

**THE AIR RAID
SHELTERS AT
COBHAM PRIMARY
SCHOOL, THE STREET,
COBHAM, KENT**

Historic Building Survey

Victor Smith
20th June, 2005

AIR RAID SHELTERS AT COBHAM PRIMARY SCHOOL, THE STREET, COBHAM, KENT

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INTRODUCTION

In January 2005 the writer was asked by Mr. Bob Ramsey of Cobham Primary School to historically record a Second World War air raid shelter in the rear playground of the school (NGR TQ 6717.6849). The terms were agreed in February and the survey was undertaken on 1st March, subject to the need to return to photograph the whole of the interior, once items stored inside had been removed. Subsequently, Mr. Ramsey asked for a second shelter to be recorded slightly to the west of the first (TQ 6716.6850) and this was done several weeks later. A final visit was made in early June to view those parts of the interior of the eastern shelter, which had been partially obscured by stored items.

PROJECT BACKGROUND

The historic building survey was carried out as a condition attached to Planning Application GR041045, concerned with the demolition of the eastern shelter and the structural alteration of the western one, to enlarge a doorway. No specification was given for this survey but, generally, that provided by Kent County Council for earlier shelter surveys has been followed.

METHOD

The following elements are included in this report:

- A measured survey to create a set of drawings
- A photographic survey
- A written survey
- A limited study of readily available documentary sources

HISTORICAL BACKGROUND

The shelters formed part of an extensive tranche of national preparations made during the Second World War for the protection of the population and of military, industrial and commercial assets against the threat of German air bombardment. These measures ultimately derived from the first primary legislation of 1935 and then from

the Air Raid Precautions Act of 1937 and associated and later legislation, statutory instruments and regulations. These included provision for educational institutions such as schools and colleges. Schools in rural areas were given low priority under this scheme, unless close to recognised bombing targets or near to significant military installations. Schools in low-risk areas were advised to tape windows against bomb blast and, in other respects, to adopt the precautions at a level specified in the advice of the Ministry of Home Security to householders.

An official Air Raid Precautions map of Kent dated 1st April, 1939, did not identify Cobham as a shelter area but designated it a Group A Vulnerable Area. Soon after the outbreak of war, the village was embraced within a shelter area. Areas were considered to be at heightened risk if sufficiently near to military targets that they might be bombed by mistake. Such targets existed in the anti-aircraft battery at Lodge Lane, the Ashenbank Wood RAF dispersed accommodation site, and even the Thong Lane RAF airfield, if subjected to higher altitude attack. In addition, a risk existed that bombers might randomly unload any undropped bombs in the general area of the Thames Corridor, if forced to return prematurely from a raid.

The logbook of the school, preserved on the school premises, of which extracts were kindly provided by Mr. Ramsey, shows that the school received plans of one shelter on 18th October, 1940. No dates of construction are evident from the extracts. At least one of the shelters had probably been completed by the end of 1940. An entry for 18th March, 1942, shows that by that date 'electric current was connected to the school shelters' lighting and heating systems', the plural indicating that two shelters then existed. This supply was conveyed by a suspended external cable, one of whose fixings was loosened, with the cable drooping, by a high wind in 14 May, 1944. Enemy action was recorded as having slightly affected the school on 29th January 1941 when shrapnel fell on the roof of the school and its guttering. Perhaps this was actually from falling fragments of exploded shells, fired during a German raid by the heavy anti-aircraft battery nearby in Lodge Lane.

At various dates the pupil strength of the school was stated to have been about 98-99, which number could just about have been accommodated if split between the two shelters. The extracts from the logbook given to the writer do not record instances of shelter occupancy but it was common for classes to be taught in shelters during an air raid alert, pupils often being seated on school type forms.

The V1 offensive of 1944 led to a further government evacuation scheme for children, instituted on 16th July. The parents of 11 pupils at the school availed themselves of this.

Civil defence arrangements generally throughout the country were swiftly terminated after Victory in Europe Day on 8th May, 1945, and the school air raid shelters would have ceased to be maintained for the purposes of air raid precautions.

Arrangements for air raid precautions at the school *before* the construction of the shelter are not precisely known. At nearby Southfleet, in such circumstances, contingency plans were been introduced for children and their teachers to take refuge in the nearby Southfleet Church (about 100 m) away. It is at least possible that a

similar arrangement was adopted at Cobham, where Cobham Church is about 200m distant. This ought to be known to older local residents.

The School shelters were primarily intended for the use of children and their teachers. But research in other locations indicated that whether formally, or informally, school air raid shelters could also be made available for limited numbers of local residents during the school day and, in their entirety, during out of school hours.

School shelters could take four forms:

1. Lean-to additional structures attached to sturdy external walls
2. Strengthened basements
3. Cut and cover trench shelters
4. Surface shelters

Cobham School's shelters were category 4 and, typically, were of rectangular plan, with brick walls and a flat concrete roof.

Following the end of the Second World War, many of the extemporised wartime buildings across the country were demolished. At schools, trench shelters tended to have their entrances blocked and otherwise left intact but surface shelters were too valuable for demolition and tended to be retained for re-use. Typically, they became used as school stores or even as additional classrooms. The shelters at Cobham appear to have been used mainly for storage.

Recent research into planning for nuclear war in the mid-1950s has indicated that after demolitions of many other air raid shelters, those in schools remained the largest single category of surviving shelters in public ownership to consider for possible use.

DESCRIPTIONS (See plans and plates)

The eastern shelter

The building, close to the north of the original school building (erected 1874) is a nearly rectangular surface shelter orientated north-south, its north end wall being slightly angled to match a pre-existing school wall, against which it was built. The shelter measures 14m x 3.8 m. externally, with a height of 2.4 metres and a roof 13-22-cm thick. It contains a single long room, entered from either end of the shelter via a traversed indirect entrance of conventional form. The shelter's 34-cm thick walls are constructed of yellow brick on a yellowish sandy mortar and laid in English Bond, with a double damp-proof course of light grey slate, several cm (variable) above the surface of the playground. The nearly flat concrete roof is slightly sloped from west to east for the run-off of rainwater. The outside of the eastern long wall presents as rendered in cement.

At either end of the shelter, the 92-cm. wide entrances from the playground give on to a blast wall, constraining those entering to walk round its end to access the shelter room itself from the other side. The blast wall had been removed post-war from the

north end of the shelter, the end wall itself having also been breached to mount double doors to facilitate use of the interior as a school store, which purpose still applied at the date of survey. The blast wall was intact at the southern end of the shelter.

Both entrances had been provided with airlocks against gas attack. These consisted of an externally sloped and unpainted timber frame in the entrance from the playground, originally mounted with a chemically impregnated fabric gas screen fixed and lowered from the lintel, with another similarly arranged frame on the inner side of the blast wall. In several places on the lintel of the frames could be seen the fixings for the top of the fabric screen. These frames had been mounted post-war with wooden doors, no doubt for securing the contents stored inside.

The small cubicle inside the south-western corner of the shelter was a latrine, to contain a single Elsan toilet bucket. A 2.5-cm diameter steel curtain rail, on which a movable fabric screen slid on rings, had been provided for giving privacy to the user. In the outside wall above was an air vent.

There is a comparable space at the northern end of the shelter but this contained no evidence of having also been used as a latrine.

The long walls of the 7.m. x 3.1 m. shelter room were relieved centrally by a pair of opposing brick pilasters. The internal face of the wall had been painted white but the date of execution is not known. Under the ceiling at either end of the eastern long wall are two small rectangular air vents, which had been internally fitted with a wooden frame and door, which was to be held shut with a turnbuckle. This enabled the aperture to be sealed in the event of detection of the presence of poison gas outside.

The floor is of poured concrete in a small aggregate mix and the roof the same, poured onto an iron reinforcing grid, which could be detected from spalling. The top surface of the roof is covered by modern asphalt sheeting, to form a water-resistant membrane. There are some slight traces of original electrical wiring for lighting as the scar of a run line under the ceiling. Emergency lighting was provided through the use of paraffin hurricane lanterns. Modern lighting was subsequently introduced during the use of the air raid shelter as a school store.

The western shelter

This is smaller, at 10.65 x 3.7m. (external) but is in other respects nearly identical, also having had its roof covered with an asphalted sheet, but its eastern end had been stitched into a post-war storage extension. The inside of the shelter was unpainted. No traces of wall features could be seen. The overall description of the Eastern Shelter applies to this one. The toilet cubicle was at the eastern end. If there was a counterpart at the western end this could not be seen as the way in to that airlock area had been blocked in timber and the outer entrance door could not be unlocked.

The only current planned alteration to this shelter is to widen the doorway into the eastern airlock area. The doorway contained the standard timber airlock frame.

DISCUSSION

The Cobham structures are very much a standard type of surface shelter. In the locality it closest resembles the shelter at Sedley's School at Southfleet. Some other, and larger, surface school air raid shelters had two or even three shelter rooms within. This is the case with the shelter at Dover Road School in Northfleet.

The thicknesses of wall and roof at Cobham met Ministry of Home Security standards for protection, which had been worked out by scientific experiment in the immediately pre-War years. Likewise, the provision of airlocks and protected air vents reflected a perceived inevitability of communities having to face attack with air dropped gas bombs in the event of war although, in fact, this did not happen. If there had been sustained gas warfare, the light form of canvas screens for the airlocks might have been replaced with permanent air-tight doors. No doubt the school would have been provided with gas detectors. Teachers were trained in anti-gas precautions. Individuals would have been given personal gas masks to supplement the air lock arrangements.

Despite the potential from the combined body heat in closed down conditions, surface shelters were, by their nature, less insulated than underground ones and were likely to require some degree of heating in the coldest conditions. The earlier-stated log book reference shows that by March, 1942 there was provision for electric heating of the shelter during prolonged periods of occupation. Presumably there was some earlier method of heating the shelter.

The Code of Practice for school air raid shelters required that no more than 50 persons should be accommodated within any one compartment. Both shelters would have been able to accommodate that number (although less comfortably in the case of the western one), thus fulfilling the requirements of the whole of the school. The Code also provided for the installation of sanitary arrangements on the scale of one seat for every 25 occupants.

As a constructional form, surface shelters appear to have been generally less well thought of by the lay person than the underground type. This was partly because faulty construction of some shelters built in Britain at the beginning of the war and examples of their failure to adequately resist blast during actual raids, led to a reputation for a lack of strength. So much was this so, that the Ministry of Home Security became forced to mount a publicity campaign to convince people that surface structures were effective. Surface shelters were very widely adopted for schools.

But the Cobham School shelters could hardly be considered as resistant to bombs other than the very smallest. Anything else would have been likely to penetrate the roof, explode and kill everyone inside. At best it conferred splinter protection against a near-miss.

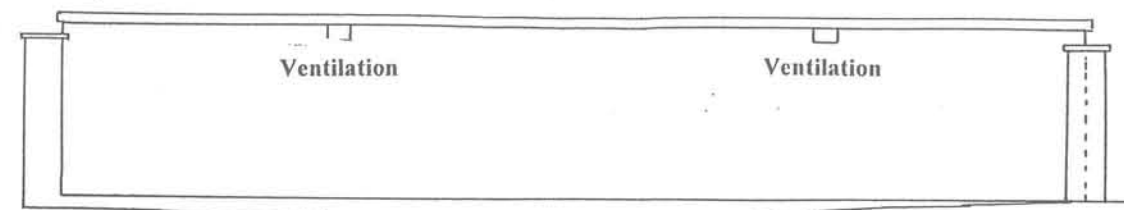
SOURCES CONSULTED FOR THE LIMITED DOCUMENTARY SURVEY

These were as follows:

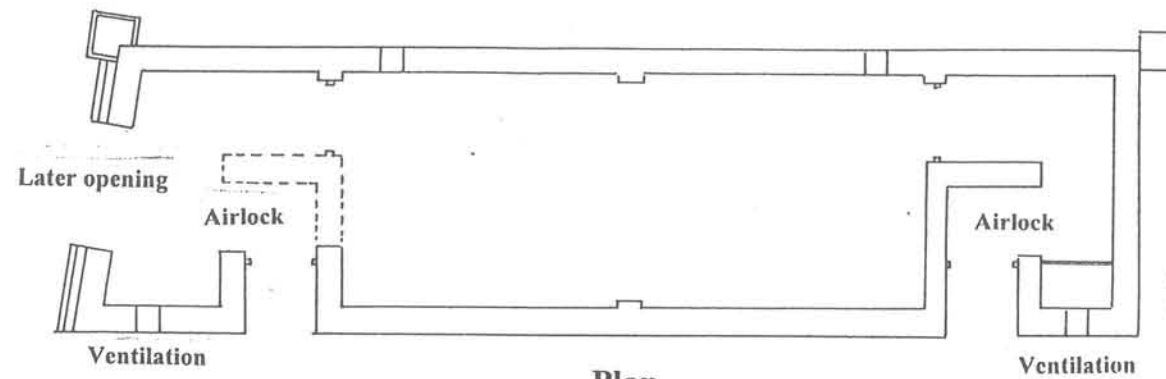
- Several entries from the school log book for 1940-45 (Held at Cobham Primary School)
- Regional Shelter Reports for the Second World War (National Archives, HO207)
- Map, *Air Raid Precautions – Vulnerable and Shelter Areas*, 6 June, 1939 (Centre for Kentish Studies)
- F. Samuely and C. Hamann, *Civil Protection: The application of the Civil Defence Act and other government regulations* (Architectural Press, 1939)

ACKNOWLEDGEMENTS

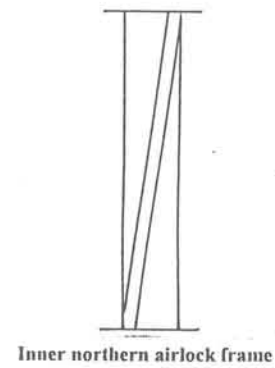
The writer thanks the Head Teacher and staff of Cobham School for facilitating the visits for survey and Mr. R. Ramsey, for inviting him to produce a survey and report.



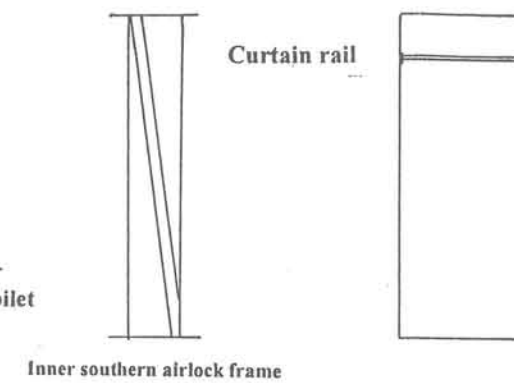
Eastern elevation



Plan

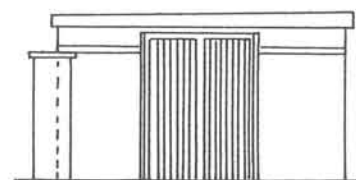


Inner northern airlock frame

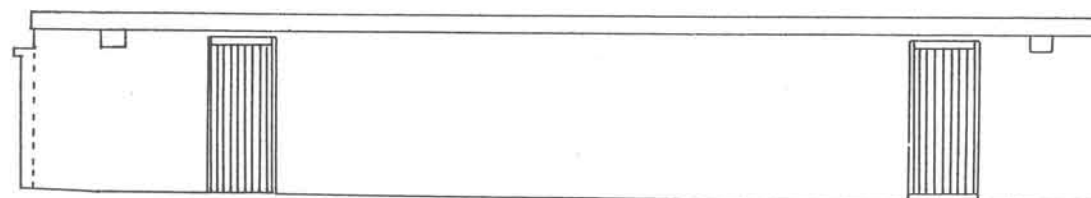


Inner southern airlock frame

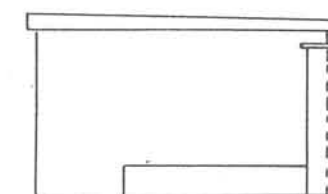
Cubicle for chemical toilet



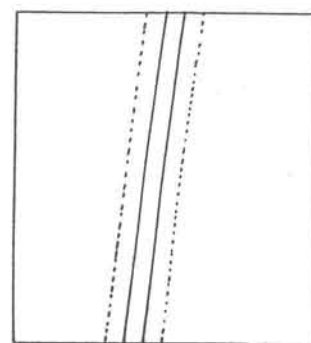
Northern elevation



Western elevation



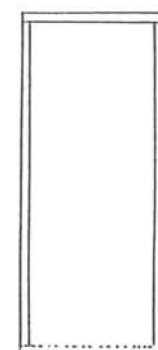
Southern elevation



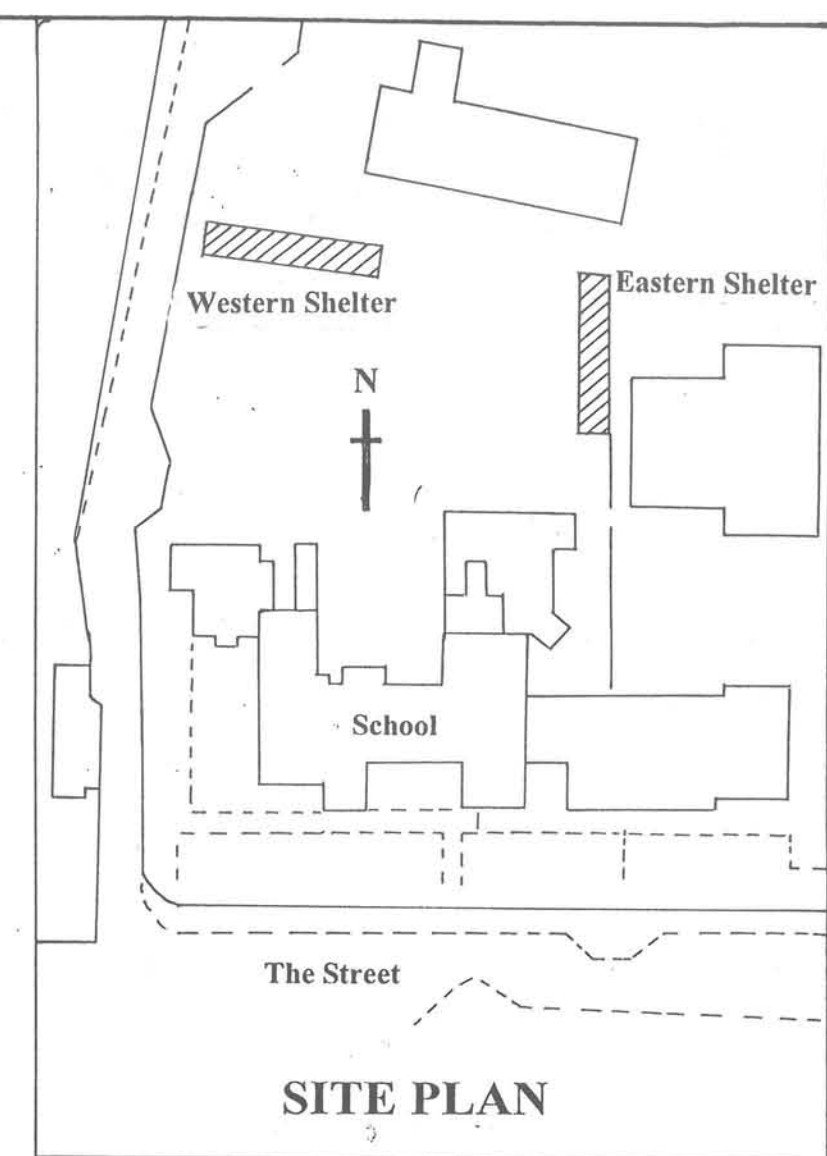
Outer northern airlock frame



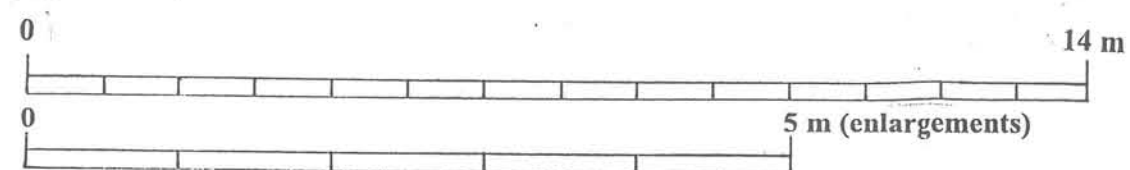
Elevation of northern airlock frame



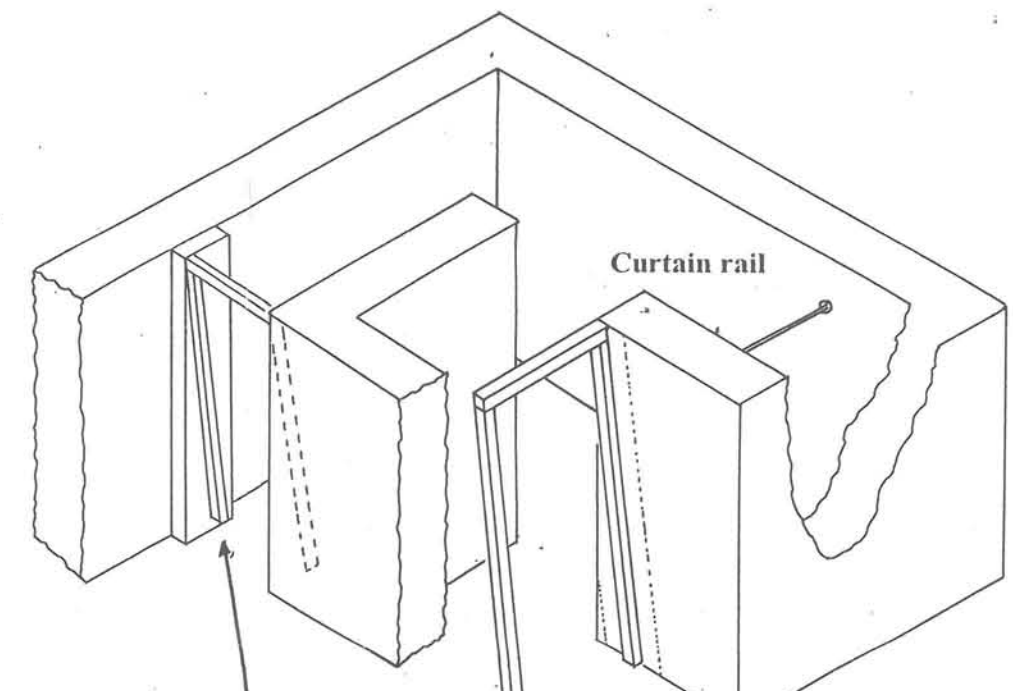
Elevation of southern airlock frame

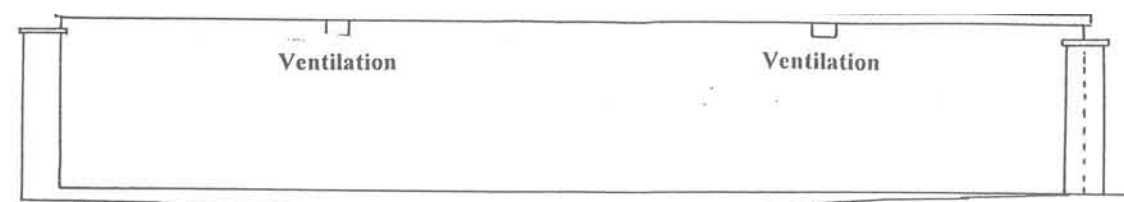


EASTERN AIR RAID SHELTER AT COBHAM PRIMARY SCHOOL

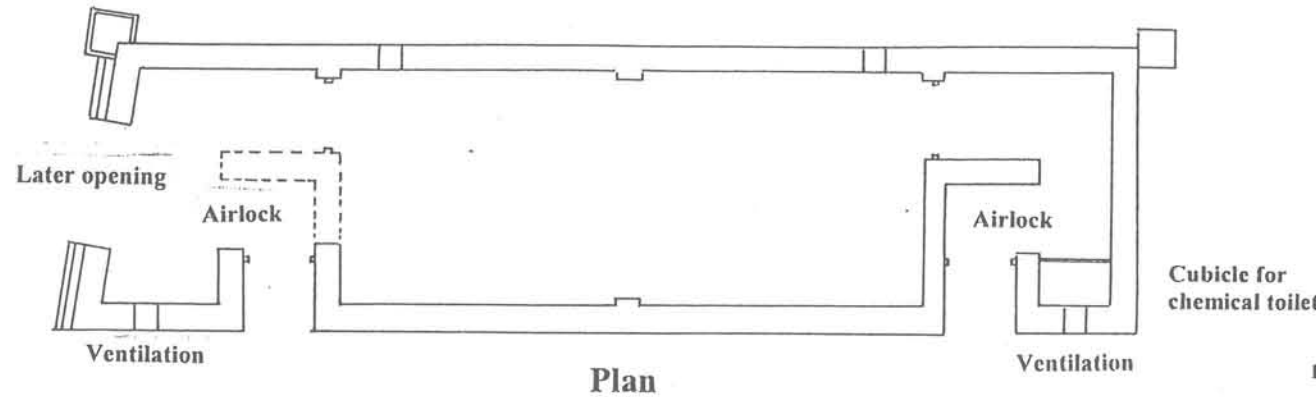


Southern airlock

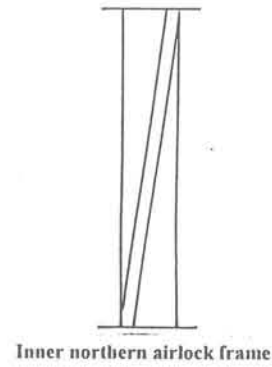




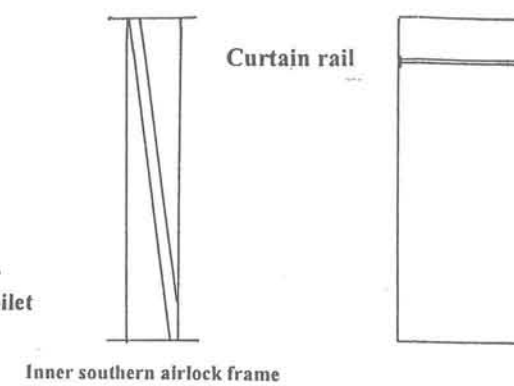
Eastern elevation



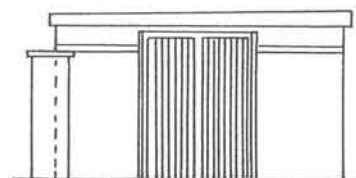
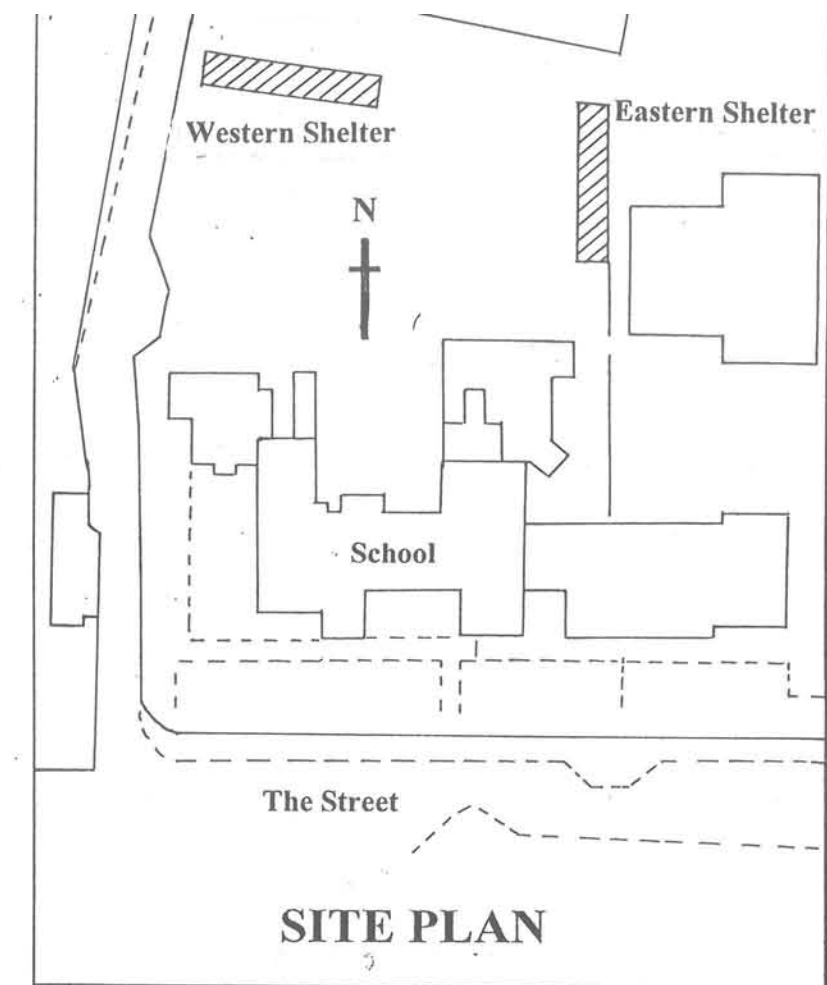
Plan



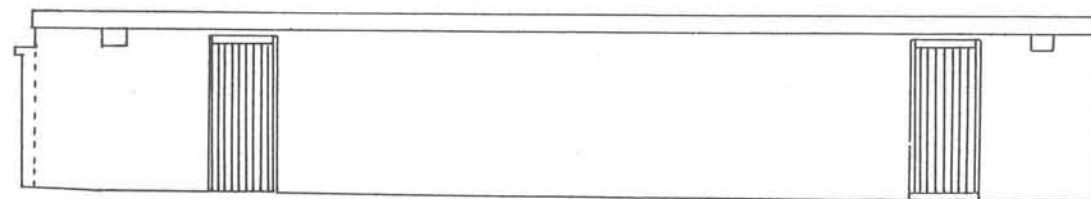
Inner northern airlock frame



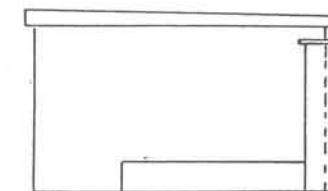
Inner southern airlock frame



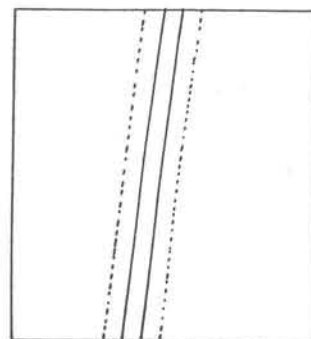
Northern elevation



Western elevation



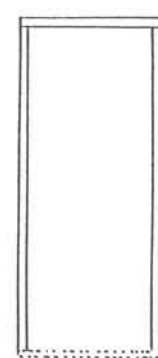
Southern elevation



Outer northern airlock frame

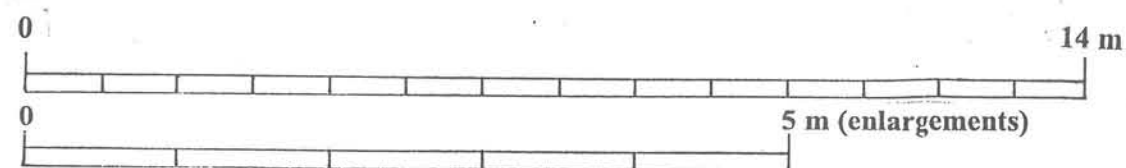


Elevation of northern airlock frame

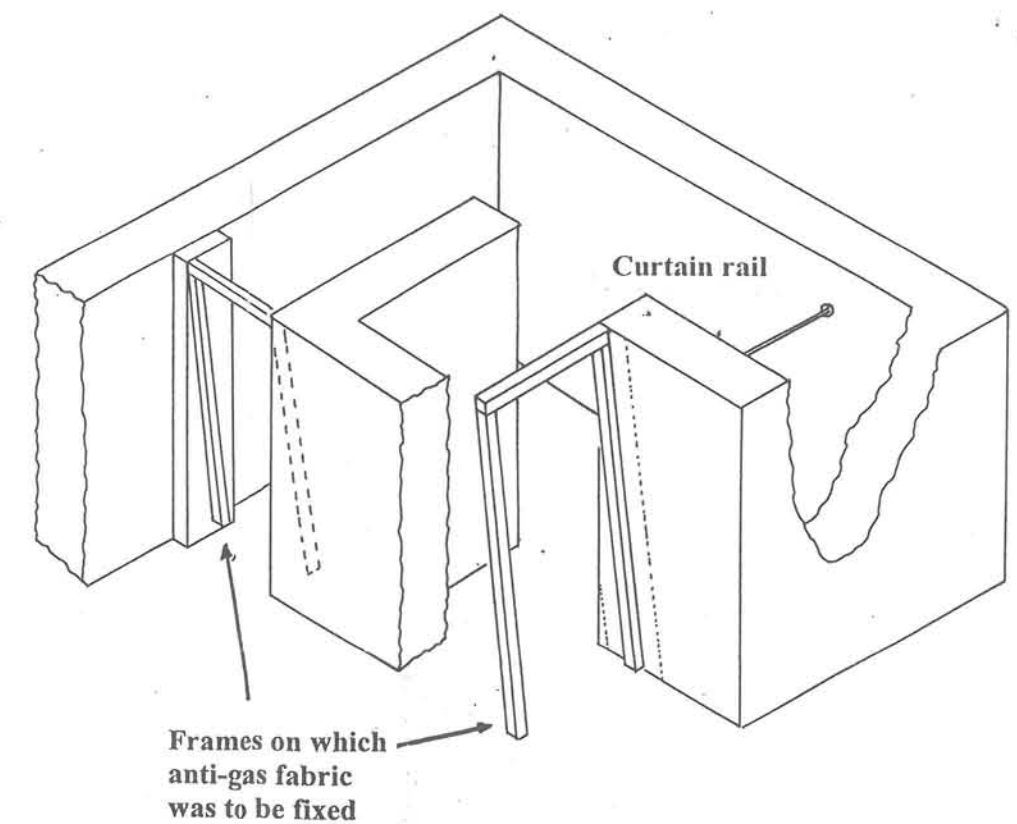


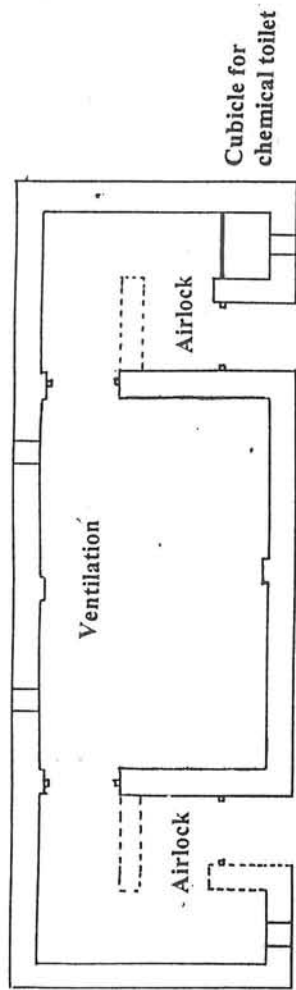
Elevation of southern airlock frame

EASTERN AIR RAID SHELTER AT COBHAM PRIMARY SCHOOL



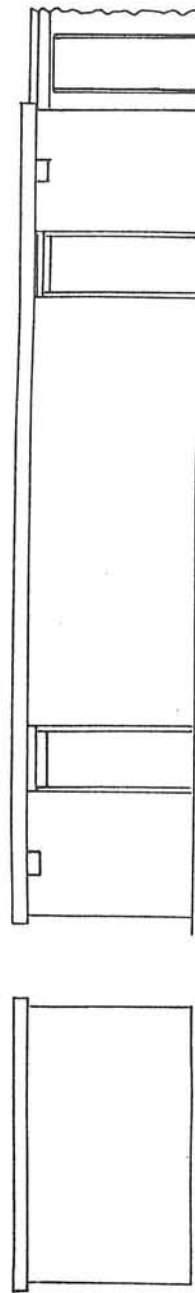
Southern airlock





Plan

WESTERN AIR RAID SHELTER AT COBHAM PRIMARY SCHOOL



Western elevation

Southern elevation

Later addition
For school store

LIST OF PLATES

[Photographs taken by Victor Smith in March, 2005]

Further images are available on CD

Eastern shelter

1. Western elevation
2. Southern elevation
3. Northern elevation
4. Northern and eastern elevations
5. Airlock frame and later door at the southern end of the shelter
6. The same view with the door open
7. Curtain rail in toilet cubicle
8. General view of the inside of the shelter, looking south
9. Ventilator in eastern wall
10. Inside of outer airlock frame at the northern end of the shelter

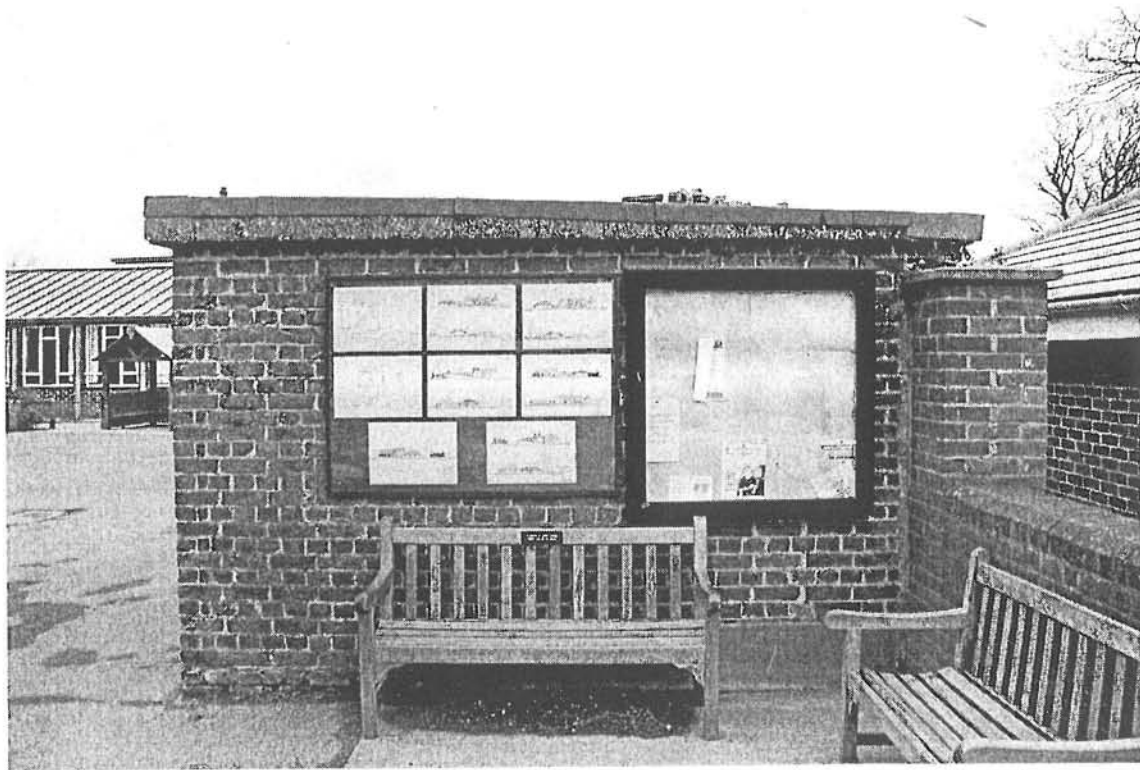
Western Shelter

11. Southern elevation (Bob Ramsey copyright)
12. Northern elevation
13. Airlock frame and later door at the western end of the shelter
14. The same
15. Airlock frame and later door at the eastern end of the shelter
16. Top of the same

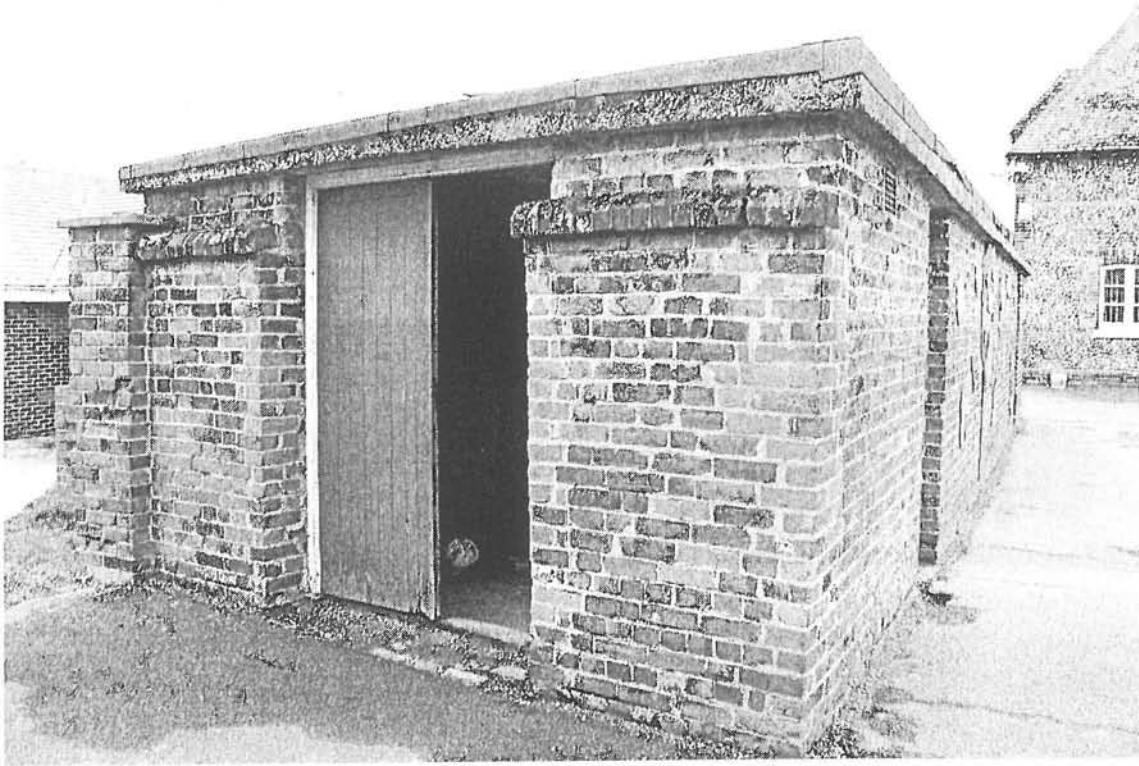
17. Inner airlock frame at the eastern end of the shelter
18. Curtain rail in toilet cubicle
19. General view of the interior, looking west
20. Ventilator in northern wall



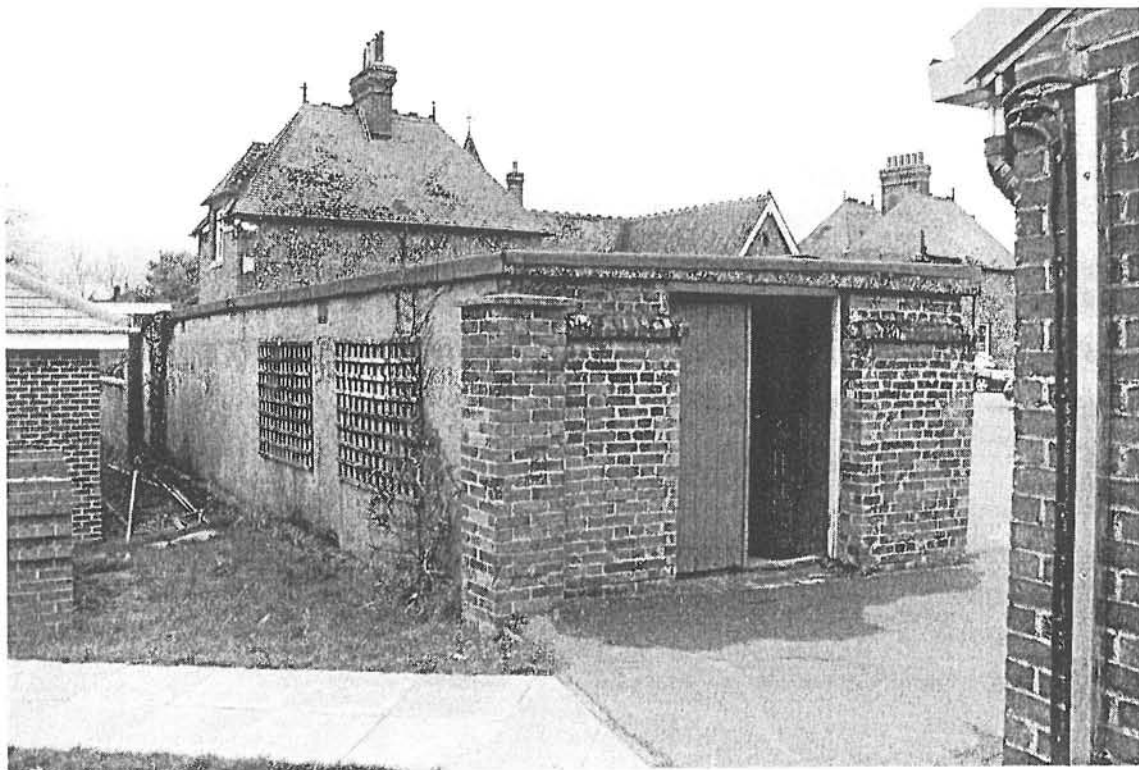
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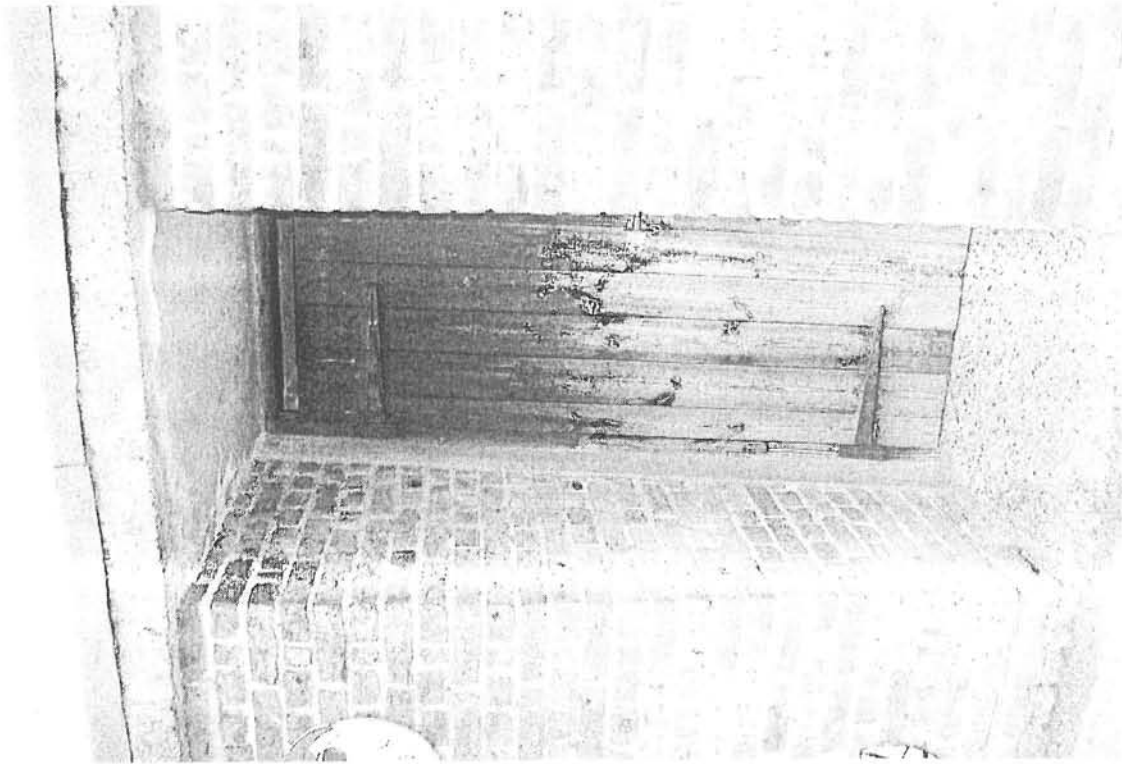
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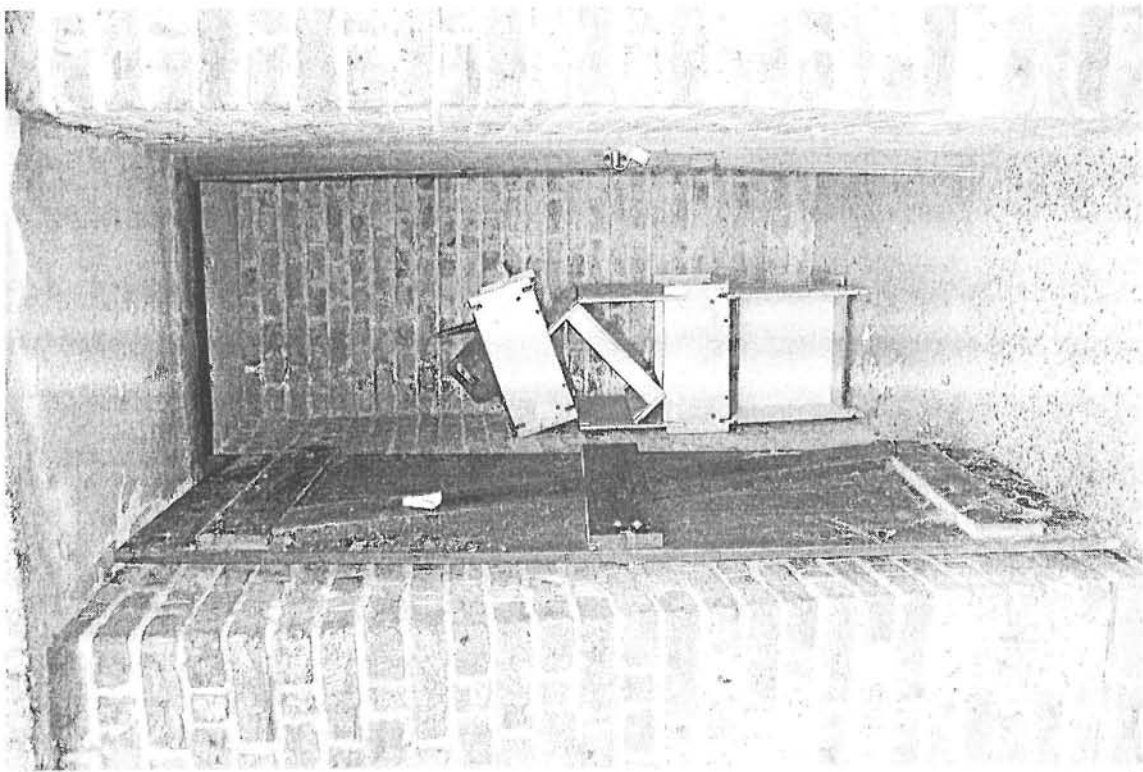
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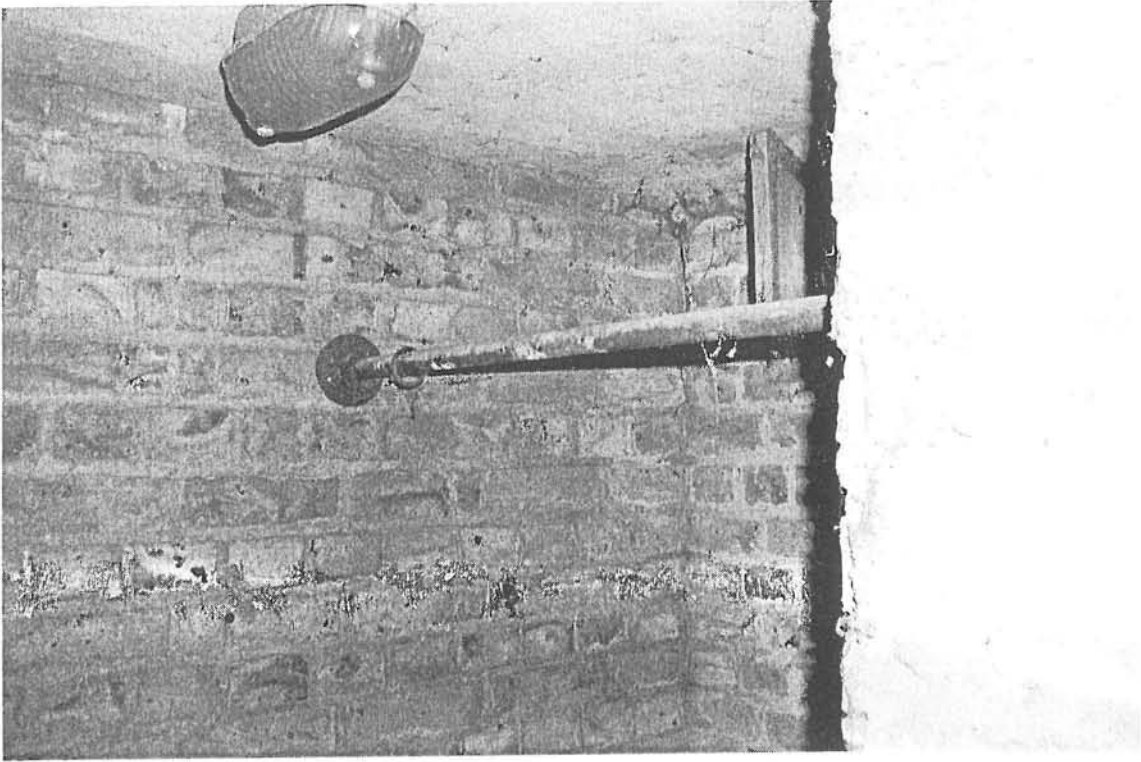
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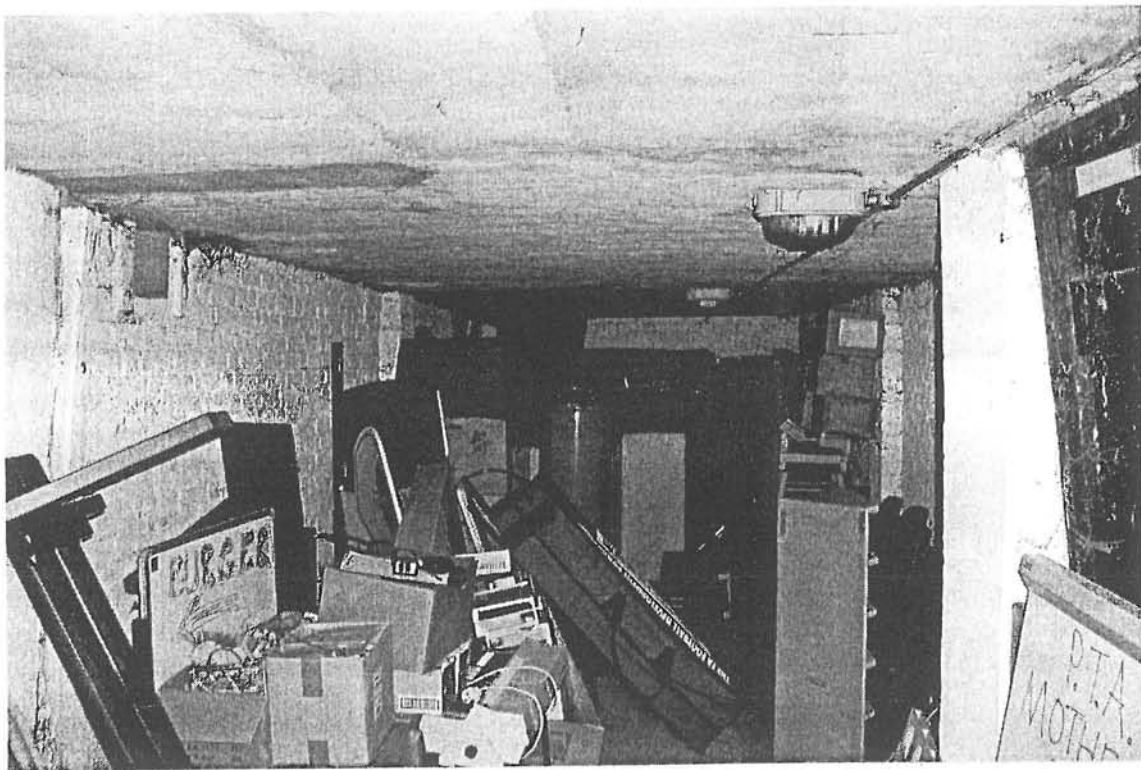
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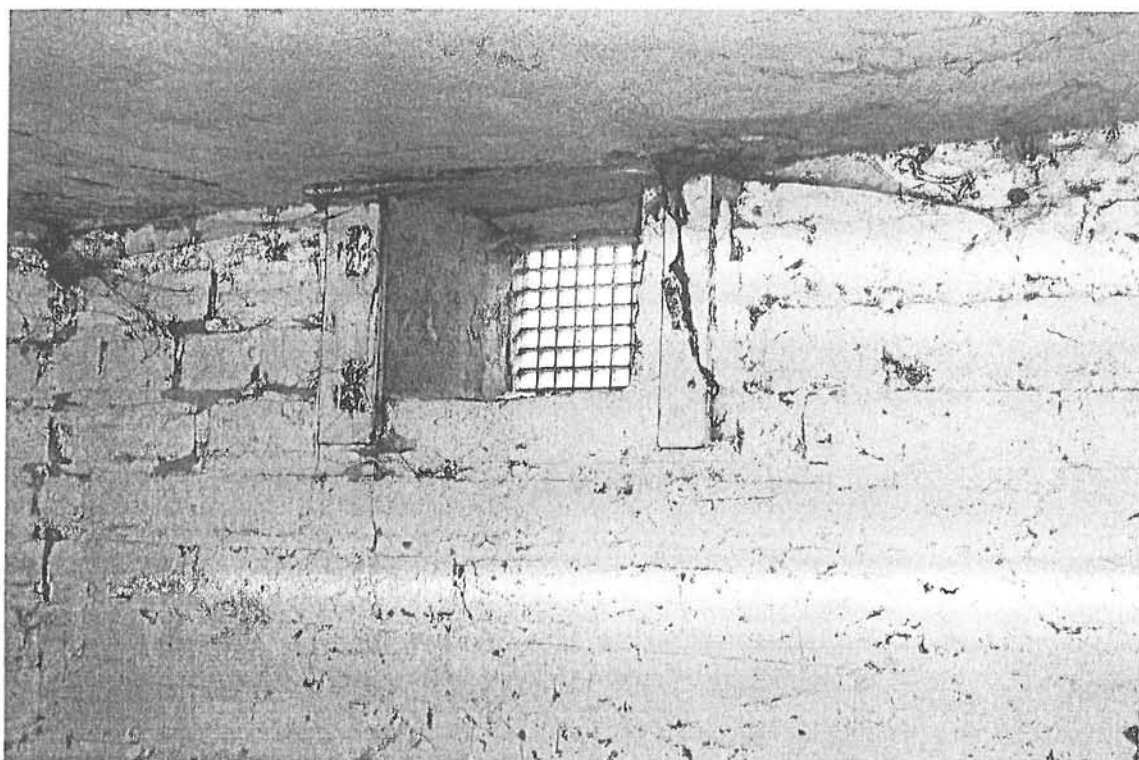
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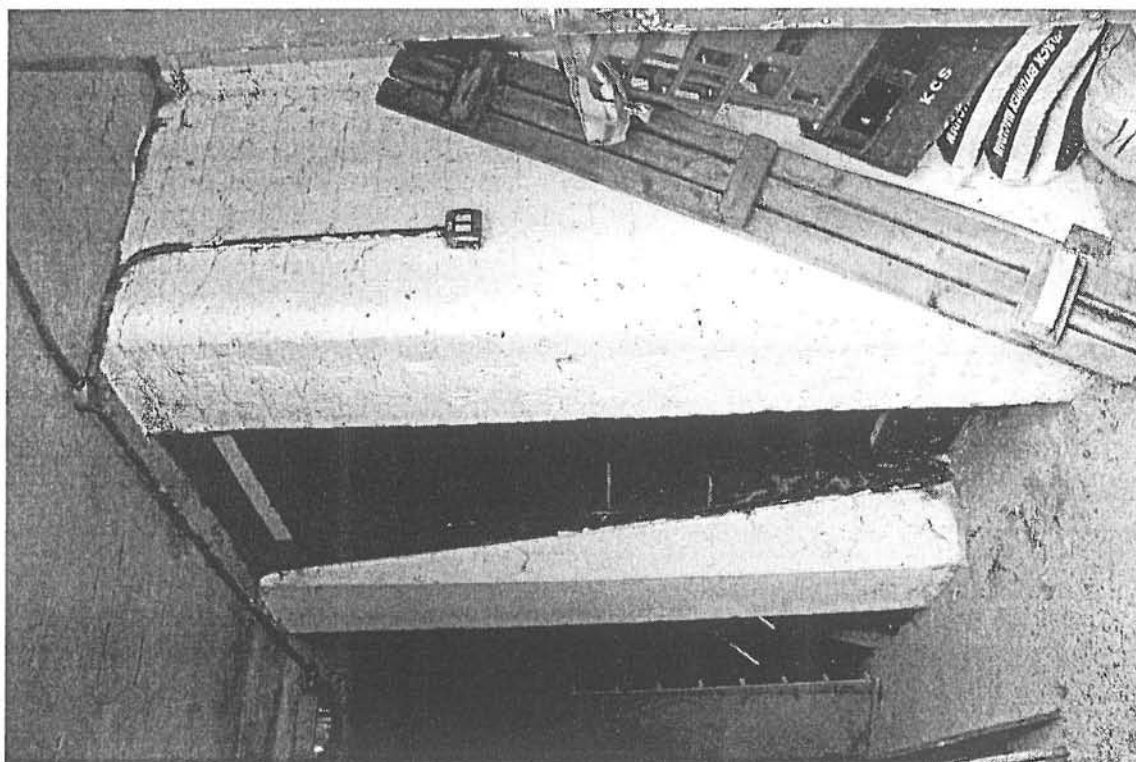
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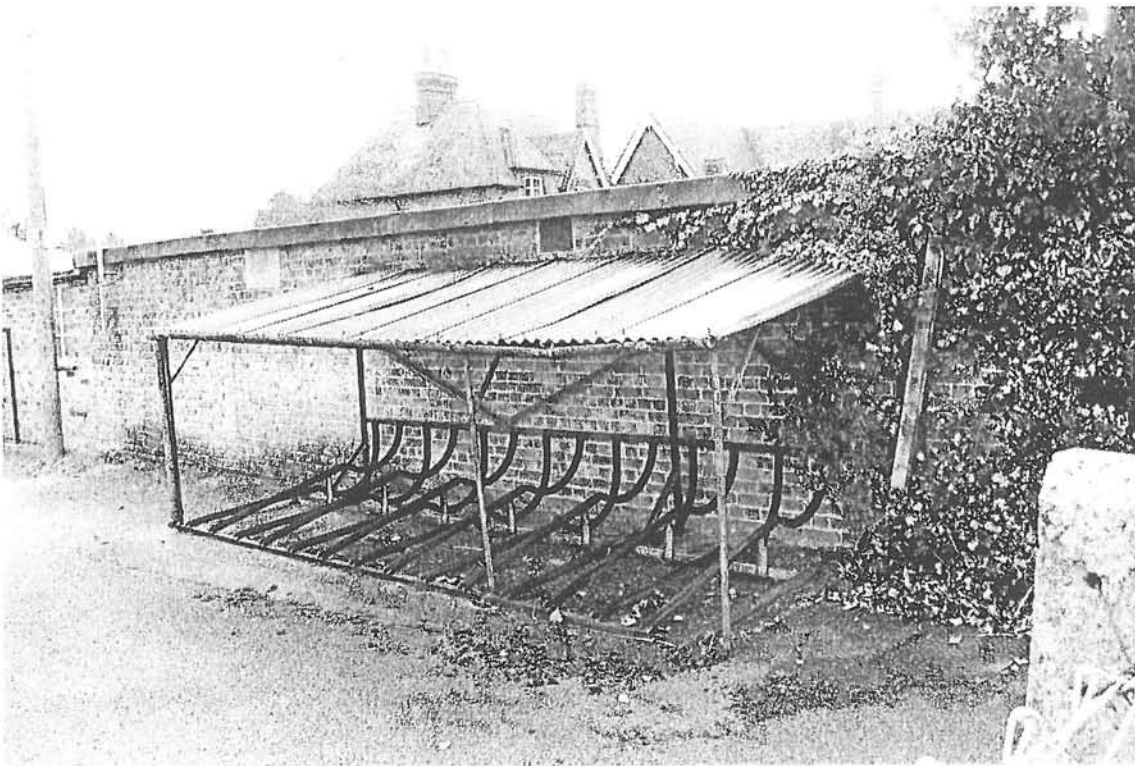
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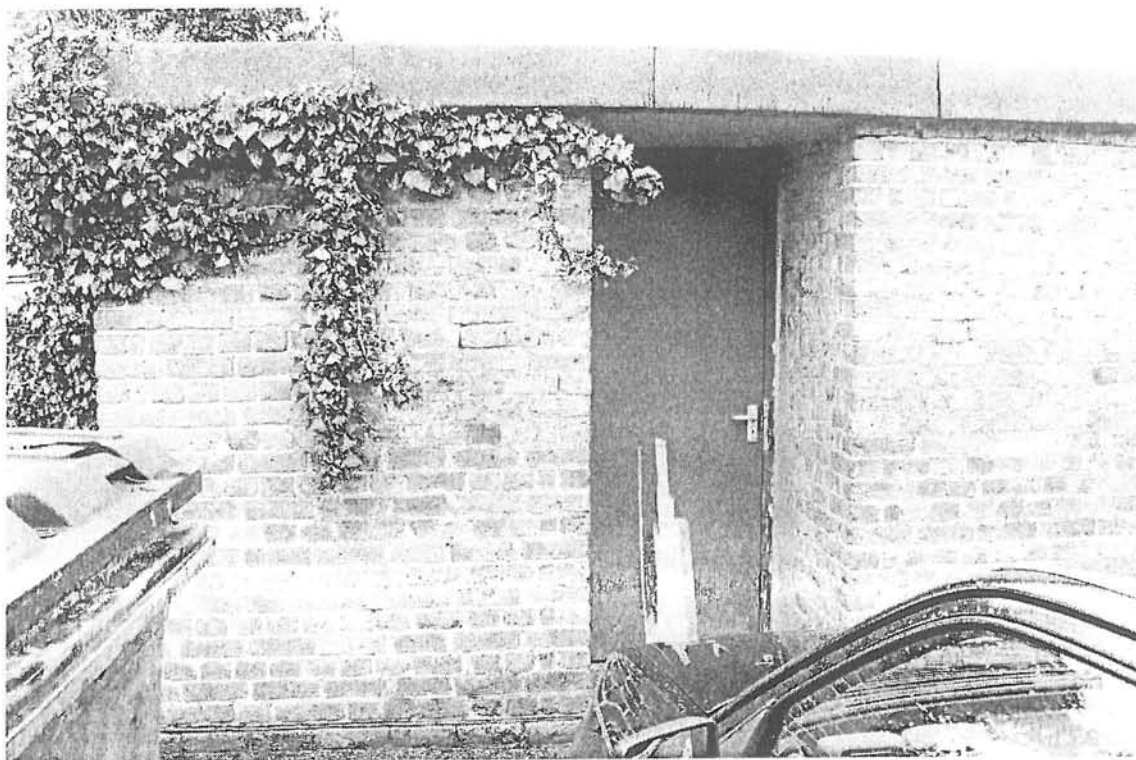
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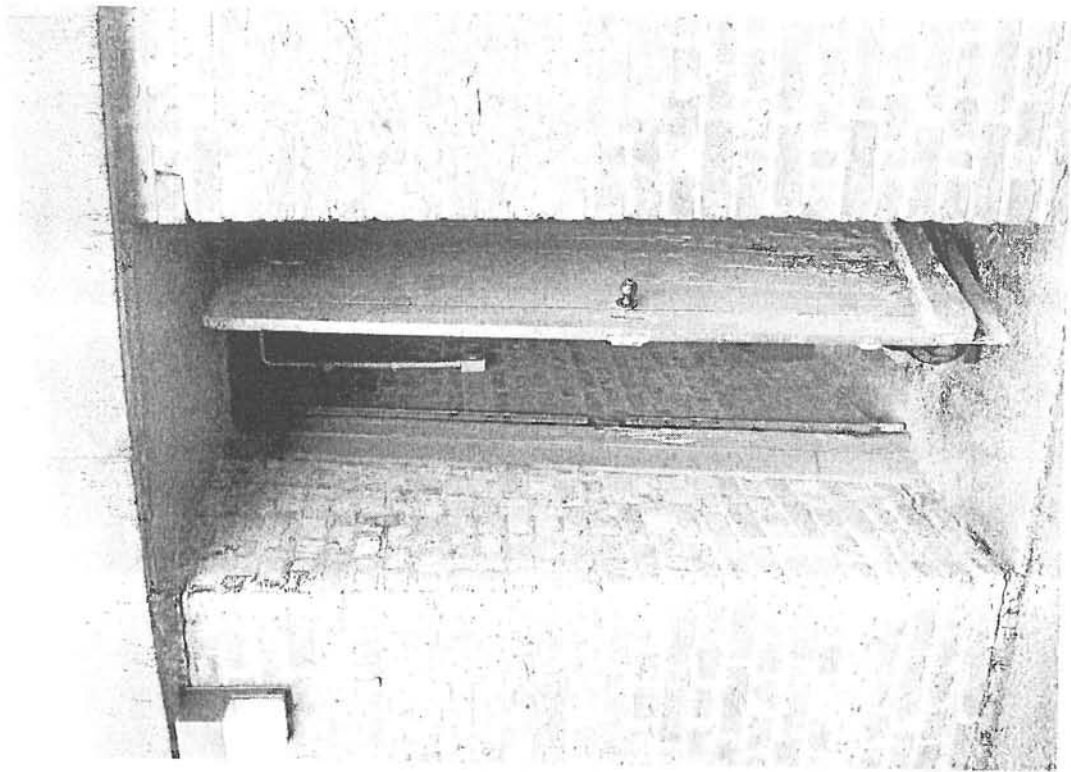
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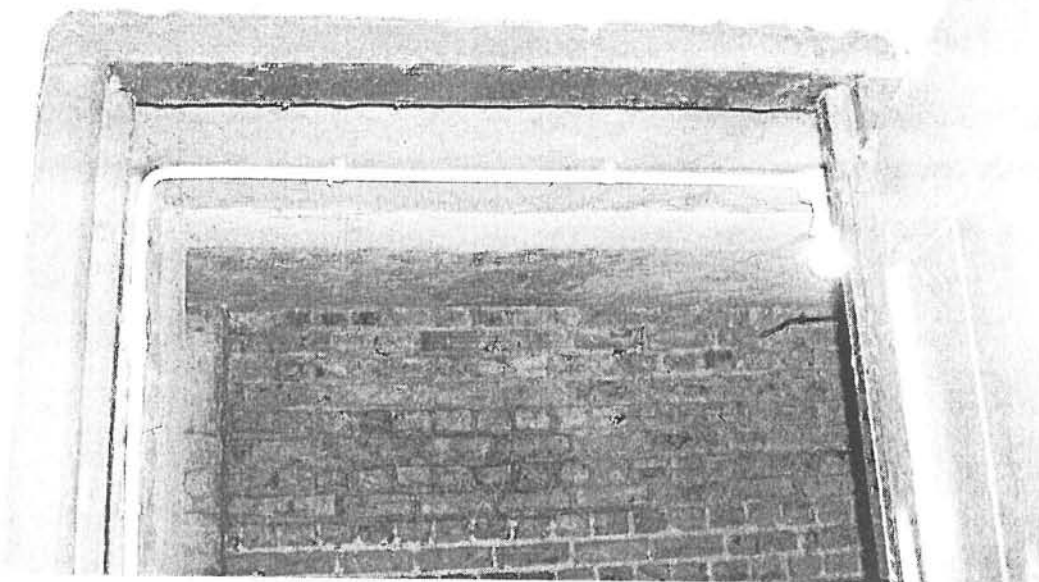
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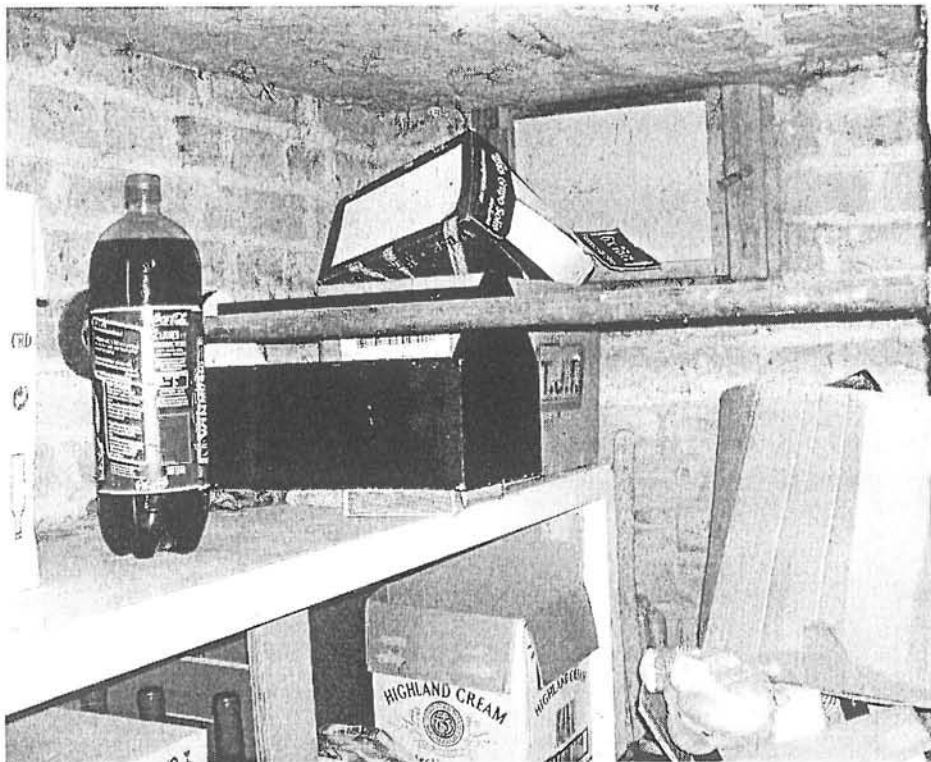
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