

RAF Lindholme

**AMES Type 82
Tactical Control Radar (TCR) Site**

ROYAL COMMISSION ON THE HISTORICAL MONUMENTS OF ENGLAND

HISTORIC BUILDING REPORT

**RAF Lindholme (Tactical Control Radar)
Bawtry Road
Hatfield
South Yorkshire**

February 1997

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**National Monuments Record Centre, Kemble Drive, Swindon SN2 2GZ
Tel: (01793) 414600 Fax: (01793) 420728**

RAF LINDHOLME

Communication Centre (COMCEN)

1996

Schedule of Buildings

<u>Bldg.No.</u>	<u>Function</u>	<u>Drawing No.</u>	<u>Construction</u>
266	Transformer Plinth	.....	*****
320	Main Building and COMCEN	EL1/5	Brick
		AB ?????	
		AB 3????	
320a	Incinerator	.....	*****
321	Stand-by Power Generator Set House	.....	Brick
322	Entry Post	.....	Conc.block
323	Store Room (former radar head building)	.....	*****
324	Car Garage	.....	Pre.fab.conc
325	ditto		
326	Fire Equipment	.....	*****

ROYAL COMMISSION ON THE HISTORICAL MONUMENTS OF ENGLAND

South Yorkshire

Hatfield

NGR: SE 6770 0681

Hatfield Woodhouse

NBR No.: 95649

Bawtry Road

RAF Lindholme (Tactical Control Radar)

SUMMARY

RAF Lindholme 'Tactical Control Radar' (TCR) station was built circa 1960 on a group of disused aircraft dispersals, adjacent to the western perimeter of the former Second World War airfield, RAF Lindholme. The site is situated on low-lying ground, approximately eight kilometres (5 miles) north east of Doncaster. The complex consists of an operations block, a Type 82 radar head building, a stand by power generator set house and associated fuel tanks with catchpit, an entry post, three garages, and a transformer plinth, all of which are enclosed by a chain-link perimeter fence.

HISTORY

The history of RAF Lindholme extends back to May 1938, when, as a part of the Air Ministry's L and M Expansion Schemes, work commenced on a new bomber aerodrome on Hatfield Moors. The aerodrome was opened on the 1st June as RAF Hatfield Woodhouse, operating under the control of No.5 Group, Bomber Command. Two months later, the name was changed to RAF Lindholme, to avoid confusion with the aerodrome at Hatfield, Hertfordshire.

Like the majority of the aerodromes built during this period, it had a grass-surfaced landing ground, which suffered severely due to heavy useage. As a consequence of this, and the introduction of heavier aircraft, RAF Lindholme was closed in July 1942 to permit the laying of concrete runways, perimeter tracks, and 'frying-pan' aircraft dispersals, some of which were built to the west of the A 164 Bawtry Road. Post-war, the A 164 became the western boundary of RAF Lindholme and the majority of the dispersed sites to the west of the road were abandoned. Eventually, the disused aircraft dispersals to the north of Red House, were re-occupied as the site for an Air Ministry Experimental Station (AMES) Type 82 Tactical Control Radar (TCR) and the Headquarters of No.21 Wing.

The origins of the AMES Type 82 radar can be traced back to 1949, when development work on behalf of the Army, commenced on a new three-dimensional radar called Orange Yeoman. The intention was to provide improved tactical control and warning, from the anti-aircraft operation rooms (AAOR), to the individual anti-aircraft gun sites. In addition to Orange Yeoman, by 1950, parallel development work was being carried out on new anti-aircraft guns, surface to air guided weapons (SAGW), and target tracking and illuminating radars.

During this period, the perceived future role of the Orange Yeoman radar became inextricably linked to the tactical control of the surface to air guided weapons (SAGW). The Army had instigated the development of two SAGW systems to the same operational requirements, code-named Red Duster and Red Shoes. During 1953, the RAF assumed responsibility from the Army for the development of SAGW defences for the British Isles; acquiring the SAGW Red Duster, the tracking and illuminating radar Yellow River, and the tactical control radar Orange Yeoman.

The Army had issued a requisition for two prototypes and three production Orange Yeomans. Development work was carried out at the Radar Research and Development Establishment (RRDE), Malvern, Worcestershire, and the first prototype was erected near the Army's AAOR at Frodsham, Cheshire. From the point of view of the RAF, this installation was of little value, as it was built to the Army's 'point defence' requirement, protecting Liverpool and Manchester; rather than the RAF's requirement for the protection of the nuclear deterrent force.

Towards the close of 1955, RAF North Coates on the Lincolnshire coast was selected as the site for the second prototype. Trials were carried out, to prove the effectiveness of Orange Yeoman in 'putting-on' the Yellow River tracking and illuminating radar, at the adjacent SAGW site. While these trials were underway, the radar equipment and the missile involved, acquired their RAF nomenclature; Orange Yeoman becoming AMES Type 82, Yellow River became AMES Type 83, and Red Duster became the Bloodhound MkI.

The AMES Type 82's vital role was the provision of long-range early warning of aerial attack over a large geographical area. The information it provided, enabled the tactical selection of individual targets for allocation to the tracking and illuminating radar at a particular SAGW site, which covered a much smaller geographical area. The provision of a data-link from the TCR operations room to the SAGW site, allowed the rapid acquisition (putting-on) of the AMES Type 83 tracking and illuminating radar (TIR). The TIR would then follow the target, feeding information directly to the Bloodhound missile launcher up to the point of launch. The receiver antenna in the missile's nose was already 'locked-on' while still on the launcher, and at the moment of launching, it was in line with the target in bearing and was elevated at forty-five degrees.

The three production Orange Yeoman (AMES Type 82) equipments originally requisitioned by the Army, were ordered by the RAF in 1956, however no decision on their deployment was taken until the completion of the acceptance trials at North Coates. Eventually, the Bloodhound Mk1 SAGW system became fully operational in 1960, when the three production AMES Type 82 radars were installed at RAF North Luffenham, Leicestershire (No.151 Wing HQ), RAF Watton, Norfolk (No.24 Wing HQ) and RAF Lindholme, South Yorkshire (No.21 Wing HQ), together with the prototype at RAF North Coates, Lincolnshire (No.148 Wing HQ).

RAF Lindholme provided long-range tactical information to four Bloodhound sites; RAF Carnaby, RAF Catfoss, RAF Brighton, and RAF Misson (NBR. No. 95774). Each site was equipped with two groups of sixteen missiles and two target illuminating radars (TIR). RAF Lindholme's association with the Bloodhound missile was however, short-lived, as during 1963, it became an air traffic control radar unit (ATCRU).

In 1965 the site became known as 'Northern Radar', continuing to operate as an ATCRU until the 31st March 1978. A refurbishment programme for the Type 82 radars was then initiated, with the aim of keeping them operational until 1986. However, this aim did not fully come to pass, as RAF Lindholme was converted into a communication centre (COMCEN) during the latter part of 1981 and the early months of 1982.

Up until its use as a COMCEN, RAF Lindholme had not been protected by anything more sophisticated than a chain-link perimeter fence, but with the advent of IRA attacks on mainland military targets, new defences were deemed necessary. The COMCEN was operated by 840 Signals Unit until it was vacated in 1995, and by August of the same year, it had been placed on the disposal list.

DESCRIPTION

RAF Lindholme is situated on low-lying ground, approximately 3 metres (10 feet) above Ordnance Datum. It is located to the west of the A614 Bawtry Road and is approximately 2 kilometres (1 1/4 miles) south of Hatfield Woodhouse, and 8 kilometres (5 miles) north-east of Doncaster.

The complex comprises an entry post, a store (former Type 82 radar head building), a sub-station, a stand by generator set house and associated fuel tanks with catchpit, three garages, and a communications building (former operations block). The complex occupies a roughly rectangular plan site, enclosed by a 2.10 m (7 1/2 feet) high, chain-link boundary fence, topped with three strands of barbed wire. An access road enters the site through the eastern perimeter, via a pair of chain-link clad steel gates. A further gate is located at the south-west corner of the southern perimeter. Set back some 3.05 m (10 feet) from the boundary fence, is an inner perimeter fence of three coils of Danart wire fixed to steel picket posts. A Danart wire fence, flanking the road to the north, extends at a right-angle from the inner perimeter to the entry post / guardhouse.

Entry Post

The entry post is a secondary feature, built c1982, when RAF Lindholme became a communication centre. It is a single storey, single room, 3.05 m (10 foot) square plan structure, of cement rendered blockwork construction, with a flat felted timber roof. Access is gained by a timber door in the rear (western) wall. Steel casement windows, off-set from the centre in each of the remaining walls, permitted a field of view of 270 degrees. The access road in front of the entry post, is obstructed by a moveable, steel-tube knife-rest, which projects from the Danart fence to the north, to form a chicane for vehicle inspection.

Defence Works

A demi-bastion plan projection in the boundary at the north-east corner of the site, permits the opportunity for enfilade (flanking) fire along the face of the northern perimeter. Evidence in the form of differential grass growth and a number of steel picket posts driven into the ground, indicates that a single coil fence of Danart wire divided the site into eastern and western sections. This entanglement was located a little to the east of the operations block / COMCEN. It extended at right-angles from the inner southern perimeter to a point on the central axis of the site; at this point, it turned 45 degrees towards the north-east and continued to the northern perimeter to form a salient.

Defence works, in the form of sangars (fortified defence posts), began to appear during the early 1980s in response to the threat of attack by the IRA, and remained in use up until the complex was abandoned in 1995. In 1993, the site was defended by a total of four sangars and seven rectangular plan pillboxes. The sangars were built of ammunition boxes and sandbags, filled

with rocks or sand and reveted in earth. Over-head protection was provided by a roof consisting of, timber beams supporting corrugated steel sheeting, over-laid with sandbags. Pre-fabricated reinforced concrete Yarnold sangars (two man pillboxes), are also known to have been used to defend the site. By the time that the site was surveyed in March 1996, all of the defensive structures had been removed; however, evidence for the existence of the sangars remained in the form of differential grass growth, and sand spillage.

Store (former AMES Type 82 radar head building)

The store (former AMES Type 82 (Orange Yeoman) radar head building) was built on a former 'frying-pan' aircraft dispersal. It is tall three storey, rectangular plan structure, with a five segment, curved south elevation. It is constructed of cement-rendered brick and has a flat reinforced concrete roof concealed behind a low parapet, protected by tubular galvanised steel railings. A circular steel aerial turntable that rotated the radar array, remains in situ at the southern end of the roof. A steel lifting-beam at roof level, projects out over equipment taking-in doors in the north elevation.

A number of doorways in both the east and west elevations, permit access to the interior. Natural illumination to the interior, is provided by a variety of types and sizes of steel casement windows. The ground floor is lit by two windows in the west elevation, while the first floor is lit by three windows in both the east and west elevations. No windows exist at second floor level, apart from one which lights the stairs at the northern end of the building. The stairway is lit by two windows in both the east and west elevations, indicating five flights, and mezzanine landings. No evidence of a cross-site feeder from the radar head building, to the operations block, was found above ground and it can only be presumed that it ran in ducting underground.

Communication Centre (COMCEN)

The communication centre (former operations block) is a tall two storey, eight-bay, rectangular plan structure, with a lower two storey office annexe to the west, and tall single storey, flat roofed annexes to the remaining three walls. The main range is built around twenty-two encased stanchions, supporting the first floor. The walls are of stretcher bond, fair-faced brick, cavity-wall construction, with brick piers to the first floor of the main range.

The walls of the main range are blind and are pierced at first floor level by double fire escape doorways, which allow access onto the flat roofs of north and south annexes. The east and west elevations are capped by plain, low brick pediments. At first floor level, beneath an exposed concrete beam, the east wall has a large rectangular blocking of secondary brickwork. A square brick flue from the boiler room, rises within the wall thickness of the south east corner. Originally, this flue discharged at the level of the upper surface of the pediment; a secondary brick chimney now carries this flue above the pediment.

The annexes to the east housed the boiler room, the heating and ventilation plant room, workshops, a battery room, and a no-break generator set room. The boiler room and the plant room can only be entered from external doorways, while the no-break generator set house can be entered either externally, or from the interior of the COMCEN. Situated adjacent to the plant room access ramp, is the boiler room fuel tank within a low brick-walled catchpit, and a timber fenced enclosure containing electrical switchgear. The annex to the north housed two storerooms, while the one to the south consisted of a telephone exchange (GPO room), and an extension of the communications room. A secondary incinerator room with a tall galvanized steel flue, has been built against the north wall. Two pre-cast concrete panel garages have been built parallel to the north-east corner of the north annexe. A further garage is located on the former aircraft taxiway, that leads to the north west corner of the site.

A two storey office block with a flat reinforced concrete roof, is built against the west elevation of the main range. Access to the ground floor, is provided at opposing ends of the west elevation, by two recessed double doorways, within plain pre-cast concrete architraves, lit by rectangular fanlights, . Internally, it consists of a series of offices and small rooms to the ground floor, with three offices, three restrooms and four toilet/washrooms to the first floor. Access to the first floor is provided by a stairway at the eastern end of the northern corridor. The rooms on both floors are arranged to either side of a central corridor. The inner rooms are provided with natural light by a rectangular lightwell, while the outer rooms receive daylight from steel-framed casement windows in the north, south and west elevations.

The office block fire exit is located at the eastern end of the first floor corridor, providing access to a brick-walled external stairway. This stairway permits escape both from the office and the flat roof of the south annexe. Escape off the north annexe roof is via a vertical steel ladder.

Internally, the ground floor of the main range consists of a large rectangular plan communications room, entered by a double-doorway at the north-west corner of the room. Flanking this entrance to the north, is a doorway which allows access to a corridor, that leads to the north annexe storeroom and to a fire exit. The communication room projects into the south annexe, where a further fire escape exists in the south west corner.

The walls and stanchions of the communications room are finished with perforated Supalux boards; probably for noise reduction, and to permit one hour fire resistance. The Supalux boards are attached to the walls on timber battens, with spaces filled with 25 mm (1 inch) mineral wool. The room has a secondary false-floor of modular construction, consisting of 60 x 60 cm (2 foot) panels, raised 30.4 cm (1 foot) above the original concrete floor. The coffered proprietary suspended ceiling, also appears to be secondary.

Three small rooms occupy the west wall of the communications room. A secondary semi-glazed partitioned wall, forms a computer room against the east wall of the communications room. The walls of the computer room differ from the rest of the communication room, as they have a vinyl wall covering on plaster. The southern wall of the computer room is formed partly by an air-lock that projects from the east wall of the communications room. The air-lock leads into a transverse corridor that allows access to the telephone exchange, two workshops, a storeroom, a stair to the first floor ante-room, and the no-break set room.

The first floor of the main range consists of an auditorium, an ante-room and three small rooms. The auditorium is rectangular in plan and occupies two thirds of the floor area and the floor is stepped at the eastern end. The precise function of this room remains to be established. It is entered by doorways in the north-west and south-east corners. The doorway at the north-east corner of the room, appears to be for officers entering directly from the office block. This doorway is adjacent to a coved partion wall, which may have functioned as a projection screen. The double doorway at the south-east corner of the room, enters from an 'L' plan ante-room and it appears to have been for the use of other ranks. Fire exits are located in the north and south walls, to permit escape onto the flat roofs of the single storey annexes.

Stand By Generator Set House and associated Fuel Tanks & Catchpit

The stand by generator set house is a single storey, rectangular plan structure, of stretcher bond, fair-faced, brick cavity wall construction, with a flat asphalted felt roof. A pair of steel diesel oil tanks are located adjacent to the eastern wall of the stand by generator set house, in a rectangular plan, 1.52 (5 feet) high concrete walled catchpit. The inspection cover of each tank is accessed by a steel ladder and a cat-walk. The tanks are inclined to the south , with the fuel gauges, delivery pipes and valves being situated against the south wall of the catchpit.

Visited by: Roger J C Thomas, March 1996.

Report by: Roger J C Thomas.

35 mm Photography by: Roger J C Thomas.

Drawn Archive: Allan T Adams.

ACKNOWLEDGEMENT

Assistance with access, and documentary research for this report has been provided by DLA (North) Catterick, Mr H McQueen Station Services Squadron RAF Finningley, and Aldon Ferguson FRICS.

Sources

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D J Farrar OBE, MA FRAeS, 'Bloodhound', *Bristol Siddeley Journal*, Vol.3 No.3, Spring 1962, pp 59-62.

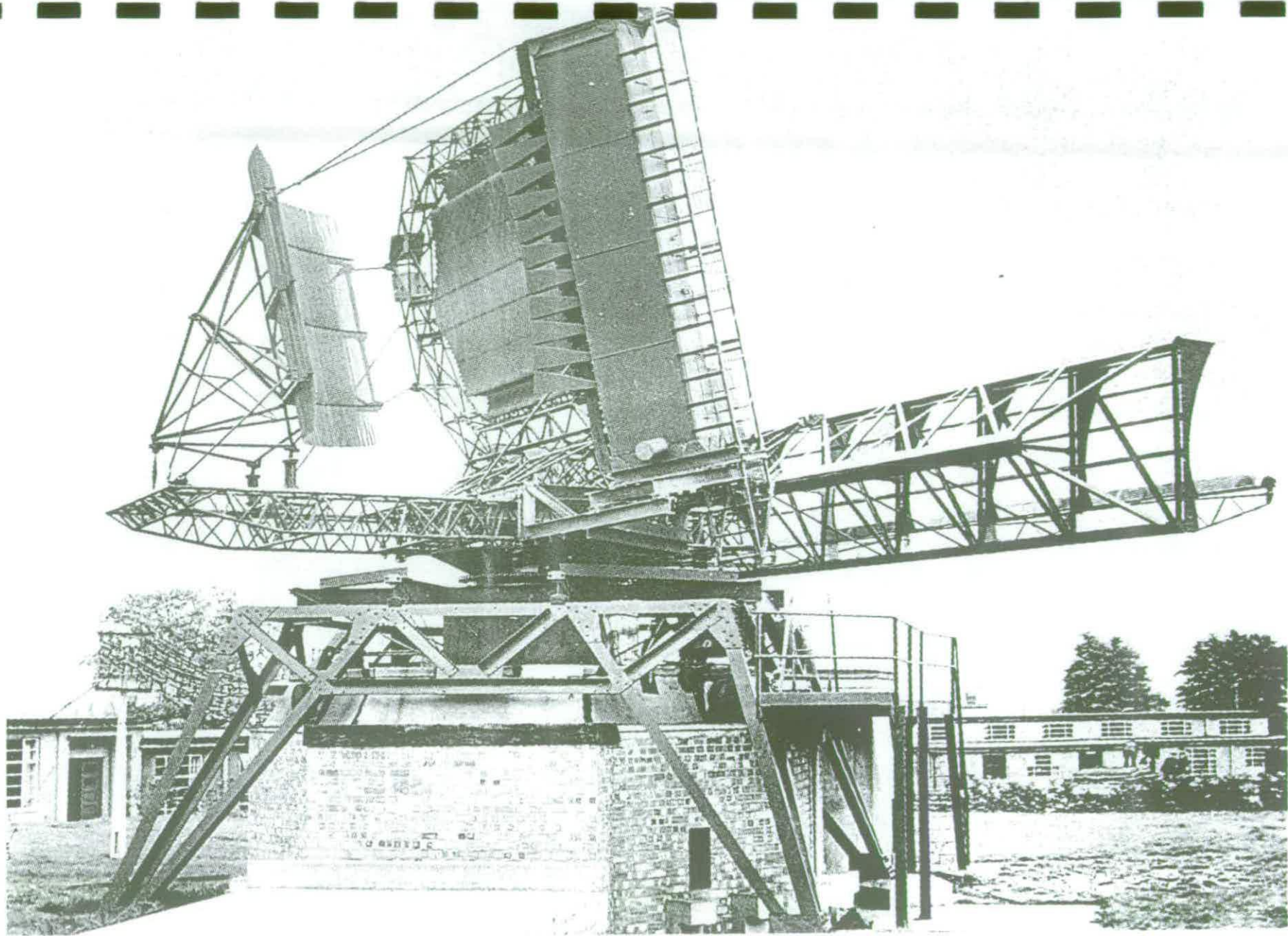
D Corley, 'Carnaby', *Airfield Review*, The Journal of the Airfield Research Group, No.67, December 1994, pp 35-38.

Schedule of Surviving Structures/Features, 27 March 1996.

<u>Bldg.No.</u>	<u>Structure/Feature</u>	<u>NGR</u>
266	Transformer Plinth	SE 6780 0686
320	Main Building & COMCEN	SE 6766 0684
320a	Incinerator	SE 6765 0686
321	Stand By Generator Set House	SE 6770 0686
322	Entry Post	SE 6781 0680
323	Store (former radar head bldg.)	SE 6778 0682
324	Car Garage	SE 6764 0685
325	ditto	SE 6764 0686
?	ditto	SE 6761 0687

List of RCHME Photographs NBR.No: 95649

<u>Neg.No.</u>	<u>Subject</u>
277K/36A	General view of complex from the south east.
277K/36	Entry Post viewed from the south east.
277K/35	Store (former radar head bldg.) viewed from the south.
277K/34	" viewed from s s west.
277K/33	" viewed from the west.
277K/32	COMCEN viewed from the south east.
277K/28	" viewed from east north east.
277K/27	" viewed from north east.
277K/25	" viewed from the south west.
277K/26	" detail of west elevation.
277K/30	Stand By Generator Set House and Fuel Tanks viewed from the south east.
277K/29	" viewed from the north east.

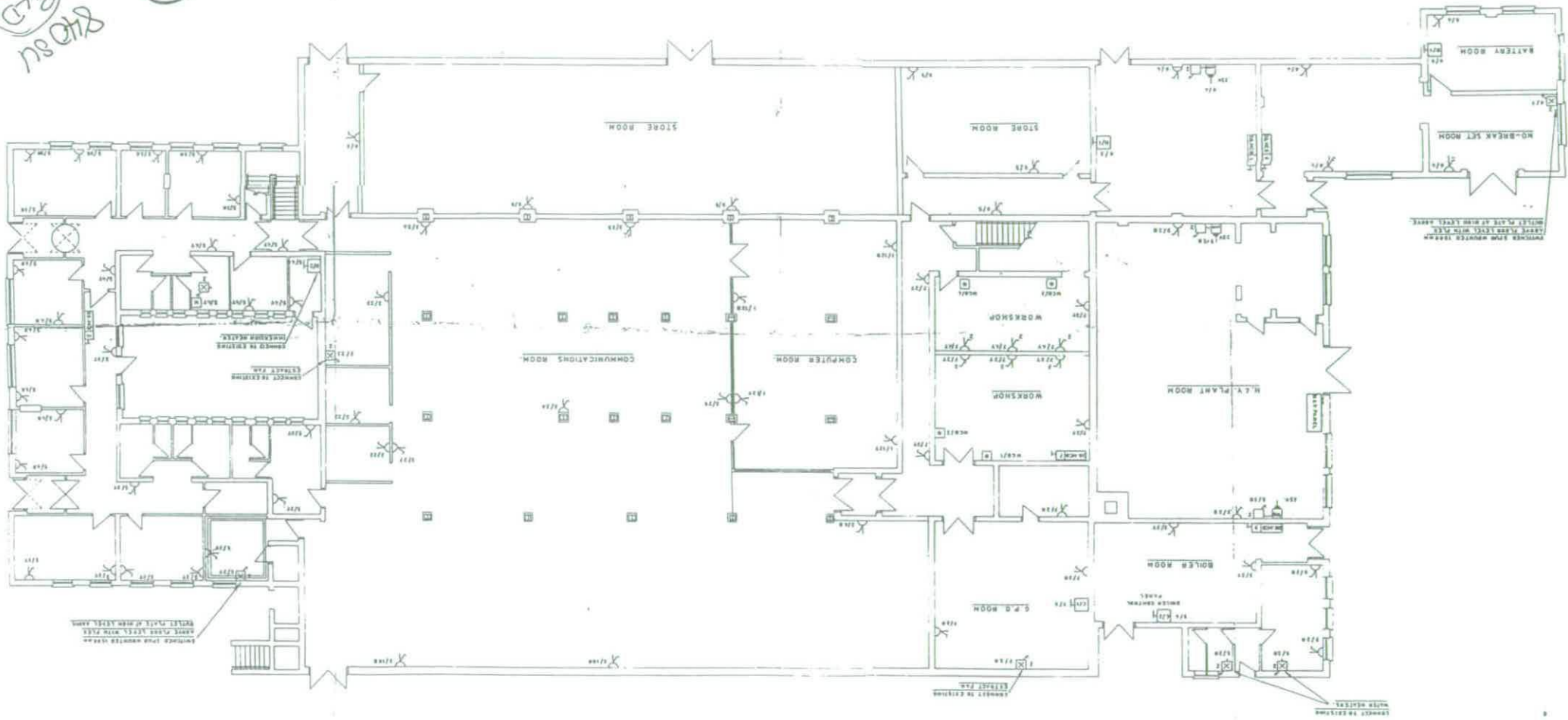


9 AMES Type 82 Tactical Control Radar

Office of Design		Other Information	
Title: R.A.F. LINDHOLME COMMUNICATIONS CENTRE GROUND FLOOR POWER		Approved: M. E. ENGLISH	
Drawing No: EL1/S		Date: 9. 11. 57	
Scale: 1 : 100		Author: G. H. STEPHEN	
Type of Drawing: LOCATION		Reference Document: G. H. STEPHEN	
Location: GROUND FLOOR POWER		Drawing No: EL1/S	

8/40su
R.L.D
L330

2/10



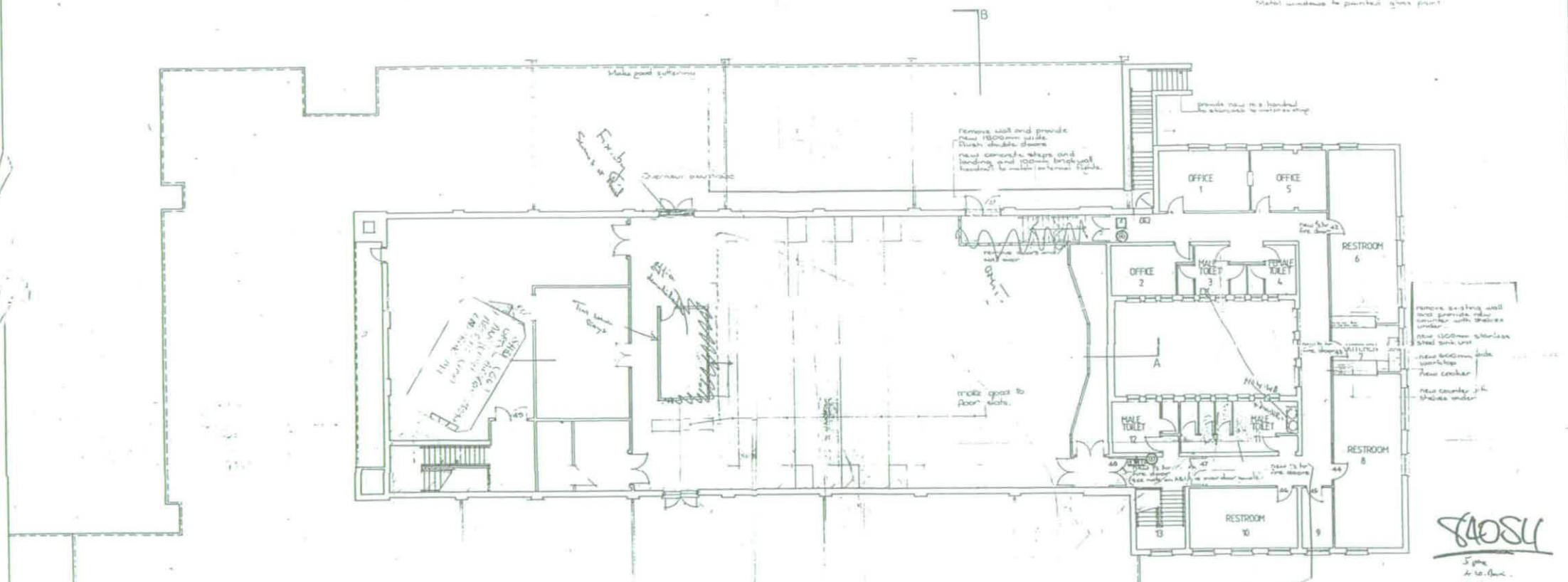
FIRE PROTECTION SYMBOLS. (B.S. 1635)	
FIRE ALARM CALL POINT	⊙
FIRE EXT.	⊕
HOSE REELS	100'
FIRE REPORT: DOE / MOD	FIRE PRECAUTIONS INCORPORATED.
REF: H/S 3042/1	REF: H/S 3042/1
	REF: H/S JANUARY 1981

Sections AA & BB see drg n° AI

Finishes

AREA	WALLS	FLOOR	CEILING
Corridor Rooms 1, 2, 3, 4, 5	alk emulsion	carpet	alk emulsion
Room 6	glass door on existing	glass door on existing	alk emulsion
Room 7	alk emulsion	carpet	alk emulsion
Room 8	ceramic tiles Carpet on wall	special vinyl flooring	alk emulsion

All timber to be painted gloss paint
Metal windows to be painted gloss paint



SAOSU
 5 yrs
 2 to 4 hrs
 12 hrs

PSA/POW Stage <input type="checkbox"/> 1-1 User Requirements <input type="checkbox"/> 2-2 Scheme Design <input type="checkbox"/> 3-3 Feasibility <input type="checkbox"/> 4-4 Detail Design <input type="checkbox"/> 5-5 Survey <input type="checkbox"/> 6-6 Production Info <input type="checkbox"/> 7-7 Outline Proposals <input type="checkbox"/> 8-8 Record Drawing		Project RAF LINDHOLME COMMUNICATIONS CENTRE	
Project Manager (Sign) Director/Region/Area		Check/Level/Zone/Room/Project No.	
Office of Origin North East Region PSA Government Buildings Crowthorne Lat. N. 51° 58' 00" S 332-874411		Title FIRST FLOOR PLAN	
Office Responsible S. J. Hutchinson	Approved T. J. Evans	Type of Drawing	
Drawn	Checked	Date	Scale 1:100
Reference Document		Drawing No	<input type="checkbox"/> Prelim <input checked="" type="checkbox"/> Final
Classification	Set of	Sheet No	AI



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Civil Parish: Hatfield
Name/Address: RAF Lindholme, Bawtry Road, Lindholme

Date taken: 1971

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277K/27

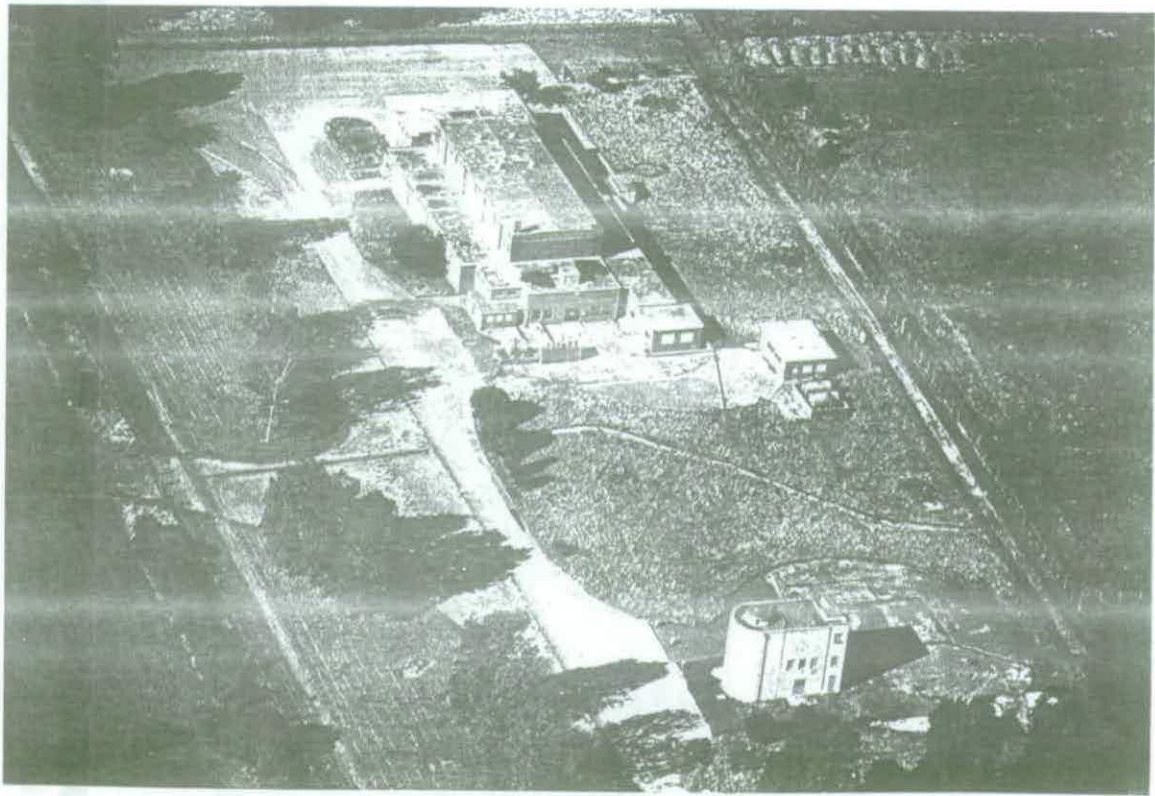
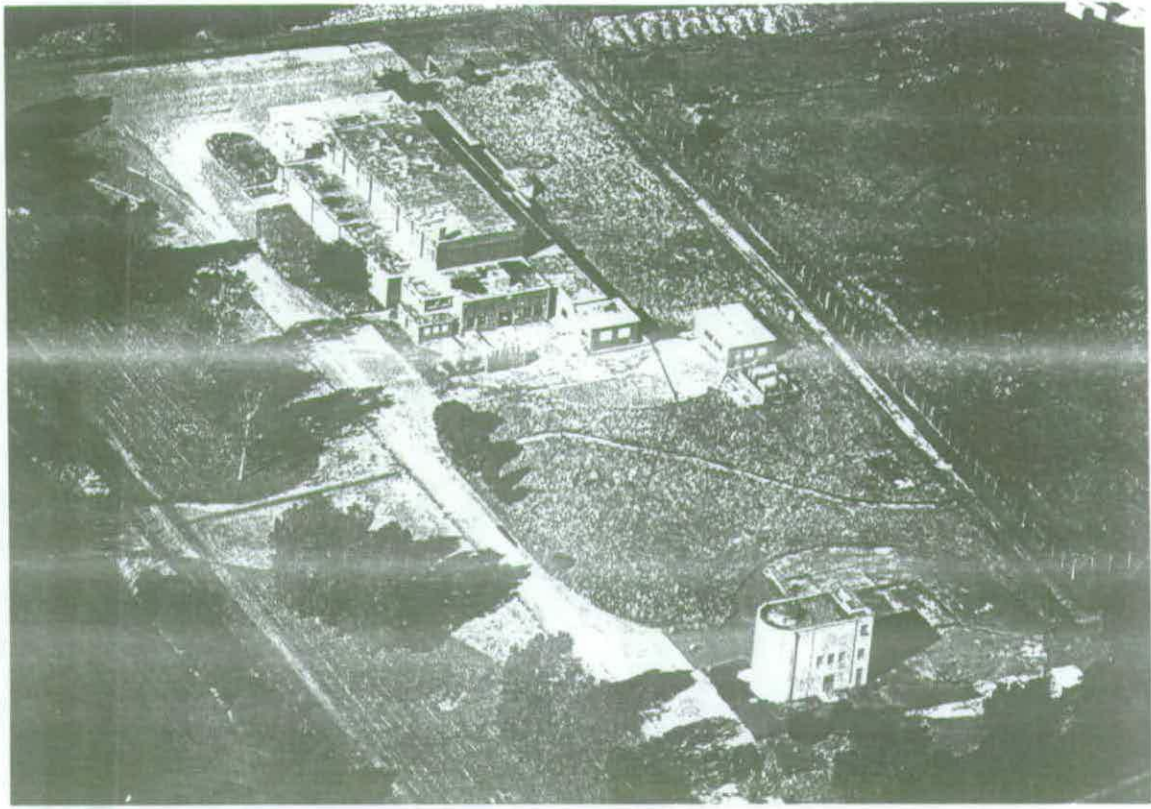


277K/25

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ROYAL COMMISSION ON THE HISTORICAL MONUMENTS OF ENGLAND

HISTORIC BUILDING REPORT

**RAF Watton
(No.24 Wing Tactical Control Centre / Radar)
Norwich Road
Watton
Norfolk**

January 1998

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ROYAL COMMISSION ON THE HISTORICAL MONUMENTS OF ENGLAND

Norfolk

TF905N

Watton

NGR: TF 9267 0063

Norwich Road

NBR No.: 96667

RAF Watton (No.24 Wing Tactical Control Centre)

SUMMARY

The 'Tactical Control Centre' (TCC) and 'Tactical Control Radar' (TCR) were built circa 1960, within the site of the wireless telegraphy station of RAF Watton. The site is situated on rising ground, approximately 500 m (547 yds) west of the airfield's perimeter, on the eastern edge of Watton town. The complex originally consisted of a tactical control centre (operations block), a Type 82 radar head building, a stand-by power generator set house and associated fuel tanks with catchpit, and an entry post, all of which are enclosed by a chain-link perimeter fence.

HISTORY

The history of RAF Watton extends back to 1937, when work commenced on a new bomber aerodrome, as a part of the Air Ministry's Expansion Scheme. The station was opened on the 4th February 1939, operating under the control of No.2 Group, Bomber Command. The aerodrome's wireless telegraphy (W/T) station was dispersed to the west of the main site, to reduce the risk of it being damaged by enemy action. During 1960, the W/T station at RAF Watton became the first site to be equipped with a 'production' Type 82 radar, for the tactical control of Bristol Bloodhound Mk1 missiles.

The origins of the AMES Type 82 radar can be traced back to 1949, when development work on behalf of the Army, commenced on a new three-dimensional radar called Orange Yeoman. The intention was to enable anti-aircraft operation rooms (AAOR) to provide more accurate and rapid tactical control and warning to their gun sites. In addition to Orange Yeoman, parallel development work was being carried out on new anti-aircraft guns, surface-to-air guided weapons (SAGW), and target tracking and illuminating radars (TIR). As time went on, the perceived role of the Orange Yeoman radar gradually changed, becoming inextricably linked to the tactical control of the surface-to-air guided weapons (SAGW).

The Army had instigated the development of two SAGW systems, code-named

Red Duster and Red Shoes. During 1953, the RAF assumed responsibility for the development of SAGW defences for the British Isles, acquiring the SAGW Red Duster, the tracking and illuminating radar Yellow River, and the tactical control radar Orange Yeoman.

A requisition was issued for two prototypes and three production Orange Yeomans. Development work was carried out at the Radar Research and Development Establishment (RRDE), Malvern, Worcestershire, and the first prototype was erected near the Army's AAOR at Frodsham, Cheshire. From the point of view of the RAF, this installation was of little value, as it was built to the Army's 'point defence' requirement, protecting Liverpool and Manchester, rather than the RAF's requirement for the protection of the nuclear deterrent force.

Towards the close of 1955, RAF North Coates on the Lincolnshire coast was selected as the site for the second prototype. Trials were carried out to prove the effectiveness of Orange Yeoman in 'putting-on' the Yellow River tracking and illuminating radar, at an adjacent SAGW site. While these trials were underway, the radar equipment and the missile involved acquired their RAF nomenclature, Orange Yeoman becoming AMES Type 82, Yellow River became AMES Type 83, and Red Duster became the Bloodhound MkI.

The AMES Type 82's role was the provision of long-range early warning of aerial attack over a large geographical area. The information it provided enabled the tactical selection of individual targets, for allocation to the tracking and illuminating radar at particular SAGW sites. The provision of a data link from the operations room of the tactical control centre (TCC) to the SAGW site allowed rapid target acquisition (putting-on) to be achieved by the AMES Type 83 tracking and illuminating radar (TIR). The TIR would then follow the target, feeding information directly to the Bloodhound missile launcher up to the point of launch. The receiver antenna in the missile's nose was already 'locked-on' while still on the launcher, and at the moment of launching, it was aligned with the target in bearing and was elevated at forty-five degrees.

The three production Orange Yeoman (AMES Type 82) equipments originally requisitioned by the Army, were ordered by the RAF in 1956; however, no decision on their deployment was taken until the completion of the acceptance trials of the prototype at North Coates. Eventually, together with the site at North Coates (No.148 Wing HQ & TCC), three production AMES Type 82 radars were installed in 1960; RAF Watton, Norfolk (No. 24 Wing HQ & TCC), RAF North Luffenham, Leicestershire (No. 151 Wing HQ & TCC), and RAF Lindholme, South Yorkshire (No.21 Wing HQ & TCC).

The tactical control centre (TCC) at RAF Watton provided long-range tactical information to three Bloodhound squadrons: No.263 (RAF Watton), No.242 (RAF Marham) and No.266 (RAF Rattlesden). Each site was equipped with two groups of sixteen missiles and two target illuminating radars. The Type

82's association with the Bloodhound MkI missile was short-lived, due to the early obsolescence and abandonment of the system during the summer of 1963. Having lost its intended rôle, the Type 82 radar at RAF Watton was placed under care and maintenance in January 1963.

During January 1966, the equipment became operational once more, when the site became 'Eastern Radar' an Air Traffic Control Radar Unit (ATCRU); manned both by civilian and military personnel. The site continued to operate as an ATCRU until the 31st March 1978, when it was again placed under care and maintenance, ultimately being dismantled late in 1989.

DESCRIPTION

The Eastern Radar ATCRU site at RAF Watton is approximately 58 metres (190 feet) above Ordnance Datum. It is located on the eastern edge of Watton town to the south of the B1108 Norwich Road, approximately 900 m (984 yds) west of the main gate of RAF Watton.

The complex comprises an entry post, the Type 82 radar head building, a stand-by generator set house and associated fuel tanks with catchpit, and the concrete footings of the tactical control centre. Located within the same compound is the former wireless telegraphy (W/T) station, the W/T stand-by set house, two mast bases and a precast concrete defence post.

The complex occupies a sub-rectangular plan site, enclosed by a 2.10 m (7½ feet) high, chain-link boundary fence, topped with three strands of barbed wire. An access road enters the site through the northern perimeter, via a pair of chain-link clad steel gates. A further pair of gates is located towards the north-east corner of the eastern perimeter. The alignment of the southern perimeter fence is displaced to the south by the radar head building.

Entry Post

The entry post is a small timber-framed plywood and glass cubicle with a flat felt covered plywood roof. It is located on the western side of the concrete access road, which was obstructed by a moveable steel-tube 'knife-rest' (An obstacle consisting of a central steel tube which supports a barbed wire coil and rests on a tubular cross trestles). Located in the grass on the opposite side of the road from the entry post are three concrete blocks and a steel tethering ring, which acted as a base for a Gloster Meteor NF Mk 14 'gate-guardian' aircraft.

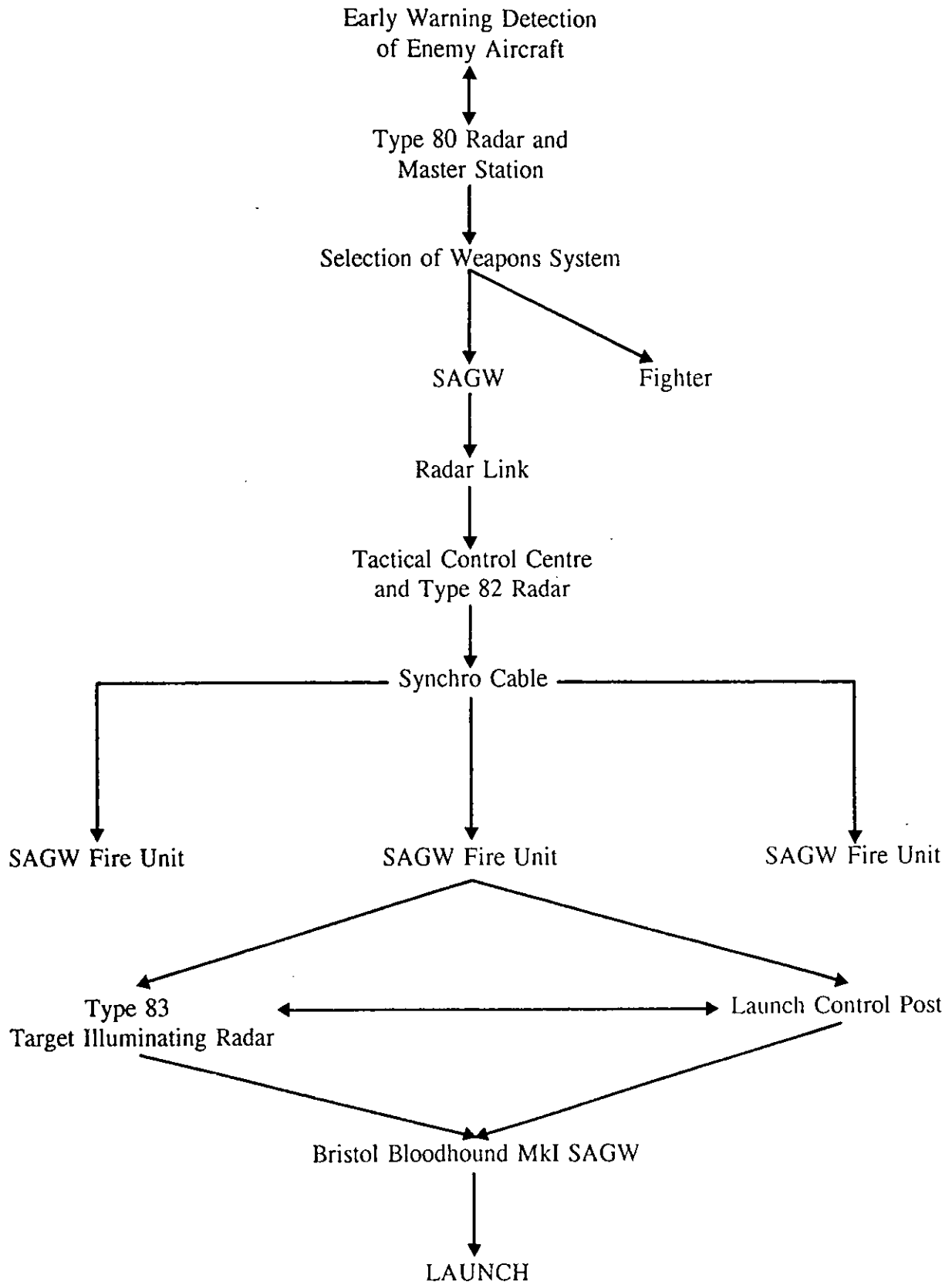
Defence Works

No evidence of modern defence works were observed during the site visit; however, a small hexagonal pre-cast concrete defence post dating from the Second World War survives adjacent to the eastern perimeter.

AMES Type 82 Radar Head Building

The AMES Type 82 (Orange Yeoman) radar head building is located at the south-eastern corner of the site. It was built to a standard design, which was common to RAF North Luffenham and RAF Lindholme. The radar array was mounted on the roof, with ancilliary equipment and five operator consoles contained within the structure. It is a tall three-storey, rectangular plan building, with a five segment, curved west elevation. It is constructed of cement-rendered brick and has a flat reinforced concrete roof concealed behind a low parapet, topped by tubular galvanised steel railings. A circular steel aerial turntable that rotated the radar array remains in situ at the western end of the roof. Angled steel brackets which supported a safety net, project from the segmented curved west elevation and extend a short distance back along the north and south elevations at roof level. A steel lifting-beam at roof

Bloodhound SAGW Launch Sequence



level projects out over tall equipment taking-in doors at first and second floor levels in the east elevation.

A number of doorways, in both the north, south and east elevations permitted access to the interior. Natural illumination to the interior is provided by a variety of types and sizes of steel casement windows. The ground floor is lit by two windows in the north elevation, while the first floor is lit by three windows in both the north and south elevations. The only window at second-floor level is the one which lights the stairs at the eastern end of the building. The stairwell is lit by two windows in both the north and south elevations, indicating five flights of stairs and mezzanine landings. A cross-site feeder cable would have ran from the radar head building to the operations block, but no evidence was found above ground, and it can only be presumed that it ran in ducting underground. A cable duct was however visible running between the stand-by set house and the radar head building.

Stand-by Generator Set House and associated Fuel Tanks & Catchpit

The stand-by generator set house is a tall single-storey, rectangular plan structure, of fair-faced, stretcher bond, brick cavity wall construction, with a flat asphalted concrete roof. A lower single-storey flat roofed sub-station annex is built against the rear east elevation. All elevations are blind. A weather board projection built against the west elevation contains a pair of large double doorways. A large lagged exhaust silencer supported by a steel frame projects from the north elevation.

A welded steel diesel oil tank is located in a rectangular plan, 1.22m (4 ft) high concrete walled catchpit, some 6m (20ft) to the south of the stand-by generator set house. The tank is inclined to the east with the fuel gauges, delivery pipes and valves being situated against the west wall of the catchpit.

The Tactical Control Centre

The tactical control centre was a tall two storey brick structure which housed the operations room, offices etc of No.24 Wing. It was located 120m (131 yds) north-west of the radar head building. During September 1996, the tactical control centre was subject to a severe fire, which resulted in it being demolished by early October 1996. At the time of the survey, the large concrete footings of the structure remained in-situ.

NB No internal access was possible to any of the buildings due to them being boarded up.

Visited April 1997 by:

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35 mm Photography by:

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Drawn Archive:

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Sources

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Schedule of Surviving Structures/Features, 30th April 1997.

<u>Structure/Feature</u>	<u>NGR</u>
Entry Post	TF 9268 0074
Concrete footings of the Tactical Control Centre.	TF 9264 0070
Stand-by Generator Set House	TF 9269 0068
Type 82 Radar Head Building	TF 9273 0060
Defence Post	TF 9275 0068
Stand-by Set House	TF 9275 0071
Wireless Telegraphy Station	TF 9274 0072
Wireless Mast Base	TF 9272 0072
Wireless Mast Base	TF 9272 0071