the flatter low lying areas based on the floodplain of the River Penk. There are four prominent ridgelines, Chillington-Pendeford Ridge, Pattingham Ridge, Perton Ridge and Abbots Castle which forms the eastern barrier to the Shropshire Plain and is an extremely strong feature.

2.7 The south of the District is characterised by a more strikingly undulating and elevated landform with strong features in the Kinver area such as Kinver Edge and The Sheepwalks. In contrast, the Smestow valley containing the drainage areas of the River Stour and Smestow Brook form incised valleys through the area. Within the Smestow valley area there are a series of sandstone escarpments including Abbot’s Castle Hill and Orton Hill around Wombourne.

Agricultural Land

2.8 Agriculture is an important land use in South Staffordshire and there are extensive areas of high quality agricultural land. The Department for Environment Food and Rural Affairs (formerly MAFF) uses a system of classification, which divides land into grades according to the degree to which its physical characteristics impose long term limitations on agricultural use. These range from Grade 1 down to Grade 5. Land classified as Grades 1, 2 and 3a is defined as the best and most versatile agricultural land.

2.9 Grade 1 land is high quality land and is nationally very scarce. It is capable of growing a wide range of agricultural and horticultural crops and producing good yields. Grade 2 land is also good quality land and has some minor limitations to its agricultural use but is still highly productive and grows a wide range of crops.
2.10 There are areas of Grade 1 and Grade 2 land around the village of Pattingham. There are also more extensive areas of Grade 2 land in the central part of the District around the villages of Trysull, Seisdon and Lower Penn and extending further north around Codsall, Brewood, Coven and up to Penkridge. The majority of the District is Grade 3 (good to moderate quality) land, which has moderate limitations to its agricultural use. The general extent of Grade 1, 2 and 3a agricultural land in the District is shown on Map 2.

2.11 There is considerable importance attached to retaining the best and most versatile agricultural land. This group represents the land best suited to adapting to the future requirements of agriculture and should be safeguarded from loss through development.

2.12 Planning Policy Statement 7 – ‘Sustainable Development in Rural Areas’ advises that the development of the best and most versatile agricultural land should be avoided. Where development of agricultural land is unavoidable the use of poorer quality land is preferred unless sustainability considerations suggest otherwise.

Woodlands

2.13 Trees and woodlands are important elements of the South Staffordshire landscape. Woodlands, especially those comprising native trees, are particularly important in terms of biodiversity providing habitats for many animal and plant species. There are extensive areas of woodland associated with historic parkland estates notably Chillington, Enville, Himley, Patshull, Teddesley and Weston. In addition, there are areas of commercial forestry in the District including ‘The Million Plantation’ at Enville and around Kinver Edge and the fringes of Cannock Chase around Teddesley and Huntington.

2.14 South Staffordshire has 8.5% woodland cover, compared with 7.8% for Staffordshire and 8.4% for England. Broadleaved woodland is the dominant woodland type with 46% compared with 59% for Staffordshire and 52% for England. There is 35% conifer and 15% mixed woodland. The area of conifer woodland is high due to the presence of significant blocks of Forest Enterprise woodland within the District. The general extent of woodland cover in South Staffordshire is shown on Map 3.

2.15 Some 20% of the existing woodlands in the district are ancient semi-natural woodlands as defined by English Nature’s Ancient Woodland Inventory. Ancient semi-natural woods are woodland, which have been in existence since at least the Middle Ages and now bear stands of native species, which were not obviously planted and they represent the most important biodiversity resource and are irreplaceable. The loss or degradation of ancient woodland and associated wildlife habitats would be resisted.

2.16 The current trends are increasing woodland and a greater proportion of broadleaved woodland. The National Inventory of Woodland and Trees published by the Forestry Commission in 2002 shows that woodland land cover in Staffordshire has increased by over 3,700 hectares from 6.2% to 7.6% of the land area between 1980 and 1998. The area of broadleaved woodland has increased by 55% between 1980 and 1998.
Sites of Nature Conservation Importance

2.17 There are many sites within the District that are of special importance for nature conservation. Those of national status and official recognition are designated as Sites of Special Scientific Interest (SSSI's) and National Nature Reserves (NNR's) and others are of local importance and are identified as Sites of Biological Importance (SBI’s). In addition there are Special Areas of Conservation (SAC’s) of international importance.

2.18 The wider areas of ecological importance include the valleys of the River Stour and Smestow Brook, the large parklands, heathlands and commons and informal recreation areas such as Kinver Edge, Highgate Common, Shoal Hill Common, Baggeridge Country Park and Cannock Chase Area of Outstanding Natural Beauty. Much of the canal network, watercourses and many bridleways, footpaths, hedgerows, disused railways and green lanes are also valuable wildlife habitats and corridors. The most significant wildlife corridors are found along the Smestow Brook, the River Penk and its tributaries, the Shropshire Union and Staffordshire and Worcestershire Canals, the Wyrley Essington Canal and along the South Staffordshire Railway Walk.

2.19 Within South Staffordshire there are 11 SSSI’s, one NNR and one Special Area of Conservation (SAC). Four SS SI’s are notified for geological importance, Four Ashes Pit, Wollaston Ridge Quarry, Kinver Edge and Gospel End Road Cutting. There are also three sites of local geological importance, known as Regionally Important Geological and Geomorphological Sites (RIG’s). Map 4 shows the location of the SSSI’s in the District.

2.20 Local sites of biological importance make an important contribution to the nature conservation resources of the District and there are a variety of wildlife habitats of all types and sizes. There are 5 Local Nature Reserves in the District; Baggeridge Country Park, Shoal Hill Common, Wyrley Essington Canal, Wombrook Walk and South Staffordshire Railway Walk. The designated sites and those of local importance in the District are listed in Appendix 1 and Appendix 2 and the location of the Sites of Biological Importance and Local Nature Reserves are shown on Map 4.

2.21 The Local Development Framework will contain policies for the protection of sites of international, national and local importance for nature conservation, protected species and wildlife corridors.

Cannock Chase Area of Outstanding Natural Beauty (AONB)

2.22 Cannock Chase was designated as an AONB in 1958 under the provisions of the National Parks and Access to the Countryside Act 1949. The western fringe of the AONB lies within South Staffordshire (see Map 5). The primary purpose of AONB designation is to “conserve and enhance natural beauty” which includes protecting flora and fauna.

2.23 There are many different landscape features within the AONB including remnants of lowland heath, ancient woodland, extensive forestry plantations and areas of agricultural land on the fringes and these all contribute to the
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special character of the Chase. The heathland and forest areas provide habitats for a variety of animals and plants such as snakes, deer and many species of birds, and the most important habitats are designated as Sites of Special Scientific Interest (SSSI’s).

S pecial Landscape Area

2.24 The southern part of the District is currently defined as a Special Landscape Area (SLA) in the adopted Local Plan where specific policies are applied to conserve the high quality of the landscape (see Map 5).

2.25 The SLA contains areas of national and local nature conservation importance including Sites of Special Scientific Interest (SSSI’s) at Kinver Edge, The Wilderness and Vermin Valley, Checkhill Bogs and Wollaston Ridge Quarry, areas of heathland at Highgate Common, watercourses and areas of ancient woodland. The high quality of the landscape is also characterised by the historic parklands and gardens at Enville, Himley, Wode house, and Prestwood.

2.26 The function and justification of the existing SLA designation will be considered as part of the Local Development Framework.

B uilt Environment

2.27 The built environment is a living record of the history and development of the District and is reflected in the many varied buildings and structures, of different ages and local building styles and the widespread use of locally quarried or manufactured materials such as sandstone and hand-made red brick.

2.28 There are over 643 buildings in the District that are ‘listed’ as being of special architectural or historic interest. These include a wide variety of buildings and structures ranging from large historic houses, to terraces of small houses, mills, farmhouses, and barns and canal structures.

2.29 The quality of the environment in the villages varies. The historic centres of the older villages are very interesting and attractive and many have been designated as Conservation Areas. The Conservation Areas that have been designated so far are shown on Map 6 and are listed below.

<table>
<thead>
<tr>
<th>Blymhill</th>
<th>Kinver</th>
<th>Tysull</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brewood</td>
<td>Lapley</td>
<td>Wston-under-Lizard</td>
</tr>
<tr>
<td>Chillington</td>
<td>Lower Penn</td>
<td>Wheaton Aston</td>
</tr>
<tr>
<td>Codsall</td>
<td>Pattingham</td>
<td>Wombourne</td>
</tr>
<tr>
<td>Enville</td>
<td>Penkridge</td>
<td></td>
</tr>
<tr>
<td>Himley</td>
<td>Penn (Vicarage Road)</td>
<td></td>
</tr>
</tbody>
</table>

2.30 In addition, Conservation Areas have been designated along the Staffordshire and Worcestershire Canal, Shropshire Union Canal and Stourbridge Canal, which run through the District. Work is ongoing on a number of Conservation Area Appraisals and Management Plans.
2.31 The Council is committed to preserving the quality, character and local distinctiveness of the historic buildings and Conservation Areas in South Staffordshire and the Local Development Framework will contain policies that will reflect that commitment.

Archaeological Sites

2.32 Within South Staffordshire 1169 archaeological sites and finds are recorded in the County Historic Environment Record. Of these 27 are scheduled as Ancient Monuments. The massive earthworks of the iron-age camp on Kinver Edge are evidence of early habitation and are protected as an Ancient Monument. There are still some traces of the impact of Roman occupation with the remains of Roman encampments at A5 Watling Street, Greensforge near Kinver and at Wat er Eaton near Penkridge. The scheduled Ancient Monuments are shown on Map 6 and listed in Appendix 3.

Historic Parklands and Gardens

2.33 There are 12 historic parklands and gardens in South Staffordshire at Chillington, Enville, Hetherton, Hilton, Himley/Wodehouse, Somerford, Stretton, Teddesley, Patshull, Prestwood, Wergs and Weston. The parklands at Chillington, Enville and Weston are of particularly high quality and have been identified as Grade II * in the National Register of Historic Parks and Gardens. Patshull and Himley have been identified as Grade II. The historic parklands and gardens are shown on Map 7.

Land Drainage

2.34 The principal watercourses flowing through the District are the River Penk and its tributaries the Saredon Brook and Whiston Brook and the River Stour and its tributary the Smestow Brook. There are also numerous other small brookcourses and streams that form part of the land drainage network (See Map 8).

2.35 The rivers are subject to periodic flooding. In 1958 the centre of Penkridge was flooded by the combined flood flows of the River Penk and the Bell and Otherton Brooks. A combination of hard and soft defences were built in the 1970's to protect a large number of residential and commercial properties in the village centre.

2.36 The principal cause of flooding is excessive rainfall or melting snow within a short period, which overwhelms the drainage capacity of the land. Floodplains provide naturally for the storage of floodwater. Any development within them that reduces the capacity of that storage facility or impedes the flow of water will increase the risk of flooding elsewhere.

2.37 The guidance from the Environment Agency (EA) is that as a general principle new development should avoid areas liable to flooding in order to ensure that the development itself is not at risk from flooding, that other areas as a consequence are not exposed to similar risk endangering life and property, and that there is no risk of pollution of the watercourse during times of flood. The EA have published a number of flood zone maps identifying land as falling either within flood zone 1, 2, 3a or 3b, flood zone...
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1 being the preferred location for development and flood zone 3a and b being areas to be avoided.

2.38 In December 2006 the Government published Planning Policy Statement 25 (PPS25) on ‘Development and Flood Risk’. This reflects the increased importance that needs to be attached to these issues both nationally and locally. It introduces the Sequential and Exception Tests and Strategic Flood Risk Assessment, which are required to take climate change into account.

2.39 As part of the evidence base for the Local Development Framework, the Council has published a Level 1 Strategic Flood Risk Assessment. This assessment will be used as a tool for developing strategies, policies and land allocations in the Local Development Framework. Further information on the SFRA can be obtained from the council website http://www.sstaffs.gov.uk/.

Groundwater Resources and Water Supply

2.40 The land area of the District is very important with respect to water resources. The EA has a duty under the Water Resources Act 1991 to monitor and protect the quality of groundwater and conserve its use for water resources. The Agency’s approach to groundwater protection is set out in their document ‘Policy and Practice for the Protection of Groundwater’ (1998). This refers to the classification of the resources (major, minor and non-aquifer) and the designation of source protection zones around the catchments to public water supplies.

2.41 In terms of groundwater vulnerability, the District can be divided into major, minor and non-aquifers, and depending upon the ability of soils to offer protection to groundwater, into high, intermediate and low vulnerability areas. The majority of the District occupies major aquifer containing groundwater that in areas, due to overlying soils, is highly vulnerable to contamination. Public water supply boreholes and some major private abstractions have designated areas relating to the potential risk to the borehole source.

2.42 The District falls within the Environment Agency’s Staffordshire Trent Valley and West Midlands Stour River catchment areas. The Staffordshire Trent Valley area includes the majority of the northern part of the district from the parishes of Codsall and Bilbrook northwards. The main surface waters in the area are the River Penk and its tributary the Saredon Brook. There are a large number of surface water abstraction licences and these are usually subject to flow restrictions in order to protect the water quality and ecology.

2.43 The majority of the area overlies Triassic Sherwood Sandstone, which is classed as a major aquifer and a public water resource. The quality of this source is generally good and little influenced by pollution although nitrate levels are rising. The area is overlain by drift deposits, which have some influence on water quality. The eastern part of the area contains the carboniferous Millstone and Coal Measures of the Cannock and South Staffordshire Coalfield and these are a series of discontinuous water bearing sandstones designated as a minor aquifer.
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2.44 The West Midlands Stour area covers the majority of the rest of the District to the south of Codsall. The principal watercourse in this area is the Smestow Brook, a tributary of the River Stour. The quality of the surface water is described as fair by the Agency.

2.45 The principal underlying strata in the area is Sherwood Sandstone and the groundwater is of generally good quality. However, there has been some deterioration in quality according to the Agency, because of increased crop production and grassland management. These types of farming involve the use of nitrates, which can leach into the underlying aquifers.

2.46 In 1996 the EA defined Nitrate Vulnerable Zones (NVZ’s) around public water supply abstraction, where nitrate levels either exceeded 50 milligram’s per litre (mg/l) or were predicted to do so by 2010 and six zones were defined in the district at Bednall, Bobbington, Hinksford, Kinver, Pattingham and Weston. The Department for Environment, Food and Rural Affairs (DEFRA) has assessed the EA’s water quality data and has designated new NVZ’s in England and Wales (2002) to comply with the 1991 European Union Nitrates Directive. The aim of the designations is to protect groundwaters and surface waters against pollution caused by nitrates from agriculture and to improve water quality. The whole of the District is now designated as an NVZ and includes the areas originally designated in 1996 see Map 9.

2.47 Within the NVZ’s in England selected areas of land have been defined as Nitrate Sensitive Areas (NSA’s). The NSA’s are part of a voluntary scheme that compensates farmers for changing their farming practices to help protect valuable supplies of drinking water. There are three NSA’s in the district at Bednall, Tom Hill, and Kinver.

2.48 The water supply in the District is provided by Severn Trent Water Limited and in some areas by South Staffordshire Water (SSW). The areas covered by these companies are shown on Map 13. Increases in demand may require additional water resources such as enhancements to existing pumping stations or new pumping stations, or improvements to the mains network.

Sewage Disposal

2.49 Sewage disposal is the responsibility of Severn Trent Water Limited (SWT), which deals with the operation, and improvement of existing treatment works and pumping stations and the construction of new ones. There are 23 sewage treatment works and over 50 pumping stations in the District. There are also sewage treatment works that serve some of the settlements in the District that are outside the District boundary such as the works at Barnhurst, Wolverhampton, and Cannock. The location of the sewage treatment works is shown on Map 10.

2.50 SWT has a ‘Corridor Sanitary’ policy around sewage treatment works and pumping stations which seeks to safeguard residential amenity from potential nuisance caused by odours, flies and noise. The policy applies in respect of new development and the cordon areas, up to 400 metres for treatment works and 15 metres for pumping stations.
2.51 It may be necessary for improvements to be carried out to the existing sewerage network and to upgrade sewage treatment works to provide additional capacity to cater for future development.

**Landfill Sites**

2.52 Only one operational landfill site, Envilile Road, remains within South Staffordshire. A number of former landfill sites have been restored and returned to other uses such as agriculture and open space. There is potential for some of these sites to produce landfill derived gas, which could give rise to health and safety considerations in relation to any proposals nearby for sensitive developments such as housing.

2.53 There is a general move away from the use of landfill sites for waste disposal towards alternative methods. One such method is incineration. An ‘Energy from Waste’ facility has been approved for a site at Four Ashes in South Staffordshire. The landfill site and the proposed site for the ‘Energy from Waste’ plant are shown on Map 11.

2.54 Staffordshire County Council and Stoke-On-Trent City Council are currently working towards a Joint Waste Core Strategy. The strategy will set out a long-term spatial vision for development of waste management facilities, together with strategic objectives to address the issues and a delivery strategy.

**Mineral Sites**

2.55 South Staffordshire is an important source of minerals, particularly coal, brick and fire clays, sand and gravel. Although many of the quarries and known coal seams have been worked out, considerable reserves remain and at present clay, sand and gravel are still being extracted at several sites. The location of operational mineral sites for clay and sand and gravel are shown on Map 12.

2.56 Staffordshire County Council is the Planning Authority responsible for all matters concerning mineral working and has identified areas in which potential mineral resources are thought to exist as ‘Mineral Consultation Areas’. The District Council is required to consult the County Council on planning applications for development, which fall within these areas. The Council also has the opportunity to comment on applications for mineral extraction, which are submitted to the County Council.

2.57 The District Council has a duty to ensure that mineral reserves are safeguarded from other forms of development that would sterilise them. The safeguarding of minerals does not imply however that permission for mineral working should automatically be granted.

2.58 Staffordshire County Council is currently working on a Minerals Core Strategy. The strategy will explain what needs to be achieved in planning for future mineral development and will indicate the key areas where minerals are to be extracted.
Land Stability

2.59 There have been a number of opencast and deep coalmines and many sand and gravel and clay quarries in the District. Historical evidence indicates that there have also been a large number of drift mines and adits. It is possible that areas of past mineral activity could give rise to ground condition problems for development in certain circumstances. The Coal Authority is consulted on applications for planning permission within coalfield areas where there may be potential risk to property from subsidence from past underground coal workings.

2.60 Planning Policy Guidance Note 14 (PPG14) on ‘Development on Unstable Land’ sets out advice to local authorities on issues relating to effects of instability on development and land use. Further advice is given in Annex 1 – ‘Landslides and Planning’ and Annex 2 – ‘Subsidence and Planning’. In considering possible locations for housing development account will need to be taken of potential ground instability. The Coal Authority is a statutory consultee for the Local Development Framework and will be contacted in relation to LDF policies and proposals.

Contaminated Land

2.61 The Council has produced a Contaminated Land Strategy for the identification and investigation of potentially contaminated land in the District. The strategy sets out the priorities, actions and timescales for the identification and inspection of contaminated land. The work to identify historic land use that may have given rise to contamination is now complete. Further detailed assessment of identified sites is being prioritised on the basis of potential risk.

2.62 Planning policy guidance places the emphasis on the principles of sustainable development and making efficient use of land. This means that where practicable previously developed (brownfield) land including land affected by contamination should be recycled into new uses to reduce the need to develop greenfield sites.

2.63 Planning Policy Statement 23 (PPS23) – Planning and Pollution Control gives guidance on development proposals near and on sites posing a potential for pollution and advice on the redevelopment of contaminated land.

2.64 In identifying potential housing locations and sites the possible effects on health and the environment of contaminated land will be taken into account. Before any development is permitted, any issues relating to the possible threat from contamination of land must be addressed.

Air Quality

2.65 Clean air is an essential component of a sustainable and healthy living environment. In 1997 the Government published a National Air Quality Strategy and guidance on ‘Local Authority Air Quality Management’ for Local Authorities under the Environment Act 1995. A guidance note on Air Quality and Land Use Planning was issued by the DETR in December 1997 under cover of Circular 15/97. This guidance note has subsequently been revised in
South Staffordshire Council first reported on its reviews and assessments of air quality in December 2000. The initial work found that there were no areas of the District where it was likely that the public could be exposed to pollution above the objective levels for benzene, 1,3-butadiene, carbon monoxide, sulphur dioxide, nitrogen dioxide, particulates (PM10) or lead, as set out in the Air Quality Regulations 2000.

This conclusion was based on the information about present and future sources of pollution available to the Council and on the state of knowledge in respect of atmospheric pollution at that time. The review and assessment was based on guidance published by Central Government.

South Staffordshire Council has undertaken two updating and screening assessments (USAs) in line with new Central Government guidance and reported on their findings in May 2003 and May 2006. The 2003 report focused its attention on changes that had taken place since 2000, both in relation to new data on pollution sources and air quality monitoring information, and also in relation to new guidance and air quality objectives published in the interim period.

The Council concluded that a detailed assessment of air quality was required in respect of sources of nitrogen dioxide and particulates and this was undertaken in 2004. The report identified areas of the District where relevant exposure above the annual mean air quality objective for nitrogen dioxide in 2005 would occur.

As a result of this work the Council declared four Air Quality Management Orders in 2006. It then carried out a further and detailed assessment of air quality in relation to these areas and in relation to a further new area where a risk of exceedence had been identified. The result of this work confirmed 3 of the 4 original areas, but resulted in the revocation of one order (AQMA No 3 – Featherstone) where actual monitored levels were found to be well below the annual mean air quality objective for nitrogen dioxide at relevant locations. The remaining sites:

- AQMA No 1 – Woodbank
- AQMA No 2 – Bursnips
- AQMA No 4 – Wedges Mills

Are now subject to an air quality action plan to address source emissions of nitrogen dioxide, principally from traffic sources.

A further area, AQMA No 5 – Oak Farm was declared by order in March 2008. This area is currently subject to a further assessment prior to bringing forward an air quality action plan to tackle emissions.

The Local Development Framework will need to take air quality considerations into account in determining the most appropriate locations.
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for housing development. It will be important to ensure that housing is not located near potential sources of pollutant emissions including those associated with road traffic or industrial processes. The Local Development Framework will take into account Government guidance on sustainability, planning and transport that place the emphasis on reducing the need for travel by car and that housing developments are accessible by a range of modes other than the car. If the housing and transport policies in the Local Development Framework are successful they should make a contribution to reducing the volume of traffic and emissions in the district. The issue of the impact of road traffic emissions on local air quality will be taken into account in the urban and inter urban strategies as part of the Staffordshire Local Transport Plan.

Noise

2.73 Noise can have a significant effect on the environment and on the quality of life enjoyed by people and communities. Significant noise levels can arise from major transport infrastructure such as roads, railways and airports, and industrial development, mineral and waste disposal sites and certain sports and leisure activities. Traffic noise is an increasing problem and can affect many people living alongside busy main roads or near motorways.

2.74 Planning Policy Guidance Note 24 (PPG24)- Planning and Noise gives advice to local authorities on the use of their planning powers to minimise the adverse impact of noise. The guidance recognises that the planning system has the task of guiding development to the most appropriate locations. It will be important to ensure that noise sensitive uses such as residential development are not located adjacent to major sources of noise.

Overhead Electricity Transmission Lines

2.75 There are several high voltage overhead electricity transmission lines crossing the District. Most of the overhead lines at 275 or 400 kilovolts (kv) are owned by the National Grid Company plc (NGC) and others at 132 kv are owned by Aquila. The lines are part of the electricity network in England and Wales and link power stations across the country to the West Midlands.

2.76 Like other companies operating transmission and distribution lines NGC does not usually own land below its power lines and cannot control development that takes place there. It and other electricity companies, however, advise local planning authorities and developers on operational safe clearances for such proposals either in general terms in relation to development plans or in relation to a specific development proposal. Details of NGC’s approach to safe distancing are set out in the document “Design Guidelines for Development near high voltage overhead lines” and is a comprehensive guide for planning authorities and developers.

2.77 The operators of overhead power lines are required to maintain safe conditions in compliance with the Electricity Supply Regulations. The NGC does not prescribe minimum distances between new properties and overhead conductors, but relies on the safety clearances laid down in the Regulations and the industries own engineering standards.
2.78 There has been some speculation over the possible health risks of exposure to electromagnetic fields (EMF's) from electricity transmission lines and other power supply installations such as substations and research on the subject has been carried out worldwide. The Government's statutory advisors on radiological protection matters, the National Radiological Protection Board (NRPB) has examined this issue and their advice is that there is no convincing evidence of a causal link between exposure to EMF’s and cancer. The NGC’s views on possible health risks from high voltage overhead conductors follows the advice from the NRPB.

**Dangerous Substance Establishments**

2.79 The Health and Safety Executive (HSE) designate certain sites and pipelines as dangerous substance establishments by virtue of the quantities of hazardous substances present. The siting of such installations is subject to planning controls, for example under the Planning (Control of Major-Accident Hazards) Regulations 1999, with the objective, in the long term, to maintain appropriate distances between establishments and residential areas and areas of public use. In accordance with Department of Transport, Local Government and the Regions (DETR) Circular 04/2000 – Planning Control for Hazardous Substance, the Council is required to consult the HSE about the siting of any proposed dangerous substance establishments.

2.80 The District contains a number of dangerous substances establishments and major accident hazard pipelines, including high-pressure gas transmission pipelines. They are subject to stringent controls under existing health and safety legislation but it is considered prudent to control the kinds of development permitted in the vicinity of these installations. For this reason the Council has been advised by the (HSE) of consultation distances for each of these installations. In determining whether or not to grant planning permission for a proposed development within these consultation distances, the Council will consult the HSE about the risks to the proposed development from the dangerous substance establishment in accordance with Circular 04/2000.

**3. CONCLUSION**

3.1 The assessment has highlighted that there are a wide range of physical and environmental constraints within South Staffordshire that will have to be taken into account in determining the location of new development through the Local Development Framework.

3.2 The general landform/topography of the District is unlikely to be a significant constraint to development although the physical features relating to individual locations and areas of land would have to be considered.

3.3 The assessment acknowledges the importance of safeguarding the best and most versatile agricultural land in the district and in considering locations for new development it will be important to avoid high quality land unless sustainability considerations suggest otherwise.

3.4 The assessment has shown that there are many sites of nature conservation importance in the District ranging from sites of national status to sites of...
Assessment of Physical and Environmental Constraints

local interest and importance. The protection of such sites and protected species will remain an important objective of the Local Development Framework.

3.5 The assessment has identified that there are areas of the District where the quality of the landscape is particularly high. These include Cannock Chase AONB, the Special Landscape Area and the many historic parks and gardens. The patchwork of trees and woodlands, some of which are of ancient origin, are important elements of the landscape. It will be important to ensure that such landscapes are safeguarded as far as possible from development.

3.6 The quality of the built environment is high in many of the villages and it will be important to ensure that the potential impact of development on historic buildings and conservation areas is taken into account. There is also the need to ensure that archaeological sites are protected.

3.7 The assessment has highlighted the importance of the land in the District in respect of water resources and land drainage. It refers to Government and EA guidance and advice on development and flood risk and in particular on the need for development to avoid areas liable to flooding. The areas that could be affected by flooding as identified on the Council’s Strategic Flood Risk Assessment will be taken into account in identifying potential development locations and specific sites.

3.8 With respect to sewage treatment, the assessment has not included a detailed appraisal of the capacity of existing sewage treatment works or considered the need or otherwise for improvements to such facilities. It is the intention that consultations will be carried out with Severn Trent Water Limited to establish whether there are any problems with capacity at individual treatment works that could have a bearing on the location and timing of development.

3.9 The assessment refers to the presence of various landfill and mineral sites and also to the legacy of opencast and deep mining within the District. The location of such sites and the potential for ground instability will be taken into account in the consideration of development locations.

3.10 The overall emphasis of planning policy guidance is to provide more sustainable patterns of development and to make better use of previously developed land. The assessment acknowledges that previously developed land can also include land affected by contamination. The assessment also makes it clear that in identifying potential housing locations and sites any issues relating to the possible threat from contamination of land must be addressed.

3.11 The assessment has identified the environmental factors relating to air quality and noise and also refers to issues concerning overhead electricity transmission lines. These are all matters that will need to be taken into account in the location of new development.

3.12 It may be possible to overcome some of the constraints identified in this assessment through careful design of development or by carrying out improvements and remedial measures such as the provision of flood storage.
facilities, improvements to sewage treatment works or the remediation of contaminated land.
## Appendix 1. Designated Sites of Nature Conservation Importance

### National Nature Reserves (NNR’s) and Special Area of Conservation (SAC)

<table>
<thead>
<tr>
<th>Site Name</th>
<th>National Grid Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mottey Meadows*</td>
<td>SJ840134</td>
</tr>
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### Sites of Special Scientific Interest (SSSI’s)

<table>
<thead>
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<tr>
<td>Mottey Meadows</td>
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<tr>
<td>Four Ashes Pit</td>
<td>SJ 914083</td>
</tr>
<tr>
<td>Checkhill Bogs</td>
<td>SJ 852879</td>
</tr>
<tr>
<td>Four Ashes Pit</td>
<td>SJ 914083</td>
</tr>
<tr>
<td>Checkhill Bogs</td>
<td>SJ 852879</td>
</tr>
<tr>
<td>Kinver Edge</td>
<td>SO 831829</td>
</tr>
<tr>
<td>Four Ashes Pit</td>
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<tr>
<td>The Wilderness and Vermin Valley</td>
<td>SO 812838</td>
</tr>
<tr>
<td>Big Hyde Rough</td>
<td>SJ 864083</td>
</tr>
<tr>
<td>Wollaston Ridge Quarry</td>
<td>SO 883848</td>
</tr>
<tr>
<td>Gospel End Road Cutting</td>
<td>SO 904936</td>
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<tr>
<td>Stowe Pool and Walk Mill Clay Pit</td>
<td>SK 974082</td>
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<tr>
<td>Highgate Common</td>
<td>SO838897</td>
</tr>
</tbody>
</table>

*Source: http://www.naturalengland.org.uk/ (accessed September 2008)*
Assessment of Physical and Environmental Constraints

South Staffordshire
Local Development Framework
### Appendix 2. Sites of Biological Importance (SBI) and Biodiversity Alert
#### Sites South Staffordshire District

<table>
<thead>
<tr>
<th>SBI Ref</th>
<th>Site Name</th>
<th>Gr</th>
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<td>Gains Lane</td>
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<tr>
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<td>Half Moon Plantation</td>
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<td>SJ781003</td>
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<tr>
<td>71/92/05</td>
<td>White Sitch</td>
<td></td>
<td>SJ790125</td>
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<tr>
<td>80/00/41</td>
<td>Old Park Plantation</td>
<td></td>
<td>SJ804001</td>
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<tr>
<td>80/00/55</td>
<td>Patshull Golf Course and Hall</td>
<td></td>
<td>SJ805005</td>
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<tr>
<td>80/00/55</td>
<td>Patshull Lawn</td>
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<td>SJ805005</td>
</tr>
<tr>
<td>80/43/60</td>
<td>Oaken Lawn</td>
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<td>SJ848029</td>
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<tr>
<td>80/48/36</td>
<td>Paradise (east of Pearse Hay Farm)</td>
<td></td>
<td>SJ844086</td>
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<tr>
<td>80/56/00</td>
<td>Big Wood, Chillington Estate</td>
<td></td>
<td>SJ850060</td>
</tr>
<tr>
<td>80/60/08</td>
<td>Wrottesley Park</td>
<td></td>
<td>SJ860008</td>
</tr>
<tr>
<td>80/65/36</td>
<td>Chillington Estate (semi-improved fields on)</td>
<td></td>
<td>SJ863056</td>
</tr>
<tr>
<td>80/77/42</td>
<td>Hell Floor and the Slang</td>
<td></td>
<td>SJ874072</td>
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<tr>
<td>80/89/44</td>
<td>Barnfield Sandbeds</td>
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<tr>
<td>80/97/45</td>
<td>Pond Bay</td>
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<td>SJ899075</td>
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<tr>
<td>81/00/00</td>
<td>Weston Park</td>
<td></td>
<td>SJ800100</td>
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<tr>
<td>81/62/50</td>
<td>Lapley Spoil Banks</td>
<td></td>
<td>SJ865120</td>
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<tr>
<td>81/64/46</td>
<td>Port Coppice, Mitton Ponds and Gorse Lane</td>
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<td>SJ866146</td>
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<tr>
<td>81/73/34</td>
<td>Lapley (pools and scrub north of)</td>
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<td>SJ873134</td>
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<tr>
<td>81/74/62</td>
<td>Longnor Brook, Mitton</td>
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<td>SJ761142</td>
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<tr>
<td>81/84/12</td>
<td>Bickford Meadows</td>
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<tr>
<td>81/97/31</td>
<td>Levedale Marshes</td>
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<tr>
<td>88/05/63</td>
<td>Enville Estate</td>
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<tr>
<td>88/13/17</td>
<td>The Wilderness</td>
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<td>SO811837</td>
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<td>88/14/20</td>
<td>Green Lane off Heron’s Gate Road</td>
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<tr>
<td>88/32/36</td>
<td>Kinver Edge Farm (north of)</td>
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<tr>
<td>88/39/86</td>
<td>Highgate Common and Enville Golf Course</td>
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<td>88/64/70</td>
<td>Gibbet Wood, Stourton</td>
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<td>88/65/73</td>
<td>Stourbridge Canal (north-east of Stewpony)</td>
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<td>88/76/95</td>
<td>Friar’s Gorse (sandy fields adj. to)</td>
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<tr>
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<td>Ridgell Wood</td>
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<td>Six Ashes Road (north of), Bobbington</td>
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<td>Norton ton Brook</td>
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<td>Staffordshire and Worcester Canal</td>
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<td>89/71/04</td>
<td>Himley Plantation</td>
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<td>Showell Bank</td>
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<td>89/81/77</td>
<td>Baggeridge Country Park</td>
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<td>89/92/46</td>
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<tr>
<td>90/08/94</td>
<td>Somerford Wood</td>
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<tr>
<td>90/14/37</td>
<td>Heath Cottage</td>
<td></td>
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<tr>
<td>90/18/82</td>
<td>Four Ashes (land at)</td>
<td></td>
<td>SJ918082</td>
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</tbody>
</table>

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90/33/52 Westcroft Farm (land north of), Bushbury SJ935032
90/38/16 Pennymore Hay Farm, Four Ashes SJ931086
90/38/56 Hatherton Bridge (by), Hatherton SJ935086
90/45/73 Lower Pool SJ947053
90/49/19 Galey Old Reservoir SJ941049
90/54/77 Keep er's Wood, Hilton Park SJ957047
90/56/75 Brookfield Farm (north-east of), Shareshill SJ957060
90/83/85 Wyrley and Essington Canal SJ988035
90/98/10 Bridgetown Subsidence Pools, Cannock SJ992081
91/21/77 Rodbaston College SJ927117
91/30/53 Galey Reservoirs SJ943102
91/31/81 Fullmoor Wood (south) SJ938111
91/32/20 Staffs and Worcs Canal, Penkridge SJ932120
91/32/52 Otherton Marsh, Penkridge SJ935122
91/34/84 Bone Mill Disused Pools (marshes) SJ938144
91/44/84 Pond Bay and Hell Moor Meadow, Newtown SJ948144
91/45/25 Lodg erail Pool SJ942155
91/46/58 Wellington Belt SJ945168
91/56/00 Tedd esley Park SJ950160
91/60/07 Hatherton Hall SJ960107
91/61/55 Shoal Hill SJ963115
91/63/82 Littleton Colliery Spoil Mound, Huntington SJ968132
91/72/32 Hu ntington SJ973122
92/30/81 Radford Meadows (south) SJ938201
99/01/25 Wallowswood Pastures SO902915
99/04/05 Penn Common SO900945
99/05/65 Colton Hills (land east of) SO906955

* sites primarily in adjacent district

Biodiversity Alert Sites

70/91/30 Bennetts Wood SJ93010
79/99/27 Ju bilee Plantation SO92997
80/21/33 Scott's Bank Plantation SJ823010
80/30/08 Wrottesley Park Plantation SJ830008
80/32/59 Kingswood Common SJ835029
80/41/06 Simmonds's Wood SJ840016
80/47/83 Plant's Hagg and Brick Kiln Osier Bed SJ848073
80/48/53 Cream Pot SJ845083
80/50/85 Smith's Rough (land south of) SJ858005
80/52/30 Wrottesley Park (land at) SJ853020
80/53/97 Moatbrook (land at), Codsall SJ859037
80/54/76 Leighton Pool SJ857046
80/57/51 Chillington Hall (pool north-west of) SJ855071
80/63/00 Oaken Lanes (land off), Codsall SJ860030
80/77/77 The Woolley SJ877077
80/78/13 Little Hyde Rough SJ871083
80/82/98 Barnhurst Lane (land off) SJ889028
80/87/95 Shropshire Union Canal (Chillington Bridge) SJ889075
80/88/05 Shropshire Union Canal (near Brewood) SJ880085
81/16/62* High Onn Wood SJ816162
81/23/47 Marston Coppice and Wet Croft Plantation SJ822136
81/53/16 Shropshire Union Canal (Wheaton Aston) SJ851136
81/71/25 The Stubblers SJ872115

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Assessment of Physical and Environmental Constraints

81/74/79 Mitton Lodge (pools and scrub east of) SJ877149
81/82/37 Lapley Gorse SJ8983127
88/06/53 Coxgreen Farm Pond SO0805863
88/07/37 Grove Covert SO0803877
88/08/02 New Plantation SO080882
88/16/09 Cox green Dingle, Enville SO108689
88/27/37 Enville Estate (peripheral sites) SO823877
88/43/40 Comber Copse SO844830
88/44/60 Potters Cross (east of) SO846840
88/44/71 The Hyde (south-west of) SO846840
88/51/47 Caunsall (north of) SO854817
88/52/37 Penhole Coppice and the Bogs, Kinver SO853827
88/53/40 Staffs and Worcs Canal, Kinver SO854830
88/54/01 Hyde Lock SO850841
88/54/24 Hyde SO852844
88/55/48 The Slads SO853858
88/55/95 Holl y Wood SO859855
88/55/98 Paddock Wood pumping Station SO859858
88/58/50 The Gorse, Nr Checkhill Bogs SO855880
88/63/58 School Plantation SO865838
88/65/47 Snowdrop Walk SO864857
88/66/33 Colburn's Rough SO863863
88/66/47 Gomersley Rough SO864867
88/72/75 Bunker's Hill Wood SO877825
88/74/15 Barratt's Coppice SO871845
88/75/24 Prestwood Drive (land south of), Stourton SO872854
88/83/22 Little Iverley Covert SO882832
88/84/14 The Ridge SO881848
88/86/24 Friar Gorse SO882864
89/22/04 Whittimere (south-west of) SO826930
89/23/98 Pool Covert SO829938
89/37/43 Rushy Marsh SO834973
89/48/07 Great Moor (near) SO840987
89/48/24 Freehold Wood SO842984
89/53/52 Woodford Grange and Smestow Barn (south-west of) SO855932
89/57/90 The Pool, west of Lower Penn SO859970
89/60/11 Swin don Rough SO861901
89/67/68 Castlecroft Bridge (canal & adjoining meadow) SO86669 78
89/74/10 Kingswinford Railway Walk SO871940
89/74/44 Fox Hill, Orton Hill, Ladywell Wood SO874944
89/79/27 Dippons Lane (land north of), Perton SO872997
89/84/90 Wodehouse Estate SO889940
89/92/05 Woody Park, Wodehouse SO890925
89/94/25 Light Wood and Lloyd Wood, Wodehouse SO892945
90/09/65 Crateford Wood SJ906095
90/28/36 Calf Heath Bridge (east of) SJ912036
90/33/77 Westcroft (woods north of) SJ937037
90/49/90 Hatherton Branch Canal SJ943089
90/52/86 Essington (disused mineral railway line) SJ958028
90/56/70 The Hag SJ957065
90/57/76 Saredon Hall Farm (south-east of) SJ957076

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Local Development Framework
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90/63/31 Essington Pools SJ963031
90/78/34 Lodge Hill (north-east of) SJ973084
90/94/97 Hobble End (south of) SJ999047
91/01/62 Water Eaton Coppice SJ906112
91/07/39 Little Heath (land north of) SJ903179
91/15/54 Grasmere Farm (ponds north of) SJ916154
91/16/20 The Whittamoors SJ912160
91/20/79 Boggs Marsh SJ927109
91/21/71 Rodbaston Wood SJ927111
91/30/63 Watling Street Plantation SJ936103
91/36/39 Cockpit Plantation SJ933169
91/37/66 The Moathouse, Acton Trussel and S+Worcs Canal SJ936176
91/44/47 Hayes Wood, Newtown SJ944147
91/49/53 The Larchery SJ945193
91/51/29 Mansty Wood SJ952119
91/57/53 Moors Covert SJ955173
91/64/02 Birkins Wood SJ960142
91/64/64 Pottal Covert Reservoirs SJ966144
91/66/28 Springslade Pool SJ961168
92/31/70* Radford Meadows (north) SJ937210

* sites primarily in adjacent district

Source: Staffordshire Ecological Record 2008
# Appendix 3. Scheduled Ancient Monuments in South Staffordshire

<table>
<thead>
<tr>
<th>Parish County</th>
<th>Monument Site Name</th>
<th>Grid Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acton Trussell, Bednall &amp; Teddesley Hay</td>
<td>The Moat House Public House and Hotel</td>
<td>SJ93581765</td>
</tr>
<tr>
<td>21519</td>
<td>The Moat House Fishpond</td>
<td>SJ93571766</td>
</tr>
<tr>
<td>21519</td>
<td>Manor House, Moat</td>
<td>SJ93581765</td>
</tr>
<tr>
<td>Blymhill &amp; Weston-under-Lizard</td>
<td>Moated site near Blymhill Grange</td>
<td>SJ81141205</td>
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<tr>
<td>21520</td>
<td>Weston Park Moated Site</td>
<td>SJ81590977</td>
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<tr>
<td>2</td>
<td>Brockhurst Moated Site</td>
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<td>Brockhurst Cottages Moated Site</td>
<td>SJ82401170</td>
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<tr>
<td>Brewood &amp; Coven</td>
<td>Eaton House Roman Fort</td>
<td>SJ90501050</td>
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<tr>
<td>2</td>
<td>Engleton Hall Roman Villa/Brewood Villa</td>
<td>SJ89501021</td>
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<tr>
<td>249</td>
<td>Gunstone Leper Well</td>
<td>SJ87020478</td>
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<td>Codsall 21501</td>
<td>Wood Hall Farm Moated Site</td>
<td>SJ84890438</td>
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<td>Coppenhall &amp; Dunston</td>
<td>Hyde Lea Moated Site</td>
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<td>Hay House Moated Site</td>
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<td>Essington</td>
<td>Moat House Moated site</td>
<td>SJ95370299</td>
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<td>Kinver 036</td>
<td>Greensforge Roman Fort &amp; Annexe/Kinver Roman Camp</td>
<td>SJ86358865</td>
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## Assessment of Physical and Environmental Constraints

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<th>Location</th>
<th>Reference</th>
<th>Description</th>
<th>Grid Reference</th>
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<td>Retton Mill Roman Camp</td>
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<td>Pattingham &amp; Patshull</td>
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<td>Burnhill Green Moated Site</td>
<td>SJ78730076</td>
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<td>Penkridge 057</td>
<td>090</td>
<td>Kinvaston Roman Camp</td>
<td>SJ90941146</td>
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<td></td>
<td>158</td>
<td>Rodbaston Old Hall Moat</td>
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<tr>
<td>(for merly 236)</td>
<td></td>
<td>Water Eaton Roman Camp</td>
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<td>21536</td>
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<td>Pillaton Old Hall</td>
<td>SJ94301292</td>
</tr>
<tr>
<td>047</td>
<td></td>
<td>Pennocrucium/Water Eaton</td>
<td>SJ90251070</td>
</tr>
<tr>
<td>Swindon 228</td>
<td></td>
<td>Swindon Roman Camp</td>
<td>SO85609041</td>
</tr>
<tr>
<td>Wombourne</td>
<td>239</td>
<td>Canal Bridge, Lock and Towpath Bridge</td>
<td>SO85989488</td>
</tr>
</tbody>
</table>

**Source:** Staffordshire Historic Environment Record 2008
## Appendix 4 Glossary of Abbreviated Terms

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AONB</td>
<td>Area of Outstanding Natural Beauty</td>
</tr>
<tr>
<td>DEFRA</td>
<td>Department for Environment, Food and Rural Affairs</td>
</tr>
<tr>
<td>EA</td>
<td>Environment Agency</td>
</tr>
<tr>
<td>EMF</td>
<td>Electro Magnetic Field</td>
</tr>
<tr>
<td>HSE</td>
<td>Health and Safety Executive</td>
</tr>
<tr>
<td>LDF</td>
<td>Local Development Framework</td>
</tr>
<tr>
<td>MAFF</td>
<td>Ministry of Agriculture Fisheries and Food</td>
</tr>
<tr>
<td>NGC</td>
<td>National Grid Company</td>
</tr>
<tr>
<td>NRPB</td>
<td>National Radiological Protection Board</td>
</tr>
<tr>
<td>NVZ</td>
<td>Nitrate Vulnerable Zones</td>
</tr>
<tr>
<td>NSA</td>
<td>Nitrate Sensitive Areas</td>
</tr>
<tr>
<td>PPG</td>
<td>Planning Policy Guidance Note</td>
</tr>
<tr>
<td>RIG</td>
<td>Regionally Important Geological and Geomorphological Site</td>
</tr>
<tr>
<td>SAC</td>
<td>Special Area of Conservation</td>
</tr>
<tr>
<td>SBI</td>
<td>Site of Biological Importance</td>
</tr>
<tr>
<td>SLA</td>
<td>Special Landscape Area</td>
</tr>
<tr>
<td>SSSI</td>
<td>Site of Special Scientific Interest</td>
</tr>
<tr>
<td>SSW</td>
<td>South Staffordshire Water</td>
</tr>
<tr>
<td>SWT</td>
<td>Severn Trent Water</td>
</tr>
</tbody>
</table>
Map 6
Conservation Areas & Ancient Monuments

Scale 1:165,000

KEY
- Scheduled Ancient Monument
- Canal Conservation Area
- Conservation Area

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Map 10
Sewage Treatment Works

Scale 1:165,000

Penkridge STW
Kinver STW
Roundhill STW

Wombourne STW
Bobbington STW
Envil STW

Blymhill STW
Bishopswood STW
Gailey STW

Four Ashes STW
Hilton Park STW

Coven Heath STW
Coven STW

Brewood STW
Shropshire STW

Bilbrook STW
Featherstone STW

Codsall STW
Pattingham STW
Trescott STW

Lower Penn STW
Dimmingsdale STW

Gospel End STW
Wombourne STW

Himley Hall STW
Himley STW

Penkrige STW

KEY

Sewage Treatment Works

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