

APPENDIX 12:

CULTURAL HERITAGE AND ARCHAEOLOGY

APPENDIX 12-1:
LEGISLATIVE, REGULATORY AND POLICY
FRAMEWORK

PLANNING POLICY GUIDANCE NOTE 16 (PPG 16)

1. The importance of archaeology in the planning process is detailed in the Government's Planning Policy Guidance Note 16 (PPG 16) on Archaeology and Planning (DoE 1990). The underlying principle of this guidance is that archaeological resources represent a non-renewable resource and that the conservation of the archaeological resource should be the primary goal of archaeological resource management.
2. PPG 16 acknowledges the potentially fragile and finite or irreplaceable nature of archaeological remains (para. 6), and states that the desirability of preservation of archaeological remains and their setting is a material consideration within the planning process (para. 18). PPG 16 provides for a presumption in favour of the physical preservation of nationally important archaeological remains (para. 8), and that where preservation in situ is not justified, it is reasonable for planning authorities to require the developer to make appropriate and satisfactory provision for excavation and recording of remains (para. 25).

Planning Policy Guidance Note 15 (PPG 15)

3. Planning Policy Guidance 15: Planning and the Historic Environment (PPG 15) states that 'It is fundamental to the Government's policies for environmental stewardship that there should be effective protection for all aspects of the historic environment' (para. 1.1). In respect of Development Control, PPG 15 says of local planning authorities (para. 2.11):
4. "They should expect developers to assess the likely impact of their proposals on the site or structure in question, and to provide such written information or drawings as may be required to understand the significance of a site or structure before an application is determined".

THE HEDGEROW REGULATIONS

5. The Regulations make provision for the protection of hedgerows considered to be of landscape and/or historical and natural history importance. Hedgerows are also of relevance to landscape character and biodiversity and will be addressed specifically in Chapters 10 and 11.

DRAFT SOUTH EAST PLAN

6. Regional guidance is set out in RPG: 9 and the Draft south-east plan. Management of the built and historic environment is set out under section D8 of the plan. The relevant policy is BE7: management of the historic environment. This aims to conserve and, where appropriate, enhance the historic environment and its contribution to local and regional distinctiveness and sense of place. It also encourages the sensitive use of historic assets through regeneration.

SURREY STRUCTURE PLAN 2004-2016

7. Policy SE5, concerning the historic environment, of the Surrey Structure Plan (2004) states that:

“Surrey’s valuable cultural heritage of buildings, sites and landscapes will be conserved and enhanced. Heritage resources are irreplaceable and development affecting them will only be permitted where it has been clearly demonstrated that there is an overriding need for the proposal which outweighs the need to protect the heritage interest, and that no alternative is possible.

Prior archaeological assessment, and if necessary evaluation, will be required on all development of sites over 0.4 hectares or within areas of high archaeological potential. Where important archaeological remains are found, there will be a preference for their preservation in situ.

A record will be required of any features discovered, removed or altered.”

8. Surrey County Council has identified a number of county sites of high archaeological importance and areas of high archaeological potential. The extents of these areas are shown on Figure 12.1.

WAVERLEY BOROUGH PLAN 2002-2007

9. The Waverley Borough Local Plan (2002) recognises the importance of archaeological sites whether scheduled or not (WBC 2002, para 5.39-5.43) and sets out planning policies which adhere to the principles laid out in PPG 16. The plan also sets out policies on historic buildings, both Listed Buildings and others, and Conservation Areas which adhere to the principles of PPG 15 (WBC 2002, para 5.11-5.31). The Historic Landscape is given specific support (WBC 2002, para 5.37-5.38).
10. The extent of the identified Constraint Area (Conservation Area) is shown on Figure 12.1 and Listed Buildings are shown on Figures 12.1 and 12.2.

APPENDIX 12-2:
GAZETTEER OF CULTURAL HERITAGE AND
ARCHAEOLOGICAL SITES

APPENDIX 12-2: ARCHAEOLOGICAL AND HISTORIC BACKGROUND

11. A gazetteer of archaeological sites, finds and Listed Buildings identified within the 'Study Area' is provided in Appendix 12-2, cross-referenced by an Oxford Archaeology number (**OA 1 etc**) to mapping. The cultural heritage features have been mapped. Figure 12-1 shows all the national and local cultural heritage constraint areas for the wider 1km Study Area and Figure 12-2 shows all features identified from the archaeological data sets, historic maps, aerial photographs and the walkover survey.

Early Prehistoric Period (500,00 BP - 4,000 BC)

12. The Early Prehistoric period covers the Palaeolithic (500,000 - 10,000 BP) and Mesolithic (10,000 - 4,000 BP) periods. No archaeological sites or finds dating from this period have been identified within Dunsfold Park.
13. Within the 'Study Area' no material dating from the Palaeolithic period has been recovered. A Mesolithic flint core was found at Sweeters Copse in 1985, approximately 1.7 km to the south-east of Dunsfold Park (**OA 15**). Burnt flint from that site and from Wildwood Country Club just to the north of Sweeters Copse (**OA 14**) may date to this period, as might a flint scraper found approximately 1.8 km to the north-west of Dunsfold Park in 1883 (**OA 9**).
14. Evidence for human activity during the early prehistoric period has been found throughout Surrey, although in Lower Greensand areas there is more evidence particularly for the Mesolithic period. Widespread forest cover is believed to have existed at that time. Dunsfold Park lies on the Weald Clay where Mesolithic flints have been found in some quantity although long-lasting settlement is unlikely to have taken place¹.

Later Prehistoric Period (4,000 BC - 43 AD)

15. The Later Prehistoric period covers the Neolithic (4,000 - 2,200 BP), Bronze Age (2,200 - 700 BP), and Iron Age (700 BP - 43 AD) periods. No archaeological sites or finds dating from this period have been identified within Dunsfold Park.
16. Some of the undated flint discussed in the previous section may date from the later prehistoric period. Two Neolithic artefacts were found at Hall Place Farm in 1964, an arrowhead (**OA 4**) and a stone axe (**OA 5**). These were found on separate occasions, but both lay within 100 m of the northern boundary of Dunsfold Park. Surrey CC have designated an Area of High Archaeological Potential (AHAP) to cover the likely area of Neolithic activity. No other prehistoric sites or finds have been identified.
17. The occurrence of two Neolithic finds from almost the same location might suggest a focus of activity during this period, but they are not artefacts which

¹ Bird J & Bird D G (eds), 1987, *The Archaeology of Surrey to 1540*, Surrey Archaeological Society, 57-8.

would necessarily be associated with settlement. Elsewhere in Britain the archaeological evidence suggests that the heavy soils of the clay areas were not favoured by early settlers, who tended to prefer river gravels or limestone areas. There is not a great deal of archaeological evidence for this period from the clay areas of Surrey², although there is a hillfort at Hascombe Camp (SAM 23012) approximately 2 km north-west of Dunsfold Park. However, absence of evidence does not necessarily mean absence of activity. The nature of the geology and the low level of archaeological intervention may have contributed to an incorrect interpretation.

Roman Period (43 - 410 AD)

18. No archaeological sites or finds dating from this period have been identified within Dunsfold Park.
19. The only archaeological evidence dating from the Roman period within the 'Study Area' was found immediately to the north of Dunsfold Park in 1965-6. After pits containing Roman pottery were uncovered in drainage work, further investigations were carried out by Surrey Archaeological Society (**OA 3**). As well as 1st century AD pottery, the pits contained animal bone, some building material and pieces of bog iron ore. It has been suggested that iron-working was being carried out for domestic consumption as other pieces of slag have been found in the immediate area. Surrey CC have designated an AHAP around the likely area of Roman activity, which extends into Dunsfold Park.
20. No known Roman roads run in the vicinity of Dunsfold Park and its 'Study Area'. The site is not close to a known villa site or Roman town. Little is known about rural settlement in rural Surrey, but it is believed that stock-rearing was taking place³.

Early Medieval Period (410 - 1066 AD)

21. No archaeological sites or finds dating from the early medieval period have been identified within Dunsfold Park or the wider Study Area.
22. It is not possible to say what activity was taking place around Dunsfold and Alfold during the earlier parts of this period, but documentary evidence shows that in the later centuries these parishes were tithings⁴ of the large estate of Bramley, held by a Kentish nobleman, Æthelnoth⁵. The *-falod* names of these sub-manors show that they were originally pastoral settlements.

² Bird J & Bird D G (eds), 1987, *The Archaeology of Surrey to 1540*, Surrey Archaeological Society, 159.

³ Bird J & Bird D G (eds), 1987, *The Archaeology of Surrey to 1540*, Surrey Archaeological Society, 178.

⁴ Tithing – an administrative subdivision of a parish whose members had financial responsibility for each other.

⁵ Blair J, 1991, *Early Medieval Surrey*, Alan Sutton, 25.

Later Medieval Period (1066-1540)

23. Following the Norman Conquest in 1066, the greater estates of Bramley broke apart. It is thought that this separation into smaller units was related to improvement of land and there is evidence that arable farming was taking place in Alfold and Dunsfold parishes by the 12th century⁶.
24. The only surviving medieval buildings in the area are the parish churches of Alford and Dunsford, both of which lie outside the 'Study Area'. Springbok Farm, formerly Alfold Farm, was reputedly once a moated site (**OA 11**), although no trace remains⁷. Another moated site (SAM 12759) lies to the east of the 'Study Area' at Wildwood Copse, approximately 2 km from Dunsfold Park.
25. Iron-working was taking place within the Study Area by the 16th century. Two sites have been identified within the 'Study Area', at Stoney Copse approximately 1 km to the east of Dunsfold Park (**OA 13**) and near Burningfold Manor 1.7 km to the south-west (**OA 10**). The woods in the southern part of the Study Area would have been exploited for charcoal⁸.
26. Documentary sources and the later historic maps would suggest that the majority of the area was a mixture of pasture and arable farmland throughout this period.

Post-medieval and Early Modern Period (1540 -1939)

27. The earliest available historic map to show Dunsfold Park is Rocque's Map of Surrey of 1762 (Figure 12-3). The road layout, except where the airfield was constructed, is essentially that existing to the present day. Most of the land is shown as large fields with areas of surviving woodland and a number of dispersed farmsteads, many of which still survive. This would suggest that land had been enclosed during the 16th and 17th centuries. No later enclosure by act of parliament is recorded for the parishes of Dunsfold and Alfold.
28. Many of the farm buildings and cottages in and around Dunsfold and Alfold Crossways have at least some surviving 17th-century features. This good level of survival has led to a large number of buildings being Listed. Within Dunsfold Park itself there is one surviving building with 17th-century origins (Primemead's Farm). Primemead's Farm House (**OA 68**) lies close to the southern perimeter on the line of the old road from Guildford to Horsham⁹.
29. The 1st Edition Ordnance Survey (OS) 1" map of 1816 shows the same pattern of roads, farmland and woods as Rocque. It is the earliest map to show the Wey and Arun Canal (**OA 6**), which opened in 1816 to link the two rivers. By 1871 the railways had reduced its profitability and the canal closed.

⁶ Blair J, 1991, Early Medieval Surrey, Alan Sutton, 31.

⁷ VCH III, 1911, Victoria History of the County of Surrey, Archibald Constable & Company, 77.

⁸ Cleeve H & Crossley D, 1985, The Iron Industry of the Weald, Leicester University Press, 133.

⁹ Siney A, 1992, Dunsfold Before the Airfield, Private Publication, 110.

30. No significant changes to the land-use pattern are shown on the Tithe maps, dating to the 1840s or the 1st Edition OS 6" to 1 mile map of 1874. The 2nd Edition OS 6" map of 1898 suggests that more affluent land owners had acquired some of the farms, which are shown surrounded by parkland (Figure 12-4). Park Hatch, approximately 1.2 km to the north-west of Dunsfold Park is in a deer park, which did not have medieval or early post-medieval origins. Within Dunsfold Park itself, a brick works had opened next to Tickners Heath Bridge on the southern perimeter.
31. On Figure 12.5, the 1920 OS map edition, the brick works had been replaced by a farm, but a small brick field is shown just inside the site boundary to the north of the Rickhurst Reservoir, which still lies just outside the perimeter fence. A pumping station (**OA 70**) and Chiddingfold Kennels are shown in the north-west corner of the site, close to a cottage, Broadmeads (**OA 69**). This building was moved to the south side of Dunsfold Park when the airfield was constructed¹⁰.

Modern Period (1939 –present day)

32. World War II (WWII) introduced tremendous changes in the area. In 1942 an area of woodland to the east of Dunsfold was allocated to the Canadian Air Force for an airbase. Units of Canadian troops cleared the site, constructed runways, perimeter roads and after a little more than one month the first aircraft landed. Construction of Dunsfold Park had entailed demolition of a large number of farm buildings and closure of the old A281 Guildford to Horsham road, which now runs to the east of the site. Only three significant structures remained, Chiddingfold Kennels (now Honey Mead) (**OA 71**), Primemeads Farmhouse (**OA 68**) and Broadmeads Cottage (**OA 69**). The latter had been moved as a block from the north-west to its present location near the southern perimeter. Construction of airfield buildings proceeded more slowly with much of the station's infrastructure situated across the vicinity of Dunsfold Park. The OS map of 1961 (Figure 12-6) shows the changes produced by the creation of Dunsfold Park, although by that date many of the perimeter buildings had already been demolished or altered.
33. In addition to Canadian squadrons some Royal Airforce (RAF) and United States Airforce (USAF) units operated from Dunsfold Park, but in 1943 reorganisation of air troops led to the effective closure of Dunsfold Park. Later that year the airfield was re-activated, this time as a RAF base for bombers. By early 1945 the airfield had been largely taken over as a training base, particularly for ferry pilots, and after the end of the war was used as a centre for disbanding units.
34. In 1946 military use of Dunsfold Park dwindled and there was some talk of the land being converted back for agriculture. In fact the site and many of its facilities were leased to Skyways Limited, a charter company. This company

¹⁰ McCue O M, 1991, Dunsfold: Surrey's Most Secret Airfield, Air Research Publications, 18-9.

closed in 1950 and the Ministry of Supply granted a lease to Hawker Aircraft Limited (Hawkers)¹¹.

35. Dunsfold Park was used for test flying of the Sea Hawk and later the Hunter aircraft amongst others. Alterations and additions to the existing buildings also enabled production to be carried out. From the 1960s Hawkers became involved in developing Vertical/Short Take-off and Landing (VSTOL) planes and much of the work was carried out at Dunsfold Park. Parts of the engine-testing bays (**OA 72**) still survive. Figure 12-7, the 1971 OS map, shows these and the larger hangars (**OA 75**) which had been constructed. The high performance aircraft have also resulted in some enlargement of the runways. In the south of the site more of the WWII structures have been cleared and some land returned to fields.
36. The 1960s also saw a return of direct military involvement with Dunsfold Park. An underground monitoring station, run by the Royal Observer Corps (ROC) (**OA 2**) was built in the south-west corner of the airfield, which continued in use into the 1990s. Although the interior fittings have been removed the post itself survives¹².
37. Aircraft production and testing continued at Dunsfold Park following the take-over of Hawkers by British Aerospace (BAe) until 2000. Since that date flying has been very restricted, but a Business Park has been established on the northern side and a variety of other businesses occupy parts of the site utilising the surviving airfield buildings.

Historic Landscape

38. Construction of an airfield has removed the historic landscape pattern across Dunsfold Park, with the exception of a few field boundaries and a band of woodland on the northern perimeter at Furtherfits. The access points around the site do connect to the traditional road layout surviving in the 'Study Area', but the internal routes are completely different.

¹¹ McCue O M, 1991, Dunsfold: Surrey's Most Secret Airfield, Air Research Publications, 213.

¹² Subterranea Britannica, 2006, www.subbrit.org.uk

GAZETTEER OF CULTURAL HERITAGE AND ARCHAEOLOGICAL SITES

OA No	SMR/NMR No	Grid Ref	Description
1	TQ 03 NW 103	TQ 025363	Dunsfold Airfield. Opened in 1942. Military use ceased in 1960s.
2	6878	TQ01823580	Royal Observer Corps Monitoring Post, operational 1961-91.
3	680; TQ 03 NW 6, Event 641597-8	TQ	Roman rubbish pits found during drainage works in 1963. Pits contained animal bone and pottery. Excavations were carried out in 1965-6.
4	679; TQ 03 NW 5	TQ0200736863	Neolithic arrowhead found at High Billingham in 1964.
5	681; TQ 03 NW 7	TQ0214436844	Neolithic ground stone axe found on Hall Place Farm in 1964 by farmer.
6	LINEAR 49	TQ037364	Wey and Arun Canal, opened in 1816 as a 16.5 mile link between the two rivers. Officially closed in 1871.
7			Battle Headquarters, WW II anti-invasion defence. Mainly below-ground structure.
8	6097; TQ 03 NW 108	TQ011374	WW II pillbox.
9	683	TQ0045037920	Flint scraper found in 1883.
10	701	TQ0044034270	Former iron working site, from 16th to 18th century.
11	700; TQ 03 SW 3	TQ0312034300	Springbok Farm, formerly Alford Farm was formerly a moated site.
12	678; TQ 03 NW 4	TQ0415035190	Alexandrian coin of Carus, stray find.
13	3263; TQ 03 NW 24	TQ04853572	Stoney Copse contains a number of shallow pits, believed to be iron ore extraction pits dating from the 16th century.
14	5802, 14897-8; Event 1072837	TQ046353	Burnt flint, worked flint scatters and medieval pottery found during a watching brief by SCC on the Wildwood golf course extension in 1990.
15	4199; TQ 03 SW 38, Event 659541	TQ0453444	Mesolithic flint core, burnt flint and iron slag were found in a watching brief for SCC in 1985.
16	3414; TQ 03 NW 28	TQ04033667	Fast Bridge was built over the Wey and Arun Canal in 1814. Listed Building Grade II.
17	11748	TQ0406336829	Fastbridge Farmhouse, Listed Building Grade II.
18	11749	TQ0408136644	Fastbridge Cottage, Listed Building Grade II.
19	12149; TQ 03	TQ0385836080	Old Farnhurst Farm House, Listed Building Grade

OA No	SMR/NMR No	Grid Ref	Description
	NW 49		II.
20	I3050; TQ 03 NW 13	TQ0433235952	Little Brookerslea, Listed Building Grade II.
21	I3277	TQ04042354446	Welby Cottage, Listed Building Grade II.
22	I2153; TQ 03 NW 48	TQ0409735285	Waggoners Cottage, Listed Building Grade II.
23	I1750; TQ 03 NW 47	TQ0419435242	Orchard Cottage, Listed Building Grade II.
24	I3228	TQ0460335280	Haybarn at Great Wildwood Farm, Listed Building Grade II.
25	I2155; TQ 03 NW 42	TQ0462435280	Great Wildwood Farm House, Listed Building Grade II.
26	I3249	TQ0388034784	Little Pound, Listed Building Grade II.
27	I2165; TQ 03 NW 55	TQ0265035387	Tickners Heath Farm Cottage, Listed Building Grade II.
28	I2168	TQ0417437518	Great Garson Farmhouse, Listed Building Grade II.
29	I2152; TQ 03 NW 51	TQ0384337702	Barn to front right of Mill House, Listed Building Grade II.
30	I3266; TQ 03 NW 50	TQ0386937676	Mill Farm House, Listed Building Grade II.
31	I1747	TQ0335837824	Eastland Cottage, Listed Building Grade II.
32	I3265	TQ0305137436	Hall Place Farm House, Listed Building Grade II.
33	I2162; TQ 03 NW 92	TQ0271937486	Hawkins Farm House, Listed Building Grade II.
34	I1723	TQ0272337456	Barn at Hawkins Farm south-east of house, Listed Building Grade II.
35	I2164	TQ0274837218	Stovolds Hill, Listed Building Grade II.
36	I1724; TQ 03 NW 54	TQ0277537239	Barn to north-east of Stovolds Hill, Listed Building Grade II.
37	I1902	TQ0198437624	Thatched House Farm House, Listed Building Grade II.
38	I3188	TQ0197237632	Barn at Thatched House Farm House, Listed Building Grade II.
39	I2303	TQ0198137650	Former granary at Thatched House Farm, Listed Building Grade II.
40	I2953	TQ0061838039	Sussex Lodges, Listed Building Grade II.

OA No	SMR/NMR No	Grid Ref	Description
41	11679	TQ0137737092	High Loxley, Listed Building Grade II.
42	12204	TQ0135737127	Barn at front of High Loxley, Listed Building Grade II.
43	11682	TQ0138637136	Barn to north-east of High Loxley, Listed Building Grade II.
44	12203	TQ0084437101	Chennells and adjoining cottage, Listed Building Grade II.
45	13272	TQ0075036999	Burdocks 1 and 2, Listed Building Grade II.
46	11678	TQ0058836926	Spindlebury Cottage and adjoining cottage, Listed Building Grade II.
47	13271	TQ0051736860	Elm Corner, Listed Building Grade II.
48	13033	TQ0048536816	Cottage at Elm Corner, occupied by Cooper and Knight, Listed Building Grade II.
49	11676; TQ 03 NW 78	TQ0053336488	Gratton Corner Cottage, Listed Building Grade II.
50	13270; TQ 03 NW 81	TQ0055436448	North End Cottage, Listed Building Grade II.
51	11675	TQ0055536424	New Inn Cottages 1,2 and 3, Listed Building Grade II.
52	12201; TQ 03 NW 68	TQ0084536252	Granary at Pound Farm, Listed Building Grade II.
53	11677; TQ 03 NW 67	TQ0087336227	Pound Farm, Listed Building Grade II.
54	13269; TQ 03 NW 66	TQ0064836108	Forge Cottage, Listed Building Grade II.
55	11674	TQ0065236074	Hope Cottage, Listed Building Grade II.
56	132268	TQ0064836065	The Sun Inn Public House, Listed Building Grade II.
57	11684; TQ 03 NW 75	TQ0056436016	Oak Tree Cottage, Listed Building Grade II.
58	12209; TQ 03 NW 80	TQ0061336025	Oak Tree House, Listed Building Grade II.
59	12208	TQ0061836160	Pond Cottage, Listed Building Grade II.
60	11710; TQ 03 NW 77	TQ0074536004	Yonder Lye, Listed Building Grade II.
61	12196; TQ 03 NW 23	TQ0103035801	Common House, Listed Building Grade II.
62	11672	TQ0049835781	Basket Cottage, Listed Building Grade II.

OA No	SMR/NMR No	Grid Ref	Description
63	I1682	TQ0078734362	Lowicks, Listed Building Grade II.
64	I3030	TQ0089634519	Hurlands, Listed Building Grade II.
65	I3274; TQ 03 NW 51	TQ0091634603	Mellow Place, Listed Building Grade II.
66	I2210	TQ0152835092	Rams Cottage, Listed Building Grade II.
67	I3032	TQ0202336899	High Billingham Farm House, Listed Building Grade II.
68	TQ 03 NW 58	TQ0336936194	Primemeads Farm House, 17th century building with later alterations.
69		TQ0218235829	Broadmeads Cottage, early 20th century building, moved during airfield construction.
70		TQ0175736216	Remains of late 19th century pumping station.
71		TQ0169336335	Honey Mead, remains of Chiddingfold Kennels, early 20th century.
72		TQ0214836448	Engine-testing bays, including for VTOL craft.
73		TQ0245636559	WWII T2 hanger site
74		TQ0258436588	WWII control tower
75		TQ0266036672	Hawker Aviation Ltd hanger
76		TQ0278136680	WWII T2 hanger site
77		TQ0357336596	Earthwork
78		TQ0367436586	Earthwork
79		TQ0349736563	Nissen hut
80		TQ0362736378	Nissen hut
81		TQ0337836255	Huts and squash courts
82		TQ0260736094	Replacement control tower
83		TQ0190336081	VSTOL Steel Test Pad
84		TQ0327536713	VSTOL Steel Test Pad
85		TQ0376936412	Farnhurst Bridge
86		TQ0258563574	Commemorative Stone, 1942

APPENDIX 12-3: BIBLIOGRAPHY AND SOURCES

Sources Consulted

- Surrey Sites and Monuments Record.
39. The Surrey Sites and Monuments Record (SSMR) is the primary repository of information on all known archaeology in the area and includes records of archaeological investigations, early map evidence, aerial photography and local knowledge. The SMR identified 12 sites within the 'Study Area' (**OA 2-5, 8-15**) and 52 Listed Buildings (**OA 17-67**).
- The National Monuments Record (NMR).
40. OA carried out an assessment of the records held by the NMR. The record comprises a computer database of all known archaeological sites in England with some sites taken from studies of aerial photography. The Activities Index of archaeological investigations was also consulted. The National Monuments Record identified two sites within the 'Study Area' (**OA 1, 6**), not also recorded on the SMR.
- Vertical Aerial Photographs and Oblique Aerial Photographs.
41. All vertical and oblique photographs for the Study Area were examined at the Air Photo Library held at the National Monument Record Centre by English Heritage in Swindon. The Air Photographs were examined in order to ascertain whether any sites of archaeological potential were present as soil or vegetation marks, or as sites of low relief not readily visible on the ground. No additional sites within the Study Area were identified from air photographs.
- Listed Building Records.
42. OA examined the Listed Building descriptions and GIS data supplied by English Heritage, Swindon. The 'Study Area' contains 52 Listed Buildings (**OA 16-67**). Only one of the buildings identified falls within the area of the Dunsfold Park (**OA 27**).
- Scheduled Ancient Monuments.
43. English Heritage was consulted regarding Scheduled Ancient Monuments (SAMs) within the 'Study Area'. The Study Area contains no SAMs, but there are two within close proximity.
- Parks and Gardens Register.
44. English Heritage maintains a register of Historic Parks and Gardens. When it was consulted, no entries fell within the 'Study Area'.
- Published Material.
45. Published sources as held by Surrey Record Office (the specialist archaeological Sackler library at the Ashmolean Museum, Oxford) and the copyright library (at the Bodleian Library, Oxford) were consulted. The bibliography at back of this report contains a full list of these sources.

- Cartographic Sources.
46. This assessment involved examination of all readily available early maps up to the first half of the 20th century (including the OS 1st Edition 6" plans) at Surrey Record Office. More recent OS maps were examined in the map room of the Bodleian Library.
- Internet Sources
47. Information on the World War II airfield and 20th-century military applications was obtained from internet based sources. These included sites maintained by the *Archaeology Data Service* (ADS), which holds the *Defence of Britain* database, and *Subterranea Britannica*.

Published Sources

48. Bird D, 1987, 'Sweeters Copse, Alford' in Surrey Archaeological Collections LXXVIII, 141
49. Bird J & Bird DG (eds), 1987, *The Archaeology of Surrey to 1540*, Surrey Archaeological Society
50. Blair J, 1991, *Early Medieval Surrey*, Alan Sutton
51. Cleeve H & Crossley D, 1985, *The Iron Industry of the Weald*, Leicester University Press
52. English J, 1967, 'Great Wildwood Farm, Alford' in Surrey Archaeological Collections LXXXI, 156-7
53. Holling F, 1966, 'Romano-British Pit at High Billingham, Dunsfold, containing Iron Ore' in Surrey Archaeological Collections LXIII, 164
54. Holling F W, 1967, 'Early Romano-British Pottery from High Billingham, Dunsfold' in Surrey Archaeological Collections LXIV, 171-3
55. Leveson Gower J & English J, 1985, 'Roman tile from High Billington near Dunsford' in *Bulletin of Surrey Archaeological Society* 198/2, 4
56. McCue O M, 1991, *Dunsfold: Surrey's Most Secret Airfield*, Air Research Publications,
57. Siney A, 1992, *Dunsfold Before the Airfield*, Private publication
58. VCH III, H E Malden (ed), 1911, *Victoria History of the County of Surrey III*, Archibald Constable & Company
59. Williams R, 1988, 'Possible Iron Ore Extraction Pits, Stoney Copse, Alford' in *Bulletin of Surrey Archaeological Society* 227/2, 4
60. Wills S & Hollis B, 1987, *Military Airfields in the British Isles 1939-45*, Sherington

APPENDIX 12-4: AVIATION SURVEY

Dunsfold Park

A Photographic Record of Significant Buildings



Plate 1: Air to ground. April 1985. Photo BAE via Andy Lawson (BAE Dunsfold photographer)

Preface

This photographic survey has been commissioned by Oxford Archaeology in order to record significant surviving structures in the context of proposals for the development of the airfield now known as Dunsfold Park at NGR TQ 0236. The site is part of the former WWII Royal Canadian Air Force station at Dunsfold, which was used from 1951 by the Hawker Aircraft Company and subsequently by British Aerospace. The relative importance of the surviving buildings and structures has been assessed against what survives elsewhere and what was originally built at Dunsfold using sources within my own archives.

The site was visited on 28 August and 18 September 2007.

Limitations

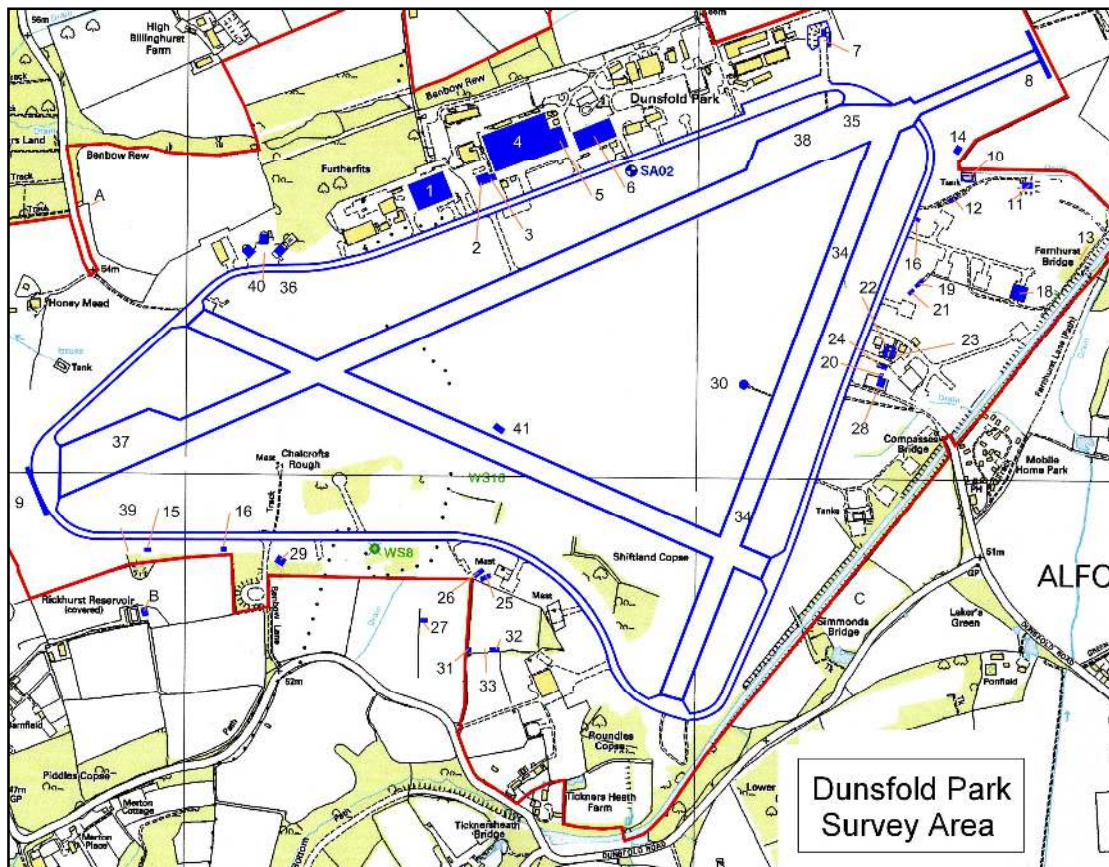
Most WWII structures and significant post-WWII examples were examined although access was restricted on both occasions due to the main runway and part of the north perimeter track being used for motor racing.

Paul Francis, AIFA
ARP (Airfield Research Publishing)
9 Milton Road,
Ware
Herts SG12 0QA
Tel: 01920 468550
e-mail: paul.francis30@ntlworld.com

Paul Francis is an acknowledged expert on the subject of airfield architecture. He is author of *British Military Airfield Architecture From Airships to the Jet Age*, published by Patrick Stephens Limited 1996. ISBN 1 85260 462 X.



Plate 2: April 1985 view of Dunsfold showing the former RCAF Technical Site. Photo: BAE via Andy Lawson (BAE Dunsfold photographer)



- A= Bofors Gun Site - not seen
 B = Battle HQ - not seen
 C = Bofors Gun Site - not seen

Acknowledgements

Gerry Forestal
 Jill Hind
 Andy Lawson
 Nik Read
 Alan Siney
 Julian Temple

Located on the site of the WWII 14-bay T2 hangar is what appears to be an extended T2, but the eastern end is a modern portal-framed shed. It is unclear whether the western end is the original building or not (as access was not possible).



Plate 3: Exterior view of hangar extension and new offices



Plate 4: Interior view of hangar extension

Located next to the Watch Office is a five-bay Fire Station. It was built c.1987



Plate 5: Front view of new Fire Station



Plate 4: General view of Fire Station & Watch Office

From September 1941 the Air Ministry produced a two-storey standard design (12779/41) of watch office to be built at RAF training stations plus a smaller version (13726/41) (46 examples) for bomber and bomber OTU satellite stations. After 1943 a revised version of 12779/41 was adopted as the standard air traffic control building (343/43) for all RAF commands. All buildings (now officially called 'control towers') constructed after this date were built to the 1943 standard and the majority of existing buildings were modified to this standard (which largely involved installing smaller window frames to the front elevation).

The visual control room on the roof dates to when Hawker Aircraft Ltd first occupied the aerodrome in 1952. It was believed to have been erected prior to the first flight of the second Hawker Hunter prototype which flew on 5 May.



Plate 7: Front elevation of Watch Office



Plate 8: Watch Office with modern extension



Plate 9: Watch Office with 1952 VCR



Plate 10: Commemorative Stone in front of Watch Office

Types A1, A2, B1 and B2 were large end-opening aircraft repair hangars which were erected on 'Base' type operational bomber stations, at some bomber stations and aircraft factory airfields. They were designed by T Bedford Consulting Engineers to meet the requirements for the repair of damaged heavy bombers, and their design, manufacture and erection was funded by the Ministry of Aircraft Production. The Dunsfold arrangement is of three similar A1 types of standard length erected side-by-side in the same way as when they were built during WWII at their original location at the Hawker factory at Langley.



Plate 11: Front view of A1 Hangar line



Plate 12: Distant general view showing Fire Station, Watch Office, A1 Hangars & Paint Shop



Plate 13: Interior view of on bay of A1 Hangar



Plate 14: Door elevation - A1 Hangar

At the eastern end of the triple row of A1 hangars is a non-standard 8-bay hangar of a type that appears to be typical of aircraft factories. It is also presumed that this building originated at Langley. The building is internally lined and has a false ceiling so it was not possible to view its internal framework.



Plate 15: Paint Shop



Plate 16: Paint Shop

Located on the site of a WWII 14-bay T2 hangar, is a T2 that is nearly twice this length. It also features additional wind-loading bracing using T2 components.

By 1940 with the rapidly increasing development of aircraft, it became obvious that the then standard transportable hangar known as the Bellman shed was becoming obsolete. As a result, the Air Ministry, in collaboration with Teesside Bridge & Engineering C Ltd, developed a series of hangars known as type 'T'. The first design was the T2 and like the others in this family is of standard steel-fabricated units of welded-and-bolted construction covered with galvanised corrugated iron, 22-gauge for the roof and 24-gauge for the walls. The original 'A' design has roof sheeting fixed with the overlapping portion cranked above its neighbour using angle-iron bolts. The first hangar of this design was built at Middleton St. George. This method was discontinued from 1942 in favour of fitting commercial corrugated sheeting with the overlapping portion fitted flush using the same angle-iron (fitted the opposite way up) and hook bolts. The Dunsfold hangar dates from this modification but now features modern cladding.

After a development period lasting two years involving many minor design changes, the T2 became the standard RAF temporary hangar for the remainder of WWII. A total of 906 hangars of this type were built for RAF stations at home and abroad.



Plate 17: Distant view of T2 Hangar



Plate 18: Apron view of T2 Hangar



Plate 19: View showing non-standard knee bracing



Plate 20: Interior view of T2 Hangar

The ADEN (named for the Armament Development Establishment and Enfield where it was originally designed and built), was a direct development of the WWII German Mauser MG 213. It replaced the then standard RAF Hispano-Suiza HS 404 20mm Cannon of WWII. The ADEN entered Service in 1954, fitted to the Hawker Hunter.

The cannon range consists of an aircraft hardstanding facing an earth bank and a small test butt. There is also a small block house with an observation loop hole.



Plate 21: General view of ADEN Cannon Range



Plate 22: Aircraft Hardstanding with Stop Butt beyond



Plate 23: The Control or Observation Room



Plate 24: The concrete hardstanding from the Stop Butt end



Plate 25: Stop Butt interior view

At either end of the main runway is an aircraft crash barrier net and arrester wire system. The barrier is a rubber strip net-like barrier that normally lies flush with the runway but can be raised into a vertical position by Air Traffic Control when requested by a pilot in distress.



Plate 26: The rubber strip net-like barrier at the 025 runway end



Plate 27: The raising mechanism at the 025 runway end



Plate 28: Cable drum at the 025 runway end



Plate 29: A similar arrangement at the 07 runway end

Chiddingfold and District Water Co. Pumping Station TQ 03530 36597

There are two Victorian vintage pumping stations on the airfield site. About 200 Yards south of the Chiddingfold Hunt Kennels is the remains of a wind powered pumping station and the other is positioned on the northern edge of the Bomb Stores. Unfortunately no documented history has yet been discovered but from old maps there appears to been a couple of wells and wind pumps, and a covered reservoir at Rickhurst which is just outside the airfield boundary.



Plate 30: The Pumping Station at the Bomb Stores Site

The WWII Bomb Stores Site has a Fuzed and Spare Bomb Stores extant, but the storage area was originally just a concrete base surrounded on three sides by earth traversed walls. The stores house shown in the image below has been added to the site post-WWII.



Plate 31: A modern store house on the site of the WWII fuzed bomb store.

Located within the WWII Bomb Stores Site is a surviving Fuzing Point Building which is a 16ft span Nissen Hut. It is positioned on a road that leaves the main roadway, which enters the shed at one end and leaves at the other end to rejoin the main roadway. The idea being that a tractor-pulled bomb-trolley train drives through the shed, pausing every so often so that its bomb-loaded could be fuzed.



Plate 32: The Fuzing Pint Building with remains of earthwork traverses



Plate 33: Another view of the Fuzing Pint Building

The Bomb Stores are located in the north-east corner of the airfield, adjacent to the canal. The site consists of two access roads with seven concrete hardstandings or bays set out in a line between the roads. The bays were used to store the bombs which were placed on wooden frames laid on the concrete floor. The bays are separated from each other by earth work traverses on three sides. Today the site is a heavily overgrown wooded area. The bays, roads and eroded earthworks survive.



Plate 34: Bomb Stores - earthwork traverses



Plate 35: Bomb Stores - storage bay

Two M&E Plinths were found. These were small open walled brick-built structures located around the airfield perimeter, housing Air Ministry transformers and switchgear. These ensured that a constant electrical voltage supply was available to dispersed locations around the airfield.



Plate 36: M&E Plinth with roof (local modification) TQ 03506 36625



Plate 37: M&E Plinth with roof (local modification) TQ 01910 35837

There are two post-war F47 camera mounts aligned with the main runway.



Plate 38: Open camera mounting on a concrete block plinth TQ 03434 36528



Plate 39: Camera Mounting inside timber shed TQ 02098 35846

The Blister hangar was invented by architects and consulting engineers Norman & Dawbarn and William C Inman of Miskins & Sons who filed UK patent applications 31,002/39 and 32,529/39 in respect of the hangar. The Blister hangar was a small arched-type of dispersal shed for the storage and maintenance of small wing-span aircraft.

There were three main types:

- a standard Blister with its framework of timber construction
- an over type of with its framework of light welded-steel construction
- an extra over type also of light welded steel construction.

Miskins steel-framed Blister hangars were developed to provide hangars of greater span and were made up of a series of all-welded steel rib sections bolted together to form the arch. Spaced at 7ft 6in. centres, they were joined by steel ties and purlins of timber or steel and carried commercial corrugated iron sheeting. These were the over type and the extra over type and were the most common type built on RAF stations at home. One example is extant at Dunsfold.



Plate 40: Blister Hangar side view



Plate 41: Blister hangar front view with new gable end

Two temporary brick Latrine Blocks are extant. These are standard cement-rendered single-pitch examples which were originally divided into two parts, one is the latrines and the other is a drying room.



Plate 42: Latrine Block (131) close to Sleeping Shelter (130) TQ 03443 36411



Plate 43: Latrine Block TQ 3359 36219

One Sleeping Shelter is extant. It consists of a brick-built narrow building without windows and a reinforced concrete slab roof. Ventilation was from air-brick and an electric fan. The internal arrangement is of a central corridor and bunk beds arranged either side. There are steel doors at either end which are locked. It was used as a barrack room for air-crew on dispersal.



Plate 44: Sleeping Shelter

The layout, construction and planning of WWII temporary brick buildings were based on guidelines laid down by drawing numbers 222-223/40 and 3323/40. The half-brick hut (wall thickness of half a brick), otherwise known as 4.5in brick buildings, became one of the standard (and most common) forms of temporary construction. Bricks were laid in stretcher bond only consisting of a wall having single bricks laid lengthways along the length of the wall and 4.5in thick. Buildings of this nature had external brick piers spaced at 10ft centres and were built in spans of 18ft and 28ft. The exterior face is cement rendered and the interior was left fair face ready for painting. Roof trusses were standard steel frames supported on the brick piers; roof cladding is corrugated asbestos sheeting. Windows are steel-framed multi-pane casements of standard sizes. Interior doors are timber-framed with plywood panels, exterior are all-timber.



Plate 45: Squadron Radar Workshop (125) - 6-bay hut of 18ft 6in span TQ 03364 36249



Plate: 46: General Repair & Gun Cleaning Workshop (97) - 6-bay temporary brick hut
TQ 02603 35801



Plate 47: W/T & Gun Cleaning Workshop (126) - 6-bay temporary brick hut with external black-out porch TQ 03381 36247



Plate 48: General Repair (gun-cleaning) Workshop - 6-bay temporary brick hut TQ 03368 36236



Plate 49: W/T & Gun Cleaning Workshop (96) - 6-bay temporary brick 18ft 6in span hut
TQ 02586 35803



Plate 50: W/T & Gun Cleaning Workshop (96) - Interior view of one room showing exposed trusses and un-lined ceiling TQ 02586 35803



Plate 51: Unknown temporary brick building (on private land) (51 degrees 6', 42.51" N - 0 degrees 32', 15.98")

Primemeads, a 17th Century farm house has a internal door head carved 1684. It has been used since WWII by test pilots and managerial staff to live in.

Broadmeads Cottage was moved from its original site in 1942 at the suggestion of a Colonel who thought it would be useful as an officers mess, it became 98 Squadron's Flight Offices and from here their D-Day operations were planned. It was later (1950's) used as a house by Frank Murphy - the Hawker Test Pilot.



Plate 52: Primeads



Plate 53: Broadmeads

Located off one of the secondary runways is a post WWII Fernau Direction Finder, the canopy is UHF receivers and the mast spines are VHF Receivers.



Plate 54: The Site of the D/F Station



Plate 55: General view of the D/F Station with radio aerial on the right



Plate 56: View of the DF Station looking up at the canopy

Located in one corner of a square-shaped field south of the southern perimeter track is a Bofors Gun and LAA Accommodation Site. The Bofors Gun Site is of standard ground-level design for accommodating a single mobile 40mm Bofors Gun. It has a square-shaped plan-form surrounded by concrete block walls on all four sides (with one opening for the gun to be wheeled in and out). There is an open area for the gun to be set up on its jacks, the perimeter wall is built of concrete blockwork walls with built-in ammunition lockers and a shelter for gun maintenance. There were two other Bofors Gun Sites one is outside the airfield boundary, at Laker's Green and the other at Benbow Rew which just inside.



Plate 57: View looking into the site at the ammunition store



Plate 58: Bofors Gun Site - ammunition store



Plate 59: Bofors Gun Site - ready use ammunition locker



Plate 60: Bofors Gun Site - view looking along the entrance

32-33 Bofors Gun Crew Latrine Block (99) & Bofors Gun Crew Barrack Hut (100)

Located close by and position alongside the hedge line of the field boundary for concealment is the LAA Accommodation Site. This consists of a standard Handcraft Hut with an adjacent brick Ablution Block.



Plate 61: Ablution Block



Plate 62: Handcraft Hut TQ 02602 35645

The specification for concrete for runways, perimeter tracks and hardstandings in 1942 was one part cement to six of mixed fine and coarse aggregate. A 6in slab un-reinforced construction of mass concrete laid on a consolidated and prepared sub-ground was thought to be adequate for the runway and perimeter track. Expansion joints are at 120ft centres. The runways at Dunsfold had a topcoat of tar & wood chippings to cut down on tire wear and to tone-down the runways as means of concealment from the air.

Runway lengths:

- QDM 257: 2,000 yards
- QDM 210: 1,400 yards
- QDM 306: 1,400 yards

Runway Drains

The runways feature a drainage apron with slopping sides from the runway and grass surfaces that leads to an earth-lined trench. At the bottom of the trench is a French drain which is covered with a porous topping. Connecting with the French drain at frequent intervals are brick-lined catchpits with covers of cast-iron grating. From the catchpit, an outlet pipe connects with the main carrier drain. The French drain served the dual purpose of a carrier drain for the runway surface water and a drain for the interception of sub-surface water from the grass surface.

Mk II Airfield Lighting

Runway marker light fittings consist of two water-tight cast iron pygmy well glass fittings, mounted inside a cast-iron dome with two light apertures. The cast-iron fittings project only 1.25inches above the concrete level and were capable of being able to withstand being run over by the heaviest aircraft. The overall plan dimensions are 12 by 8 inches. They are positioned at 100 yard intervals along both sides of the runway.

At Dunsfold they can be found along both sides of the secondary runways, over the sections that do not have a modern covering of tarmac. An example is at TQ 03126 35968. About 25 years ago the runway was installed with modern lighting which is the current system (although disused).

Taxiways

Only one WWII perimeter track light was found at TQ 03417 36509. It consists of a circular cast-iron light fitting with six light apertures set around its periphery. They were provided both sides of the perimeter track and on straight portions of the track were spaced at 150 yard intervals and on curved portions of track, the spacing intervals were reduced to one quarter of the radius of the curve.

Traffic Lights

Located at road/runway junctions are sets of traffic lights of unknown date.

VSTOL Tethering Area

Located on both Operational Readiness Platforms are the original Hawker P1127 tethering stands for VSTOL aircraft. The grated platforms are located beneath the steel sheeting. As

covered over stands they were used for daytime vertical take-off/landing. At the 026 end is a night landing pad for the Harrier which dates to c.1985.



Plate 63: French drain and cast-iron runway drain



Plate 64: WWII Runway concrete surface



Plate 65: Operation Readiness Platform cast iron drain cover



Plate 66: Cast iron WWII Mk II runway lighting fitting



Plate 67: WWII cast iron Mk II runway light fitting



Plate 68: WWII Mk II runway light fitting



Plate 69: Runway Edge light



Plate 70: Stop end light



Plate 71: Perimeter Track light fitting



Plate 72: Runway Approach light



Plate 73: Traffic Lights



Plate 74: WWII Perimeter Track Light Fitting



Plate 75: Steel Sheetting covering the VSTOL Tethering Grid



Plate 76: Steel sheeting covering the VSTOL Tethering Grid

Located on high ground, north of Rickhurst Reservoir is an underground ROC Monitoring Post. There were c.873 of these structures built between 1956 and 1962. This particular example is thought to have been built in 1961. It is constructed of reinforced concrete, there is a vertical entrance shaft, a toilet and the monitoring room with space for two-tier bunks.



Plate 77: The above-ground air vent shaft

Located at the western end of the main site are three post-1952 aircraft engine test beds. They consist of an open walled structure with a steel detuner at the rear (except that used by the Harrier).



Plate 78: The Harrier Test Bed

Located just off the disused 13-34 runway, about half along its length is the modern Control Tower. It was built c.1987.



Plate 79: Control Tower



Plate 80: Gable end of New Control Tower

Conclusion

In the context of what survives at other aviation sites in the UK, the majority of buildings at Dunsfold Park are not significant - there are better examples and larger groups of original buildings surviving elsewhere. Since 1985 the year when BAE was privatised there has been significant losses to the original airfield building fabric. Particularly on the main technical site, where all of the instructional buildings on the eastern end of the technical site have been removed (see plate 2). The majority of buildings seen today on this site have been built after this date and consequently are of little interest.

Perhaps the most important is the WWII Watch Office and the commemorate stone that exists in the centre, at the front of the building. It is believed that this stone is one of the first of its kind in the UK (October 1942) to be dedicated at a temporary military aerodrome. It is interesting to note too, that a similar (but slightly later) one exists on Young Street (Leatherhead Bypass) and Young Street in Toronto, Canada (which pre-dates the construction of Dunsfold airfield). All three civil engineering projects having being constructed by the same Canadian Army Engineer units - under the same commanding officer.

There were 162 examples of the Dunsfold type of Watch Office built during WWII, of which only 66 are extant in 2007. Today the majority of these buildings are on former airfields where the runways have been removed. It is acknowledged however that the Dunsfold building has been extended and that all of the original window frames have been replaced.

It is a rare feature that all three runways survive at their original lengths and are still connected with a complete perimeter track with at least 75% of the aircraft hardstandings extant. Furthermore, what makes two of the runways more interesting than others elsewhere in the UK is that a large number of the MkII airfield lighting fittings are intact, together with the cast-iron drains and French drains along each side of the runways.

The VSTOL tethering areas located on the Operational Readiness Platforms could be significant; another example exists on Thurleigh airfield. At both sites on Dunsfold, the grating has been covered over so it is not possible to see or record the original structure.

Sources

Wood, Derek - Attack Warning Red. Macdonald and Jane's 1976

Francis, Paul - Control Towers. Airfield Research Publishing 1993

AHB Works 1956