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**Royal Edinburgh Military Tattoo Grandstand Works,  
Edinburgh Castle Esplanade.  
SMC E: Utilities Outside of Esplanade**

**Archaeological Watching Brief  
& Photographic Survey**

**Data Structure Report No. 1830v2**

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## 1. INTRODUCTION

This report presents the results of a programme of archaeological works (Figs. 1a-b) carried out in Year 1 (2009/2010) and Year 2 (2010-2011) of a project to provide newly designed temporary grandstands on the Esplanade. The work was commissioned by Sir Robert McAlpine on behalf of the Royal Edinburgh Military Tattoo Ltd.

A Written Scheme of Investigation (WSI) was prepared by CFA on behalf of Thomas and Adamson in support of an application for Scheduled Monument Consent (SMC E) for the works. The WSI provided the methods statement for an archaeological watching brief and photographic recording to be carried out by CFA.

The works carried out under SMC E took place off-Esplanade, and comprised a watching brief during works relating to utilities installation between the South Esplanade Wall and Johnston Terrace (Fig. 1a) and west/north of the Esplanade in Princes Street Gardens, the Moat Vault and Coal Yard (Fig. 1b). It also included photographic recording of the Coal Yard/Moat Vault external walls.

The utilities installation methodology is outlined in Sir Robert McAlpine's (SRM) Methods Statement.

This work described in this report is part of a larger scope of archaeological works commissioned by Sir Robert McAlpine on behalf of Royal Edinburgh Military Tattoo Ltd. A series of Scheduled Monument Consents (SMCs A-E) were obtained for different packages of work; and these are reported on under separate cover as follows:

- SMC A: Foundations – CFA Report No. 1732v3 (Suddaby 2011a)
- SMC B: Scottish Horse & North Esplanade Wall – CFA Report No. 1780v2 (Suddaby & Johnson 2011)
- SMC D: Earl Haig – CFA Report Nos. 1829, 1873 (Suddaby & Johnson 2010, Suddaby 2011b)

SMC C has no archaeological element to it as it relates to the construction of the stands.

### 1.2 Background

Edinburgh Castle and the Esplanade are protected as a Scheduled Monument (SM No. 90130) and lie within the Old and New Towns of Edinburgh World Heritage Site, which was designated in 1995. Edinburgh Castle and the Esplanade are, therefore, of international importance. The Castle and Esplanade is a Property in the Care and Ownership of Historic Scotland.

The history of the Esplanade and the Coal Yard, along with a sequence of historical maps, is detailed in CFA's *Written Scheme of Investigation* (January 2008) for site investigation (SI) works on the Esplanade and this report should be read in consultation with that earlier document.

Two large, deep ditches were encountered during excavation in 1989 at the entrance to the vehicle tunnel. Both ditches were multi-phased, possibly originating in the later Iron Age, re-cut in the 14th century and in use well into the 15th century. The ditches exploited at least part of the prominent geological fault aligned roughly SW to NE across the Esplanade. The resulting enclosure between the foot of Castle Rock and the outer defences may have been wider than that defined by the Dry Ditch (Period 3). The extent of disturbance to the deep ditch system (Period 1) by later defensive works is probably considerable, but available evidence points to the likelihood that the double ditch (Period 1) and The Spur (Period 2) works extended further to the east than did the 17th century ditch and flankers (Period 3) and 18th century and later modifications (Period 4).

Archaeological coring work in 2006 on the site of the ditches demonstrated that they were c.9.6m deep and were cut through glacial till into bedrock (Lancaster 2006). The ditches were infilled by low-energy alluvial deposition processes. The infill of the ditches was dated at a depth of c.5m to the 14<sup>th</sup> century on the basis of a pottery find (Driscoll & Yeoman 1997). It would also be potentially possible to date the lower fills of the ditch using plant macrofossils or artefacts recovered from the retained cores from the 2006 work, but no results are currently available. A late 17th century cemetery was discovered in the Coal Yard, to the west of the Dry Ditch (ibid).

### 1.3 Objectives

The objectives of this archaeological watching brief were as follows.

- To make an appropriate record of the existing stonework of the North Esplanade Wall and Moat Vault Wall prior to the required penetration for gas and HV cables.
- To monitor all ground breaking works associated with services and other work to the north of the North Esplanade Wall and Moat Vault/Coal Yard wall; and to excavate/record any archaeological features or deposits present.
- To monitor all ground breaking works associated with services in the Moat Vault; and to excavate/record any archaeological features or deposits present.
- To monitor all ground breaking works associated with the services within the Coal Yard, except where those works would only impact on modern deposits; and to excavate/record any archaeological features or deposits present.
- To monitor all ground breaking works associated with the services running between the South Esplanade Wall and Johnston Terrace; and to excavate/record any archaeological features or deposits present.
- To ensure that the archaeological works took account of the known archaeological potential of the area.
- To produce a report on the findings of the fieldwork, setting out the potential for any further work and dissemination of the results, as appropriate.

Work reported on here comprises:

- Recording of wall elevations inside and outside the Moat Vault.
- Utility trench excavations from the North Esplanade Wall into Princes Street Gardens and from Princes Street Gardens into the Moat Vault.
- Work to remove parts of the 1960s concrete (Raker) foundations for the North Esplanade Wall.
- Utility works into and inside the Moat Vault and the gas main from it into the Coal Yard.
- Gas main works inside the Coal Yard.
- The excavation of a trench from Johnston Terrace to the South Esplanade Wall to contain a water main.

## **2. WORKING METHODS**

### **2.1 General**

Work was conducted with regard to the methodology in the WSI and to the standards and code of conduct of the Institute for Archaeologists (IfA). All hand excavation and on site recording was carried out according to standard CFA Archaeology Ltd procedures, principally by drawing, by photography and by completing standard record forms.

### **2.2 Watching Brief**

Utility and other trench excavations were undertaken in a variety of ways:

- Utility trenches in the Coal Yard and in the floor of the Moat Vault were excavated by hand and by using a mechanical excavator equipped with a toothless bucket
- Utility trenches on the grass slope between Johnston Terrace and the Esplanade and in Princes Street Gardens were excavated by hand
- Walls were punctured (slappings) for services by hand, by using electrical hand tools, or by a mechanical rotary coring device.
- Concrete foundations were removed using a hydraulic hammer and a toothless bucket.

The excavation of all trenches was carried out under constant archaeological supervision. When possible, the spoil was scanned by metal detector.

## **2.3 Photographic Survey**

A Level 1 Standing Building Survey (English Heritage 2006) was undertaken on the internal and external faces of the Moat Vault wall. In the case of slappings, the exposed sections of the wall were recorded where Health & Safety considerations allowed it.

The area of Moat Vault wall affected was also tied into a general photographic record of the wall so as to ensure the sections affected by slappings could be seen within their former architectural context.

For photographic surveys CFA uses a professional Nikon D100 Digital SLR to take high-resolution digital photographs of structures and specific architectural features.

## **3. ARCHAEOLOGICAL RESULTS**

### **3.1 General**

The utilities work described in Sections 3.2 to 3.3 and 3.5 to 3.7 relates to works west of the Esplanade associated with the rerouting of a gas main from its existing location in Princes Street Gardens, and with new HV and LV electricity cabling connections from the Common User Trench to the Moat Vault. This work required the excavation of large slappings through of the North Esplanade Wall and the Moat Vault with three rotary bore holes through the Moat Vault wall.

The new gas main travels from the Common User Trench (CUT), through the North Esplanade Wall into Princes Street Gardens, from where it was buried in a trench and penetrated the Moat Vault wall through a rotary borehole. From the Moat Vault the main travelled up into the Coal Yard and the new gas supply was reconnected to the existing gas main running under the Coal Yard road. A trench was excavated in the Coal Yard road to make this connection and de-commission the redundant service. The existing gas meter and above ground pipe work located in the Moat Vault were removed, with new apparatus being installed within the Coal Yard. The HV & LV cabling also exits from the CUT through the Esplanade wall and into Princes Street Gardens, from where they were buried in trenches and penetrated the Moat Vault wall through a slapping below ground level to connect with the HV & LV switchgear/transformer. The floor of the Moat Vault was excavated in order to provide a new floor slab with cable ducts and trenches for the utilities.

The work described in Section 3.8 relates to the excavation of a trench for a water main running between the South Esplanade Wall and Johnston Terrace. The new water main was installed in the CUT and, at the east end of the Esplanade, the water main departed from the CUT and turned southwards to the Esplanade boundary wall. It penetrated through the Esplanade wall below ground level and travelled down the embankment within a trench next to the existing main. At Johnston Terrace a connection was made to the existing main. Work on the Esplanade relating to the installation of this water main is reported on under SMC A (Suddaby 2011a).

Context numbers below are shown in bold and are further described in Appendix 1.



### **3.2 The Moat Vault and North Esplanade Walls**

The exterior wall of the Moat Vault (**358/400**) projects westwards from the Esplanade (Fig. 1b). Utility service installation required a new slapping to be made through the Esplanade Wall below the Afghan Needle and a second slapping with three cores to be drilled through the Moat Vault Wall.

A photographic survey of the affected section of wall (Fig. 2-3) was made prior to work being undertaken. The wall is of less regular construction than the remainder of the North Esplanade Wall, as reported on elsewhere (Suddaby & Johnson 2011a). The North Esplanade Wall is not bonded with the Moat Vault Wall.

The excavation of a utility trench to a depth of 0.8m along the west-facing elevation of the Esplanade wall and the north-facing elevation of the Moat Vault wall allowed the lower courses of the walls, which had previously been buried, to be recorded photographically (Fig. 4). This revealed that a projecting course of stonework was present at a depth of c. 0.7m below ground level on both the Moat Vault external wall (**358**) and the west-facing portion of the Esplanade wall (**371**). No natural subsoil was exposed.

The new openings created in the walls consisted of a hand excavated slapping through the Esplanade wall (**371**) for utilities to exit from the Common User Trench on the Esplanade, down into Princes Street Gardens (Fig. 5), and a mechanically cored access through the Moat Vault wall (**358**), below the mouth of the Coal Yard for the gas pipe (the red pipe visible in Figs. 4-5). A small test-pit was excavated within the Moat Vault and for the HV and LV cable ducts. Due to the nature of the core-drilling, there was little visible in section.

The slapping created through the North Esplanade Wall (Fig. 5-6) revealed the construction of the wall. The wall was found to be constructed of mortared sandstone blocks up to 0.5m in size, with smaller stones as infill. The wall was 0.6m wide. The interior of the wall was faced and had deposits of made ground butting up against it.

### **3.3 Princes Street Gardens (2009-2010)**

The trenches in Princes Street Gardens are shown in Figs. 4-5 & 7-8. Two trenches, for electricity cable ducts and a gas main (Fig. 1b), were excavated by hand.

The trenches in Princes Street Gardens were between 0.5m and 1m in width and up to 0.8m deep. They cut through heavily rooted and bioturbated soils (**354-5**, Fig. 7-8) from which were recovered a variety of recent artefacts.

No features or deposits of archaeological significance were uncovered and natural subsoil was not reached.

### **3.4 Princes Street Gardens (2010-2011)**

Extensive work was undertaken in Princes Street Gardens to remove concrete (Raker) foundations associated with the 1960s rebuilding of the North Esplanade Wall, to enable piling to take place.

The concrete (Raker) foundations (**515**) associated with the 1960s rebuilding of the North Esplanade Wall (**516**) ran the full length of the north facing portion of the wall, from the India Cross to the Afghan Needle, a distance of 70m (Fig. 1a). Disturbance associated with these foundations extended outwards (north) from the wall for 6m, with made ground and soil layers in the area up to the break of slope down to the uppermost footpath through the gardens. A section through these deposits at Pile-Cap 21a is shown in Fig. 9.

No structural remains pre-dating the 1960s foundations were present. Deposits of soil and mortar containing broken pantile and post-medieval finds (**583**) were recorded under concrete around Pile Cap 16 and made ground (**524**) was recorded under the concrete in Pile Cap 21a. Natural subsoil (**537, 579**) was revealed in several places at a depth of 1.5-2m below the surface.

### **3.5 The Moat Vault (2009-2010)**

The 2009-2010 excavations within the Moat Vault (Figs. 1b, 10-25) were undertaken to facilitate the relocation of services, the construction of two concrete plinths to act as bases for electricity transformers, and to create a slapping through and allow core-drilling of the Moat Vault wall in order to run HV ducting and gas mains to externally located trenches in Princes Street Gardens and into the Coal Yard (see sections 3.2, 3.3 and 3.7).

A photographic survey was undertaken of all internal elevations within the Moat Vault prior to works beginning and of the wall faces exposed through trenching/ground reduction. The rear internal wall (south-facing) of the Moat Vault was to be affected by the drilling of three cores through the stonework for a duct and supports. The sections within the drilled cores were not accessible for recording. The interior rear wall (**359/400**) is built of rough hewn sandstone, mortar bonded and random coursed (Fig. 11). The upper part of the wall has been extensively repaired and repointed, and has the stubs of two vaulted arches protruding from the top edge.

The internal east-facing wall (**359**) was slapped through to allow the gas main to pass through into the Coal Yard (Fig. 12-13). A roughly 0.7m square opening was made. The outer face and core of the wall were revealed but not the inner wall face due to truncation by a modern structural concrete beam and the inaccessibility of the slapping to archaeological personnel. This work demonstrated that the wall was more than 1.4m in width (this being the maximum width accessible within the slapping) and that the outer facing stones were dressed and mortared and were up to 0.5m in size, with the wall core being small rubble and some larger blocks. A concrete cap was present over the wall.

The excavation encountered the remains of four sandstone foundation footings or plinths (**429, 440, 472, 473**) (Fig. 14) on the same alignment along the front of the

Moat Vault. Footing **429** (Fig. 18) was located on the western side of the Moat Vault, butting its wall (**428**), where a visible scar could be seen. The scar may suggest that these remains, or a structure constructed on these remains, may have formed a buttress against the pre-existing Moat Vault wall. Masonry **429** measured 3m in maximum length N-S by 1.6m in maximum width within the trench and survived to a height of 0.5m. It was covered by a deposit of made ground (**430**) which was cut (**431**) for a plastic duct (**432**) and subsequently filled (**434**).

Sandstone footing **440** (Fig. 19-20) was uncovered c. 1.6m to the east of masonry **429** and measured 1.9m north to south by 2.2m east to west by 0.5m in height. The remains comprised medium to large angular sandstone boulders and fragments in a greyish-white lime-rich mortar and was roughly faced to the north and east. Some dressed examples of masonry were noted within the internal fabric of the structure, which suggested that some of the raw material had been re-used from an earlier source. The masonry was constructed directly onto a layer of made ground which comprised mid-brown clayey-silt (**466**) and contained fragments of crushed sandstone and mortar and is probably the earliest deposit uncovered during these excavations. The masonry was cut by a trench containing a gas pipe (**439**).

Masonry **473** (Fig. 21) measured 2.35m east to west and was uncovered to a width of 1.2m, making it broadly comparable in size with footing **440**. It survived to a height of 0.4m. The masonry consisted of three courses of mortared sandstone blocks, some of which had been worked with smaller rubble used as infill. The upper surface of the masonry appeared to be a single large block and was capped with mortar. The wall had been truncated on all visible sides, probably by the insertion of services. The wall was covered by deposit **477**.

The fourth structure (**472**) (Fig. 22) was located on the eastern side of the Moat Vault. Within the excavation area it measured 1.3m N-S by 0.45m wide and survived to a height of 0.4m. It likely continued out of the excavation area to the east. The masonry comprised a single block of sandstone with a course of smaller sandstone blocks beneath; it was heavily mortared, with a thick layer of mortar capping the large block. The small portion of north-facing wall appeared to be faced. It was overlain by deposit **475**.

A series of deposits excavated in the Moat Vault comprised made ground. The earliest deposit was **466**, onto which wall **440** was built. This was then overlain by stony deposit **467**, which contained crushed sandstone fragments and handmade brick. This was in turn overlain by deposit **468** which was a mid-grey silty-sand and contained 19<sup>th</sup> century pottery and ceramic drain fragments. Further deposits and lenses of made ground were recorded (**447**, **446**, **445**, **465**) and were all generally similar, with relatively small variations in colour or inclusions noted. Typically, these deposits were mid-dark grey, comprising silty-sand with inclusions of brick fragments, crushed mortar and sandstone. Deposits **444**, **452**, **451**, **450**, **465**, **460**, **471** were later in the stratigraphic sequence and contained 20<sup>th</sup> century inclusions of plastic and polystyrene. A baulk of made ground deposited against the eastern wall of the Moat Vault wall contained a similar stratigraphic sequence (**477**, **475**, **476**).

The made ground deposits and all four of the sandstone footings showed evidence of horizontal and vertical truncation as a result of the previous insertion of the service

infrastructure. A network of service connections was uncovered during the excavations including a cast iron pipe (438), two groups of three plastic ducts (442, 437) which were encased in concrete (443/470), telecom cables (457) and a plastic pipe (441), laid in a 0.4m wide by 1.3m deep cut (439), which had truncated masonry 440 by c. 0.3m in depth.

All of the deposits in the Moat Vault were capped by a bedding layer for a modern flagstone paved surface (434, 435).

Initially, it was hypothesised that masonry 429, 440, 472 and 473 may have been contiguous, having been truncated at various intervals by modern cuts for the myriad of service connections etc. in the Moat Vault. Whilst truncation has undoubtedly occurred from these sources, it is now the preferred interpretation that the surviving masonry plinths provided foundational support for a previous phase of vaulting in this area and are, in all probability, of 19<sup>th</sup> century date.

### 3.6 The Moat Vault (2010-2011)

The 2010-2011 excavations in the Moat Vault (Fig 1b) consisted of a small trench, 1.5m by 0.7m and 0.5m deep, below the inner face of the external wall 358/400 (Figs. 14, 23). The trench was excavated to provide room for a slapping measuring 1m by 0.8m (Fig. 24). The excavated material (720) was dry and loose brown soil containing frequent angular chunks of broken sandstone bones, oyster shell, pottery and glass. It

Subsequent discussions led to a redesign which required a substantial enlargement of the slapping. Two boreholes were cut through the wall above the slapping to accept steel girders (needles) to support the overlying stonework. Once completed (Fig. 25), the slapping measured 1.7m by 1.7m. Wall 358/400 was 1.7m thick.

### 3.7 The Coal Yard

The trenches in the Coal Yard (Figs. 1b, 26) were related to the locating of the existing gas main and the insertion of the new gas pipes leading up from the Moat Vault. Trench depths varied, but most were around 0.9m.

The gas main from the Moat Vault passes up and then through the western wall (359/374) of the Moat Vault and under a large structural concrete beam (360/399) before emerging just outside the iron gates at the mouth of the Coal Yard (Fig. 27). The trench ran from the Coal Yard mouth to a new metering/regulator apparatus by the east wall of the Coal Yard (Fig. 26), then tied in to the existing main at the left side of Fig. 1b. Much of the trenching in this area revealed only previously excavated hardcore gravel (003) but deposits of compact brown or grey soil (276, 353, 366) and two lengths of mortared stone wall (352, 400) were recorded.

Wall 400, exposed for a length of 2.6m and height of 0.7m in the edge of the gas main trench, is the inner face of the northern (external) wall of the Moat Vault (358). The trench for the gas main exposed the face of this wall, directly below the Coal Yard's iron entry gates (Fig. 27), allowing it to be recorded in elevation (Fig. 28), and the wall itself was undamaged by the works. Traces of grey-brown silty soil (353) were pressed against the wall but modern gravel (003) dominated the excavated material in

this area. The wall itself was constructed from generally large blocks of poorly coursed mortared sandstone rubble with smaller stones filling the interstices.

Within the Coal Yard itself, a mortared sandstone wall (352) (Figs. 1b, 26, 29) was recorded within the trench linking the new regulator and metering apparatus with the existing gas main. This wall (352) had a width of 0.5m and was aligned north-east to south-west. The ranging rod in Fig. 26 shows the alignment of the wall across the trench. Wall 352 lay 0.6m below the tarmac (002) of the Coal Yard and was clearly vertically truncated as its upper surface coincided with the base of the gravel hardcore (003, Fig. 29). A compact grey-brown soil (366) abutted this wall on both sides. Once recorded, an incision 0.3m deep was made through the upper part of the wall to allow the gas main to pass through. The wall was not severed in this operation and its full depth remains unknown.

### 3.8 Johnston Terrace Embankment

The location of the water main trench on the Johnston Terrace embankment is shown on Fig. 1a and a view of the excavated trench, looking up to the South Esplanade Wall from Johnston Terrace, is shown in Figs. 1a, 30. The trench was excavated by hand, parallel to, but not intersecting, an existing water main, and extended from the tie-in point on Johnston Terrace up the grassy slope and under the South Esplanade Wall (278). Personnel involved in this task wore safety harnesses (Fig. 31) and were attached by ropes to a wire cable along the base of the South Esplanade Wall.

The trench was 29m long, 0.4m wide and 1m deep. The topsoil on the slope (231) was 0.2m deep and the remains of ground-stabilising wire netting and the securing pegs were embedded in it. At the top of the slope, electrical cables had been laid along the base of the Esplanade wall. The east-facing section is shown in Fig. 32.

The foundations of the South Esplanade Wall (278) were exposed in the water pipe trench and found to be 0.5m deep, and the wall itself was 3.2m high above these (Fig. 33). The Esplanade Wall was founded on made ground, consisting of a purple-brown clay-silt containing lumps of mortar and stones (277 / 320) which extended for c.5m down the slope, and which overlay natural clay-silt subsoil (349). Deposits 277 and 349 were overlain by soil layers 319 and 321.

Ledges of hard sandstone bedrock were present midway down the slope, with a natural grey-blue-pink rotten mudstone and clay (322) present on the lower slopes. At the base of the slope this natural deposit was cut (350) by the foundation trench for the stone wall and railings (318) alongside Johnston Terrace.

Midway up the slope, and overlying 322, an east to west aligned red sandstone slope-revetment wall (323) (Figs. 30 (by the ranging rod), 32, 34) was recorded. This wall was 1m wide (north to south) and was a single course deep. The water main passed below this revetment and it was undamaged by the work.

#### 4. CONCLUSIONS

A watching brief was conducted under the terms of SMC E to the north and west of the Esplanade within Princes Street Gardens, the Coal Yard and Moat Vault, and on the embankment between the South Esplanade Wall and Johnston Terrace.

Structural remains were found in the Coal Yard, in the Moat Vault and between the South Esplanade Wall and Johnston Terrace. The work in Princes Street Gardens revealed concrete structures and made ground.

##### *Princes Street Gardens & External Walls*

No unforeseen archaeological remains were discovered. The below-surface exposure of the Moat Vault external wall and the North Esplanade wall allowed previously unknown detail to be recorded, including a projecting ledge of stonework below ground level. The exposure and removal of the 1960s concrete foundations of the North Esplanade Wall showed the extent of the ground disturbance. Natural subsoil was revealed in places.

##### *Moat Vault*

The remains of four stone plinths, which may relate to other, existing plinths and to vaulting in the Moat Vault were recorded. These probably date to the 19th century.

##### *Coal Yard*

One of the walls located in the Coal Yard is the inner face of the Castle wall. The other was less substantial and examination of the excavation report from this area (Driscoll & Yeoman 1998) may elucidate its function and associations.

##### *Johnston Terrace Embankment*

A sandstone revetment wall was located on the grassy slope to the south of the Esplanade. Although not visible on the surface prior to excavation, further areas of similar revetment are visible to the west. This undated revetting probably relates to the stabilisation of the slope.

##### *Archive and Publication*

The project archive, comprising all CFA record sheets, maps and reports will be deposited with the National Monuments Record of Scotland (NMRS) on completion of all work, and copies of reports will be lodged with Historic Scotland and the City of Edinburgh Council Sites and Monuments Record.

A summary statement of the results of this watching brief will be submitted for publication in *Discovery and Excavation in Scotland 2011* and an OASIS Scotland record will be completed.

A programme of post-excavation analyses and publication covering all of the SMCs will be agreed with Historic Scotland.

## 5. REFERENCES

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## APPENDIX 1: Context Register

Context	Fill of	Location	Description	Section (Plan)
000		All	General context for unstratified finds	
002		All	Tarmac	
003		All	Olive-brown hardcore	
229		J. Terr. – Esp Water Main	Cut for existing water main in grass slope to south of Esplanade	145
230	229	J. Terr. – Esp Water Main	Topsoil/purple-grey rock flakes and clay-silt	145
231		J. Terr. – Esp Water Main	Topsoil in grassy slope to south of Esplanade	145
277		J. Terr. – Esp Water Main	Dirty mixed clay and stones under [278]	145
278		J. Terr. – Esp Water Main	South Esplanade Wall	145
318		J. Terr. – Esp Water Main	Wall/railings along north side of Johnston Terrace	145
319		J. Terr. – Esp Water Main	Soft dark soil	145
320		J. Terr. – Esp Water Main	Orange-brown dirty clay silt and stones	145
321		J. Terr. – Esp Water Main	Topsoil and small/medium sized stones	145
322		J. Terr. – Esp Water Main	Natural rotten rock and clay	145
323		J. Terr. – Esp Water Main	Sandstone revetment	145
350		J. Terr. – Esp Water Main	Cut for Johnston Terrace wall	145
351	350	J. Terr. – Esp Water Main	Mixed clay and stones	145
352		Coal Yard	Mortared wall.	151
353		Coal Yard	Mid brown silty clay	152
354		Princes Street Gardens	Grey-black sandy silt	154/155
355		Princes Street Gardens	Grey black silty sand	154-6
356		Princes Street Gardens	Cut for gas services	155-6
357	356	Princes Street Gardens	Fill of [356]	155
358		Princes Street Gardens	Castle Wall, external Moat Vault Wall	155 156
359		Coal Yard/ Moat Vault	Castle Wall: western wall of Moat Vault	147/148
360		Coal Yard	Concrete beam overlying 359	147/148
361		Coal Yard	Coarse grey concrete	147/148
362		Coal Yard	Dark grey concrete floor	147/148
363		Coal Yard	Greyish brown concrete/mortar with sandstone inclusions	147/148
364		Coal Yard	Mid brown and grey sandy cinders with mortar	149
365		Coal Yard	Light grey cinders and mortar	149
366		Coal Yard	Mid brown-grey deposits around wall [352]	151
371		Esplanade	North Esplanade wall, original structure	160
372		Esplanade	Old service repair to Esplanade wall	160
373		Esplanade	New service repair to Esplanade wall	160



Context	Fill of	Location	Description	Section (Plan)
374		Coal Yard/ Moat Vault	West wall of Moat Vault. Same as 359	161
375		Coal Yard/ Moat Vault	Bonding material of [374]	161
398		Coal Yard	Dark grey clayey layer with mortar	161
399		Moat Vault	Structural concrete beam. Same as 360	161
400		Coal Yard	East-West running wall. Same as 358	163
407		Princes Street Gardens	Mixed yellow sand and blue-black silt layer	170
408		Princes Street Gardens	Brown-black sand-silt, thin band separating (407) and (409)	170
409		Princes Street Gardens	Light grey sand silt layer overlying (410)	170
410		Princes Street Gardens	Brown-black sand-silt, thin band separating (409) and (411)	170
411		Princes Street Gardens	Brown-red silt-sand layer, loose compaction	170
412		Princes Street Gardens	Black-brown sand-silt band at bottom of section 170	170
413		Princes Street Gardens	Cut for water services	170
414	413	Princes Street Gardens	Fill of [413] light grey-black silt-sand	170
415		Princes Street Gardens	Thin layer of bedding material underlying type 1	170
428		Moat Vault	South-east-facing interior wall	179 185
429		Moat Vault	Sandstone foundation or footing	183 185
430		Moat Vault	Sequence of lenses comprising made ground	179
431		Moat Vault	Cut for (432) pipe	179
432	431	Moat Vault	Plastic pipe within [431]	179 185
433	431	Moat Vault	Fill of [431] pea gravel	179,183
434		Moat Vault	Dolerite bedding layer	179,180
435		Moat Vault	0.6m by 0.6m concrete flagstone floor	179,180 185
436		Moat Vault	Cut for gas pipes	179,183 185
437		Moat Vault	Plastic pipes encased in concrete	185
438		Moat Vault	Cast iron pipe	185
439		Moat Vault	Cut for plastic gas pipe in [440]	180 185
440		Moat Vault	Sandstone foundation/footing	182,184- 6
441		Moat Vault	Plastic gas pipe	
442		Moat Vault	Plastic outflow pipes/ducts in concrete	
443		Moat Vault	Concrete foundations for ashlar blocks	
444		Moat Vault	Disturbed made ground	180
445		Moat Vault	Disturbed made ground	
446		Moat Vault	Stony deposit – made ground	
447		Moat Vault	Silty sand, disturbed layer	
448		Moat Vault	Cut for (4420 truncating [440])	
449		Moat Vault	Made ground from trench outside coal yard	
450		Moat Vault	Sandy made ground	
451		Moat Vault	Deposit comprising made ground	
452		Moat Vault	Layer of sandy mortar	
453		Moat Vault	Layer of made ground	
454		Moat Vault	Layer of made ground	
455		Moat Vault	Fill of [456]	180

<b>Context</b>	<b>Fill of</b>	<b>Location</b>	<b>Description</b>	<b>Section (Plan)</b>
456		Moat Vault	Cut for cables	180
457	456	Moat Vault	3 cables within plastic pipes	180
458	439	Moat Vault	Clean sand – fills [439]	180
459	439	Moat Vault	Mixed fill of modern gas pipe trench	
460		Moat Vault	Made ground	
461		Moat Vault	Cut for telecom cable	
462		Moat Vault	Telecom cable	
463	461	Moat Vault	Fill of telecom cable [461]	
464		Moat Vault	Layer of dark grey silty sand, possible made ground	
465		Moat Vault	Mixed deposit, possible older material	
466		Moat Vault	Mixed deposit under [440]	
467		Moat Vault	Stony deposit	
468		Moat Vault	Dark grey silty sand, made ground	
469		Moat Vault	Made ground underlying (443)	
470		Moat Vault	Poured concrete with evidence of shuttering	
471		Moat Vault	Plinth for ashlar columns	180
472		Moat Vault	Short section of truncated wall seen in west-facing section of coal yard	189, 191
473		Moat Vault	Truncated wall, probable continuation of [472]	190, 191
474		Moat Vault	Grey-brown loose sand-silt, disturbed layer	189
475		Moat Vault	Brown-yellow mortar sand, disturbed layer	189
476		Moat Vault	Grey-black silt-sand, disturbed layer	189
477		Moat Vault	Grey-black silt-sand, disturbed layer	189
500		Princes Street Gardens	Mixed made ground (post 1965)	200
501		Princes Street Gardens	Greenish quarry dust path surface	200
502		Princes Street Gardens	Rich black soil & stones	200
503		Princes Street Gardens	Pinkish-grey softish clay silt	200
504		Princes Street Gardens	Redeposited subsoil. Compact pinkish-grey boulder clay	200
505		Princes Street Gardens	Natural subsoil. Compact pinkish-grey boulder clay	200
506		Princes Street Gardens	Cut for cast iron pipe. Probably gas main	200
507	506	Princes Street Gardens	Mixed redeposited subsoil fill	200
508		Princes Street Gardens	Cut for 2008 borehole	200
509	508	Princes Street Gardens	Pea gravel	200
510	517	Princes Street Gardens	Glazed ceramic pipe drain	200
511	517	Princes Street Gardens	Compact friable grey sand	200
512	517	Princes Street Gardens	Brown soil & sandstone chunks	200
513	517	Princes Street Gardens	Redeposited subsoil. Compact pinkish-grey boulder clay	200
514	518	Princes Street Gardens	Greenish quarry dust fill of gas main	200
515	517	Princes Street Gardens	Concrete beams (Raker Supports)	200

<b>Context</b>	<b>Fill of</b>	<b>Location</b>	<b>Description</b>	<b>Section (Plan)</b>
516	517	Princes Street Gardens	North Esplanade Wall (1965 rebuild)	200
517		Princes Street Gardens	Cut for Raker Supports	200
518		Princes Street Gardens	Horizontal cut for modern gas main	200
519		Princes Street Gardens	Cut for (NCB Roslin) brick and concrete structure	201
520	519	Princes Street Gardens	Stones, gravel & brown soil	201
521		Princes Street Gardens	Concrete filled (NCB Roslin) brick structure	201
522		Princes Street Gardens	Soft brown soil over 521	201
523		Princes Street Gardens	Cut truncating 521 under 522	201
524		Princes Street Gardens	Mixed made ground	202
532		Princes Street Gardens	Mixed made ground. Brown soil, gravel & stones	205
533		Princes Street Gardens	Creamy-yellow loose sand & small stones	205
534		Princes Street Gardens	Light brown soil, stones, pantiles etc. Loose	205
535		Princes Street Gardens	Creamy mortar lumps & dust with coal flecks	205
536		Princes Street Gardens	Light brown silty soil	205
537		Princes Street Gardens	Natural subsoil?? Purple-grey clay-silt with rotten rock	205
538	539	Princes Street Gardens	Concrete stand base	205
539		Princes Street Gardens	Cut for existing stand mount	205
540		Princes Street Gardens	Recent low drystone wall adjacent to stand mounts separating them from the path	205
541		Princes Street Gardens	Gravel lens. Path material	205
569		Princes Street Gardens	Brownish-grey soil & made ground with modern finds	208
570		Princes Street Gardens	Yellow & pinkish-brown clay-silt redeposited subsoil	208
571		Princes Street Gardens	Soft black sandy silt soil	208
572		Princes Street Gardens	Orange blaes	208
573		Princes Street Gardens	Soft dark brown sandy silt soil	208
574		Princes Street Gardens	Mixed grey soil & stones. Modern finds & concrete	208
575		Princes Street Gardens	Demolition mortar & stones	208
576		Princes Street Gardens	Compact greyish soil & stones	208
577		Princes Street Gardens / Esplanade	Concrete wall behind the 1965 stones facing the N Esplanade Wall (516) associated with Raker Supports	

Context	Fill of	Location	Description	Section (Plan)
578		Princes Street Gardens	This brown topsoil under grass	209
579		Princes Street Gardens	Pinkish-grey redeposited natural subsoil	209
580		Princes Street Gardens	Orange-brown/black silty sand soil. Roots & modern finds	209
581		Princes Street Gardens	Grey pinkish-brown sandy silt mortar & gravel. Firm	209
582		Princes Street Gardens	Yellow brown silty sand mortar flecks & small stones	209
583		Princes Street Gardens	Loose creamy-grey mortar & stones, pantile & black silty lumps	209
584		Princes Street Gardens	Dark brown soil, mortar flecks & stones	209
585		Princes Street Gardens	Concrete stand base	209
586		Princes Street Gardens	Loose mixed backfill between 587 & N Esplanade Wall (516)	209
587		Princes Street Gardens	Deep (1.5m) concrete slab. Suggested to be crane-base	209
588		Princes Street Gardens	Mixed soil, redeposited subsoil & stones. Modern	210
589		Princes Street Gardens	Nov 2010 made ground	210
590		Princes Street Gardens	Thin modern topsoil over 1975 stand bases	210
720		Moat Vault	Dry & fairly loose brown soil containing frequent angular chunks of broken sandstone. Also contains bones, oyster shell, pottery & glass	

## APPENDIX 2: Photographic Register

SLR Shot	Digital Shot	Description	From	Conditions
<b>Film 18</b>				
25 & 26	545	TP M, (Princes St. Gardens) E-facing section	E	Overcast
	549 to 551	Grass slope to S of Esplanade above Johnston Terrace: pre-ex views	SSE & SSW	Bright
	552	TP N: Base of grass slope to S of Esplanade above Johnston Terrace:	S	Bright/shade
	553	TP O: Base of grass slope to S of Esplanade above Johnston Terrace	S	Bright/shade
	554	TP P: Base of grass slope to S of Esplanade above Johnston Terrace	SSE	Bright/shade
	601-4	South Esplanade Wall, northern face (TP. R at this time) showing bad oblique crack	NE & NW	Overcast
	637	TP. S, general views of the location inside the Coal Yard	S & SW	Dull
	638-641	TP. S, ENE-facing section showing gravel over compact soil	ENE	Dull
	646-7	TP. S, extension showing yellow gas main and black ducts	NE	Dull
	648-9	TP. S, general views of the location inside the Coal Yard	ENE &	Dull

SLR Shot	Digital Shot	Description	From	Conditions
			SSE	
	650-6	South Esplanade Wall (278), showing the base with mixed clay & mortar (277) below	N	Overcast
<b>Film 19</b>				
1 to 4	650-6	South Esplanade Wall (278), showing the base with mixed clay & mortar (277) below	N	Overcast
	675-8	FES water pipe trench above Johnston Terrace, working shots		Sunny
	685-8	Working shots, Johnston Terrace water main		Sunny
<b>Film 20</b>				
1 to 6	689-94	N Esplanade Wall below the HS kiosk outside the Moat Vault. Record shots pre scaffolding & slapping	N & NW	Overcast
	695-6	Working shots, Johnston Terrace water main		Sunny
7 to 8	697-9	Moat Vault. Unmonitored slapping exposing concrete infill & structural beam. Various views	E	Dull/flash
9 to 12	700-7	Johnston Terrace water pipe trench below S Esplanade wall showing external wall-face with cabling alongside	E & S	Overcast
13 to 16	708-9	As above, Johnston Terrace wall-face 318. Elevation from N & plan view from E	N & E	Overcast
	710	Working Shot. John and Charlie of PMK		
17 to 34	711-20	As above, E-facing section N to S	E & NE	Bright
<b>Film 21</b>				
	734	View of the work location in the Moat Vault from the drawbridge	S	Overcast
11 to 14	735-6	Johnston Terr. Water pipe trench, Revetting slabs 323 cleaned in plan	E & S	Sunny
15 & 16	737-8	General views of the trench and the location of 323	S	Sunny
17-& 18	739 & 739A	Piling in Princes St. Gdns. Record shot of stone slab edging path below N Esp. Wall	N	Overcast
	742	N Esplanade wall, slapping progress 11/3/10	W	Dull
	747 to 751	Gas trench in Coal Yard, continuation of TP. S to the south showing the wall 352	NNW SSE & plan	Dull
	752-3	Moat Vault excavation below beam. Progress at end of 11/3/10	E	Dull
27 to 30	754-5	Gas trench in Princes St. Gdns outside Moat Vault, plan view	S	Overcast
31 & 32	756	As above	E	Overcast
33 to 36	757 to 760	Princes St. Gdns gas trench. Wall 358 below Coal Yard entrance elevation (external Moat Vault wall)	N	Overcast
<b>Film 22</b>				
1 to 4	757 to 760	Princes St. Gdns gas trench. Wall 358 below Coal Yard entrance elevation (external Moat Vault wall)	N	Overcast
5 to 6	761 & 761A	W-facing trench section abutting wall 358	W	Overcast
7 to 8	762	Longitudinal view of the main trench	W	Overcast
9 to 10	763	Representative portion of section showing heavy rooting, c.354-5	S	Overcast
	764-5	N Esplanade wall. Slapping progress 12/3/10	W & NW	Overcast
11 to 12	766 to 772	Gas trench in Coal Yard, NE-facing section showing wall 352 & soil 276, NW to SE	NE	Dull/flash
13 to 14	773	General view of the above trench	SE	Dull/flash
15 to 16	774-5	Second curving gas trench in Coal Yard (to the NE), NE/SE-facing section	E	Dull/flash

SLR Shot	Digital Shot	Description	From	Conditions
	776-8	General views of the Coal Yard trenches	NE	Dull/flash
17 to 18	779	As above. Ranging road shows the alignment of wall 352	WN W	Dull
	780-1	As above	SW	Dull
21 to 26	789-91	Gas trench in Coal Yard, trench crossing road just inside the gates. N to S (Continues 774-5)	ESE	
27 to 34	792 to 796	Gas trench passing the gates. Wall 400 in S-facing section	S	Dull
35 to 36	797-798	Deposits against the wall 400 from inside the trench	E	Dull
	799-802	Overhang? Of the wall 400 at the base of the section, various views	E	Dull
	803-4	Working shots		
<b>Film 23</b>				
15 to 18	812 to 813	Elevation shots of the inner face of the N Esplanade wall above slapping	E	Overcast
	814-815	Slapping in N Esplanade wall, external, 16/3/10	W	Overcast
	816-818	Working shots, in the Moat Vault	E	Dull
	819-820	Working views		
<b>Film 25</b>				
28 to 31	876-881	Esplanade, gas trench at slapping through N wall. NNE-facing section under former location of kiosk	NNE/ NE	Overcast
	882-885	Esplanade, general views 18/3/10 showing location of wall 400 under metal plates, the slapping in the N Esp. Wall & trench (875-880) above	W & S	Sunny
	886-887	Esplanade, views of the slapping in N Esp. wall	W	Overcast
<b>Film 26</b>				
5 to 6	902-904	FES gas trench in Coal Yard. (Tr. 2), NW-facing section	NW	Dull
7 to 25	905-914	FES duct trench to S of DP2. (N to S)	E	Overcast
	928-929	Coal Yard. Slapping repaired	E	Dull
	930-931	Working shots, Roger Bullivant equipment being taken away		Overcast
<b>Film 27</b>				
1 to 2	932-933	Princes St. Gdns, duct trench outside Moat Vault. General view	W	Overcast
3 to 18	934-941	Princes St. Gdns, running elevation E to W of Moat Vault external wall	N	Overcast
	1052-1092	Elevation views of the North Esplanade Wall from East to West	N & NW	Overcast / Dull
	1093-1127	Elevated post-excavation shots of spur wall underlying Castle Esplanade	E	Overcast
	1128-1194	Elevated post-excavation shots of spur wall underlying Castle Esplanade	WSW	Overcast
	1195-1211	General working shots of spur wall underlying Castle Esplanade	WSW	Overcast
	1212	General shot of flagstone floor (435) prior to lifting	South	Inside
	1213-4	General shot of made ground and services immediately under flags (435)	South	Inside
	1215-6	Excavation exposing masonry 429 and modern services	South	Inside
	1217-8	Excavation exposing gas pipe (441)	South	Inside
	1219-20	Exposing gas pipe (441) within cut 439 through masonry 440	West	Inside
	1221	Masonry (429) exposed during excavation	South	Inside
	1222-3	Shot of gas pipe (441) and cut 439 through masonry 440	West	Dark
	1224-5	Shot of gas pipe (441) and cut 439 through masonry 440	West	Clear

SLR Shot	Digital Shot	Description	From	Conditions
	1226	General shot of excavated area after cleaning in coal-yard	West	Clear
	1227	General shot of excavated area after cleaning in coal-yard	East	Clear
	1228-9	Shot of masonry (440) and cut (439) after cleaning	West	Clear
	1230	Shot of masonry (440), cut (439) and west-facing section of trench	West	Clear
	1231-2	Shot of masonry (440) after cleaning	East	Clear
	1233	Shot of masonry (440) after cleaning	South	Clear
	1234-5	Shot of masonry (440) after cleaning	West	Clear
	1236-7	Shot of masonry (440) and cut (439) after cleaning	West	Clear
	1238-9	Shot of eastern elevation of masonry (429)	East	Clear
	1240-1	Shot of masonry (429) butting east-facing wall (428)	South	Clear
	1242-3	Shot of masonry (429) butting east-facing wall (428)	South	Clear
	1244-5	Shot of masonry (440), ducts (442) and deposits comprising north-facing section of trench	North	Clear
	1246	Shot of gas pipe (441) within cut (439): west-facing section of trench	West	Clear
	1247	West-facing section of trench within coal yard	West	Clear
	1248	Close-up of west-facing section of trench: made ground	West	Clear
	1249	Masonry (440) in north-facing section of sondage	North	Dark
	1250	Masonry (440) in north-facing section of sondage	North -east	Strong light
	1251	Deposits 468 and 466 in north-facing section of sondage	North -west	Strong light
	1252-3	Masonry 440 overlying deposit 466 in north-facing section of sondage	North	Strong light
	1254-5	General shot of masonry 440	E	Clear
	1256-7	Shot of borehole locations with sondage of trench	S	Clear
	1258-9	General shot of trench	E	Inside
	1260	General shot of features within trench	E	Inside
	1261-2	General shot of features within trench	W	Inside
	1263-5	General shot of features within trench	W	Variable light
	1266-7	Shot of masonry 440 overlying deposit 466	NE	Variable light
	1268-70	Deposits 468 and 466 in north-facing section of sondage	NW	Variable light
	1271-2	Shot of masonry 440 and concrete 443	N	Bright
	1273	Shot of masonry 440 and concrete 443	W	Bright
	1274	Working shot of coring within trench	W	Clear
	1275-6	Shot of masonry 429: east-facing elevation	E	Clear
	1277	Working shot of coring within trench	S	Bright
	1278	Shot of proposed transformer base marked out within trench	E	Clear
	1279-80	Shot of proposed transformer base marked out against masonry 429	S	Clear
	1281	Shot of large, worked sandstone slab from masonry 440	-	Clear
	1282	Shot of tooled edge of large sandstone block from masonry 440	-	Clear
	1283	Shot of base of large, worked sandstone slab from masonry 440	-	Clear
	1284	Shot of tooled edge of large sandstone block from masonry 440	-	Clear
	1285-6	Evidence of plug-n-feather in large sandstone block removed from 440	-	Clear
	1286-7	Shot of masonry 440 after removal of stonework to	S	Clear

SLR Shot	Digital Shot	Description	From	Conditions
		formation level		
	1288-90	Shot of masonry 440 after removal of stonework to formation level	E	Clear
	1291-2	Shot of masonry 440 after removal of stonework to formation level	W	Clear
	1293-4	Shot of masonry 440 after removal of stonework to formation level	N	Bright
	1295-6	Shot of masonry 440 after removal of stonework to formation level (ducts 442 & concrete 470/443)		Clear
	1297-8	Shot of masonry 440 after removal of stonework to formation level (ducts 442 & concrete 470/443)	NE	Bright
	1297-8	Shot of deposits 466 and 468 west and north-facing sections of sondage	NW	Strong light
	1299-03	Shot of base of west-facing section of trench showing continuation of deposit 466	W	Bright
	1305-5	Shot of re-used stonework with masonry 440	E	Bright
	1306	working shot of ongoing coring within sondage of trench	S	Bright
<b>Film 28</b>				
	1307	Registration shot	-	
	1308-9	Shot of concrete slab being broken for removal	NW	Interior
1-4	1310	General oblique shot of wall [473]	NE	Interior/bright
5-6	1311	Shots of north-facing elevation of wall [473]	N	Interior/bright
	1312	Shots of north-facing elevation of wall [473]	N	Interior/bright
	1313	General shot of wall [473]	E	Interior/bright
7-8	1314	Detail of west-facing section through moat vault	W	Interior/bright
9-10	1315	Detail of west-facing section through moat vault showing wall [472]	W	Interior/bright
11-12	1316	Detail of west-facing section through moat vault showing wall [472]	W	Interior/bright
13-14	1317	General shot of west-facing section through moat vault showing wall [472]	W	Interior/bright
15-17	1318	General post-excavation shot	SW	Interior/bright
18-19	1319	Shot of exposed south-facing castle wall	S	Interior/bright

### APPENDIX 3: Samples Register

Sample	Context	Fill of	Sample Type	Reason for collection	Sample volume
133	276		Bulk routine	Test Pit S in tunnel	10L
134	277		Bulk routine	Deposit under Esplanade wall 278	12L
135	278		Stone sample, Basalt course, South Esplanade wall	-	-
152	231		Bulk	Routine	12L
153	319		Bulk	Routine	12L
154	320		Bulk	Routine	12L
174	353		Bulk	Routine	10L
188	375		Bulk	Routine – lime mortar	2L
197	398		Bulk	Routine	12L
198	352		Bulk	Stone & mortar from wall	-
200	407		Bulk	Routine	8L
201	412		Bulk	Routine	12L



Sample	Context	Fill of	Sample Type	Reason for collection	Sample volume
202	409		Bulk	Routine	10L
203	411		Bulk	Routine	12L
214	444		Bulk	Routine	12L
215	445		Bulk	Routine	12L
216	446		Bulk	Routine	12L
217	447		Bulk	Routine	12L
218	450		Bulk	Routine	6L
219	451		Bulk	Routine	4L
220	452		Bulk	Routine	4L
221	453		Bulk	Routine	8L
222	460		Bulk	Routine	10L
223	464		Bulk	Routine	12L
224	465		Bulk	Routine	12L
225	466		Bulk	Routine – drawing 181	12L
226	468		Bulk	Routine – drawing 180	12L
227	467		Bulk	Routine	12L
228	468		Bulk	From drawing 181	12L
229	440		Sample of mortar fragments from [440]	Routine	6L
230	469		Made ground under foundations	Routine	8L
231	440		Stone fragments from masonry [440]	Routine	
232	466		Deposit under [440]		12L
233	471		Made ground	Possible contamination	8L
234	474		Modern made ground from moat vault	Contaminated with modern material	5L
235	475		Modern made ground from moat vault	Contaminated with modern material	5L
236	476		Modern made ground from moat vault	Contaminated with modern material	5L
237	477		Modern made ground from moat vault	Contaminated with modern material	5L
250	502		Bulk		8L
251	503		Bulk		10L
252	504		Bulk		12L
259	534		Bulk		10L
260	535		Bulk		8L
261	536		Bulk		6L
262	537		Bulk		6L
290	575		Bulk		8L
291	583		Bulk		10L
318	400		Lump of mortar		Lump

## APPENDIX 4: Drawings Register

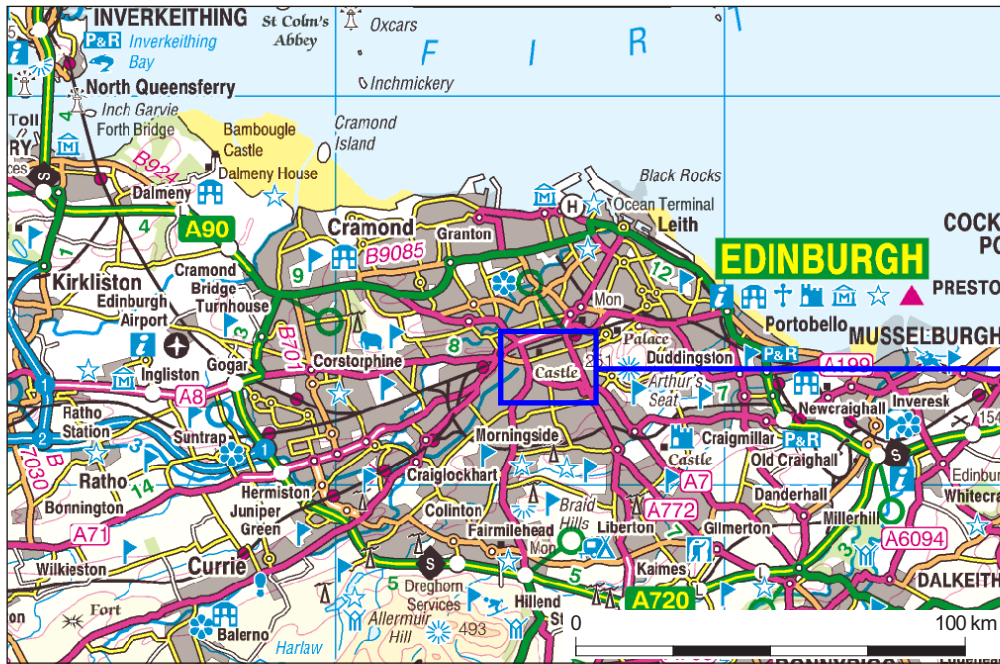
No.	Sheet No.	Descriptions/Contexts	Section / Plan	Scale
141	DB	Test Pit S ENE-facing section including (276)	S	1:20
145	80-81	Johnston Terrace water main, E-facing section	S	1:20
146	80	Revetting stones plan [323]	P	1:20
147	82	S-facing section through wall in moat vault	S	1:10
148	82	N-facing section through wall in moat vault	S	1:10
151	84	NE-facing section tunnel slot Test Pit 5	S	1:10
152	84	ESE-facing section slot trench by tunnel gate	S	1:10
153	84	SE-facing elevation of wall [352]	S	1:10
154	85	S-facing section of Princes Street Gardens gas trench	S	1:20
155	85	W-facing section of Princes Street Gardens gas trench	S	1:20
156	85	Plan of E end of Princes Street gardens gas trench showing castle wall [358]	P	1:20
157	84	Plan of slot 5 showing wall [352]	P	1:20
158	85	SSE-facing section tunnel gate trench wall 400	S	1:20
159	86	S-facing section, W end of FES gas pipe trench	S	1:20
160	86	SW-facing section, W end of FES gas trench, Esplanade wall	S	1:20
161	87	S-facing section of wall dug through connecting the tunnel gate to the W wall of moat vault	S	1:10
163	87	S-facing elevation of E-W running wall exposed in gas service trench in tunnel gate / Coal Yard	S	1:10
170	88	N-facing section of gas trench in NW of castle Esplanade up to slapping leading to Princes Street Gardens	S	1:20
171	90	Continuation of drawing 154, S-facing section of Princes Street Gardens pipe trench	S	1:20
173	91	NW-facing section of gas trench in tunnel gate	S	1:20
179	92	S-facing section of moat vault excavation showing buried masonry [421]	S	1:10
180	92	W-facing section of excavation in moat vault with masonry [440]	S	1:10
181	93	N-facing section of excavation in moat vault with masonry [440]	S	1:10
182	93	W-facing profile of masonry [440]	S	1:10
183	93	E-facing section of masonry [429]	S	1:10
184	94	N-facing section of [440] after alteration by construction	S	1:10
185	95	Plan of floor space and masonry [440] & [429] in moat vault	P	1:20
186	96	Overlay plan of masonry [440] after alteration	P	1:20
187	97	Elevation of moat vault wall	S	1:10
188	97	Profile of moat vault wall	S	1:10
189	98	West-facing section through moat vault showing wall [472]	S	1:10
190	98	N-facing elevation of wall [ 473]	S	1:10
191	99	Plan of E third of moat vault showing walls [472] & [473]	P	1:20
192	DB	Test-Pit M, east-facing section	S	1:20
200	100-101	Piling Base at W end. E facing section 500-518	S	1:20
201	101	Piling Base at W end. N facing section 515, 519-523	S	1:20
202	100	Piling Base at W end. W facing section 515, 519-	S	1:20

No.	Sheet No.	Descriptions/Contexts	Section / Plan	Scale
		523		
205	103	Piling base at E end. N facing section: 532-41	S	1:20
208	103	Piling base at E end. N facing section: 569-76	S	1:20
209	103	Piling base in centre (just W of new abutment). S facing section:	S	1:20
210	104	Piling base in centre (just W of new abutment). E facing section: 578-85	S	1:20
246	120	Elevation drawing of the Moat Vault inner wall face 400 within the area that will be affected by the (c.1m x 0.5m) slapping (a much bigger area than this was affected see daybook 23/3/11)	S	1:10
247	120	West facing section within the area that will be affected by the slapping (c.1m x 1.5m trench)	S	1:10
248	120	North facing section within the area that will be affected by the slapping (c.1m x 1.5m trench)	S	1:10
249	120	Sketch plan to show the location of the trench within the Moat Vault	P	Sketch

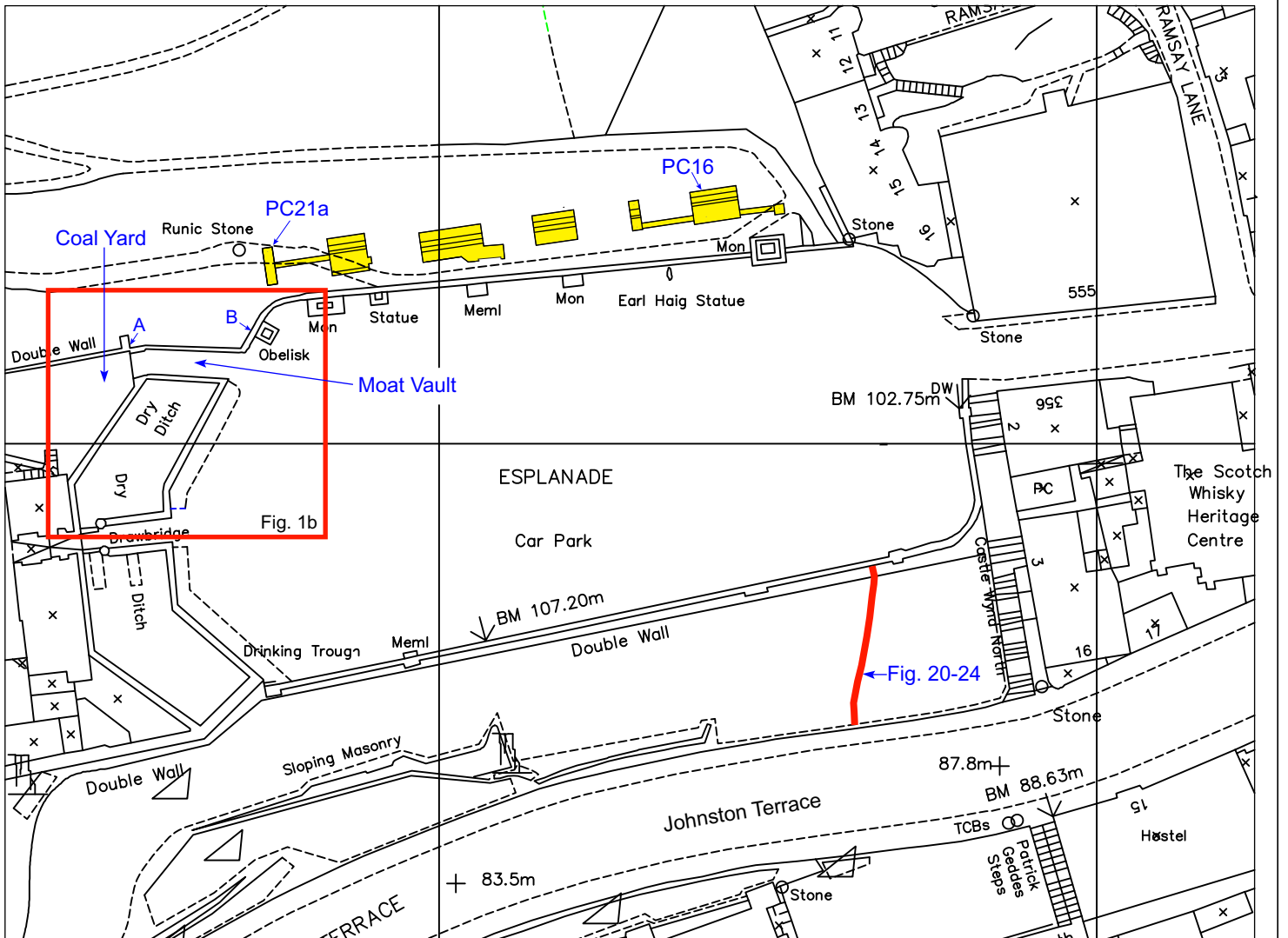
## APPENDIX 5: Finds Quantification

Tr.	Ctxt	FT	No.	Wt/g	Notes	Spotdate
FES	000	Pot	106	1788	SPMO/R, STAF, TGE, LGRE, LBW, PORC, SWSW, CRW, REFW	L.18/19
J. Terr Water Main	000	CBM	3	484	pantiles	pmed
		CBM	4	122	TGE wall tiles	18
		Glass	51	669	pmed bottles, ?lmed window, epmed wine glass etc	18+
		Mortar	2	82	& tile	
		Stone	1	8	Slate	
		Ceramic	15	57	clay pipes, incl bowls and glazed mouthpiece	L.17/18+
		Ae/Pb	1	5	moulded object	med?
		Ae	3	142	fittings?	modern
		Fe	43	2182		
		Pb	1	2.7		
		Bone	3	23	mammal frag, ?sheep incisor, fish rib	
		Coal	1	19		
		Shell	1	1	oyster	
U/S	000	Bone	5	55	large mammal ribs etc	
		Shell	1	1	mussel	
		Pot	12	103	SPMR, TGE, REFW	18-19
		Stone	4	516	Slate	
		CBM	1	994	brick	17-18?
J. Terr Water Main	231	Pot	5	64	BRSW, REFW, LSRW	L.18/19
		Glass	4	154	pmed & modern frags	modern
		Stone	1	52		
		Fe	2	27		
Coal Yard	352	Stone	3	607	<198> Stone +Mortar	
	440	Stone	1	3771	<231>	
Moat Vault	447	Ceramic	1	6	marble	19+
		Ceramic	3	9	clay pipes	
		Fe	10	807		
		Glass	4	446		19+
		Stone	1	483		
		Stone	6	77		
		Pb	8	139		
		Leather	1	131	Shoe	
Moat Vault	449	Pot	4	88	SPMR, REFW, PORC, LGRE	L.18/19
		CBM	2	453	abraded brick & modern ?roof tile	19/20
		Glass	1	307	bottle base	18/19
		Bone	4	119	sheep & juv cow	
		Shell	1	9	limpet	
		Misc	2	13	Modern Finds -Plastic+Metal	modern
PSG	534	CBM	3	1205	pantile	
		Bone	5	281	cattle metapodial & frags	

Pottery fabric codes: SWGW – Scottish white gritty wares; SPMO/R – Scottish post-medieval oxidised/reduced wares; GSW4 – Frechen stoneware; TGE – tin glazed earthenwares; STAF – Staffs-type slipware; SWSW – Staffs-type salt-glazed stonewares; CRW – creamware; REFW – refined whiteware; YELW – yellow wares; PORC – porcelain; LGRE – late glazed red earthenwares; LSRW – late slipped redwares; LBW – late blackwares; LPME – late post-medieval unglazed earthenwares; BRSW – British stonewares.



Edinburgh Castle Esplanade



Key:

Grandstand pile cap and beam trenches

Fig. No: 1a Revision: A Client: Sir Robert Mc Alpine on behalf of Edinburgh Military Tattoo Ltd

Title: Plan of Esplanade showing the location of Fig. 1b and the Johnston Terrace water main

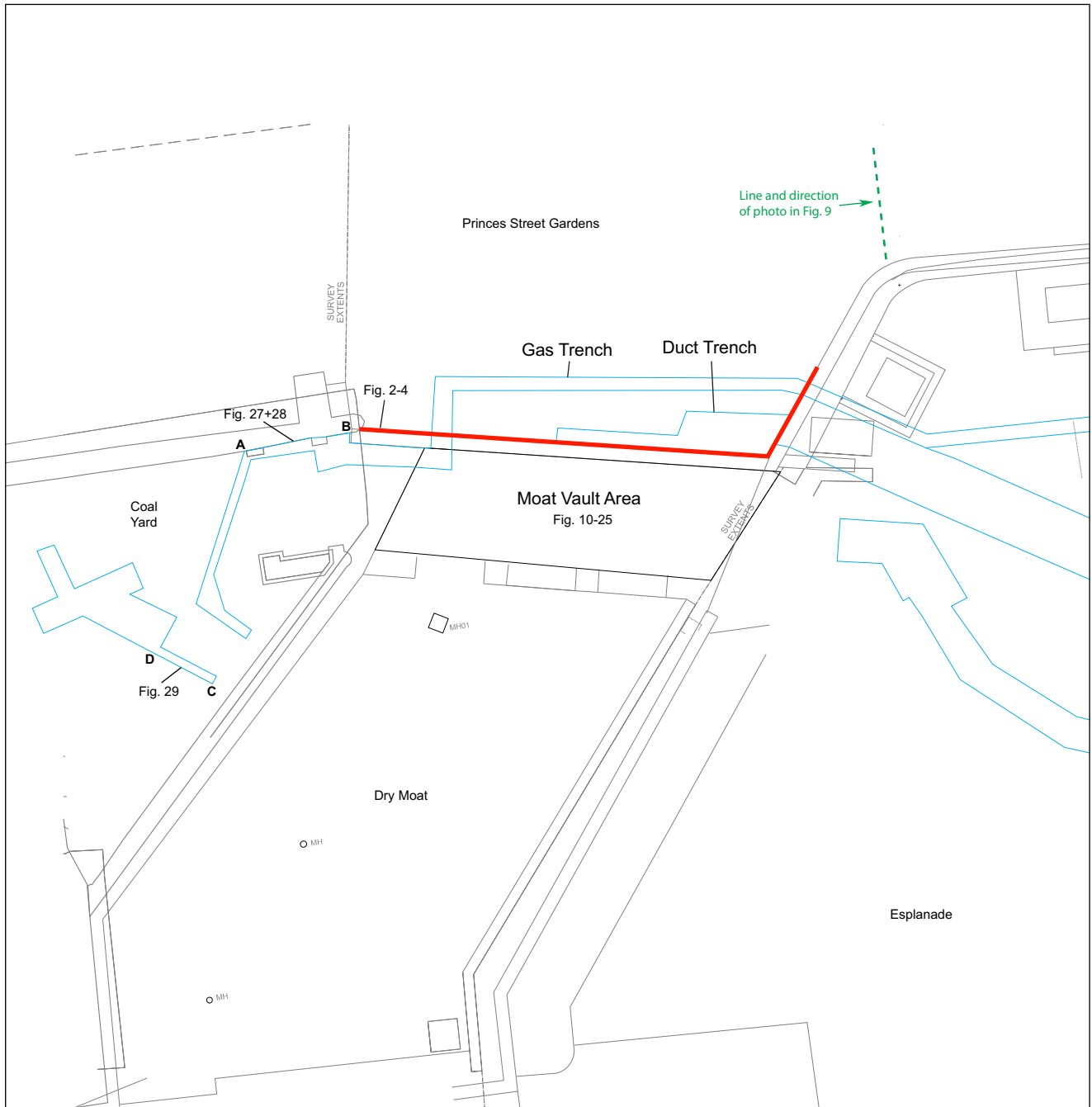
Project: Edinburgh Military Tattoo Grandstand Works

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Drawn by: LW Checked: LW Report No: 1830



Key:

 service trench



0  20m

Scale at A4: 1:500

Fig. No:	1b	Revision:	A	Client:	Sir Robert McAlpine on behalf of Edinburgh Military Tattoo Ltd
Title:	Enlarged plan of the trenches in Princes Street Gardens and the Coal Yard showing the location of figures				
Project:	Edinburgh Military Tattoo Grandstand Works				



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Key:



Fig 2. General view of the Moat Vault exterior wall and the Princes Street Gardens excavation area prior to trenching works



Fig 3. Photographic survey of the Moat Vault exterior wall above existing ground level

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Fig. No: 2-3 Revision: A

Title:

Project:  
Edinburgh Military Tattoo Grandstand Works

Scale:

Client:  
Sir Robert Mc Alpine on behalf of Edinburgh Military Tattoo Ltd

Drawn by: SW Report No: 1830

Key:







Key:

Fig. No:	5	Revision:	A	Client:	Sir Robert Mc Alpine on behalf of Edinburgh Military Tattoo Ltd
Title:	General view of the slapping in the North Esplanade Wall and the HV duct trench along the Moat Vault exterior wall				
Project:	Edinburgh Military Tattoo Grandstand Works				



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Key:

Fig. No: **6**      Revision: **A**      Client: Sir Robert McAlpine on behalf of Edinburgh Military Tattoo Ltd

Title: **Section of the slapping in the North Esplanade Wall**

Project: **Edinburgh Military Tattoo Grandstand Works**



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Fig 7. Gas trench in Princes Street Gardens from the east



Fig 8. Gas trench in Princes Street Gardens; Heavily bioturbated deposits **354-5** with the external wall of the Moat Vault (**358**) on the right


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	Title:			
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Fig. 9 View of the east and north facing sections at the west end of the works in Princess St Gardens showing the extent of the 1960s Raker foundations 515

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	Project: <b>Edinburgh Military Tattoo Grandstand Works</b>		
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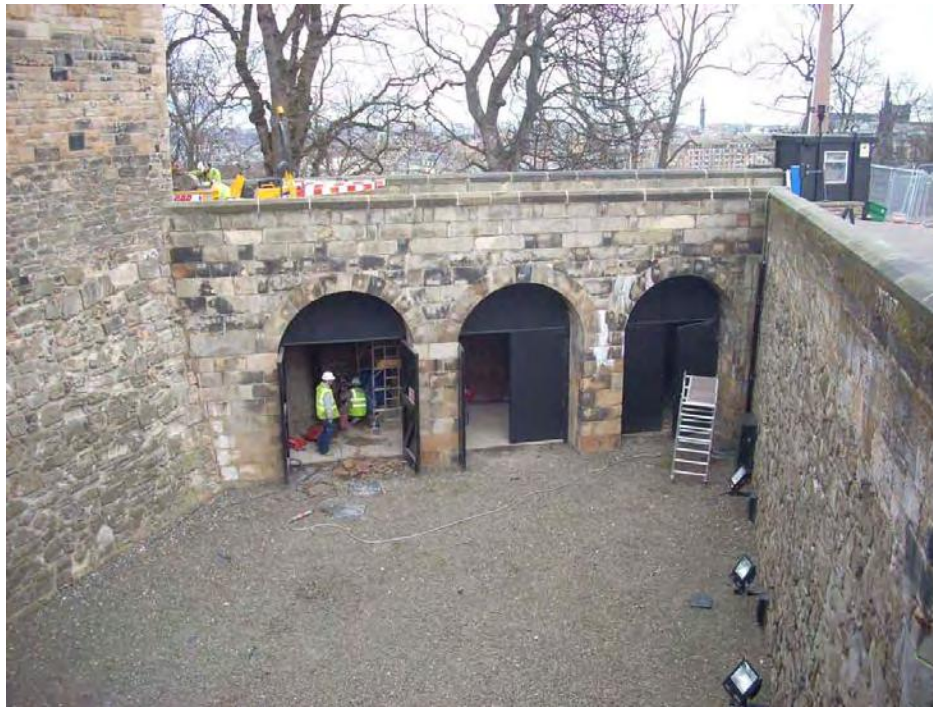


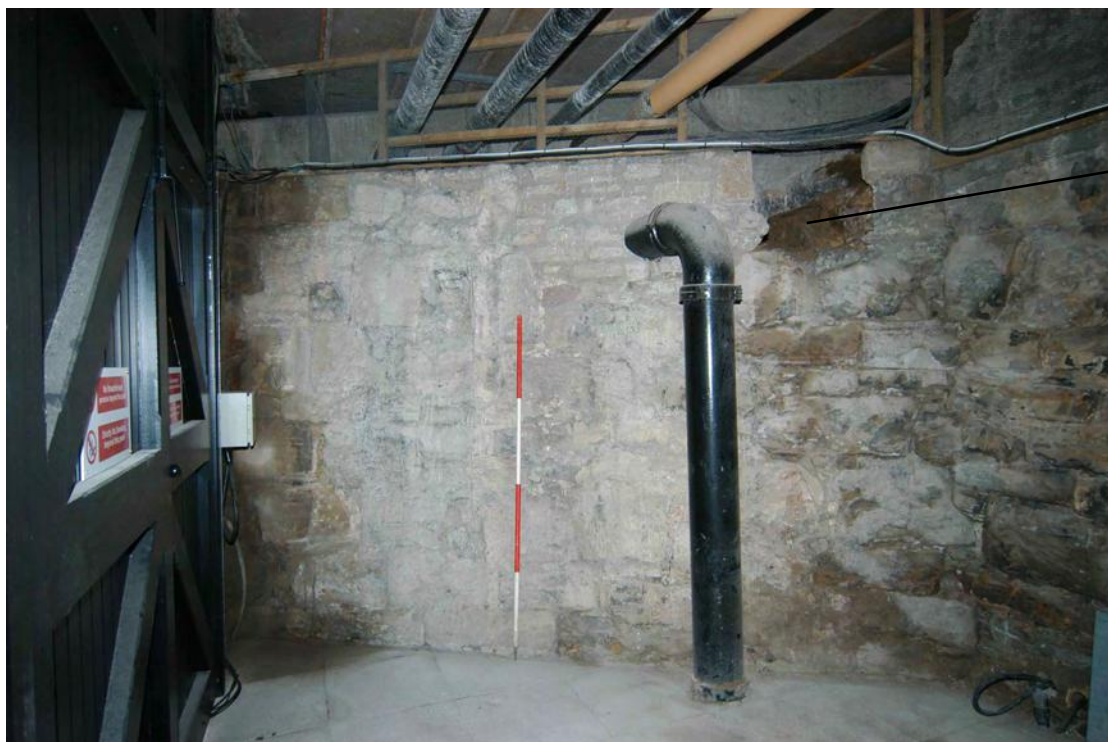
Fig 10. General view of Moat Vault from south



Fig 11. General view of Moat Vault south-facing wall prior to slapping

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	Project:	Edinburgh Military Tattoo Grandstand Works				
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Area of slapping

Fig 12. General view of Moat Vault west-facing wall prior to slapping



Fig 13. Slapping through Moat Vault wall in section

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	Project: <b>Edinburgh Military Tattoo Grandstand Works</b>		
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Key:

- ceramic service pipe
- masonry
- 2011 Trench





Fig 15. General view of Moat Vault rear wall face prior to core drilling



Fig 16. View of the exposed interior Moat Vault Wall face during core drilling

Key:

Fig. No: **15-16** Revision: **A** Client: Sir Robert McAlpine on behalf of Edinburgh Military Tattoo Ltd

Title: **Section of the slapping in the North Esplanade Wall**

Project: **Edinburgh Military Tattoo Grandstand Works**



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Fig 17. General view of trench in Moat Vault, eastern side



Fig 18. Moat Vault. Masonry 429 abutting west wall 428

Key:

Fig. No:	17-18	Revision:	A	Client:	Sir Robert McAlpine on behalf of Edinburgh Military Tattoo Ltd
Title:	Section of the slapping in the North Esplanade Wall				
Project:	Edinburgh Military Tattoo Grandstand Works				



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Fig 19. Moat Vault. General view of the trench and masonry **440**.



Fig 20. Moat Vault. View of masonry **440** after removal of stonework to formation level with masonry **429** in background.


Key:	Fig. No: <b>19-20</b>	Revision: <b>A</b>	Client: Sir Robert McAlpine on behalf of Edinburgh Military Tattoo Ltd	 <p>CFA ARCHAEOLOGY LTD The Old Engine House Eskmills Park Musselburgh East Lothian, EH21 7PQ t: 0131 273 4380 f: 0131 273 4381 e: info@cfa-archaeology.co.uk w: www.cfa-archaeology.co.uk</p>
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Fig 21. Moat Vault. View of masonry 473



Fig 22. Moat Vault. General shot of west-facing section through Moat Vault showing masonry 472

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	Project:	Edinburgh Military Tattoo Grandstand Works				
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Fig 21. Moat Vault. View of masonry 473



Fig 22. Moat Vault. General shot of west-facing section through Moat Vault showing masonry 472

Key:	Fig. No:	21-22	Revision:	A	Client:	Sir Robert McAlpine on behalf of Royal Edinburgh Military Tattoo Ltd
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	Project:	Edinburgh Military Tattoo Grandstand Works				
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Fig. 23 View of the trench within the Moat Vault prior to the slapping



Fig. 24 View of the initial slapping through the Moat Vault 400

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	Project:	Edinburgh Military Tattoo Grandstand Works				
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Key:

Fig. No: 25      Revision: A      Client: Sir Robert McAlpine on behalf of Edinburgh Military Tattoo Ltd

Title: View of the enlarged slapping through the Moat Vault wall 400i

Project: Edinburgh Military Tattoo Grandstand Works



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Key:

Fig. No: **26**      Revision: **A**      Client: Sir Robert McAlpine on behalf of Edinburgh Military Tattoo Ltd

Title: **General view of the Coal Yard from the south-west**

Project: **Edinburgh Military Tattoo Grandstand Works**



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Key:

Fig. No:	27	Revision:	A	Client:	Sir Robert McAlpine on behalf of Edinburgh Military Tattoo Ltd
Title: Coal Yard. Wall 400 in the south-facing trench section where the gas main emerges from the Moat Vault					
Project: Edinburgh Military Tattoo Grandstand Works					

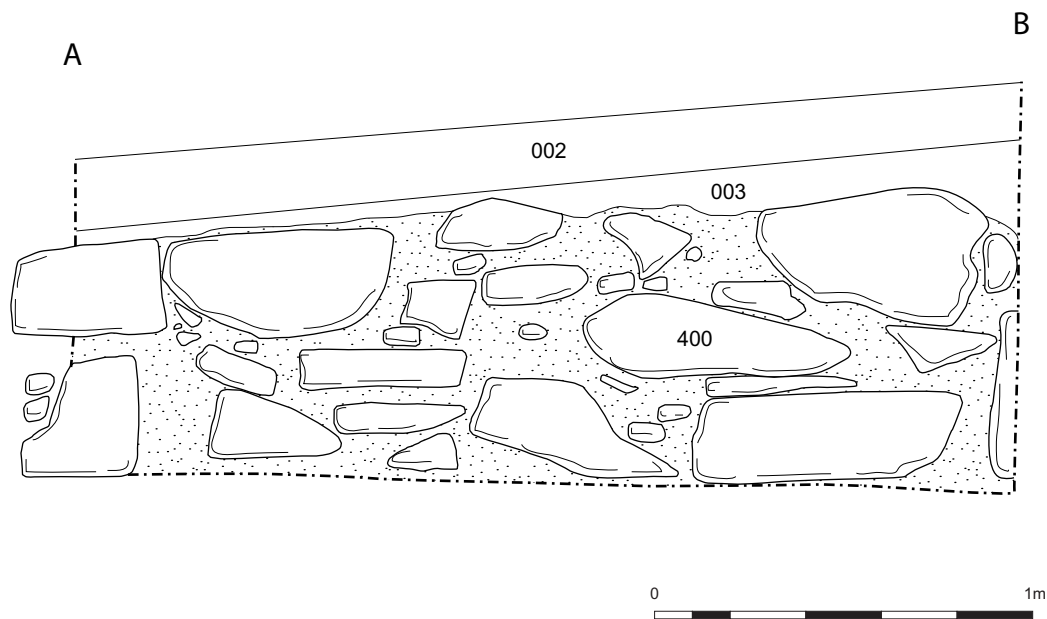


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Key:  
 mortar

Fig. No: **28**      Revision: **A**      Client: Sir Robert Mc Alpine on behalf of Edinburgh Military Tattoo Ltd

Title: **Coal Yard. South-facing trench section showing the elevation of wall 400**

Project: **Edinburgh Castle Esplanade**



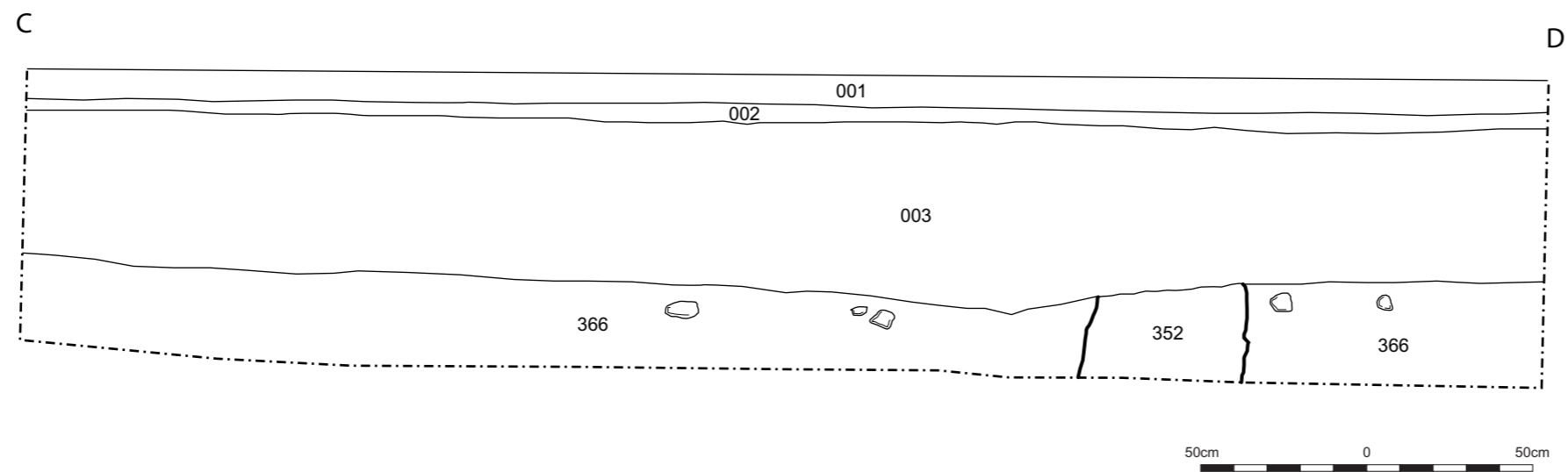
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Fig. No:	29	Revision:	A
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Title:  
 NE facing section in the Coal Yard showing wall 352 and soil 366.  
 Coal Yard

Project:  
 Edinburgh Military Tattoo Granstand Works

Scale at A3:  
 1:20



Client:  
 Sir Robert Mc Alpine on behalf of  
 Edinburgh Military Tattoo Ltd


Drawn by:	GC	Report No:	1830
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Fig 30. Water Main trench between the Esplanade and Johnston Terrace

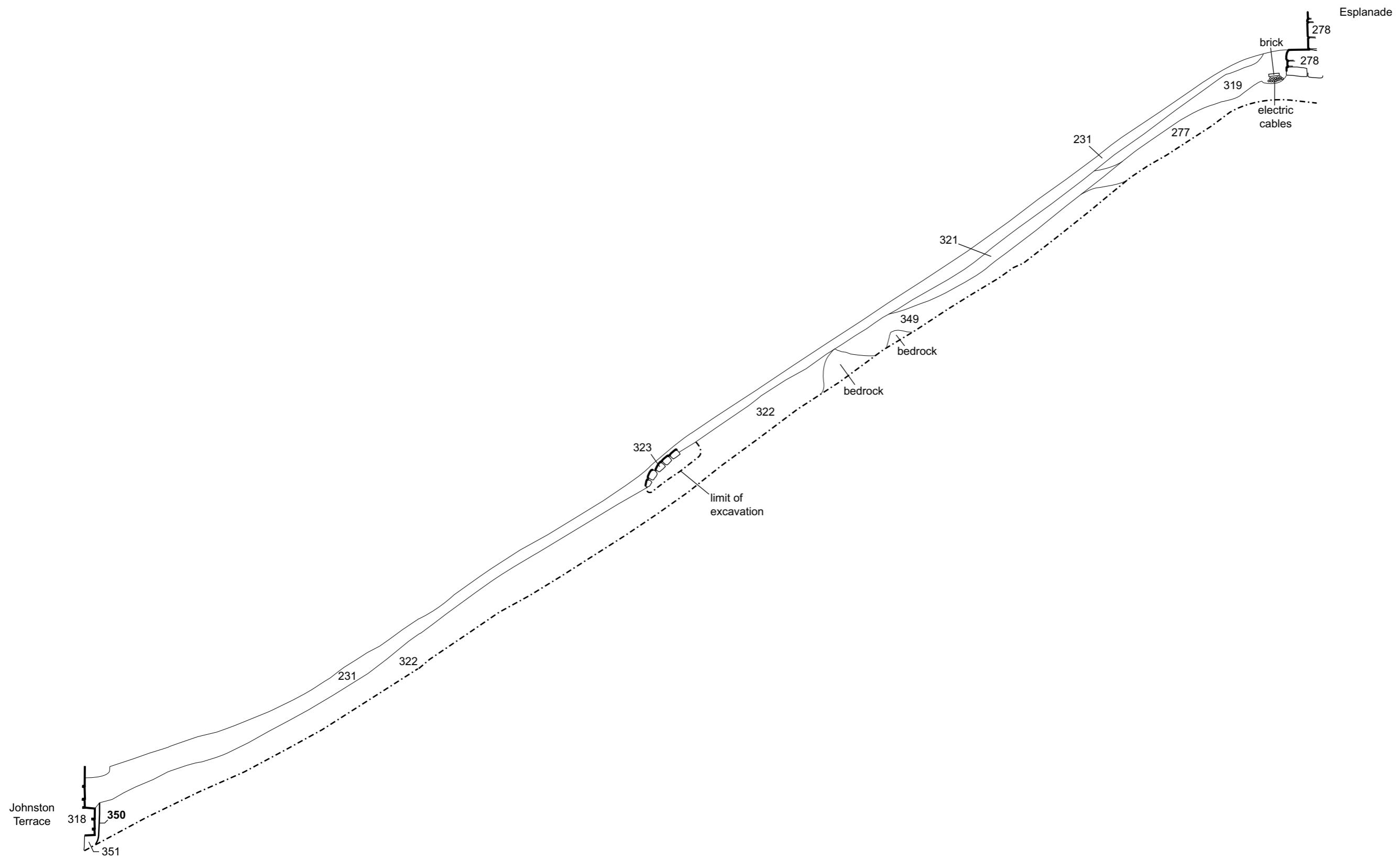


Fig 31. Water Main trench between the Esplanade and Johnston Terrace showing hand excavation and metal detecting in progress

Key:	Fig. No: <b>30-31</b>	Revision: <b>A</b>	Client: Sir Robert Mc Alpine on behalf of Edinburgh Military Tattoo Ltd	 <p>CFA ARCHAEOLOGY LTD The Old Engine House Eskmills Park Musselburgh East Lothian, EH21 7PQ t: 0131 273 4380 f: 0131 273 4381 e: info@cfa-archaeology.co.uk w: www.cfa-archaeology.co.uk</p>
	Title:			
Scale at A4:	Edinburgh Military Tattoo Granstand Works			Drawn by: <b>SW</b> Checked: Report No: <b>1830</b>



Key:



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Fig. No:	<b>32</b>	Revision:	<b>A</b>
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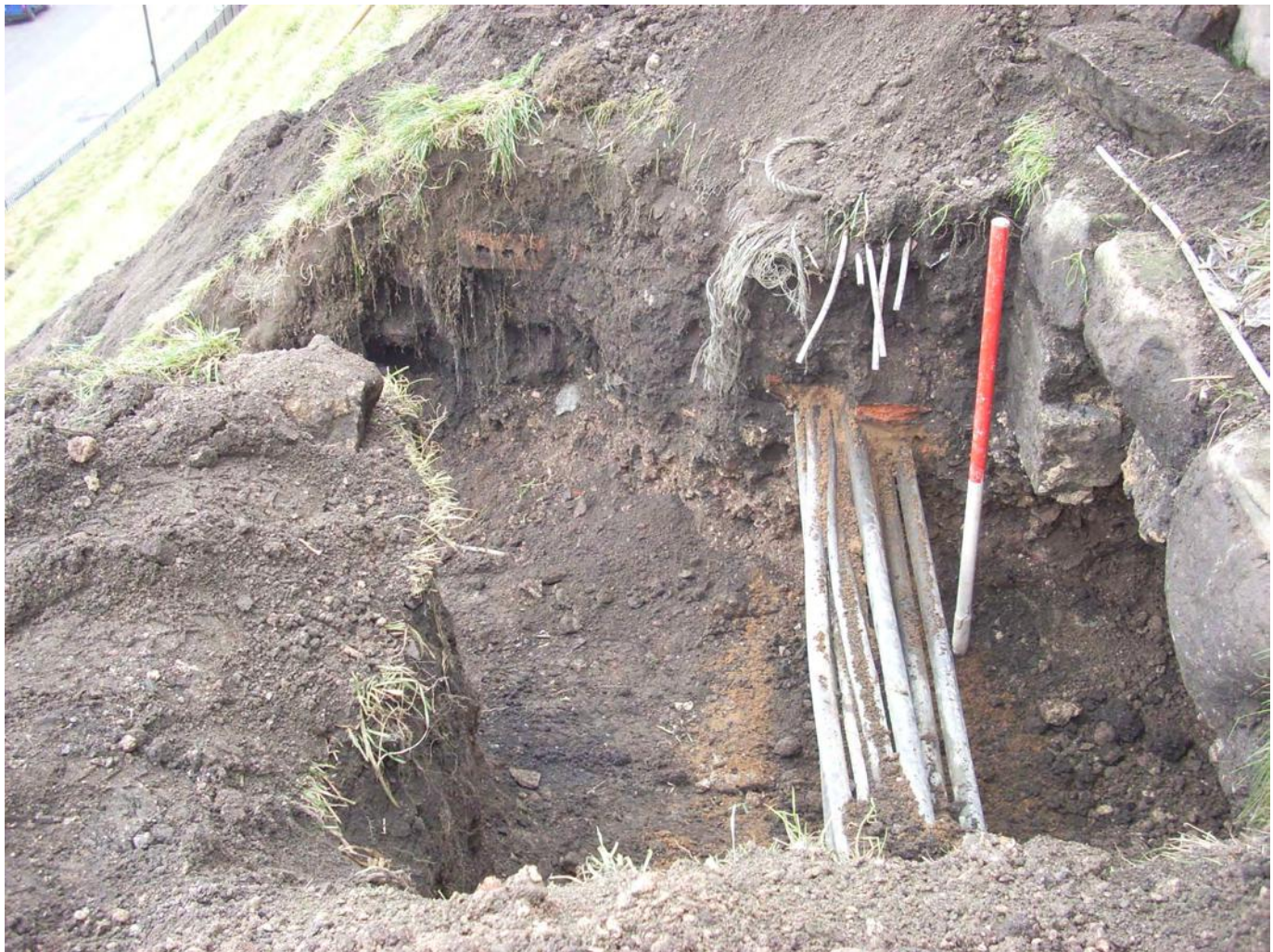
Title:  
**Water main trench between the Esplanade and Johnston Terrace, E-facing section**

Project:  
**Edinburgh Military Tattoo Granstand Works**

Scale at A3:  
**1:80**

Client:  
**Sir Robert Mc Alpine on behalf of Edinburgh Military Tattoo Ltd**

Drawn by:	<b>GC</b>	Report No:	<b>1830</b>
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Key:

Fig. No: **33**      Revision: **A**      Client: Sir Robert McAlpine on behalf of Edinburgh Military Tattoo Ltd

Title: **South Esplanade Wall foundations and electricity cables exposed**

Project: **Edinburgh Military Tattoo Granstand Works**



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Scale at A4:

Drawn by: **SW**      Checked:      Report No: **1830**



Key:

Fig. No: **34**      Revision: **A**      Client: Sir Robert McAlpine on behalf of Edinburgh Military Tattoo Ltd

Title: **Water Main trench between Johnston Terrace and the Esplanade, stone revetment 323**

Project: **Edinburgh Military Tattoo Granstand Works**



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Scale at A4:

Drawn by: **SW**      Checked:      Report No: **1830**