

Underground Passages, Exeter

(SX 9226 9290)

Results of an archaeological evaluation

Underground Passages (Devon 182: National Heritage List 1003851)

Prepared by:
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On behalf of: Exeter City Council

Document No: ACD470/2/0

Date: June 2012



AC archaeology

Exeter City HER – Data Entry Sheet

Area (m2) 5.1 **NGR Easting** 29226 **NGR Northing** 09290

NGR Qualifier GCE **Event Type** EV **Event Start** 24-05-2012

Event End 25-05-2012

Site Name Underground Passages **Fieldworker Name** Simon Hughes

Associated Organisation AC archaeology **Parish** St Sidwell

Postal Address

Event Description (continue over if necessary)

Introduction

An archaeological evaluation was undertaken by AC archaeology on behalf of Exeter City Council in advance of alterations to the road layout and associated landscaping at the junction of New North Road and Longbrook Street, Exeter. The works will include the planting of new trees (Figs 1 and 2). The evaluation was commissioned to identify the exact position, and depth below the present ground level, of the Underground Passages – a medieval water system that is designated as a Scheduled Monument (Devon 182). These consist of two separate supplies or conduits – the City Passage and the Cathedral Passage – which both run under the present site. Scheduled Monument Consent was granted for the work.

Results (Fig. 3; Plates 1-5)

A trench was excavated with the aim of precisely locating and exposing the tops of both Passages. The trench measured 5.1m long by 1m wide and was aligned WNW to ESE (Plate 1). Natural subsoil (121), which comprised a mid red sandy-clay, was exposed towards the ESE end of the trench at a depth of 0.99m below current road level.

Overlying the natural subsoil was a layer of mixed mid reddish-grey silty-clay (124) that contained abundant inclusions of slate fragments (Plate 2).

Cutting through 124 was the probable southeast edge of the construction trench for the Cathedral Passage (F119). Only a short undisturbed length of the construction cut was present within the evaluation trench due to later truncation (by F114). However, within the feature a small section of vertical breccia masonry (120) that comprised part of a single block was exposed (Plate 3), which possibly formed part of the side wall of the passage. Overlying 120 was a build of mixed trap, breccia and limestone rubble, bonded with a lime mortar (117) that extended along the top of the feature (Plates 4 and 5). This mortared deposit also bonded two partially exposed flat, horizontal breccia blocks (118) that may have formed capstones to the passage. To the northeast of stone blocks 118, the capping continued but was formed by a series of unfrogged hand-moulded bricks (122) that each measured 0.11m wide. These were only partially exposed, and it was not possible to demonstrate if these bricks were inserted into rubble and mortar deposit 117 or if they were contemporary. However, a well-worn fragment of brick or tile was recovered from 117, which probably indicates the two are part of the same contemporary fabric.

Deposit 117 was overlain by a dumped deposit (109) of mixed mid brownish-red clayey-sand that also extended over the capping 118 and 122. This contained moderately common inclusions of crushed mortar fragments and small sub-angular gravels, as well as a large fragment of clinker, a fragment of faunal bone, two oyster shells and four sherds (from two vessels) of late 17th/18th-century green-glazed North Devon gravel-tempered ware.

Overlying layer 109 was a sequence of possible levelling or demolition deposits that comprised a dark grey clayey-sand layer (108) containing moderate crushed slate, small gravel, moderate charcoal and a sherd of plain industrial china, which was overlain by a thin layer of light reddish-yellow silty-sand (107) that incorporated abundant crushed mortar fragments. This was overlain by a final deposit of dark grey silty-sand (106) that had common charcoal, clinker, cinders and occasional slate fragments.

To the ESE of this sequence layer, 106 was cut by a steep to vertically sided trench (F114) for a brick-lined culvert (116). The culvert was constructed of unfrosted hand-moulded bricks that measured approximately 0.29m long, 0.11m wide and 0.07m deep and were laid in stretcher bond. The construction trench was backfilled with a light brownish-red sandy-clay (115) that contained brick fragments, sub-rounded to sub-angular gravel and stone inclusions, a single roughly faced breccia block, as well as a fragment of faunal bone, a sherd of blue transfer-printed industrial china, two sherds of plain industrial china, and a sherd of South Somerset pottery.

Layer 106 was cut on its WNW side by a steep sided truncated feature (F110) of unknown function. The feature only partially extended into the trench and contained a light brownish-red sandy-clay backfill (111) that had moderately common small gravel and slate fragment inclusions, as well as four sherds of plain industrial china, a sherd of Westerweld stoneware and two sherds of South Somerset pottery. It had been dug down to the capping (118) of the passage.

The fills 115 and 111 of features F114 and F110 were overlain by a possible levelling layer of mixed mid grey silty-clay (105) that was cut by a service trench (F112) containing an iron pipe and mid reddish-brown silty-clay backfill (113). Overlying backfill 113 were levelling layers of light red clay (104) and dark grey sand (103).

To the WNW of F110, the trench was excavated to a maximum depth of 1.38m from the surface into a light brownish-red mixed clay infill (123) that contained stone and 20th-century brick fragments and an iron service pipe. Due to the instability of 123 no further excavation was possible in this part of the trench. An area of concrete (125) is thought to encase a service cable, and this overlaid 123. An area of concrete overlain by a thin layer of tarmac (126) represents a former road level (cf Fig. 4, section R), and was abutted by a further area of concrete 125 that was overlain by stone rubble levelling 102 that extended throughout the trench and was sealed by re-enforced concrete (101) and the current tarmac road surface (100).

The interior of the Cathedral Passage

On completion of the evaluation the interior of the Cathedral Passage was inspected to investigate whether capping 117, 118 and 122 represent a repair. The capping of the entire north end of the passage has been replaced in brick. Two distinct repairs were noted (Plate 6).

For a distance of 5.75m from the south edge of the manhole the original capping has been replaced with a shallow arch of dark red coarse, sandy machine-made standard bricks bonded in buff hard cement. To the south (under the evaluation trench), the next 8m of capping had also been replaced using the same materials. The lowest course of the side walls had been removed to accommodate the arch, which was slightly taller than that to the north and had a semi-circular profile. Thinner, hand-made bricks had been utilised for the row of keystones.

Discussion

The evaluation exposed the upper part of the Cathedral Passage. A single vertical breccia block 120, overlain by breccia and brick capping (118 and 122), and mortar and stone rubble (117) set within construction cut F119, were located, with the highest masonry being present at a depth of 0.82m below the present road level (42.38m aOD). The presence of bricks and brick rubble would indicate that the capping is not part of the original passage but a later repair. This was confirmed by the lengths of brick capping visible from within the passage. The context of this repair is not known. However, in 1805-33 James Golsworthy made improvements to the supply in the City Passage (here located to the west), which involved the removal of the medieval lead pipe and replacement with a cast iron pipe. To the north of the present site where the medieval pipes were laid within a trench rather than a passage, the replacement pipe in the City Passage was set within a brick-lined culvert (Dyer and Allan 2004). It is possible that corresponding alterations were made to the Cathedral's water supply at a similar time, perhaps along Longbrook Street to the north, although any alterations did not involve lowering the floor of the passage. No alterations are documented (Allan 1999, 24), although there is a blocked opening in the west side wall under the end manhole that may connect with the City Passage's culvert. Alternatively, this build may only represent a localised repair; a type of work that would have been needed from time to time throughout the operation of the system. The date of the pottery from deposit 109 may indicate that it represents a contemporary levelling deposit associated with this repair. The overlying sequence of industrial and demolition deposits (108-106) may therefore represent early-mid 19th-century levelling.

A series of 19th- and 20th-century culverts and services (116, 112 and 123) was exposed throughout the remainder of the trench. Brick culvert 116 was on the same alignment as the earlier passage and could represent a replacement water supply constructed in 1857, when the Cathedral Headwell was removed (by the excavation of a cutting for the new railway) and a pump installed (Exeter Excavation Committee 1932, 199). Alternatively it could just be a drain or sewer, part of the public health works by the Improvement Commission after the cholera epidemic of the 1830s (cf Allan 1999, 24), running down the side of a public highway (see Fig. 4 that depicts the earlier alignment of the south end of Longbrook Street).

The archaeological evidence from the excavation and the position of the manhole vent in the pavement to the north indicates that the alignment of the Cathedral Passage is to the west of the position that is marked on current design proposals and other drawings (e.g. the Exeter HER, and Allan 199, 27). The alignment corresponds with the position as marked on a 1931 survey drawing (Exeter Excavation Committee 1932, plate 1, reproduced in this report as Fig. 4). A revised alignment (in relation to the proposed scheme) is shown in yellow on Fig. 2.

The City Passage was not exposed within the evaluation trench. Based on line of the passage as mapped in 1931 (Fig. 4), and the observations made above regarding the position of the Cathedral Passage, the City Passage must be located to the west and beyond the limit of

excavation (i.e. if the trench had been extended, the passage would have been encountered under the central pedestrian crossing island. Profiles drawn during the 1930s survey (reproduced here as Fig. 5) indicate that at the junction of Longbrook Street and New North Road the northern end of the City Passage was constructed at a lower depth than the Cathedral Passage. Comparison of the 1930s survey information against current road levels and data from the trench over the Cathedral Passage indicates that the top of the passage would be encountered (at points N, O and P) between approximately 1.5m and 1.70m below the present road surface at 42.37 and 41.92m aOD.

Summary

In summary, the top of the Cathedral Passage was exposed during the evaluation, at a depth of 0.82m below the surface (42.38m aOD). The City Passage was not exposed since it is located to the west of the trench. Comparison with the 1930s profile drawings and the present street level indicates that the top of the City Passage would be encountered between approximately 1.5m and 1.70m below the present road surface at 42.37 and 41.92m aOD. At these depths it is unlikely that alterations to the paving and the excavation of tree pits will impact on the medieval and later fabric of the City Passage. However, in contrast, the relatively shallow depth (at 0.83m below the present road surface) of the roof of the Cathedral Passage means that it could be disturbed by the uncontrolled growth of roots, if the tree(s) were to be sited too close or be planted without appropriate root barriers.

Sources Consulted

Allan, J., 1999, *Exeter's Underground Passages*

Dyer, M., and Allan, J., 2004, 'A newly-recorded length of Exeter's medieval and later water supply', *Proc. Devon. Archaeol. Soc.* **62**, 181-186.

Exeter Excavation Committee, 1932, 'Report on the Underground passages in Exeter', *Proc Devon. Archaeol. Exploration Soc.*, **Vol 1 Part 4**, 191-200

N.B. This document represents the only report on the investigation.

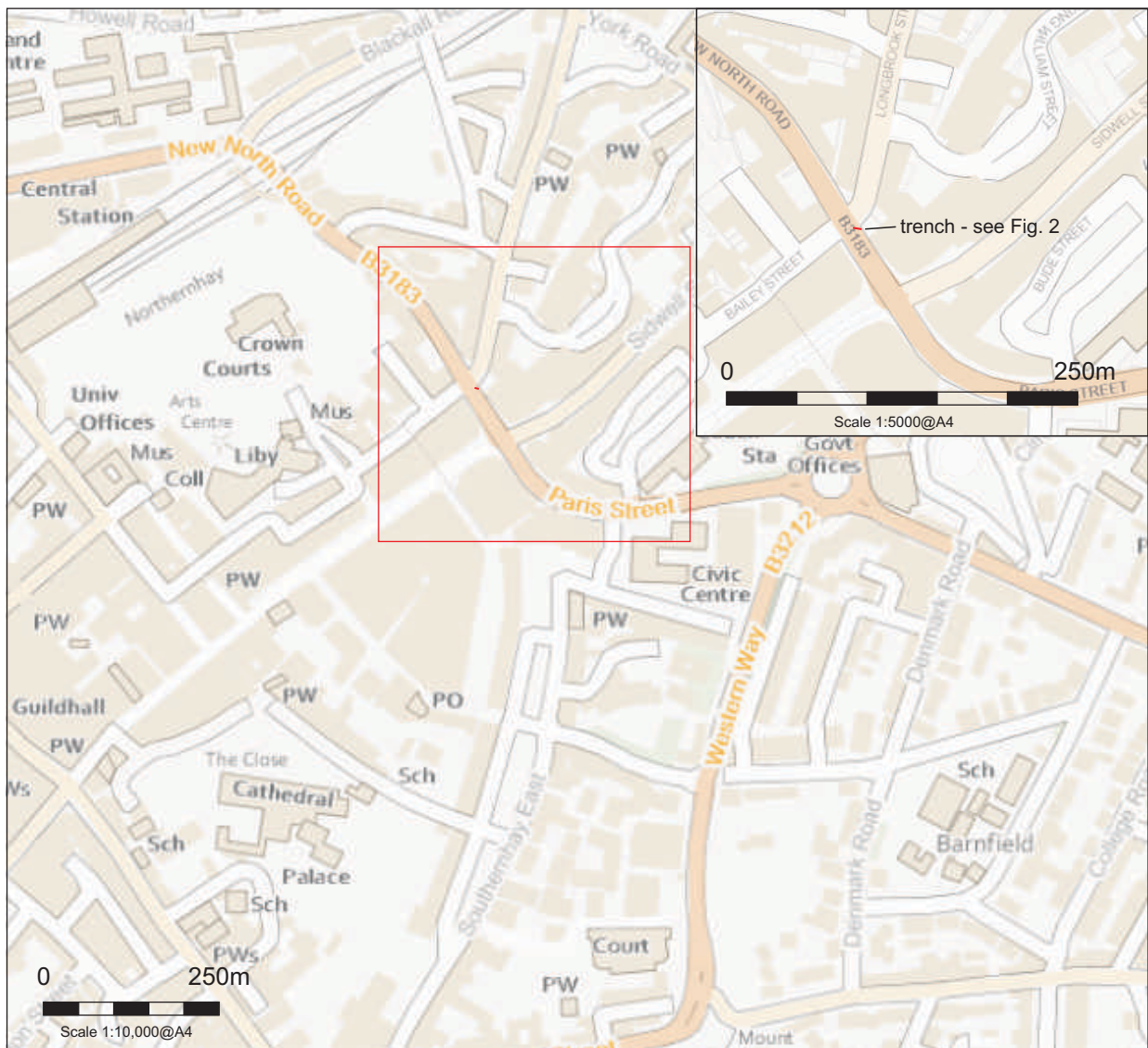
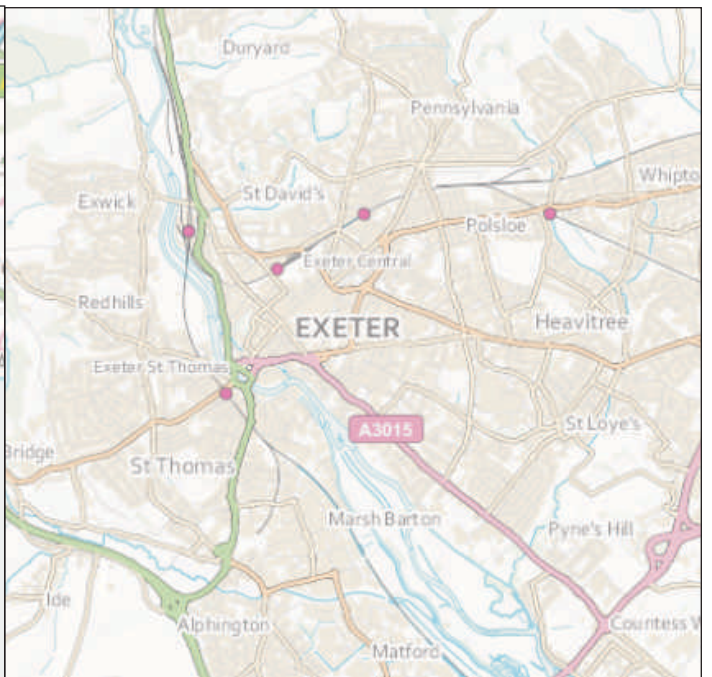
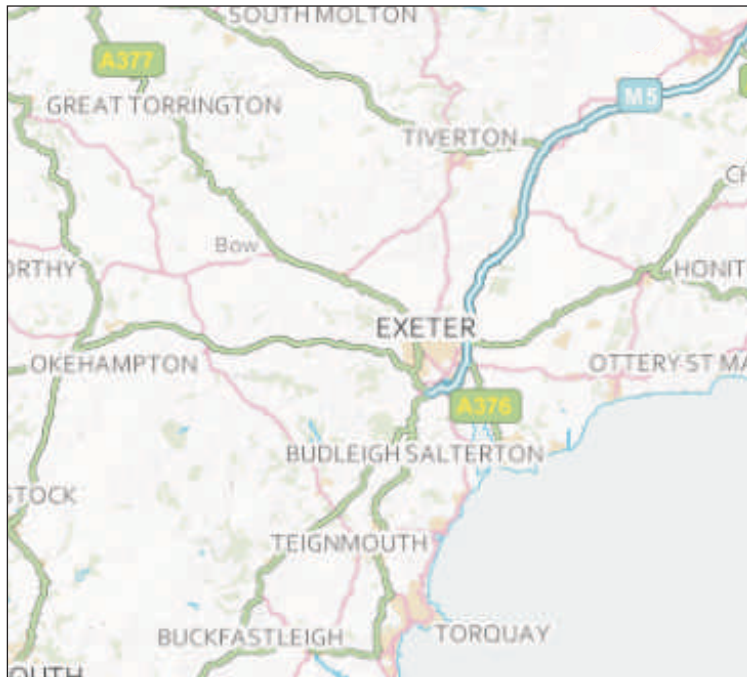
Sample Deposit Column

NGR Easting 29226	NGR Northing 09290
Surface Level (m AOD) 43.35-43.49	Intervention to (m AOD) 42.04
Water Level (m AOD) N/A	
Principal Deposit Top (m AOD) 42.51	
Principal Deposit Base (m AOD) 42.04 (base of trench)	

Geology basalt

Listed Building PRN N/A **Listed Building Grade**

Additional/Synthetic Information



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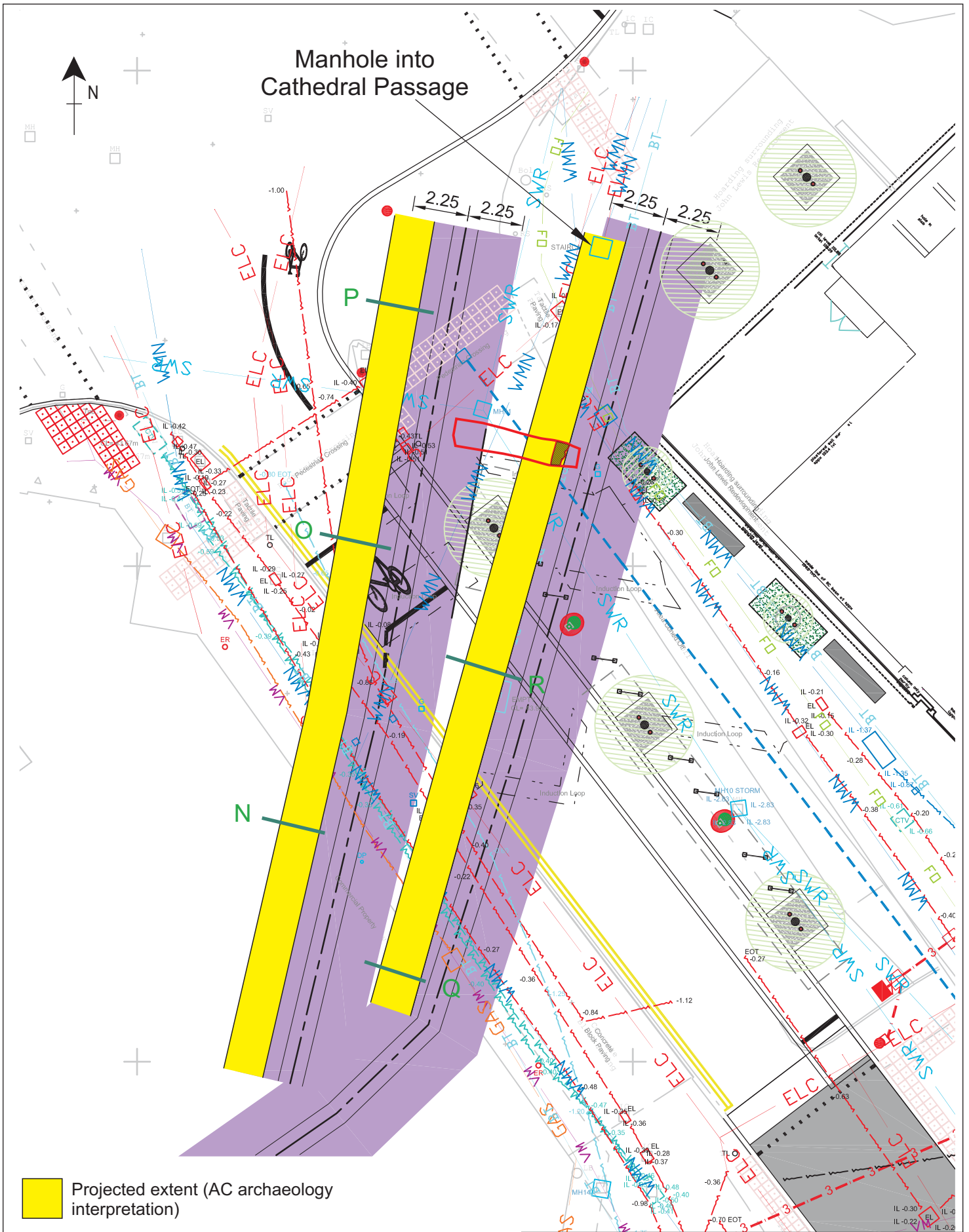
PROJECT

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Fig. 1: Location of site

Manhole into Cathedral Passage



- Projected extent (AC archaeology interpretation)
- Centre line and extent (ECC mapping)
- Cross sections depicted on the map of 1932
- Trench location



PROJECT

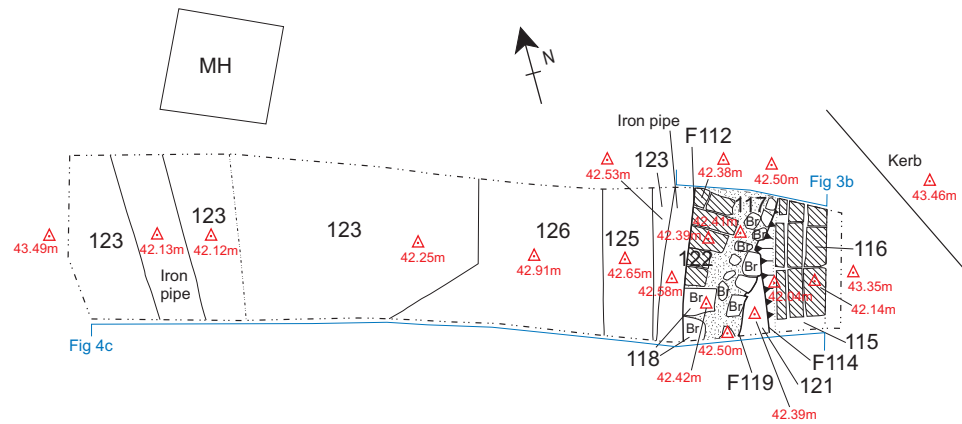
Underground Passages, Exeter

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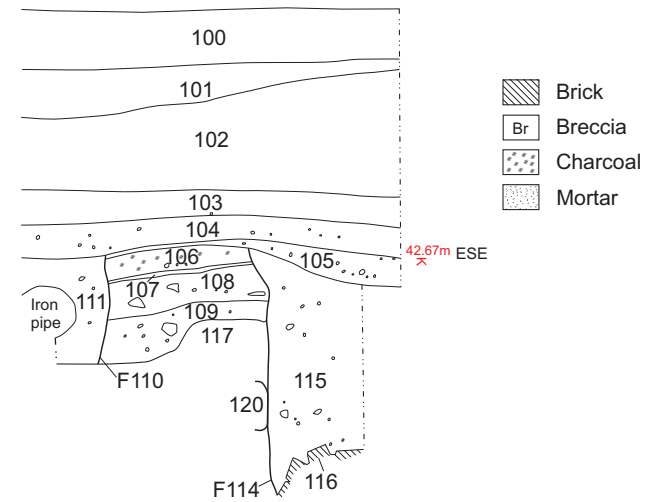
Fig. 2: Trench location plan



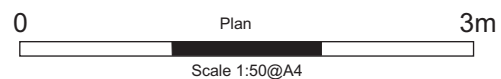
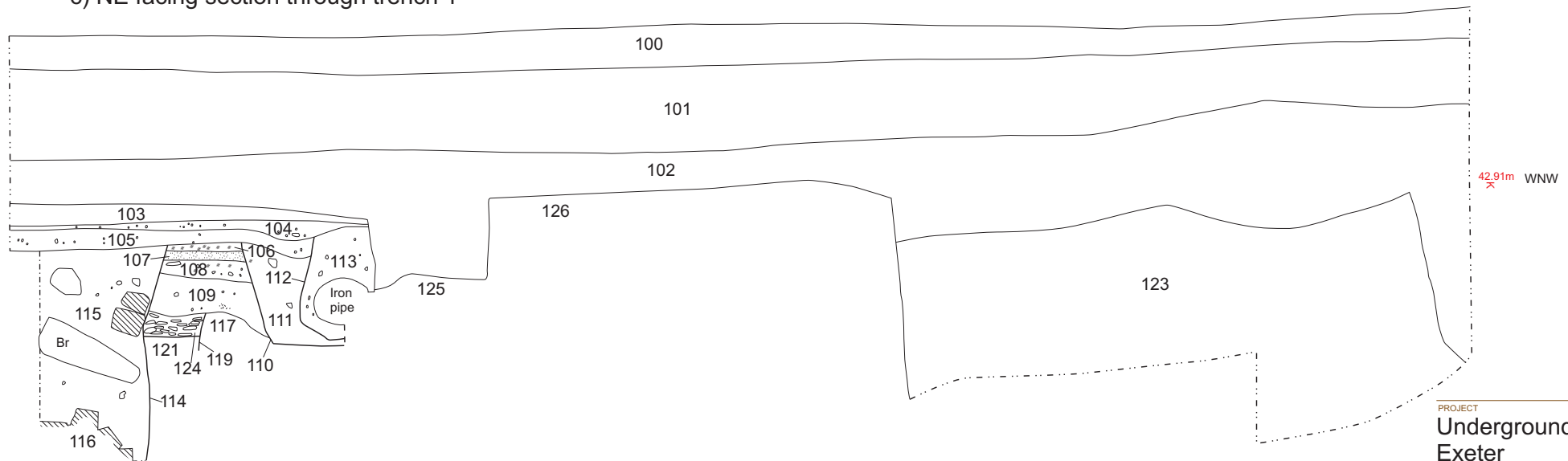
a) Plan or trench 1



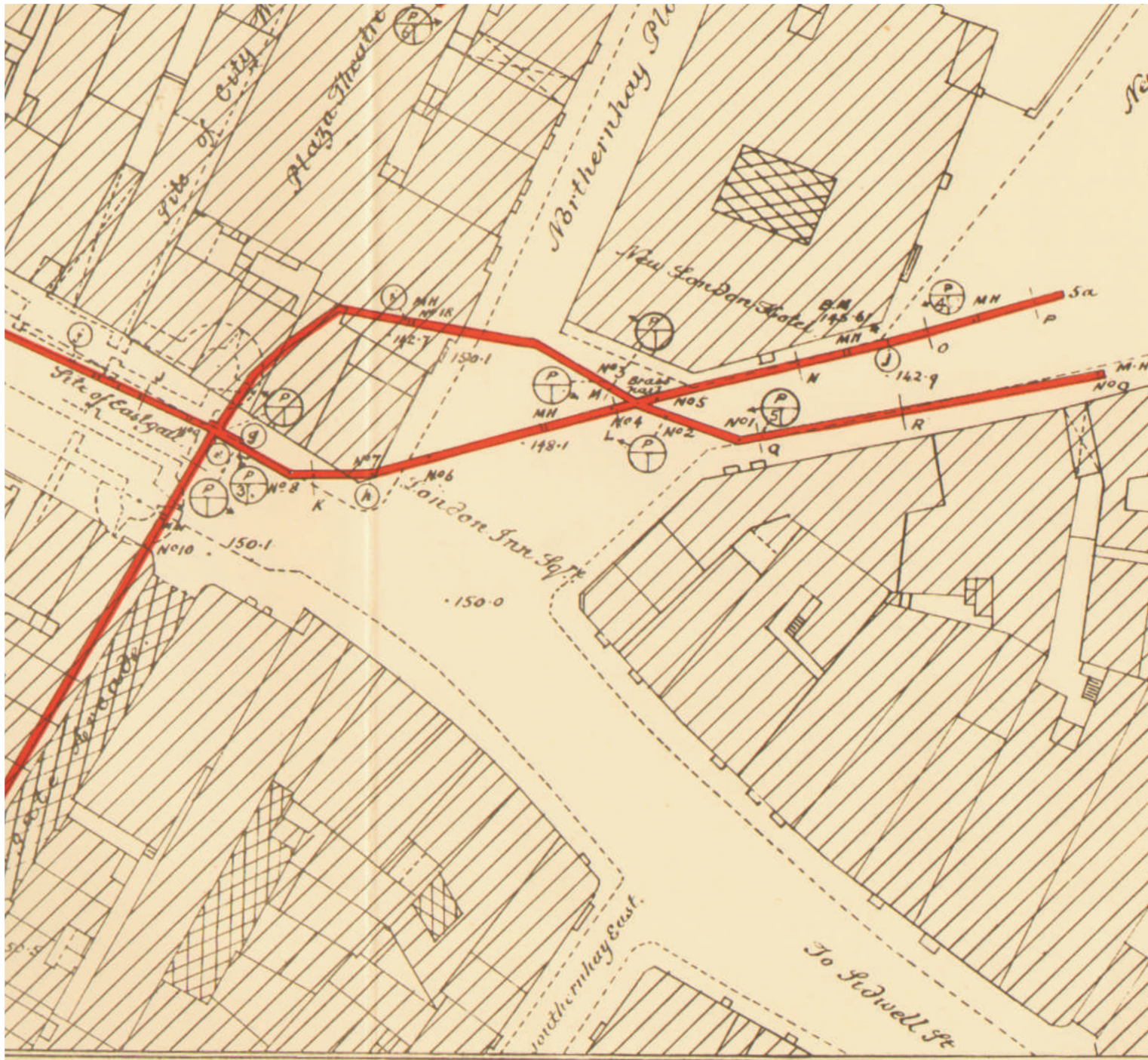
b) SW facing Section



c) NE facing section through trench 1



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Fig. 3: Plan and sections



0 25m
Scale 1:500@A4

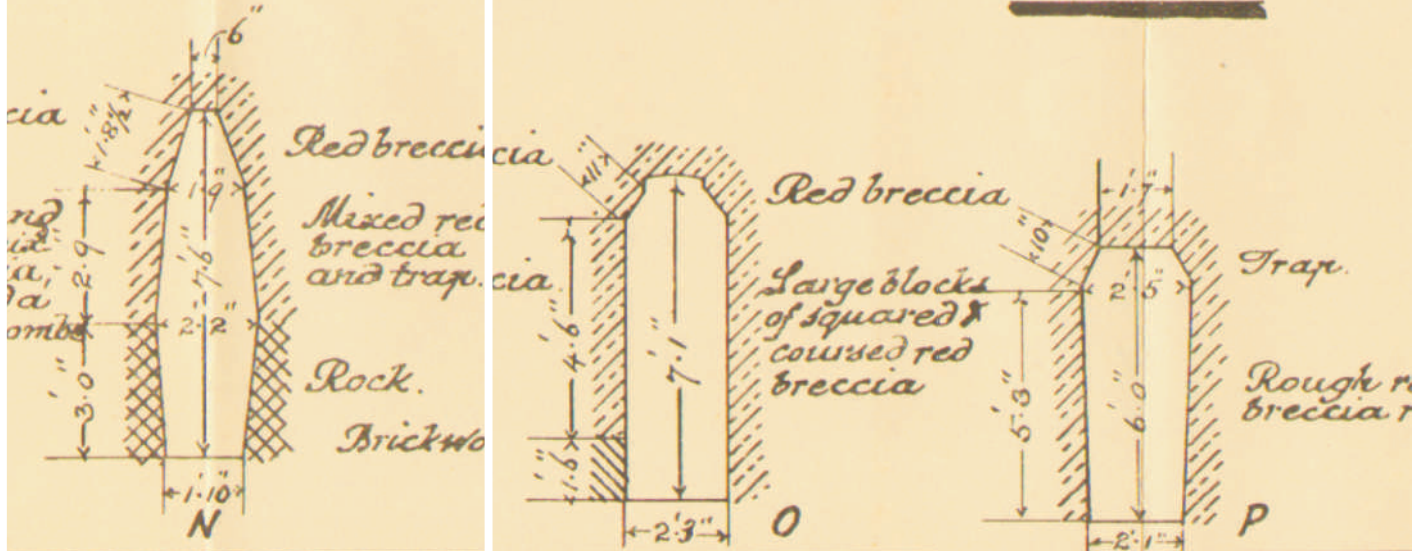
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Fig. 4: 1932 plan of the
Underground Passages

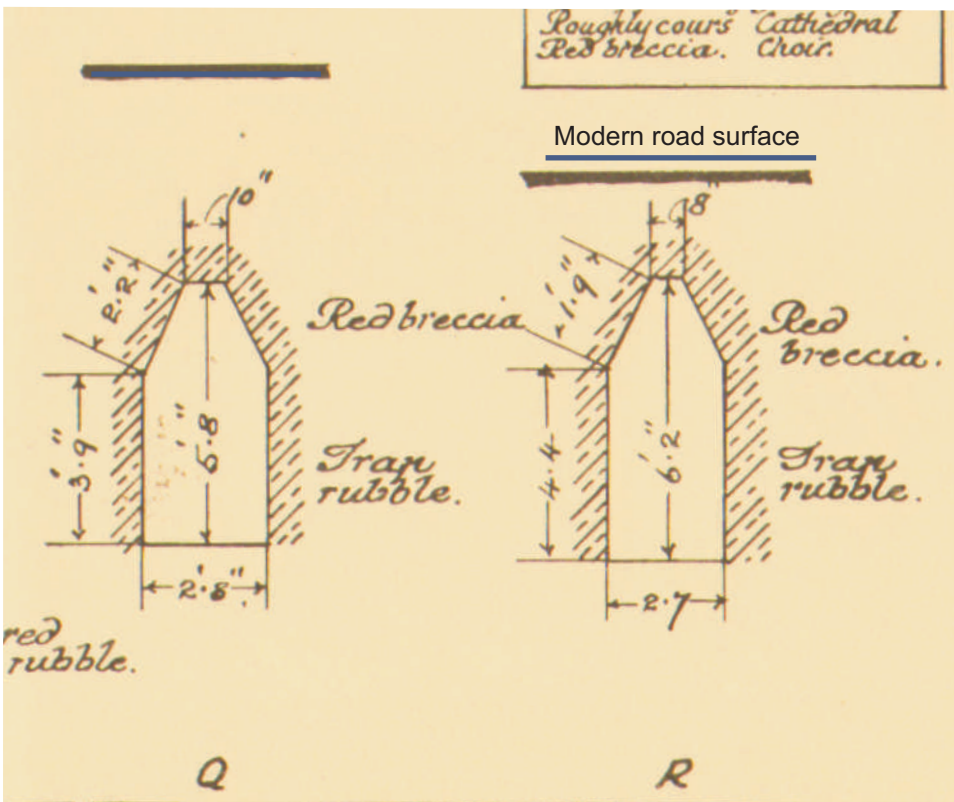


Modern road surface

1932 road surface



Datum line
39.624m above O.D.



Datum line
39.624m above O.D.



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Fig. 5: 1932 Sections of the underground passages



Plate 1: Working shot of site, viewed from the WNW.



Plate 2: NNE-facing section of Trench 1, viewed from the NNE. 1m scale.



Plate 3: A close-up view of 117 showing 120 below, viewed from the ESE. 0.30m scale.



Plate 4: Plan view of the east end of Trench 1, viewed from the ESE. 0.30m scale.



Plate 5: A close-up plan view of 122, 117 and 116, viewed from the WNW. 0.30m scale.



Plate 6: Brick repairs to the capping of the Cathedral Passage showing build below evaluation trench in the foreground and lower repair beyond. View to the NE

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