The Beacons, Frodsham Cheshire

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COLD WAR PROJECT

SURVEY REPORT

THE BEACONS
Frodsham
Cheshire

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SUMMARY

The Beacons is an Emergency Planning Centre operated by Cheshire County Council. It occupies a double storey reinforced concrete bunker constructed around 1950 to house an Anti-Aircraft Operations Room (AAOR). It was built to control the newly established automated anti-aircraft gun sites in the Merseyside region. This role ceased in 1955 when the army relinquished responsibility for air defence.

Technically, the site at Frodsham was notable for the installation of the prototype Orange Yeoman tactical control radar in the mid-1950s. Although the AAOR ceased operation in 1955 this radar remained in use for training purposes until about 1959 when it was relocated. In 1961 the redundant bunker was taken over by Cheshire County Council for use as an Emergency Planning Centre. It retains this role and is in good structural condition.

HISTORY

The AAOR at Frodsham was one of 28 purpose built surface bunkers, of standard design, constructed around 1950 as part of a nationwide project to refurbish Britain's air defences (Campbell 1983, 185-7; PRO WO106/5913). A further four AAORs were housed in pre-existing structures. In this programme the country was divided into 31 or 32 groups, each controlled by an AAOR. The emphasis of this scheme was on 'point defence' (the protection of key strategic targets) - in this instance the Liverpool and Manchester conurbations and their associated industry. The individual AAORs controlled a number of automated anti-aircraft gun sites in their region. Many of these occupied earlier wartime and immediately post-war sites, and many were equipped with 5.25 inch guns. A good example of a well preserved gun site controlled from Frodsham is located 24km away at Lower Kinnerton, Flintshire at SJ 342 617. Minor details in the finish of its structures including the form of its drip moulds and air vents, and the fabrication of its blast doors clearly confirm the links between the two sites.

To communicate with the gun sites the AAOR was equipped with two masts, one for HF (High Frequency) and the other for VHF (Very High Frequency) transmissions. Coincidental with the introduction of the new air defence programme, development work began on a new tactical three-dimensional radar and data-handling system known as Orange Yeoman. This system was intended to improve the tactical control of anti-aircraft guns from the AAORs. After the RAF took over responsibility for air defence and surface-to air guided weapons Orange Yeoman was designated AMES Type 82. The prototype equipment for Orange Yeoman system was installed at Frodsham shortly before the decision was taken to abandon the point defence system. The equipment, nevertheless, remained at Frodsham for training purposes until 1959 (Gough 1993, 161-2)

The policy of point defence was a relatively short-lived strategy and the army's responsibility for air defence ended in spring 1955. The system was regarded as obsolete in the wake of faster jet bombers, the advent of the intercontinental ballistic missiles and surface to air guided weapons.

In November 1960 Cheshire County Civil Defence Committee considered acquiring the redundant bunker (CCC1/9/2/2, 9 Nov 1960). Following an inspection of the bunker, this was agreed, and the County Council took possession of the bunker on 17 October 1961. Initially it was used as an Area Control centre for Northwich and as a training cnetre (CCC1/9/2/2, 11 Jan 1961; 8 Nov 1961). Conversion and fitting out took place during the remainder of 1961 and into 1962, when expenditure of £733 7s 0d was approved for fittings and equipment (CCC1/9/2/2 12 Sep 1962). Elsewhere in the country six other AAORs were acquired by local authorities for use as emergency planning centres.

It still retains its function as an emergency planning and training centre for the County Council.

DESCRIPTION

The bunker is sited ½km south of the town on the west side of the most prominent hill in the locality, The Beacons, at 150m OD. From here there are commanding views over the Wirral peninsular, river Mersey, Cheshire plain and eastwards across to Manchester. Importantly for the operation of the AAOR's radio communications mast, and later its radar array, it offered a site unimpeded by high ground in the vicinity.

The Exterior

The bunker is oriented southeast to northwest and is sited on a terrace at the entrance to an old sandstone quarry; to its front is a levelled parking area revetted to the rear by a low dwarf concrete wall. It is a simple, reinforced concrete, double storey structure and is 24.99m (81ft 9ins) square in plan. The walls at ground level are 0.60m (2 ft) thick. Its northern side is partly set into the hillslope while the remaining sides are freestanding. The external elevations are in self finished concrete on which the building lifts are visible, and have relatively few details. The main entrance to the building is at ground floor level and is placed centrally in the southern elevation. The entrance is through double steel blast doors, 1.8m wide (5ft 11 ins) and 2.05m (6ft 8ins) high, protected by an open ended porch 3.05 wide (10 ft), 2.5m (8ft 2 ins) high and a blast wall 0.61m (2ft) thick. The western elevation is plain except at its southern end where there are two small-bore downward pointing pipes with 90 degree bends to vent the standby generator. The only other features on this wall are the cast iron rain water gutter, and down pipes at either end of the building. The northern elevation is buried to ground floor level and the central first-floor door is approached up a flight of 13 steps; a low dwarf concrete wall 0.8m (2ft 7 ins) high revets the side of the path. The door is identical to the main entrance and is also protected by a porch and blast wall. Besides the door the only other features along this wall are three vents below the eaves: to the west of the door one vents the kitchen, and the other, two east of the door, vent the lavatories. The openings are 0.45m (18 ins) in diameter and are protected by integral projecting concrete canopies with drip moulds. The fans in the vents are simple extraction fans and lack any covers to prevent the ingress of radioactive fallout. From the door the side path continued to the rear of the bunker, revetted by a low dwarf concrete wall, and a flight of nine steps lead down the northern elevation gave access to the path along the rear of the bunker. The rear, eastern, elevation is plain except for a small vent below the eaves above the boiler room, the only other features on this wall are the cast iron rain water gutter and downpipes. The roof is slightly cambered along its southwest to northwest axis to prevent water collecting; it is featureless except for a raised concrete vent in south eastern corner over the boiler room.

The Interior

Internally the bunker is split into two levels; a maximum of 770 square metres (921 square yards) is available on each floor, though effectively by discounting the walls and stair cases the space available is around 1400 square metres (1674 square yards) (Campbell 1982, 187). At its centre is a large central well, 12.5m square (15 yards square) in plan, the Operations Room. This stands the full height of the building and the remainder of the bunker is organised around it. The main entrance at ground-floor level on the southern side opens into a lobby area. Immediately facing the doors

was a security room, which has been recently dismantled and replaced by a reception desk. To the right of the entrance a locked door gives access to a flight of stairs to the first floor.

The plant rooms to service the building are also housed in this southern section of the bunker. To the left of the main entrance is the main switch gear and standby generator room, the majority of the plant in which room is of recent origin. To the right of the Security Room is the air conditioning plant, which is mostly original. The air conditioning system is carried round the building in rectangular section galvanised metal ducting. Next to this room in the corner of the bunker is the boiler room, which also survives in its near original configuration. Heating in the bunker is by wall mounted radiators, the majority of which are the original fittings.

As described above, at the centre of the bunker is the Operations Room, this originally contained a large plotting table and situation maps on its tall southern wall. On the ground floor it is entered through double doors on its western and eastern sides; two single doors at the southern end of the room open into two identical annexes, which could also be entered from the internal corridor running around the ground floor. Attached to the northern end of the Operations Room is the Communications Room. A door gives access into this room from the corridor and there is a small window onto the Operations Room with a serving hatch for messages to be passed between. Access to the first floor was by means of two flights of L shaped stairs wrapped around the northern external corners of the Operations Room. In common with all the stairs in the bunker they are of concrete, and the wells are protected by a tubular steel framed rail guard infilled with wire mesh set on a fair-faced concrete lip. To either side of the stairs are two small self-contained rooms with entrances from their northern sides. In each of the corners of the bunker a staircase led to the first floor. In the northwestern corner of the bunker is a rectangular room, currently used as a store, and in the opposite corner is the Radio Room. Between both these rooms and the outer wall of the bunker a staircase rises to the first floor.

On the first floor at the southern end of the bunker is a long, open rectangular room known as Communications and Resources. This has recently been sub-divided. At the western end a single door opens into the Dining Room, a large open area. At its northern end are the enclosed water tanks and the stairs from the ground floor. Beyond these in the northwest corner of the bunker is the recently refurbished kitchen. In the opposite corner are two small rectangular rooms, male and female lavatories. The provision of a female lavatory is secondary feature, as the male urinals have only been removed in recent years. Along the northern wall corridor connecting the two corners of the building is the central external exit. South of the lavatories is a small self-contained room entered through a single door in its north wall and to its south is large open room formerly used as a Dormitory. A door in its southern wall links back to the Communications and Resources Room.

The central Operations Room is overlooked by the first-floor gallery ranged around three sides of the room. This is supported on RSJs over the ground floor room creating a central well. Single doors at the northern end of the Dining Area and Dormitory provide access onto the Main Gallery. This is split into two sections, to the rear along the northern wall, is a raised dais and a lower observation area, with a single step down from the dais. The dais is wide enough to accommodate a chair, with an inverted L shaped bench in front for a telephone and papers. Behind the dais is the County

Controller's Room: single doors at either side open into this room, at the front is a large perspex panelled area which allowed the plotting table and situation maps below to be viewed. A serving hatch is placed at the centre of the window. To either side were the West and East Galleries, the glazed panels which overhang the parapet of the galleries to give a clear view of the plotting tables was also aided by curved perspex panels in their lower sections. Access into the galleries is from the Dining Area and Dormitory to either side and from the northern end of the Main Gallery. Messages could also be passed into the side galleries through serving hatches in their glazed ends.

Communications and Radar Arrays

The communications towers and radar arrays were sited to the north of the bunker on the western side of the hill at the edge of the disused quarry just beneath the crest of the hill. The original masts, which were described as T shaped, were removed in the early 1990s. On their sites two masts have been erected to serve mobile telephone networks and adjacent to them two small single storey buildings have been constructed. No evidence was seen to indicate the position of the Type 82 radar.

Site Archive

No original archival material was retained on site, the only plan available for inspection being a survey dated 1987.

This account is based on a field investigation by Wayne Cocroft and Roger Thomas in July 1997, 35mm photography was also taken by Roger Thomas.

ACKNOWLEDGEMENTS

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SOURCES

Primary

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Cheshire County Council plan, The Beacons, Frodsham March 1987, held on site

Public Record Office WO106/5913 Command in war by AA Brigades

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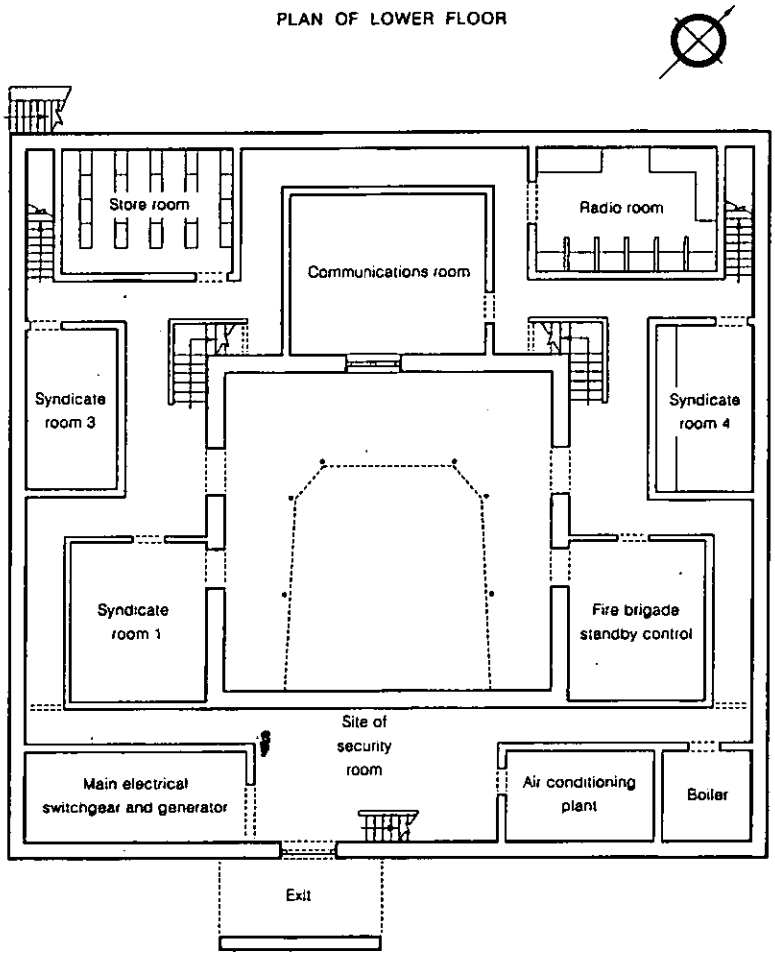
COUNTY EMERGENCY CONTROL CENTRE
THE BEACONS, SIMONS LANE, FRODSHAM, CHESHIRE

NGR: SJ 5199 7660 NBR No: 96046

PLAN OF LOWER FLOOR



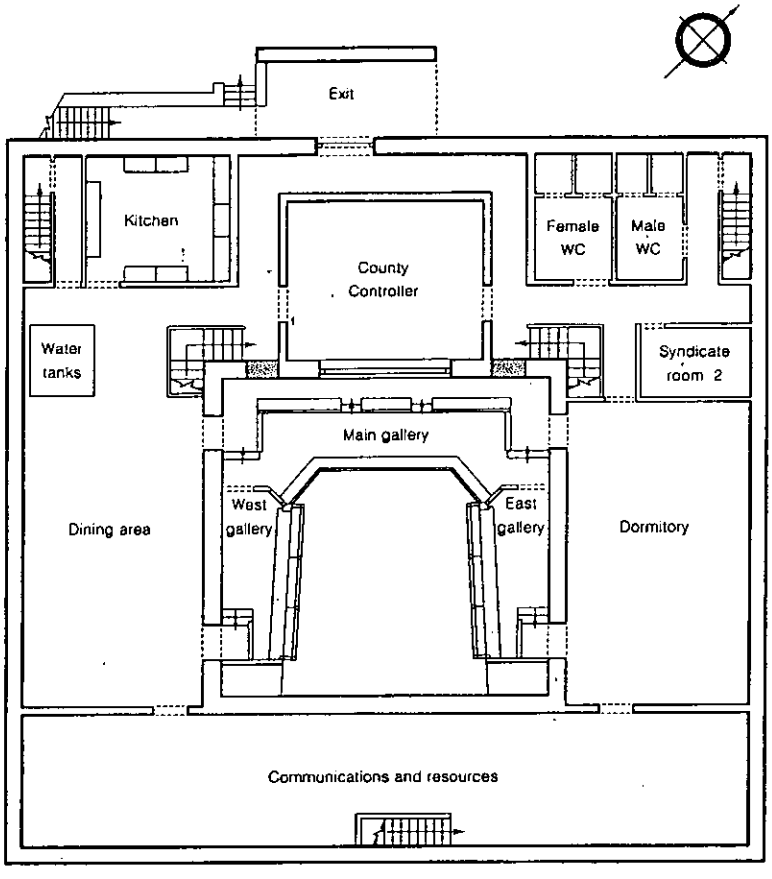
0 5 20 metres
0 10 60 ft

RCHM ENGLAND

COUNTY EMERGENCY CONTROL CENTRE
THE BEACONS, SIMONS LANE, FRODSHAM, CHESHIRE

NGR: SJ 5199 7660 NBR No: 96046

PLAN OF UPPER FLOOR



0 5 20 metres
0 10 60 ft

RCHM ENGLAND