



Buildings R68 & R69

Building R68

Date of construction - 1974 - 1981

Uses - Testing facility

Construction - Single storey brick building with a flat roof over barge boarding which now represents the main administration block for this part of the R Area, building R47 having been demolished. The building, which is accessed through double doors to the east and has casement windows throughout, has three main components. The main section comprises a series of offices and workshops radiating from a single corridor. This leads into a test area which at the time of survey contained a tank and monitoring equipment for testing explosive materials under pressure. The third component of the building - a small test range, opens onto this chamber and is employed in pyrotechnical testing, the nature of which are indicated by the large vent and extractor equipment on the roof over this part of the building. A number of small and temporary storage magazines are retained in the vicinity of this building.

History - Constructed as part of major redevelopment of the 'R' area in the late 20th century and replaced earlier structures. This episode of expansion may have related to the 1980s amalgamation of RARDE with the Military Vehicle Engineering Establishment (MVEE) and the Propellants, Explosives and Rocket Motor Establishment (PERME), which had been based at Westcott and the Royal Gunpowder Mills at Waltham Abbey.

Significance - Low: no known historical associations of note and is built in a utilitarian style from which no significance is derived. Exact nature of activity carried out here not known.

Designations - N/A

Building R69

Date of construction - 1974 - 1981

Uses - Testing facility.

Construction - A single storey rectangular building with a shallow pitched sheet metal roof. A longitudinal wall divides the building into two halves, both of which are employed in the preparation of materials for testing elsewhere in the R Area. Access is through a single door at the southern end of the building into the western of the two rooms. At this end, a small casement in the western room and a larger example, allowing for the absence of a door, in the eastern side are the only windows. Ventilation units on the western wall illustrate the nature of the materials manipulated in this building. A large metal tank, previously employed as a firing chamber, lies to the south of R69.

History - Constructed as part of major redevelopment of the 'R' area in the late 20th century and replaced earlier structures. This episode of expansion may have related to the 1980s amalgamation of RARDE with the Military Vehicle Engineering Establishment (MVEE) and the Propellants, Explosives and Rocket Motor Establishment (PERME), which had been based at Westcott and the Royal Gunpowder Mills at Waltham Abbey.

Significance - Low: no known historical associations of note and is built in a utilitarian style from which no significance is derived.

Designations - N/A



R68



R68



R69



R69



R70



R71

Buildings R70 & R71

Building R70

Date of construction - 1974 - 1981

Uses - Storage.

Construction - A tall single storey brick garage-type building with a pitched roof clad in asbestos tile. The building is constructed on a concrete plinth and accessed via steps at its western end.

History - Most likely attributed to the construction of the processing building in the western 'R' area in the late 20th century. Has continued in its storage capacity.

Significance - Low: a low level function building not associated with significant periods at Fort Halstead and is built in a very basic utilitarian style.

Designations - N/A

Building R71

Date of construction - 1974 - 1981

Uses - Storage.

Construction - A small brick structure with a flat felt roof accessed by double doors.

History - Most likely attributed to the construction of the processing building in the western 'R' area in the late 20th century. Has continued in its storage capacity.

Significance - Low: a low level function building not associated with significant periods at Fort Halstead and is built in a very basic utilitarian style.

Designations - N/A



Buildings R72 & R73

Date of construction - 1974 - 1981

Uses - Gas bottle storage

Construction - Rectangular structure on a concrete raft with a pitched corrugated metal roof. This surmounts and joins two separate brick garage-type structures and an open corridor dividing the two. As the structure interrupts a fence-line around this part of the R Area, the outside end of this corridor is closed by a wire mesh gate. Each of the structures has a set of double doors opening to the south-east, and each also has a single door on the 'inside' of the area and a single awning window at this end. Double doors perhaps allow small delivery vehicles to be loaded or unloaded under cover.

History - Most likely attributed to the construction of the processing building in the western 'R' area in the late 20th century. Has continued in its role as gas bottle storage and distribution.

Significance - Low: a low level function building not associated with significant periods at Fort Halstead and is built in a very basic utilitarian style.

Designations - N/A





Buildings R74 & R75

Building R74

Date of construction - 1984 - 1985

Uses - Chemical storage.

Construction - Small rectangular brick structure with a concrete slab roof, accessed by steel doors on its eastern side.

History - Modern structure likely attributed to the latter stages of development that took place within the 'R' in the 1980s.

Significance - Low: no known historical associations with nationally important research and development. Is built in a very basic utilitarian style and derives no significance from this.

Designations - N/A

Building R75

Date of construction - 1986 - 1993

Uses - Portable magazine storage.

Construction - Basic roofless rectangular structure composed of concrete blocks.

History - Modern structure likely attributed to the latter stages of development that took place within the 'R' in the 1980s.

Significance - Low: no known historical associations with nationally important research and development. Is built in a very basic utilitarian style and derives no significance from this.

Designations - N/A

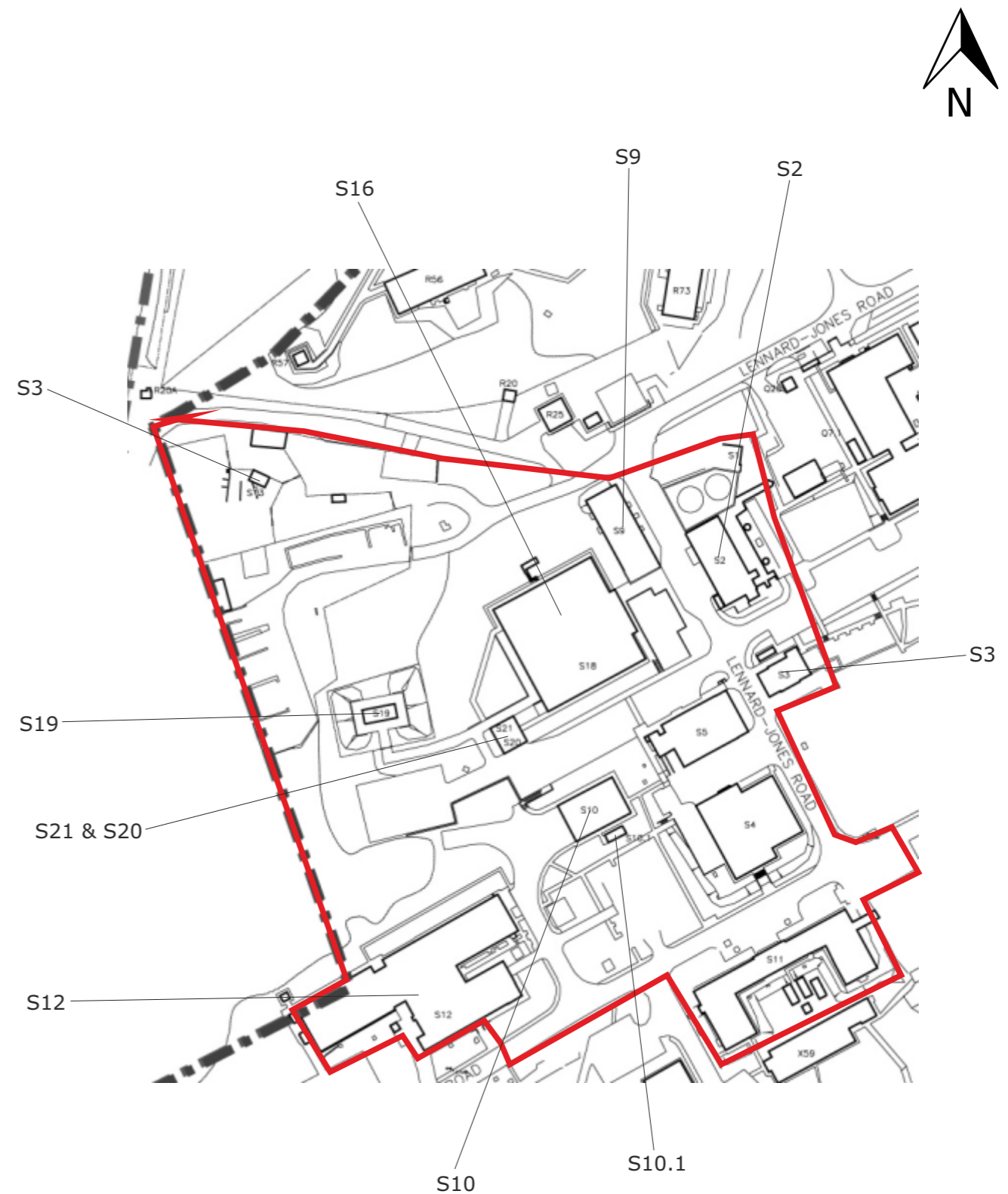
Zone S

HeritageCollective



The earliest buildings in the 'S' area appeared in the late 1940s and 50s and represent a period of rapid expansion at Fort Halstead following the end of the Second World War. Contemporary with the 'Q' area, the 'S' buildings instead focussed on research and development into more 'conventional' armaments. The early programmes of research and development within the 'S' area were carried out in two primary structures - buildings S4 and S5. These two buildings were good indicators of the two main factors that influenced post-war development at Fort Halstead; the eventual inception of research programmes formulated during the war and research into captured German technology. S4 and S5, both constructed between 1947 and 1949, were built to house research facilities that went into operation during the early 1950s. S4 contained an underwater ballistics test tank built for the Admiralty and was intended to assess the underwater behaviour of high velocity missiles. S5 was built to house captured German wind tunnel technology, specifically the A6 and A7 wind tunnels from the Herman Goering Institute at Volkenrode near Brunswick. These two structures no longer exist.

The 'S' areas contain comparatively few buildings, a number of which either comprise services for the 'S' area or the site as a whole. The large boiler house at S2 is contemporary with the large experimental buildings and represents the growing power requirements of the site following major developments during the post-war period. A small number of in-fill buildings have also been constructed during the latter half of the 20th century.





Buildings S1 & S2

Building S1

Date of construction - 1947 - 1949

Uses - Pumping station.

Construction - Whitewashed prefabricated concrete structure with a corrugated metal pitched roof, probably directly related to the boiler house S2 to its south. Built against the external wall of the adjacent oil storage facility, the building has metal casement windows on each of the remaining sides and is accessed by a single door to the west.

History - Related to the experimental 'S' area that was developed in the post-war years. Mostly like constructed to serve the processes that went on S4 and S5.

Significance - Low: some historical associations through its interrelationship with the now demolished experimental S4 and S5 buildings. It is of a generic and utilitarian design and derives no architectural significance from this.

Designations - N/A

Building S2

Date of construction - 1947 - 1949

Uses - Boiler house facility.

Construction - Boiler house facility comprising three main elements, the current structure representing an early 1980s renovation of the original. The main component is a tall rectangular corrugated metal structure with a flat roof, three roller doors surmounted by top-hung transom lights along its western side and a series of louvred vents below its roof line. This is abutted to the north and east by a lower L-shaped range, which also features a roller door to the west and louvred vents along its east side, in which direction outlet pipes connect two very large chimneys. To the north of this complex, a yard defined by a brick wall contains two large cylindrical oil tanks.

History - This is now the now the main boiler house for the site, having previously shared the role with another partly subterranean facility which is shown on maps dating from the Second World War in the region of the extant building H18, the site being divided in half. Run on coal in 1952, this building produced steam whilst the other produced high temperature water and employed five asbestos lined boilers. Condenser pits outside Q7 and H43 are still in-situ. Both were converted to high temperature hot water with chlorifiers in the late 1960s, since which time S2 has come to supply the entire site.

Significance - Low: some historical associations with the highly secretive experimental work carried out at Fort Halstead, particularly in the now demolished S4 and S5 buildings, though it is not directly linked to this work. This area of significance has been diluted through the loss of these buildings. It is representative of Fort Halstead's rapid expansion during the post-war years and the massive energy requirements of the site following the construction of S4 and S5. Its architecture is very utilitarian and its function is clearly read through its design, though it derives little significance from this.

Designations - N/A



Buildings S3 & S9

Building S3

Date of construction - 1947 - 1949

Uses - Substation and possibly generators.

Construction - Single storey brick building with a flat concrete roof. Comprises a main central building arranged symmetrically as two halves, presumably with a longitudinal dividing wall along the centre. Each of these halves has wooden frames inserted beneath a concrete lintel at each end, the frames comprising single and sliding doors with an additional panel over a transom. This central building has vents around each side beneath the roof line. A contemporary lower range stands to the west which has single door at each end and three two-light metal frame windows along its western wall. To the east another slightly longer range, and of apparently later date, is of otherwise identical design to that on the western side of the building.

History - Contemporary with the S4 and S5 and was most likely constructed to serve the massive power requirements of these two structures. It has continued in this role.

Significance - Low: some historical associations through its interrelationship with the now demolished experimental S4 and S5 buildings. It is of a generic and utilitarian design and derives no architectural significance from this.

Designations - N/A

Building S9

Date of construction - 1961 - 1967

Uses - Storage tanks.

Construction - Large rectangular concrete structure adjacent to test building S19. The structure, which is largely subterranean, probably contains some form of storage tanks, the number of which could be indicated by five access hatches in the roof although two larger vents suggest fewer. A relationship with the adjacent but later S19 seems less likely.

History - Aerial photographs suggest that the structure replaced an earlier smaller example, or that this had been enlarged by 1967 to its current extent. If it is indeed part of the site's utility infrastructure S9 is probably related to the main boiler house S2 on the opposite side of Lennard Jones Road

Significance - Low: some historical associations through its interrelationship with the now demolished experimental S4 and S5 buildings though it is not contemporary with them and the structure is of a very basic and utilitarian design and derives no architectural significance from this.

Designations - N/A





Building S4 (Now Demolished)

Included in gazetteer as it, along with S5, was one of the principal structures in the 'S' area.

Date of construction - 1947 - 1949

Uses - Experimental building.

Construction - Constructed in brick over a steel frame with a two storey annexe to the east. Both components have flat roofs behind brick parapets. The main building has casement windows at ground and first storey level on its southern and western sides and also at second storey level to the west. Comparison with historic photographs shows that the latter have replaced smaller originals but offers no explanation for what appears to be replacement brickwork at this level on the building's south face. The annexe has similar windows on all of its exposed sides, although those at first floor level on its south face are also later insertions and all of the windows at this level on its eastern and northern sides have more recently been replaced by sealed mirrored examples as this part of the building now accommodates a secure computer facility. The main structure exhibits three small square lights beneath the roof line on its eastern side, over the annexe. The northern side of the main structure is dominated by a double door surmounted by multi-light windows within a protruding concrete surround to third storey level, and also divided by a similar concrete transom. It contains a main central chamber for the tank which was mounted on supports and apparently fed by a reservoir on the roof, which no longer survives, possibly through a series of what appear to be water inlets lining the chamber walls. The gun that fired projectiles into the tank was mounted on a hydraulic lift platform positioned within the double doors on north side of the building, the control room for which was adjacent to this gun hoist at the mezzanine level. Aside from the tank chamber, the main building comprises administration rooms and what was a small cinema theatre on its ground floor and by offices and laboratories on the second storey. In the main building these are accessed via corridors running along the western and southern sides of the building served by a main stair at the south-western corner of the building, and also by an auxiliary stair at the northwestern corner. The latter provides a fire escape for the lower storeys but also facilitates access to a third storey mezzanine level overlooking the tank chamber. This was used to store the lid of the tank, it having been elevated to this position by an in-situ suspended crane (pictured). The eastern annexe housed a camera floor at first floor level which overlooked the tank chamber, so allowing hi-speed cameras to record the tests. The remainder contained a plant room, water circulation pumps, refrigeration units with freon storage and recovery plant.

History - An underwater ballistics test tank for the Admiralty was proposed in 1944 and authority for its construction at Fort Halstead was received the following year. A Ministry of Supply Memorandum notes that the tank was operational in 1952 in advance of the 9th Underwater Ballistics Conference. Building S4 was designed to house a facility for assessing the underwater behaviour of high velocity missiles, the firing tank of which had capacity for projectiles of up to 2lb in weight to be fired at a velocity of up to 2,000 ft/s. The tank itself, which was constructed in steel and armoured glass panelling, measured 46ft by 10ft and was 10ft deep. It was lit by 48 water cooled gas-arc lamps and featured a three part lid lifted by an in-situ suspended crane and stored on a mezzanine floor overlooking the well in which the firing tank was located. Projectiles of 0.5", 20mm, 1" or 40mm calibre were fired into the tank through an air ejector mounted on a hydraulic platform. Documents at the PRO describe the facility as being based on the German KV1 cavitation tunnel discovered at Gottingen during Operation Surgeon.

Significance - Moderate: significant historical associations with nationally important events related to technological advances in military armaments during the Second World War and the Cold War. Is illustrative of the two main factors that influenced development at Fort Halstead after the Second World War (eventual inception of research programmes formulated during the war and research into captured German technology). With regards to architecture the building derives little interest, being that it is built in a utilitarian design with function being its primary concern (though there is interest in its design as it is likely an exact replica of the building captured by the British T-force after the end of the Second World War).

Designations - N/A





Building S5 (Now Demolished)

Included in gazetteer as it, along with S4, was one of the principal structures in the 'S' area.

Date of construction - 1947 - 1949

Uses - Experimental building.

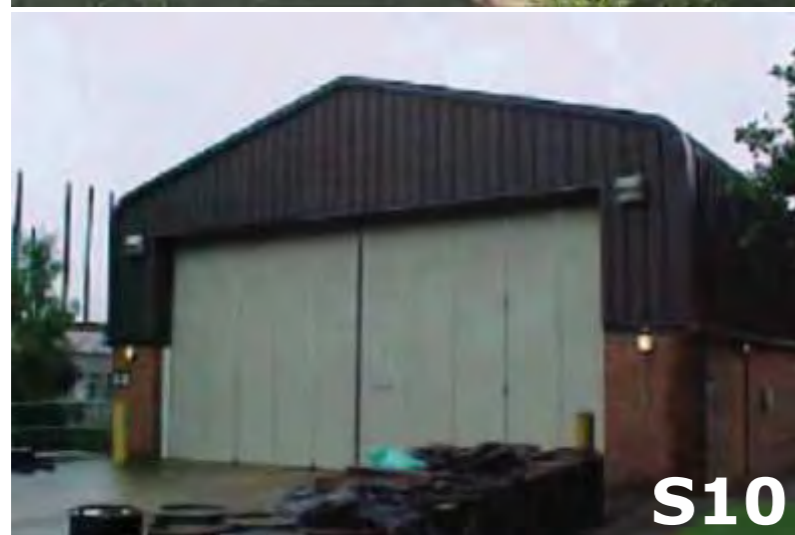
Construction - Large brick structure constructed over a steel frame standing at two very tall storeys beneath a parapeted shallow pitched roof. Its northern side is lined by ten and fifteen light metal casement windows beneath concrete lintels at ground and first floor level respectively. This is now also the case on its southern side, except where these are interrupted at the building's south-west corner by the main double door entrance and an external spiral fire escape from the first floor. However, inspection of a historic photograph of the adjacent S4 appears to show S5 in the background with a much larger expanse of glass on this side, and this replacement could perhaps be seen as a move towards greater secrecy for the activities undertaken within the building. A lower two storey annexe at the east end of the building also has a parapeted pitched roof and features ten light casements around its ground floor, but simpler two light windows above. A separate external entrance on the south side of the annexe has been bricked up. The roof, from which three ventilation chimneys emerge, is accessible by way of an external safety ladder. A smaller single storey extension was added to the west of the building in the early 1960s. This would appear to have originally featured similar windows to the main building on its western face, but these have been replaced with screens and, together with a louvred door on this side, this alteration suggests that this extension houses plant of some kind. Internally the main part of the building featured a large open central space with offices and workshops to the north at ground level and a mezzanine second storey overlooking the central void from the north and east. The eastern annexe features offices and laboratories/workshops on both levels.

History - It is believed that the building was constructed to accommodate a wind tunnel facility, possibly recovered from Germany in the years following the Second World War during Operation Surgeon, and the building featured a basement, accessed by a large internal stair, which apparently originally contained much of the associated plant, including generators which powered the facility. Although the putative wind tunnel and most of its associated equipment had been removed, the building retained an in-situ German suspended crane (pictured) indicating that equipment originally housed in the building may indeed have been recovered as part of Operation Surgeon. Most recently, temporary modules have been inserted to create segregated meeting and office space within the large void at ground and first floor level.

Significance - Moderate: significant historical associations with nationally important events related to technological advances in military armaments during the Second World War and the Cold War. Is illustrative of the two main factors that influenced development at Fort Halstead after the Second World War (eventual inception of research programmes formulated during the war and research into captured German technology). With regards to architecture the building derives little interest, being that it is built in a utilitarian design with function being its primary concern (though there is interest in its design as it is likely an exact replica of the building captured by the British T-force after the end of the Second World War).

Designations - N/A





Buildings S10 & S10.1

Building S10

Date of construction - 1988 - 1993

Uses - Garage.

Construction - Large modern garage structure constructed in brick with an upper superstructure and shallow pitched roof of standing seam metal sheeting. The Building is accessed by a very large set of sliding garage doors at its south-western end, single doors on its southern side and a set of louvred double doors to the east. The building's only window is set next to this doorway.

History - An in-fill structure not attributed to any major phase of development at Fort Halstead

Significance - Low: a modern in-fill structure that has no historical or architectural interest.

Designations - N/A

Building S10.1

Date of construction - 1981 - 1985

Uses - Generator.

Construction - A portable generator or substation immediately to the south of S10.

History - An in-fill structure not attributed to any major phase of development at Fort Halstead.

Significance - Low: a modern in-fill structure that has no historical or architectural interest.

Designations - N/A



Buildings S12 & S13

Building S12

Date of construction - 1953 - 1957 (since extended)

Uses - Forensic analysis.

Construction - Complex of buildings comprising three main components. The original portion comprises two brick built flat roofed ranges, the single storey front south-eastern range being overlooked by a clerestory of the taller range behind. This section of the building has a central double entrance with a transom light and side lights slightly recessed into this facade. It is now flanked by a variety of replacement pvc casement windows, as is the taller storey behind, although in the overlooking range behind three of the six light casements have been in-filled in the centre. A large laboratory facility was built to the rear of the original building in the early 1990s, the two connecting at their south-western ends. This structure, which is similar in design to the contemporary buildings A28 and X48 elsewhere on the site, is constructed in brick with a standing seam catslide roof. This is though cut back in the centre of its south-eastern side to accommodate two groups of tall ventilation rods which are stabilised by wires anchored to either side. The building has small sash windows running along its south-eastern and north-western sides, whilst four sets of louvred double doors at this buildings north-eastern end indicate the presence of a substation, and possible hazardous material stores, in this part of the building. The final part of the complex was added to the south-west of the later building in the late 1990s, the two being connected by a cover vehicle port. This latest structure is of similar construction, brick built with a standing seam metal upper and pitched roof and sash windows.

History - Built slightly later than the neighbouring structures and since heavily altered and expanded throughout the later years of the 20th century. The original elements most likely contained laboratories or workshops with the extensions being used for forensic analysis. The principal functions of Fort Halstead in recent years have included forensic analysis, which likely relates to the expansion of the S12.

Significance - Low: limited associations with known nationally important research and development due to late build date and is of little architectural interest.

Designations - N/A

Building S13

Date of construction - 1974 - 1981

Uses - Waste storage.

Construction - A single storey brick garage constructed on a concrete platform with a flat corrugated metal roof over barge boarding. The structure is windowless and accessed from the north through a set of double doors or through a single door at its opposite end. The concrete platform extends to the west where it supports a pair of concrete block walls which probably represent a vehicle port of some kind.

History - A relatively modern in-fill structure not attributed to any major phase of development at Fort Halstead.

Significance - Low: a modern in-fill structure that has no historical or architectural interest.

Designations - N/A





Buildings S18 & S19

Building S18

Date of construction - 1984 - 1985

Uses - Offices and laboratories.

Construction - A large two storey laboratory building arranged around a central courtyard. The building is constructed in concrete and brick over a steel frame with two large brick built service towers extending to three storeys which probably house main stairwells and possibly lifts. On each side, the upper storey is jettied out over the lower on concrete pillars, with the intervening ground floor walls being composed of pvc door or window surrounds or brick in-fill. Each range has a sloping roof although this is cut back on the interior of the north and south sides from where two rows of tall ventilation rods emerge. The main access to the building is from the north across an area of brick paving. The building, which features pvc awning and fixed windows throughout, was not accessed but the design would suggest a main ground floor corridor around the interior of the building.

History - Not attributed to any major phases of development at Fort Halstead. Reasons for construction are unknown other than to provide additional laboratory space.

Significance - Low: no known historical associations with nationally important research and development, most likely due to its later build date. Has some architectural interest in that it is built in a style similar to other contemporary structures in the country.

Designations - N/A

Building S19

Date of construction - 1984 - 1985

Uses - Magazine

Construction - Rectangular magazine structure with a flat roof set between two earth mounds to the west and east, themselves supported against reinforced concrete revetment walls surmounted by metal railings. Unlike that to the east, the space between the revetment and the magazine at its western end is covered, providing sheltered access from this end.

History - A later in-fill building not attributed to any major phases of development at Fort Halstead.

Significance - Low: no known historical associations with nationally important research and development, most likely due to its later build date. Is built in a very basic utilitarian style and derives no significance from this.

Designations - N/A



Buildings S20 & S21

Building S20

Date of construction - 1984 - 1985

Uses - Hazardous material storage.

Construction - Single storey brick structure with a sloping flat roof over weatherboarding. The entirety of the structure's southern frontage is comprised of louvred wooden doors between the internal brick partition walls.

History - A later in-fill building not attributed to any major phases of development at Fort Halstead.

Significance - Low: no known historical associations with nationally important research and development, most likely due to its later build date. Is built in a very basic utilitarian style and derives no significance from this.

Designations - N/A

Building S21

Date of construction - 1984 - 1985

Uses - Hazardous material storage.

Construction - Single storey brick structure with a sloping flat roof over weatherboarding. The entirety of the structure's northern frontage is comprised of louvred wooden doors between the internal brick partition walls.

History - A later in-fill building not attributed to any major phases of development at Fort Halstead.

Significance - Low: no known historical associations with nationally important research and development, most likely due to its later build date. Is built in a very basic utilitarian style and derives no significance from this.

Designations - N/A





Buildings S4 (Now Demolished)

Included in gazetteer as it, along with S5, was one of the principal structures in the 'S' area.

Date of construction - 1947 - 1949

Uses - Experimental building.

Construction - Constructed in brick over a steel frame with a two storey annexe to the east. Both components have flat roofs behind brick parapets. The main building has casement windows at ground and first storey level on its southern and western sides and also at second storey level to the west. Comparison with historic photographs shows that the latter have replaced smaller originals but offers no explanation for what appears to be replacement brickwork at this level on the building's south face. The annexe has similar windows on all of its exposed sides, although those at first floor level on its south face are also later insertions and all of the windows at this level on its eastern and northern sides have more recently been replaced by sealed mirrored examples as this part of the building now accommodates a secure computer facility. The main structure exhibits three small square lights beneath the roof line on its eastern side, over the annexe. The northern side of the main structure is dominated by a double door surmounted by multi-light windows within a protruding concrete surround to third storey level, and also divided by a similar concrete transom. It contains a main central chamber for the tank which was mounted on supports and apparently fed by a reservoir on the roof, which no longer survives, possibly through a series of what appear to be water inlets lining the chamber walls. The gun that fired projectiles into the tank was mounted on a hydraulic lift platform positioned within the double doors on north side of the building, the control room for which was adjacent to this gun hoist at the mezzanine level. Aside from the tank chamber, the main building comprises administration rooms and what was a small cinema theatre on its ground floor and by offices and laboratories on the second storey. In the main building these are accessed via corridors running along the western and southern sides of the building served by a main stair at the south-western corner of the building, and also by an auxiliary stair at the northwestern corner. The latter provides a fire escape for the lower storeys but also facilitates access to a third storey mezzanine level overlooking the tank chamber. This was used to store the lid of the tank, it having been elevated to this position by an in-situ suspended crane (pictured). The eastern annexe housed a camera floor at first floor level which overlooked the tank chamber, so allowing hi-speed cameras to record the tests. The remainder contained a plant room, water circulation pumps, refrigeration units with freon storage and recovery plant.

History - An underwater ballistics test tank for the Admiralty was proposed in 1944 and authority for its construction at Fort Halstead was received the following year. A Ministry of Supply Memorandum notes that the tank was operational in 1952 in advance of the 9th Underwater Ballistics Conference. Building S4 was designed to house a facility for assessing the underwater behaviour of high velocity missiles, the firing tank of which had capacity for projectiles of up to 2lb in weight to be fired at a velocity of up to 2,000 ft/s. The tank itself, which was constructed in steel and armoured glass panelling, measured 46ft by 10ft and was 10ft deep. It was lit by 48 water cooled gas-arc lamps and featured a three part lid lifted by an in-situ suspended crane and stored on a mezzanine floor overlooking the well in which the firing tank was located. Projectiles of 0.5", 20mm, 1" or 40mm calibre were fired into the tank through an air ejector mounted on a hydraulic platform. Documents at the PRO describe the facility as being based on the German KV1 cavitation tunnel discovered at Gottingen during Operation Surgeon.

Significance - Moderate: significant historical associations with nationally important events related to technological advances in military armaments during the Second World War and the Cold War. Is illustrative of the two main factors that influenced development at Fort Halstead after the Second World War (eventual inception of research programmes formulated during the war and research into captured German technology). With regards to architecture the building derives little interest, being that it is built in a utilitarian design with function being its primary concern (though there is interest in its design as it is likely an exact replica of the building captured by the British T-force after the end of the Second World War).

Designations - N/A





Buildings S5 (Now Demolished)

Included in gazetteer as it, along with S4, was one of the principal structures in the 'S' area.

Date of construction - 1947 - 1949

Uses - Experimental building.

Construction - Large brick structure constructed over a steel frame standing at two very tall storeys beneath a parapeted shallow pitched roof. Its northern side is lined by ten and fifteen light metal casement windows beneath concrete lintels at ground and first floor level respectively. This is now also the case on its southern side, except where these are interrupted at the building's south-west corner by the main double door entrance and an external spiral fire escape from the first floor. However, inspection of a historic photograph of the adjacent S4 appears to show S5 in the background with a much larger expanse of glass on this side, and this replacement could perhaps be seen as a move towards greater secrecy for the activities undertaken within the building. A lower two storey annexe at the east end of the building also has a parapeted pitched roof and features ten light casements around its ground floor, but simpler two light windows above. A separate external entrance on the south side of the annexe has been bricked up. The roof, from which three ventilation chimneys emerge, is accessible by way of an external safety ladder. A smaller single storey extension was added to the west of the building in the early 1960s. This would appear to have originally featured similar windows to the main building on its western face, but these have been replaced with screens and, together with a louvred door on this side, this alteration suggests that this extension houses plant of some kind. Internally the main part of the building featured a large open central space with offices and workshops to the north at ground level and a mezzanine second storey overlooking the central void from the north and east. The eastern annexe features offices and laboratories/workshops on both levels.

History - It is believed that the building was constructed to accommodate a wind tunnel facility, possibly recovered from Germany in the years following the Second World War during Operation Surgeon, and the building featured a basement, accessed by a large internal stair, which apparently originally contained much of the associated plant, including generators which powered the facility. Although the putative wind tunnel and most of its associated equipment had been removed, the building retained an in-situ German suspended crane (pictured) indicating that equipment originally housed in the building may indeed have been recovered as part of Operation Surgeon. Most recently, temporary modules have been inserted to create segregated meeting and office space within the large void at ground and first floor level.

Significance - Moderate: significant historical associations with nationally important events related to technological advances in military armaments during the Second World War and the Cold War. Is illustrative of the two main factors that influenced development at Fort Halstead after the Second World War (eventual inception of research programmes formulated during the war and research into captured German technology). With regards to architecture the building derives little interest, being that it is built in a utilitarian design with function being its primary concern (though there is interest in its design as it is likely an exact replica of the building captured by the British T-force after the end of the Second World War).

Designations - N/A



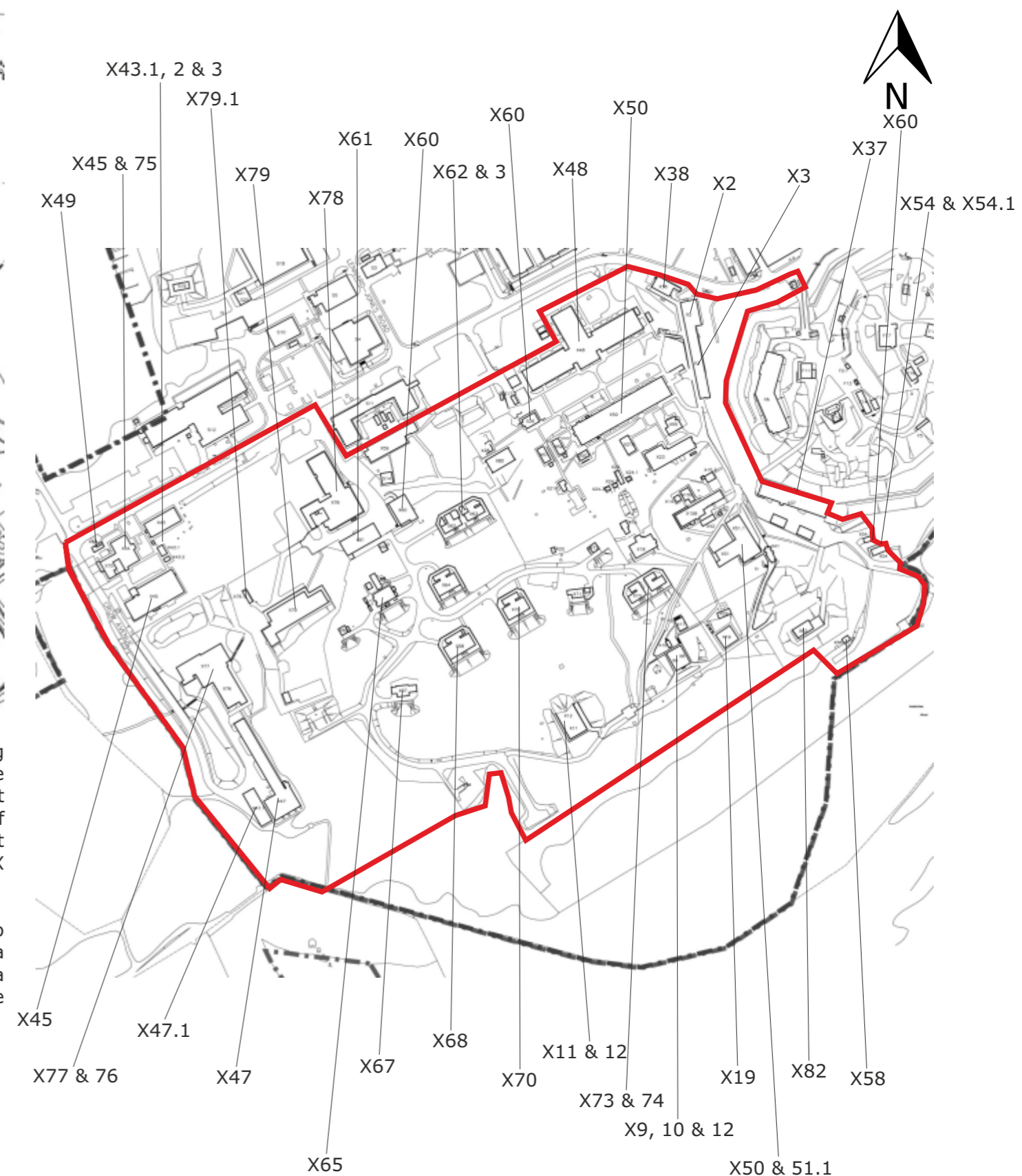
Zone X

HeritageCollective



The X area is the largest area at Fort Halstead and contains the greatest number of buildings. Along with areas A and H, the X area formed part of one of the earliest phases of development following the arrival to Fort Halstead of research and development teams during the Second World War. The first structures to appear in the area were concerned with explosive storage and testing as well as a variety of supporting structures and represent some of the earliest examples of these building types at Fort Halstead. The arrival of Penney and his HER team in 1947 saw a portion of the eastern end of the X area devoted to research and development into the atomic bomb.

Following the departure of the HER team to Aldermaston in 1949 the X area was subject to developments associated with more conventional armaments during the post-war years. The area was also subject to in-fill construction throughout the middle of the 20th century but the northern area underwent a major programme of reconstruction in the early 1980s. A number of buildings were constructed as later in-fill structures and date to the late 20th century.





Buildings X1

Date of construction - 1947

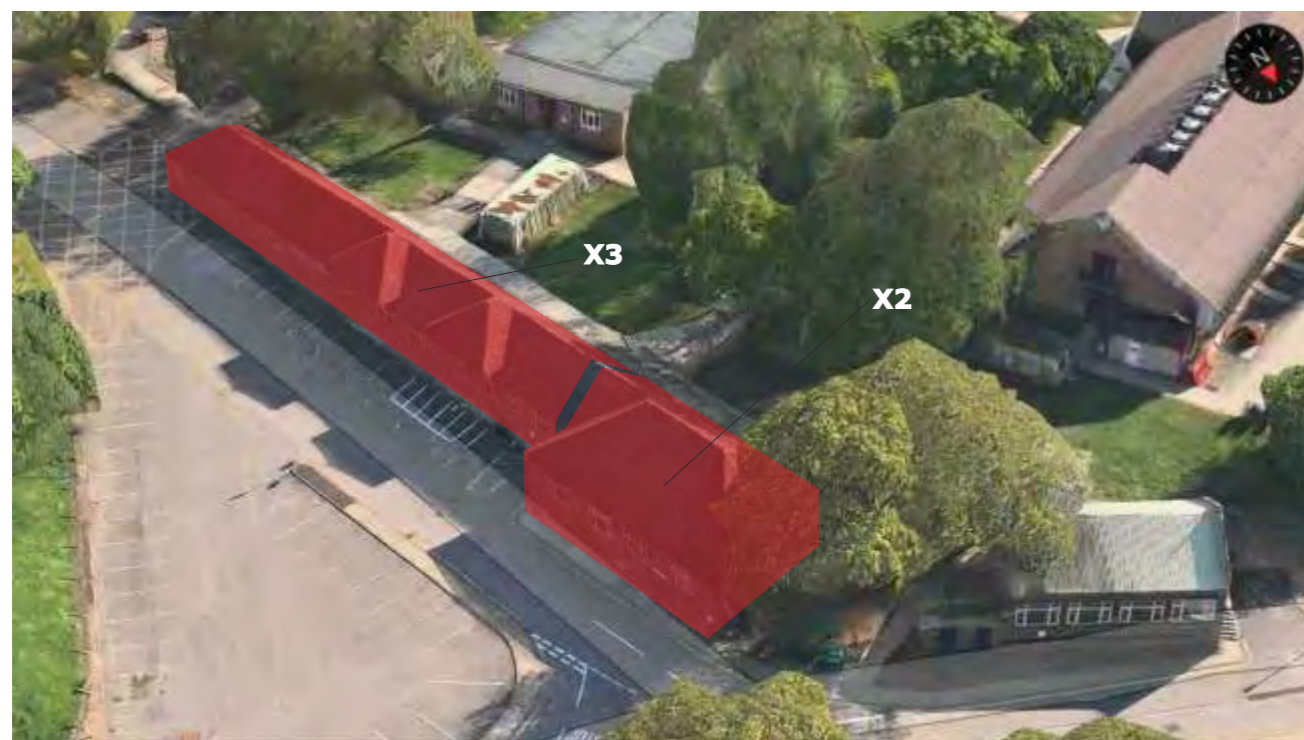
Uses - Pumping Station

Construction - A single storey brick structure with a leaded flat roof. The building has a single metal casement window on its northern side and is accessed through a single set of double doors to the east, both of which have wood fronted concrete lintels. The doors are screened by a large brick wall along this side of the building, the purpose of which is unclear. Tank hatches lie to the north, on a concrete plinth, and to the south through a brick rostrum.

History - Up until 1947 this site was occupied by a series of small structures assumed to be pumping station associated with adjacent subterranean water tank. The tank was rebuilt as a larger structure and the present X1 is thought to be contemporary with it. The enlarged tank is understood to have resulted in some infilling of the moat.

Significance - Low: some historical associations with the early phases of development at Fort Halstead and the subsequent arrival of the research and development teams during the Second World War, though its use as a pumping stations means these associations are relatively limited. Its standard utilitarian architecture means it derives no architectural interest from this.

Designations - N/A



Buildings X2 & X3

Building X2

Date of construction - 1936 - 1944

Uses - Originally CEAD stores. Now offices.

Construction - Single storey brick building with a tiled hipped roof featuring two small vents on its western side, apparently constructed as one with the lower and narrower X3 adjoining to its south. A covered walkway of corrugated plastic supported on metal posts runs along the western side of both buildings. X2 is accessed by a single door with a transom light on its western side and by two similar fire escape doors to the north, which each have a transom and side light. The building retains its original metal casement windows throughout. Internally it now features modern utilities and a suspended ceiling.

History - Attributed to one of the first phases of development at Fort Halstead. In 1947 the building is labelled as a store in the control of the Chief Engineer of Armament Development (CEAD) but it appears to have since been converted to an office function.

Significance - Moderate: historical associations with the ADD and the nationally important research and development into armaments that was undertaken during the Second World War. The building displays a more domestic appearance when compared to neighbouring contemporary structures and derives some architectural interest from this. Forms part of the setting of the Fort and Q14.

Designations - N/A

Building X3

Date of construction - 1936 - 1944

Uses - CSAR Offices. Later a shifting house.

Construction - A long narrow brick range with a hipped tile roof running south from building X2. The building comprises a series of segments separated by brick partitions, several of which have single external doors onto the partly covered walkway to the west. The segments are connected by internal doorways along this side of the building where a corridor has been formed by the introduction of internal wooden partitions to provide segregated spaces. The original metal casement windows are retained throughout the building.

History - Attributed to one of the first phases of development at Fort Halstead. It is labelled as 'CSAR Office Block' in 1947, although it is described as a shifting house in 1944 and 1949, suggesting continued use in this role, probably in support of the nearby X Area test buildings. It now comprises recently decommissioned offices.

Significance - Moderate: historical associations with the ARD and the nationally important research and development into armaments that was undertaken during the Second World War. The building displays a more domestic appearance when compared to neighbouring contemporary structures and derives some architectural interest from this. Forms part of the setting of the Fort and Q14.

Designations - N/A



Buildings X4, X5 & X6

Date of construction - 1936 - 1944

Uses - Magazines

Construction - A row of small magazines in the south-eastern corner of the X Area. These are restricted and could not be accessed during the survey but would appear to be of reinforced concrete construction, probably with concrete slab roofs, and are concealed by mounded earth on their northern side. They are accessed from a gated area to the east via a concrete revetted walkway with a corrugated plastic sheet canopy. Photographs obtained from the site management show a set of reinforced steel double doors opening onto this corridor from each of the magazines.

History - Amongst the earliest buildings in this part of the site and was purpose built to store explosives by the research and development teams arriving at Fort Halstead during the Second World War.

Significance - Moderate: some of the earliest magazines at Fort Halstead and have historical associations with the nationally important research and development undertaken at Fort Halstead during the Second World War, though they would not have been directly involved with this work due to their relatively low level function as magazines. Architecturally, the building derive some interest as examples of early to mid 20th century magazines though by their nature, are functional and utilitarian in design.

Designations - N/A



Buildings X8, X9 & X10

Buildings X8 & X9

Date of construction - 1936 - 1944

Uses - CSAR testing. Has remained in a testing capacity.

Construction - A rectangular firing point structure comprising a pair of explosive testing chambers and their respective control rooms. Constructed in reinforced concrete over a steel frame, the structure is surrounded to the north-east and west by deep narrow corridors defined by high concrete revetment walls backed by mounded earth. The control rooms are accessed from the northern corridor through single steel doors. The testing chambers, which are lined with steel plate, open to the south onto a massive reinforced concrete wall over which runs the large extractor vent required by the tests. Three steel shuttered apertures in each explosive chamber allow monitoring and recording of the tests from the control rooms through a substantial brick lined concrete partition wall.

History - Amongst the earliest buildings in this part of the site and was purpose built to facilitate explosives testing by the research and development teams arriving at Fort Halstead during the Second World War and later Penney's HER team and their work on the atomic bomb. Its location outside the confines of fort's earth mounds suggests the testing carried out within the structures was of a lower security level than the explosive test chambers of F16 and F17. It has remained in an explosive testing capacity.

Significance - Moderate: has significant historical associations with the top secret research and development into the prototype armaments conducted by the ARD. Formed part of the secure inner area of the HER teams enclave and would have been directly related to the work carried out by Penney's atomic weapons team. The building is labelled as 'CSAR 'X' building' in 1947. In terms of architecture the building has a utilitarian design solely concerned with function and safety and the interior is of aesthetic and evidential value as a strong indicator of use.. From this the building derives little significance.

Designations - N/A

Building X10

Date of construction - 1936 - 1944

Uses - Vent unit serving X8 and X9.

Construction - A small rectangular brick structure with a sloping corrugated metal roof, a single fixed window in its eastern face and a single door to the south approached by a short brick stair between retaining walls.

History - Contemporary with the firing point structure of X8 and X9, this structure is labelled as a vent unit on the plan of 1947 and probably continues in the same function, housing plant related to the adjacent explosive test chambers.

Significance - Low: Of little architectural or historical interest. Any significance is derived solely from historical associations with other structure related to some of the earliest research and development that took place at Fort Halstead and later, the nationally important work carried out by Penney's HER team (though only in a support capacity, and not as being directly involved with the work) and for being one of the earliest structures in this part of the site. The building is of generic and utilitarian architecture and derives no significance from this.

Designations - N/A



Buildings X11, X12 & X13

Date of construction - 1936 - 1944

Uses - Magazine

Construction - Large reinforced concrete structure seemingly cut into the natural ground level and surrounded by a corridor defined by a substantial concrete revetment wall backed by mounded earth. Deep and narrow on its western and southern sides and wider to the east, this corridor is covered by a plastic canopy on all sides. The structure comprises three large magazine chambers, as apparent from the three rows of four vents protruding from the structure's turfed roof, access to which is through steel double doors from the eastern corridor.

History - Amongst the earliest building in this part of the site and was purpose built to store explosives by the research and development teams arriving at Fort Halstead during the Second World War. It continues to be used in this capacity.

Significance - Moderate: one of the earliest magazine at Fort Halstead and has historical associations with the nationally important research and development undertaken at Fort Halstead during the Second World War, though they would not have been directly involved with this work due to their relatively low level function as magazines. Architecturally, the building derive some interest as examples of early to mid 20th century magazines though by their nature, are functional and utilitarian in design.

Designations - N/A





Buildings X14, X15C & X15

Buildings X14 & X15C

Date of construction - 1974 - 1981

Uses - Drop testing. Laboratory or preparation.

Construction - A brick structure comprising two separate components, now combined, each with a flat roof. The eastern section (X15C) is of earlier date, appearing to represent what was the northern part of a structure shown from 1953 which consisted of three such arms around a central block. It is a single storey structure with a single door to the west and large two light windows to the north and east, the upper light in each case hung as an awning sash, which probably represent later insertions. The south-western section (X14) stands at two storeys and is windowless, although it has a separate single external door to the east.

History - In-fill building built to accommodate testing facilities. Not attributed to any major phase of development at Fort Halstead.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a functional, utilitarian style from which no architectural significance is derived.

Designations - N/A



X14 & X15C

Building X15

Date of construction - 1967 - 1972 (since extended)

Uses - Laboratory.

Construction - A single storey brick building with a pitched tiled roof, now connected to building X15B to its east through the insertion of a narrower extension of similar construction. The building has modern pvc casement windows on all but this eastern side, and twin single doors beneath wall vents and a canopy supported by metal stanchions in the centre of its western facade. The building was not accessed during the survey, but these suggest a symmetrical arrangement of rooms, at least at this end. The southern end of the building features two very large freestanding extraction flues on its southern side. A free standing brick gas cylinder holder also stands against this side of the building.

History - Replaced an earlier structure though has always fulfilled a role as a laboratory.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a functional, utilitarian style from which no architectural significance is derived.

Designations - N/A



X15



X15



Buildings X15.3 & X15B

Building X15.3

Date of construction - 1974 - 1978

Uses - Drop testing facility.

Construction - A two storey brick structure with a flat roof and a more recent brick entrance annex built to accommodate the single door in its eastern face. Large fixed light windows provide good light to the tall upper storey of the main structure, whilst the lower features smaller awning windows and a ventilation unit.

History - In-fill structure not attributed to any major phase of development at Fort Halstead.

Significance - Low: no historical associations with important elements of Fort Halstead's past and was purpose-built structure with an internal configuration that illustrates the historic use. It is built in a functional, utilitarian style from which no architectural significance is derived.

Designations - N/A

Building X15B

Date of construction - 1949 - 1953

Uses - Laboratory

Construction - Single storey brick building with a flat roof, now an annex of X15 to its west but appearing to pre-date this larger building as the eastern arm of its precursor. On its southern and eastern sides the building has modern replacement casement windows and single doors, that to the south featuring transom and side lights. A small water tank is positioned on the roof.

History - Built towards the tail end of a major phase of development at Fort Halstead, following the departure of the HER team from Fort Halstead to Aldermaston in 1949. It is likely attributed to other research and development organisations that arrived at Fort Halstead following the conclusion of the Second World War and the beginning of the Cold War.

Significance - Low: some historical associations with the post-war period of Fort Halstead but its function as a magazine indicates it wasn't directly involved with the testing of experimental armaments that form a significant element of the site's historical significance. In terms of architecture interest the building derives little from its generic utilitarian design.

Designations - N/A



X15.3



X15.3



X15.3



X15B



Buildings X16 & X18

Building X16

Date of construction - 1947 - 1949

Uses - Testing.

Construction - Single storey L-shaped brick structure constructed on a concrete raft foundation and with a concrete slab roof. It comprises two rooms, both of which are accessed from the north-east. The south-eastern features a single doorway, now occupied by a replacement steel door, and a single window, also now blocked by steel shuttering, both of which lie beneath a substantial concrete lintel. A small lean-to with a sloping roof and louvred wooden double doors also stands against this part of the building. The north-western section now has a replacement steel double door, also beneath a concrete lintel, whilst another door to the south-west has been sealed. As the steel shuttering suggests, both rooms have been converted at some point to accommodate explosive testing. The ceiling of each has been reinforced with corrugated metal sheeting and both feature pulley systems for moving heavy materials, whilst the north-western room is lined with wooden planking to absorb shrapnel. This part of the building also features apertures beneath the roof line to allow fumes to escape, and these are encased on the outside by wooden skirting, presumably also to prevent the escape of shrapnel.

History - Along with X21B and X28, this building represents a survivor of the ancillary buildings constructed between 1947 and 1953 to accompany each of the CSAR 'X' buildings that originally occupied this area, of which none remains.

Significance - Low: some historical associations with the post-war period of Fort Halstead but its function as a magazine indicates it wasn't directly involved with the testing of experimental armaments that form a significant element of the site's historical significance. In terms of architectural interest the building derives little from its generic utilitarian design.

Designations - N/A

Building X18

Date of construction - 1974 - 1981

Uses - Heavy engineering laboratory.

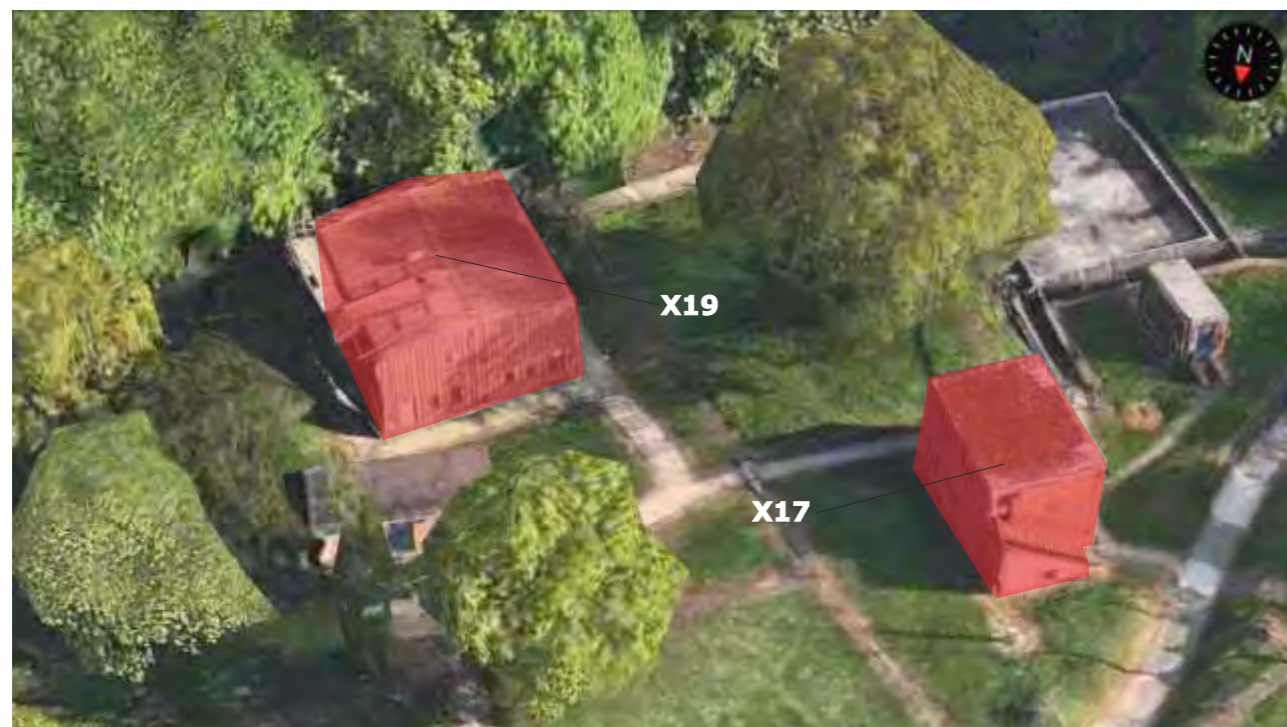
Construction - A large brick warehouse structure with a flat roof over barge boarding. At the eastern end of the building the main access is provided by double doors on both its northern and southern sides. These are overlooked by two casement windows high in the eastern facade, flanking a brick lean-to gas cylinder store, and two further such windows are similarly arranged to the west of each of the double doors. Features a renovated overhead crane. A lower near contemporary annexe built onto the western end of the building has small casement windows on each of its remaining three sides. This previously accommodated a vibration laboratory and is sound proofed for this purpose. A smaller annexe was built onto the north side of the main building between 1985 and 1988. This was constructed as a compressor room, and the main building contains large metal vents emerging from it.

History - In-fill support structure not attributed to any major phase of development at Fort Halstead.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a functional, utilitarian style from which no architectural significance is derived.

Designations - N/A





Buildings X17 & X19

Date of construction - 1972 - 1974

Uses - Control building for X8 and X9 test chambers. Storage.

Construction - Two storey brick building with a flat roof over barge boarding. At ground level the building contains two rooms, one extending behind the other, both of which are accessed through separate doors on its south western frontage. The smaller of these two rooms at the front of the building has an original four-light casement window, whilst that behind features similar examples to the north-east and south-east. The upper storey, which comprises a single room, is accessed by an external brick staircase at the building's northwestern end. This upper storey exhibits what appears to be replacement brickwork on its south-western and north-western sides, and the absence of windows on these sides of the upper storey would suggest that this reflects in-filling of these features although the putative replacement brickwork is surprisingly neat.

History - Formed part of the expansion of the site carried out during the late 20th century.

Significance - Low: Of little interest with regards to architecture other than being a relatively rare building type. It has minor historical interest through its association with buildings X8 and X9 though the later date of construction means this interest is limited.

Designations - N/A

Building X19

Date of construction - 1986 - 1988

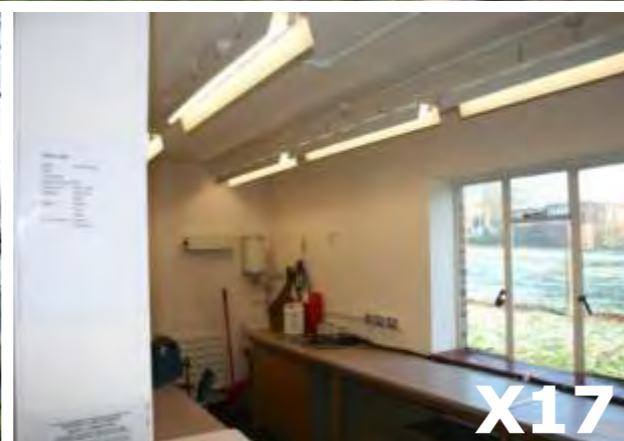
Uses - Bofors testing facility.

Construction - A large modern warehouse structure with a pitched roof constructed as a steel frame with standing seam metal cladding. Each side features a row of small casement windows and single doors are positioned at each corner. Internally the building is essentially divided longitudinally, with half of the building comprising a large workshop housing the chamber itself, and the requisite plant to operate it, and the other half comprising a camera room, from where the tests are measured and recorded, and a small control room. The partition between the two features a series of apertures which line up with windows on the side of the tank and through which the tests can be filmed by specialist cameras.

History - In-fill structure not attributed to any major phases of construction at Fort Halstead.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a functional, utilitarian style from which no architectural significance is derived.

Designations - N/A





Buildings X20 & X21B

Building X20

Date of construction - 1961 - 1967

Uses - Emergency shower facility.

Construction - A small single storey brick structure with a flat roof. It is positioned at the end of a paved drain and so would appear to have been deliberately positioned away from other nearby buildings. It is accessed, via a short brick stair and a single doorway on its eastern side and has simple casement windows to the north and west. Internally it is tiled and has a water tight floor and would appear to have contained some form of partition.

History - In-fill structure not attributed to any major phases of construction at Fort Halstead.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a functional, utilitarian style from which no architectural significance is derived.

Designations - N/A

Building X21B

Date of construction - 1949 - 1953

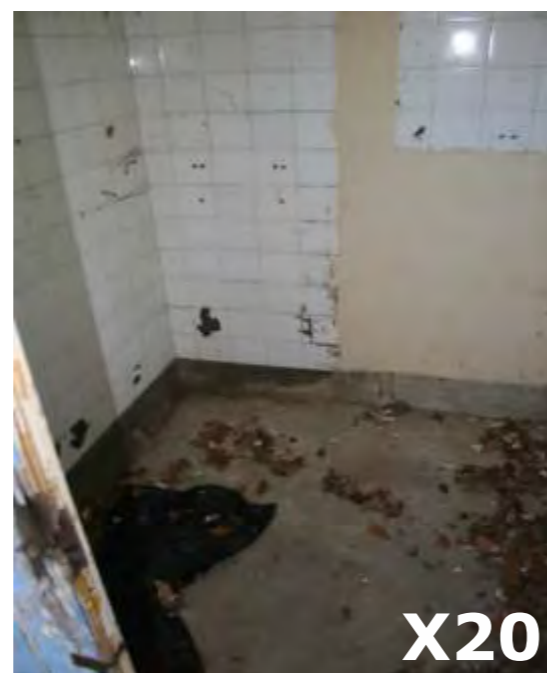
Uses - Testing facility.

Construction - Single storey L-shaped brick structure, constructed on a concrete raft foundation and with a concrete slab roof. The building comprises two rooms, the south-eastern of which features a single doorway and a single original casement window, both of which lie beneath a substantial concrete lintel on its north eastern side. The north-western section has a single door on this side and another to the south-west, also beneath concrete lintels. Unlike the similar building X16 which has been reinforced, this building appears to retain its original form. The south-eastern room represents a control room for monitoring tests undertaken next door, the two being connected by a steel shuttered aperture. The test room itself features copper earthing straps and apertures beneath the roof line to allow fumes to escape, in common with X16. These are however not screened by wooden planking in this case, confirming that this building accommodated less explosive tests.

History - Along with X16 and X28, this building represents a survivor of the ancillary buildings constructed between 1947 and 1953 to accompany each of the CSAR 'X' buildings that originally occupied this area, of which the recently demolished X21 (which is also labelled as 'No. 6' in 1949) immediately to the south-east was the last.

Significance - Low: some historical associations with the post-war period of Fort Halstead but its function as a magazine indicates it wasn't directly involved with the testing of experimental armaments that form a significant element of the site's historical significance. In terms of architecture interest the building derives little from its generic utilitarian design.

Designations - N/A





Buildings X23 & X55

Building X23

Date of construction - 1961 - 1967

Uses - Testing facility.

Construction - Single storey L-shaped brick structure, constructed on a concrete raft foundation and with a concrete slab roof. The building comprises two rooms, the south-eastern of which features a single doorway and a single original casement window, both of which lie beneath a substantial concrete lintel on its north-eastern side. The north-western section has a single door on this side and another to the south-west, also beneath concrete lintels. Unlike the similar building X16 which has been reinforced, this building appears to retain its original form. The south-eastern room represents a control room for monitoring tests undertaken next door, the two being connected by a steel shuttered aperture. The test room itself features copper earthing straps and apertures beneath the roof line to allow fumes to escape, in common with X16. These are however not screened by wooden planking in this case, confirming that this building accommodated less explosive tests.

History - In-fill structure not attributed to any major phase of development at Fort Halstead.

Significance - Low: Its later construction date means the building has few associations with the nationally important research and development that was undertaken. The building is of generic and utilitarian architecture and derives no significance from this.

Designations - N/A

Building X55

Date of construction - 1981 - 1985

Uses - Testing facility

Construction - Single storey brick building with a flat roof, 'T' shaped in plan but with a slightly lower annex to the north and west. The building has casement windows on all except its northern side, on which a steel plate covers what may have been a vent. A small brick shed with a single louvred wooden door is attached to the building's eastern side and probably has a storage function.

History - In-fill structure not attributed to any major phase of development at Fort Halstead.

Significance - Low: a low level function with no historical associations with significant periods of Fort Halstead. It is built in a generic and utilitarian style and derives no architectural significance from this.

Designations - N/A





Buildings X24, X24.1, X24.2 & X24.3

Building X24

Date of construction - 1988 - 1993

Uses - Magazine

Construction - A brick magazine structure with a pitched corrugated metal roof and a single reinforced steel door at its south-eastern end.

History - In-fill structure not attributed to any major phase of development at Fort Halstead.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a functional, utilitarian style from which no architectural significance is derived.

Designations - N/A

Building X24.1, X24.2 & X24.3

Date of construction - 1988 - 1993

Uses - Magazines

Construction - Steel magazine units.

History - In-fill structure not attributed to any major phase of development at Fort Halstead.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a functional, utilitarian style from which no architectural significance is derived.

Designations - N/A



Buildings X26 & X28

Building X26

Date of construction - 1974 - 1981

Uses - Ammunition processing building

Construction - Brick building with a flat roof and a small entrance lobby of slightly later date at the western end of the building. The absence of further windows elsewhere can be attributed to brick revetment walls which until recently had supported mounded earth to the rear and sides of the building. There are however fire escape doors to the rear and sides, in addition to the main southern entrance. The building comprises three main rooms. The first is a preparation area containing a series of brick booths for the preparation of ammunition. The main room is a workshop area, and this wraps around a smaller chamber which is reinforced against explosion and features small elevated windows.

History - In-fill structure not attributed to any major phase of development at Fort Halstead.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a functional, utilitarian style from which no architectural significance is derived.

Designations - N/A

Building X28

Date of construction - 1949 - 1953

Uses - Processing facility.

Construction - Single storey L-shaped brick building, constructed on a concrete raft foundation and with a concrete slab roof over steel girders. The building comprises two rooms, the south-western of which features a single doorway and a single original casement window, both of which lie beneath a substantial concrete lintel on its south-eastern side. The north-eastern section has a single door on this side, but also a large aperture to the north-west filled by Perspex sheeting in a metal frame. Beyond this opening stands a brick revetment wall backed by mounded earth suggesting that this panel was designed to blow out in the event of an accident. This room was found to contain a large lathe, probably for processing ammunition. It appears that the lathe was operated from the structure's other room via a shuttered aperture in the intervening wall and what appears to be a purpose built interface, suggesting that the building was constructed for this purpose.

History - Built towards the tail end of a major phase of development at Fort Halstead, following the departure of the HER team from Fort Halstead to Aldermaston in 1949. It is likely attributed to other research and development organisations that arrived at Fort Halstead following the conclusion of the Second World War and the beginning of the Cold War.

Significance - Low: some historical associations with the post-war period of Fort Halstead but its function as a magazine indicates it wasn't directly involved with the testing of experimental armaments that form a significant element of the site's historical significance. In terms of architecture interest the building derives little from its generic utilitarian design.

Designations - N/A



Buildings X29 & X32.1

Building X29

Date of construction - 1974 - 1981

Uses - Building serves a preparatory function, probably in support of the nearby X19 Bofors test building.

Construction - Brick building with a flat roof over barge boarding comprising two parts, the eastern of which is of slightly later construction. Each section is windowless and has a single door on the north side of the building. In the case of the western, this is surmounted by a large louvred vent.

History - In-fill structure not attributed to any major phase of development at Fort Halstead.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a generic, utilitarian style from which no architectural significance is derived.

Designations - N/A

Building X32.1

Date of construction - 1981 - 1984

Uses - Entrance lodge and first aid point.

Construction - Small rectangular single storey brick building with double glazed replacement windows and a concrete slab roof. The building supports a covered walkway, comprising Perspex sheeting over metal stanchions, which provides access to the 'Bottom X' area by means of a turnstile.

History - In-fill structure not attributed to any major phase of development at Fort Halstead. As well as providing an entrance lodge, the building also acts as the main first aid point for the area.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a generic, utilitarian style from which no architectural significance is derived.

Designations - N/A



Buildings X34, X35 & X35A

Building X35

Date of construction - 1949 - 1953

Uses - Magazine

Construction - Magazine structure in the southern corner of the X Area accessed through steel double doors which open onto a concrete surface beneath a covered entranceway. This is defined by massive brick revetment walls supporting a similarly massive concrete fascia, all of which support the earth mound within which the magazine is enclosed. The building was not accessed and its fabric could therefore not be confirmed, but contemporary structures on the site suggest that the magazine itself would also be of brick construction, probably with a concrete roof, thus necessitating its total encasement with earth.

History - This is one of the earlier magazines on the site, being similar in design to the nearby X35/X35A. It is representative of the increased need for explosive storage at Fort Halstead following the influx of research and development teams to the site in the post-war years.

Significance - Low: some historical associations with the post-war period of Fort Halstead but its function as a magazine indicates it wasn't directly involved with the testing of experimental armaments that form a significant element of the site's historical significance. In terms of architecture interest the building derives little from its generic utilitarian design. Building represents a late 20th century magazine type'

Designations - N/A

Building X35 & X35A

Date of construction - 1949 - 1953

Uses - Magazine

Construction - Magazine structure at the western edge of the X area, actually comprising two separate magazines arranged side by side. Each of these is accessed through steel doors which open onto a concrete surface beneath a covered entranceway, X35 to the east and X35A to the west. These are each defined by massive brick revetment walls supporting similarly massive concrete fascias surmounted by metal railings. The revetments support the earth mound within which both magazines are enclosed. The buildings were not accessed and their fabric could therefore not be confirmed, but earlier and contemporary structures in the vicinity suggest that the magazines would be of brick construction, probably with a concrete roofs, thus necessitating their total encasement with earth.

History - This is one of the earlier magazine structures on the site, being similar in design to the nearby X34. This is one of the earlier magazines on the site, being similar in design to the nearby X35/X35A. It is representative of the increased need for explosive storage at Fort Halstead following the influx of research and development teams to the site in the post-war years.

Significance - Low: some historical associations with the post-war period of Fort Halstead but its function as a magazine indicates it wasn't directly involved with the testing of experimental armaments that form a significant element of the site's historical significance. In terms of architecture interest the building derives little from its generic utilitarian design. Building represents a late 20th century magazine type'

Designations - N/A



Buildings X36 & X37

Building X36

Date of construction - 1949 - 1953

Uses - Part of the 'X' area compressed air system. Now redundant.

Construction - Small rectangular brick structure with a concrete slab roof and a steel hatch on its south-eastern side. Earlier photographs provided by the fort show that the brick wall that envelops this side of the structure, which is now slighted, previously extended above the main structure's roof and may itself have been covered as a small portico.

History - Contemporary with X37 that housed equipment for regulating compressed air in the X area. Built to as service structure and served testing buildings and workshops.

Significance - Low: some historical associations with the post-war period of Fort Halstead but its function as a warehouse indicates it wasn't directly involved with the testing of experimental armaments that form a significant element of the site's historical significance. In terms of architecture interest the building derives little from its generic utilitarian design.

Designations - N/A



Building X37

Date of construction - 1949 - 1953

Uses - Storage.

Construction - Two large storage warehouse units arranged end to end. Of steel frame construction with concrete and standing seam metal sheet cladding and pitched standing seam roofs. Each unit is accessed by a large roller door an auxiliary single door at their north-western end.

History - Constructed during the post-war years to provide storage for influx of staff associated with various research and development teams arriving at Fort Halstead.

Significance - Low: some historical associations with the post-war period of Fort Halstead but its function as a warehouse indicates it wasn't directly involved with the testing of experimental armaments that form a significant element of the site's historical significance. In terms of architecture interest the building derives little from its generic utilitarian design.

Designations - Within the setting of a Scheduled Ancient Monument.





Building X38

Date of construction - 1936 - 1944

Uses - CSAR Physics laboratory. Continues in lab function.

Construction - Single storey brick laboratory building with a pitched slate roof overlooked by parapet walls at each gable end. The building has replacement casement windows on all sides and is accessed through two sets of double doors at each end of its south-western facade. A further single door is located in the centre of its north-western end providing access from a short concrete stair. The building was not accessed, but the arrangement of doors and the large windows along its north-eastern side suggest that the building comprises two large laboratory rooms. A small brick annexe with a flat corrugated metal roof is built onto the building's south-east end.

History - Labelled as a 'CSAR Physics Laboratory' on the 1947 plan of Fort Halstead and would have contributed to the research initially carried by the ADD and ARD before being taken over by the HER in the late 1940s. Its later history is unknown though it has maintained its function as a laboratory.

Significance - Moderate: Derives significance through historical associations with the top secret research and development into explosives and armaments, carried out at Fort Halstead during the Second World War and later formed part of the secure inner area of the HER teams enclave and would have been directly related to the work carried out by Penney's atomic weapons team. Also has some group value with the contemporary X2 and X3 buildings and the buildings in the wider area associated with atomic research. The building is also indicative of the architecture used on early research building, before economic restraints and security factors started to influence design. It displays parapet walls with coping stones to the gable walls and brick lintels above openings.

Designations - N/A





Buildings X41 & X42

Building X41

Date of construction - 1981 - 1985

Uses - Drop testing facility.

Construction - A three storey brick structure terraced against a concrete walkway running along the eastern edge of the X area, such that only the upper two storeys are apparent from this direction. Its main lower section, approached by a brick stair to the west, has a flat roof, casement windows to the west and east and a single door to the south. This provides egress onto a narrow pathway to the south in the direction of the magazines X4-X7. The second storey is positioned over the northern end of the building and has a single large window with a top hung sash on its northern face. This supports a narrower superstructure which also has a flat roof and features windows to the south and east. Access to this upper section is through external double doors approached via a gantry and ladder on the western side of the superstructure, at the base of which a small brick annex with a flat roof and double doors was probably intended to provide storage. A ventilation unit, emerging from the lower section of the building, extends up its eastern side.

History - A later addition to Fort Halstead that is representative of the redevelopment that occurred during the late 20th century

Significance - Low: Its later construction date means the building has few associations with the nationally important research and development that was undertaken. The building is of generic and utilitarian architecture and derives no significance from this.

Designations - N/A

Building X42

Date of construction - 1947 - 1949

Uses - Site utilities

Construction - Rectangular single storey brick building with a flat roof, a set of double doors at its eastern end and casement windows on each of the remaining sides. This door is accessed via a concrete walkway, perhaps designed to facilitate the movement of bulky materials.

History - Built during a major phase of expansion at Fort Halstead, most likely attributed the arrival of Penney's HER team.

Significance - Low: some historical associations with the post-war period of Fort Halstead but its function as a storage unit indicates it wasn't directly involved with the testing of experimental armaments that form a significant element of the site's historical significance. In terms of architectural interest the building derives little from its generic utilitarian design.

Designations - N/A





Buildings X43 & X43.1

Building X43

Date of construction - 1972 - 1974

Uses - Workshops and offices. Possibly laboratory facilities.

Construction - Single storey brick structure with a flat roof on which stands a small water tank at the building's western end. The building's only entrance is at this end, beneath a small canopy and flanked by casement windows, and its position indicates a central spinal corridor. Additional windows line each of its remaining sides.

History - Constructed during a period of little development at Fort Halstead, it represents one of a number of in-fill buildings at the site that are not associated with any major developments. Its original purpose is not known though its proximity to X44 and X45 suggests it may have been constructed to house processes related to the testing in the range of X44 and X75.

Significance - Low: An internal inspection revealed that all elements that indicate previous function and use have been removed and there is little heritage interest. Its outwards appearance displays generic architecture intended to hide its internal function and as such is not of any architectural significance. The building has some group value as it relates to X44 and X45 though is not contemporary with these earlier structures.

Designations - N/A

Building X43.1

Date of construction - 1949 - 1953

Uses - Toilet block.

Construction - Single storey brick lavatory block with a flat roof supporting a large water tank. The building is accessed from a single door on the west side ('Gentlemen') and two single doors to the rear ('Ladies' and a probable storage cupboard). There are three frosted windows on each side, either with a fixed light or louvred glass panes.

History - Built to service the neighbouring 'X' buildings as the site expanded to meet the growing needs of the military following conclusion of the Second World War and the beginning of the Cold War.

Significance - Low: Of little significance in terms of architecture and historical associations. Represents the rapid expansion of the site following the conclusion of the Second World War to meet the perceived needs of the Cold War.

Designations - N/A



Buildings X43.2 & X44

Building X43.2

Date of construction - 1953 - 1957

Uses - Storage

Construction - A small single storey brick building with a flat roof. The building's single door, positioned on its western side, is accessed via three concrete steps and it has small square fixed light windows on all but its eastern (rear) side. A small chimney implies some experimental purpose although the building's relatively fragile construction suggests that this does not concern particularly hazardous materials.

History - Built as an ancillary structure to larger 'X' buildings in the vicinity.

Significance - Of little significance in terms of architecture and historical associations. Represents the rapid expansion of the site following the conclusion of the Second World War to meet the perceived needs of the Cold War.

Designations - N/A

Building X44

Date of construction - 1953 - 1957

Uses - Test ranges

Construction - A complex of flat-roofed brick buildings surrounding a large concrete test range, similar in basic design to the contemporary X45 to its south. The range comprises two sections, the eastern of which is slightly higher. At its western end, external access to the range is provided by a large set of roller doors, but these are open when the range is in use at which point a pair of massive steel shutters supported in a buttressed steel frame are employed. The higher part of the range is flanked by two near identical blocks which probably provide supporting processing and testing facilities. These have casement windows to the east, and the southernmost has two external doors, one of which is set in a small entrance porch. A covered vehicle loading and parking area occupies the gap between this block and the similar X75 structure on the southern side of the range's west end. This area accommodates forklifts and the site's small milk float type delivery trucks.

History - Contemporary with X45. Formed as part of the rapid growth of site shortly after the conclusion of the Second World War and the beginning of the Cold War and was concerned with conventional research into armaments, as opposed to the atomic research being carried out by the HER programme (who had recently departed to another facility at Aldermaston in 1952). Its construction, along with other buildings on site, was influenced by the eventual inception of research programmes formulated during the Second World War and research into captured German technology. As well as expansion into what has become the S and N areas, areas west of the site saw the construction of additional test ranges, including X44 and X45, which were segregated by woodland.

Significance - Moderate: this building has historical associations with the 'conventional' research that took place at Fort Halstead following the departure of the HER team in the early 50s. Although very few fixtures and fittings remain its function can clearly be read through its arrangement and is a clear representative of the highly secretive work that would have been undertaken at Fort Halstead at the beginning of the Cold War.

Designations - N/A





Buildings X45

Date of construction - 1949 - 1953

Uses - Workshops and laboratories.

Construction - A large group of single storey brick blocks of similar basic design to the contemporary X44, to the north, in that it comprises a central range surrounded by lower blocks. The former was probably also designed to perform a test function and rises towards its eastern end in similar fashion, although it is surmounted here by a small water tank. However, unlike its neighbour, the central range of X45 is constructed in brick and is not open at its western end. Furthermore, the surrounding blocks feature casement windows and each has several external doors implying less of a focus on the central structure. These blocks were probably constructed as workshops or laboratories in support of the building's putative test function. Alterations including the in-fill of windows suggest that their role of the building may have varied somewhat, but the later addition of a vehicle port, of corrugated plastic sheeting, on the building's northern side directly echoes the facing facility on the southern side of X45 and suggests continuity in this role.

History - Contemporary with X44. Formed as part of the rapid growth of site shortly after the conclusion of the Second World War and the beginning of the Cold War and was concerned with conventional research into armaments, as opposed to the atomic research being carried out by the HER programme (who had recently departed to another facility at Aldermaston in 1952). Its construction, along with other buildings on site, was influenced by the eventual inception of research programmes formulated during the Second World War and research into captured German technology. As well as expansion into what has become the S and N areas, areas west of the site saw the construction of additional test ranges, including X44 and X45, which were segregated by woodland.

Significance - Moderate: this building has historical associations with the 'conventional' research that took place at Fort Halstead following the departure of the HER team in the early 50s. Although very few fixtures and fittings remain its function can clearly be read through its arrangement and is a clear representative of the highly secretive work that would have been undertaken at Fort Halstead at the beginning of the Cold War.

Designations - N/A

Building X75

Date of construction - 1967 - 1972

Uses - Storage.

Construction - Single storey brick garage structure added to the south-western corner of range complex X44. The building is now windowless, although three on its western side have been in-filled, and is accessed from the south through a set of wooden double doors.

History - Built later than neighbouring structure as an in-fill building to provide storage space for the processes being carried out in X45.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a functional, utilitarian style from which no architectural significance is derived.

Designations - N/A



Buildings X47 & X47.1

Building X47

Date of construction - 1949 - 1953

Uses - Current use possibly laser testing. Earlier unknown.

Construction - An extensive brick building comprising two distinct sections; a square single storey block with a flat roof, to the north-west of which extends a large warehouse structure with a pitched standing seam roof. The southern block was extended to its current size in the 1960s. It has original casement windows throughout, a water tank in the centre of its roof and is accessed through primary entrances to the north-west and an auxiliary entrance to the south-west. The warehouse component of the building, which represents a 1985 replacement of the original structure, has two large vents in its southern gable end overlooking the single storey block and is divided externally into three sections, each of which is accessed by a large roller door in its south-western side. It is likely that the three sections are combined internally. The building is served by some form of external electrical plant contained in four cases along the southern side of the building, which may well relate to research along these lines, perhaps utilising the long warehouse component of the building as a test range.

History - Likely built to accommodate the research and development teams that arrived at Fort Halstead following the conclusion of the Second World War and the beginning of the Cold War.

Significance - Low: some historical associations with the nationally important research and development that would have been carried out at Fort Halstead during the post-war years though what exact role the building had is unknown. The building is constructed in a generic and utilitarian style and derives no architectural significance because of this.

Designations - N/A

Building X47.1

Date of construction - 1988 - 1993

Uses - Vehicle analysis.

Construction - A large de-mountable (portable) structure to the west of building X47. It comprises solid gable ends, the northern of which accommodating a very large roller door and two large vents together with a single pedestrian entrance. The fabric of the structure is plastic sheeting over a steel frame.

History - Modern in-fill structure not attributed to any major phases of development at Fort Halstead.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a functional, utilitarian style from which no architectural significance is derived.

Designations - N/A



Building X48

Date of construction - 1991

Uses - Testing and laboratory

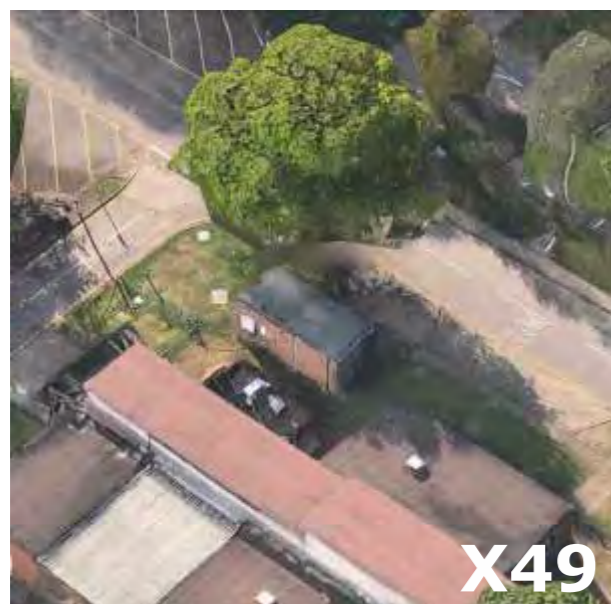
Construction - Very large modern building in brick with a standing seam metal upper section and pitched roof, of very similar construction to the contemporary A28. The building comprises a short central range from which two long ranges radiate, giving the building a stunted 'T' shape plan. The roof of each range is surmounted by a row of very large fume ventilation rods. The building was not accessed but an arrangement of central corridors, flanked by laboratories and offices, radiating from a central entrance lobby can be inferred from the arrangement of windows along all sides of the building. A large number of these rooms also have external doors, probably for safety purposes.

History - The largest of the new buildings constructed in 1991 as a result of the closure of the RARDE Waltham Abbey site, this building was designed to accommodate the Energetic Materials Chemistry Division.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a functional, utilitarian style from which no architectural significance is derived.

Designations - N/A





Buildings X49 & X49.1

Building X49

Date of construction - 1957 - 1961

Uses - Was constructed as an armoury, guarding the Fort's Star Hill gate prior to its repositioning between 1982 and 1984.

Construction - A single storey brick building with a flat roof over barge boarding. The front of its eastern end, looking onto Crow Road, is open, creating a covered porch. From here a single door provides access to a small room at the rear and presumably also to the building's main room at its western end, the separate door to this having been in-filled. This room has a large modern replacement casement window on its western side, another having been in-filled to the north.

History - In-fill structure not attributed to any major phases of development at Fort Halstead. The building was constructed as an armoury, guarding the Fort's Star Hill gate prior to its repositioning between 1982 and 1984.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a functional, utilitarian style from which no architectural significance is derived.

Designations - N/A

Building X49.1

Date of construction - 1982 - 1984

Uses - Guard lodge.

Construction - Comprises a front observation room clad in weather boarding and with fixed light windows overlooking the entrance, and a brick section containing a single ancillary room to the rear. The roof is flat, supported by a wooden superstructure over the front of the building.

History - Constructed as a new entrance building following the creation of the 'M' area in the early 1980s. This pushed the boundaries westward, facilitating the need for a new guard lodge.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a generic, utilitarian style from which no architectural significance is derived.

Designations - N/A



Buildings X50 & X50.1

Building X50

Date of construction - 1961 - 1962

Uses - Research laboratory.

Construction - A large single storey laboratory building with a flat roof over barge boarding featuring a large central watertank superstructure. It has a near continuous bank of casement windows along its northern and southern sides, except at its eastern end, which represents a late 1980s extension. These windows are punctuated by external doors from the laboratories within. Internally the building contains a spinal corridor running from entrances at either end, and this is flanked by laboratories, each with a non conducting antistatic floor. The corridor and offices in the eastern extension now feature suspended ceilings but the laboratories retain most of their original fittings.

History - Built during a phase of relatively little development at Fort Halstead. Like Q27, its construction seems to have been influenced by economic considerations, and was constructed in a utilitarian fashion in similar styles and materials to their contemporary civilian counterparts.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a functional, utilitarian style from which no architectural significance is derived.

Designations - N/A

Building X50.1

Date of construction - 1962 - 1962

Uses - Heat treatment testing facility.

Construction - Single storey brick structure with barge boarding and a flat roof, ancillary to the contemporary X50. It comprises two rooms; an experimental chamber to the west and a smaller room to the east. The former has a large casement window on its west side and a set of double doors with a transom light facing X50 to the north.

History - In-fill structure not attributed to any major phases of development at Fort Halstead.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a functional, utilitarian style from which no architectural significance is derived.

Designations - N/A



Building X51

Date of construction - 1972 - 1974

Uses - Laboratories to fulfil testing and research function

Construction - A large single storey brick building with a flat roof comprising two sections. The original western part has original casement windows on all of the exposed sides, whilst the eastern section, which was added in the late 1980s/early 1990s, has modern pvc casements along its eastern and western sides. Both parts of the building are accessed through double doors approached by ramps. These allow for the slope of the ground but also for the slight degree to which the buildings are raised, suggesting a basement floor within each part.

History - In-fill structure not attributed to any major phases of development at Fort Halstead.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a generic, utilitarian style from which no architectural significance is derived.

Designations - N/A





Buildings X52 & X57

Building X52

Date of construction - 1974 - 1981

Uses - Designed to hold small quantities of explosive for testing in the nearby X50.

Construction - Single storey brick structure with a flat roof and a recessed door at either end of the east wall. These provide access to an internal corridor running within the western side of the building. A series of three explosive storage chambers occupy the eastern part of the building, separated by brick walls and accessed through steel hatches. The building is equipped with copper earthing straps and now appears to feature a sprinkler system. A small contemporary ancillary structure to the south probably relates to these utilities.

History - In-fill structure not attributed to any major phases of development at Fort Halstead.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a generic, utilitarian style from which no architectural significance is derived.

Designations - N/A

Building X57

Date of construction - 1974 - 1981

Uses - Designed to hold small quantities of explosive for testing in the nearby X50.

Construction - Single storey brick structure with a flat roof and a recessed door at either end of the east wall. These provide access to an internal corridor running within the western side of the building. A series of three explosive storage chambers occupy the eastern part of the building, separated by brick walls and accessed through steel hatches. The building is equipped with copper earthing straps and now appears to feature a sprinkler system. A small contemporary ancillary structure to the south probably relates to these utilities.

History - In-fill structure not attributed to any major phases of development at Fort Halstead.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a generic, utilitarian style from which no architectural significance is derived.

Designations - N/A



Buildings X58 & X82

Building X58

Date of construction - 1974 - 1981

Uses - Observation hut for testing on the Downs Range.

Construction - A weatherboarded 'hide' type structure with a flat roof and frontal shutters. It is accessed through a single door in its eastern side.

History - In-fill structure not attributed to any phase of development at Fort Halstead.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a functional, utilitarian style from which no architectural significance is derived.

Designations - N/A

Building X82

Date of construction - 1988 - 1993

Uses - Magazine.

Construction - Structure in the south-eastern corner of the X Area. In common with magazines X4 - X7, it is restricted and could not be accessed during the survey. Approach to the structure defined by concrete revetment walls supporting mounded earth and covered by a corrugated plastic canopy. This appears to provide access to a large structure set into the mound the exposed flat concrete roof of which features a number of ventilation pipes.

History - In-fill structure not attributed to any phase of development at Fort Halstead.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a functional, utilitarian style from which no architectural significance is derived.

Designations - N/A



X52



X52



X82



Buildings X60, X61 & X69

Building X60

Date of construction - 1981 - 1984

Uses - Administration. Formerly magazine receipt building.

Construction - A single storey brick building at the entrance to the 'Top X' Area. The exit into the X Area is through a shallow enclosed porch on the southern side of the building. Brick built over a steel frame, the building has a flat roof which is raised along the length of the central corridor with a water tower positioned off-centre. The double door which served this platform and certain of the windows on this side of the building have been in-filled, whilst those throughout the building have been replaced with modern uPVC examples.

History - In-fill structure not attributed to any phase of development at Fort Halstead.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a functional, utilitarian style from which no architectural significance is derived.

Designations - N/A

Building X61

Date of construction - 1984 - 1985

Uses - Main store for 'X' area.

Construction - A nondescript windowless brick warehouse structure with a concrete slab roof to the west of the 'Top X' Area gate. The building is accessed via three double doors on its southern side and a further three, with overhead louvred vents and integral single doors, to the north.

History - In-fill structure not attributed to any phase of development at Fort Halstead.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a functional, utilitarian style from which no architectural significance is derived.

Designations - N/A

Building X69

Date of construction - 1981 - 1984

Uses - Electrical substation.

Construction - Brick structure with a flat roof and a set of wooden louvred double door on its northern side.

History - Most likely attributed to the programme of reconstruction carried out in the 1980s.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a functional, utilitarian style from which no architectural significance is derived.

Designations - N/A



Buildings X62 & X63

Date of construction - 1981 - 1984

Uses - Processing buildings.

Construction - Reinforced concrete single storey buildings incorporating a block of two identical chambers, with antistatic floors, intended to allow processing activity in one to be remotely controlled and monitored from the other. An additional brick built block to the north, with louvred wooden doors, probably accommodates ventilation and power plant. Both blocks have flat concrete roofs. The whole is encircled by a concrete walkway beneath a steel stanchion supported canopy. Each processing block is accessed through a steel door, the two being separated by a substantial concrete partition, and these are directed towards a massive concrete blast wall to the south of both buildings which is buttressed by mounded earth between end retaining walls. X63 and X62 are apparently primarily concerned with machining shaped charges. In common with each of the processing buildings in the 'Top X' Area, this is powered by compressed air through the network of overhead pipes carried between the buildings. The X62/X63 group is identical to the X73/X74 group further to the east.

History - Built following a major programme of reconstruction to reconstruct processing buildings in the 'top X' area. It continues in its capacity as a processing building.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a functional, utilitarian style from which no architectural significance is derived. Associations with later Cold war weapon development and of a form clearly illustrating use.

Designations - N/A





Buildings X64

Date of construction - 1981 - 1984

Uses - Processing building.

Construction - Building incorporating a tall reinforced concrete block with a flat roof behind a slight parapet. This contains two identical chambers with antistatic floors, intended to allow processing activity in one to be remotely controlled and monitored from the other. A lower brick-built block extends along the northern side of the main structure. This has louvred wooden doors, probably accommodates ventilation and power plant. The whole is encircled by a concrete walkway beneath a steel stanchion supported canopy, except to the south where the two steel access doors, separated by a substantial concrete partition, are directed towards a massive concrete blast wall which is buttressed by mounded earth between end retaining walls. The corridor between the building and the blast wall has been further enclosed through the introduction of mesh fencing, perhaps designed to retain possible debris. In common with each of the processing buildings in the 'Top X' Area, it can be supplied by compressed air through the network of overhead pipes carried between the buildings. This building is identical to X68 to the south and X70 to the south-east, although the latter is slightly larger.

History - Built following a major programme of reconstruction to reconstruct processing buildings in the 'top X' area. It continues in its capacity as a processing building.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a functional, utilitarian style from which no architectural significance is derived. Associations with later Cold war weapon development and of a form clearly illustrating use.

Designations - N/A



Buildings X65 & X66

Building X65

Date of construction - 1981 - 1984

Uses - Processing building. Chemical synthesis

Construction - Building incorporating a tall reinforced concrete block with a flat roof behind a slight parapet. This contains two identical chambers intended, if necessary, to allow processing activity in one to be remotely controlled and monitored from the other. Heavily equipped with water supply and exaction facilities and, in common with each of the processing buildings in the 'Top X' Area, by compressed air through the network of overhead pipes carried between the buildings. It has a tiled floor and emergency shower facilities are located immediately outside the steel access doors of each chamber. The two entrances, separated by a concrete partition, are directed towards a massive concrete blast wall to the south which is buttressed by mounded earth between end retaining walls. A lower brick-built block extends to the north of the main structure. This has louvred wooden doors and probably accommodates ventilation and power plant, whilst to its rear stands a square concrete structure which probably holds a water tank. Two smaller brick structures with mesh doors and a small portable structure to its west provide chemical storage.

History - Built following a major programme of reconstruction to reconstruct processing buildings in the 'top X' area. It continues in its capacity as a processing building.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a functional, utilitarian style from which no architectural significance is derived. Associations with later Cold war weapon development and of a form clearly illustrating use.

Designations - N/A

Building X66

Date of construction - 1981 - 1984

Uses - Processing building.

Construction - A reinforced concrete structure with a flat roof. Unlike similar structures in the 'Top X' Area this building comprises a single chamber. It was not accessed but is probably concerned with materials processing, although it is apparently not connected to the compressed air network, used in other buildings to power equipment, and may therefore represent secure storage such as an explosives magazine. Access is through steel double doors directed towards a massive blast wall to the south which is buttressed by mounded earth between end retaining walls. A small covered area to the east, created by a steel canopy, shelters the various switches and controls governing the building. It is virtually identical to X72 at the opposite end of the 'Top X' Area.

History - Built following a major programme of reconstruction to reconstruct processing buildings in the 'top X' area. It continues in its capacity as a processing building.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a functional, utilitarian style from which no architectural significance is derived. Associations with later Cold war weapon development and of a form clearly illustrating use.

Designations - N/A



Buildings X67 & X68

Building X67

Date of construction - 1981 - 1984

Uses - Processing building.

Construction - A reinforced concrete structure with a flat roof. Unlike similar structures in the 'Top X' Area this building comprises a single chamber. The main structure is flanked by two lower brick annexes which are set back from the front of the former, have louvred wooden doors and probably house plant of some kind. Access to the main structure is through a steel door which is directed towards a massive blast wall buttressed by mounded earth between end retaining walls.

History - Built following a major programme of reconstruction to reconstruct processing buildings in the 'top X' area. It continues in its capacity as a processing building.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a functional, utilitarian style from which no architectural significance is derived. Associations with later Cold war weapon development and of a form clearly illustrating use.

Designations - N/A

Building X68

Date of construction - 1981 - 1984

Uses - Processing building.

Construction - Building incorporating a tall reinforced concrete block with a flat roof behind a slight parapet. This contains two identical chambers with antistatic floors, intended to allow processing activity in one to be remotely controlled and monitored from the other. A lower brick-built block extends along the northern side of the main structure. This has louvred wooden doors, probably accommodates ventilation and power plant. The whole is encircled by a concrete walkway beneath a steel stanchion supported canopy, except to the south where the two steel access doors, separated by a substantial concrete partition, are directed towards a massive concrete blast wall which is buttressed by mounded earth between end retaining walls. The corridor between the building and the blast wall has been further enclosed through the introduction of mesh fencing, perhaps designed to retain possible debris. In common with each of the processing buildings in the 'Top X' Area it can be seen to be supplied by compressed air through the network of overhead pipes carried between the buildings. Although slightly larger, this building is essentially identical to X64 to the north and X70 to the east, although the latter is slightly larger.

History - Built following a major programme of reconstruction to reconstruct processing buildings in the 'top X' area. It continues in its capacity as a processing building.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a functional, utilitarian style from which no architectural significance is derived. Associations with later Cold war weapon development and of a form clearly illustrating use.

Designations - N/A



Buildings X70 & X71

Building X70

Date of construction - 1984 - 1985

Uses - Processing building.

Construction - a tall reinforced concrete block with a flat roof behind a slight parapet. This contains two identical chambers with antistatic floors, intended to allow processing activity in one to be remotely controlled and monitored from the other. A lower brick-built block extends along the northern side of the main structure. This has louvred wooden doors, probably accommodates ventilation and power plant. The whole is encircled by a concrete walkway beneath a steel stanchion supported canopy, except to the south where the two steel access doors, separated by a substantial concrete partition, are directed towards a massive concrete blast wall which is buttressed by mounded earth between end retaining walls.

History - Built following a major programme of reconstruction to reconstruct processing buildings in the 'top X' area. It continues in its capacity as a processing building.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a functional, utilitarian style from which no architectural significance is derived. Associations with later Cold war weapon development and of a form clearly illustrating use.

Designations - N/A

Building X71

Date of construction - 1981 - 1984

Uses - Processing building.

Construction - A reinforced concrete structure with a flat roof. It would appear to comprise a single chamber. Like the adjacent structures, the building is probably concerned with materials processing, and it would appear to be connected to the compressed air network used to power equipment in these other buildings. A small brick annex to the east probably accommodates related plant, and the southern entrances of this and the main structure are served by a steel stanchion supported canopy. The steel door of the former is directed towards a massive blast wall buttressed by mounded earth between end retaining walls.

History - Built following a major programme of reconstruction to reconstruct processing buildings in the 'top X' area. It continues in its capacity as a processing building.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a functional, utilitarian style from which no architectural significance is derived. Associations with later Cold war weapon development and of a form clearly illustrating use.

Designations - N/A



Buildings X72 & X73

Building X72

Date of construction - 1981 - 1984

Uses - Either a materials processing building or explosive magazine.

Construction - A reinforced concrete structure with a flat roof. Unlike similar structures in the 'Top X' Area this building comprises a single chamber. It is apparently not connected to the compressed air network, used in other buildings to power equipment. Access is through steel double doors directed towards a massive blast wall to the south which is buttressed by mounded earth between end retaining walls. A small covered area to the west, created by a steel canopy, shelters the various switches and controls governing the building. It is virtually identical to X66 at the opposite end of the 'Top X' Area.

History - Built following a major programme of reconstruction to reconstruct processing buildings in the 'top X' area. It continues in its capacity as a processing building.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a functional, utilitarian style from which no architectural significance is derived. Associations with later Cold war weapon development and of a form clearly illustrating use.

Designations - N/A

Building X73

Date of construction - 1981 - 1984

Uses - Processing building concerned with sectioning charges.

Construction - A reinforced concrete single storey building incorporating a block of two identical chambers, with antistatic floors, intended to allow processing activity in one to be remotely controlled and monitored from the other. An additional brick built block to the north, with louvred wooden doors, probably accommodates ventilation and power plant. Both blocks have flat concrete roofs. The whole is encircled, together with the identical X74 to the east, by a concrete walkway beneath a steel stanchion supported canopy, and the processing blocks are accessed through steel doors directed towards a massive concrete blast wall to the south. This is buttressed by mounded earth between end retaining walls. The X73/X74 group is identical to the X62/X63 group further to the west.

History - Built following a major programme of reconstruction to reconstruct processing buildings in the 'top X' area. It continues in its capacity as a processing building.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a functional, utilitarian style from which no architectural significance is derived. Associations with later Cold war weapon development and of a form clearly illustrating use.

Designations - N/A



Building X74

Date of construction - 1981 - 1984

Uses - Processing building concerned with sectioning charges.

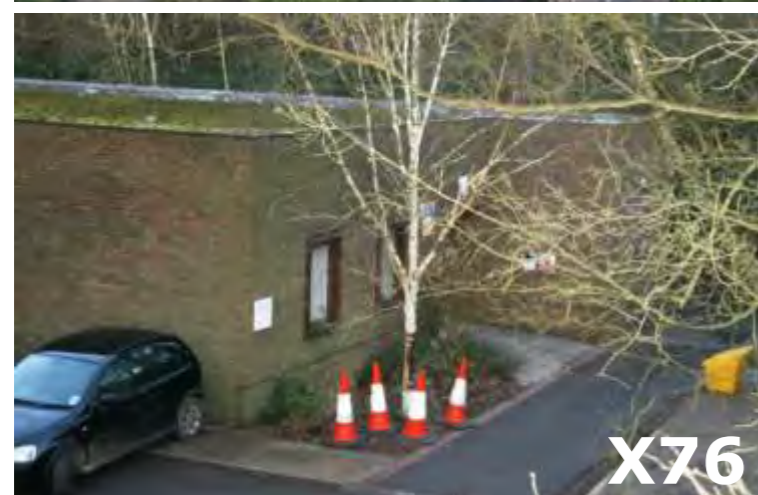
Construction - A reinforced concrete single storey building incorporating a block of two identical chambers, with antistatic floors, intended to allow processing activity in one to be remotely controlled and monitored from the other. An additional brick built block to the north, with louvred wooden doors, probably accommodates ventilation and power plant. Both blocks have flat concrete roofs. The whole is encircled, together with the identical X73 to the west, by a concrete walkway beneath a steel stanchion supported canopy, and the processing blocks are accessed through steel doors directed towards a massive concrete blast wall to the south. This is buttressed by mounded earth between end retaining walls. The X73/X74 group is identical to the X62/X63 group further to the west.

History - Built following a major programme of reconstruction to reconstruct processing buildings in the 'top X' area. It continues in its capacity as a processing building.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a functional, utilitarian style from which no architectural significance is derived. Associations with later Cold war weapon development and of a form clearly illustrating use.

Designations - N/A





Buildings X76 & X77

Building X76

Date of construction - 1972 - 1974

Uses - Laboratories or workshops.

Construction - A single storey brick range extending to the south-east of the larger X77. The structure is windowless, except at its south-eastern end where a recessed door provides the only external access. Various vents on the walls and roof.

History - An in-fill structure not attributed to any major phases of development at Fort Halstead. Built to provide accommodation for laboratories and workshops, which now support work undertaken in X77. It continues in this capacity.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a generic, utilitarian style from which no architectural significance is derived.

Designations - N/A

Building X77

Date of construction - 1984 - 1985

Uses - Testing facility possibly relating to Laser development.

Construction - A large concrete building terraced into the slope. The building comprises three visible components. A two storey block with a single storey range extending to the north-east and a two storey brick block to the southeast, connecting to building X76. The building is windowless and no external doors were observed from the south-west. However, the south-eastern façade of the main two storey block exhibits a large glass or Perspex porch beneath which a suspended crane is positioned to manoeuvre a large block of what appears to be reinforced concrete. This would seem to conceal a large entrance to the building which obviously needs to be frequently blocked by a substantial barrier, probably during some manner of test. A large mound to the north-west of the building suggests that it may continue into the landform.

History - An in-fill structure not attributed to any major phases of development at Fort Halstead. Built to provide accommodation for testing.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a basic, utilitarian style from which no architectural significance is derived.

Designations - N/A



Building X78

Date of construction - 1984 - 1985

Uses - Apparently provides administration and perhaps laboratory facilities for a government agency.

Construction - Large two storey building in yellow stock brick comprising a square block with a hipped roof from which a slightly lower wing extends to the north. A tall thin feature extends from a square dormer type superstructure atop the roof. This could be a narrow ventilation rod or some form of telecommunications mast. The building has large window apertures on all except its western side but these are filled with opaque tiles, so concealing activity within the building. The building has external doors on all except its northern side and a large opening at ground level on the west side of the main block appears to reflect a concealed car park within this part of the building's footprint. This aperture is screened behind a single storey wing which extends around to the west, so defining a small gated access to this area.

History - Probably attributed to a major programme of redevelopment carried out within the top X area in the 1980s.

Significance - Low: no historical associations with important elements of Fort Halstead's past though is built in a modernist style with some architectural embellishment, from which minor architectural significance is derived.

Designations - N/A





Buildings X79 & X79.1

Building X79

Date of construction - 1988 - 1993

Uses - Workshops or laboratories.

Construction - Large modern building in three sections. The main central section is in brick with a standing seam metal upper section and pitched roof, of similar construction to A28 and X48, with which it is probably contemporary. From this a smaller range of otherwise identical construction extends to the east, whilst at the south-western corner of the main section a smaller annex is constructed of steel panels but with the same standing seam roof. The whole is windowless and appears to only feature access doors at its east and west ends.

History - Modern in-fill structure not attributed to any major phase of development as Fort Halstead.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a modern, utilitarian style from which no architectural significance is derived.

Designations - N/A

Building X79.1

Date of construction - 1988 - 1993

Uses - Probably serves as storage for the nearby X79.

Construction - Single storey rectangular brick structure with a pitched standing seam metal roof. It is windowless and accessed by a single door on its southern gable end.

History - Modern in-fill structure not attributed to any major phase of development as Fort Halstead.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a modern, utilitarian style from which no architectural significance is derived.

Designations - N/A



Building X80

Date of construction - 1988 - 1993

Uses - May relate to the compressed air system that runs throughout the 'X' area.

Construction - A large modern warehouse structure, in brick with a pitched standing seam metal roof. It features a large roller doors with an integral set of double doors and a large louvred vent on its south-western facade and additional double doors along its southern side and in its western end.

History - Modern in-fill structure not attributed to any major phase of development as Fort Halstead.

Significance - Low: no historical associations with important elements of Fort Halstead's past and is built in a modern, utilitarian style from which no architectural significance is derived.

Designations - N/A

APPENDIX 2b: List of Demolitions since 2015 (as ascertained from DSTL)

Rubb Tent X47.1 (pers. comm. DSTL)

Tom C. to confirm if any other demolitions have occurred following receipt of the most up-to-date accommodation schedule when provided by DSTL