Description and Reasons for Notification:
Betton Dingle and Gulley Green are situated on the southern side of the Rea Brook Valley and consist of a narrow strip of woodland in an incised valley and a series of unimproved grass fields. The section of stream valley that joins the two is of geological interest. The site has been selected as an example of ash Fraxinus excelsior and wych elm Ulmus glabra woodland and for its unimproved grassland communities. It is also one of a series of geological sites in the Ordovician rocks of the Shelve area.

Biology
The lower part of the dingle is of considerable biological interest as an example of relatively undisturbed dingle woodland. This mainly consists of ash and sessile oak Quercus petraea. Wych elm was previously abundant but is now scarce as a result of Dutch elm disease. Wild cherry Prunus avium and small-leaved lime Tilia cordata are moderately common. The sheltered, moist conditions here have given rise to an abundance of ferns and mosses. The flowering plants, include yellow archangel Lamiastrum galeobdolon, moschatel Adoxa moschatellina, ramsons Allium ursinum, sanicle Sanicula europaea and the comparatively uncommon toothwort Lathraea squamaria and alternate-leaved golden-saxifrage Chrysosplenium alternifolium.

Adjacent to the dingle at the upstream end is a series of small unimproved grass fields. The composition of the grasslands in these fields varies according to management and the base status of the soil. The two lowest fields are mown annually and appear to be more base-rich than the grazed fields up the slope. The highest field, in particular, has a flora which is characteristic of acidic soils and includes heath bedstraw Galium saxatile, heath speedwell Veronica officinalis, tormentil Potentilla erecta and bilberry Vaccinium myrtillus. The hay meadows have a flora which includes cowslip Primula veris, common spotted-orchid Dactylorhiza fuchsii, common twayblade Listera ovata, oxeye daisy Leucanthemum vulgare and adders-tongue Ophioglossum vulgatum. Among other uncommon species which have been recorded in this group of fields are moonwort Botrychium lunaria, pale sedge Carex pallescens and bitter-vetch Lathyrus montanus.

Geology
Betton Dingle is a nationally important section for the Llanvirn Series, part of the Ordovician System. The thickest development of Llanvirn Series rocks in Wales and the borders is found in the Shelve area. The Upper Llanvirn, with its distinctive faunas, is best
seen in Betton Dingle where a section from the Stapeley Volcanics to the Betton Beds occurs. During this period of geological history the Shelve area lay on the eastern edge of a deep ocean basin occupying most of Wales, whilst shallower seas extended eastwards over the Midlands. Fossil organisms characteristic of both deep and shallow marine environments can be found in the rocks at Betton Dingle, enabling detailed comparisons to be made between the two environments. In addition, the evolution through time of some of the fossil organisms, particularly the trilobites, can clearly be seen here.