

- 2.1 The geological structure of East Sussex and Brighton and Hove can be characterised as a broad dome, or anticline, which trends east-west and reaches its highest point in Ashdown Forest, in the northern part of the Plan area. This gives expression to a varied and highly attractive landscape, the surface rocks of which date mainly from the Cretaceous or subsequent geological periods. Map 1\* shows the simplified geology of the Plan area.
- 2.2 For the purposes of considering the economic geology of East Sussex and Brighton and Hove, the Plan area can be sub-divided into four distinctive landscapes :
- a. The High Weald
  - b. The Low Weald
  - c. The Chalk Downs
  - d. The Coastal Marshes
- 2.3 The High Weald covers much of the northern, central and eastern parts of the Plan area. It is a faulted structure comprising clays and sandstones (collectively known as the Hastings Beds). This varied and extensively eroded geology has produced an attractive and sensitive landscape, most of which is within the High Weald Area of Outstanding Natural Beauty (AONB).
- 2.4 The area is historically important for its relationship with the Wealden iron industry but, in recent years, commercial quarrying has been limited. Sandstone has been quarried in the past as a building material, but today surface operations are confined to clay extraction in association with the brick industry. Purbeck (or late Jurassic) rocks are mined for gypsum at Brightling, near Robertsbridge.
- 2.5 The Low Weald is a generally flat clay vale which separates the High Weald from the Chalk Downs to the south. The surface geology is mainly Weald Clay, but narrow bands of Gault Clay and the Lower and Upper Greensands outcrop close to the scarp face of the Downs. An extensive brick and tile industry developed in the clay vale during the last century and despite rationalisation it remains economically important today. Building sand is extracted from the narrow Lower Greensand outcrop close to the West Sussex boundary.
- 2.6 The Chalk Downs form a significant line of hills extending along the coast westwards from Eastbourne. They produce a unique, open, rolling landscape dissected by major river valleys cut by the Ouse and Cuckmere. Virtually the entire undeveloped downland is part of the Sussex Downs AONB. Limited quarrying of chalk for agricultural purposes is long established and has had a noticeable impact on the landscape, especially along the scarp slope and around Lewes.
- 2.7 In the twentieth century, the value of chalk as an industrial raw material led to the establishment of cement manufacturing centred on the Ouse valley. Cement production locally has now ceased and commercial extraction is limited to agricultural and constructional fill end-uses. High purity chalk is worked as 'whiting' near Newhaven for industrial purposes.

- 2.8 The Coastal Marshes represent a fourth geological sub-area. These are located between Eastbourne and Bexhill, and in the Rye Bay/Camber area either side of the Rother estuary. Inundated by the sea in recent geological times, these areas comprise large flat sheets of alluvium, extending inland over the Pevensey Levels and Romney Marsh. There are extensive storm beach gravel deposits along the coast. These have been exploited commercially, particularly at the Crumbles, Eastbourne; between Winchelsea Beach and Rye Harbour; at Camber and close to the Kent border.
- 2.9 Further beach deposits remain unworked. But there are now established nature conservation interests in these areas, extensive parts of which are designated as SSSIs, and are Special Protection Areas and candidate Special Areas of Conservation.
- 2.10 It is important that, in support of the local economy, provision should be made for the continued production of all minerals currently exploited commercially in the Plan area where the resources exist and the environmental implications are acceptable. Although sand and gravel extraction ceased in 1991, potential resources are available for further working to take place. However, there is no evidence to suggest that other minerals present in the Plan area, but not currently worked, are likely to be exploited commercially. Any future oil and gas development will depend upon a lengthy exploration programme that is subject to the planning process.
- 2.11 Operational mineral sites and proposed sites with planning permission in the Plan area in 1998 are shown on Map 2\*.

\* Please note that Maps 1 and 2 are in the separate A3 plans document