

**THE ROYAL GUNPOWDER FACTORY,  
WALTHAM ABBEY, ESSEX  
AN RCHME SURVEY, 1993**

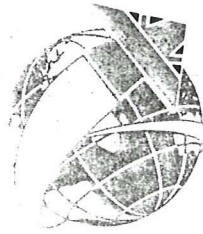
**Millhead**

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ROYAL  
COMMISSION  
ON THE  
HISTORICAL  
MONUMENTS  
OF ENGLAND





**BRITISH AEROSPACE**  
**DEFENCE**  
**ROYAL ORDNANCE**

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MEMORANDUM

*\**  
**TO:** A. Ford

**FROM:** G.G. Vincent

**DATE:** 20th September 1994

**SUBJECT:** RECOVERED MILLSTONES

**CC:** R. Watts, P. Mayell, Team

*Adam, I marked  
up the original  
in error. Sorry.*

*Bob*

As discussed we will make arrangements to move all recovered millstones and parts of millstones to a centre storage area (to be decided) away from the area of activity.

Due to the size and weight, and the need not to cause damage, we will require the use of a hired in mobile crane, for the ~~execute.~~  
*exercise*

Regards,

Graham Vincent

*Ps.*

*Possible use of Cat front loader for this purpose  
GAV.*

Subject MILLHEAD CANAL

To **Graham Vincent**

Date 19th July 1995

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From **Bob Watts**  
Ref E5275/01/1/03

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Graham,

As discussed:-

- i) Scrape only peat off (maximum 100mm) unless obstructions etc. encountered.
- ii) In order to travel up canal on gravel push material remaining to the side.
- iii) Use stone on Terram to form a clean ramp into canal (which can remain on completion).

Regards

BOB WATTS.

Copy:- Steve Chaddock

## MILLHEAD - REMOVAL OF FILLS

During decontamination work at Waltham Abbey, the fill of all known canals or drainage leats was removed under the guidance of the on site archaeologist who was guided by Scheduled Ancient Monument Consent HSD9/2/3130 pt.2.

In the case of Millhead the fill of the waterways made up a significant proportion of the whole existing landmass. It seems as if fly tipping had been practised, as the hard-core in the canals would have made up more buildings than were known historically.

[RCHME 296] Millhead Stream was fully excavated along almost its full length, the only exception to this being at the northern end, where the old line of the Millhead Stream has been truncated by the flood relief channel, Horsemill Stream. At this northern point, between 155 and Intersection 10, the fill was found to be mostly gravels, presumably deriving from the Horsemill Stream widening in the 1970's, and so a central 'V' only was dug and two supporting banks left up against the canal walls.(Site Photography)

Causeways, with pipes to allow water flow, have been reinstated at the two crossing points. One on the east/west road towards the north of H7, and one from the roundabout east/west to the south of H7.

Previously water powered, the mills along the islands of Millhead Stream also had their wheel shots excavated. These were sandstone curves with some repair patching in evidence.

All steps were taken to restrict excavation on the islands of Millhead Stream and, apart from localised asbestos removal necessary for health and safety reasons, this was achieved.

The southern end of Millhead Stream, the 'Gullies' [RCHME 135], were uncovered during 1995. These interesting water management structures proved to contain phases dating back to the early part of the site's history. Cotswold Archaeological Trust won the contract to record the remains, which included the foundations of 211a, and their report and archive are held on site.

To the east and west of [RCHME 296] Millhead Stream lie the mill races [RCHME 119] and [RCHME 301] respectively. These have both been decontaminated by excavation and are crossed by piped causeways in the same fashion as Millhead Stream (see above).

Also in 1995, Hoppit Pool, which both [RCHME 296] Millhead Stream, and its westerly race [RCHME 301] flow into, was pumped down and the silts excavated. A temporary dam to the immediate south of Bridge 17 kept the water back and it was possible to examine the foundation of the Island Site as well as the 'Gullies' [RCHME 135].

The Island Site is set on a wooden pile foundation, the waterlogged sludge below this receded without water saturation and the chance was taken to insert some concrete support to the foundation. (Site Photog).

[RCHME 135] The 'Gullies' 19th Century brick built walls are founded on wooden piles in an orderly manner, the piles following the walls in the same line as the walls. On the southern edge, the existence of a number of horizontal and vertical timbers was discovered. This construction aligned itself to the east of the centre of the 19th Century sluices. The irregular eastern timbers were packed with some chalk. (See Site Photog). To the west, the island on which 211 sits, the island was founded on more regular upright timbers standing c. 1½ metres from the walls and possibly packed with rubble. It seems reasonable to suggest that this western island is founded on 19th Century style foundations.

**S. Chaddock**  
**Consultant Archaeologist**  
**29.08.95**

Subject **HOPPIT POOL PENINSULA**To **Graham Vincent**Date **14th June 1995**

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**From** **Bob Watts**  
**Ref** **E5275/05/1/02**

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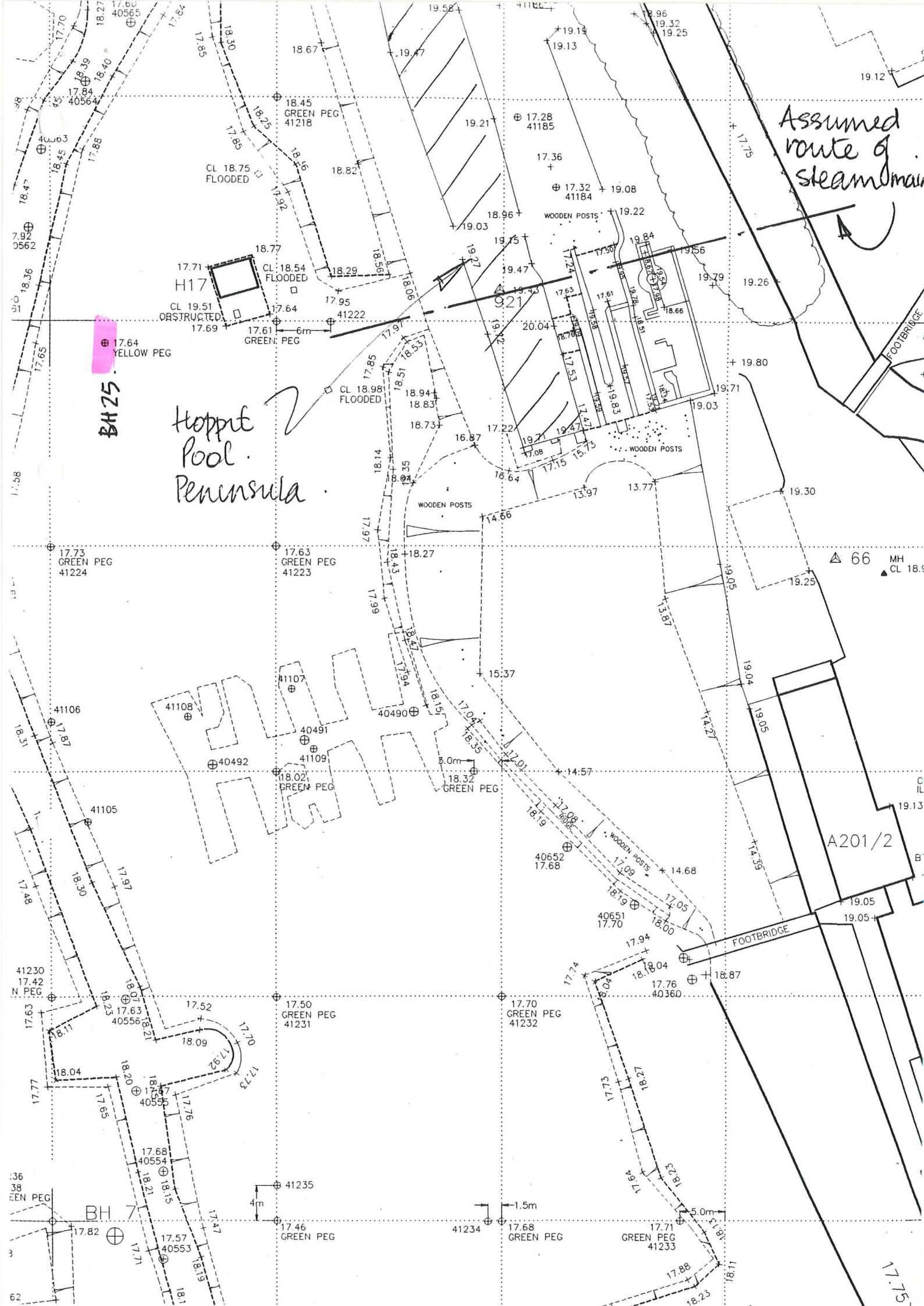
Graham,

1) Paul Morris has discovered blue asbestos adjacent to the large tree stump. Further investigation revealed steam main lagging fragments. Please arrange:-

- a) Small machine to scrape the surface (but not remove) of paved areas. Remove surface vegetation and soil.
- b) At tarmac adjacent tree stump step down. This materials is special waste. Use Fitzjohn to cut stump, remove if not connected to brickwork.
- c) Remove to scrap heap steel items and all metals.
- d) Remove logs to Burning Ground. Remove surface mounds of soil.
- e) Steve Chaddock will have recovered any artifacts.
- f) Extreme care not to dig out remains. Dumper can access the area.
- g) Capping solution yet to be resolved.
- h) Ariel photographs indicate a steam main line crossing the sluices in the approximate position shown on attached plan.

Regards

**BOB WATTS.**Copy:- **Steve Chaddock**



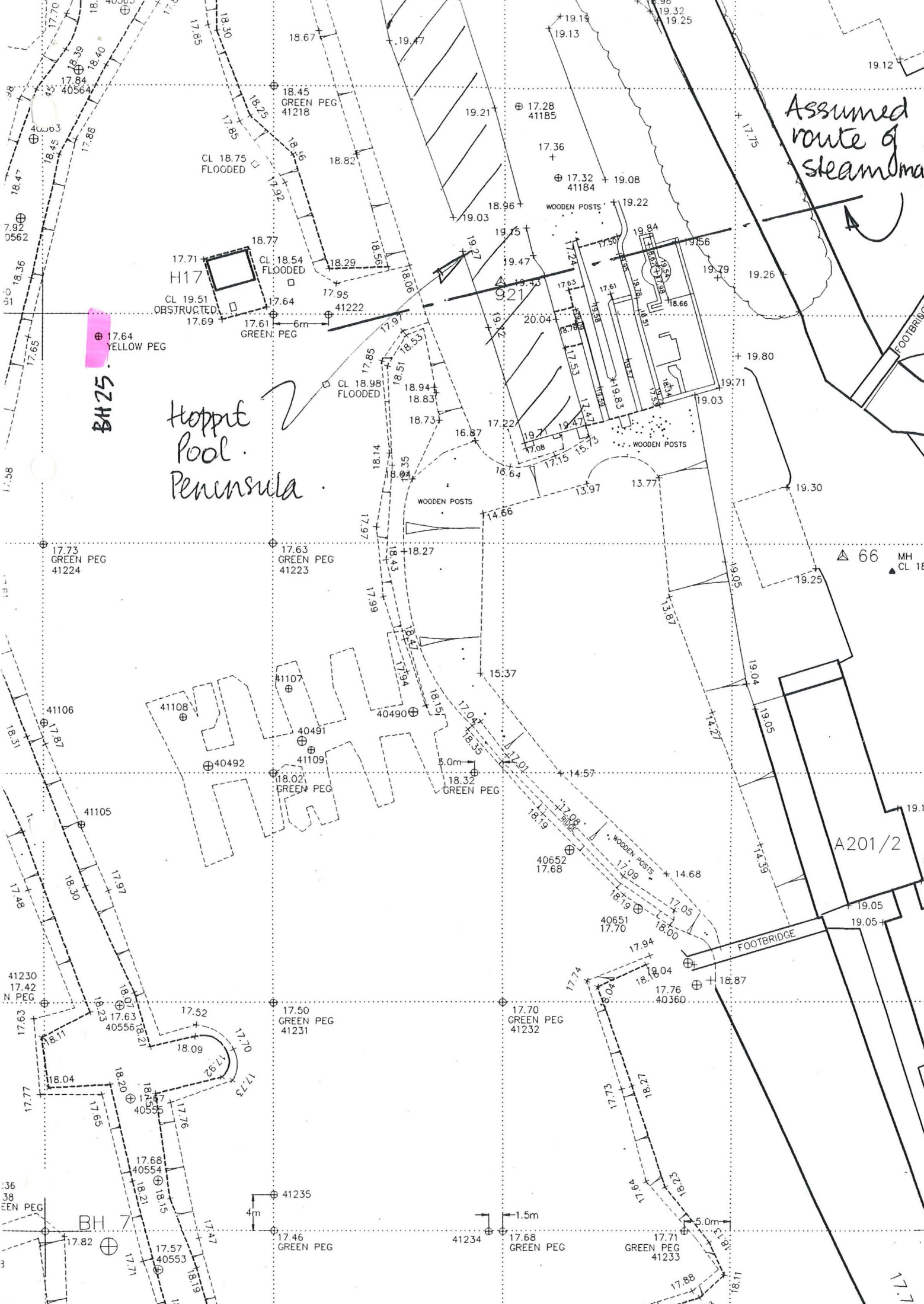
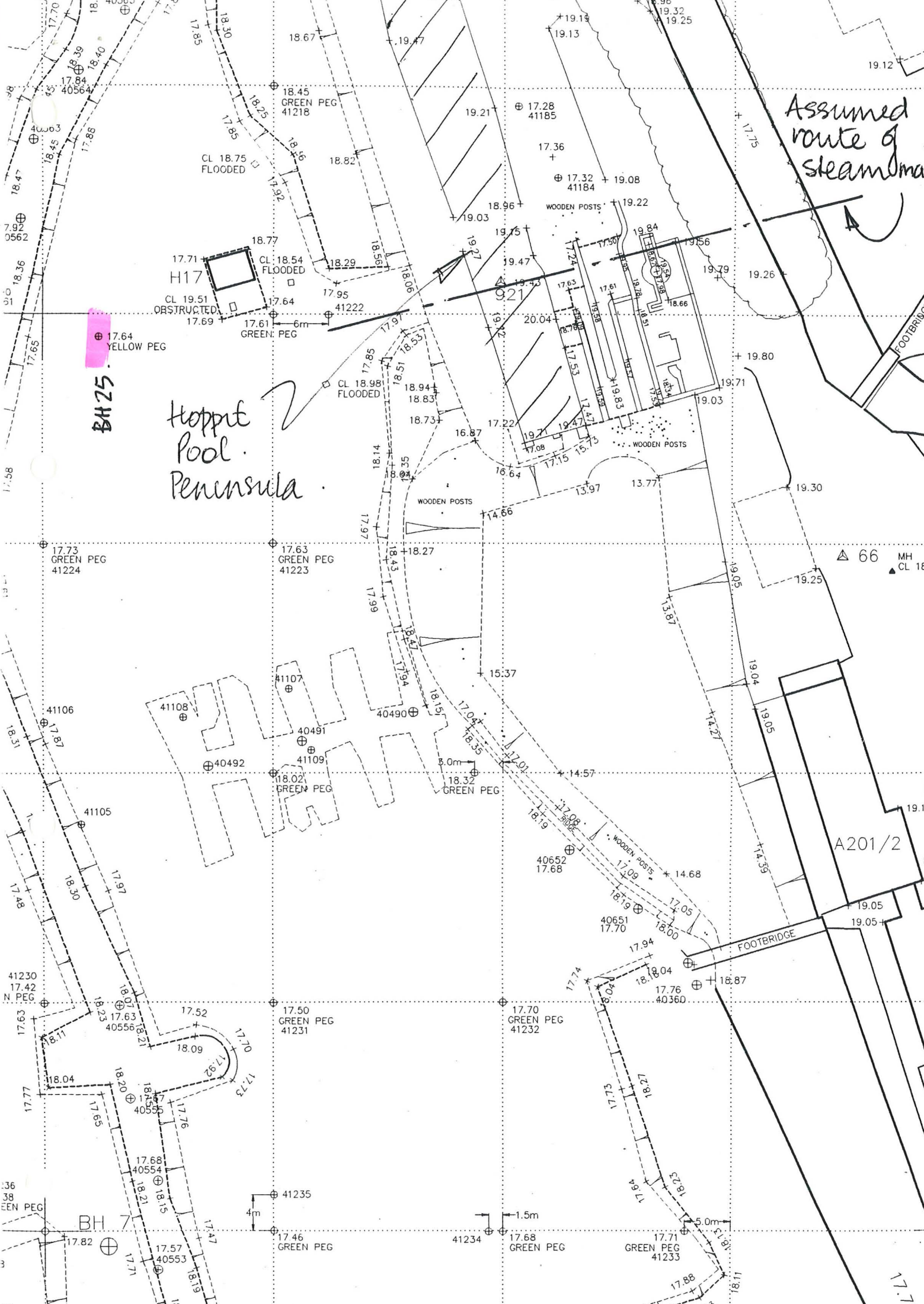
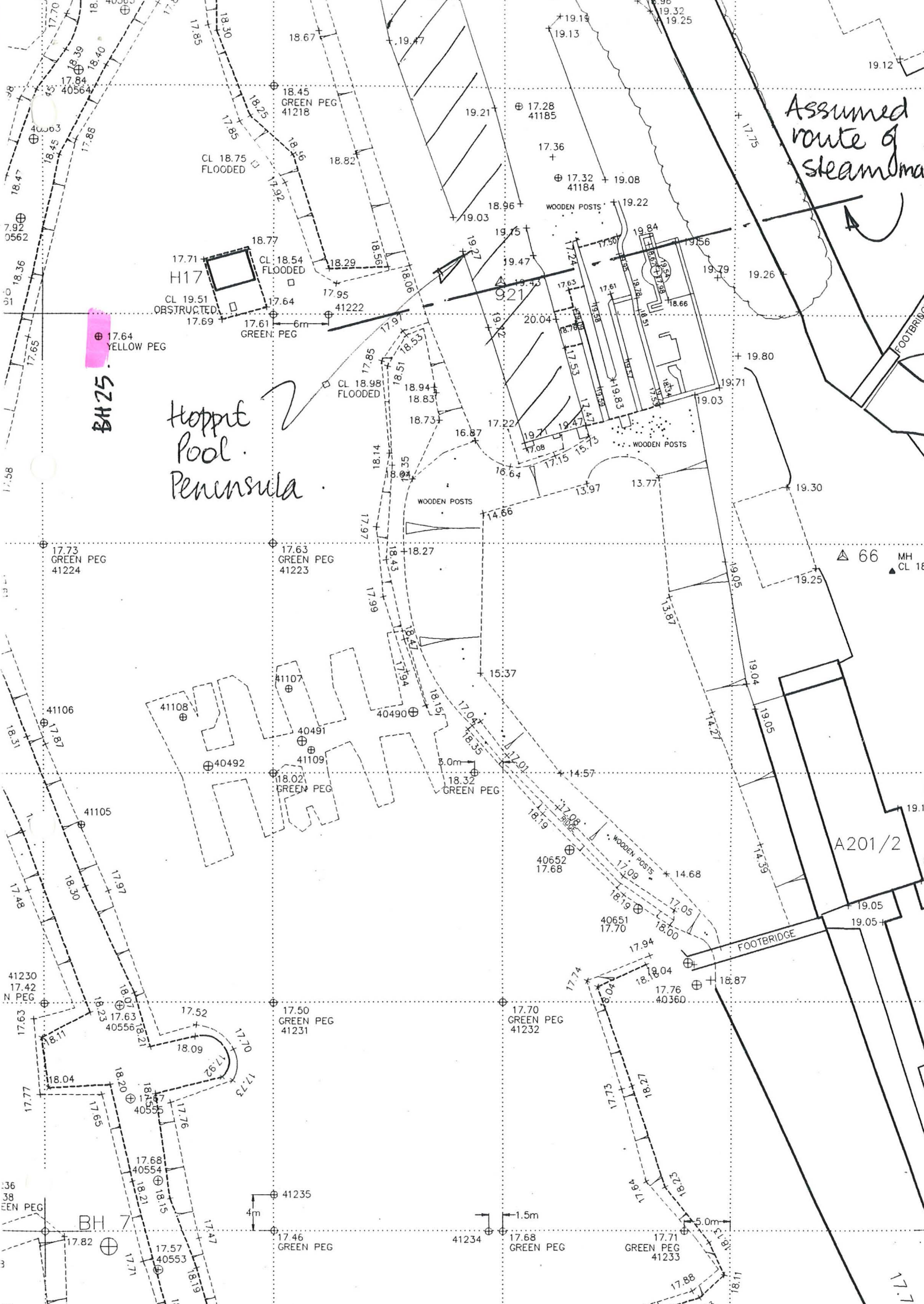
Assumed route of steam main

Hopped Peninsula

BH 25

H17

A201/2





Subject **HOPPIT POOL***Millhead*  
~~Millhead~~To **Graham Vincent**Date **25th January 1995**From **Bob Watts**  
Ref **E5275/05/1/02**

Graham,

Please proceed with clearance of Hoppit Pool as follows:-

- i) Ascertain availability of Portadam to be placed adjacent Bridge 17. Optimum date to install Monday 13th March 1995. Please advise if attainable.
- ii) Nick Buck of NRA will be available to remove fish by hand net from the pumped down pool on Wednesday 15th March 1995 (dependent on Portadam).
- iii) This work should be carried out in conjunction with the excavation of the remaining filled canal section and road crossing. To prevent disruption the road crossing is to be excavated, terram placed against canal walls and granite fill introduced with type 1 topping as previously constructed in H Area. The existing clay bund will control water from the fully excavated canal. A similar bund could be placed in the upper stretch of the partially excavated canal. Refilling of the excavated canal under the temporary road to the North of A201 should proceed as before described. Additional concrete pipe sections may be necessary. Save original temporary road type 1 for re-use.
- iv) Removal of the Stamp Mill Pit, and clean up around the area including the base of the plane tree, should be included in these works. The SMC is long awaited (perhaps mislaid in DNH) and problems are not anticipated.
- v) The banks to Hoppit Pool adjacent H Area are to be stripped of the stone pitching which is to be stored. This work to include a manual phase in order to separate the stone from foreign objects. Excavation of any fill behind the stone can then be carried out and a clay bank placed. On completion of the clay work, final removal of pockets of fill adjacent the power line to H17 pumps can be undertaken.
- vi) Large blocks in Hoppit Pool bed to be put aside for habitat. Care to be taken to preserve sluice structures. Collection of mill wheels and artifacts will complete the works.

vii) An additional SMC application is not necessary.

viii) A requirement for significant pumping capacity is envisaged. Arisings from the canal are likely to be uncontaminated as before. Further classification is not necessary unless visual evidence suggests otherwise. The sludge arisings from the pool can be dealt with in a similar way.

Please discuss.

Regards

BOB WATTS.

Copy:- Mr.S.Chaddock.

Millhead Millstone in RCHM301: TL 37628 01047

December 1994.

Removal of Hoppit Road, causeway to tailrace (RCHM301), found little archaeology except the brick built wall of the tailrace on the eastern side.

It is worthy to note the discovery of at least half a millstone which was embedded in the eastern bank of the tailrace just to the south of the brick revetment. The millstone was left in situ, about 2 metres below the surface at TL 37628 01047.

11.1.95  
S.E.B.C.

*Stones of sedimentary limestone  
c.3tonne in weight.*

**Adam Ford BA (HONS)  
Archaeological Consultant  
Former RARDE North Site  
Waltham Abbey**

**MEMORANDUM**

To :

From : Adam Ford

Date : 13th May 1994

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**STAMP MILL ISLAND SITE**

**FOR INFO.**

**RECORDING STRATEGY.**

- 1) Finish the clean up: scrape down, clear vegetation and final brush up.
- 2) Take record shots: general, plan and detail views in colour slide and black and white print.
- 3) Draw sections at scale 1:10. Add new features to MKS 1:100 plot of remains. Draw plan of mill remains at scale 1:20 to include more detailed features. Possibly draw some wall elevations 1:20.
- 4) Written description.
- 5) Take levels.

This will be completed as soon as possible. Any further remains uncovered during removal of sump pit and surface scrape will be added when necessary.



**Adam Ford.**

cc. R.Watts  
G.Vincent  
K.Plowright

Subject: Stamp Mill Island Site.

To: Graham Vincent.

From: Bob Watts

Date: 12/5/94.

Ref: E 5275/01/1/02.

Graham, (1) Adam Ford, 'Asbestos finder General' has spotted blue rope in the fill next to the 5' imp mill. Please arrange for PJ to bag this up next week.

2) Adam is preparing an SMC application to remove the sump, hence behind and steam main support. Before this work commences (after receipt of consent) heavy gauge polythene, punctured to allow escape of rainwater, is to be placed in the excavation and heqgin or a rained ballast backfill applied upto top of mill brickwork. Temporary poly sheets on top of fill will permit removal of sump etc without compromising the remains of the stamp mill.

3) As preparator, and to allow Adam to photograph the building plan before filling please allocate 2 labourers to hand dig the surface under AT's direction.

Bob Watts

copy: Adam Ford 23/11/91

Adam Ford BA (HONS)  
Archaeological Consultant  
Former RARDE North Site  
Waltham Abbey

MEMORANDUM

To : G.G. Vincent  
From : Adam

Date : 4th May 1994

Island Site - Stamp Mill

Graham, would it be possible to arrange for a body to clean up the Stamp Mill remains next to the road.

- Remove vegetation

- Remove loose rocks + soil etc.

The valve pit sitting on top will have to stay for the time being until an SMC can be prepared for its removal.

I will supervise the work.

Cheers  
Adam

cc R.E. Watts

**ROYAL GUNPOWDER FACTORY WALTHAM ABBEY**  
**(FORMER RARDE NORTH SITE)**

**MILLHEAD CANAL CLEARANCE**

Protected under Scheduled Ancient Monument framework. Under section 50 of the Ancient Monuments and Archaeological Areas Act 1979 Crown land is exempt. However acting in accordance with paragraph 36, part i of the memorandum accompanying DoE circular 18/84 ("Crown Land and Crown Development"), we will abide by the constraints of the above protection.

Clearance to proceed on canal work has been given as long as :

- a) English Heritage or their representatives have been informed in advance of the work commencing.
- b) The site archaeologist is present at all times.

Work must not proceed if:

- i) The site archaeologist is absent.
- ii) The work is judged to be damaging archaeological deposits.
- iii) If the work is judged to be proceeding in an irresponsible and unprofessional manner.
- iv) If the work is proved to be unnecessary.

The timetable for the work should make allowances for adequate recording of the archaeological deposits and retrieval of artifacts.

The area of excavation should be clearly defined and no plant should move outside this area without permission from the site manager.

It should be made clear to site personnel that it is an offence to remove artifacts from a Scheduled Ancient Monument without prior consent from English Heritage.

Provision should be made to sure up the retaining walls and other bank structures as the excavation proceeds.

It is quite probable that the fill consists of loose rubble which will allow water from Hoppit Pool to inundate the excavation. Work in this area cannot be carried out "blind" so provisions for pumps and a temporary dam should be made.

Adam Ford.  
Consultant Archaeologist.

11/4/94.

cc G.G.V.  
A.J.H.  
B.W.  
D.R.

**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

NUMBER L123	OLD SERIES	RCHME NUMBER	N.G.R. TL 37510 01342
NAME/FUNCTION Magazine solvent store		START DATE 1952	END DATE 198?
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION  c1963 WASC 900/97 1972 WASC 900/102 1972 WASC 900/104 1976 WASC 900/113		DOCUMENTARY REFERENCES  1972 ERDE List - Solvent Store 1952  1992 RARDE List - Magazine solvent store	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME  1) 206/N/18 From southwest	
RELATIONSHIPS WITH OTHER MONUMENTS  ASSOCIATED WITH: L128			
CONDITION      Good			
<p>DESCRIPTION</p> <p>1)      CONSTRUCTIONAL MATERIAL          Brick</p> <p>2)      ROOF MATERIALS AND STRUCTURE          Corrugated asbestos</p> <p>3)      POWER SOURCE          Steam heating and electricity</p> <p>4)      DIMENSIONS i) L 4.7m ii) W 2.3m iii) HT 2.75m</p> <p>5)      The building is single storeyed with a rectangular ground plan it has gabled walls east and west. The building is divided into two by a centre partition wall. The northern room was entered through metal grilled doors on the west and east elevations the southern room through double doors on the southern elevation. Attached to the north of the building was an open sided gas bottle store covered by a veranda. The building was protected by a lightning conductor.</p> <p style="text-align: center;"><i>Cleaned out Sept. 1995</i></p>			



## THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES	RCHME NUMBER	N.G.R.
	97		TL 37414 01761
NAME/FUNCTION Corning House No.4 Corning House No.2 and Press House (Exploded) Granulating House No.2 Breaking Down House No.1 and Pebble Cutting House (Exploded) Rebuilt Tetryl Still and Purification House	START DATE pre 1821  1844  1890? 193?	END DATE  13th April 1843  22nd August 1890 193? 1945?	
NO PHOTOGRAPHY AVAILABLE			
<b>CARTOGRAPHIC DEPICTION</b>  1827 WASC 900/04 + MPH 271 ; Corning House (No.2) 1830 WO55 2694 ; 145 1830 WASC 900/05 ; Corning House No.4 c1835 WASC 900/07 ; Corning House No.4 1844 OS Sheet 72 Brentwood ; Corning House 1865 WASC 900/38 + SUPP5 975 ; Granulating House No.2 1865 WASC 900/42 ; No.2 Granulating House 1897 WASC 900/53C c1910 WASC 900/65 ; 97 c1910 WASC 900/79 ; 97 1917 WASC 900/70 ; 97 1917 WASC 900/72 ; 97 1919 WASC 900/74 ; 97 c1920 WASC 900/80 ; 97 1923 WASC 900/84 ; 97 1932 WASC 900/87 ; 97 ; 97 > 1940 WASC 900/91A ; 97 1940 Proc Court Inquiry 20-Apr-1940 appendix I ; 97,98 CE Still and Purification House	<b>DOCUMENTARY REFERENCES</b>  1830 Statement of Property WO55 2351 ; Corning House 1841 Statement of Property WO55 2856 ; Corning House 1843 Explosion ILN II 1843 275-6 Smith 1870 57 Winters 1887 106, 108 £2000 spent on new granulating machine 1851 Statement of Property WO55 3027  1908 RGPF Ledger WASC 1509 + WASC 1764 ; Granulating and Blending House built pre 1860 p10 c1925 RGPF Ledger WASC 1680 ; Granulating and Blending House c1945 RGPF Ledger WASC 1508 ; Granulating and Blending House (demolished)		
<b>PHOTOGRAPHY                      HISTORIC</b>  PRO Supply 5/860 20,21 Late nineteenth century PRO Supply 5/860 22, 27-31 Explosion 22-aug-1890 Explosion completely destroyed building except traverses	<b>PHOTOGRAPHY                      RCHME</b>		

RELATIONSHIPS WITH OTHER MONUMENTS

ASSOCIATED WITH: 98

CONDITION Demolished

DESCRIPTION

- 5) It is unclear to what extent the building's foundations were removed when the Horsemill Stream was widened. The building may survive as a buried feature.

Removal of potentially contaminated deposits uncovered remains of a brick built arch. Possibly the outshot for the wheel shot, having been fed by old Millhead Stream. A possible similarity may be seen in the fragment of arch springer discovered on excavation of 197/198 wheelshot further south on Millhead.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES 98	RCHME NUMBER	N.G.R. TL 37411 01739
NAME/FUNCTION part of Corning House (No.2/No.4) Shoe Room		START DATE pre 1821	END DATE 1945?
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
1827	WASC 900/04 + MPH 271 ; part of No.2 Corning House	1830	Statement of Property WO55 2351 ; part of Corning House
1830	WO55 2694 ; 143	1841	Statement of Property WO55 2856 ; part of Corning House
1830	WASC 900/05 ; building connected to No.4 Corning House	1851	Statement of Property WO55 3027
c1835	WASC 900/07 ; building connected to No.4 Corning House	1908	RGPF Ledger WASC 1509 + WASC 1764 ; Shoe Room built pre 1860 p10
1865	WASC 900/38 + SUPP5 975 ; Shoe House	c1925	RGPF Ledger WASC 1680 ; Shoe Room
1865	WASC 900/42 ; Shoe House	c1945	RGPF Ledger WASC 1508 ; Shoe Room (demolished)
1897	WASC 900/53C		
c1910	WASC 900/65 ; 98		
c1910	WASC 900/79 ; 98		
1917	WASC 900/70 ; 98		
1917	WASC 900/72 ; 98		
1919	WASC 900/74 ; 98		
c1920	WASC 900/80 ; 98		
1923	WASC 900/84 ; 98		
1932	WASC 900/87 ; 98		
> 1940	WASC 900/91A ; 98		
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS			
ASSOCIATED WITH: Corning house 97			
CONDITION		Demolished	
DESCRIPTION)			
5) The building may survive as a buried feature beneath the eastern bank of the Horsemill Stream.			

*River gravels may overlie remains,  
 ——— not addressed by remediation programme .*

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES 110	RCHME NUMBER	N.G.R. TL 37404 01654
NAME/FUNCTION Boat House		START DATE	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION  1897 O.S. Essex XLIX.14 c1900 WASC 900/79; Boathouse 1923 WASC 900/84; 110 Boathouse		DOCUMENTARY REFERENCES  1908 RGPF Ledger WASC 1509 + WASC 1764; Boat House built 1857-8 p4	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS  ASSOCIATED WITH: 111			
CONDITION      Demolished			
DESCRIPTION 1)      CONSTRUCTIONAL MATERIAL  2)      ROOF MATERIALS AND STRUCTURE  3)      POWER SOURCE  4)      DIMENSIONS i) L      ii) W      iii) HT  5)      Its remains were probably destroyed when Horsemill Stream was canalised in the early 1970s.			

**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

NUMBER	OLD SERIES 111	RCHME NUMBER	N.G.R. TL 37004 01642
NAME/FUNCTION Magazine Tetryl Store	START DATE 1873 193?	END DATE 193? 1945	
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION  1886 WASC 900/38 1897 O.S. Essex XLIX.14 c1900 WASC 900/79; Magazine 1923 WASC 900/84; 111 Magazine 1940 Proc Court Inquiry 20-Apr-1940 appendix I ; CE Store		DOCUMENTARY REFERENCES  1908 WASC 1509; Magazine built 1873 p11	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS  ASSOCIATED WITH: 110			
CONDITION      Demolished			
DESCRIPTION 1)      CONSTRUCTIONAL MATERIAL Concrete  2)      ROOF MATERIALS AND STRUCTURE Concrete  3)      POWER SOURCE  4)      DIMENSIONS i) L      ii) W      iii) HT  5)      The remains of the magazine were probably destroyed when Horsemill was canalised in the early 1970s.			

**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

NUMBER	OLD SERIES 116	RCHME NUMBER	N.G.R. TL 37432 01570
NAME/FUNCTION The Great Stove (Gallows Gate Stove) A Stove Corning House No.1 Breaking Down House No1 and Pebble Cutting House	START DATE pre1735 pre 1783 1827 1865 (rebuilt 1891) (Explosion 22-8-90)	END DATE 1827 1865 1925?(disuse)	
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
1783 WASC 900/01 + MR 593 ; A Stove	1783 WASC 900/01A ; A House for Drying Gunpowder	1735 Farmer J. Engraving ; The Great Stove	1783 WASC 1262 ; Gallows Gate Stove (Great Stove)
1801 WASC 900/58 + MR 580 ; Upper Stove	1827 WASC 900/04 + MPH 271 ; Corning House No.1	1807 Statement of Property WO55 2694	1830 Statement of Property WO55 2351 ; Corning House
1830 WO55 2694 ; 139	1830 WASC 900/05 ; Corning House No.1	1841 Statement of Property WO55 2856 ; Corning House	1851 Statement of Property WO55 3027
c1835 WASC 900/07 ; Corning House No.1	1865 WASC 900/42 ; Breaking Down House and Pebble Cutting House	1908 RGPF Ledger WASC 1509 + WASC 1764 ; Gunpowder Breaking Down House built 1891 p12	c1925 RGPF Ledger WASC 1680 ; Gunpowder Breaking Down (demolished)
1886 WASC 900/38 + SUPP5 975 ; Breaking Down House No1 and Pebble Cutting House	1897 WASC 900/53C	c1945 RGPF Ledger WASC 1508 ; Gunpowder Breaking Down House (demolished)	1885 WASC 901/139 26.Aug 1885 Proposed plan of traverse near Breaking down House
c1910 WASC 900/65 ; 116	c1910 WASC 900/79 ; 116	1890 WASC 901/146 11.Oct.1890 No1 Breaking Down House reads "Building Demolished 1949"	1890 WASC 901/146 11.Oct.1890 Breaking Down House reads "Building Demolished 1949"
1917 WASC 900/70 ; 116	1917 WASC 900/72 ; 116	1894 WASC 901/146A 30.Nov.1894 No1 Breaking Down House reads "Building Demolished 1949"	WASC 901/148 Not Dated No1 Breaking Down House Traverse & Shoe House "Building Demolished 1949"
1919 WASC 900/74 ; 116	c1920 WASC 900/80 ; 116		
1923 WASC 900/84 ; 116	1932 WASC 900/87 ; 116		
> 1940 WASC 900/91A ; 116	1954 A - B.34 ; 116		
PHOTOGRAPHY HISTORIC Negatives PRO Supply 5 863 321,323-6,327,329	PHOTOGRAPHY RCHME		
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 117			
CONDITION	Demolished		

DESCRIPTION

- 5) The cartographic evidence suggests a number of rebuilding phases probably reusing the same foundations. Photographs in the Public Records Office, supply 5 863, taken in January 1941 shows the building with its superstructure and bay demolished. The photographs negatives 323-326 also show views of the Breaking down machines and the cast iron mill with the words "Taylor and Chall..." presumed to be Taylor and Challen of Birmingham.

It is unclear how much of this building was removed when the Horsemill Stream was widened. Remains of this building may survive beneath the eastern bank of the Horsemill Stream.

*Remains may lie under western perimeter track or under river gravel deposits from Horsemill Stream widening in 1970's.*

**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

NUMBER	OLD SERIES	RCHME NUMBER	N.G.R.
	117		TL 37431 01554
NAME/FUNCTION	START DATE	END DATE	
part of Corning House	pre 1821	1865?	
part of Dusting House No.2	1865?	1865?	
Washing Up House/Shoe Room	1865?	1945?	
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION	DOCUMENTARY REFERENCES		
1827 WASC 900/04 + MPHH 271 ; part of No.1 Corning House	1888 Maj Gen W.H.Wardell Handbook of Gunpowder & Guncotton 1888 p52 point no.6		
1830 WO55 2694 ; part of glazing Mill	1895 Oscar Guttman The Manufacture of Explosives Vol1 1895 p222-224		
1830 WASC 900/05 ; building connected to No.1 Corning House	Maj Frazer Baddeley R.A. Pamphlet on The Manufacture of Gunpowder Waltham Abbey p17		
c1835 WASC 900/07 ; building connected to No.1 Corning House	Capt F.M.Smith R.A.Handbook of The Manufacture and Proof of Gunpowder as Carried on at The RGPF Waltham Abbey p69-71		
1865 WASC 900/38 + SUPP5 975 ; part of Dusting House No.2	1830 Statement of Property WO55 2351 ; part of Glazing Mill		
1865 WASC 900/42 ; Shoe House	1841 Statement of Property WO55 2856 ; Washing Up House		
1897 WASC 900/53C	1851 Statement of Property WO55 3027		
c1910 WASC 900/65 ; 117	1908 RGPF Ledger WASC 1509 + WASC 1764 ; Shoe Room built pre1860 p10		
c1910 WASC 900/79 ; 117	c1925 RGPF Ledger WASC 1680 ; Shoe Room		
1917 WASC 900/70 ; 117	c1945 RGPF Ledger WASC 1508 ; Shoe Room		
1917 WASC 900/72 ; 117			
1919 WASC 900/74 ; 117			
c1920 WASC 900/80 ; 117			
1923 WASC 900/84 ; 117			
1932 WASC 900/87 ; 117			
> 1940 WASC 900/91A ; 117			
PHOTOGRAPHY HISTORIC	PHOTOGRAPHY RCHME		
RELATIONSHIPS WITH OTHER MONUMENTS			
ASSOCIATED WITH: 116			
CONDITION	Demolished		
DESCRIPTION			
5) It is unclear how much of this building was removed when the Horsemill Stream was widened. The building may survive as a buried feature beneath the eastern bank of the Horsemill Stream.			

see 116 .



**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

NUMBER	OLD SERIES 125	RCHME NUMBER	N.G.R. TL 37438 01455
NAME/FUNCTION Engine House & Tumbling Room Glazing & Dusting House Granulating & Dusting House	START DATE pre 1783 1783 1900?	END DATE 1900? post 1957	
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
1783	WASC 900/01 + MR 593 ; Engine House & Tumbling Room	1783	WASC 1262 ; Engine House & Tumbling Room
1783	WASC 900/01A ; A Water Mill to Corn Gunpowder & an Engine For Glazing & Dusting Gunpowder	1807	Statement of Property WO55 2694; glazing mills
1801	WASC 900/58 + MR 580	1830	Statement of Property WO55 2351 ; Glazing Mill
1827	WASC 900/04 + MPH 271 ; Glazing Mill	1841	Statement of Property WO55 2856 ; Glazing Mill
1830	WO55 2694 ; 135	1851	Statement of Property WO55 3027;6 Glazing Mill
1830	WASC 900/05 ; Glazing Mill	1888	Maj Gen W.H.Wardell Handbook of Gunpowder & Guncotton 1888 p52 point no.6
c1835	WASC 900/07 ; Glazing Mill	1895	Oscar Guttman The Manufacture of Explosives Vol1 1895 p222-224
1865	WASC 900/38 + SUPP5 975 ; Dusting House No.2		Maj Frazer Baddeley R.A. Pamphlet on The Manufacture of Gunpowder Waltham Abbey p17
1865	WASC 900/42 ; Dusting House No.2		Capt F.M.Smith R.A.Handbook of The Manufacture and Proof of Gunpowder as Carried on at The RGPF Waltham Abbey p69-71
1897	WASC 900/53C	1908	RGPF Ledger WASC 1509 + WASC 1764 ; Gunpowder Granulating & Dusting House built 1850 p13
c1910	WASC 900/65 ; 125	c1925	RGPF Ledger WASC 1680 ; Gunpowder Granulating & Dusting House
c1910	WASC 900/79 ; 125	c1945	RGPF Ledger WASC 1508 ; Gunpowder Granulating & Dusting House
1917	WASC 900/70 ; 125		WASC 901/212 Plan & Elevation of a wood bridge proposed to be put up across the MillHead Between 122 & 125 mills Not dated
1917	WASC 900/72 ; 125		WASC 901/213 Plan & Elevation of a wood bridge proposed to be put up across the MillHead Between 122 & 125 mills Not dated
1919	WASC 900/74 ; 125	1844	WASC 901/216 Cast Iron gates for Nos 125 & 126 mills
c1920	WASC 900/80 ;125		
1923	WASC 900/84 ; 125		
1932	WASC 900/87 ; 125		
> 1940	WASC 900/91A ;125		
1954	A - B.34		
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	

RELATIONSHIPS WITH OTHER MONUMENTS

ASSOCIATED WITH: 126

CONDITION Destroyed

DESCRIPTION

5) The building was destroyed when the Horsemill Stream was widened in the 1970s.

**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

NUMBER	OLD SERIES 132	RCHME NUMBER	N.G.R. TL 37456 01413
NAME/FUNCTION Magazine		START DATE pre 1821	END DATE post 1957
NO PHOTOGRAPHY AVAILABLE			
<p>CARTOGRAPHIC DEPICTION</p> <p>1827 WASC 900/04 + MPH 271 ; Receiving Magazine 1830 WO55 2694 ; 134 1830 WASC 900/05 ; Magazine c1835 WASC 900/07 ; Magazine 1865 WASC 900/38 + SUPP5 975 ; Double Magazine 1865 WASC 900/42 ; Double Magazine 1897 WASC 900/53C c1910 WASC 900/65 ; 132 c1910 WASC 900/79 ; 132 1917 WASC 900/70 ; 132 1917 WASC 900/72 ; 132 1919 WASC 900/74 ; 132 c1920 WASC 900/80 ; 132 1923 WASC 900/84 ; 132 1932 WASC 900/87 ; 132 &gt; 1940 WASC 900/91A ; 1321 1954 A - B.34</p>		<p>DOCUMENTARY REFERENCES</p> <p>1807 Statement of Property WO55 2694 1830 Statement of Property WO55 2351 ; Magazine 1841 Statement of Property WO55 2856 ; Magazine 1851 Statement of Property WO55 3027  1908 RGPF Ledger WASC 1509 + WASC 1764 ; Magazine built 1850 p14 c1925 RGPF Ledger WASC 1680 ; Magazine c1945 RGPF Ledger WASC 1508 ; Magazine</p>	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
<p>RELATIONSHIPS WITH OTHER MONUMENTS</p> <p>ASSOCIATED WITH: Millhead Stream RCHME 296</p>			
CONDITION	Destroyed		
<p>DESCRIPTION</p> <p>5) The building probably destroyed when the Horse mill Stream was widened in the 1970s.</p>			

## THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 148,149,150	RCHME NUMBER	N.G.R. TL 37481 01320
NAME/FUNCTION New Stove Gloom Stove No.2 Steam Stove Gunpowder Blending House/Wood Shed/EC	START DATE 1787  by 1841 1900?	END DATE  by 1841 1900? 197?	
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
<p>1801 WASC 900/58 + MR 580 ; New Stove</p> <p>1806? WO 78/1352 + MR 580</p> <p>1827 WASC 900/04 + MPH 271 ; Gloom Stove</p> <p>1830 WO55 2694</p> <p>1830 WASC 900/05</p> <p>c1830 WASC 900/06</p> <p>c1835 WASC 900/07</p> <p>1861-1868 WASC 900/10A</p> <p>1865 WASC 900/13</p> <p>1865 WASC 900/14</p> <p>1871 SUPP5 682</p> <p>1865 WASC 900/38 + SUPP5 975 ; No.2 Steam Stove</p> <p>1865 WASC 900/41A</p> <p>1865 WASC 900/42</p> <p>1897 WASC 900/53C</p> <p>1897 OS 2nd Ed Essex XLIX. 10</p> <p>c1910 WASC 900/65</p> <p>c1910 WASC 900/79</p> <p>1917 WASC 900/70</p> <p>1917 WASC 900/72</p> <p>1919 WASC 900/74</p> <p>c1920 WASC 900/80</p> <p>1923 WASC 900/84 ; G.P. Blending House</p> <p>1954 A-B.35 Buildings only</p>		<p>1787 Glooms of great weight in course of preparation Winters 1889 p29</p> <p>1808 Hughson <u>Description of London</u> illustration</p> <p>1830 Drayson.F. p24</p> <p>1830 WO55/2694 100 Gloom Stove</p> <p>1841 WO55/2856 100 Gloom Stove now converted into a Steam Stove</p> <p>1854 ILN Nov 11 P478 illustration</p> <p>1856 WASC 901/116 17 Nov 1856 Plan Section showing proposed alterations to the Old Steam Stove</p> <p>1894 WASC 901/116A 30 Nov 1894 No2 Steam stove Includes "construction table"</p> <p>1908 RGPF Ledger WASC 1509 p16 148 Gunpowder stove built before 1840 WASC 901/152 No2 Steam Stove Not dated 149 Wood Shed built before 1840</p> <p>1963 Simmons p31."A steam stove was completed and put into operation in June 1795"</p>	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS			
CONDITION	Demolished		

DESCRIPTION

1) CONSTRUCTIONAL MATERIAL  
Brick

2) ROOF MATERIALS AND STRUCTURE  
Tiles

3) POWER SOURCE

4) DIMENSIONS i) L      ii) W      iii) HT

5) The N.G.R. is a group centre for the building group. The remains of the buildings were probably destroyed in the early 1970s during the canalisation of Horsemill Stream. Fragments of the building complex may survive on the Western bank of Horsemill Stream.

**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

NUMBER L128	OLD SERIES 150A	RCHME NUMBER	N.G.R. TL 37520 01335
NAME/FUNCTION Fuse powder magazine no.2 Radio Chemistry		START DATE 1915 1961	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION  1917 WASC 900/70 ; Fuse Powder Magazine No.2 1917 WASC 900/72 ; 150a 1919 WASC 900/74 ; 150a c1920 WASC 900/80 ; 150a 1923 WASC 900/84 ; 150a > 1940 WASC 900/91A ; 150a 1954 A - B.34 ; L128 c1960 WASC 900/94 ; L128 c1963 WASC 900/97 ; L128 1972 WASC 900/102 ; L128 1972 WASC 900/104 ; L128 1976 WASC 900/113 ; L128		DOCUMENTARY REFERENCES  1972 ERDE List - Radio Chemistry Laboratory, 1915, 1961  1992 RARDE List - Radio Chemistry Laboratory	
PHOTOGRAPHY HISTORIC  PRO Supply 5/862 M83 neg A107 June 1930 view from west		PHOTOGRAPHY RCHME  1) 206/N/19 From south 206/N/20 From west showing blocked barge porch	
RELATIONSHIPS WITH OTHER MONUMENTS  ASSOCIATED WITH: L123 OVERLIES: RCHME 274			
CONDITION      Good			

*Cleaned out Sept. 95. Partition wall removed.*

DESCRIPTION

1) CONSTRUCTIONAL MATERIAL  
Brick in English bond

2) ROOF MATERIALS AND STRUCTURE  
Corrugated asbestos

3) POWER SOURCE  
Electricity and steam heating

4) DIMENSIONS i) L 14.6m ii) W 9.3m iii) HT 5m

5) The building is a single storey structure T shaped in plan, its north and south ends are gabled. The building is set on a raised concrete raft supported by concrete piers. the building was originally a magazine served by Millhead Stream RCHME 296 from a porch on the west side. Subsequent to its conversion to laboratories windows have been inserted and the canal side entrance blocked. The building is now entered through a door on the north side of the porch. On the north and south elevations are single windows while on the west elevations are two windows, the north elevation is blank. The interior has been subdivided to create laboratory accommodation. The building is protected by a lightning conductor.

The photograph in Supply 5/862 shows the original structure as windowless entered through the western porch from the canal and a door on the north side of the porch.

## THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 155	RCHME NUMBER	N.G.R. TL 37542 01312
NAME/FUNCTION Magazine	START DATE pre 1861	END DATE 1960? 1993(exists as ruins)	
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
1865 WASC 900/38 + SUPP5 975 ; Magazine 1865 WASC 900/41A ; Magazine 1865 WASC 900/42 ; Magazine 1897 WASC 900/53C c1910 WASC 900/65 ; 155 c1910 WASC 900/79 ; 155 1917 WASC 900/70 ; 155 1917 WASC 900/72 ; 155 1919 WASC 900/74 ; 155 c1920 WASC 900/80 ; 155 1923 WASC 900/84 ; 155 1932 WASC 900/87 ; 155 > 1940 WASC 900/91A ; 155 1954 A - B.34 ; L129 c1960 WASC 900/94 ; 155 c1963 WASC 900/97 1972 WASC 900/102 1972 WASC 900/104 1976 WASC 900/113		1908 RGPF Ledger WASC 1509 + WASC 1764 ; Magazine built pre 1860 p18 c1925 RGPF Ledger WASC 1680 ; Magazine(L129) c1945 RGPF Ledger WASC 1508 ; Magazine(L129)	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
		1) 206/N/21 12 Mar 1993 Detail of barge porch 206/N/22 12 Mar 1993 From South West	
RELATIONSHIPS WITH OTHER MONUMENTS			
ASSOCIATED WITH: Millhead Stream RCHME 296			
CONDITION		Fair	



#### DESCRIPTION

1) CONSTRUCTIONAL MATERIAL  
Brick in English bond

2) ROOF MATERIALS AND STRUCTURE  
Hipped, slate over brick vault

3) POWER SOURCE  
Steam heating

4) DIMENSIONS i) L 7.4m ii) W 7.1m iii) HT Eave 3.2m

5) The magazine is single storeyed with a T shaped ground plan, there is a single buttress on the east elevation. Its only entrance was from a covered porch served from Millhead stream RCHME 296 the porch is in brick and is an integral part of the structure. The porch had a timber floor covered by leather fixed by copper nails part of which remains. The magazine was entered through a door with a cambered brick head. floor of the magazine was also timber supported on sub floor brick piers. The magazine has a brick vaulted hipped roof covered by slates.

The magazine was heated by steam pipes close by the magazine and probably derived from the building was a cast iron steam trap 'No.3 trap syphonia Royles Limited'.

Historic artifacts - section of leather floor and steam trap

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES 157	RCHME NUMBER	N.G.R. TL 37594 01270
NAME/FUNCTION Shoe Room/House		START DATE pre 1860	END DATE 1957?
NO PHOTOGRAPHY AVAILABLE			
<b>CARTOGRAPHIC DEPICTION</b>  1865 WASC 900/38 + SUPP5 975 ; Shoe House 1865 WASC 900/41A ; Shoe House 1865 WASC 900/42 ; Shoe House 1897 WASC 900/53C c1910 WASC 900/65 ; 157 c1910 WASC 900/79 ; 157 1917 WASC 900/70 ; 157 1917 WASC 900/72 ; 157 1919 WASC 900/74 ; 157 c1920 WASC 900/80 ; 157 1923 WASC 900/84 ; 157 1932 WASC 900/87 ; 157 > 1940 WASC 900/91A ; 157 1954 A - B.34		<b>DOCUMENTARY REFERENCES</b>  1908 RGPF Ledger WASC 1509 + WASC 1764 ; Shoe Room built pre 1860 p18 c1925 RGPF Ledger WASC 1680 ; Shoe Room c1945 RGPF Ledger WASC 1508 ; Shoe Room	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
<b>RELATIONSHIPS WITH OTHER MONUMENTS</b>  ASSOCIATED WITH: 159			
CONDITION      Demolished			
<b>DESCRIPTION</b> 5)      No surface remains, may survive as a buried feature.			

*Area scraped to remove surface vegetation. No remains uncovered. Steam pipe route excavation also revealed no remains.*

## THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 159	RCHME NUMBER	N.G.R. TL 57592 01238
NAME/FUNCTION The Dusting House Running Houses (old & new) Dusting Houses & Barrel House Dusting House Dusting and Glazing House	START DATE pre 1735 pre 1783 1783 1827 pre 1865	END DATE  1827 by 1865 post 1957?	
NO PHOTOGRAPHY AVAILABLE			
<p><b>CARTOGRAPHIC DEPICTION</b></p> <p>1783 WASC 900/01 + MR 593 ; Running House &amp; Old Running House</p> <p>1783 WASC 900/01A ; Dusting House &amp; old Dusting House proposed Barrel House</p> <p>1801 WASC 900/58 + MR 580 ; Dusting House &amp; Cooperage</p> <p>1827 WASC 900/04 + MPH 271 ; Principle Dusting House</p> <p>1830 WO55 2694 ; 129</p> <p>1830 WASC 900/05 ; Principle Dusting House</p> <p>c1835 WASC 900/07 ; Principle Dusting House</p> <p>1865 WASC 900/41A ; Dusting &amp; Glazing House</p> <p>1865 WASC 900/42 ; Dusting &amp; Glazing House</p> <p>1886 WASC 900/38 + SUPP5 975 ; Dusting &amp; Glazing House</p> <p>1897 WASC 900/53C</p> <p>c1910 WASC 900/65 ; 159</p> <p>c1910 WASC 900/79 ; 159</p> <p>1917 WASC 900/70 ; 159</p> <p>1917 WASC 900/72 ; 159</p> <p>1919 WASC 900/74 ; 159</p> <p>c1920 WASC 900/80 ; 159</p> <p>1923 WASC 900/84 ; 159</p> <p>1932 WASC 900/87 ; 159</p> <p>&gt; 1940 WASC 900/91A ; 159</p> <p>1954 A - B.34</p> <p>c1960 WASC 900/94</p>	<p><b>DOCUMENTARY REFERENCES</b></p> <p>1735 Farmer J. Engraving ; "18" The Dusting House</p> <p>1783 WASC 1262 ; Running House &amp; Old Running House</p> <p>1807 Statement of Property WO55 2694</p> <p>1830 Statement of Property WO55 2351 ; Principle Dusting House</p> <p>1830 Drayson F Drawings of the buildings, Machinery and equipment of the Gunpowder Works at Waltham Abbey' page 20 (may be this mill??) PRO MP 11.15</p> <p>1841 Statement of Property WO55 2856 ; Principle Dusting House</p> <p>1851 Statement of Property WO55 3027</p> <p>1888 Maj Gen W.H.Wardell Handbook of Gunpowder &amp; Guncotton 1888 p52 point no.6</p> <p>1895 Oscar Guttman The Manufacture of Explosives Vol1 1895 p222-224 Maj Frazer Baddeley R.A. Pamphlet on The Manufacture of Gunpowder Waltham Abbey p17 Capt F.M.Smith R.A.Handbook of The Manufacture and Proof of Gunpowder as Carried on at The RGPF Waltham Abbey p69-71</p> <p>1908 RGPF Ledger WASC 1509 + WASC 1764 ; Dusting House No.3 pre 1860 p18</p> <p>c1925 RGPF Ledger WASC 1680 ; Dusting House No.3</p> <p>c1945 RGPF Ledger WASC 1508 ; Dusting House No.3</p>		

PHOTOGRAPHY HISTORIC	PHOTOGRAPHY RCHME 1) 206/N/13 12 Mar 1993 Dusting house from South East 206/N/14 12 Mar 1993 Detail of central wheel
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 157, Millhead Stream, RCHME 223, RCHME 296	
CONDITION Fair	
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL Brick in English bond  3) POWER SOURCE Water  4) DIMENSIONS See below  5) The cartographic evidence suggests that two earlier structures may underlie the present mill the foundations of which may date from the 1820s. The field remains indicate that the present structure has a number of building phases within it.  This mill site represents the most complete above ground remains of a gunpowder processing mill on the site powered by a centrally driven waterwheel.  The mill survives as brick foundations in English bond either side of a central wheel pit. The wheel was powered from Millhead Stream, the flow of water onto the wheel regulated by a curving metal tumbling bay and shuttle. A scar on the side of the wheel pit indicates that the wheel was 4m in diameter. The remains indicate that the wheel was a low breast shot wheel. To either side of the pit and within the adjacent mills are two slots that would have formerly housed the pit wheels.  The mill building to the south of the wheel pit measures 18m in length and 7.3m in width. The revetment along Millhead Stream has been rebuilt in concrete and corrugated iron however the other three walls of the mill are in brick. On the mill platform are low concrete sill walls with vertical mounting bolts for a timber framed wall. Within the building are sandstone machine bases with vertical mounting bolts. Packed around these base is brick rubble perhaps indicating a cellared interior.  The mill building north of the central pit measures 13.2m in length and 6.4m in width. Internally are sandstone machine bases and brick and slate rubble. All four sides of this mill are laid in brick in English Bond.  The Dusting House has latterly been protected by mass concrete traverse walls to the north and south and probably to the east also. The traverse to the north has battered walls, it measures 7.3m x 3.07m and 4m in height. A narrow channel separated it from the Dusting House. The traverse to the south also has battered sides, it measures 5.9m x 2.8m with a height of 4.2m. A channel existed between it and the Dusting House that was formerly covered by timber decking. On the opposite side of the tailrace to the east of the mill is a concrete foundation 36.5m in length that may mark the site of a further traverse.	

Remains undisturbed. Surveying of area produced some asbestos board fragments and notably a stamped fragment of graphite block? possibly used in dusting/glazing.

**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

NUMBER	OLD SERIES 165	RCHME NUMBER	N.G.R. TL 37619 01170
NAME/FUNCTION The Store House Magazine Temporary Dusting House Barrel House	START DATE pre 1735 pre 1783 1827? 1865?	END DATE 1827? 1865? post 1957	

NO PHOTOGRAPHY  
AVAILABLE

<p><b>CARTOGRAPHIC DEPICTION</b></p> <p>1783 WASC 900/01 + MR 593 ; The Magazine  1783 WASC 900/01A ; The Powder Magazine  1801 WASC 900/58 + MR 580 ; Old Magazine  1827 WASC 900/04 + MPH 271 ; Temporary  Dusting House  1830 WO55 2694 ; 127  1830 WASC 900/05 ; Temporary Dusting House  c1835 WASC 900/07 ; Temporary Dusting House  1865 WASC 900/38 + SUPP5 975 ; Barrel House  1865 WASC 900/41A ; Barrel House  1865 WASC 900/42 ; Barrel House  1897 WASC 900/53C  c1910 WASC 900/65 ; 165  c1910 WASC 900/79 ; 165  1917 WASC 900/70 ; 165  1917 WASC 900/72 ; 165  1919 WASC 900/74 ; 165  c1920 WASC 900/80 ; 165  1923 WASC 900/84 ; 165  1932 WASC 900/87 ; 165  &gt; 1940 WASC 900/91A ; 165  1954 A - B.34 ; L165  c1960 WASC 900/94 ; 165</p>	<p><b>DOCUMENTARY REFERENCES</b></p> <p>1735 Frammer J. Engraving ; "17" The Store House  1783 WASC 1262 ; The Magazine (Store House)    1807 Statement of Property WO55 2694  1830 Statement of Property WO55 2351 ; Temporary  Dusting House  1841 Statement of Property WO55 2856 ; Temporary  Dusting House  1851 Statement of Property WO55 3027    1908 RGPF Ledger WASC 1509 + WASC 1764 ;  Barrel House No.2 pre 1860 p18  c1925 RGPF Ledger WASC 1680 ; Barrel House No.2  c1945 RGPF Ledger WASC 1508 ; Barrel House No.2</p>
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<p><b>PHOTOGRAPHY HISTORIC</b>  PRO Supply 3 663 neg317 damage caused by parachute  bomb 13.Nov 1940</p>	<p><b>PHOTOGRAPHY RCHME</b></p>
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<p><b>RELATIONSHIPS WITH OTHER MONUMENTS</b></p> <p>ASSOCIATED WITH: Millhead stream RCHME 296</p>
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<p><b>CONDITION</b> Fair</p>
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DESCRIPTION

1) CONSTRUCTIONAL MATERIAL  
Brick in Flemish bond

3) POWER SOURCE

4) DIMENSIONS i) L 12.3m ii) W iii) HT surviving 1.15m

5) A section of the brick foundations laid in Flemish bond survives formerly the eastern foundation of the building against the tailrace. The northern return of the wall is visible although partly buried by rubble. The southern return was not visible, it however probably remains buried just to the north of the modern road to H67. The platform that the building sat on between Millhead stream and the tailrace is partly covered in rubble. The potential for the survival of archaeological deposits is good.

**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

NUMBER	OLD SERIES 165a	RCHME NUMBER	N.G.R. TL 37613 01152
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NAME/FUNCTION Gunpowder Incorporating Mill No.7	START DATE 1910?	END DATE post 1957
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NO PHOTOGRAPHY  
AVAILABLE

<p>CARTOGRAPHIC DEPICTION</p> <p>c1910 WASC 900/65 ; 165a  c1910 WASC 900/79 ; 165a  1917 WASC 900/70 ; 165a  1917 WASC 900/72 ; 165a  1919 WASC 900/74 ; 165a  c1920 WASC 900/80 ; 165a  1923 WASC 900/84 ; 165a  1932 WASC 900/87 ; 165a  &gt; 1940 WASC 900/91A ; 165a  1954 A - B.34 ; H3  c1960 WASC 900/94 ; 165a</p>	<p>DOCUMENTARY REFERENCES</p> <p>c1925 RGPF Ledger WASC 1680 ; Gunpowder Incorp.  Mill No.7  c1945 RGPF Ledger WASC 1508 ; Gunpowder Incorp.  Mill No.7</p>
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PHOTOGRAPHY HISTORIC	PHOTOGRAPHY RCHME
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RELATIONSHIPS WITH OTHER MONUMENTS  
ASSOCIATED WITH: Millhead Stream RCHME 296

CONDITION      Demolished

DESCRIPTION

5)      The site of this mill probably lies beneath the road to H67. Brick foundations of the mill may survive beneath the road.

**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

NUMBER	OLD SERIES 181	RCHME NUMBER	N.G.R. TL 37632 01132
NAME/FUNCTION Corning House Gunpowder Mills Incorporating Mills 3		START DATE pre 1783 1814 1936	END DATE 1814 1865? Sept 1936

NO PHOTOGRAPHY  
AVAILABLE

CARTOGRAPHIC DEPICTION	DOCUMENTARY REFERENCES
<p>1783 WASC 900/01A ; A House formerly used to Corn Powder in with Hand Engines (proposed Barrel House)</p> <p>1801 WASC 900/58 + MR 580</p> <p>1827 WASC 900/04 + MPH 271 ; (on site of above) New Mills Erected in 1814 on a New Principle</p> <p>1830 WO55 2694 ; 126</p> <p>1830 WASC 900/05 ; Gunpowder Mills</p> <p>c1835 WASC 900/07 ; Gunpowder Mills</p> <p>1865 WASC 900/38 + SUPP5 975 ; Incorp. Mills No.3</p> <p>1865 WASC 900/41A ; Incorp. Mills No.3</p> <p>1865 WASC 900/42 ; Incorp. Mills No.3</p> <p>1897 WASC 900/53C</p> <p>c1910 WASC 900/65 ; 181</p> <p>c1910 WASC 900/79 ; 181</p> <p>1917 WASC 900/70 ; 181</p> <p>1917 WASC 900/72 ; 181</p> <p>1919 WASC 900/74 ; 181</p> <p>c1920 WASC 900/80 ; 181</p> <p>1923 WASC 900/84 ; 181</p> <p>1932 WASC 900/87 ; 181</p> <p>&gt; 1940 WASC 900/91A ; 181</p>	<p>1783 WASC 1262 ; Hand Crank Corning House</p> <p>1807 Statement of Property WO55 2694</p> <p>1830 Statement of Property WO55 2351 ; Gunpowder Mills upon an Improved Principle</p> <p>1841 Statement of Property WO55 2856 ; Gunpowder Mills upon an Improved Principle</p> <p>1851 Statement of Property WO55 3027</p> <p>1908 RGPF Ledger WASC 1509 + WASC 1764 ; Incorp. Mills No.3 pre 1850 p20</p> <p>c1925 RGPF Ledger WASC 1680 ; Incorp. Mills No.3 (H6)</p> <p>c1945 RGPF Ledger WASC 1508 ; Incorp. Mills No.3 (H6)</p>

<p>PHOTOGRAPHY HISTORIC</p> <p>1) RCHME Neg No. BB92/16745 (also PRO Supply 5/860 photo 116) No. 5 mill exploded 2-Oct-1897 with 60lbs Picric Powder</p> <p>RCHME Neg No. BB92/16717 (also PRO Supply 5/860 photo 115) No. 5 mill exploded 2-Oct-1897 with 60lbs Picric Powder</p> <p>2) PRO Supply 5/861 373 Demolition sept 1936</p> <p>WASC 139 Demolition of No3 Gunpowder mill September 1936</p>	<p>PHOTOGRAPHY RCHME</p> <p>1) 206/R/18 19 Mar 1993 Site of mill with broken edge runners</p>
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RELATIONSHIPS WITH OTHER MONUMENTS

ASSOCIATED WITH: Millhead stream RCHME 296

CONDITION Demolished

DESCRIPTION

1) CONSTRUCTIONAL MATERIAL  
Brick foundations

2) ROOF MATERIALS AND STRUCTURE  
-

3) POWER SOURCE  
Water

4) DIMENSIONS i) L ii) W iii) HT

5) The site of this mill is marked by a number of broken limestone edge runners. The eastern side of the mill is marked by the brick tail race wall, this is partially buried and other parts have collapsed. odd short lengths of brick foundations may be traced on the platform between the tail race and the line of the canal. The potential for archaeological deposits relating to building surviving in this area is good.

The demolition photograph Supply 5/861 shows a central wheel pit with a mill to either side with stone runners and a iron drenching trough over each mill. The mill superstructure was timber framed.

*Remains undisturbed.*

**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

NUMBER	OLD SERIES 182	RCHME NUMBER	N.G.R. TL 37617 01120
NAME/FUNCTION Gunpowder Mills Incorporating Mills 5 & 6		START DATE pre 1827 1877	END DATE 1877 1957?

NO PHOTOGRAPHY  
AVAILABLE

<p><b>CARTOGRAPHIC DEPICTION</b></p> <p>1827 WASC 900/04 + MPH 271 ; Gunpowder Mills  1830 WO55 2694 ; 119,120  1830 WASC 900/05 ; Gunpowder Mills  c1835 WASC 900/07 ; Gunpowder Mills  1865 WASC 900/38 + SUPP5 975 ; Incorp. Mills 5 &amp; 6  1865 WASC 900/41A ; Incorp. Mills 5 &amp; 6  1865 WASC 900/42 ; Incorp. Mills 5 &amp; 6  1897 WASC 900/53C  c1910 WASC 900/65 ; 182  c1910 WASC 900/79 ; 182  1917 WASC 900/70 ; 182  1917 WASC 900/72 ; 182  1919 WASC 900/74 ; 182  c1920 WASC 900/80 ; 182  1923 WASC 900/84 ; 182  1932 WASC 900/87 ; 182  &gt; 1940 WASC 900/91A ; 182  1954 A - B.34 ; H4  c1960 WASC 900/94 ; 182</p>	<p><b>DOCUMENTARY REFERENCES</b></p> <p>1830 Statement of Property WO55 2351 ; Gunpowder Mills  1841 Statement of Property WO55 2856 ; Gunpowder Mills  1851 Statement of Property WO55 3027  1863 WASC 901/123 16 Feb 1863 Plans Sections of proposed brick screen between No6 Mills on Millhead  1877 WASC 901/131 17 Oct 1877 proposed repairs to Nos 5-6 Mills which occurred 7.Oct.1877 WASC 9091/131A Mills No5-6 includes "Construction" table  1908 RGPF Ledger WASC 1509 + WASC 1764 ; Incorp. Mills No.5 &amp; 6 rebuilt 1877 p20  c1925 RGPF Ledger WASC 1680 ; Incorp. Mills No.5 &amp; 6 (H4)  c1945 RGPF Ledger WASC 1508 ; Incorp. Mills No.5 &amp; 6 (H4)</p>
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<p><b>PHOTOGRAPHY HISTORIC</b></p> <p>1) RCHME Neg No. BB92/16744 (also PRO Supply 5/860 photo 112) No 5 mill exploded 2-Oct-1897 60lbs Picric Powder</p> <p>RCHME Neg No. BB92/16717 (also PRO Supply 5/860 photo 115) No 5 mill exploded 2-Oct-1897 60lbs Picric Powder</p> <p>2) PRO Supply 5/861 4-5 Explosion at the south end of Mill No.6 7-sept-1877</p> <p>3) PRO Supply 5/860 111-118 Explosion of 60lbs Picric acid 2-oct-1897</p> <p>4) PRO Supply 5/863 Neg 317 Damage caused by Parachute bomb 13.Nov.1940</p>	<p><b>PHOTOGRAPHY RCHME</b></p>
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RELATIONSHIPS WITH OTHER MONUMENTS

ASSOCIATED WITH: Millhead stream RCHME 296

CONDITION Demolished

DESCRIPTION

- 5) From the cartographic evidence it is thought likely that the gunpowder mills underlie the later incorporating mills, the latter perhaps using parts of the earlier foundations. The site of these mills lie on a raised platform between the canal and the western tailrace. The slight elevation of this area suggests that archaeological remains will be present.

Wheel shot excavated in 1994.

Foundations? - not seen but undisturbed.

**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

NUMBER	OLD SERIES 183	RCHME NUMBER	N.G.R. TL 37639 01103
NAME/FUNCTION Gunpowder Mills Incorporating Mills No.2		START DATE 1814 1865?	END DATE 1865? 1950?
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
<p>1827 WASC 900/04 + MPH 271 ; Gunpowder Mills erected 1814 to a new principle</p> <p>1830 WO55 2694 ; 125</p> <p>1830 WASC 900/05 ; Gunpowder Mills</p> <p>c1835 WASC 900/07 ; Gunpowder Mills</p> <p>1865 WASC 900/38 + SUPP5 975 ; Incorp. Mills No.2</p> <p>1865 WASC 900/41A ; Incorp. Mills No.2</p> <p>1865 WASC 900/42 ; Incorp. Mills No.2</p> <p>1897 WASC 900/53C</p> <p>c1910 WASC 900/65 ; 183</p> <p>c1910 WASC 900/79 ; 183</p> <p>1917 WASC 900/70 ; 183</p> <p>1917 WASC 900/72 ; 183</p> <p>1919 WASC 900/74 ; 183</p> <p>c1920 WASC 900/80 ; 183</p> <p>1923 WASC 900/84 ; 183</p> <p>1932 WASC 900/87 ; 183</p> <p>&gt; 1940 WASC 900/91A ; 183</p> <p>c1960 WASC 900/94 ; 183</p>		<p>1830 Statement of Property WO55 2351 ; Gunpowder Mills erected upon an Improved Principle</p> <p>1841 Statement of Property WO55 2856 ; Gunpowder Mills erected upon an Improved Principle</p> <p>1851 Statement of Property WO55 3027</p> <p>1908 RGPF Ledger WASC 1509 + WASC 1764 ; Incorp. Mills No.2 pre 1850 p20</p> <p>c1925 RGPF Ledger WASC 1680 ; Incorp. Mills No.2 (H6)</p> <p>c1945 RGPF Ledger WASC 1508 ; Incorp. Mills No.2 (H6)</p> <p>WASC 901/151 No2-3 mills No1 Press house No1 Granulating house magazines, 45&amp;6 mills mag and No1 Mag Not dated</p>	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
<p>1)RCHME Neg No. BB92/16717 (also PRO Supply 5/860 photo 115) No 5 mill exploded 2-Oct-1897 60lbs Picric Powder</p> <p>RCHME Neg No. BB92/16745 (also PRO Supply 5/860 photo 116) No 5 mill exploded 2-Oct-1897 60lbs Picric Powder</p>		<p>1) 206/R/17 19 Mar 1993 Gunpowder mill South side of wheel pit</p>	
RELATIONSHIPS WITH OTHER MONUMENTS			
ASSOCIATED WITH: Millhead stream RCHME 296			

CONDITION Demolished

DESCRIPTION

1) CONSTRUCTIONAL MATERIAL  
Brick foundations

2) ROOF MATERIALS AND STRUCTURE  
-

3) POWER SOURCE  
Water

4) DIMENSIONS i) L      ii) W      iii) HT

5) The remains of the mill are represented by the eastern foundations that form the revetting wall to the eastern tailrace. Within this wall the southern side of the wheel pit survives, the pit is blocked by rubble. On the platform between the tail race and the canal odd lengths of brick foundations may be discerned. One broken limestone edge runner survives in this area. the potential for the survival of archaeological deposits in this area is good.

Potential archaeological deposits not investigated.

**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

NUMBER	OLD SERIES 184	RCHME NUMBER	N.G.R. TL 37626 01089
NAME/FUNCTION Charge House/Magazine		START DATE pre 1783	END DATE post 1957?
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
<p>1783 WASC 900/01 + MR 593 ; A Charge House</p> <p>1783 WASC 900/01A ; A Magazine to hold Mill Charges</p> <p>1801 WASC 900/58 + MR 580</p> <p>1827 WASC 900/04 + MPH 271 ; Charge Magazine</p> <p>1830 WO55 2694 ; 118</p> <p>1830 WASC 900/05 ; Charge Magazine</p> <p>c1835 WASC 900/07 ; Charge Magazine</p> <p>1865 WASC 900/38 + SUPP5 975</p> <p>1865 WASC 900/41A</p> <p>1865 WASC 900/42</p> <p>1897 WASC 900/53C</p> <p>c1910 WASC 900/65 ; 184</p> <p>c1910 WASC 900/79 ; 184</p> <p>1917 WASC 900/70 ; 184</p> <p>1917 WASC 900/72 ; 184</p> <p>1919 WASC 900/74 ; 184</p> <p>c1920 WASC 900/80 ; 184</p> <p>1923 WASC 900/84 ; 184</p> <p>1932 WASC 900/87 ; 184</p> <p>&gt; 1940 WASC 900/91A ; 184</p> <p>1954 A - B.34 ; H5</p> <p>c1960 WASC 900/94 ; 184</p>		<p>1783 WASC 1262 ; A Charge House</p> <p>1807 Statement of Property WO55 2694</p> <p>1830 Statement of Property WO55 2351 ; Charge Magazine</p> <p>1841 Statement of Property WO55 2856 ; Charge Magazine</p> <p>1851 Statement of Property WO55 3027</p> <p>1908 RGPF Ledger WASC 1509 + WASC 1764 ; Magazine built pre 1850 p20</p> <p>c1925 RGPF Ledger WASC 1680 ; Magazine (H5)</p> <p>c1945 RGPF Ledger WASC 1508 ; Magazine (H5)</p> <p>WASC 901/151 No2-3 mills No1 Press house No1 Granulating house magazines, 45&amp;6 mills mag and No1 Mag Not dated</p>	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS			
ASSOCIATED WITH: 182, 196, RCHME 296			
CONDITION Demolished			
DESCRIPTION			
5) The site of the building lies between the canal and the western tail race. The elevated nature of its situation suggests that its foundations will survive as a buried archaeological feature.			

~~Site not excavated in 1994.~~

Remains of Magazine not investigated.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES 187	RCHME NUMBER	N.G.R. TL 37638 01091
NAME/FUNCTION Loading Stage		START DATE 1890	END DATE 1950?
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
1897	WASC 900/53C	1908	RGPF Ledger WASC 1509 + WASC 1764 ; Loading Stage built 1890 p20
c1910	WASC 900/65 ; 187	c1925	RGPF Ledger WASC 1680 ; Loading Stage
c1910	WASC 900/79 ; 187	c1945	RGPF Ledger WASC 1508 ; Loading Stage
1917	WASC 900/70 ; 187		
1917	WASC 900/72 ; 187		
1919	WASC 900/74 ; 187		
c1920	WASC 900/80 ; 187		
1923	WASC 900/84 ; 187		
1932	WASC 900/87 ; 187		
> 1940	WASC 900/91A ; 187		
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS			
ASSOCIATED WITH: Millhead Stream RCHME 296			
CONDITION	Demolished		
DESCRIPTION			
5)	May survive as a buried feature between Millhead Stream and the eastern tailrace.		

*Not disturbed by groundworks*

**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

NUMBER	OLD SERIES 190	RCHME NUMBER	N.G.R. TL 37645 01083
NAME/FUNCTION The Charging House Charge House/Magazine Magazine		START DATE pre 1735 pre 1783? 1908?	END DATE 1908? 1957? <i>[Para Mine]</i>

NO PHOTOGRAPHY  
AVAILABLE

CARTOGRAPHIC DEPICTION	DOCUMENTARY REFERENCES
<p>1783 WASC 900/01 + MR 593 ; A Charging House</p> <p>1783 WASC 900/01A ; A Magazine to Hold Mill Charges</p> <p>1801 WASC 900/58 + MR 580</p> <p>1827 WASC 900/04 + MPH 271 ; Charge Magazine</p> <p>1830 WO55 2694 ; Charge Magazine</p> <p>1830 WASC 900/05 ; Charge Magazine</p> <p>c1835 WASC 900/07 ; Charge Magazine</p> <p>1865 WASC 900/38 + SUPP5 975</p> <p>1865 WASC 900/41A</p> <p>1865 WASC 900/42</p> <p>1897 WASC 900/53C</p> <p>c1910 WASC 900/65 ; 190</p> <p>c1910 WASC 900/79 ; 190</p> <p>1917 WASC 900/70 ; 190</p> <p>1917 WASC 900/72 ; 190</p> <p>1919 WASC 900/74 ; 190</p> <p>c1920 WASC 900/80 ; 190</p> <p>1923 WASC 900/84 ; 190</p> <p>1932 WASC 900/87 ; 190</p> <p>&gt; 1940 WASC 900/91A ; 190</p> <p>1954 A - B.34 ; 190</p> <p>c1960 WASC 900/94 ; 190 (demolished)</p>	<p>1735 Farmer J. Engraving ; "15" The Charging House</p> <p>1783 WASC 1262 ; A Charging House</p> <p>1807 Statement of Property WO55 2694</p> <p>1830 Statement of Property WO55 2351 ; Charge Magazine</p> <p>1841 Statement of Property WO55 2856 ; Charge Magazines</p> <p>1851 Statement of Property WO55 3027</p> <p>1858 WASC 901/121 29 Jan 1858 sketch for a Barreling (corrected to heading) up house on Millhead</p> <p>1858 WASC 901/122 20.June 1858 Plan Section of a Barrelling (corrected to heading) up house on Millhead also reads "Item 8 OEA(?) 1858-9"</p> <p>1858 WASC 901/122A 27 Sept 1858 Plan Section showing the proposed screen to No31 Magazine</p> <p>1894 WASC 901/122B 30.Nov.1894 Nos2-3 mills magazine</p> <p>1908 RGPF Ledger WASC 1509 + WASC 1764 ; Magazine built pre 1850 p21</p> <p>c1925 RGPF Ledger WASC 1680 ; Magazine</p> <p>c1945 RGPF Ledger WASC 1508 ; Magazine</p>

PHOTOGRAPHY HISTORIC	PHOTOGRAPHY RCHME
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RELATIONSHIPS WITH OTHER MONUMENTS  
ASSOCIATED WITH: Millhead Stream RCHME 296

CONDITION Demolished

DESCRIPTION

5) The site of the building lies on raised ground between the earthwork remains of the canal and the eastern tailrace. The raised nature of this area suggests that it will survive as a buried archaeological feature.

*Not Disturbed by groundworks*



**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

NUMBER	OLD SERIES 191	RCHME NUMBER	N.G.R. TL 37630 01068
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NAME/FUNCTION The New Mills 19 The New Mills 13&14 Gunpowder Mills Incorporating Mills No.4	START DATE pre 1783? 1783 1827 1886?	END DATE  1827 1886? 1957?
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NO PHOTOGRAPHY  
AVAILABLE

**CARTOGRAPHIC DEPICTION**

1783 WASC 900/01 + MR 593 ; The New Mills 19  
 1783 WASC 900/01A ; The New Mills 13&14  
 1801 WASC 900/58 + MR 580  
 1827 WASC 900/04 + MPH 271 ; Gunpowder Mills  
 1830 WO55 2694 ; Gunpowder Mills  
 1830 WASC 900/05 ; Gunpowder Mills  
 c1835 WASC 900/07 ; Gunpowder Mills  
 1865 WASC 900/38 + SUPP5 975 ; Incorporating Mills No.4  
 1865 WASC 900/41A ; Incorporating Mills No.4  
 1865 WASC 900/42 ; Incorporating Mills No.4  
 1897 WASC 900/53C  
 c1910 WASC 900/65 ; 191  
 c1910 WASC 900/79 ; 191  
 1917 WASC 900/70 ; 191  
 1917 WASC 900/72 ; 191  
 1919 WASC 900/74 ; 191  
 c1920 WASC 900/80 ; 191  
 1923 WASC 900/84 ; 191  
 1932 WASC 900/87 ; 191  
 > 1940 WASC 900/91A ; 191  
 1954 A - B.34 ; H6  
 c1960 WASC 900/94 ; 191 (demolished)

**DOCUMENTARY REFERENCES**

1783 WASC 1262 ; New Mills  
 1807 Statement of Property WO55 2694 ; Mills  
 1830 Statement of Property WO55 2351 ; Gunpowder Mills  
 1841 Statement of Property WO55 2856 ; Gunpowder Mill  
 1851 Statement of Property WO55 3027  
 1908 RGPF Ledger WASC 1509 + WASC 1764 - Uncorp. Mill No.4 pre1850 p20  
 c1925 RGPF Ledger WASC 1680 ; Incorp. Mill No.4(H6)  
 c1945 RGPF Ledger WASC 1508 ; Incorp. Mill No.4(H6)  
 WASC 901/151 No2-3 mills No1 Press house No1 Granulating house magazines, 45&6 mills mag and No1 Mag Not dated

**PHOTOGRAPHY HISTORIC**  
 PRO Supply 5/863 neg.316 Damage after parachute bomb 15.Nov.1940

**PHOTOGRAPHY RCHME**

**RELATIONSHIPS WITH OTHER MONUMENTS**  
 ASSOCIATED WITH: Millhead Stream RCHME 296,197,211,RCHME 349,RCHME353?

**CONDITION** Demolished

**DESCRIPTION**

5) The mill has been demolished. The site of the mill lies on a raised platform between the earthworks of the canal and the western tail race. The elevated nature of this area suggests that archaeological deposits relating to this mill probably remain intact.

*Wheelshot excavated during 1994.  
 Foundations/Remains not investigated.*

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES	RCHME NUMBER	N.G.R.
	196		TL 37653 01054
NAME/FUNCTION		START DATE	END DATE
Lobby		1886	post 1957?
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
1897	WASC 900/53C	1908	RGPF Ledger WASC 1509 + WASC 1764 ; Lobby built 1886 p21
c1910	WASC 900/65 ; 196	c1925	RGPF Ledger WASC 1680 ; Lobby
c1910	WASC 900/79 ; 196	c1945	RGPF Ledger WASC 1508 ; Lobby
1917	WASC 900/70 ; 196		
1917	WASC 900/72 ; 196		
1919	WASC 900/74 ; 196		
c1920	WASC 900/80 ; 196		
1923	WASC 900/84 ; 196		
1932	WASC 900/87 ; 196		
> 1940	WASC 900/91A ; 196		
1954	A - B.34 ; 196		
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 198			
CONDITION	Demolished		
DESCRIPTION			
5)	The site of the millmans lobby lies between the earthwork remains of the canal and the eastern tailrace. The raised nature of this area suggests that archaeological deposits relating to this building may survive.		

Not investigated. Remains may be under road running west from the roundabout.

Subject MILLHEAD CHUTE

To Steve Chaddock 197/198.

Date 7th September 1995

From **Bob Watts**  
Ref E5275/23/1/02

Steve,

Above excavated today. Artifacts to A210 approach road, large sandstone block and masonry south end of Queens Mead, large sandstone block on top of mill wheel near chute. Stone fill to provide a narrow access to island site placed. Trevor Wilson photographed the whole thing.

Regards

BOB WATTS.

R.O. Photo numbers ?

ESC, 2060/94  
Photography Record

Neg. No: 121/2359/10  
          "      / 11  
          "      / 12.

**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

NUMBER	OLD SERIES 197	RCHME NUMBER	N.G.R. TL 37660 01034
NAME/FUNCTION The Dumb Mills Smeaton's Mills Gunpowder Mills Charcoal Mill and Mixing House No.1		START DATE pre 1735 1771 1827? 1888?	END DATE 1771 1827? 1888? c1950
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
1783 WASC 900/01 + MR 593 ; Smeatons Mills 1&2		1735 Farmer J. Engraving ; "13 & 14" The Dumb Mills	
1783 WASC 900/01A ; Smeatons Mills 3&4			
1827 WASC 900/04 + MPH 271 ; Gunpowder Mills		1771 Smeaton J Vol II folio 33v.-39v. (Royal Society Library)	
1830 WO55 2694 ; Gunpowder Mills			
1830 WASC 900/05 ; Gunpowder Mills		1783 WASC 1262 ; Smeatons Mills (The Dumb Mills)	
c1835 WASC 900/07 ; Gunpowder Mills			
1865 WASC 900/41A ; Charcoal Mill and Mixing House No.1		1807 Statement of Property WO55 2694 ; Mills	
1865 WASC 900/42 ; Charcoal Mill and Mixing House No.1		1830 Statement of Property WO55 2351 ; Gunpowder Mills	
1897 WASC 900/53C		1841 Statement of Property WO55 2856 ; Gunpowder Mills	
c1910 WASC 900/65 ; 197		1851 Statement of Property WO55 3027	
c1910 WASC 900/79 ; 197		1888 Maj Gen W.H.Wardell Handbook of Gunpowder & Guncotton 1888 p52 point no.6	
1917 WASC 900/70 ; 197		WASC 901/154 No1 Mixing House & No2 Mixing House Not dated	
1917 WASC 900/72 ; 197		1894 WASC 901/154A 30.Nov.1894 No2 Mixing House includes construction table	
1919 WASC 900/74 ; 197		1894 WASC 901/154B 30.Nov.1894 No1 Mixing House includes construction table	
c1920 WASC 900/80 ; 197		1895 Oscar Guttman The Manufacture of Explosives Vol1 1895 p222-224	
1923 WASC 900/84 ; 197		Maj Frazer Baddeley R.A. Pamphlet on The Manufacture of Gunpowder Waltham Abbey p17	
1932 WASC 900/87 ; 197		Capt F.M.Smith R.A.Handbook of The Manufacture and Proof of Gunpowder as Carried on at The RGPF Waltham Abbey p69-71	
> 1940 WASC 900/91A ; 197		1908 RGPF Ledger WASC 1509 + WASC 1764 ; Charcoal Mills pre 1870 p22	
		c1925 RGPF Ledger WASC 1680 ; Charcoal Mills	
		c1945 RGPF Ledger WASC 1508 ; Charcoal Mills	
		1973 Cherry J."Post Medieval Archaeology" pp.132	
		c1974 WASC 1060 report on excavations	
		? WASC 1480? Photocopy of Map H-B25	
		WASC 1646 Drawings of excavations of Smeatons mill, drawn by Tony Burton	

Photography:

ESQ 2060/94 Photography record  
 Negative Numbers 121/9359/10  
 — 1 — / 11  
 — 1 — / 12 .

Wheelshot excavated 7.9.95. Eastern end curves to the south.  
 no foundations uncovered. but tops of foundations  
 seen promise good survival.

**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

NUMBER	OLD SERIES 198	RCHME NUMBER	N.G.R. TL 37660 01035
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NAME/FUNCTION Charcoal Mill & Mixing House Earth Closet	START DATE 1865? 1906-7(rebuild as E.C.)	END DATE 1906-7(demolished) 1950?
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NO PHOTOGRAPHY  
AVAILABLE

<p><b>CARTOGRAPHIC DEPICTION</b></p> <p>1865 WASC 900/38 + SUPP5 975 ; Charcoal Mill and Mixing House          1865 WASC 900/41A          1865 WASC 900/42          1897 WASC 900/53C          c1910 WASC 900/65 ; 198          c1910 WASC 900/79 ; 198          1917 WASC 900/70 ; 198          1917 WASC 900/72 ; 198          1919 WASC 900/74 ; 198          c1920 WASC 900/80 ; 198          1923 WASC 900/84 ; 198          1932 WASC 900/87 ; 198          &gt; 1940 WASC 900/91A ; 198</p>	<p><b>DOCUMENTARY REFERENCES</b></p> <p>1908 RGPF Ledger WASC 1509 + WASC 1764 ; Brimstone Mixing House(demol)built pre 1870 p22          c1925 RGPF Ledger WASC 1680 ; Brimstone Mixing House(demolished No. given to E.C.)          c1945 RGPF Ledger WASC 1508 ; Brimstone Mixing House(demolished No. given to E.C.)</p>
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PHOTOGRAPHY HISTORIC	PHOTOGRAPHY RCHME
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RELATIONSHIPS WITH OTHER MONUMENTS  
ASSOCIATED WITH: 197

CONDITION Demolished

DESCRIPTION

5) No surface remains, it may survive as a buried feature.

*Not Investigated.*

**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

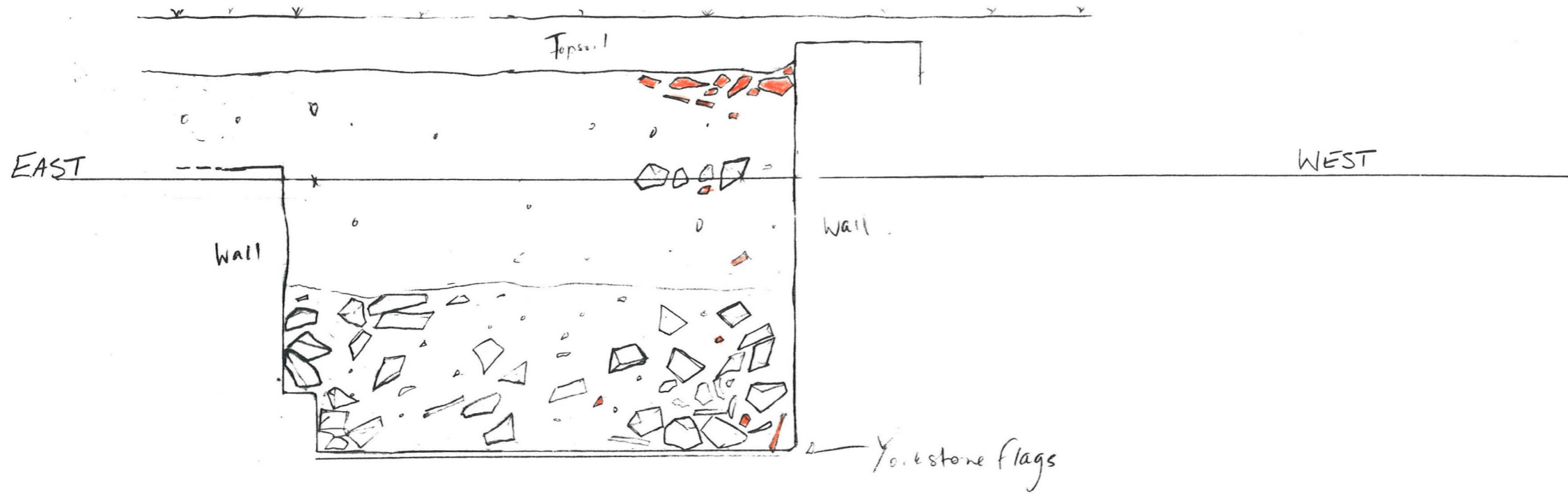
NUMBER	OLD SERIES 202	RCHME NUMBER	N.G.R. TL 37659 01013
NAME/FUNCTION A Charging House Charge Magazine Magazine Saltpetre Store	START DATE pre 1783? 1830 1908? 1907?	END DATE 1803 1908? 1907? 1957?	
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
1783	WASC 900/01 + MR 593 ; A Charging House	1783	WASC 1262 ; A Charge House
1783	WASC 900/01A	1807	Statement of Property WO55 2694
1801	WASC 900/58 + MR 580	1830	Statement of Property WO55 2351 ; Charge Magazine
1830	WO55 2694 ; 121	1841	Statement of Property WO55 2856 ; Charge Magazine
1830	WASC 900/05 ; Charge Magazine	1851	Statement of Property WO55 3027
c1835	WASC 900/07 ; Charge Magazine	1857	Maj Frazer Baddeley R.A. Pamphlet on The Manufacture of Gunpowder 1857 p36-39
1865	WASC 900/38 + SUPP5 975	1870	Capt F.M.Smith A Handbook of the Manufacture & Proof of Gunpowder as carried out at the RGPF Waltham Abbey Chp2 p10-21 fig 14-16
1865	WASC 900/41A	1888	Maj Gen Wardell W.H. Handbook of Gunpowder & Guncotton Chp3 p21-22
1865	WASC 900/42	1895	Oscar Guttman The Manufacture of Explosives Chp2 p10-21 fig14,16
1897	WASC 900/53C	1908	RGPF Ledger WASC 1509 + WASC 1764 ; Magazine built pre 1870 p22
c1910	WASC 900/65 ; 202	c1925	RGPF Ledger WASC 1680 ; Magazine(L174) (saltpetre store 06-7)
c1910	WASC 900/79 ; 202	1938	Text book of Explosives used in the Service HMSO 1938
1917	WASC 900/70 ; 202	c1945	RGPF Ledger WASC 1508 ; Magazine(L174)
1917	WASC 900/72 ; 202		
1919	WASC 900/74 ; 202		
c1920	WASC 900/80 ; 202		
1923	WASC 900/84 ; 202		
1932	WASC 900/87 ; 202		
> 1940	WASC 900/91A ; 202		
PHOTOGRAPHY HISTORIC	PHOTOGRAPHY RCHME		
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: Millhead Stream RCHME 296			
CONDITION	Demolished		
DESCRIPTION 5) The building has been demolished, no surface evidence was seen for the building. The foundations may survive as archaeological deposits.			

*Surface scrape did not reveal signs of foundations.*

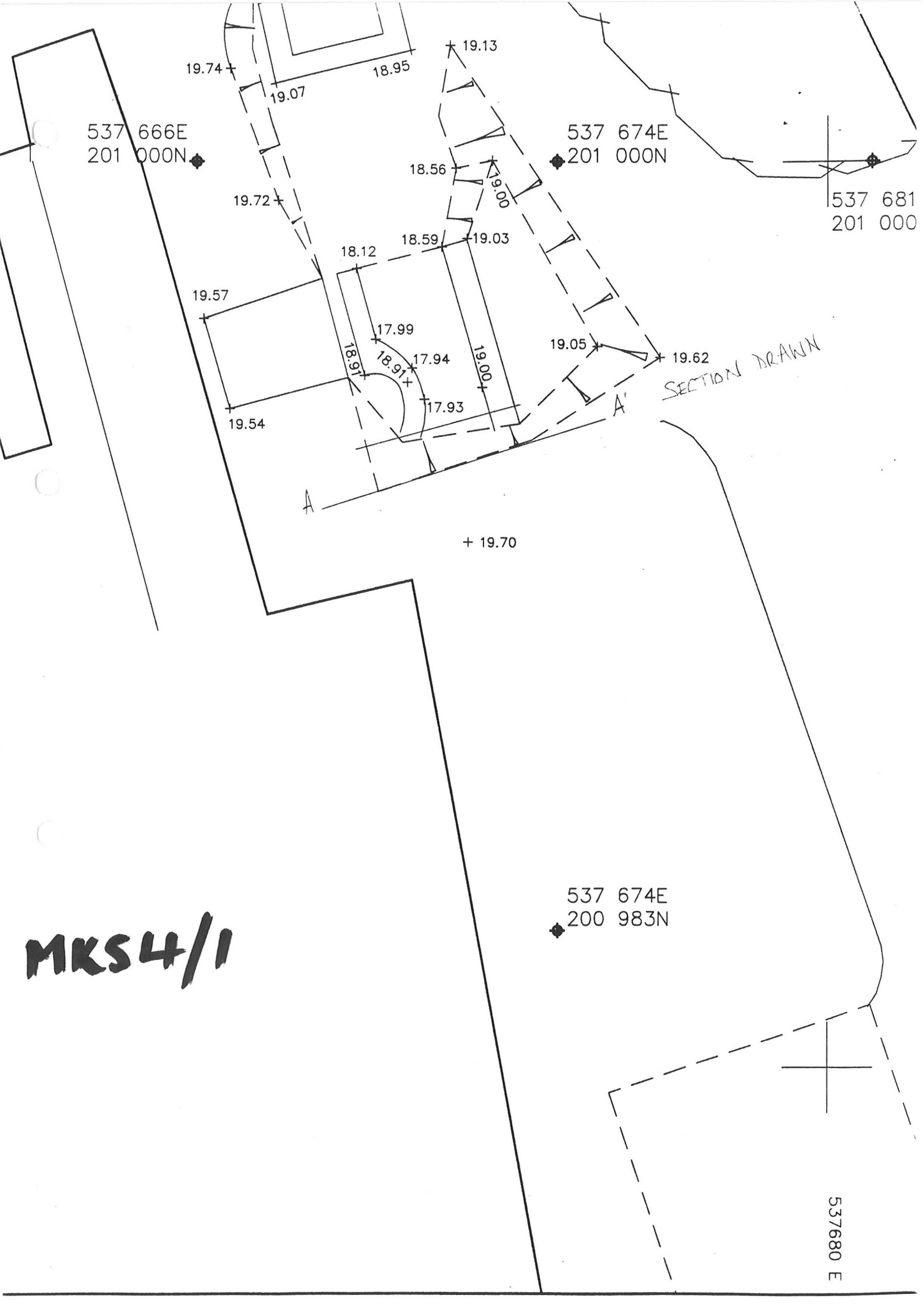
Section through Bldg 211a East Side  
22.3.95 Recorded by Steve Chaddock

Looking South AA (MKS4/1)

SCALE 1:20



● - Red brick (steels)



537 666E  
201 000N

537 674E  
201 000N

537 681  
201 000

537 674E  
200 983N

537680 E

**MKS 4/1**

SECTION DRAWN

19.74 +  
19.07  
18.95

+ 19.13

19.72 +

18.56  
19.00

18.12  
18.59  
19.03

19.57

17.99  
18.91  
17.94

19.05  
19.62

19.54

18.91  
17.93

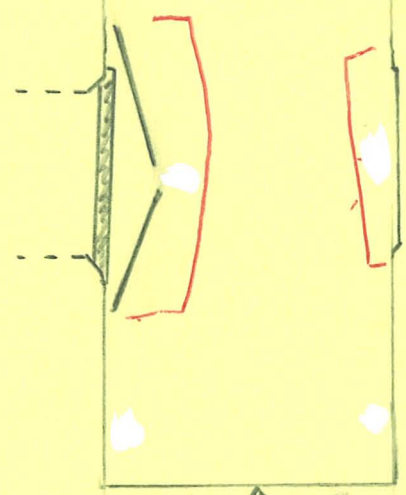
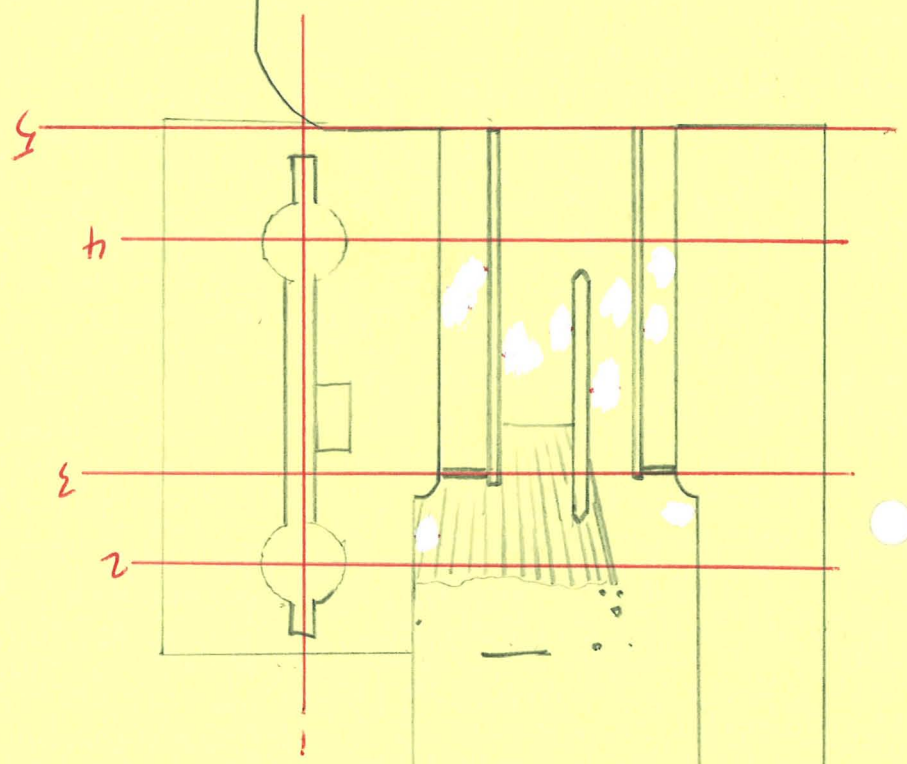
+ 19.70

A

A'



Hot pit floor



N ↓

FILL TO HERE ↓

PLAN: [CUTS]

MILLHEAD CANAL AND SLICES AND INCORPORATING MILL TO SOUTH

Sections. —————

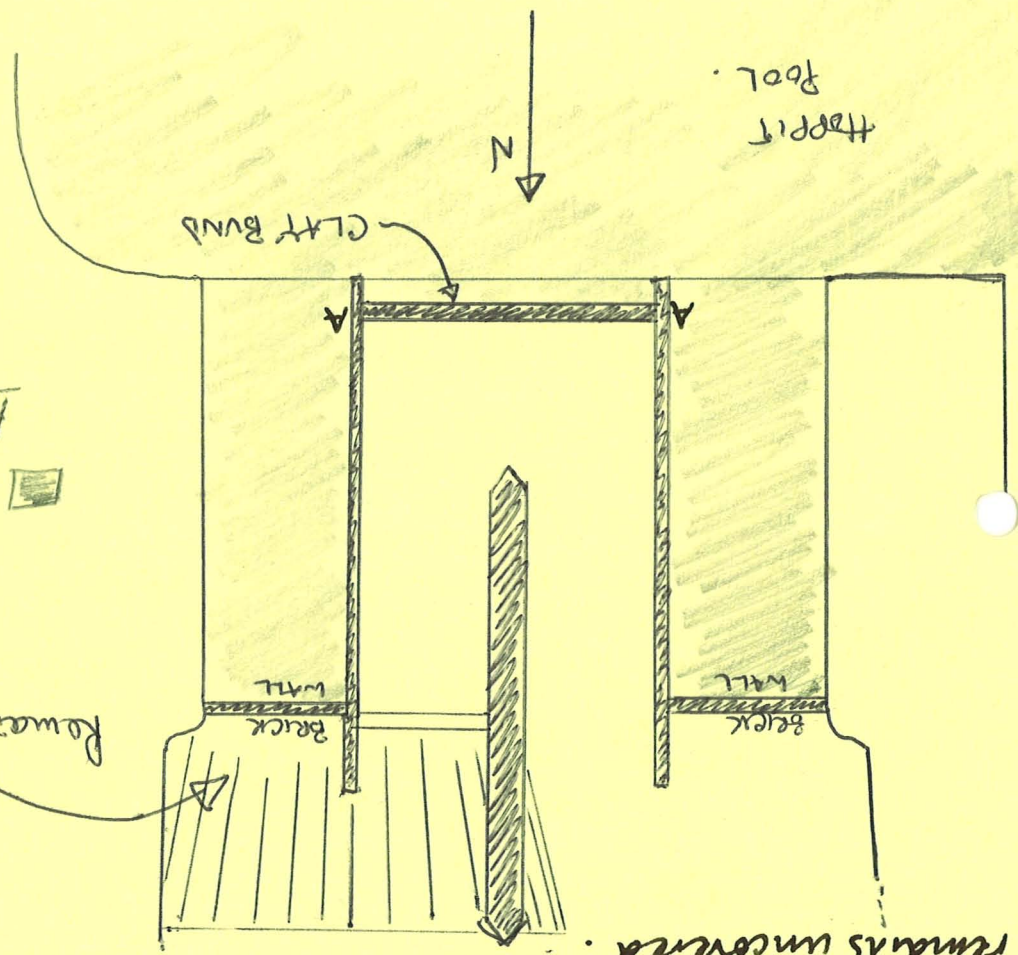
Elevations - [ ]

Detail needed on elevations.

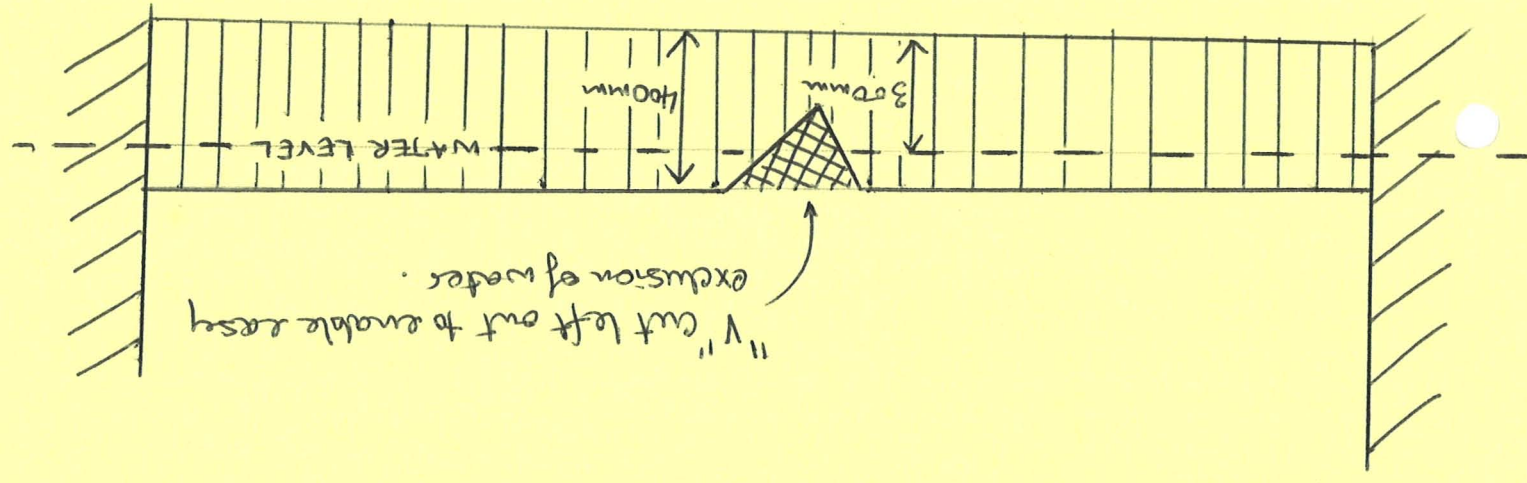
Plan - (Not to scale)  
 RCHME 135. Millhead Sluices.

: Insertion of temporary clay bund to exclude water from  
 remains uncovered.

Remains to be planned &  
 recorded.  
 - Extent of water  
 after removal of dam.



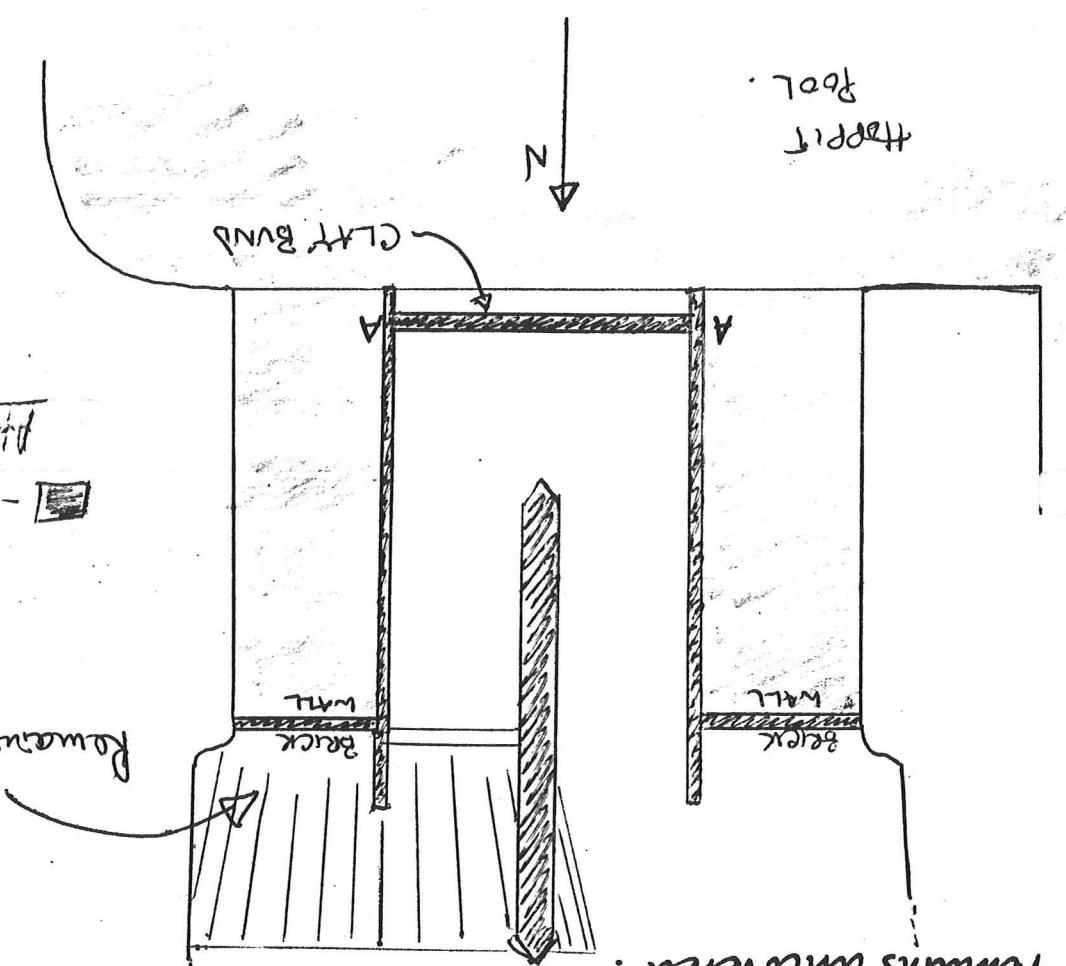
CROSS-SECTION: A-A  
 NTS



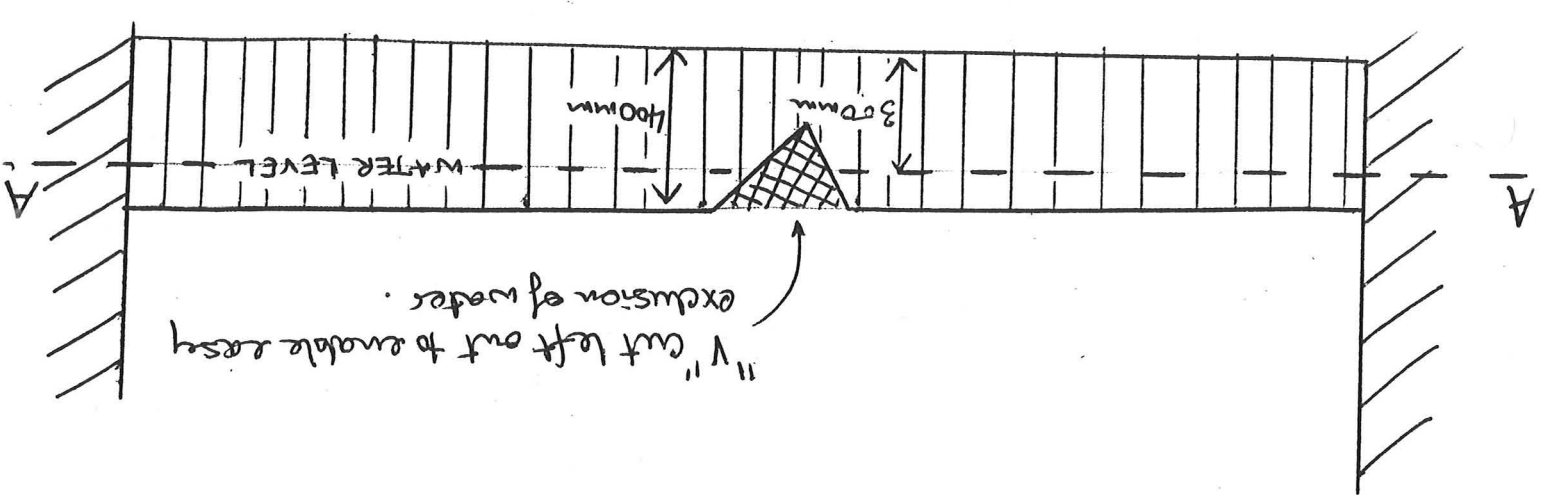
Plan - (North side)  
 RCHME 135. Millhead sluices.

: Insertion of temporary clay bund to exclude water from  
 remains uncovered.

Remains to be planned &  
 recorded.  
 - Extent of water  
 after removal of dam.



CROSS-SECTION: A-A  
 NTS



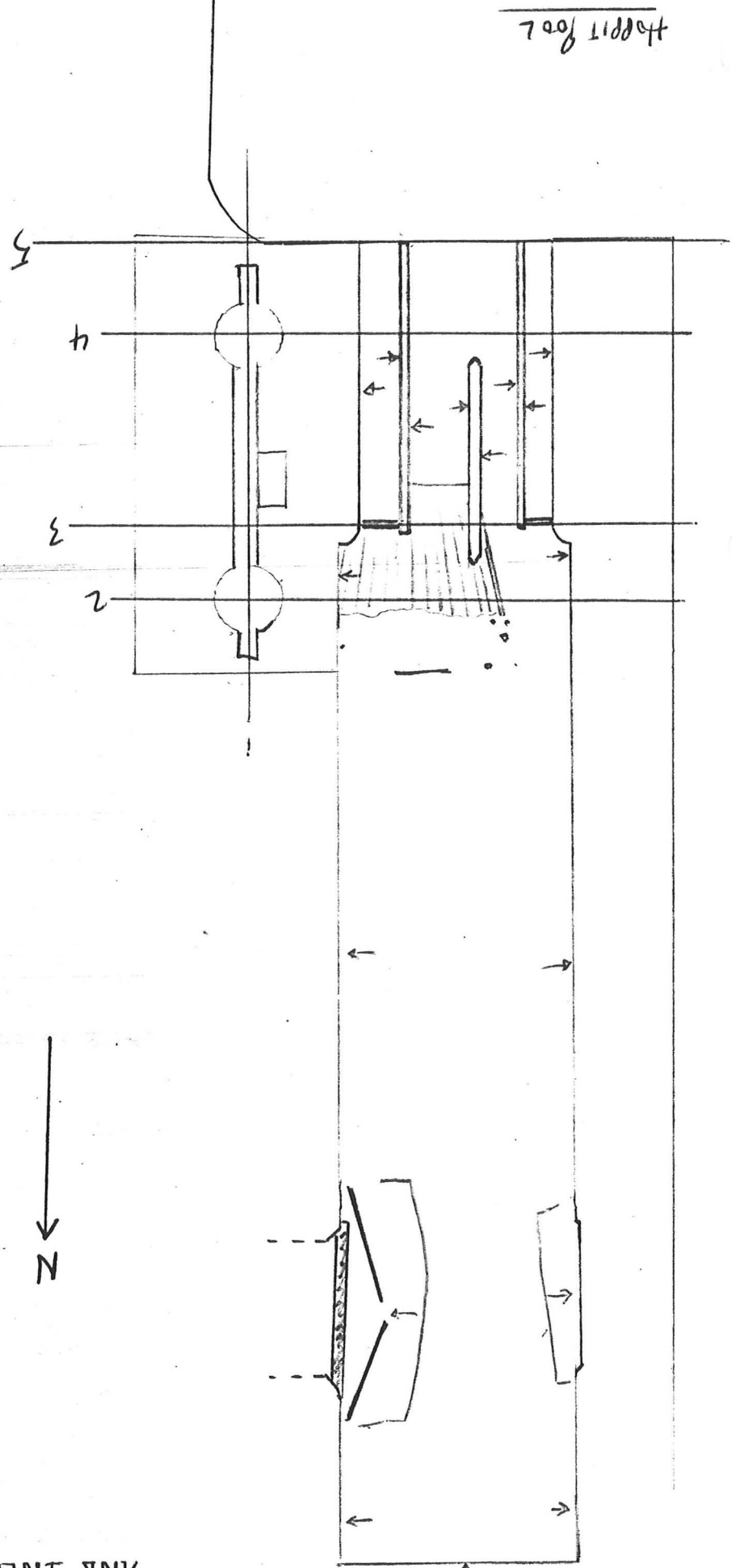
MILLHEAD CANAL AND SLICES  
AND INCORPORATING MILL TO SOUTH

PLAN: [CUTS]

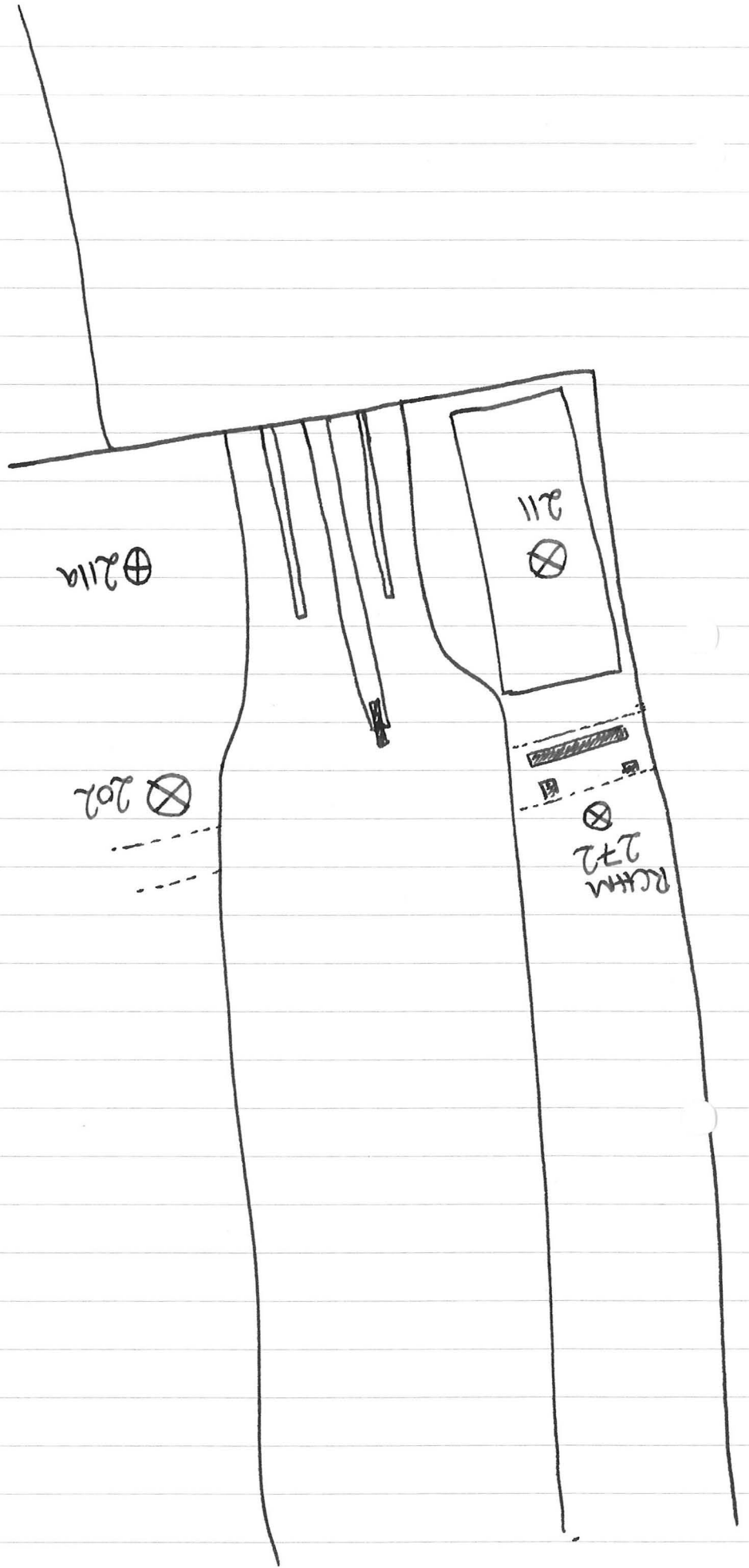
Sections: ————  
 Elevations: ————  
 Detail needed on elevation: [ ]

N ↓

FILE TO  
HERE ↓



HOPBIT 9002



211A

211?

Stamping Mills 1735 - 1772  
Head Mills 15 1783?  
Head Mills 5+6 1783 - 1827.  
Incorporating Mill No. 1. 1888 - 1910  
Matron's Room 1910 - 1957

211.

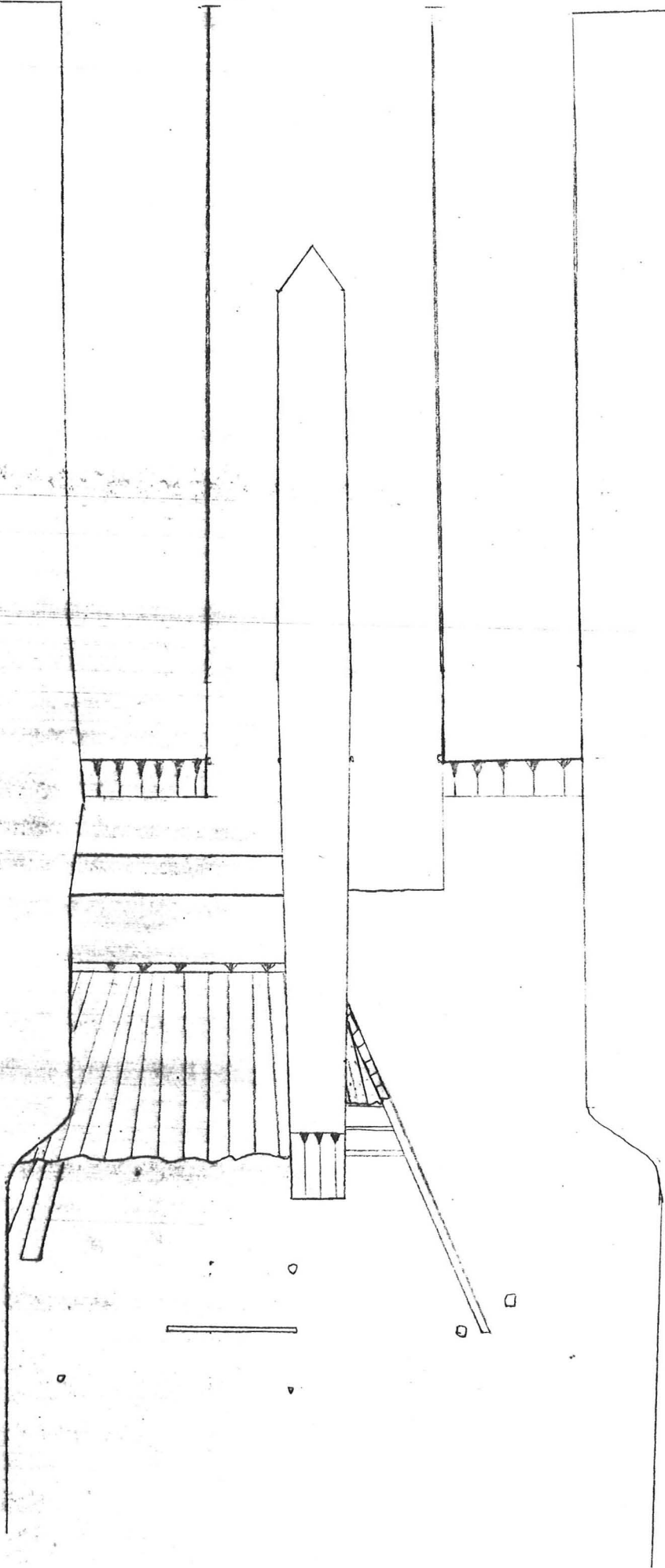
Stamping Mills 1735 - 1772  
Head Mills 16 1783?  
Head Mills 7+8 1783 - 1827  
Charcoal Store 1888 - 1957

202

Charging House 1783 - 1803  
Charge Magazine 1830 - 1908  
Magazine 1908 - 1908  
Salt petre Store 1907 - 1957

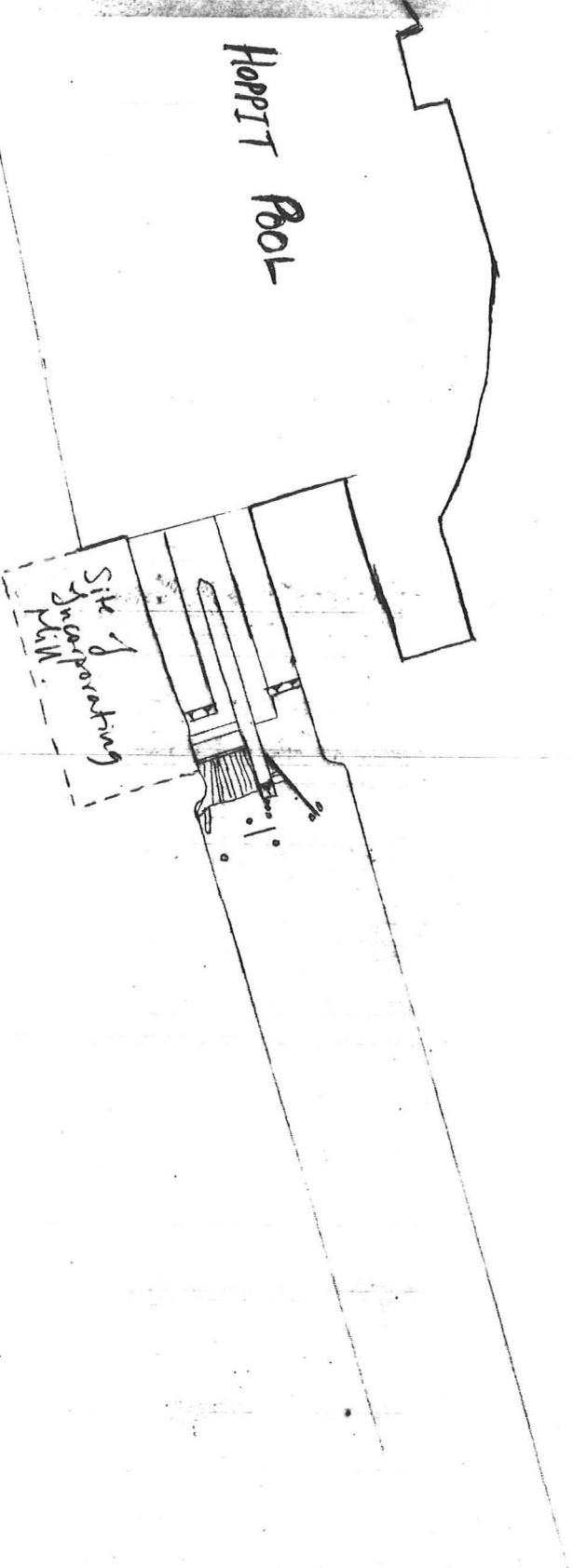
272

Head Mills 18  
Hopt Mills 10+9  
Gumpper Mills 1827 - 1830  
Water Composition Mill + 1830 - 1888  
Gumpper Mill  
Salt petre Store, Gunstone + 1888 - 1908?  
Charcoal Mixing House No. 2



Plan at 1:100 of Sluices at South of Millhead Stream  
 24.3.95. S. Claddock

KCHME 135



→Z

24.3.95. S. Schwabke

Plan of RCHME 135 at 1:500



**WALTHAM ABBEY ROYAL GUNPOWDER  
FACTORY**

**(FORMER RARDE NORTH SITE)**

**Building 211a Stamp/Head Mill  
Millhead**

**Adam Ford  
Consultant Archaeologist**

**June 1994**

*Read +  
revamp.  
(make longer.)*

## WALTHAM ABBEY ROYAL GUNPOWDER FACTORY (FORMER RARDE NORTH SITE)

Millhead - Building 211a Stamping/Head Mill

Location - TL37652 00994

The mill remains lie at the "neck" of the island site on the now indistinguishable banks of Millhead Stream, immediately to the North East of Hoppit Pool (see figure 1 and figure 2).

Background

The mill foundations were accidentally uncovered by an excavator as it attempted to remove the floor slab of the former Central Solvent Store (A292) constructed in 1952 and demolished to floor level in 1992. Once below the floor slab the excavator operator continued to remove what he thought was rubble, note the scarified surface of the surviving brickwork caused by the toothed bucket.

The remains were later identified by Mr.W.Cocroft of the Royal Commission on the Historical Monuments of England, as the 19th possibly 18th Century foundations of a water powered gunpowder incorporating mill.

History

The island site and the area to the North, delineated by the Millhead Stream, are the locations for the earliest factory, dating from the second half of the 17th Century. For over two hundred years gunpowder was incorporated in water powered mills.

Millhead Stream, originally a natural water course, was raised above the surrounding plain on a leveed embankment, quite an engineering feat for the period. This produced a sufficient head of water to power the process machinery of the buildings which lined the stream.

Water was let through narrow sluices dug at right angles to the stream which powered low slung water wheels positioned in the trough.

Probably the earliest machinery used to incorporate gunpowder on site was the stamping mill. A cam shaft attached to the water wheel powered a row of large pestles which fell into a series of mortars containing the gunpowder mixture. In Farmers engraving of 1735 (figure 3) the two mill buildings at the head of the stream, adjacent to Hoppit Pool are described as Stamping Mills.

These mills (211 and 211a) were probably constructed in the latter part of the 17th Century and continued in use until 1772 when their use was prohibited by an act of parliament.

The 'head' mills as they are described, were then converted to the 'edge-running' method of incorporation. This method, which survived up to the 20th Century, used large stone, and later iron, mill stones arranged vertically which were driven round on a circular bed stone, similar to the method used in cider pressing (figure 4). The 'head' mills continued in use until the end of the Napoleonic wars when they were probably demolished (pre 1827).

The two sites were vacant for almost 50 years until around 1880 when a charcoal store was built. The store was eventually demolished in the 1950's.

**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

NUMBER	OLD SERIES 211	RCHME NUMBER	N.G.R. TL 37652 00994
NAME/FUNCTION Stamping Mills Head Mills 16 Head Mills 7 & 8 Charcoal Store	START DATE pre 1735 pre 1783? 1783 by 1888	END DATE by 1772?  Dem pre 1827 1957?	
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
<p>1783 WASC 900/01 + MR 593 ; Head Mills 16  1783 WASC 900/01A ; Head Mills 7&amp;8  1801 WASC 900/58 + MR 580 ; Head Mills  1865 WASC 900/38 + SUPP5 975  1865 WASC 900/41A ; Charcoal Store  1865 WASC 900/42 ; Charcoal Store  1897 WASC 900/53C  c1910 WASC 900/65 ; Charcoal Store  c1910 WASC 900/79 ; Charcoal Store  1917 WASC 900/70 ; 211  1917 WASC 900/72 ; 211  1919 WASC 900/74 ; 211  c1920 WASC 900/80 ; 211  1923 WASC 900/84 ; 211  1932 WASC 900/87 ; 211  &gt; 1940 WASC 900/91A ; 211  1954 A - B.34 ; 211  c1960 WASC 900/94 ; 211 (demolished)</p>		<p>1735 Farmer J. Engraving ; "12" one of two Stamping Mills  1783 WASC 1262 ; Stamping Mills (Head Mills)  1908 RGPF Ledger WASC 1509 + WASC 1764 ; Charcoal Store built pre 1886 p24  c1925 RGPF Ledger WASC 1680 ; Charcoal store  c1945 RGPF Ledger WASC 1508 ; Charcoal Store</p>	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS			
ASSOCIATED WITH: Millhead Stream RCHME 296, 211a, 197, RCHME 349, RCHME 353			
CONDITION		Demolished potential for buried remains good	

DESCRIPTION

3) POWER SOURCE  
Water

5) The building has been demolished. The remains of this building may be traced as brick foundations west of the filled canal. Within the building is a section of narrow gauge rail, the rail is wooden sheathed by an L iron, gauge 18". The potential for archaeological deposits within this area is good.

The Stamping Mills were probably demolished at the end of the Napoleonic Wars. The site was unoccupied for most of the nineteenth century until the end of the 1880's? When a Charcoal stove was built on its site.

*The floor slab of the <sup>later</sup> building ~~is~~ remains on a slightly raised level. This should have preserved the archaeological remains to some degree. Asbestos in and around this area has resulted in the capping of the whole "island".*

**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

NUMBER	OLD SERIES 211a	RCHME NUMBER	N.G.R. TL 37667 00995
NAME/FUNCTION Stamping Mills Head Mills 15 Head Mills 5 & 6 Incorporating Mill No.1 Matrons Room	START DATE pre 1735 pre 1783? 1783 1888? 1910?	END DATE by 1772? Dem pre 1827 1910? 1957?	
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
<p>1783 <del>✓</del> WASC 900/01 + MR 593 ; Head Mills 15                  1783 <del>✓</del> WASC 900/01A ; Head Mills 5&amp;6                  1801 WASC 900/58 + MR 580                  1865 WASC 900/38 + SUPP5 975 ; Incorporating Mills                  1865 WASC 900/41A ; Incorporating Mills No.1                  1865 WASC 900/42 ; Incorporating Mills No.1                  1897 WASC 900/53C                  c1910 WASC 900/65 ; Incorp. Mills No.1                  c1910 WASC 900/79 ; Incorp. Mills No.1                  1917 WASC 900/70 ; 211a                  1917 WASC 900/72 ; 211a                  1919 WASC 900/74 ; 211a                  c1920 WASC 900/80 ; 211a                  1923 WASC 900/84 ; 211a                  1932 WASC 900/87 ; 211a                  &gt; 1940 WASC 900/91A ; 211a                  1954 A - B.34 ; 211a</p> <p><i>MKS 4/1 + more.</i></p>		<p>1735 Farmer J. Engraving ; "11" one of two Stamping Mills                  1783 WASC 1262 ; Stamping Mills (Head Mills)  <i>Plan (Farmer Engraving - '11') post 1808.</i>                  1908 RGPF Ledger WASC 1509 + WASC 1764 ; Matrons Room                  c1925 RGPF Ledger WASC 1680 ; Matrons Room                  c1945 RGPF Ledger WASC 1508 ; Matrons Room</p>	
PHOTOGRAPHY HISTORIC	PHOTOGRAPHY RCHME		
c.1890 from south in Gray et al 1982 p3390	<p>1) 206/U/1 30-4-93 Contractors excavated hole                  206/U/2 30-4-93 Contractors excavated hole                  206/U/3 30-4-93 Contractors excavated hole                  206/U/4 30-4-93 Contractors excavated hole</p> <p><i>Site Photog.</i></p>		
RELATIONSHIPS WITH OTHER MONUMENTS			
ASSOCIATED WITH: Millhead stream RCHME 296, 211,197,191,RCHME 349, RCHME 353 UNDERLIES: A292			
CONDITION	Demolished		

*of 'A plan of the Powder Mills at Waltham Abbey and the Fishery on the River Lea, the Property of Walton Esq'*

DESCRIPTION

3) POWER SOURCE  
Water

5) The building has been demolished. From the earthwork evidence and our knowledge of the demolition processes (pers. comm. M Maclaren), it is thought likely that the foundations and archaeological deposits relating to this structure survive intact.

30th April 1993 - During the removal of the building slab A292 the mechanical digger driver removed upto 2m of 'loose' rubble from beneath the slab. At least three phases of brick work foundations were revealed and a brick lined leat. Depth of archaeological deposits therefore estimated in excess of 2m at this point.

The Stamping mill was probably demolished at the end of Napoleonic wars. Its site was unoccupied for most of the nineteenth century until the construction of a new Incorporating Mill in the second half of the century.

*Uncovered during 1995. Please see report and archive  
produced by Cots. Arch. Trust. 1995.*

The history of the buildings located at this spot is documented in the RCHME component sheets (Area A volume). It shows an almost continuous occupation from 1735 to 1957. The cartographic record is substantial from 1865 onwards.

During decontamination works on site, some damage to the structure of 211a was caused by the toothed bucket of a large excavator. This damage occurred before the survey of the site by the Royal Commission on the Historical Monuments of England, which ultimately resulted in the scheduling of the most significant remains.

Those remains uncovered were recorded at 1:100 by MKS (Ref: MKS4/01), and photographed by the site archaeologist. The fill was recorded by drawing up a section through the southern end of 211a. (follows)

During March 1995 remediation works resumed in the area of 211a to remove a brick lined sump and to check for residual asbestos fibres (as part of the steam pipe route decontamination programme). Scheduled Monument Consent had been received for these works as they were now within the Scheduled Ancient Monument.

Proximity of trees to the south had caused some root damage to the remains but generally the level of survival was good.

The fill of 211a was similar to the section already recorded. Below the topsoil (20cm deep) a layer of rich loamy soil with flint and small stone inclusions. Close to the wall a layer of red brick collapse could be seen at the start of this layer. Finally a lower layer, c. 60cm deep, was made up mostly of brick (soft red and yellow stocks) and crumbling lime mortar. This level sits on York stone slab floor.

#### Interpretation.

It is possible that the lower context was a make up level for a floor at some point in the buildings history. The presence of a slab floor level below points to demolition/collapse as the lower context includes suitable brick and mortar for this to be the case.

The middle context is likely to be a gradual accumulation of silts into a walled void. As the walls disintegrate above ground, they too added fragments of bricks in discrete layers.

## Royal Gunpowder Factory DENDROCHRONOLOGY

Visit to RCHM135 on Tuesday 13th June 1995 by Mr. Ian Tyers of MoLAS.

On inspection of the timbers in the sluices Mr. Tyers commented that the majority are of softwood origin, one possible oak at a lower level was noticed.

Discussion followed regarding the state of dendrochronology in Europe and also the geographical location of the site. This can be summarised as follows:-

- At present there is no reliable softwood chronology for England.
- The likelihood that the structure may be in the region of 1500 - 1800<sup>AD.</sup> is strong and would probably have been constructed using imported softwood. (Plantations in England were not established yet).
- RGPF position of the River Lea would have enabled easy access for imports of all kinds.
- Concerted European effort to construct a pan-European chronology on softwoods is underway. The English efforts are being coordinated in Sheffield.
- RGPF has an excellent research collection of softwoods that Sheffield already know about (A210 roof trusses). The need to inform them of the existence of the RCHM135 softwoods is strong.
- Sampling of timbers from RCHM135 should be a carefully planned and controlled exercise. Resisting the urge to sample now would allow a research student to carry out a controlled sampling exercise at a later date.

This would not result in lost information about RCHM135 as long as the timbers are kept wet.

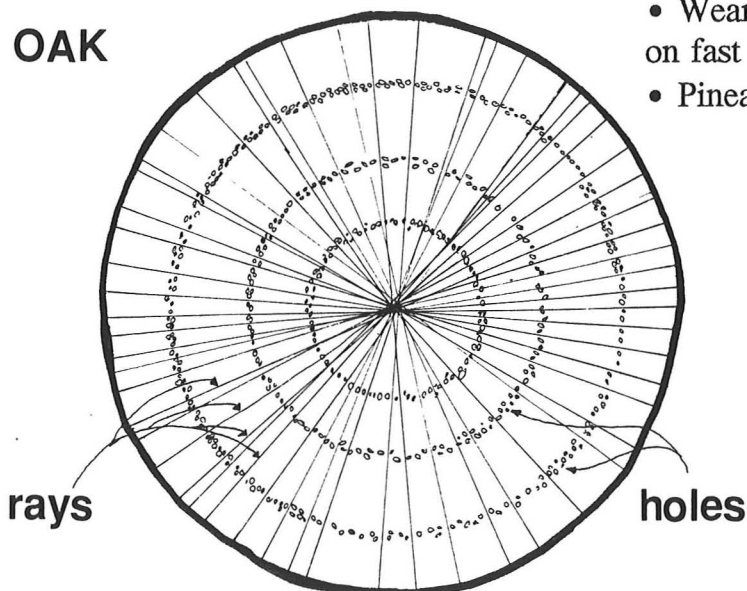
Oak sequence for England is good now and dates can be suggested from the appropriate sample. What is needed??

Slow growing (rings close together) sample with sapwood (lighter in colour) intact if possible. 1 - 1½" slice in a sealed plastic bag. Oak tends to be dark when waterlogged and has a characteristic pattern of holes and 'rays'.

Softwoods tend to have:

- Prominent knots which wear less.
- Wear differential between rings, especially on fast growing examples.
- Pineappleing.

**OAK**





THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES	RCHME NUMBER 118	N.G.R. TL37526 01375 TL37458 01520
NAME/FUNCTION Pipeline		START DATE	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS  ASSOCIATED WITH:			
CONDITION      Poor			
DESCRIPTION  5)      Former pipeline, to west of leat [RCHME 119], survives as a row of concrete pipe bases.			

RCHME

Bases found for steam pipeline to east of R119. found during September 1995.

**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

NUMBER	OLD SERIES	RCHME NUMBER 171	N.G.R. TL 47423 01740
NAME/FUNCTION Shelter		START DATE 1940	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS  ASSOCIATED WITH:			
CONDITION      Fair			
<p>DESCRIPTION</p> <p>1)      CONSTRUCTIONAL MATERIAL          Breeze block</p> <p>2)      ROOF MATERIALS AND STRUCTURE          Flat concrete slabs</p> <p>3)      POWER SOURCE          None</p> <p>4)      DIMENSIONS i) L 3.45m ii) W 2.35m iii) HT 2.1m</p> <p>5)      This is a small single storey shelter with a single door on the Eastern side and a blocked window on the South elevation.</p>			

**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

NUMBER	OLD SERIES	RCHME NUMBER 218	N.G.R. TL 37590 01196
NAME/FUNCTION Temporary Dusting House Barrel House		START DATE pre 1827 1865?	END DATE 1865? 1900?
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
1827	WASC 900/04 + MPHH 271 ; Temporary Dusting House	1807	Statement of Property WO55 2694
1830	WO55 2694 ; 128	1830	Statement of Property WO55 2351 ; Temporary Dusting House
1830	WASC 900/05 ; Temporary Dusting House	1841	Statement of Property WO55 2856 ; Temporary Dusting House
c1835	WASC 900/07 ; Temporary Dusting House	1851	Statement of Property WO55 3027
1865	WASC 900/38 + SUPP5 975 ; Barrel House	1857	Maj Frazer Baddeley R.A. Pamphlet on the Manufacture of Gunpowder Waltham Abbey p17
1865	WASC 900/41A ; Barrel House	1870	Capt F.M.Smith R.A. Handbook of the Manufacture and Proof of Gunpowder as carried on at the RGPF Waltham Abbey p69-71
1865	WASC 900/42 ; Barrel House	1888	Maj Gen W.H.Wardell Handbook of Gunpowder & Guncotton 1888 p52 point No6
1897	WASC 900/53C	1895	Oscar Guttman The Manufacture of Explosives Vol1 1895 p222-224
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1) RCHM218 206/L/4 09 Mar 1993 From South West	
RELATIONSHIPS WITH OTHER MONUMENTS			
ASSOCIATED WITH: Millhead Stream RCHME 296			
CONDITION	Demolished		
DESCRIPTION			
1)	CONSTRUCTIONAL MATERIAL Brick		
3)	POWER SOURCE -		
4)	DIMENSIONS i) L 9.2m ii) W 5.4m iii) HT 1.15m		
5)	The foundations of this building survive along the west side where they form the edge of the western tailrace, the north and south walls are almost buried although a small round headed brick arch is visible towards the western end of each wall. The eastern wall of the building is visible on the platform between the tail race and the canal as a slight linear earthwork.		

*Not investigated.*

## THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES	RCHME NUMBER 219	N.G.R. TL 37584 01207
NAME/FUNCTION Weir		START DATE by 1827	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
<p>1826 WASC 900/4  1865 WASC 900/38 + SUPP5 975  1865 WASC 900/41A  1865 WASC 900/42  1897 WASC 900/53C  c1910 WASC 900/65  c1910 WASC 900/79  1917 WASC 900/70  1917 WASC 900/72  1919 WASC 900/74  c1920 WASC 900/80  1923 WASC 900/84  1932 WASC 900/87  &gt; 1940 WASC 900/91A  1954 A - B.34</p>			
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1) 206/L/5 09 Mar 1993 From South West	
RELATIONSHIPS WITH OTHER MONUMENTS			
ASSOCIATED WITH: Millhead Stream RCHME 296, RCHME 301			
CONDITION		Fair	
DESCRIPTION			
<p>1) CONSTRUCTIONAL MATERIAL Brick</p> <p>4) DIMENSIONS i) L 9.75m ii) W 6.66m iii) HT end walls 0.65m</p> <p>5) The weir consists of two vertical walls to the north and south, between these walls is a flat brick surface laid in a herring bone pattern. The western edge is reveted in timber, the eastern edge along Millhead Stream is reveted in later concrete.</p>			

**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

NUMBER	OLD SERIES	RCHME NUMBER 222	N.G.R. TL 37568 01234
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NAME/FUNCTION Lock	START DATE 1896-7	END DATE
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NO PHOTOGRAPHY  
AVAILABLE

<p>CARTOGRAPHIC DEPICTION</p> <p>1897 WASC 900/53C  c1910 WASC 900/65  c1910 WASC 900/79  1917 WASC 900/70  1917 WASC 900/72  1919 WASC 900/74  c1920 WASC 900/80  1923 WASC 900/84  1932 WASC 900/87  &gt; 1940 WASC 900/91A  1954 A - B.34  c1960 WASC 900/94  c1963 WASC 900/97  1972 WASC 900/102 ; Lock (disused)  1972 WASC 900/104 ; Lock (disused)  1976 WASC 900/113</p>	<p>DOCUMENTARY REFERENCES</p>
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<p>PHOTOGRAPHY HISTORIC</p>	<p>PHOTOGRAPHY RCHME  1) 206/L/6 09 Mar 1993 Lock from South  206/L/7 09 Mar 1993 Lock chamber from South East  206/L/8 09 Mar 1993 Gates at North end from South    2) BB92/26217 Lock 1896-7 From South  BB92/26218 Detail at North end of lock from North East  BB92/26317 View from South East  <i>Site Photog.</i></p>
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RELATIONSHIPS WITH OTHER MONUMENTS

ASSOCIATED WITH: Millhead Stream RCHME 296, RCHME 301

CONDITION      Good

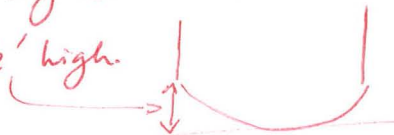
DESCRIPTION

- 1) CONSTRUCTIONAL MATERIAL  
Brick chamber sides, wooden gates
- 3) POWER SOURCE  
Muscle
- 4) DIMENSIONS i) L 27.5m ii) W 4.44m iii) chamber depth 2.4m
- 5) The lock controls access between the high level canal system Millhead stream RCHME 296 and the low level system RCHME 301. The date of its construction is coincidental with the building of the south site Guncotton Factory and may reflect the increased barge traffic between the two sites.

The lock chamber and entrances constructed from grey engineering brick, a date stone set into the chamber wall reads '1896-7'. The lock gates are wooden with iron fittings. The lock chamber could be sealed by vertical sluice boards north of the north gates, the vertical slots for the boards remain. The sides of the lock chamber are protected by vertical rubbing boards, access into the chamber was by means of a vertical metal ladders set into the chamber wall on the west and east sides. Around the top of the chamber are set four cannons barrel down to act as mooring bollards.

The lock was filled from the high level system Millhead Stream by the means of two inlet valves sliding vertically and controlled by a hand wheel on a vertical screw thread. This allowed water to be discharged through a pipe to the south of the lock gates to fill the chamber. A similar arrangement is present at the south end of the chamber to discharge water. In this case the pipe is inside the chamber and the outlet valve to the south of the gates. The cast iron valve gear has the following name cast into it 'FREDK BIRD & CO 11 GT CASTLE STREET REGENT ST LONDON'.

*Cleaned out August 25. Base is brick (engineering) in a gentle curve c. 2 1/2' high.*



**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

NUMBER	OLD SERIES	RCHME NUMBER 223	N.G.R. TL 37586 01264
NAME/FUNCTION Footbridge		START DATE	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS  ASSOCIATED WITH: 157, 159			
CONDITION      Poor			
<p>DESCRIPTION</p> <p>1)      CONSTRUCTIONAL MATERIAL          Timber</p> <p>4)      DIMENSIONS i) L 9m ii) W 1.8m</p> <p>5)      The timber trestles for this bridge remain on the east and west side of the eastern tail race.           The bridge formerly carried the path from the dusting house 159 to the shoe room 157 over the tail race.</p>			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES	RCHME NUMBER 257	N.G.R. TL 37615 01981
NAME/FUNCTION Edge runner		START DATE	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1)206/P/17 Mill edge runner	
RELATIONSHIPS WITH OTHER MONUMENTS			
CONDITION      Poor			
<p>DESCRIPTION</p> <p>1)      CONSTRUCTIONAL MATERIAL          Limestone</p> <p>4)      DIMENSIONS ii) W 0.43m iv)DIA 1.9m</p> <p>5)      Broken gunpowder mill edge runner lying to the east of the main leat. Approximately one third of the stone survives, only one complete side the central hole remains 30.5cm in length.</p>			



**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

NUMBER	OLD SERIES	RCHME NUMBER 258	N.G.R. TL 37542 01244
NAME/FUNCTION Millstones		START DATE	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1) 206/N/15 12 Mar 1993 Millstones group 206/N/16 12 Mar 1993 Millstone detail 206/N/17 12 Mar 1993 Millstone detail	
RELATIONSHIPS WITH OTHER MONUMENTS  ASSOCIATED WITH:			
CONDITION	Good		

DESCRIPTION

1) CONSTRUCTIONAL MATERIAL  
Sandstone

3) POWER SOURCE  
Water?

5) Twelve sandstone millstones were found during ground clearance work between L128 and L155. All the stones have a circular central hole and have or had a grooved surface on their running edges. Also included in this deposit was a large broken sandstone bedstone and a number broken sandstone window sills.

1)Diameter: 52cm	2)Diameter: 58cm
Thickness:28cm	Thickness: 31cm
Central hole: 13cm	Central Hole: 12.5cm
Grooves: 5mm	Grooves: 3mm

3)Diameter: 55cm	4)Diameter: 53.5cm
Thickness: 30cm	Thickness: 30cm
Central hole: 12.7cm	Central Hole: 13cm
Grooves: 2mm	Grooves: 2mm

5)Diameter: 55cm	6)Diameter: 56.5cm
Thickness: 24.5cm	Thickness: 30.5cm
Central hole: 13cm	Central Hole: 13cm
Grooves: 2mm	Grooves: worn

7)Diameter: 55cm	8)Diameter: 56cm
Thickness: 29.5c	Thickness: 30cm
Central hole: 13cm	Central Hole: 13cm
Grooves: 1mm	Grooves: worn

9)Diameter: 53cm	10)Diameter: 51cm
Thickness: 30.5cm	Thickness: 30cm
Central hole: 12.5cm	Central Hole: 12.5cm
Grooves: 2mm	Grooves: worn

11)Diameter: 57cm	12)Diameter: 69cm
Thickness: 28.5cm	Thickness: 24cm
Central hole: 14cm	Central Hole: 12.5cm
Grooves: worn	Grooves: worn

\* This marked as 212 on A3 Plan.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES	RCHME NUMBER 272	N.G.R. TL 37642 01015
NAME/FUNCTION Hoppit Mills 18 Hoppit Mills 10 & 9 Gunpowder Mills Water Composition Mill & Gunpowder Mill Saltpetre Store, Brimstone and Charcoal Mixing House No.2		START DATE pre 1783? 1783 1827? 1830 1888?	END DATE  1827? 1830 1888? 1900?
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
1783	WASC 900/01 + MR 593 ; Hoppit Mills 18	1783	WASC 1262 ; Hoppit Mill
1783	WASC 900/01A ; Hoppit Mills 9&10	1807	Statement of Property WO55 2694 ; Mills
1801	WASC 900/58 + MR 580 ; Hoppit Mills	1830	Drayson.F. Plan & Elevation p9
1827	WASC 900/04 + MPH 271 ; Gunpowder Mills	1830	Statement of Property WO55 2351 ;
c1835	WASC 900/07 ; Gunpowder Mills	1841	Statement of Property WO55 2856 ;
1865	WASC 900/38 + SUPP5 975 ; Saltpetre Store, Brimstone & Charcoal Mixing House No.2	1851	Statement of Property WO55 3027 ;
1865	WASC 900/41A ; Saltpetre Store, Brimstone & Charcoal Mixing House No.2	1857	Maj Frazer Baddeley R.A. Pamphlet on The Manufacture of Gunpowder 1857 p36-39
1865	WASC 900/42 ; Saltpetre Store, Brimstone & Charcoal Mixing House No.2	1870	Capt F.M.Smith R.A. Handbook of the Manufacture and Proof of Gunpowder as carried on at the RGPF Waltham Abbey Chp2 p10-21 Figs14-16
1897	WASC 900/53C	1888	Maj Gen W.H.Wardell Handbook of Gunpowder & Guncotton 1888 Chp3 p21-22
		1895	Oscar Guttman The Manufacture of Explosives Vol1 1895 p27-40 Fig2-6
		1938	Textbook of Explosives in the Service p58
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS			
ASSOCIATED WITH: Millhead stream RCHME 296			
CONDITION		Good: brick foundations visible on the surface	

DESCRIPTION

- 1) CONSTRUCTIONAL MATERIAL  
Brick foundations formerly had timber superstructure
- 2) ROOF MATERIALS AND STRUCTURE  
-
- 3) POWER SOURCE  
Water
- 4) DIMENSIONS i) L 30m ii) W 8.3m
- 5) The building has been demolished. The outline of the building may be discerned on the surface as brick foundations. Along the eastern side the brick line may mark the canal edge. The closeness of brick foundations to the surface suggests that archaeological deposits remain intact within the building.

Surface scrape turned up asbestos board - corrugated roof board.  
Lack of time + money encourages capping as excavation would mean lost information.

This foundation seems well preserved. Wall outlines seen after scrape / before capping showed clearly the wheel slot. There is a limestone millstone in the wheel race, partly damaged where it nears the surface. Further excavation needed to understand fully.

**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

NUMBER	OLD SERIES	RCHME NUMBER 274	N.G.R. TL 3749 0136
NAME/FUNCTION The Little Stove Stove Gloom Stove Heading Up House/Barreling House		START DATE pre 1735 pre 1783 1827 1851?	END DATE 1827 1851? 1900?
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
1783	WASC 900/01 + MR 593 ; A Stove	1735	Farmer J. Engraving ; "19" The Little Stove
1783	WASC 900/01A ; A Stove to Dry Gunpowder	1783	WASC 1262 ; A Stove (Little Stove)
1801	WASC 900/58 + MR 580 ; Lower Stove	1807	Statement of Property WO55 2694
1827	WASC 900/04 + MPH 271 ;132 Gloom Stove	1830	Statement of Property WO55 2351/132 ; Gloom Stove
1830	WO55 2694 ; 132	1841	Statement of Property WO55 2856 ; Gloom Stove
1830	WASC 900/05 ; Small Gloom Stove	1851	Statement of Property WO55 3027 ; Old Gloom Stove now Barrel House
c1835	WASC 900/07 ; Gloom Stove		
1865	WASC 900/38 + SUPP5 975 ; Heading up House		
1865	WASC 900/42 ; Heading up House		
1897	WASC 900/53C		
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS			
ASSOCIATED WITH: Millhead Stream RCHME 296			
CONDITION      Good			
DESCRIPTION			
5)      Probably removed when Horsemill Stream was widened in the early 1970s.			

## THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES	RCHME NUMBER 353	N.G.R. TL 37636 01054
NAME/FUNCTION Hoppit Incorporating Mill		START DATE pre 1783	END DATE by 1840
<p><i>no/18 in 1743 map</i> <i>not on 1735 print</i></p> <p>NO PHOTOGRAPHY AVAILABLE</p>			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
1783	WASC 900/01; Hoppit Mill	1735	Farmer Engraving
1801	WASC 900/58;	1783	WASC 1262
1827	WASC 900/04;116	1807	Statement of Property WO55 2694; Mill
1830	WASC WO55 2694;116	1830	Statement of Property WO55 2351; 116
1830	WASC 900/05;116		Gunpowder Mill
C1835	WASC 900/07		
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS			
ASSOCIATED WITH: Millhead Stream 296, 191, 197, 211, 211a, RCHME 212, RCHME 349			
CONDITION		Demolished	
DESCRIPTION			
1)	CONSTRUCTIONAL MATERIAL Timber?		
2)	ROOF MATERIALS AND STRUCTURE Wood		
3)	POWER SOURCE Water		
4)	DIMENSIONS i) L      ii) W      iii) HT		
5)			

## THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES	RCHME NUMBER 349	N.G.R. TL 37653 01060
NAME/FUNCTION Queens Mead Incorporating Mill		START DATE pre 1783	END DATE by 1850
<p><i>no. 11 on 1783 map</i> <i>not an incorporatory mill in 1735</i></p> <p>NO PHOTOGRAPHY AVAILABLE</p>			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
1783	WASC 900/01; Queens Mead Mills	1735	Farmer Engraving
1801	WASC 900/58; Queens Mead Mill	1783	WASC 1262
1827	WASC 900/04;	1807	Statement of Property WO55 2694; Mill
1830	WASC WO55 2694	1830	Statement of Property WO55 2351; 123 Gunpowder Mill
1830	WASC 900/05	1840	Statement of Property WO55 2856; 123 Gunpowder Mill
C1835	WASC 900/07		
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS			
ASSOCIATED WITH: Millhead Stream RCHME 296, 191, 197, 211, 211a, RCHME 212, RCHME 353			
CONDITION		Demolished	
DESCRIPTION			
1)	CONSTRUCTIONAL MATERIAL Timber?		
2)	ROOF MATERIALS AND STRUCTURE Wood?		
3)	POWER SOURCE Water		
4)	DIMENSIONS i) L      ii) W      iii) HT		
5)			

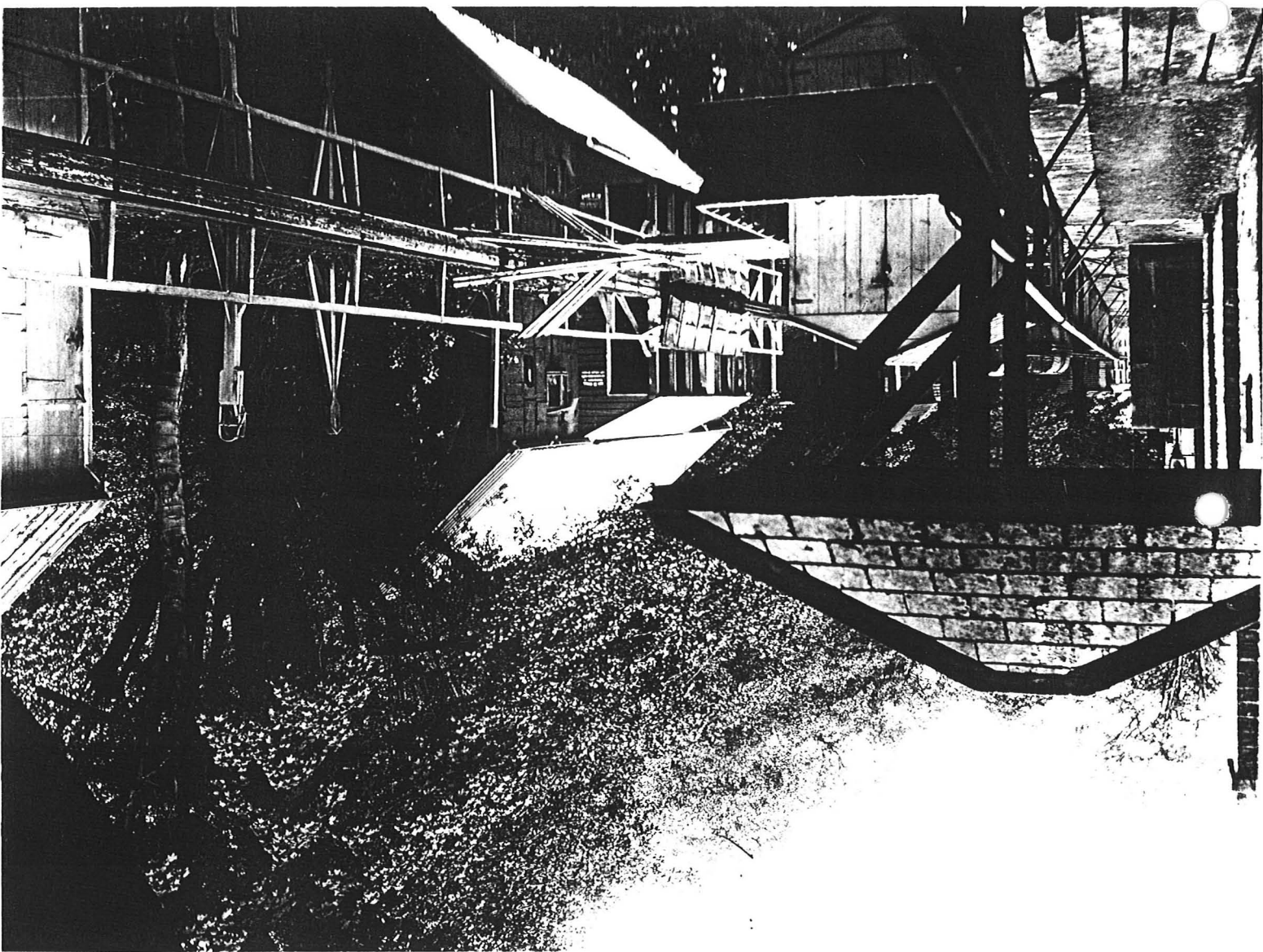
*No foundations found during decontam. works.*

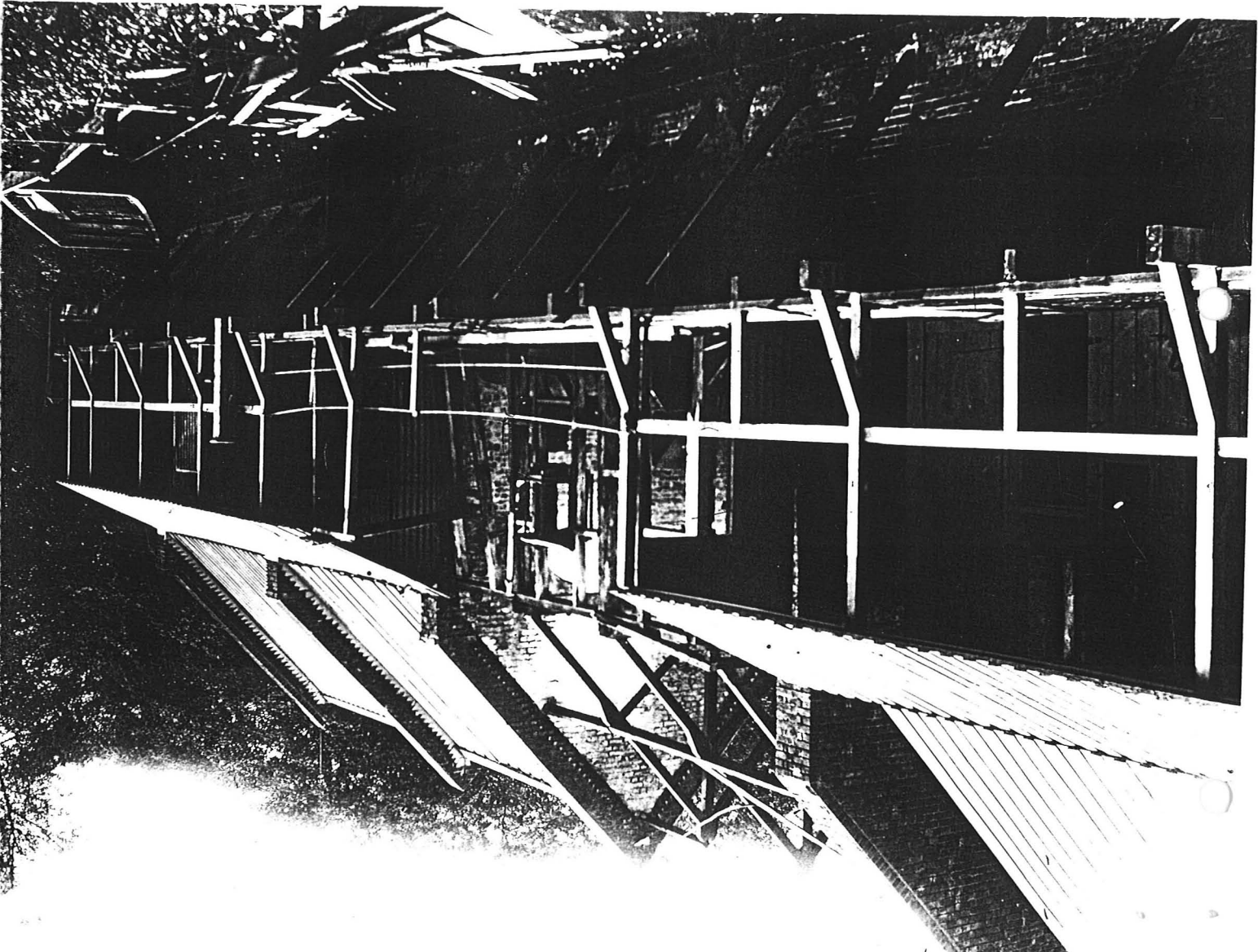
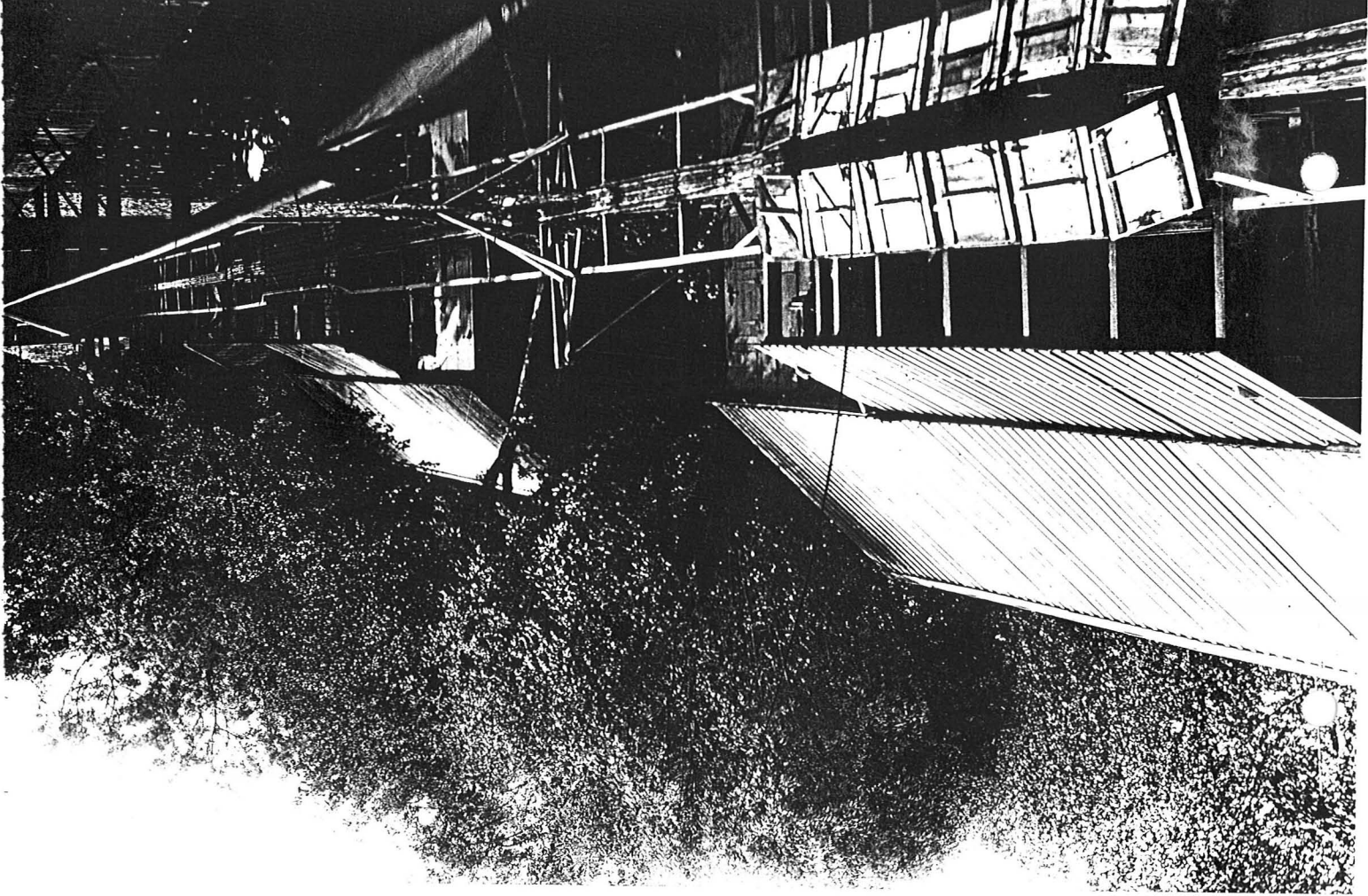
<p>PHOTOGRAPHY HISTORIC</p> <p>1) WASC 1479 Photographs of excavation september 1973</p>	<p>PHOTOGRAPHY RCHME</p>
<p>RELATIONSHIPS WITH OTHER MONUMENTS</p> <p>ASSOCIATED WITH: 198</p>	
<p>CONDITION      bank 0.6m in height.</p>	
<p>DESCRIPTION</p> <p>1)      CONSTRUCTIONAL MATERIAL Brick foundations formerly had timber superstructure</p> <p>2)      ROOF MATERIALS AND STRUCTURE -</p> <p>3)      POWER SOURCE Water</p> <p>5)      A mill may be shown to have occupied this site from at least the early eighteenth century and archaeological excavations (see below) may suggest the late seventeenth century. In 1771 a mill to a design by the eminent eighteenth century engineer John Smeaton was erected on the site. Later documentary and cartographic evidence indicated that this mill was probably rebuilt.</p> <p>This is the only gunpowder mill on the site that has been the subject of any previous archaeological investigation (see documentary references above). Two short excavation seasons in the early 1970s suggested that the bank on which the mills sit was created in the late seventeenth century. Three distinct buildings were identified on the site dating between the late seventeenth century and the mid-nineteenth century, along with minor modifications. The consolidation of the canal revetment from timber to brick was also noted.</p> <p>The field remains consist of most of the eastern brick foundations of the mill, forming also the edge of the tailrace. Within this stretch of wall the central wheel pit is visible although rubble filled. Minor irregular scarps on the platform between the tailrace and Millhead stream are indicative of building remains close to the surface.</p> <p>The potential for well preserved archaeological deposits in this area is high.</p>	

*Not Investigated.*

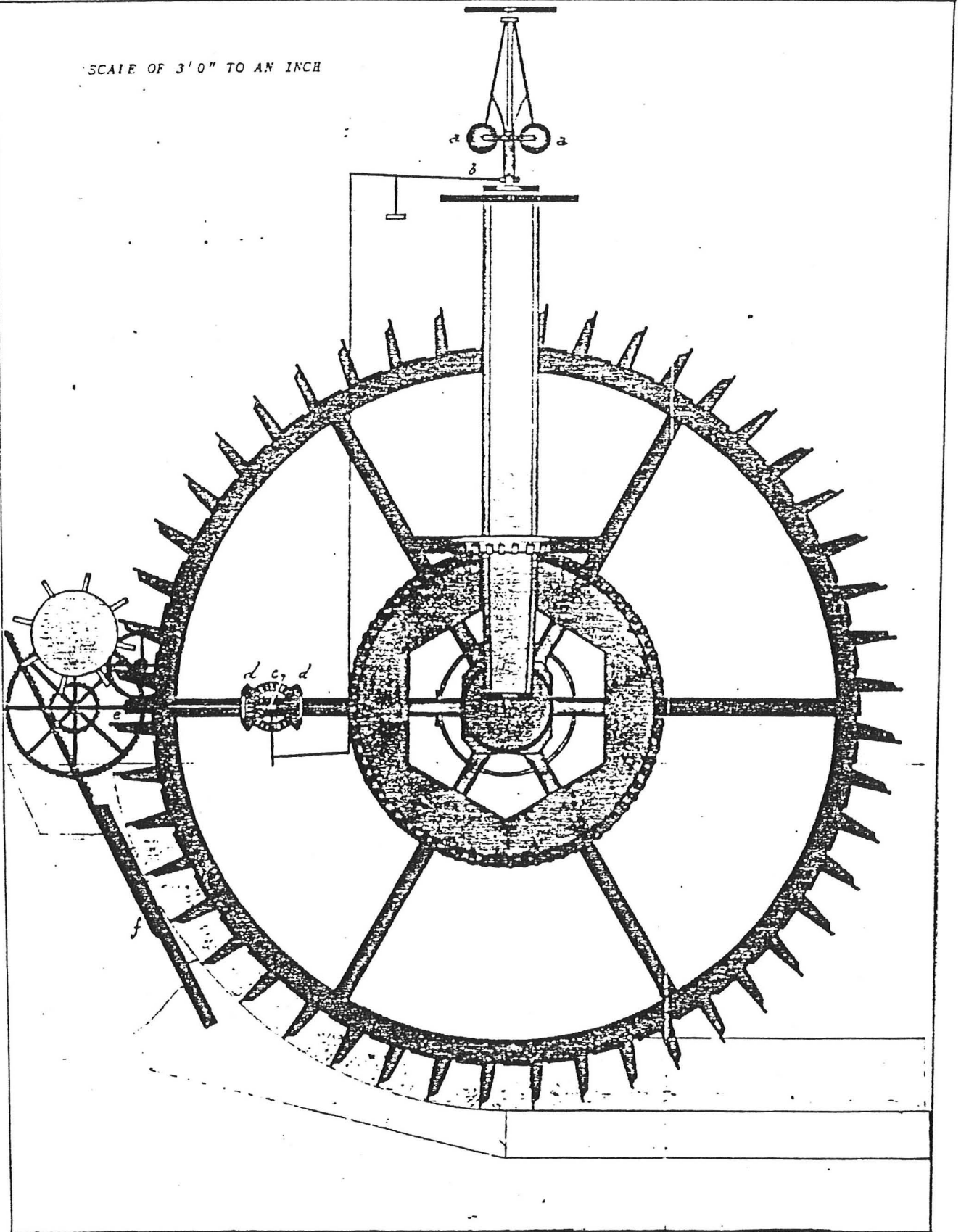


William - 1840 - 1890  
Harris





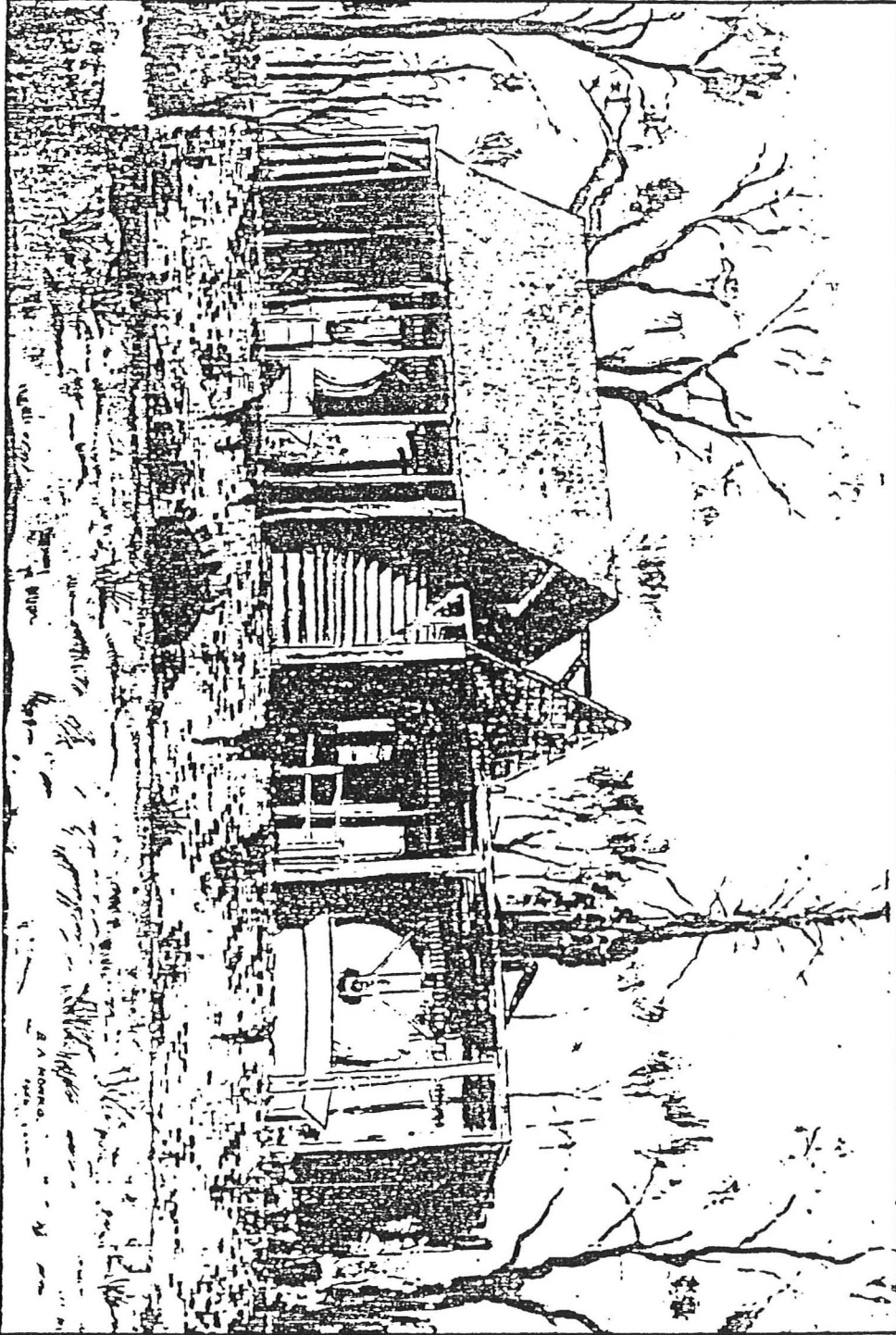
SCALE OF 3' 0" TO AN INCH

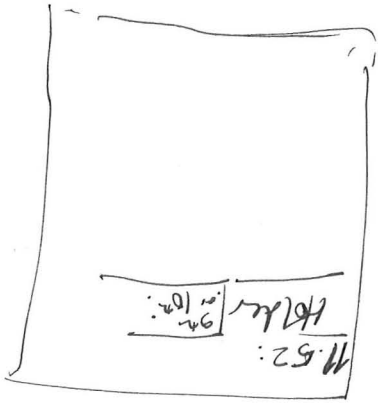


A DRAWING FROM FREDERICK DRAYSONS "TREATISE ON GUNPOWDER" (1830) SHOWING REGULATOR USED ON GUNPOWDER MILLS.

"WHEN THE MACHINERY MOVES WITH TOO GREAT VELOCITY, THE BALLS MARKED a EXPAND, RAISE THE LEVER b, AND CAUSE THE CLUTCH c TO CATCH ONE OF THE SMALL WHEELS d, WHICH TURN THE MULTIPLIER e, AND WHICH TURNING THE OTHER WHEELS SO AS TO RAISE THE WATER GATE f, ADMIT A LESS QUANTITY OF WATER ON TO THE WATER WHEEL".

THE LAST PAIR OF MILLS - FROM A PAINTING BY E. A. MONROE. 1956





Meeting at E&H:

2nd Sept 1998

A201/2/3 - reduction in entrance size

- change in use from flexible space to shop.

A200

- removal of interior wall? - E&H retain concrete removal.  
 - one return fits only 12 persons - (c. 20-25 needed).  
 - refer to Co. Board & Chairman.

H7

- proposal to form glazed panel in entrance truck porch.  
 - etc to punch through E/F walls to create flow.  
 - retain small magazine division walls.

L168/9 - transfer office space to L168 engineering shop.

- lightweight construction giving existing "office spaces"

L157

- removal of office exterior cladding - using historically relevant handrail from archive.  
 - talk to Civec about - original roof - completed/boarded? - Wayne.  
 - rooflights in bay roofs - date?  
 - slated roof - date?

Questions:
Druidy - copy of OCB
→ check with BH.
Outline Design Report
last week.