

Archaeological Services & Consultancy Ltd

**SURVEY OF FOUR WORLD WAR II
AIR RAID SHELTERS,
HARPENDEN,
HERTFORDSHIRE**

on behalf of Harpenden Town Council



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MAY 2007

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Figure 1: General location (scale 1:12,500)

Summary

In April 2007, ASC carried out a survey of four disused underground air raid shelters at Bowers Parade, Leyton Green (2) and Queens Road, Harpenden, Herts, in order to prepare accurate plans, to establish their precise locations, and to determine their condition. The survey results will assist in determining the long-term future of the shelters. All the shelters are trench built, and were constructed just before the start of World War II, using the cut and cover method, with reinforced concrete wall and roof sections. All are in good condition: only the Bowers Parade shelter exhibits any structural damage. Some discrepancies between the survey results and the available historical information were noted.

1 Introduction

1.1 In April 2007 *Archaeological Services and Consultancy Ltd* (ASC) carried out a measured survey of four World War II air raid shelters in Harpenden, Hertfordshire. The project was commissioned by *Harpenden Town Council* (HTC), and was carried out according to a methodology agreed between ASC and HTC. The survey has been undertaken in order to determine the location, extent and condition of the shelters, to inform deliberations by HTC regarding the future of the shelters.

1.2 *Location*

The four shelters are located in Harpenden, in the administrative district of St Albans, Hertfordshire. Three are situated within the town, at *Bowers Parade* (TL 1335 1442), *Leyton Green North* (TL 1339 1419) and *Leyton Green South* (TL 1340 1418). The fourth is located to the south of the town, on Harpenden Common, at *Queens Road* (TL 1392 1336). Shelter locations are shown in Figs 2-4.

1.3 *Geology & Topography*

Soils in the built-up area of Harpenden have not been mapped, but most likely belong to the *Batcombe Association* (Soil Survey 1983, 582a). These are described as ‘fine silty over clayey and fine loamy over clayey soils with slowly permeable subsoils and slight seasonal waterlogging. Some well-drained clayey soils over chalk. Variably flinty.’ The underlying geology comprises Plateau drift and Clay-with-flints. The natural drainage of the soils varies from moderate to locally imperfect.

1.4 *Local Background*

From notes provided by HTC, it is clear that Harpenden was quite well provided with a range of air raid shelters during World War II. In addition to the four examined in this survey, there was another underground shelter beneath the Public Hall car park in Arden Grove, and a surface shelter on Triangle Green, Southdown Road. Descriptions of both appear in Appendix 1. From these it appears that that the Southdown Road shelter was demolished, but that the Arden Grove shelter was sealed in the same manner as the surveyed examples.

In addition to the above, there were a number of related structures in the town. A shelter was proposed at the LMS station in July 1940 but was not built, and the

emergency control centre underground beside the (old) Fire Station was sometimes referred to as an air raid shelter. It was filled in when the present Town Hall was built. A 'tin' air raid shelter was provided in Crabtree Lane and was recovered by the Council in 1945. A specimen trench shelter was dug in Stewart Road in 1938 and remained for some months, allowing residents to see how to provide their own.

After the war the Council sought estimates to remove the principal shelters, but was horrified at the costs and decided that they should remain, with the exception of Southdown Road, Triangle Green, until better times allowed the expense.

1.5 **General Background** (after Brown *et al* 1996)

The need to provide shelter for the civilian population from air attack first became evident during German bombing raids on London during World War I. However, little was done until the increasing threat from Nazi Germany led to the passing of the *Air Raid Precaution (ARP) Act, 1937*. The Act placed a statutory obligation on local government to provide shelter and anti-gas precautions. The Munich crisis in August 1938 provided further impetus, and brought about increased central government control of this process. The Act allowed for civilian protection by personal gas masks and domestic air raid shelters. By the outbreak of war in September 1939, over 1,500,000 Anderson shelters had been issued to households with annual incomes of less than £250.

In contrast, large purpose-built 'bomb-proof' underground shelters were less favoured during World War II, being viewed as costly and as having a potential risk of high casualties from direct hits. The only purpose-built public shelters provided were of the trench variety (as at Harpenden) or single-storey surface shelters, designed to provide a temporary refuge for school children, for those living in densely built-up areas where Andersons could not be constructed, and those caught away from home.

Trench shelters were either of semi-sunken or underground type: early examples were simple trenches with revetted sides, which were subsequently roofed over with timber, concrete or steel. Later shelters were built by the cut-and-cover technique, using the spoil from the trench to cover a structure of pre-cast concrete or steel panels. This method of construction permitted a wide range of shelter sizes and layouts. Shelters were normally entered by a flight of steps flanked by blast walls. An emergency exit was often provided, consisting of a vertical ladder to a ventilated manhole cover. Fixed wooden benches along the walls provided seating. Lighting was sometimes by mains or battery-powered lights, though in some instances tallow candles or hurricane lamps were considered sufficient. As sustained bombing had not been anticipated, sanitary arrangements comprised at best a chemical closet behind a sacking curtain.

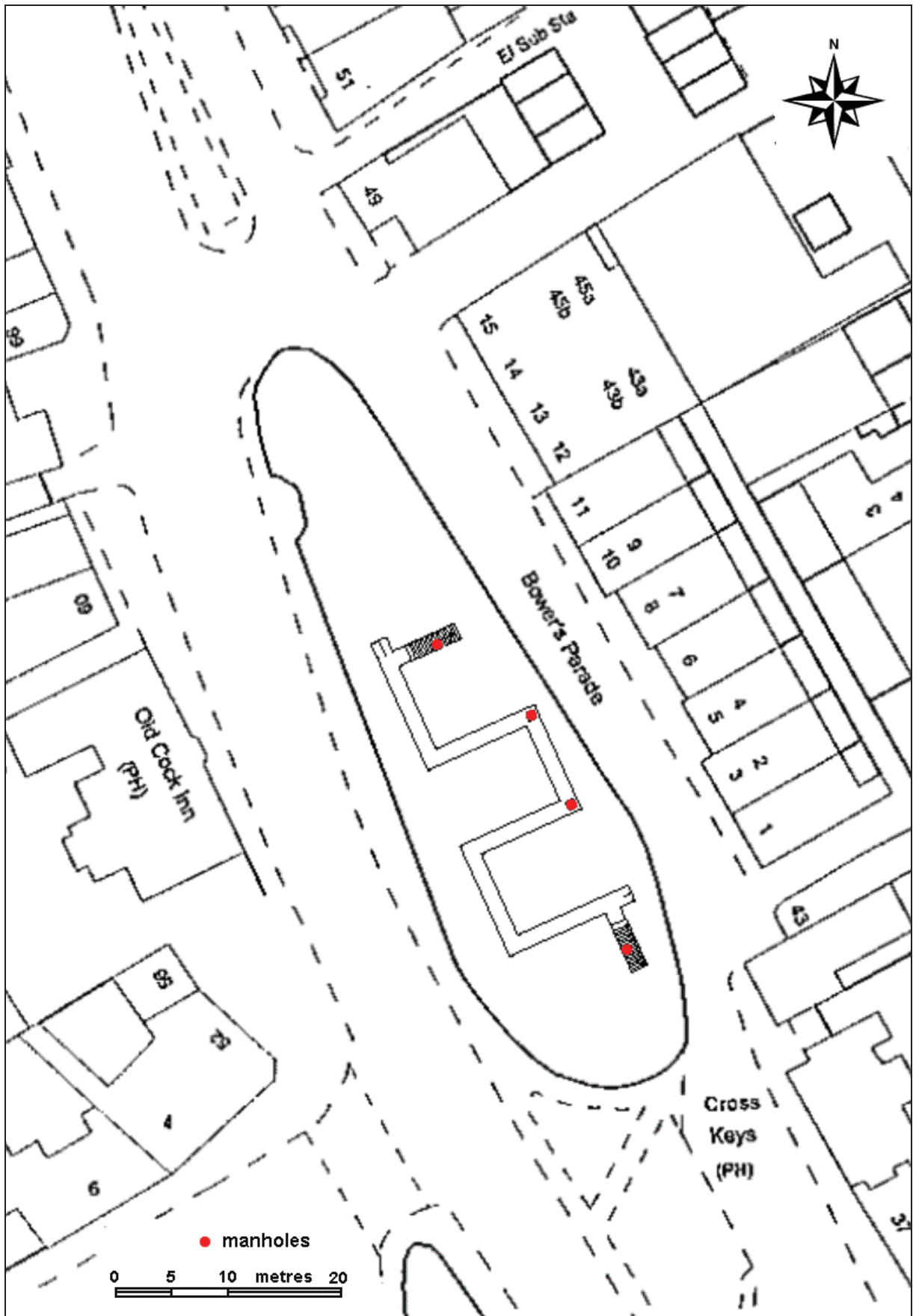


Figure 2: Bowers Parade shelter location (scale 1:500)

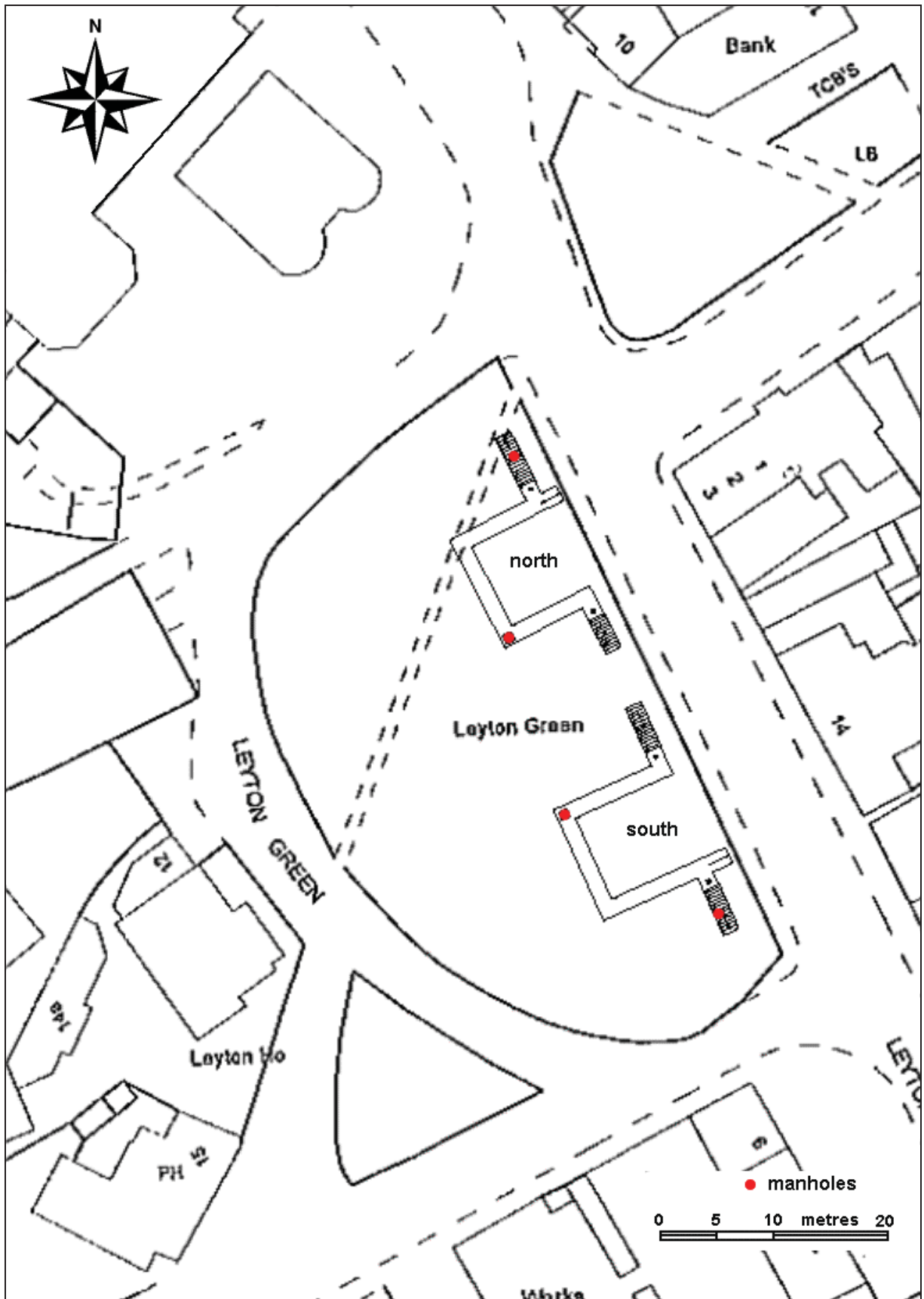


Figure 3: Leyton Green shelter locations (scale 1:500)

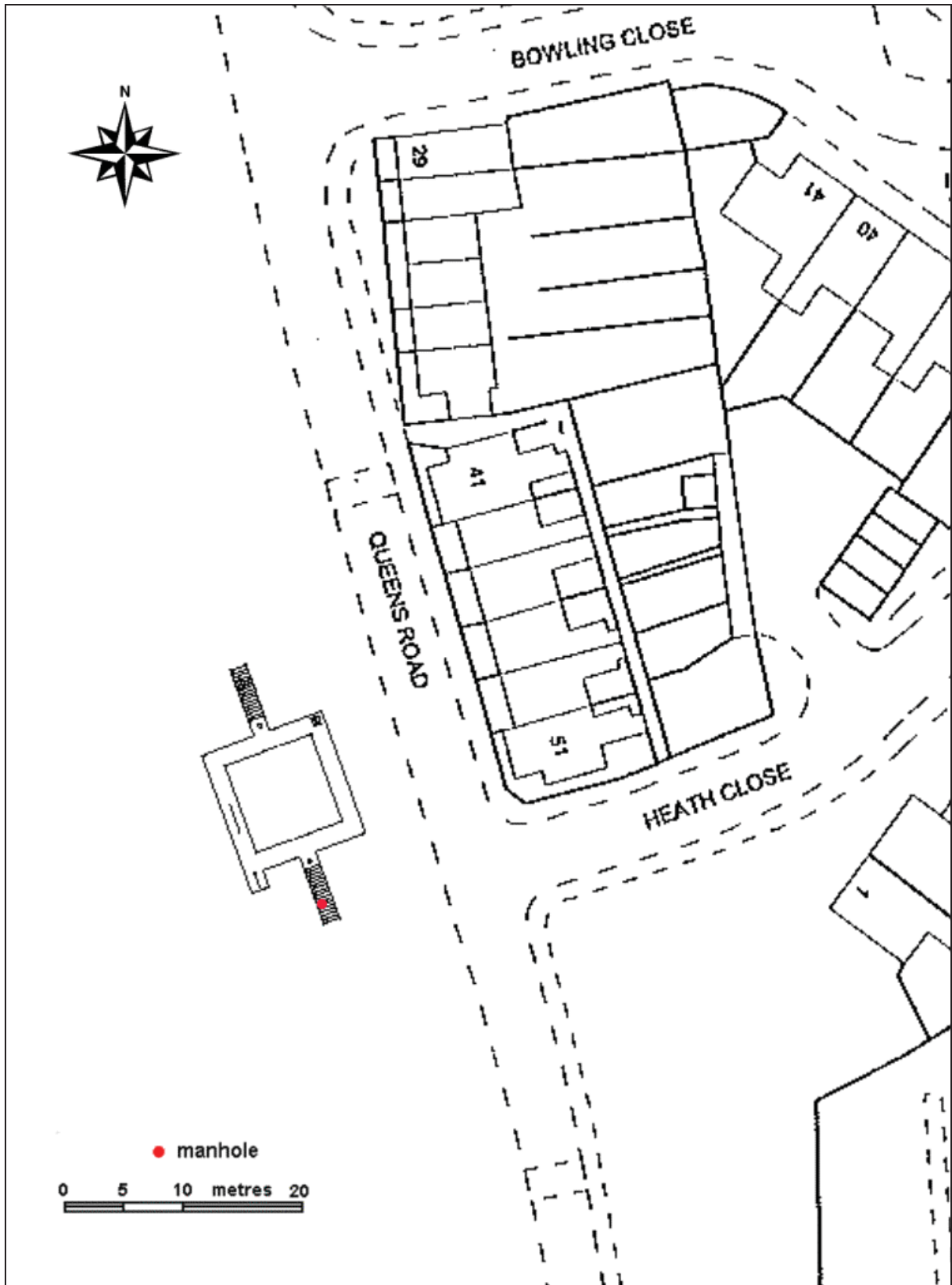


Figure 4: Queens Road shelter location (*scale 1:500*)

2 Aims & Methods

2.1 *Aims*

The aims of the survey were:

- to prepare accurate plans of each shelter
- to locate each shelter as accurately as possible in relation to above-ground features
- to record the present condition of each shelter

2.2 *Standards*

The work conforms to the requirements of Harpenden Town Council. Current English Heritage guidelines for building recording (EH 2006) were used as a basis for the survey methodology. The work was carried out in accordance with the codes and standards and guidance of the Institute of Field Archaeologists (IFA 200, IFA 2002).

2.3 *Methods*

The following methods were employed:

- *Planning:* detailed measurements were taken of each shelter by means of tapes and a laser distance measurer (LDM). The alignment of each shelter was determined by compass. CAD drawings for each shelter were prepared from this data
- *Location:* The extant ground-level manhole covers related to the shelters were surveyed using a total station and GPS, and their locations were plotted on a suitable Ordnance Survey base. These plots were then digitally overlain on the detailed shelter plans to provide a 'best-fit' location for each shelter.
- *Recording:* Notes were taken regarding the condition of each shelter. These were supplemented by limited photography.

2.4 *Constraints*

The potential dangers likely to be encountered when accessing and working in limited and long-sealed underground locations were taken into account in detailed risk assessments prepared by HTC and ASC. The resulting precautions were adhered to throughout the survey. The main problem encountered was the limited dimensions of the access manholes to two shelters, Leyton Green North and Queens Road.

3 Description

3.1 General

The shelters are all below the present ground level. They are all constructed in a similar fashion, with pre-cast reinforced concrete sections for the walls and ceilings, brick for the entrance walls and manholes, and concrete for the floors and stairs. From ground level the shelters were originally approached from either end by a flight of about 15 steps, each *c.*200mm high by 250mm deep, set at 90° to the body of the shelter for blast protection. At the base of the steps is an entrance area, floored in concrete with a brick built drain at its centre, covered by an iron grille *c.*0.3m square. The steps and entrance are flanked by brick blast walls, which were almost certainly reduced in height when the entrances were capped with concrete slabs in the post-war period.

The entrances to the shelters are all *c.*1.4m wide. There is no evidence that any ever had a door, with the exception of the Queens Road shelter. The shelters themselves consist of a passage, laid out in a series of doglegs to provide blast protection (Figs 7-9). Again, the exception to this is the Queens Road shelter, where the passages form a square (Fig. 10). In all shelters the passages are *c.*1.4m wide and 1.8m high internally, dimensions being dictated by the pre-cast wall and roof sections (Fig. 5). Passage floors comprise a central raised section *c.*1.0m wide, cast in situ. Flanking this on either side are gutters *c.*80mm deep, the floors of which appear to be comprised of concrete slabs *c.*200mm wide, laid across the passage. There are gaps between these slabs, evidently for drainage. At intervals of *c.*2.0m along the gutters are upright iron plates, pierced by a single hole, which evidently supported the frames for wooden benches, since removed. Bolts in the lower walls also served to support the benches.

The shelters were all provided with basic facilities for the comfort of their occupants. All appear to have had some form of electric lighting, powered either by battery or from the mains, and supplied by wires running through steel conduit, which survives in all the shelters, though no longer on the walls. Chemical toilets were also provided. HTC records note that eight chemical toilets were bought for the shelters in February 1940 at a cost of £1.1s.0d each, and that more were purchased in June 1942, when the partitions dividing them were to be breeze block instead of matchboarding, which had been used before and was more expensive. The toilets were housed in pairs (presumably ladies and gents), in short extensions to the shelter passage, separated by a narrow pre-cast concrete wall, made to look like brick. The toilets were presumably screened by curtains, though no trace of these survives.

In the event that the shelter entrances might be blocked, each shelter was provided with at least one escape hatch. This was located in the passage roof, as far away as possible from the entrance, and comprises a brick-built shaft rising above a special cast roof section to an iron manhole cover. A vertical ladder would have risen up the shaft, though none survive in the Harpenden shelters.

This form of pre-cast trench construction appears to have been widely used. One of a group of four shelters was recorded by ASC during construction works at Berkhamsted Collegiate School (Hunn 2002). The width and height of its chamber were almost identical to the Harpenden shelters, as were the concrete panels used in its

construction. An almost identical example is illustrated by Brown *et al* (1996, fig. 30b: reproduced below as Fig. 6) from the *Defence of Britain* project.

The roofs of the Harpenden shelters are currently covered by soil no more than about one metre deep. This is obviously insufficient to protect the occupants from a direct or near-direct hit, though it would have afforded protection from shrapnel and flying debris from nearby buildings. It is possible that the spoil from the excavations for each shelter was retained on site and mounded over the shelter for added protection, being removed after the war when the shelters were decommissioned. However, the writer is not aware of any evidence for this.

The following descriptions of each of the four shelters deal with their history, as recorded in the archives of Harpenden Town Council, and their locations, layout (Figs 7-10) and other features, likely capacity, and general condition. Estimates of capacity are based on an allowance of 0.6m of bench width per person.

3.2 *Bowers Parade* (Fig. 7)

History: Planning permission for the Bowers Parade shelter was granted in July 1939, and construction commenced on Friday 25th August of that year. In March 1941 battery lighting was installed. In October 1947 Harpenden Urban District Council took over responsibility for the shelter, and fitted the entrances with manhole covers at a cost of £30. The fence around the entrance remained until the 1960s. The manhole covers were barred and padlocked in 1983 to prevent children from using the shelters for glue sniffing. More recently, the appearance of a depression in the ground above the shelter indicated the possibility that part of the shelter had collapsed, prompting the survey that resulted in this report.

Location: The site of the Bowers Parade shelter was originally the Harpenden village pond, the *Cock Pond*, named after the adjoining *Cock* public house. The pond was drained in 1928, and grassed over in September of that year. In 1929 a privet hedge and shrubs were set around the area, which has remained as a public open space.

Layout: Contrary to the information provided by HTC, the Bowers Parade shelter is the largest of those examined in the present survey. It comprises some 54m length of passage (excluding stairways and toilets), in six sections, with stairways and toilets at each end, and two escape hatches.

Capacity: c.180, allowing for benches on both sides of the passage.

Condition: Generally sound and dry, apart from the second leg of the passage from the north entrance, where several roof slabs have cracked and sagged, though they remain in place at present. All four entrance hatches are visible on the surface, though only the northernmost can be used.

3.3 *Leyton Green North* (Fig. 8)

History: The existence of this shelter as a separate entity from Leyton Green South was only revealed by this survey. Council records (see below) appear to refer to a single shelter only on Leyton Green. Presumably the dates for Leyton Green South also apply to this shelter.

Location: This shelter occupies the north-east quarter of Leyton Green, adjacent to Leyton Road. Leyton Green is named after *Leyton House*, which stands on the south-west side of the green. The earliest Ordnance Survey map (1879) shows the site as a roughly rectangular open area, bisected by a path running from south to north. By 1898 the present shape of the green was defined by the road (also called 'Leyton Green') round its north, west and south sides, and a row of trees was planted alongside Leyton Road. The name *Leyton Green* first appears on the Ordnance Survey edition of 1924.

Layout: Some 29m length of passage (excluding stairways and toilet), in three sections, with stairways at each end, toilets adjacent to the north entrance, and one escape hatch.

Capacity: c.100, allowing for benches on both sides of the passage.

Condition: Generally sound and dry. Access is presently by the north manhole. The manhole at the south entrance is not visible on the surface.

3.4 **Leyton Green South** (Fig. 9)

History: HTC records state that planning permission for a shelter at Leyton Green was given in July 1939. Battery lighting was installed in March 1941. In October 1947 Harpenden Urban District Council took over responsibility for the shelter, and fitted the entrances with manhole covers. In 1983 these were barred and padlocked.

Location: Occupies the south-east quarter of Leyton Green. Other comments as for the north shelter.

Layout: Some 29m length of passage (excluding stairways and toilet), in three sections, with stairways at each end, toilets adjacent to the south entrance, and one escape hatch. Essentially a mirror image of the north shelter.

Capacity: c.100, allowing for benches on both sides of the passage.

Condition: Generally sound and dry. Access is presently by the escape hatch, requiring a long ladder. The manhole at the south entrance is not visible on the surface.

3.5 **Queens Road** (Fig. 10)

History: This shelter was planned in 1938, given the go-ahead on 21st March 1939, and completed on 4th August of that year. The information supplied by HTC states that construction cost £705, and that the shelter had seating for 400 people, and electric lighting. In December 1940 16 sleeping bunks were erected by Curl Builders at a cost of £30.1s.0d, but the soil over the roof had to be removed and the roof covered with bitumen to stop it leaking. The key to the shelter was kept in a glass-fronted box on the wall of the nearby row of houses (41-51 Queens Road), with a notice stating that it was to be used only in emergency, due to vandalism and misuse of the shelter. In May 1945 Harpenden UDC took over the site, and the two entrances were blocked by manhole covers. These were barred and padlocked in 1983.

Location: On Harpenden Common, nearly 1km south of the town centre, to the west of Queens Road, opposite its junction with Heath Close. The site of the shelter is marked by a distinct rise in the ground. The relatively remote location of this shelter is a mystery: with the exception of the row of cottages opposite, and the *Skew Bridge* public house 150m to the north, all other housing in the vicinity is of post World War II date.

Layout: In the Queens Road shelter the passages, totalling 36m in length, form a square with entrances to the north and south. The toilets are located at the south corner, *c.*4m from the south entrance. There is a single escape hatch in the north corner. From the surviving wall fixings, the aforementioned bunks appear to have been located against the inner walls on the north-east and south-west sides, with a passage around the outside.

Capacity: Seated *c.*120, allowing for benches on both sides of the passage. Bunks would have significantly reduced the shelter's capacity to *c.*76, comprised of 60 seats and 16 bunks.

Condition: Generally sound and dry. Access is presently by the manhole over the south entrance. The manholes over the north entrance and escape hatch are not visible on the surface.

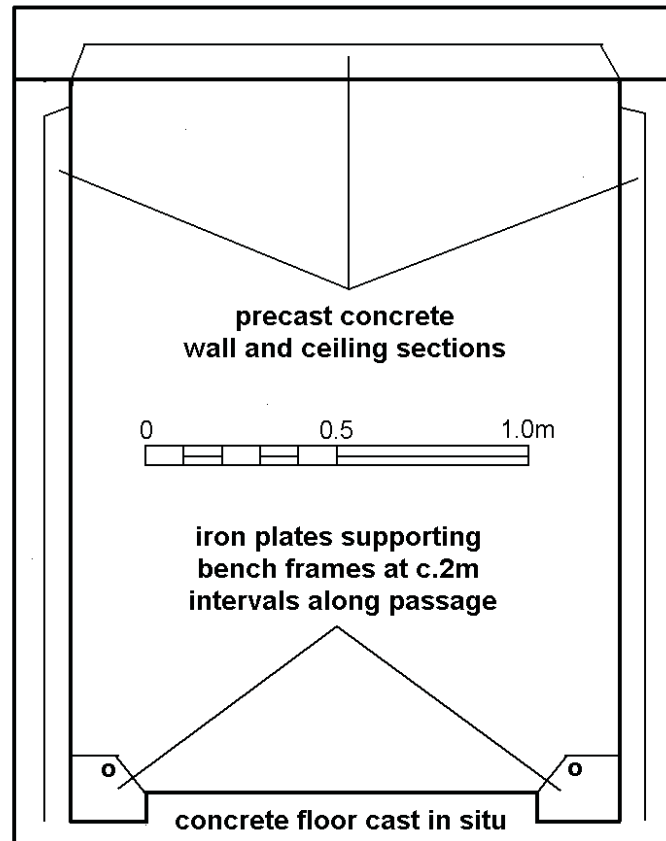


Figure 5: Section through Bowers Parade shelter (scale 1:20)

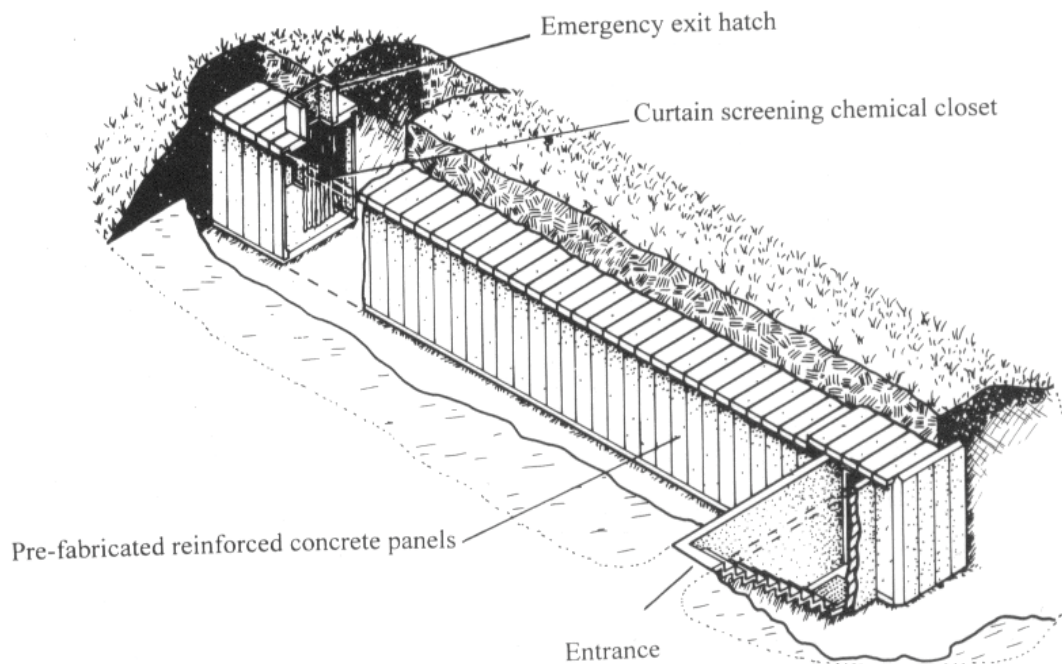


Figure 6: Typical trench shelter construction (after Brown et al 1996)

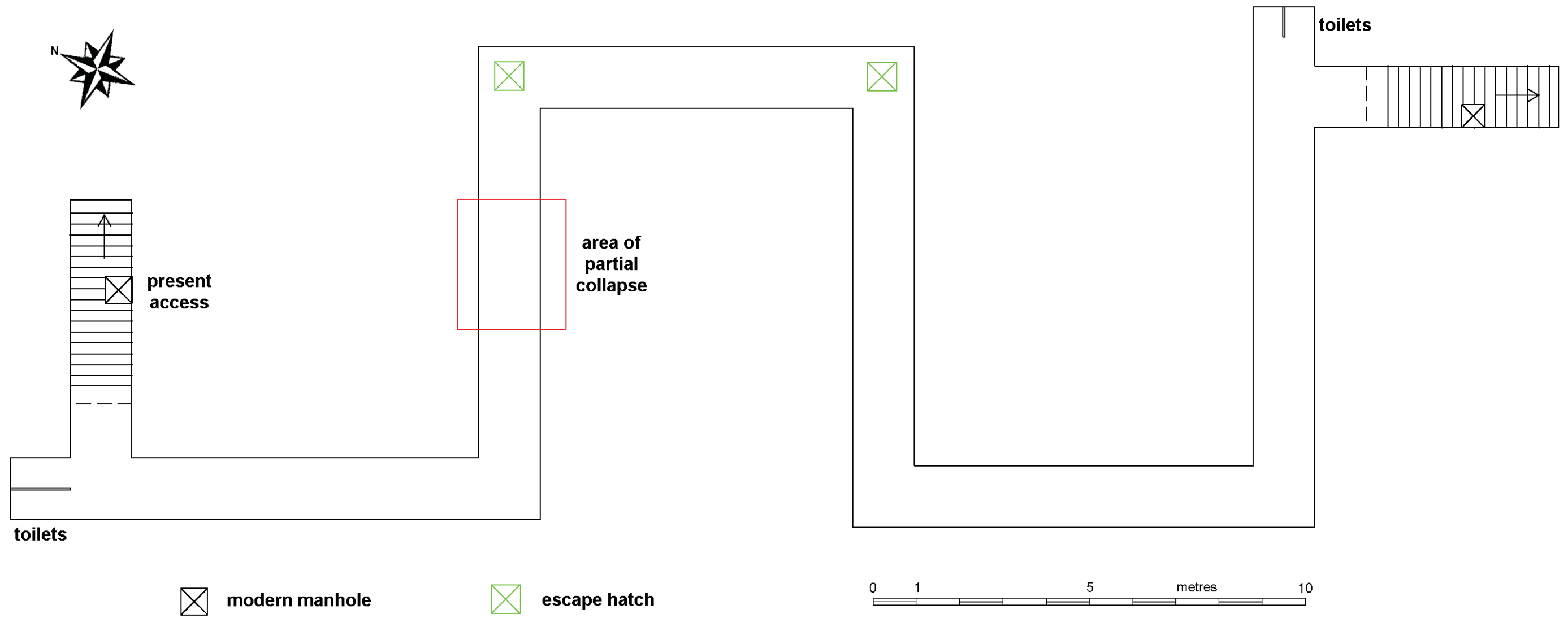


Figure 7: Bowers Parade shelter (scale 1:100)



Figure 8: Leyton Green north shelter (scale 1:100)

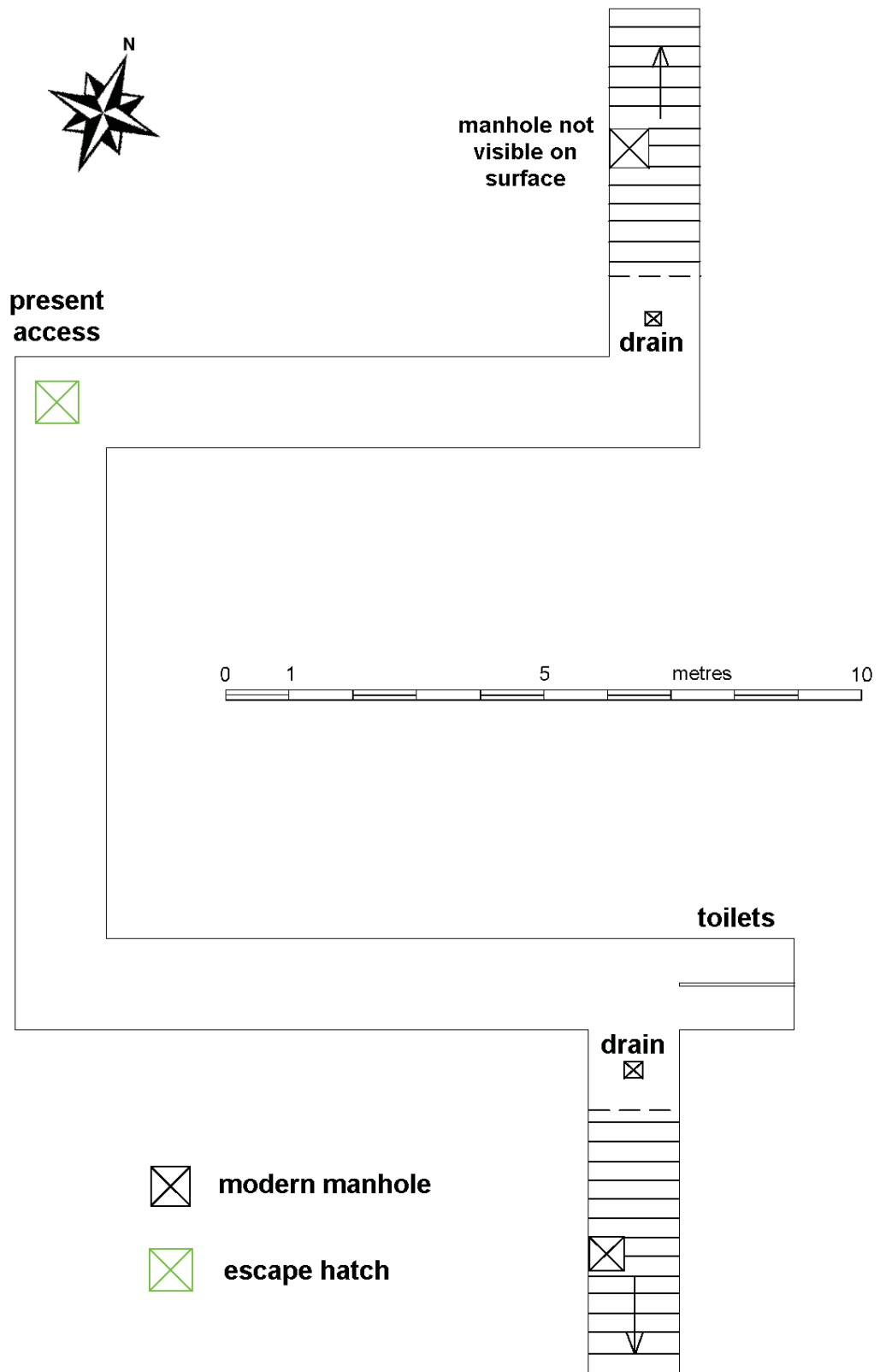


Figure 9: Leyton Green south shelter (scale 1:100)

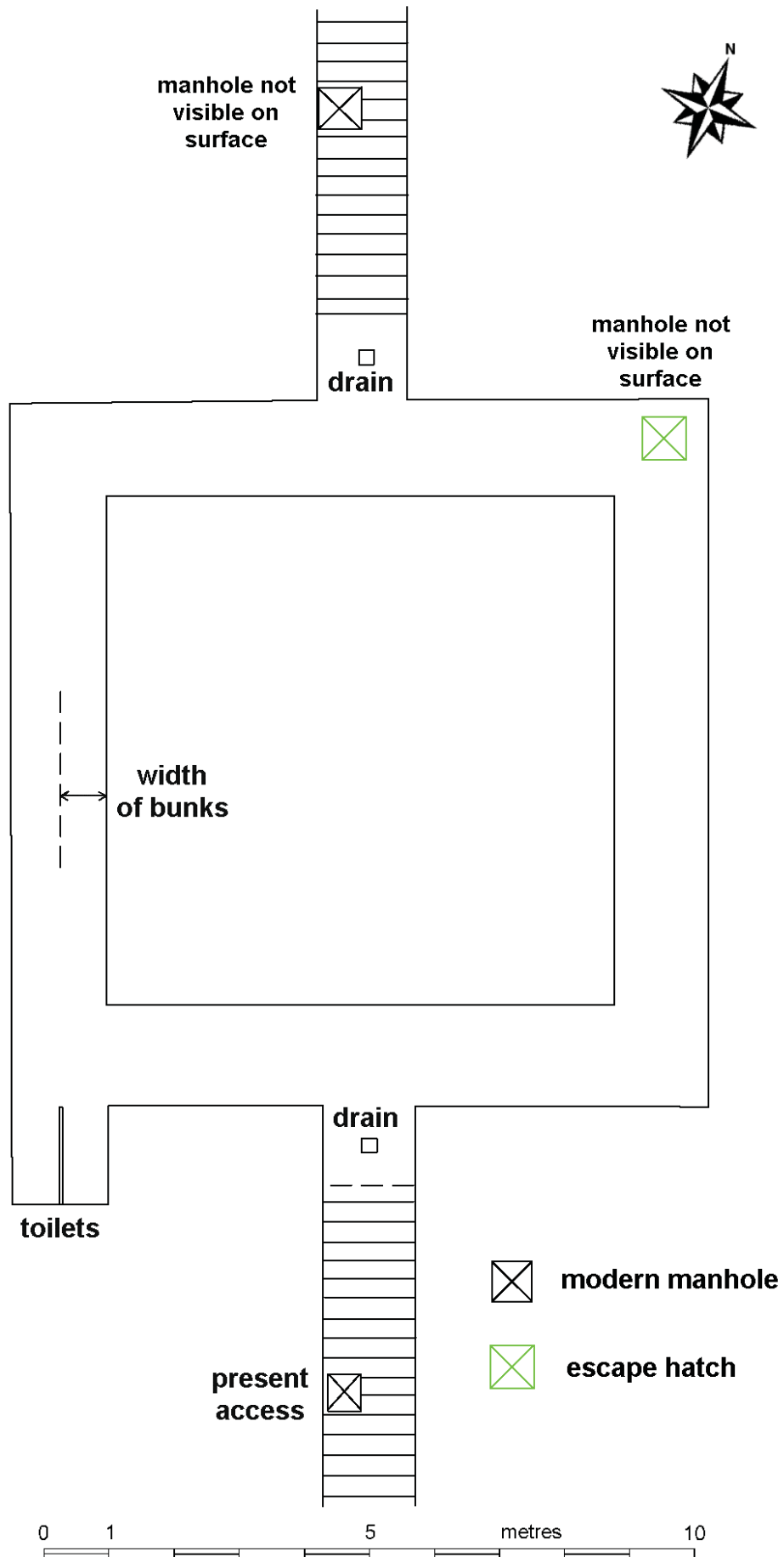


Figure 10: Queens Road shelter (scale 1:100)



Plate 1: Bowers Parade, interior



Plate 2: Queens Road, exterior (entrance in foreground)

4 Conclusions

- 4.1 The survey was able to successfully locate the air raid shelters at Bowers Parade, Leyton Green and Queens Road, and to record accurate plans of them. It is clear from the resulting drawings (Figs 2-4) that all four shelters are wholly located beneath existing public open spaces, and do not encroach on neighbouring roads and related services.
- 4.2 From the information provided by HTC it is evident that the surveyed shelters were constructed, with some foresight, in the months preceding the outbreak of war in September 1939. The Bowers Parade and Leyton Green shelters were built more or less simultaneously, which would explain their general similarities. The Queens Road shelter, though built with similar materials and techniques, was constructed a few months earlier, which may account for its different plan.
- 4.3 Despite the survey, and the information retrieved from HTC's archives, a number of questions remain regarding these shelters. At Leyton Green, HTC archives refer to one shelter, yet there are two, of identical size. Surely it would have been easier and cheaper to build a single shelter on the site, about the same size as the Bowers Parade shelter. Also, as the Bowers Parade and Leyton Green shelters were constructed by the 'cut-and-cover' method, were they originally beneath protective mounds that have been subsequently removed? What form did the shelters present above ground? With regard to the Queens Road shelter, the notes provided by HTC suggest that the shelter could house 400 seated individuals, though the survey has demonstrated that its capacity was nearer 120. Also, the relatively remote location of this shelter on Harpenden Common cannot be readily explained as yet. Perhaps some further research might shed light on these questions.
- 4.4 Structurally, all the shelters appear to be in generally good condition. The wall and ceiling panels all appear surprisingly clean and untouched, though some fine tree roots have penetrated joints, notably in Leyton Green North. The only shelter with structural problems is Bowers Parade, where several roof sections are cracked, and part of the roof has buckled. The reason for this is as yet uncertain, though it should be remembered that this shelter is on the site of the former village pond, so less stable soils in the vicinity might be expected. None of the shelters appear to be affected in any way by water ingress, indicating that their drainage systems continue to function. The proximity of the Leyton Green shelters to the row of large mature trees on the east side of the green might give cause for concern, though it is evident from the available map evidence that the trees predate the shelters by some forty years, and have coexisted without incident for a further sixty years.

4.5 *Future Options*

Any decisions regarding the future of these four air raid shelters will be made by Harpenden Town Council, based upon this report and any other relevant information. However, having become familiar with these structures and their local and historical context through carrying out this survey, the writers feel it is incumbent on them to offer some thoughts on this, which the Council is free to consider or dismiss.

In simple terms, there are three options that may be pursued:

1. Maintenance of the shelters in their present sealed condition
2. Permanently infilling the shelters with suitable material
3. Opening one or more shelters for educational use

Option 1 has effectively been pursued since 1947, when the Urban District Council assumed responsibility for the shelters and balked at the cost of infilling them. In the short term, following this option will require repairs to the roof of the Bowers Parade shelter, and the provision of a secure access point to each shelter for inspection and maintenance purposes. This would have to be of a sufficient size to permit safe access, including ladders and other relevant equipment. The manhole covers currently fitted to Leyton Green North and Queens Road are definitely too small for this. Due budgetary provision would have to be made to cover regular (annual?) inspections, and security.

Option 2 was last pursued in 1947, and rejected on cost grounds. In order to carry this out successfully and eliminate future problems, specialist advice would have to be sought regarding the method and type of material to be used. The operation would probably involve significant disturbance of the established public gardens at Bowers Parade and Leyton Green. In terms of quantities, the volume of the shelter passage at Bowers Parade is about 150 cu m, while the Leyton Green shelters are about 80 cu m each, and the Queens Road shelter is about 100 cu m.

With regard to Option 3, World War II now forms a part of the history curriculum in Key Stages 2 & 3. The National Curriculum specifically identifies visits to historic buildings as a part of the learning process. One of the Harpenden shelters, opened up and restored to operational condition, would provide schoolchildren in the area with a significant experience relevant to their studies of the period. It is possible that this could be funded in part at least by grants from English Heritage, the National Lottery or other appropriate sources. Operational costs could be met by charging admission.

5 Acknowledgements

This survey was commissioned and funded by Harpenden Town Council. The writers would like to thank the staff of the council, notably Julie Rees and Richard Sweetland, and the council's contractors, John O'Conner, for their assistance with the survey. Historical notes on the shelters were compiled by G.S. Woodward.

The survey was carried out for ASC by Karin Semmelmann BA MA AIFA and Bob Zeepvat BA MIFA, assisted by Caroline Barclay. The report text was written by Bob Zeepvat, and the drawings were prepared by Karin Semmelmann. The report was edited by David Fell BA MA MIFA.

6 Archive

6.1 The project archive will comprise:

1. Method Statement
2. Report
3. Historical & Survey notes
4. Survey drawings
5. List of photographs
6. CDROM with copies of all digital files.

6.2 The archive will be deposited with Hertfordshire Archives & Local Studies Library

7 References

Standards & Specifications

EH 2006 *Understanding Historic Buildings: a guide to good recording practice*. English Heritage (London).

IFA 2000 Institute of Field Archaeologists' *Code of Conduct*.

IFA 2001 Institute of Field Archaeologists' *Standards & Guidance* documents (*Desk-Based Assessments, Investigation and Recording of Standing Buildings*).

Books and Historical Sources:

Brown, I, Burridge, D, Clarke, D, Guy, J, Hellis, J, Lowry, B, Ruckley, N. & Thomas, R. 1996: *20th century defences in Britain*. Council of British Archaeology (York).

Hunn J.R, 2002 *Archaeological Recording of Air Raid Shelters and Earthworks at Berkhamsted Collegiate School, Berkhamstead, Hertfordshire*. ASC report BCS02/02.

Historical information regarding the shelters was provided by HTC, from their archives (see Appendix 1)

Appendix 1: Historical Notes

Notes provided by Harpenden Town Council, from their archives

Bowers Parade – Cock Pond

The Village pond was drained in 1928 and in September the area was grassed over. In November 1929 a privet hedge and shrubs were set around the area.

In July 1939 planning permission was given to build a trench shelter on the site and work started on Friday 25 August 1939 at midday and resumed the following Monday. In March 1941 battery lighting was installed. Harpenden UD Council took over the shelter in October 1947 and blocked the entrance with a manhole cover at the cost of £30, but the fence round the entrance remained until the 1960's. The manhole cover was barred and padlocked in 1983 due to children using the shelter for glue sniffing.

Arden Grove – Public Hall Car Park

This area was to be a garden when the new Public Hall was built, but war preparations caused a change of plan and it became a shelter instead. The work started on 20 November 1939 by Fowler Builders at a cost of £69.1s.0d. In March 1941 the North Met Electric Co installed mains electricity.

A manhole cover was filled over the entrance in October 1947 when Harpenden UD Council took it over, but the gate and fence round the entrance remained until July 1948. The air vents still remain, in the hedge alongside Arden Grove.

Southdown Road – Triangle Green

A surface shelter was planned in October 1940 and erected soon after.

In December 1940 Hurricane lamps were installed for lighting. In February 1941 it was strengthened with steelwork and, in December 1941, the 14" walls were increased to 18" thick.

It was demolished in May 1945 and the hardcore used for road building.

Queens Road

Planned in 1938 and given the go ahead on 21 March 1939, this shelter was built under the Common by Heath Road at a cost of £705, and was completed on 04 August 1939 with seating for 400 people and electric lighting.

In December 1940, sixteen double sleeping bunks were erected by Curl Builders for £30.1s0d, but the soil over the roof then had to be removed and the roof covered with litumen to stop it leaking.

The key was kept in a glass case box on the wall of a nearby house with a notice that it was only to be used in emergency, due to vandalism and misuse.

In May 1945 the electric lights were removed and Harpenden UD Council took over the site, blocking the entrance but leaving the chain link fence round it for sometime afterwards.

Leyton Green

Planning permission was given in July 1939 to put a trench shelter under the green. In March 1941 battery lighting was installed.

The two entrances were blocked by manhole covers in October 1947 when Harpenden UD Council took over the site and in 1983 the covers were barred and padlocked.

General Notes

All the shelters were inspected in September 1940.

Eight chemical toilets had been bought in February 1940 at a cost of £1.1s.0d each for the various shelters and more were bought in June 1942, but this time they were to be divided by breeze block walls, as this was cheaper than using match-boarding as before.

A shelter was proposed at the LMS station in July 1940 but was not built, and the emergency control centre underground beside the (old) Fire Station was sometimes referred to as an air raid shelter. It was filled in when the new Town Hall was built.

A 'tin' air raid shelter was provided in Crabtree Lane and was recovered by the Council in 1945. A specimen trench shelter was dug in Stewart Road in 1938 and remained for some months allowing residents to see how to provide their own.

Once life became more normal after the war the Council sought estimates to remove the shelters, but was horrified at the costs and decided that they should remain, with the exception of Southdown Road, Triangle Green, until better times allowed the expense. They all remain today.

Information given by G. S. Woodward
August 1998

Appendix 2: ASC OASIS Form

PROJECT DETAILS			
Project Name:	Harpenden Air Raid Shelters		
Short Description:	<i>In April 2007, ASC carried out a survey of four disused underground air raid shelters at Bowers Parade, Leyton Green (2) and Queens Road, Harpenden, Herts, in order to prepare accurate plans, to establish their precise locations, and to determine their condition. The survey results will assist in determining the long-term future of the shelters. All the shelters are trench built, and were constructed just before the start of World War II, using the cut and cover method, with reinforced concrete wall and roof sections. All are in good condition: only the Bowers Parade shelter exhibits any structural damage. Some discrepancies between the survey results and the available historical information were noted.</i>		
Project Type:	Structural survey		
Site status:	none	Previous work:	no
Current use:	disused	Future work:	no
Monument type:	Air raid shelters	Monument period:	modern
Significant finds:	none		
PROJECT LOCATION			
County:	Hertfordshire	OS references: (8 figs min)	BP: TL 1335 1442 LGN: TL 1339 1419 LGS: TL 1340 1418 QR: TL 1392 1336
District:	St Albans	Parish:	Harpenden
Site address:	Bowers Parade / Leyton Green / Queens Road, Harpenden		
Study area: (sq. m. or ha)	N/a	Height OD: (metres)	N/a
PROJECT CREATORS			
Organisation:	Archaeological Services & Consultancy Ltd		
Project brief originator:	-	Project design originator:	Bob Zeepvat
Project Manager:	Bob Zeepvat	Director/Supervisor:	Bob Zeepvat
Sponsor / funding body:	Harpenden Town Council		
PROJECT DATE			
Start date:	17 th April 2007	End date:	4 th May 2007
PROJECT ARCHIVES			
	Location (Accession no.)	Content (eg. pottery, animal bone, files/sheets)	
Paper:	Hertfordshire Archives & Local Studies Library	1 archive file	
Digital:		CD with all digital files	
BIBLIOGRAPHY (Journal/monograph, published or forthcoming, or unpublished client report)			
Title:	Survey of Four World War II Air Raid Shelters, Harpenden, Hertfordshire		
Author(s):	Karin Semmelmann BA MA AIFA & Bob Zeepvat BA MIFA		
Page nos		Date:	4 th May 2007

Appendix 3: SMR Summary Sheet

Site name and address: Bowers Parade / Leyton Green / Queens Road Harpenden		
County: HERTFORDSHIRE	District: St Albans	
Village/Town: Harpenden	Parish: Harpenden (unparished)	
Planning application reference: n/a		
Client name, address, & tel. no: Harpenden Town Council Town Hall Leyton Road Harpenden Herts AL5 2LX		
Nature of application: n/a		
Present land use: four disused air raid shelters		
Size of application area: n/a	Size of area investigated: n/a	
NGR (to 8 figures): Bowers Parade: TL 1335 1442 Leyton Green North: TL 1339 1419 Leyton Green South: TL 1340 1418 Queens Road: TL 1392 1336	Site code: 896/HAS	
Site director/Organization: Bob Zeepvat / ASC Ltd		
Type of work: Structural survey		
Date of work:	Start: 17 th April 2007	Finish: 4 th May 2007
Curating museum: Hertfordshire Archives & Local Studies		
Related SMR nos: n/a	Periods represented: modern	
Relevant previous summaries/reports none		
Summary of fieldwork results: <i>In April 2007, ASC carried out a survey of four disused underground air raid shelters at Bowers Parade, Leyton Green (2) and Queens Road, Harpenden, Herts, in order to prepare accurate plans, to establish their precise locations, and to determine their condition. The survey results will assist in determining the long-term future of the shelters. All the shelters are trench built, and were constructed just before the start of World War II, using the cut and cover method, with reinforced concrete wall and roof sections. All are in good condition: only the Bowers Parade shelter exhibits any structural damage. Some discrepancies between the survey results and the available historical information were noted.</i>		
Author: Bob Zeepvat	Date: 4 th May 2007	