

Stabilisation of Embankments & Tunnel,
HMP The Verne,
Portland, Dorset

Heritage Statement





**STABILISATION OF EMBANKMENTS & TUNNEL,
HMP THE VERNE,
PORTLAND, DORSET**

Heritage Statement

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Summary

Wessex Archaeology was commissioned by Kier Southern to prepare a heritage statement in relation to proposed stabilisation and repair works at Scheduled Monument HMP The Verne, Portland, Dorset (List Entry 1002411), also known as the Verne Citadel. The Citadel is a large 19th century fort covering 22.6 hectares on top of Verne Hill at the northern end of the Isle of Portland. The interior is a prison, H.M.P. The Verne. The areas of proposed works are mainly located within the north-west corner of the fortress in the vicinity of the north entrance, but also incorporate works to casemates in the south-east corner of the Citadel. The aims of this Study were to provide information on the historical development of the proposed affected areas of the Scheduled Monument, and an assessment of their significance. The Study aimed to provide a preliminary assessment of the impact of the proposed Scheme on the designated heritage assets.

The Study has identified that the proposed Scheme has the potential to result in adverse impacts to the historic fabric of elements of the Scheduled. In particular, repair works to the north entrance and tunnel lining, also a Grade II* Listed Building, may entail localised removal and replacement of damaged historic fabric. The original portcullis and its counterweight have been identified as highly significant historic features which remain in their original setting, and which contribute to the significance of both the Grade II* Listed North Entrance, and to the Scheduled Monument as a whole. Removal of the counterweight would result in a substantial adverse effect to these heritage assets. Removal of the modern steel lining from the tunnel would however be seen as a sympathetic restoration. Proposed installation of an 'umbrella' structure above the tunnel might result in adverse impacts to original features, including an original gun emplacement, access road and the northern defensive embankment. However there is evidence that the northern half of this area was probably excavated and reinstated in the mid-1970s, indicating the earthworks in this area may not be original.

The Study has identified that the masonry wall above the east revetment was constructed between 1909 and 1945, and almost certainly postdates the refacing of the revetment walls, undertaken prior to 1909. Although it has not been possible to pinpoint its precise construction date, the wall is not considered to make a meaningful contribution to the significance of the Scheduled Monument, and it is considered that its proposed removal would not preclude the implementation of the proposed Scheme.

On the basis of the above findings, it is suggested that further work may be required by English Heritage and/or the Planning Officer for Dorset County Council in advance of and during the proposed works. A key recommendation is that the proposed repair works to masonry, in particular within the tunnel and north entrance, and to the revetment walls, be designed in consultation with a suitably qualified and experienced conservation architect and/or conservation engineer. Many of the proposed repairs seem to entail potential removal of historic fabric, and it is recommended that design solutions be sought which could avoid or minimise the

scope of replacement, where possible. It is recommended that following removal of the sheet steel lining to the tunnel, the tunnel lining should be subject to recording, prior to the removal of any historic fabric. It is recommended that further recording work, possibly comprising a full digital photographic survey, be undertaken in relation to the masonry wall prior to its removal. It is considered that the portcullis could benefit from conservation *in situ*, and it is strongly recommended that an alternative be sought to the proposed removal and demolition of the counterweight.

It is considered likely that much of the land above the tunnel has been removed and reinstated during previous drainage works. However there remains a high potential for *in situ* elements of the original embankments and access road to survive, especially in the south of this area. It is therefore suggested that an archaeological watching brief should be maintained during excavation of any boreholes and trial holes. It is also recommended that the removal of overburden across this area prior to the installation of the 'umbrella' structure be subject to an archaeological watching brief or a controlled topsoil strip.

Finally, many of the proposals are still at the design stage with some key details yet to be finalised, and it is considered that the full impact of the Scheme on the significance of the Verne Citadel can in some cases not be fully assessed at this stage. It is therefore considered that a final impact assessment should be carried out, taking into account the precise impacts of the proposed works on the designated heritage assets. The need for, scope and timing, of any further archaeological works should be agreed in consultation with English Heritage. Any works within the Scheduled Monument will require Scheduled Monument Consent.

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The report was researched and compiled by Chloe Hunnisett and Bob Davis. The project was managed for Wessex Archaeology by Rob Armour Chelu.

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1 INTRODUCTION

1.1 Project background

1.1.1 Wessex Archaeology was commissioned by Kier Southern to prepare a heritage statement in relation to proposed stabilisation and repair works (the Scheme) at the Scheduled Monument HMP The Verne, Portland, Dorset (List Entry 1002411), previously known as the Verne Citadel or Verne Fortress. The Site is centred on National Grid Reference (NGR) 451360 206195 (**Figure 1**).

1.2 The Site

1.2.1 The Verne Citadel is a large 19th century fort covering some 22.6 hectares on top of Verne Hill at the northern end of the Isle of Portland. The fortifications, the casemented barracks beneath the south rampart and the redoubt to the south (the High Angle Battery) are included within the scheduled area (List Entry 1002411), whilst a number of the internal structures are designated as Listed Buildings. The interior is currently used as a Category C men's prison, H.M.P. The Verne.

1.2.2 The areas of proposed works are indicated on **Figures 2a** and **2b**. These are mainly located within the north-west corner of the fortress in the vicinity of the north entrance, but also incorporate works to the south-east casemates in the south-east corner of the Citadel.

1.2.3 The Citadel occupies the highest point on the island and encloses the whole of the flat summit of Verne Hill, rising to a height of c.135m above Ordnance Datum (maOD). Verne Hill dominates the views from the north to the island and is characterised by steep cliffs to the north and east, and steeply sloping ground to the west.

1.2.4 The geology of the Site comprises Portland stone, which characterises the highest part of the island, and which overlies Kimmeridge clay.

2 AIMS

2.1.1 The aims of this Study are as follows:

2.1.2 Provide a general overview of the historical development and known heritage resource of The Verne Citadel.

2.1.3 Provide information on the historical development of the proposed affected areas of the Scheduled Monument, and assess their significance, including the following:

- Masonry wall above east embankment

- Revetments
 - Tunnel at entrance
 - Road and land above tunnel
 - Portcullis and counterweight
 - Casemates
 - Other affected areas as relevant
- 2.1.4 Identify previous/historic impacts to the above areas of the Verne Citadel, including:
- Previous archaeological interventions
 - Repair works
 - Alterations and rebuilding
 - Service installations, repairs and upgrades
- 2.1.5 Provide a provisional assessment of the potential impact of the proposed Scheme upon the above elements of the Scheduled Monument, and upon any other elements of the cultural heritage resource, where applicable.
- 2.1.6 Identify possible future investigative works and/or mitigation which may reduce the potential adverse impacts of the Scheme on The Verne Scheduled Monument.

3 METHODOLOGY

3.1 Sources

- 3.1.1 A number of publicly accessible sources of primary and synthesised information were consulted. A brief summary of the sources consulted is given below.

3.2 Historic Environment Record

- 3.2.1 The Dorset Historic Environment Record (DHER), maintained by Dorset County Council, was consulted for information pertaining to the historic environment resource within the Site and its immediate vicinity, in particular relating to previous archaeological interventions and recording. The DHER is a database of all recorded archaeological sites, findspots, archaeological events within the city, and was consulted for this Study in August 2012. A 100m Study Area around the Site was considered.

- 3.2.2 The DHER results have been reproduced in **Figure 1** and in gazetteer format in **Appendix 1**. However given the aims of this Study (see above), much of the recorded historic environment will not be discussed further for the purposes of this report as it is not considered relevant to the proposed Scheme.

3.3 Documentary and cartographic sources

- 3.3.1 A search of relevant primary and secondary sources was carried out and in. The sources consulted are as follows:
- Historic maps
 - Historic documents

- Published and unpublished archaeological reports relating to the Site
- Recent volumes of local journals

3.3.2 Maps and associated historical sources can clarify the archaeological potential of the Site in two ways. Firstly, by suggesting aspects of historic land use prior to any modern development. Secondly, by identifying areas within the Site that, because of that development, are likely to have become archaeologically sterile. All maps and documents consulted in the preparation of this document are listed in References below.

3.3.3 The following archives, libraries and sources were consulted to obtain the relevant material:

- The National Archives, Kew.
- Dorset History Centre
- Dorset HER records
- Records held digitally by HMP The Verne
- Wessex Archaeology's own library
- Digital/online searches

3.4 Site Visit

3.4.1 The Site was visited on the 16th August 2012. A walkover survey was conducted within the non-secure areas of HMP The Verne in order to assess the general aspect, character, condition and setting of the Site. In addition, all areas of the monument affected by the proposed works were visited and inspected. Escorted access was obtained inside the secure area of the prison, in order to visually inspect the casements in the south-east corner of the monument.

3.4.2 The site visit was designed to obtain information to assist in the understanding of the historical development of the relevant elements of the monument, and to contribute to the assessment of their significance.

3.4.3 Weather conditions were fair and dry. A digital photographic record comprising internal and external digital photos of the visit is held in the project archive.

3.5 Chronology

3.5.1 Where mentioned in the text, the main archaeological periods are broadly defined by the following date ranges:

- Palaeolithic 650,000-9500BC
- Early Post-glacial 9500-8500BC
- Mesolithic 8500-4000BC
- Neolithic 4000-2200BC
- Bronze Age 2400-700BC
- Iron Age 700BC- AD43
- Romano-British AD43-410
- Saxon AD410-1066

- Medieval AD1066-1499
- Post-medieval 1500-1799
- 19th century 1800-1900
- Modern 1900-present
- Second World War 1939-1945

3.6 Best practice

- 3.6.1 This assessment has been carried out in accordance with the Institute for Archaeologists' *Standard and Guidance for desk-based assessment* (IfA 2008).

3.7 Assumptions and limitations

- 3.7.1 Data used to compile this report consists of secondary information derived from a variety of sources, only some of which have been directly examined for the purposes of this Study. The assumption is made that this data, as well as that derived from other secondary sources, is reasonably accurate.
- 3.7.2 The DHER is not a record of all surviving elements of the historic environment resource, but is a record of the discovery of a wide range of archaeological and historical components. The information held within it is not complete and does not preclude the subsequent discovery of further elements of the historic environment that are, at present, unknown.

3.8 Copyright

- 3.8.1 This report may contain material that is non-Wessex Archaeology copyright (e.g. Ordnance Survey, British Geological Survey, Crown Copyright), or the intellectual property of third parties, which we are able to provide for limited reproduction under the terms of our own copyright licences, but for which copyright itself is non-transferrable by Wessex Archaeology. You are reminded that you remain bound by the conditions of the Copyright, Designs and Patents Act 1988 with regard to multiple copying and electronic dissemination of the report.

4 BASELINE

4.1 Designated Heritage Assets

- 4.1.1 The Verne Citadel is designated as a Scheduled Monument (List Entry 1002411), and the protected area encompasses the wall, ditches, earthwork rampart, casements and high angle battery (**Figure 1**).
- 4.1.2 In addition to the Scheduled Monument, a number of the buildings within the Verne are Listed Buildings in their own right. These are detailed in **Appendix 1**, but include the Grade II* Listed North Entrance (List Entry 1206120), Grade II* south-west and south-east casements (List Entry 1203117) and Grade II railings to the north of the north entrance (List Entry 1206113).
- 4.1.3 The Verne Citadel lies just over 300m to the east of Underhill Conservation Area.

4.2 Previous Studies

- 4.2.1 There have been few previous archaeological investigations within and in the vicinity of the Verne Citadel. Many of the isolated finds of artefacts from the vicinity of the fortress were recovered during 18th and 19th century quarrying.
- 4.2.2 A desk-based assessment was carried out by Wessex Archaeology in 1998 (**EV02**) in order to assess the heritage resource of the Verne Citadel in advance of construction of security fencing and other works within the fortress (Wessex Archaeology 1998).
- 4.2.3 Two watching briefs are known to have been carried out in recent years within The Verne (**Figure 1**). In 2001, Wessex Archaeology monitored groundworks within the north of the fortress (**EV03**). Works comprised installation of concrete pads at the Direction Ranging Direction Finding site on a former gun emplacement on the western walls, and the excavation of cable trenches serving the Watchman Radar site in the northern walls of the site (Wessex Archaeology 2001).
- 4.2.4 In 2010 Arrowhead Archaeology monitored topsoil stripping related to the installation of a radio mast in the north of the Site (**EV01**; Arrowhead Archaeology 2010).

4.3 Isle of Portland

- 4.3.1 Although relatively little intrusive archaeological work has been undertaken in the vicinity of the Verne, there is evidence to indicate occupation and ritual activity on Portland from the prehistoric to the medieval period. Late Iron Age and Romano-British cemeteries have been identified at the Site of The Verne, and a large enclosure of probable Iron Age date was present on Verne Common prior to the construction of the Citadel (Wessex Archaeology 1998). Earlier occupation is also indicated by finds of Palaeolithic flint artefacts, and Pleistocene faunal remains have been recovered from fissures within the limestone. Much of this evidence derives from 19th century quarrying activity, and as such often lacks spatial and contextual detail (*ibid.*).
- 4.3.2 Until the mid-19th century, the site of the Verne Citadel was common grazing land known as Verne Common. The land south of the Verne had already been quarried extensively by the time of the Tithe Map in 1841 (not reproduced here), and quarrying here had begun by the 18th century. The settlements of Fortuneswell and Chiswell, located immediately west of the Verne, are thought to have originated in the medieval period, although neither is documented in the *Domesday* survey (Williams and Martin 1994).

4.4 The Verne Citadel

- 4.4.1 In 1846 the Government acquired the site of Verne Common and its surroundings, in response to the perceived threat of invasion from Napoleon III. The fortress was to serve as protection for Portland harbour. Following construction of a breakwater in the harbour, work began on the Verne Citadel in 1860 and was complete by 1881. The fortress was designed by Captain W. Crossman of the Royal Engineers, and much of the initial construction work was undertaken by prisoners.

- 4.4.2 The Verne Citadel comprised massive ramparts encircling the summit of Verne Hill, with a large external ditch along the southern and western sides. There were entrances to the north and south, and sally ports in the west and south-east. The southern ramparts covered casemated barracks, whilst gun batteries were built on three sides (Wessex Archaeology 2001).
- 4.4.3 Following rapid changes in ammunitions technologies, involving adoption of larger bore guns, the fortress was rearmed in the 1890s. However despite this, the Verne Citadel had become militarily obsolete by the end of the 1900s, due in large part to the advent of explosive shells, and by 1906 had been largely disarmed.
- 4.4.4 During both World Wars, the fortress was put to use as the Headquarters of the Coast Artillery. A number of modifications and alterations to the defences and artillery emplacements are thought to date to this period. In 1941, the Coast Defence Tactical Radar Set was also set up at The Verne (Wessex Archaeology 1998). The Citadel also sustained damage as a result of air raids during World War II.
- 4.4.5 In 1949 the Verne Citadel was handed into the ownership of the Prison Commission, and became HMP The Verne. Since this time, a substantial number of internal changes have been undertaken within the prison, including the removal of many of the original buildings, changes to its layout and construction of modern accommodation blocks.
- 4.4.6 It is understood that The Verne fortress has not been the subject of a full military history or architectural study. However the fortress is an impressive and well-preserved example of mid-19th century military architecture, as reflected by its status as a Scheduled Monument.

4.5 Historical Development and map regression

- 4.5.1 Historic mapping, obtained predominantly from the National Archives at Kew, have been studied and where pertinent reproduced, in order to trace the development of those elements of the Verne Citadel which will be affected by the Proposed Scheme.
- 4.5.2 The historic mapping presents some issues in that there are some clear discrepancies between the various maps in terms of the level of detail and scale, as well as different conventions for depicting masonry and boundary features, bare rock, etc. As such, in some cases it is not clear whether the same wall or boundary is portrayed in maps of different dates.
- 4.5.3 As discussed above, earlier historic maps and plans of the area, including a Plan of Portland dating to 1710, and the Portland Parish Tithe Map of 1841 (not reproduced here), show that prior to the construction of the Verne Citadel, this area of Portland was occupied by Verne Common.
- 4.5.4 The earliest available map of The Verne Citadel dates to 1868 (**Plate 1**). This map shows the Citadel fully developed with external defensive ditches to the south-west, west and north. Along the north side of the south ramparts of the Citadel the casemated accommodation for both Officers and men is depicted. Other features of note at this time are the west gun batteries, main magazine and expense magazines. To the east, and outside the main

Citadel is battery number 2 with its own magazines. The north entrance road is shown and described on the plan as the 'main entrance'. The north end of the main entrance road is depicted in a somewhat unusual manner, seemingly running over the north access road (8), over the top of the north rampart (7) and across the north ditch, rather than showing a tunnel. It must be assumed that this discrepancy relates to differing map conventions rather than implying that the tunnel was not covered at this stage.

- 4.5.5 The main entrance road enters the Citadel from the north-west corner via a cutting in the bedrock shown as dark green borders along its length. The road continues south in a virtually straight line to the north side of the casemated accommodation. The Officer's Accommodation has been completed at this time and there are a series of water tanks built within the casemates to catch rainwater.
- 4.5.6 A faint pencil drawing, possibly a design drawing, dated 1869 shows the main entrance complete with Royal coat of arms on the pediment. It also shows a cross section through the arch (**Plates 2-3**). It implies that the entrance portal, with its stone surround, flanking walls with rifle loop holes and heavy attic course above, was largely built as per this design. One anomaly remains however, as the pencil drawing appears to show a hipped roof above the pediment. It is depicted in several views and may have been an original design feature that was never carried out. A Royal Engineers Corps photograph of the recently completed Citadel indicates conclusively that in 1877 there was no roof above the entrance (**Plate 6**).
- 4.5.7 A plan of The Verne Citadel dated 1874 shows the key areas in detail and provides an accurate depiction of the Citadel at this time (**Plate 4**). The main tunnel entrance complete with a plan of the portcullis chamber and access routes is shown, as are the gun emplacements for two 12.5 inch Rifled Muzzle Loading (RML) guns..
- 4.5.8 The plan depicts the main entrance road as exiting the south end of the access tunnel along what appear to be steep rock-cut faces to both sides of the road, rather than the existing stone revetment walls. The plan also indicates that the area above the east side of the road was partly built from coursed stone, as well as a triangular area immediately south of the tunnel entrance on the same side (**Plate 4**). This seems to suggest that at least part of the revetting walls of the main entrance road was stone faced in the 1870s.
- 4.5.9 At the south end of the entrance road as marked on the plan is a series of buildings including, on the west side, a gymnasium and fives court, and on the east side, a Quarter Masters store and Warrant Officers house.
- 4.5.10 A series of photographs dated 1877 show the north entrance and interior of the Citadel. The first photograph (**Plate 5**), although slightly grainy and shot from the southern end of the fortress interior, shows the entrance road from the south. It shows the rock-cut faces to each side of the road beyond a set of buildings at the south end of the road. The east side appears to have a shallower angle than the west side towards its top. This area may possibly be faced in stone as depicted on the plan. In the foreground the photograph

shows the gymnasium, fives court, Warrant Officers quarters with the Quarter Masters quarters beyond.

- 4.5.11 A second photograph (**Plate 6**) shows the front or north side of the main entrance portal. Taken from the west side of the access road, it shows the north ditch with the area in front of the main entrance infilled to maintain the road level through the tunnel. The flanking walls of the tunnel entrance are shown as is the rectangular pediment and its flat roof. This photograph does not show the hipped roof which, was depicted in the pencil design drawing of 1868. This strongly suggests that the hipped roof was never built.
- 4.5.12 The third photograph (**Plate 7**) is a view along the north rampart above the tunnel. This photograph shows the north ditch with a low parapet wall running along the top of the inner wall with pathway along the inside. The north rampart is shown as a raised bank with a flat top with a narrow stone lined cut-through leading south through the rampart into the interior. On the far right side of the photograph is a flat area of ground in front of the magazine. This area is thought to be where the present service road (**8**) is located, however no trace of a cobbled or metalled road surface could be identified within the photograph. This suggests the 'road' seems to have been an informal grassed track at this point in time.
- 4.5.13 A service plan of Verne Citadel dated 1879 shows various services including gas, water supply and surface gratings (**Plate 8**). Unfortunately, neither the main entrance nor the revetting walls of the entrance road are shown in any detail. This plan does, however, show that the inside area of the Citadel continued to be developed with new buildings built to the north-east corner and along the south.
- 4.5.14 A plan of the Citadel produced in 1886 and entitled 'Verne Citadel, Portland defences' shows little change to the earlier plans (**Plate 9**). The main entrance road to the south of the north entrance tunnel is clearly shown with rock-cut faces to the east and west walls.
- 4.5.15 The top of the east wall is marked by a single, solid line which appears to very closely follow the course of the current masonry wall (**1**). However, it is not clear from the plan whether this line depicted on the plan represents the a wall or, more likely, an earlier fence or railings.
- 4.5.16 The top of the west wall has a service road running directly along the top edge. It is assumed the iron railings presently located on the top of the west wall were in place at this time. Other notable features on this plan include the installation of 'Range Finder Stations' (R.F.S.) between the number 1 (**5**) and number 2 (**6**) 12.5 inch gun emplacements. These consist of a set of steps set into the rampart which lead to a small circular enclosure with central concrete pillar. Another R.F.S. is shown cut into the north rampart and close to the 'cut' through' opposite the expense magazine. The plan also shows the levels of the 'racer rings' within the gun emplacements. The racer rings are arcing tracks that allow the gun carriage to be traversed through 180 degrees. The plan refers to the guns as M.L.R's, meaning 'Muzzle Loading Rifled'.

- 4.5.17 At the start of the 20th century there were significant changes to the main entrance road. A plan entitled 'Verne Barracks Portland' dated 1909 appears to be a service plan, but clearly shows that some re-development has taken place (**Plate 10**). A new guard house has been constructed on the east side of the south tunnel entrance. This entailed excavation of the natural stone face to form a square recess in the east wall. The guard house is shown as rectangular in plan with a single ground floor room heated at the north end by a fireplace. Access into the guard house is via a flight of steps on the west side with a single central doorway flanked by two windows. What appears to be a latrine has been built against the base of the newly cut rock-face to the rear or east side of the guard house.
- 4.5.18 The map also shows that by this date both the east and west faces of the main entrance walls within the Citadel had been faced with coursed stone facing. This stone facing covers the entire east face including around the sides and rear of the guard house. It is likely therefore, that all this work was carried out at the same time. These stone faced revetting walls are likely to represent the stone facing which survives within the Site today.
- 4.5.19 The top of the east wall is marked by a boundary line likely to be the iron railings seen today. There is no indication of the smaller 'dry-stone' wall at this time.
- 4.5.20 Other significant features shown on this plan are a small set of steps over the north rampart and above the entrance tunnel. The two 12.5 inch gun emplacements are shown as having no internal detail so it is assumed that by this date the guns had been removed and the gun pit complete with racer rings had been covered in the concrete observed during the site visit.
- 4.5.21 Ordnance Survey maps were consulted for the Isle of Portland, but, due to the sensitivity of the site, any internal detail is not shown within the Citadel until 1963. The scale of these maps is so small that any significant changes to features cannot be readily identified.
- 4.5.22 An oblique military aerial photograph taken in 1950 (**Plate 11**) clearly shows that masonry wall (1) is present by this date. Earlier vertical aerial photographs from 1945 (not reproduced) do show a boundary which follows the exact line of the wall, and it is considered that this probably represents wall (1). However the nature of this boundary cannot be ascertained from these photographs due to the scale and angle at which they were taken. Subsequent aerial photographs dated between 1950 and 2006 provide a record of the changes within the Citadel during its years as HMP The Verne, including demolition of some original structures such as the Quartermasters Quarters in the location of the modern staff carpark, and more substantial changes within the south of the site, including the construction of extensive prisoner accommodation blocks during the 1960s.

5 BUILDING ASSESSMENT

- 5.1.1 A walkover survey was undertaken across the Site, involving a feature by feature assessment with consideration of existing historic fabric against proposed changes. This included taking internal and external digital photos of built structures and using plans supplied by the Client for comparison.

5.1.2 Elements of the Verne Citadel which may be affected by the proposed works has been assigned a number for ease of identification and discussion (**Figure 2a**). The location of the south-east casemates can be seen on **Figure 1**.

5.2 Descriptions and Previous Impacts

5.2.1 Since its construction in the mid-18th century, The Verne Citadel has undergone many phases of alteration, renovation, repair and new builds, as the requirements of the fortress evolved. The aim of this Study is to identify, where possible, such previous works, in order to inform the discussion of the significance of various elements of the Scheduled Monument as it exists today.

Masonry wall above east embankment

5.2.2 This feature comprises a low wall (**1**) which extends along the top of the eastern stone revetment wall and along the west side of the present staff car park (**Figure 2**). Its west edge is stepped back slightly from the top of the east embankment wall but runs approximately parallel to it (**Plate 12**). The west face of the wall slopes slightly to the east and, although partly covered along most of its northern half by protective netting with various plants that have taken root within the jointing voids, the construction style and material was visible at the southern end.

5.2.3 The walling stands approximately 1m high with an exposed west face, while the east side is covered in a soil surface forming an embankment. This embankment is covered in plants, including brambles, level with the top of the wall. Along the top of the soil embankment are two parallel lines of fencing, spaced less than 1m apart from each other. The western fence comprises iron railings in-filled with modern chain link fencing, whilst the eastern fence, which marks the western boundary of the staff car park, is of entirely modern construction, consisting of concrete posts and chain link fencing (**Plate 13**). The level of the staff car park is lower than the top of the wall and the fences.

5.2.4 The wall itself is effectively of dry stone construction with no visible bonding mortar. It has been built of predominantly random coursed rubble limestone blocks of varying sizes. Some of the blocks are squared or rectangular but many are small, broken, un-worked fragments (**Plate 14**). Occasional flint nodules and bricks have also been used in its construction but these are very rare.

5.2.5 Since its construction in the period between 1909 and 1945, there is no record of any alteration and repair to this structure.

Revetment walls

5.2.6 The east revetment wall (**2**) consists of large limestone blocks laid in broken courses. Along the north end of the top of this wall are limestone bull-nosed copings (**Plate 15**). These features appear to have once extended along the length of the wall but have now mostly been removed along its length. This has left the top of the east revetment wall slightly stepped and the top edge with a degraded appearance.

- 5.2.7 The west revetment wall (3) is of very similar construction, however no evidence of copings on the top of the wall was observed.
- 5.2.8 The southern revetment wall (4) is potentially of more recent construction than the main east and west revetment walls. Prior to the existing staff car park layout, there appears to have been a more informal car parking area in the same location, with the northern limit defined by earthen banks only. Architect's plans dating to 1975 and 1978 (not reproduced here) indicate that these works do not appear to have had substantial impact on the embankment and dry stone wall (1). There is, however, an indication that repairs and alterations were planned to the south revetment wall (4), and a 1975 plan states instructions for "new retaining wall in stone from existing and made good behind to match" (HMP The Verne Drawing Number PD.67.G.19; not reproduced here).
- Area of land above tunnel**
- 5.2.9 This area, located directly above the tunnel entrance into The Verne comprises gun emplacements (5 and 6), a tarmac access road (8), earthen embankments related to defensive earthworks along the north side of the Citadel (7; **Plate 16**), and an area of waste ground immediately above the tunnel.
- 5.2.10 To the north-west of the tunnel is a 19th century gun emplacement (5), part of a series of batteries along the west side of the Citadel (**Plate 17**) which housed 12.5 inch R.M.L guns. Along the north edge of the area is a raised embankment (7), part of the earthen defence system.
- 5.2.11 The tarmac access road (8) has concrete kerb stones forming an edge. No traces of earlier surfaces are visible. Beyond this, to the north-west, is the eastern extent of the concrete apron of the north-west gun emplacement (**Plate 18**). The emplacement is well preserved with wrought iron davits *in situ*. Ammunition lockers are present within the arcing concrete 'barbette' front wall but these features lack their doors. The gun platform has been infilled with concrete so it is not known if any of the gun fixings such as racer rings are present beneath this layer. The gun emplacement presently has iron waste bins within its enclosure. It is possible that these features have been used to burn material recently.
- 5.2.12 Along the northern edge of the road are a series of street lamps, but these lie outside the area of the development proposals, although their cables may lie below ground surface and cross the impact area. The defensive embankment (7) along the north edge of the area stands to a height of approximately 1-1.5m (**Plate 19**) and is presently covered in long grass. The presence of man-hole covers along the south side base of the embankment suggests that there are services (as yet unknown purpose) running along this part of the Site.
- 5.2.13 Beyond the defensive embankment to the north the ground slopes down to a concrete post and chain link fence and, beyond, to the exposed top of the main gate. This is characterised by a flat rectangular area which is presently covered in pale red patio slabs (**Plate 20**). The Estates Manger has indicated that these were installed in c.1975 (Clive Otton, *pers. comm.*)

- 5.2.14 There is anecdotal evidence that over the years, the area above the tunnel on the south side of the tarmac road was used to dump masonry waste and rubble (HMP The Verne Estates Manager Clive Otton, *pers. comm.*). Several lorry loads of this debris were removed in recent years (*ibid.*) but there is still some waste material littering the ground surface, partially overgrown in places (**Plate 21**).
- 5.2.15 The ground immediately above the tunnel appears to have been subject to some disturbance, principally during the installation of earlier 'umbrella' structures to combat the problematic drainage of water from the top of the tunnel into the tunnel lining. An architect drawing entitled 'de-watering top of north-gate tunnel' dated 1977 shows that recent attempts were designed to alleviate water ingress into the tunnel (**Figure 3**). The drawing shows that the intention was to install a polythene sheet membrane and field drains over the north end of the tunnel. The drawing provides cross section drawings showing the depth and coverage of this membrane.
- 5.2.16 Crucially, the drawing implies that in order to accommodate the membrane and the drains, the north embankment, including the two sets of steps, would have needed to be removed and replaced when the work was complete. It is not possible to state with absolute certainty whether or not this work was carried out. However, a series of pipes are visible to the east of the main gate entrance which exit the north side of the north wall. It is therefore possible that one of these pipes may relate to this late 20th century repair. Moreover, the current Estates Manager for HMP The Verne has communicated (Clive Otton, *pers. comm.* 2012) that in c.1975, some works were indeed carried out to the top of the north tunnel, including laying of modern patio slabs on top of the entrance, presumably as a temporary measure in order to help reduce water leakage.
- 5.2.17 It is therefore possible that an area of the embankments immediately above the tunnel (**Figure 2b**) is no longer entirely *in situ*, having likely been partially removed and reinstated. A watching brief undertaken in 2001 observed the excavation of cable trenches through an area of the northern embankments to the east of the main entrance (**Figure 2b**). The watching brief recorded a 1.8m deep section through this area of the rampart. Below topsoil, the rampart was observed to comprise of loosely packed Portland stone (Wessex Archaeology 2001). It is assumed that the embankment immediately above the north entrance would have been of similar construction prior to any drainage and repair works.

Tunnel

- 5.2.18 At the time of the site visit the tunnel roof lining was *in situ* (**9**). It consisted of pre-fabricated corrugated interlocking sheeting (**Plate 26**). This sheeting only covers the intrados of the tunnel and at the base of both sides of the sheeting is a gutter to catch water. The gutter is supported on metal brackets which have been fixed directly into the wall fabric. The tunnel walls are exposed and it is clear that water ingress is having a detrimental effect on the stone walls. The walls are constructed from squared limestone blocks of varying sizes and laid in broken courses. Many areas of stone walling have spalled away and patching repairs have been undertaken in a variety of materials and styles (**Plate 27**). This includes both lime and cement mortar resulting in a poor finish quality. The opposing accesses to the

portcullis chamber have either, in the case of the west entrance, been blocked with cement blocks, or reduced in height, as in the case of the east entrance. The original iron-gate to the east entrance has been removed and placed against an internal wall (**Plate 28**).

- 5.2.19 A number of works have been carried out in order to repair the tunnel, and specifically in recent years in order to combat the problem of water infiltration, which the proposed Scheme will attempt to deal with comprehensively. Repairs were carried out to the tunnel between c.1975-1978, with plans indicating the approximate location and nature of works. This included re-facing and re-pointing of the intrados and linings of the tunnel, as well as re-facing work on the north entrance (HMP The Verne 1976, not reproduced here)
- 5.2.20 Additional repair works were undertaken in c.1986, during which the current sheet steel lining was fitted throughout much of the length of the tunnel, in order to avoid hazards to motorists, due to falling icicles resulting from the water infiltration (Estates Manager, *pers. comm.*).

North Entrance

- 5.2.21 The main north entrance to The Verne (**10**) remains largely as built. The listing very adequately describes the entrance design. It is constructed from Portland ashlar with bold elliptical moulded arch set between broad plain abutments with plinth and small recessed gun slits (**Plate 29**). This is under *heavy attic course of roll-moulding; which return each side to main retaining and abutment walls of the Citadel*. Above the crown of the arch is a high relief carved Royal Arms. Inner order of moulded arch on responds and with pair of iron gates and side railings opens to barrel-vaulted section with three cross ribs, then lower segmental moulded arch with square head and spandrels with VR 1870 (**Plate 30**) beneath four recessed vertical gun slits. This gives to long barrel-vaulted tunnel through which the road climbs to the inner arch which is semi-circular with heavily rusticated quoins and voussoirs set in rock-faced square stone under heavy roll-moulded parapet. From the east side a long flight of plain stone steps between ashlar walls to weathered copings descends to the roadway from the main Citadel level.

Portcullis and counter weight

- 5.2.22 These features are located within the portcullis room/chamber which is accessed via two side entrances from ground level in the north entrance (**10**). The portcullis itself (**11**) has been removed from its fittings, hauled up into the portcullis room/chamber and leant against the rear south wall (**Plate 22**). The counter balance weight is also present within the chamber and is located on the floor behind the portcullis (**Plate 23**).
- 5.2.23 The portcullis is constructed from wrought iron 'I' section framing held together by rivets and, in places, iron bolts. The whole structure is suffering from rust caused by salt spray over many years. The rear or south side, originally the interior side of the portcullis when it was *in situ*, is covered in iron plating to approximately half its height. Within this plating are a series of circular rifle loop holes. In the centre is a single door opening with three iron draw bolts.

- 5.2.24 The counter balance weight is contained within a rectangular metal box consisting of iron plates held in place at each corner by lengths of bolted angle iron (**Plate 23**). On the outside of the box and fixed into the floor surface are vertical iron railing supports. These are thought to be positioned to prevent anyone standing directly under the counter balance weight when it was in the raised position. The horizontal rails are now missing.
- 5.2.25 Along the sides of the box are opposing pairs of flat iron plates. Each pair is probably fixed together through the width of the box for added support. The top of the counter balance weight also appears to be an iron plate with two lengths of large chain passing through the upper iron plate and fixed into the body of the weight box. It is not known, at this stage, what the interior of the weight box contains, but it may be concrete. The two lengths of chain are fixed to a central iron ring which would have originally been fixed to a single length of vertical chain (now missing). This vertical chain would have passed up-and-over a pulley high up on the south wall of the chamber and then over the vaulted ceiling to the north. The pulley is no longer present but the frame survives (**Plate 24**). It then divided into two and passed over two pulleys fixed directly over the portcullis. The secondary pulleys or fixing frame are no longer present only the remains of the fixings for the frame can be seen within the masonry fabric. There is evidence of other fixings which relate to the raising of the portcullis in the vaulted ceiling but none remain in-situ.
- 5.2.26 The chamber floor and wall fabric have been the subject of both repair and re-pointing. The stone floor slabs around the portcullis slot have been either re-laid or replaced. Some of the slabs have been machine cut to maintain the portcullis slot (**Plate 25**). This suggests that some replacement of floor slabs has taken place. The jointing of the vaulted ceiling appears to have been re-pointed using cement based mortar (**Plate 24**).

Casemates

- 5.2.27 Repair work is proposed to the string course along the north side of the casemates to the south of the prison (**Figure 1**). The casemates themselves date to the mid-19th century and remain a fine example of their type. Original surviving features of these structures include rusticated stone quoins over the front arches, stone facing and internal brick vaulted ceilings complete with stone chimney stacks. There has been some internal alteration due to the fact that they are presently used as workshops which serve to assist in the rehabilitation of the prisoners.
- 5.2.28 The string course along this section of the casemates has been the subject of repair in the past. The Estate Manager (Clive Otton) has informed us that recently much of the repair work, particularly at the west end, was undertaken using reinforced concrete (**Plate 31**). Metal reinforcing bars can be seen extending from the east end of the previously 'repaired' section. Some of the original dressed stones that form the string course have already been cut-back in preparation for new, better matched, stones to be inserted. It is understood that the selection of a suitable replacement stone is underway before any further works are carried out. It is not known if the intention is to replace the entire section of reinforced concrete string. An attempt to 'distress' or alter the appearance of the concrete string has been made by the mason responsible by adding aggregate to the mix. From a distance, this effect appears good, but, concrete will age differently to the

original limestone and may prove damaging in the long term as the reinforcing bars corrode and spall the surface finish.

Hairpin

- 5.2.29 This section of roadside revetment wall is located on a hairpin bend on the approach road to the north main entrance (**12**). Most of the area in question lies just outside the limit of the Scheduled Monument. The wall is presently covered with protective netting to prevent stone from falling onto the road (**Plate 32**).

6 DISCUSSION

6.1 Significance of heritage assets

- 6.1.1 Significance is the principal criteria used to assess a heritage asset within planning policy. The NPPF defines significance as “*The value of a heritage asset to this and future generations because of its heritage interest*” (NPPF Annex 2). This interest may be archaeological, architectural, artistic or historic in nature. Furthermore, the NPPF states that “*Significance derives not only from a heritage asset’s physical presence, but also from its setting*” (ibid.).

Masonry wall above east embankment

- 6.1.2 This section of walling would appear, from map evidence and fabric study, not to be of original mid-19th century build, and thus not likely to be contemporary with the construction of the Verne Citadel. It probably post-dates the stone-facing of the east and west walls of the entrance road, which can be accurately dated on the basis of cartographic evidence (**Plate 10**) to just before 1909. However a single line depicted on maps of 1886 (**Plate 9**) and 1909 (**Plate 10**) indicates that a fence or railing in this location may have pre-dated the wall.
- 6.1.3 The precise construction date of the wall cannot be identified, but an oblique military aerial photograph taken in 1950 clearly shows that masonry wall (**1**) is present by this point in time. Earlier vertical aerial photographs from 1945 also show a boundary which probably represents this feature.
- 6.1.4 The wall does, however, reflect one of the many changes to the evolving landscaping and architecture of The Verne. Because of this, this feature may be considered of relatively low significance. It is possible that there are earlier architectural elements within or below the wall which may be of greater significance.

Revetment walls and hairpin

- 6.1.5 The east (**2**) and west (**3**) revetment walls which flank the entrance road south of the tunnel are substantial structures which are contemporary with the construction of the Citadel. Historic mapping indicates, however, that the current coursed stone facing were not constructed until just before 1909, and that the coping which survives in the northern part of the east wall (**2**) was also installed at a similar date. It seems that the guard house and its alcove were also constructed at a similar point in time. As such, the revetment walls represent both an integral element of the original fortress, and represent late 19th and early 20th century upgrades and improvements

at the Citadel, and as such can be seen to contribute to the significance of the monument.

Area of land above tunnel

- 6.1.6 The area above the tunnel entrance forms part of the original defensive system of The Verne Citadel. Much of this part of the site retains features and landscape relating to the earliest period of fortification. Some of the rampart at the very western end of the expense magazine has been damaged or removed by modern activity. The road surface is presently tarmac and has been edged with concrete kerbs. It is not known what surface may survive underneath the tarmac. If the intended work was carried out at the northern end of the tunnel covering in 1977 then it is likely that what survives today in this area has already been disturbed and re-instated. However, due to the proximity of an original gun emplacement and Range Finder Station, and the potential for buried surfaces relating to the service road this area retains a moderately high level of significance.

Tunnel

- 6.1.7 The present tunnel stone facing is in a poor condition. It has been subject to patchwork and piecemeal repairs over many years but still remains a significant feature of the Citadel. Its present appearance is poor and one of gradual erosion due to the water ingress. If this is arrested soon much can be saved and restored. Although the intrados of the tunnel could not be seen it is assumed that it is in a similar condition to the walls of the tunnel. Due to its importance as part of the main entrance into the 19th century Citadel, it retains a high level of significance.
- 6.1.8 The approach road through the outer ditch is another example of Victorian grand scale and approach to defensive system constructions. Although not considered part of the main Citadel and not located within the protected area of the Scheduled Monument, it still represents large scale engineering. Providing, as it always has, a primary route into the Citadel its stone facing provides the visitor with a first glance of the monumental architecture of war present at The Verne. This stark appearance of stone facing retains a high level of significance.

North Entrance

- 6.1.9 The main entrance portal has been demonstrated to retain most of its original 19th century design and features. It remains an imposing feature. Even though the road access is now controlled by traffic lights, the entrance still has the ability to impress. Much of the interior is still present and it remains a fine example of 19th century defensive architecture. It therefore retains a very high level of significance.

Portcullis and counter weight

- 6.1.10 These two features can be identified as iconic symbols of the original 19th century Citadel. Although they are in a relatively poor condition due to the effects of salt spray they remain important features. The counterweight is thought to be contemporary with the portcullis, and moreover it remains almost precisely *in situ*, within its barrier railings. Due to their unique status they retain a high level of significance and would benefit from appropriate restoration.

Casemates

- 6.1.11 The casemates are also very fine examples of their type. Monumental in both size and extent many of their original features survive including the front framing with glazing, chimneys and stone facing. They retain a very high level of significance.

7 IMPACT ASSESSMENT

- 7.1.1 The management and mitigation of change to heritage assets resulting from development is based on the recognition in Government planning objectives that *heritage assets are irreplaceable* (NPPF, para. 12.132). Impacts upon the historic environment and its associated heritage assets arise where changes are made to their physical environment by means of the loss and/or degradation of their physical fabric or setting, which in turn leads to a reduction in the significance of the historic environment record and its associated heritage assets.

7.2 Proposed Scheme

- 7.2.1 The proposed Scheme will entail a comprehensive series of repairs to the above areas. Key elements of the proposed works are as follows:

- **North entrance:** Restore stone crest above entrance; investigate and repair masonry cracking.
- **Portcullis:** Secure portcullis to wall of chamber at a secure angle; remove counterweight;
- **Tunnel lining:** Remove steel lining and power-wash masonry; install steel weep holes; new masonry facings to intrados and sides; new lime mortar pointing.
- **Land above tunnel:** Remove overburden from specified area (**Figure 2b**); install 'umbrella' structure; reinstate.
- **Masonry wall above east revetment:** Remove wall and reshape bank to east.
- **East, west and south revetment walls (4, 5 and 6), Hairpin works:** Soil investigations; drainage repairs; investigate, repair, repoint and reface where necessary.
- **Casemates:** Repair string course, repoint and reface where necessary.
- **Boreholes and geotechnical investigations:** To be carried out in various locations including above the tunnel, and in the staff car park.

- 7.2.2 Additional investigative and repair works may be implemented as required, following results of initial investigative works. Further details of restoration and repair strategies remain to be finalised.

7.3 Preliminary Statement of Impact

Direct

- 7.3.1 The majority of the proposed works relate to the repair and upkeep of masonry within the monument, including refacing and repointing of damaged stonework. As such it is considered that these works will generally support the conservation of the monument. However in all cases there is some risk of an adverse effect as a result of damage or removal of historic fabric, especially with regards to the risk of unskilled removal of modern/existing mortar and removal and replacement of damaged historic facings and stones.
- 7.3.2 The removal of masonry wall (1) will result in a total loss of significance to this heritage asset due to the removal of the entirety of its fabric. However, it is considered that the wall is unlikely to be contemporary with the construction of the Citadel, and it is considered on the basis of this, and of its somewhat makeshift 'dry stone' construction, to be of relatively low significance. Its removal is unlikely to result in a loss of significance to The Verne Scheduled Monument as a whole. The feature does retain some significance as a heritage asset in its own right however, albeit at a local level only, and the wall may contain or overlie earlier elements of boundary structures which may also suffer an adverse effect.
- 7.3.3 The proposed works to the land above the tunnel have the potential to cause a direct adverse impact to the historic fabric of several elements of the Scheduled Monument, principally:
- **Gun emplacement (5)** and associated features such as platforms and loading ramps;
 - **Access road (8)**;
 - **Parts of the northern embankments (7).**
- 7.3.4 The installation of the 'umbrella' structure is unlikely to cause adverse effects to the main concreted elements of gun emplacement (5), as the membrane is designed to lap to the edge of the concrete apron. However additional buried features to the east and north-east of the gun emplacement, depicted on contemporary plans (**Plate 4** and **Plate 9**), may be damaged or removed by the proposed works.
- 7.3.5 A section of the access road (8) measuring c. 40m in length will be removed and reinstated. Given that this road is thought to be contemporary with the construction of the Verne Citadel, there is the possibility that metalled or cobbled elements of the 19th century road surface may survive below the tarmac, and the proposed works would result in an adverse impact to this historic fabric. The section of the northern defensive embankment which lies within the footprint of the proposed 'umbrella' will be removed and reinstated. Were these earthworks to be *in situ*, this would constitute a substantial adverse impact to the original historic fabric of the defensive earthworks.
- 7.3.6 There is, however, evidence to suggest that this area of the monument has been subject to considerable previous disturbance, principally the removal and reinstatement of embankment and overburden in the northern part of

this area in the mid-1970s (**Figure 2b**). This would suggest that the impact of the proposed Scheme will be greatly reduced in the northern part of the footprint of the proposed 'umbrella' structure, as the earthworks and embankment are understood to have already been heavily disturbed. Land in the southern part of this area, including the access road (8), may have remained largely *in situ*, albeit subject to some disturbance from waste dumping and removal, and previous service installations.

- 7.3.7 The proposed works to the tunnel and north entrance are understood to be required on an urgent basis due to water ingress, to reduce the risk of escalating and ongoing damage to the structural integrity and masonry facings of the tunnel. The precise details of the proposed remedial works have yet to be finalised, however some of the proposals outlined may have the potential to cause an adverse effect to the historic fabric of the tunnel. In particular, the removal and replacement of cracked existing facings within the tunnel lining, intrados and portal would constitute an adverse effect in the form of removal of historic fabric, and if possible should be avoided. Creation of weep holes at the base of the tunnel will also result in the localised removal of historic fabric. Finally proposed repair works including power washing of masonry and re-pointing may also impact the historic fabric. The removal of the modern steel tunnel lining should be undertaken with care so as not to damage the masonry. However, the lining represents an unsympathetic recent repair in an unsuitable material, and its removal will therefore result in a positive impact by restoring the tunnel to its previous appearance.
- 7.3.8 The portcullis and counterweight which are currently housed above the entrance arch have been identified as contemporary with the construction of the fortress, and as such are highly significant. The stabilisation and anchoring of the portcullis, if carried out in an appropriate way, should improve the long-term survival of the feature. However proposals to remove and dismantle the counterweight would result in a substantial adverse impact, and should be avoided if at all possible. Removal or destruction of the counterweight could also be seen to result in an adverse effect to the significance of the portcullis, as together the two form a coherent, *in situ* structure located within their original setting within the chamber above the entrance.

Indirect

- 7.3.9 The construction phase of the proposed works may result in a temporary adverse effect to the setting of the Scheduled Monument and Listed buildings. However it is considered that the majority of the proposed works will result in no permanent adverse effect to the setting of the monument. The major visible change will be the removal of masonry wall (1) from the land above the east revetment wall. It is considered that this wall is likely to post-date the re-facing of the revetment wall, which was carried out prior to 1909. As such the dry-stone wall does not make a meaningful contribution to the character and significance of the revetment walls and entrance road, and its removal is unlikely to adversely affect the setting of this impressive military architecture.

7.4 Potential buried heritage assets

- 7.4.1 Previous desk-based study (Wessex Archaeology 1998), in conjunction with the recorded heritage resource of the Verne and its immediate surroundings indicates that the area now occupied by the Verne Citadel was originally an area of significant prehistoric, Roman and Saxon activity.
- 7.4.2 However it is considered that, due to the nature of the proposed Scheme, in conjunction with the impact of the construction of the Verne Citadel on these earlier heritage assets, the Scheme is unlikely to result in an adverse effect to any buried heritage assets which may survive within The Verne. The significance of any buried heritage assets (where present) cannot be assessed on the basis of the available information.

8 CONCLUSIONS

- 8.1.1 The Study has identified that the proposed Scheme has the potential to result in adverse impacts to the historic fabric of elements of the Scheduled Monument The Verne. In particular, repair works to the lining and entrance of the tunnel may entail localised removal and replacement of failing or damaged historic fabric. Removal of the original portcullis counterweight, identified as a highly significant historic feature which remains in its original setting, would also result in a substantial adverse effect. Removal of the modern steel lining from the tunnel would be seen as a sympathetic restoration. Proposed installation of an 'umbrella' structure above the tunnel might result in adverse impacts to original features in this area including a gun emplacement, access road and northern defensive embankment. However there is evidence that the northern half of this area was probably excavated and reinstated in the mid-1970s, indicating the earthworks in this area may not be original.
- 8.1.2 The masonry wall above the east revetment is understood to have been constructed between 1909 and 1945, and almost certainly postdates the refacing of the revetment walls, which was undertaken prior to 1909. It has not, however been possible to pinpoint the precise date of construction of this feature. This is due in part to its proximity to the east revetment wall (2), meaning in many cases the smaller feature cannot be reliably differentiated from this main wall. The wall is not considered to make a meaningful contribution to the significance of the Scheduled Monument, and it is considered that its proposed removal would not preclude the implementation of the proposed Scheme.

8.2 Recommendations

- 8.2.1 On the basis of the above findings, it is suggested that further work may be required by English Heritage and/or the Planning Officer for Dorset County Council in advance of and during the proposed works.
- 8.2.2 A key recommendation is that the proposed repair works to masonry, in particular within the tunnel and north entrance, and to the revetment walls, be designed in consultation with a suitably qualified and experienced conservation architect and/or conservation engineer. Many of the proposed repairs seem to entail potential removal of historic fabric, and it is recommended that design solutions be sought which could avoid or minimise the scope of replacement, where possible. Alternative solutions to the removal of cracked and damaged facings and blocks would be greatly

preferable. In addition, design methodologies should emphasise the careful and skilled removal of modern features such as the existing steel tunnel lining and cementitious mortar, in order to avoid damage to surrounding historic fabric.

- 8.2.3 It is recommended that following removal of the sheet steel lining to the tunnel, the tunnel lining should be subject to recording, prior to the removal of any damaged stones or historic fabric.
- 8.2.4 It is recommended that further recording work could be undertaken in relation to the masonry wall (1) prior to its removal. It is considered that a full digital photographic survey might be proportionate to the significance of the heritage asset in this case.
- 8.2.5 The portcullis has been identified as a highly significant heritage asset relating to the original fortress defences, which contributes to the significance of both the Grade II* Listed North Entrance, and to the Scheduled Monument as a whole. It is considered that the feature could potentially benefit from conservation *in situ* order to combat the substantial rust damage observed. Additional investigative works may be required in relation to the portcullis counterweight, however it is strongly recommended that an alternative be sought to the proposed removal and demolition of the feature. A design solution which fixes and preserves both these features in their original and current position as far as is practicable and possible should be sought. A conservation architect could also be consulted in this regard.
- 8.2.6 It is suggested that an archaeological watching brief should be maintained during excavation of boreholes and trial holes excavated within the Verne, in particular in the area of land above the tunnel and north entrance. The results of these investigations may shed additional light on the soil sequence and degree of previous disturbance within the different areas of the monument.
- 8.2.7 It is considered likely that much of the land above the tunnel has been removed and reinstated during previous drainage works. However there remains a high potential for *in situ* elements of the original embankments and access road to survive, especially in the south of this area (**Figure 2b**). It is therefore recommended that the removal of overburden across this area prior to the installation of the 'umbrella' structure be subject to an archaeological watching brief or a controlled topsoil strip.
- 8.2.8 Finally, many of the proposals are still at the design stage with some key details yet to be finalised, and it is considered that the full impact of the Scheme on the significance of the Verne Citadel can in some cases not be fully assessed at this stage. It is therefore considered that, once the proposals have been finalised, possibly following initial investigative and geotechnical works and consultations with a conservation architect, a final impact assessment should be carried out, taking into account the precise impacts of the proposed works on the designated heritage assets.
- 8.2.9 The need for, scope and timing, of any further archaeological works should be agreed in consultation with English Heritage. Any works within the Scheduled Monument will require Scheduled Monument Consent.

9 REFERENCES***Bibliography***

Arrowhead Archaeology 2010. *Archive Report, Archaeological Watching Brief: Temporary Airwave Mast, The Verne Citadel, Portland, Dorset*. Unpublished client report ref: AA124

Wessex Archaeology 1998. *The Verne Citadel, Portland, Dorset: Archaeological Desk-Based Assessment*. Unpublished client report ref: 45222

Wessex Archaeology 2001. *The Verne Citadel, Portland, Dorset: Report on an Archaeological Watching Brief*. Unpublished client report ref: 49354

Historic Environment Records

Dorset Historic Environment Record (DHER)

Cartographic Sources

A Plan of the Isle of Portland and Parts Adjacent: 1710 (DHC Ref: M78/8)

Portland Parish Tithe Map: 1841 (DHC Ref: T/PTD)

Ordnance Survey map of the Isle of Portland, 1868 (WO 78/531)

Verne Citadel, Design for Main Entrance pencil sketch, 1869 (NA Ref: WO 78/2332)

Portland, Verne Hill, 1874 (WO 78/2721)

Plan of Verne Citadel, 1879 (NA Ref: WO 78/669)

Verne Citadel, Portland Defences, 1886 (NA Ref: WO 78/4060)

Verne Barracks, Portland, 1909 (WO 78/3610)

HMP The Verne; Drawing of entrance to tunnel from ground level to top of main arch, 1976 (not reproduced)

HMP The Verne; Drawing of De- Watering of North Gate tunnel, 1977

HMP The Verne; Drawing of new access road to car park, 1970s (not reproduced)

Aerial Photographs

See **Appendix 2**

Online resources

<http://www.magic.gov.uk>

<http://lbonline.english-heritage.org.uk/>

<http://pastscape.english-heritage.org.uk/>

APPENDIX 1: GAZETTEER OF INFORMATION SUMMARISED FROM THE DORSET HISTORIC ENVIRONMENT RECORD

Events

EV NO	DHER REF	TYPE	NAME	EASTING	NORTHING
EV01	EWX2120	Watching Brief	The Verne Citadel, Portland	369240	73600
EV02	EWX2255	Desk-based Assessment:	Desk-based Assessment: Verne Citadel, Portland, Dorset. Archaeological Desk-Based Assessment	369194	74063
EV03	-	Watching Brief	Arrowhead Archaeology, Watching Brief	0	0

Monuments

WA NO	DHER REF	PERIOD	TYPE	NAME	EASTING	NORTHING
WA01	MDO6578	Upper Palaeolithic	FINDSPOT	Upper Palaeolithic Artefacts from Portland, near the Verne	369300	73900
WA02	MWX378	Prehistoric	EARTHWORK	Earthwork on The Verne, Portland	369008	73521
WA03	MWX379	Prehistoric	FINDSPOT	Portland: Prehistoric and later artefacts	369300	73600
WA04	MDO6530	Early Iron Age to Roman	OVAL ENCLOSURE	Oval enclosure on the Verne, Portland.	368980	73540
WA05	MDO6539	Early Iron Age to Roman	CIST, BURIAL	Three burials on the SE Glacis, Verne Hill, Portland.	369500	73400
WA06	MWX3519	Early Iron Age to Roman	FINDSPOT	Verne, Portland: Late Iron Age/Roman finds	369125	73588
WA07	MDO6531	Roman	INHUMATION CEMETERY	Inhumations found during the construction of Verne Fort , Portland.	368980	73540
WA08	MDO6540	Roman	CIST, INHUMATION	Two burials found on the Verne, 1933, Portland	369480	73360
WA09	MWX3514	Roman	FINDSPOT	Portland: Dishes and a Jar from the SE Glacis of the Verne	369510	73410
WA10	MDO1958 2	Post Medieval	RAILWAY INCLINED PLANE	East Verne incline, Portland	369347	73358
WA11	MDO6577	Post Medieval	FORT	Verne Citadel	369300	73600
WA12	MDO1973 2	Post Medieval	MINERAL RAILWAY	Verne Construction Railway, Portland	369731	73334

WA13	MDO1973 5	Post Medieval	CISTERN	Verne cistern, Portland	369067	73448
WA14	MDO1958 1	Post Medieval to Unknown	RAILWAY INCLINED PLANE	New Ground (Verne Yeates) incline, Portland	369245	73289
WA15	MDO1947 7	Post Medieval to Modern	LIMESTONE QUARRY	Waycroft Quarries, Portland	369444	73032
WA16	MDO1948 1	Post Medieval to Modern	LIMESTONE QUARRY	King Barrow Quarries, Portland	369087	72955
WA17	MDO1948 7	Post Medieval to Modern	LIMESTONE QUARRY	Admiralty Quarries, Portland	369655	73101
WA18	MDO1958 0	Post Medieval to Modern	MINERAL RAILWAY	Portland Railway Upper Branch, Portland	369120	73295
WA19	MWX67	Post Medieval to Modern	MINERAL RAILWAY	The Portland Railway, Portland	368882	73676
WA20	MDO1958 3	Post Medieval to Unknown	RAILWAY BRIDGE	New Ground bridge 1, Portland	369237	73300
WA21	MDO1958 4	Post Medieval to Unknown	ROAD BRIDGE	New Ground bridge 2, Portland	369260	73265
WA22	MDO1958 5	Post Medieval to Unknown	ROAD BRIDGE	New Ground bridge 3, Portland	369224	73246
WA23	MDO1958 6	Post Medieval to Unknown	ROAD BRIDGE	New Ground bridge 4, Portland	369223	73326
WA24	MDO1960 2	Post Medieval to Unknown	MILESTONE	Portland (Merchant's) Railway milestone, Tillycombe, Portland	369215	73388
WA25	MDO1960 4	Post Medieval to Unknown	TROUGH	Tillycombe water trough, Portland	369148	73413
WA26	MWX4250	Post Medieval to Unknown	SIGNAL STATION	Portland: Signal Station	369219	73912
WA27	MWX4379	Post Medieval to Unknown	DRILL HALL	Portland: Drill ground	369553	73258
WA28	MDO1948 2	Post Medieval to Modern	MINERAL RAILWAY	Mineral Railways, King Barrow Quarries, Portland	369261	73121
WA29	MDO1958	Post Medieval to Modern	MINERAL RAILWAY	Portland Railway Upper Branch, Portland	369120	73295

	0					
WA30	MWX67	Post Medieval to Modern	MINERAL RAILWAY	The Portland Railway, Portland	368882	73676
WA31	MWX67	Post Medieval to Modern	MINERAL RAILWAY	The Portland Railway, Portland	368882	73676
WA32	MDO1966 7	Modern to Unknown	ANTI AIRCRAFT BATTERY	Waycroft anti aircraft battery, Portland	369318	73084
WA33	MWX1381	Modern	COASTAL BATTERY	Verne Citadel: Coastal Battery	369300	73700
WA34	MWX1401	Modern	PILLBOX	Pillbox at East Weares Camp, Portland	369650	73530
WA35	MWX1402	Modern	PILLBOX	Pillbox at East Weares Camp, Portland	369750	73530
WA36	MDO6538	Unknown	CIST	The Verne: Four cists found during construction of The Verne Fortress	368980	73540
WA37	MDO6541	Unknown	SOUTERRAIN	A possible beehive chamber at the SE Demi-bastion, the Verne, Portland	369500	73500
WA38	MDO6542	Unknown	MIDDEN	Shell midden below SW Glacis of the Verne, Portland	369100	73400
WA39	MWX3511	Unknown	CIST, BURIAL	Portland: Cist at the top of Verne Hill	369088	73673

Listed Buildings

List Entry	Name	Grade	Easting	Northing
1203102	BRIDGE AT SY 6926 7326	II	369262	73266
1203116	THE CITADEL, SOUTH ENTRANCE	II*	369333	73418
1203117	THE CITADEL, SOUTH WEST AND SOUTH EAST CASEMATES	II*	369238	73547
1203118	OFFICER'S BLOCK B	II	369420	73560
1203122	BRIDGE AT SY 6923 7324	II	369226	73248
1205878	BRIDGE AT SY 6924 7330	II	369240	73303
1206113	RAILINGS AT APPROACH TO THE CITADEL NORTH ENTRANCE	II	369029	73888
1206120	THE CITADEL, NORTH ENTRANCE	II*	369062	73874
1206151	RECEPTION CENTRE	II	369190	73671

1206263	CISTERN ON SLOPES OF THE VERNE AT NGR SY 6907 7344	II	369069	73424
1206274	BRIDGE AT SY 6923 7333	II	369225	73328
1280366	BLACKSMITH'S SHOP	II	369480	73550
1280372	CHAPEL	II	369396	73604
1280377	GYMNASIUM	II	369106	73671
1281832	GOVERNOR'S HOUSE	II	369241	73603
1281857	THE CITADEL, DISUSED BATTERY APPROXIMATELY 150 METRES SOUTH EAST SOUTH OF SOUTH ENTRANCE	II	369438	73259

APPENDIX 2: INDEX OF AERIAL PHOTOGRAPHS VIEWED AT THE NMR, SWINDON
Vertical Air Photographs

Sortie number	Library number	Frame number	Centre point	Run	Date	Sortie quality	Scale 1:	Film details (in inches)	Film held by
RAF/CPE/UK/1821	501	1408	SY 695 737	10	04 NOV 1946	A	10000	Black and White 8.25 x 7.5	NMR
RAF/CPE/UK/1821	501	1409	SY 689 735	10	04 NOV 1946	A	10000	Black and White 8.25 x 7.5	NMR
RAF/540/457	1153	3070	SY 691 737	7	17 APR 1951	A	10000	Black and White 8.25 x 7.5	NMR
RAF/540/457	1153	4062	SY 689 741	16	17 APR 1951	A	10000	Black and White 8.25 x 7.5	NMR
RAF/543/1392	2133	10	SY 689 747	6	03 AUG 1961	AB	10000	Black and White 8.25 x 7.5	NMR
RAF/543/1392	2133	22	SY 692 728	7	03 AUG 1961	AB	10000	Black and White 8.25 x 7.5	NMR
RAF/543/2334	2172	9	SY 694 729	1	29 JUL 1963	AB	14000	Black and White 8.25 x 7.5	NMR
RAF/543/2334	2172	10	SY 688 734	1	29 JUL 1963	AB	14000	Black and White 8.25 x 7.5	NMR
RAF/543/2334	2172	11	SY 682 739	1	29 JUL 1963	AB	14000	Black and White 8.25 x 7.5	NMR
RAF/541/487	2609	4015	SY 689 733	6	11 APR 1950	AB	5000	Black and White 8.25 x 7.5	NMR
RAF/541/487	2609	4016	SY 689 737	6	11 APR 1950	AB	5000	Black and White 8.25 x 7.5	NMR

RAF/541/487	2609	4017	SY 689 742	6	11 APR 1950	AB	5000	Black and White 8.25 x 7.5	NMR
RAF/106G/UK/842	3515	5062	SY 689 729	4	25 SEP 1945	AB	9600	Black and White 8.25 x 7.5	FDR
RAF/106G/UK/842	3515	5063	SY 684 733	4	25 SEP 1945	AB	9600	Black and White 8.25 x 7.5	FDR
MAL/68002	5377	1	SY 681 744	1	26 JAN 1968	A	11000	Black and White 9 x 9	NMR
MAL/68002	5377	2	SY 682 732	1	26 JAN 1968	A	11000	Black and White 9 x 9	NMR
MAL/68002	5377	15	SY 699 734	2	26 JAN 1968	A	11000	Black and White 9 x 9	NMR
MAL/68004	5378	24	SY 693 738	2	01 FEB 1968	A	11000	Black and White 9 x 9	NMR
MAL/68004	5378	92	SY 698 733	7	01 FEB 1968	A	11000	Black and White 9 x 9	NMR
MAL/68004	5378	93	SY 698 744	7	01 FEB 1968	A	11000	Black and White 9 x 9	NMR
RAF/HLA/521	8495	6018	SY 698 741	5	04 MAY 1942	A	14000	Black and White 5 x 5	FDM
RAF/HLA/521	8495	6019	SY 692 746	5	04 MAY 1942	A	14000	Black and White 5 x 5	FDM
OS/69154	10956	106	SY 696 734	13	22 MAY 1969	A	6200	Black and White 9 x 9	NMR
OS/69154	10956	113	SY 686 733	14	22 MAY 1969	A	6200	Black and White 9 x 9	NMR
OS/71004	11257	54	SY 694 740	8	07 MAR 1971	A	7000	Black and White 9 x 9	NMR
OS/71004	11257	61	SY 684 736	9	07 MAR 1971	A	7000	Black and White 9 x 9	NMR
OS/87142	13165	3	SY 690 736	1	18 SEP 1987	A	11000	Black and White 9 x 9	NMR

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OS/87143	13166	64	SY 690 738	2	18 SEP 1987	A	5500	Black and White 9 x 9	NMR
OS/87143	13166	65	SY 690 733	2	18 SEP 1987	A	5500	Black and White 9 x 9	NMR
RAF/58/1373	15388	154	SY 698 737	27	08 MAR 1954	AB	8600	Black and White	NMR
RAF/58/1373	15388	155	SY 694 734	27	08 MAR 1954	AB	8600	Black and White	NMR
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Military Oblique Air Photographs

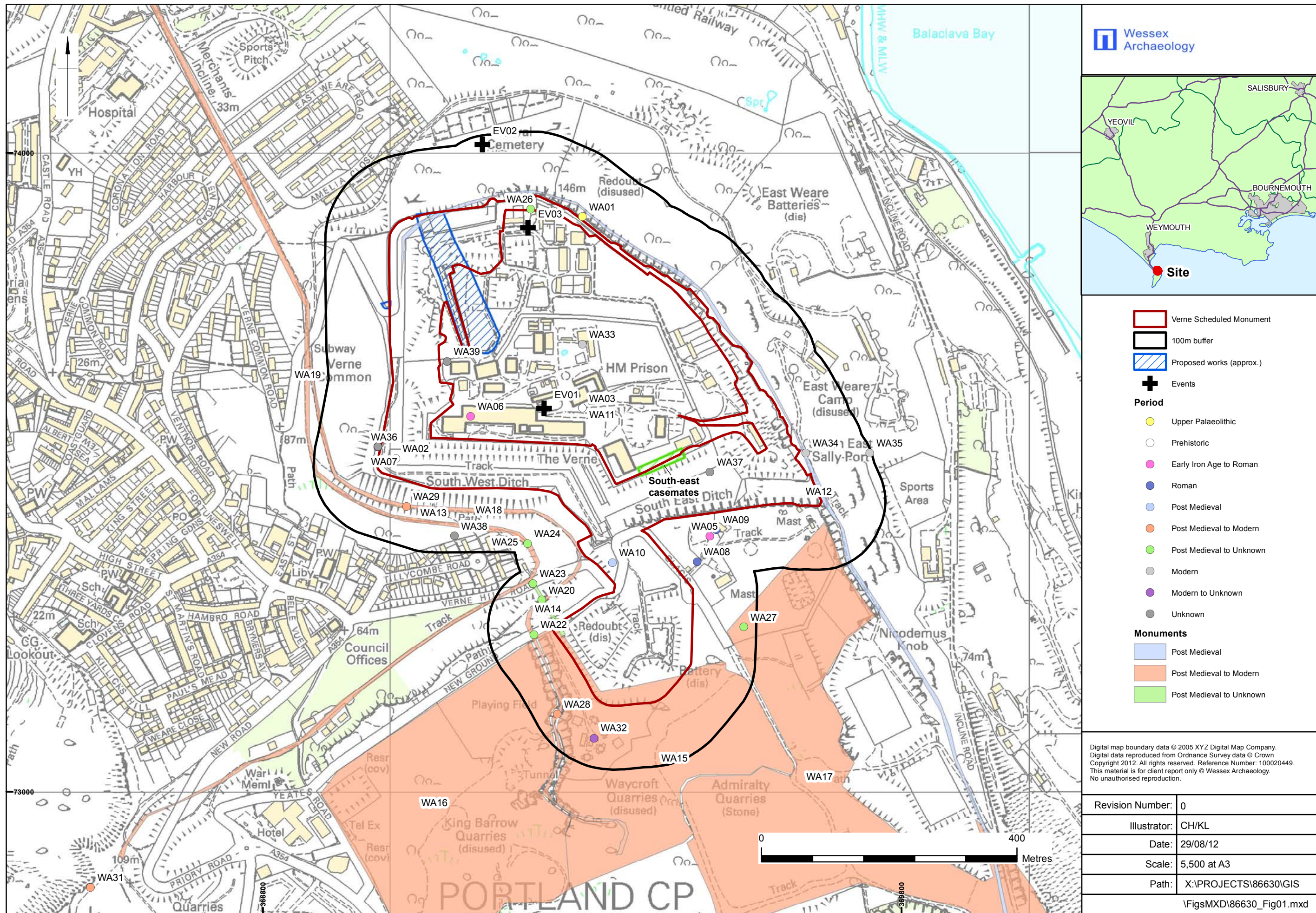
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SY 6973 / 33	NMR 24689 / 13	09 AUG 2007	Digital colour	SY 691735
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SY 6973 / 50	NMR 24689 / 30	09 AUG 2007	Digital colour	SY 691738
SY 6973 / 51	NMR 24689 / 31	09 AUG 2007	Digital colour	SY 691738

SY 6973 / 56	NMR 24689 / 36	09 AUG 2007	Digital colour	SY 692736
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Military Oblique Air Photographs

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RAF 30102	/ PO-0040	SY 6974 / 5	541/454	07 MAR 1950	Black& white	5x5"	SY 692741
RAF 30102	/ PO-0041	SY 6974 / 6	541/454	07 MAR 1950	Black& white	5x5"	SY 690741
RAF 30300	/ PSFO-0003	SY 6873 / 7	541/T/52	12 OCT 1950	Black& white	5x5"	SY 689739
RAF 30300	/ PSFO-0004	SY 6873 / 8	541/T/52	12 OCT 1950	Black& white	5x5"	SY 689736
RAF 30300	/ PSFO-0013	SY 6973 / 23	541/T/52	12 OCT 1950	Black& white	5x5"	SY 692737



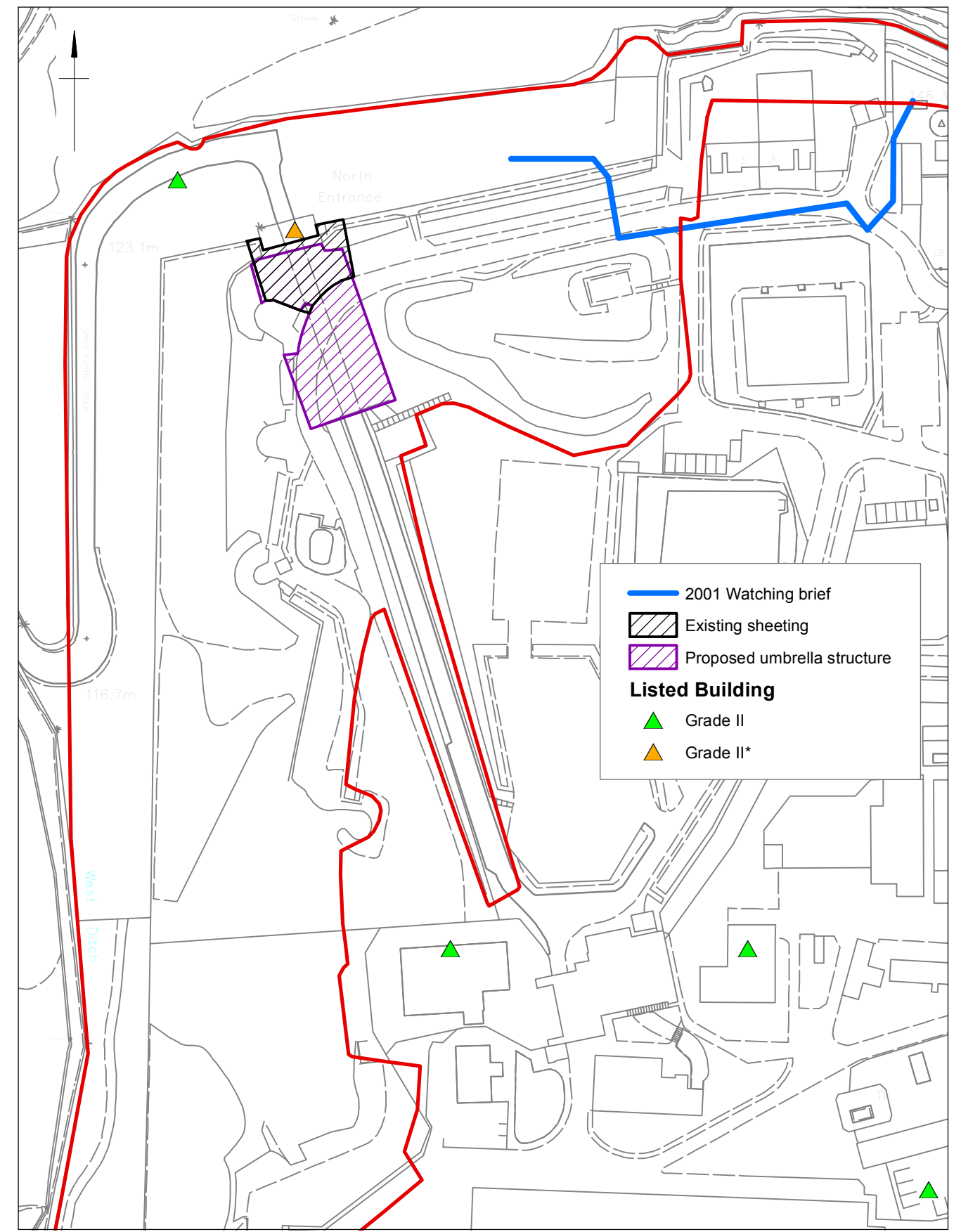
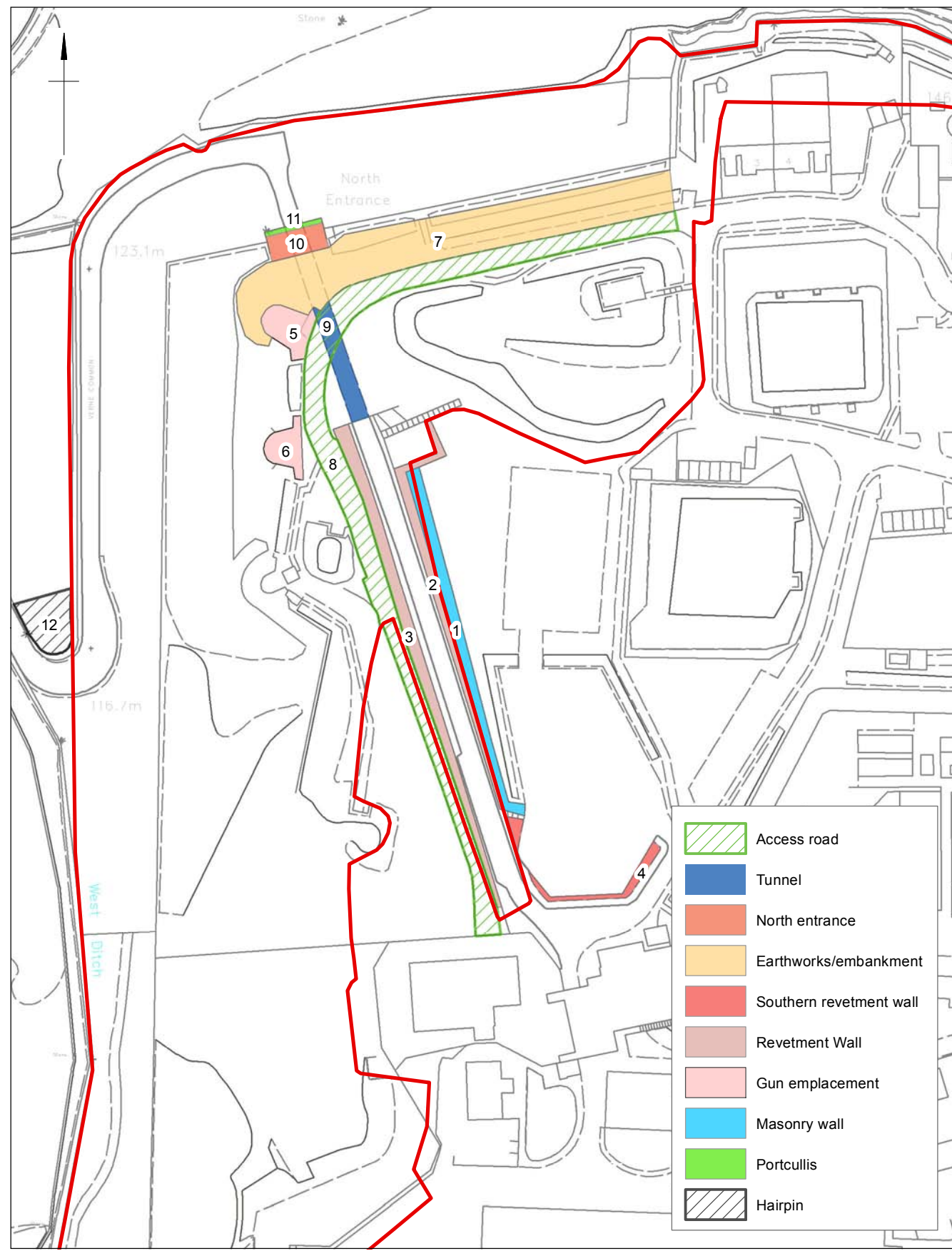
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- 100m buffer
- Proposed works (approx.)
- + Events
- Period**
- Upper Palaeolithic
- Prehistoric
- Early Iron Age to Roman
- Roman
- Post Medieval
- Post Medieval to Modern
- Post Medieval to Unknown
- Modern
- Modern to Unknown
- Unknown
- Monuments**
- Post Medieval
- Post Medieval to Modern
- Post Medieval to Unknown

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Illustrator:	CH/KL
Date:	29/08/12
Scale:	5,500 at A3
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Site location plan showing Statutory Designations and Dorset HER Data

Figure 1



A

B



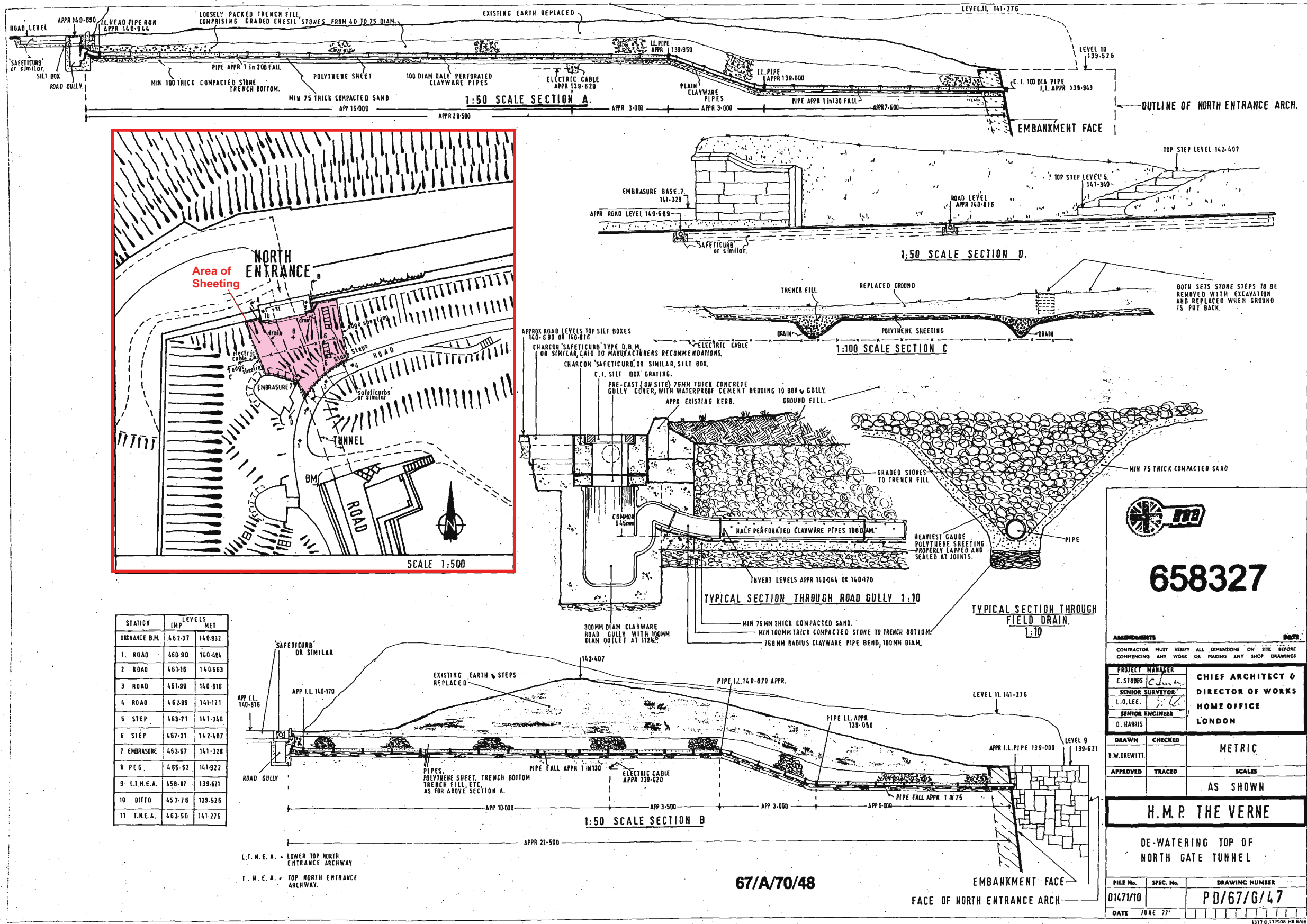
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Site plan showing key elements of the Verne Citadel and areas of proposed works

Figure 2



STATION	IMP.	LEVELS MET
ORCHANCE B.M.	462-37	140-932
1. ROAD	460-90	140-484
2. ROAD	461-16	140-563
3. ROAD	461-89	140-816
4. ROAD	462-89	141-121
5. STEP	463-71	141-340
6. STEP	467-21	142-407
7. EMBASURE	463-67	141-328
8. PEG.	465-62	141-922
9. L.T.N.E.A.	458-07	139-621
10. DITTO	457-76	139-526
11. T.N.E.A.	463-50	141-276

658327

CONTRACTOR MUST VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCING ANY WORK OR MAKING ANY SHOP DRAWINGS

PROJECT MANAGER E. STUBBS	CHIEF ARCHITECT & DIRECTOR OF WORKS HOME OFFICE LONDON
SENIOR SURVEYOR L.O. LEE	
SENIOR ENGINEER D. HARRIS	

DRAWN	CHECKED	METRIC
B.W. DREWITT		
APPROVED	TRACED	SCALES
		AS SHOWN

H.M.P. THE VERNE

DE-WATERING TOP OF NORTH GATE TUNNEL

FILE No.	SPEC. No.	DRAWING NUMBER
01471/10		PD/67/G/47
DATE	JUNE 77	

67/A/70/48

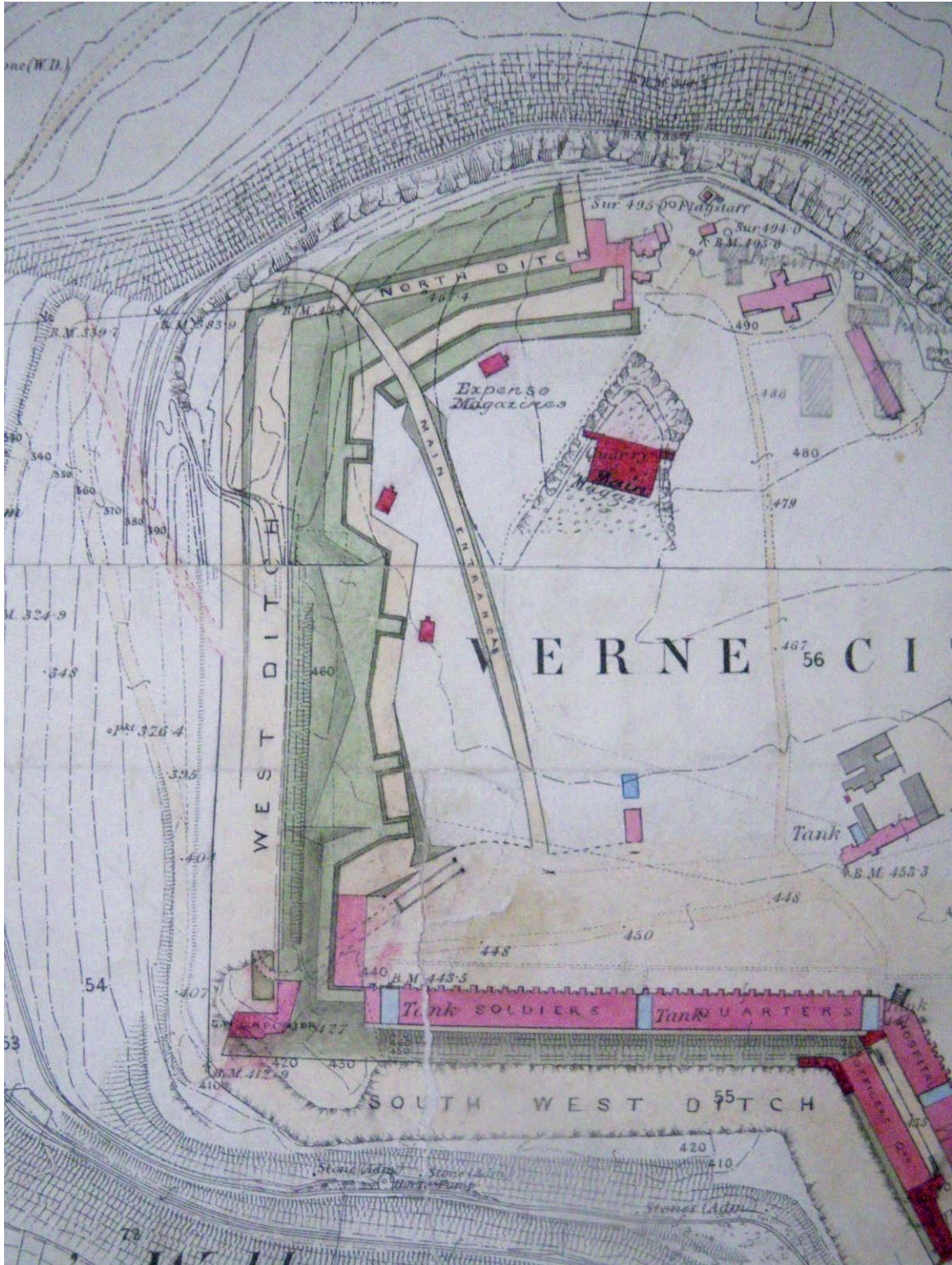


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HMP The Verne; Drawing of De-Watering of North Gate tunnel, 1977

Figure 3



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Date: 29/08/12

Revision Number: 0

Scale: n/a

Layout: KL

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Plate 2: Pencil design of main north gate entrance dated 1868

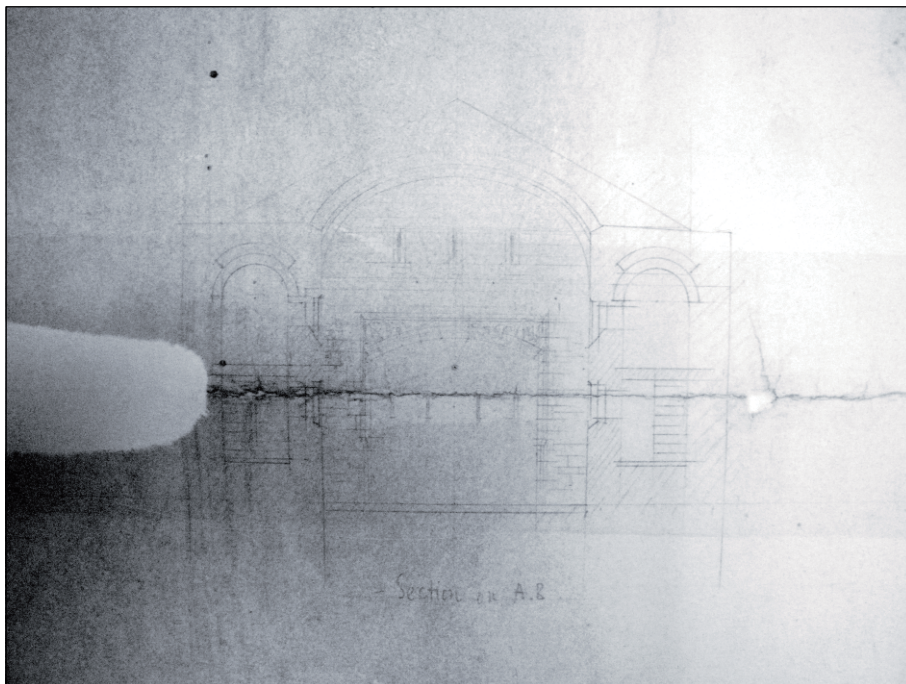


Plate 3: Pencil design cross section through arch dated 1868

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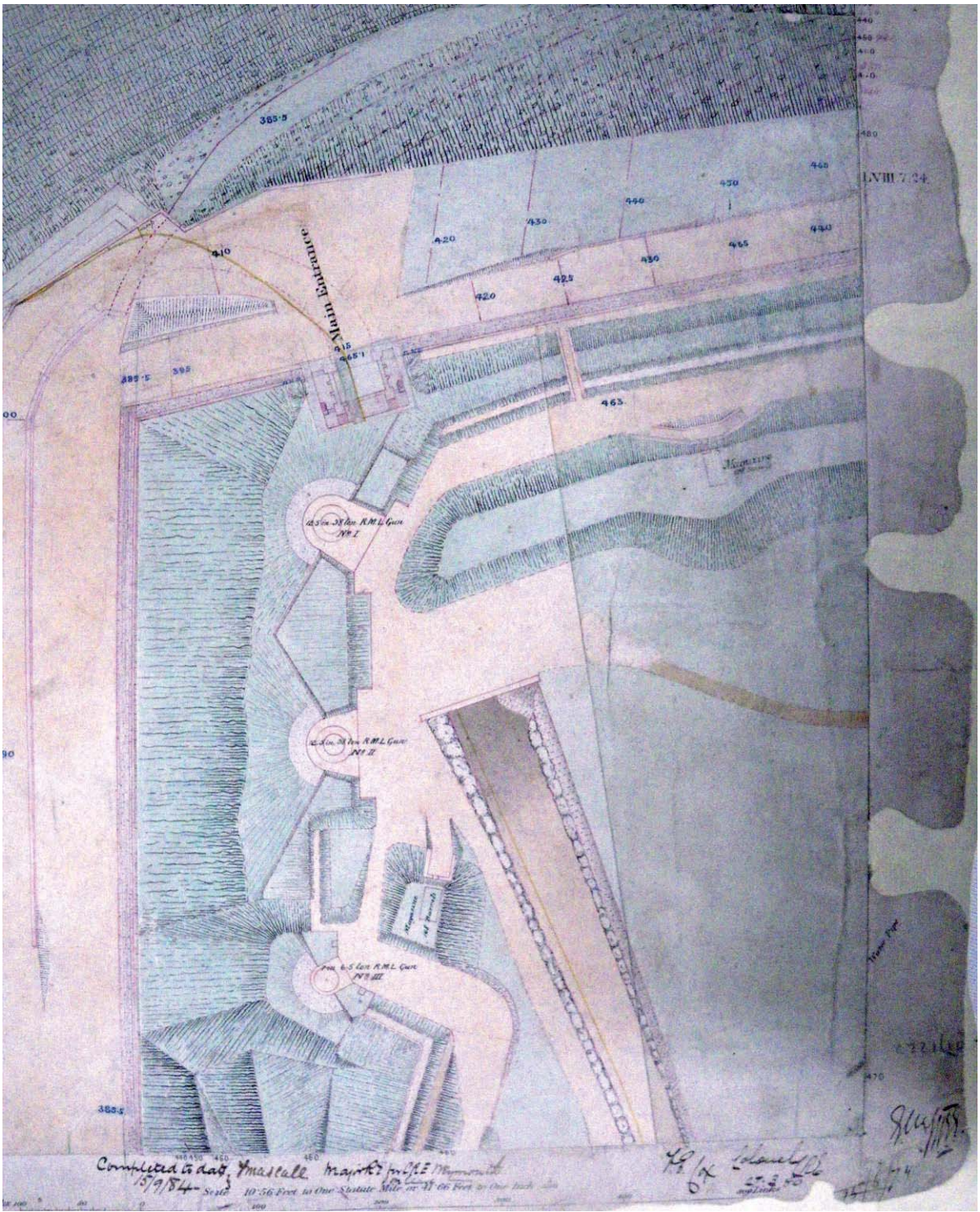
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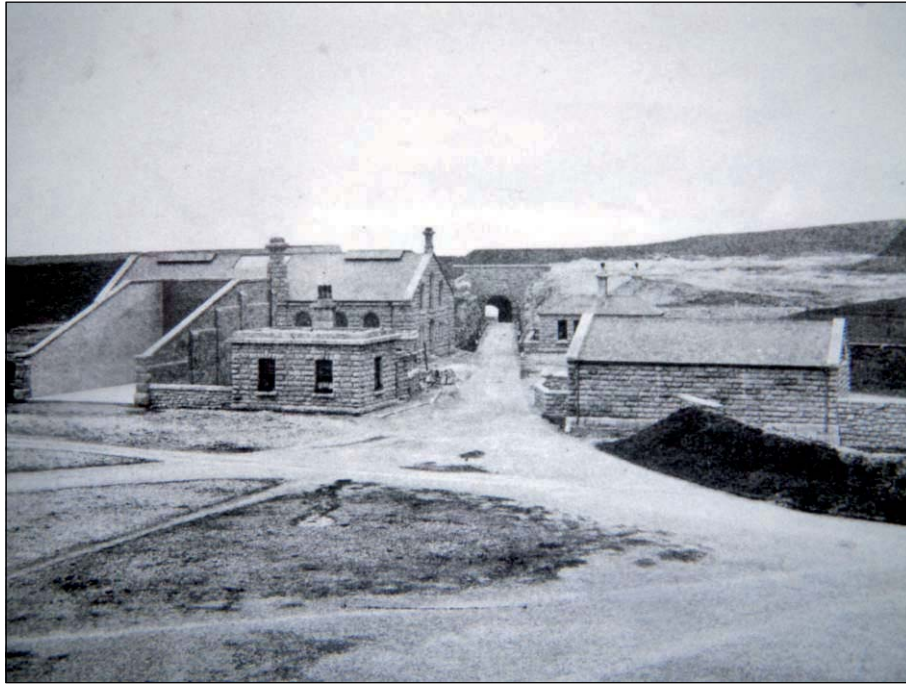


Plate 5: Royal Corps of Engineers photo dated 1877 showing main entrance viewed from south



Plate 6: Royal Corps of Engineers photo dated 1877 showing view looking east along north rampart above main gate

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Plate 7: Royal Corps of Engineers photo dated 1877 looking north along main entrance road showing rock cut walls to entrance road

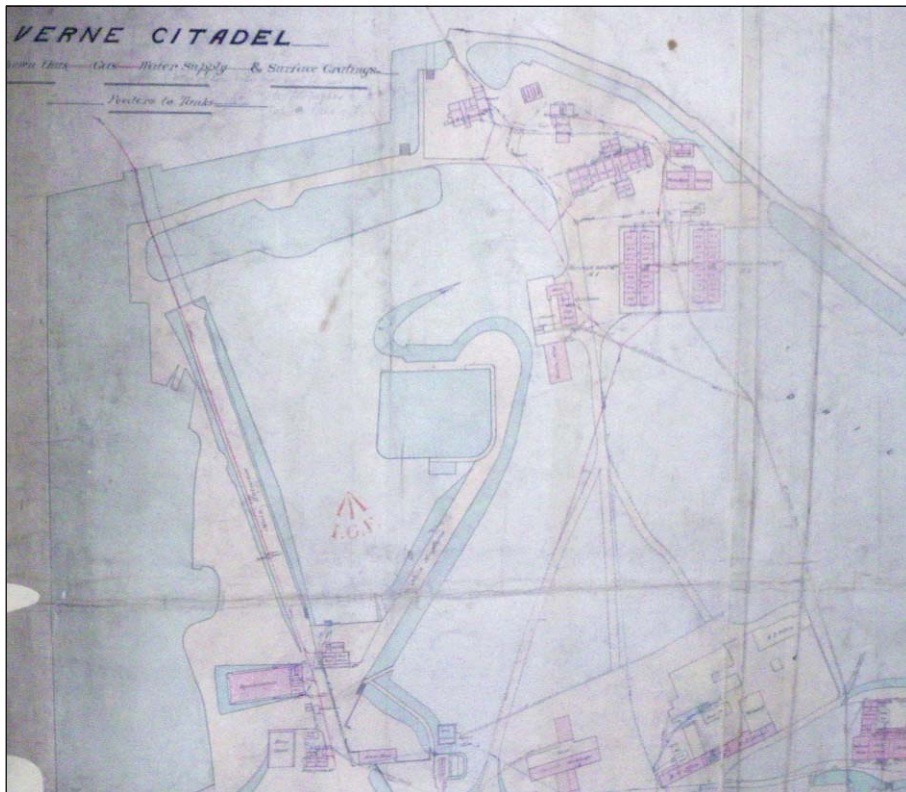


Plate 8: Plan of Verne Citadel, 1879

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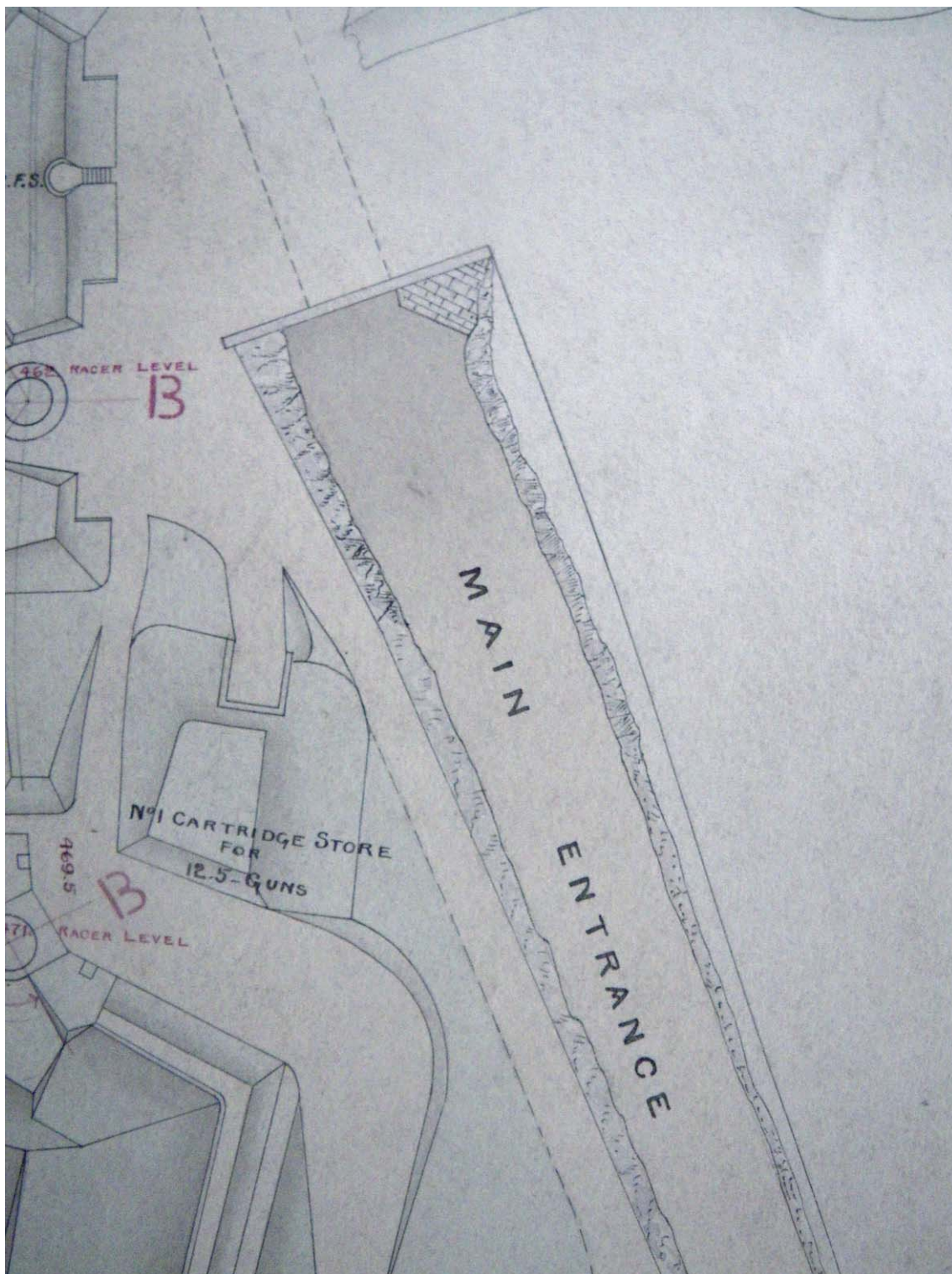
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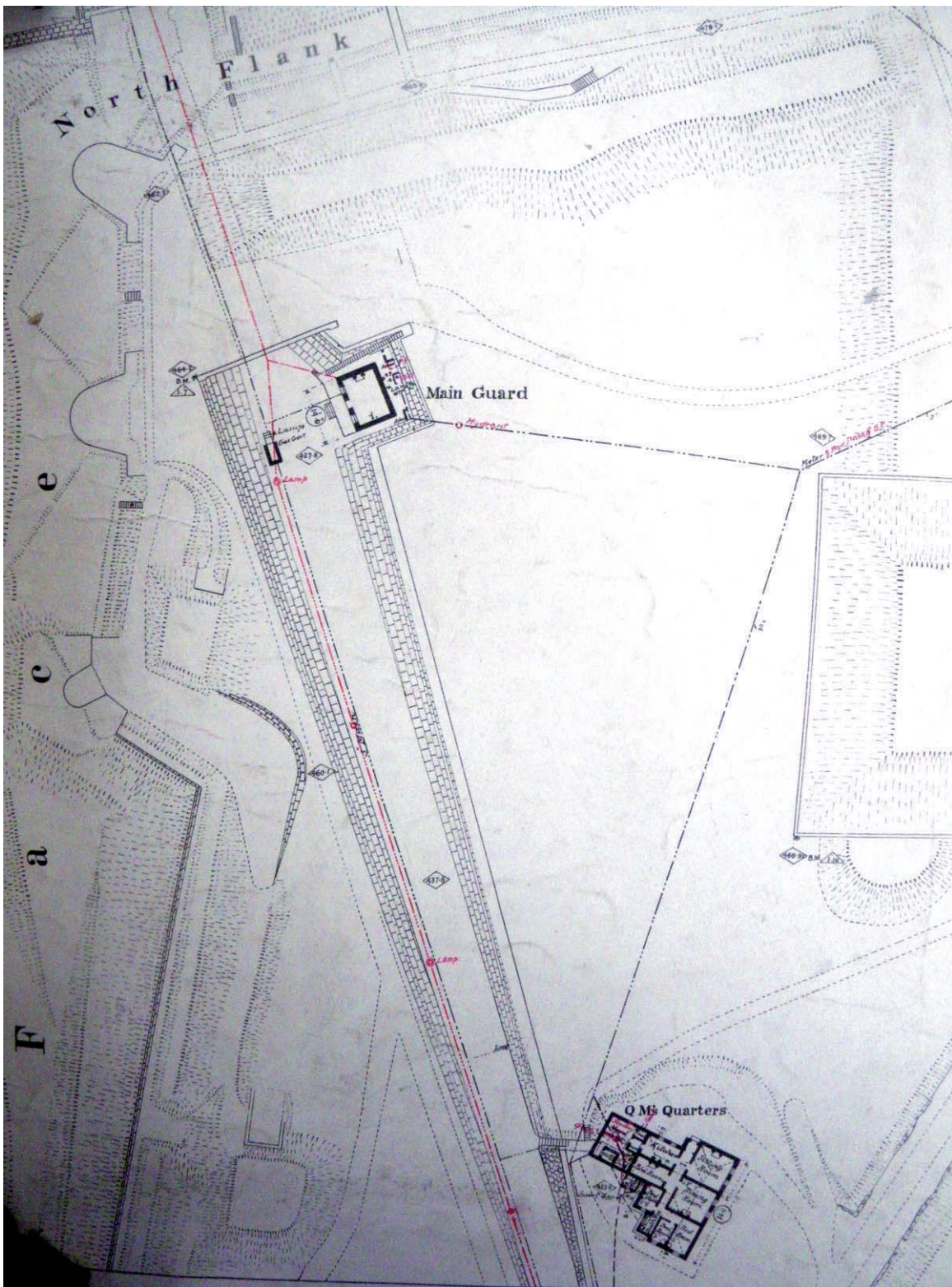
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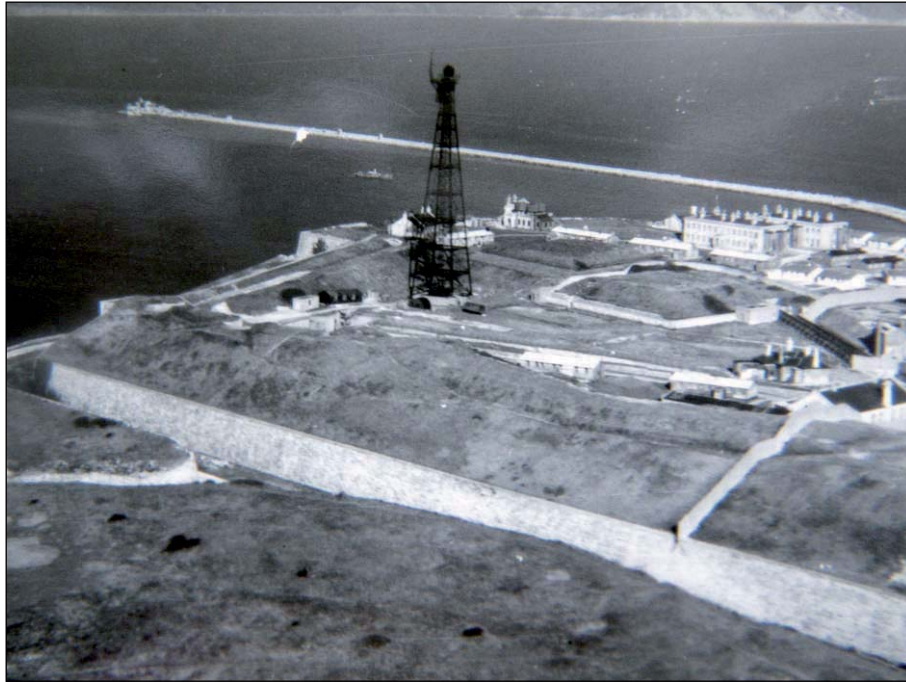


Plate 11: Military oblique aerial photo dated 1950 showing 'dry-stone' wall

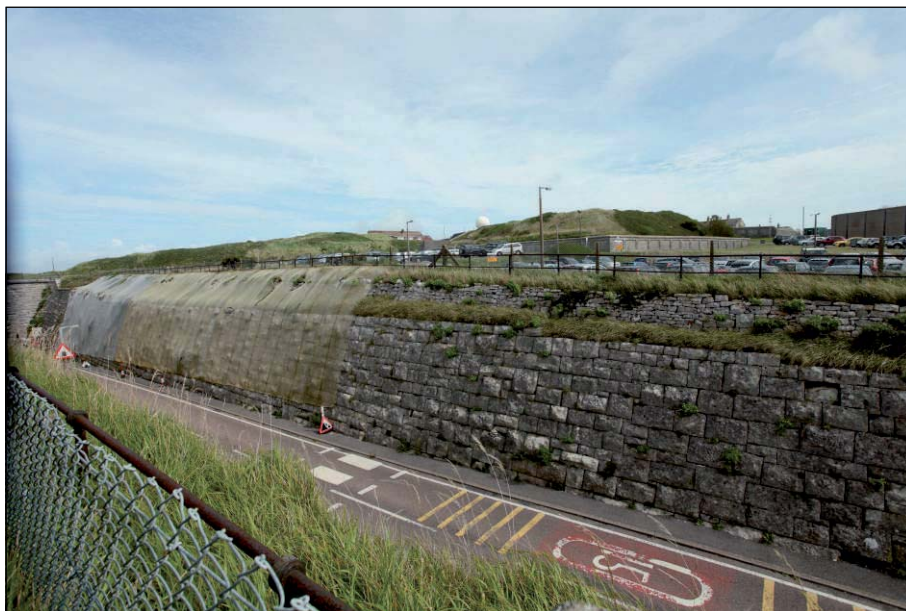


Plate 12: View along east revetting wall of access road showing 'dry-stone' wall above main wall viewed from south-west

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Plate 13: View looking north along top of 'dry-stone' wall showing iron railings and chain link fence viewed from south



Plate 14: Detail of 'dry-stone' wall construction material and style viewed from west

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Plate 15: East revetting wall viewed from north-west showing surviving bull-nosed coping stones to main wall



Plate 16: General area directly over main tunnel entrance viewed from north-east

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Plate 17: Ground level aspect of 12.5 inch gun emplacement and service road viewed from north-east



Plate 18: Overlooking 12.5 inch gun emplacement showing concrete apron and present condition viewed from north

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Plate 19: North embankment above main entrance viewed from east



Plate 20: Top of main entrance 'terrace' viewed from south

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Plate 21: Area directly above south tunnel entrance viewed from east



Plate 22: Detail of portcullis

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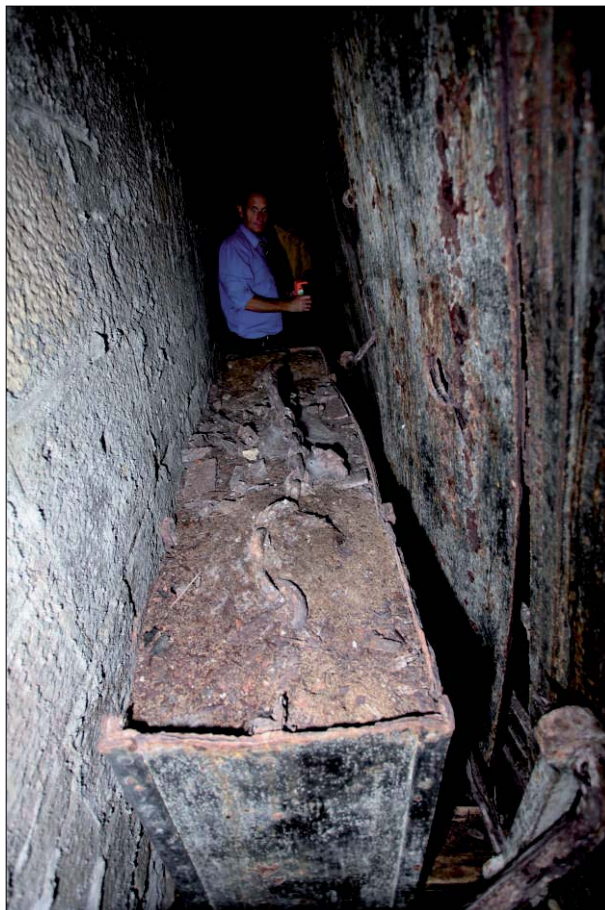


Plate 23: Detail of counter balance weight



Plate 24: Vaulted ceiling of portcullis chamber showing remains of iron fixings for raising the portcullis

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Plate 25: Evidence of re-flooring within portcullis chamber



Plate 26: Main tunnel entrance roof lining viewed from south

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Plate 27: Example of deteriorating tunnel wall fabric showing many repairs viewed from west



Plate 28: East portcullis chamber access gate removed and placed against internal wall

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Plate 29: Main north entrance today

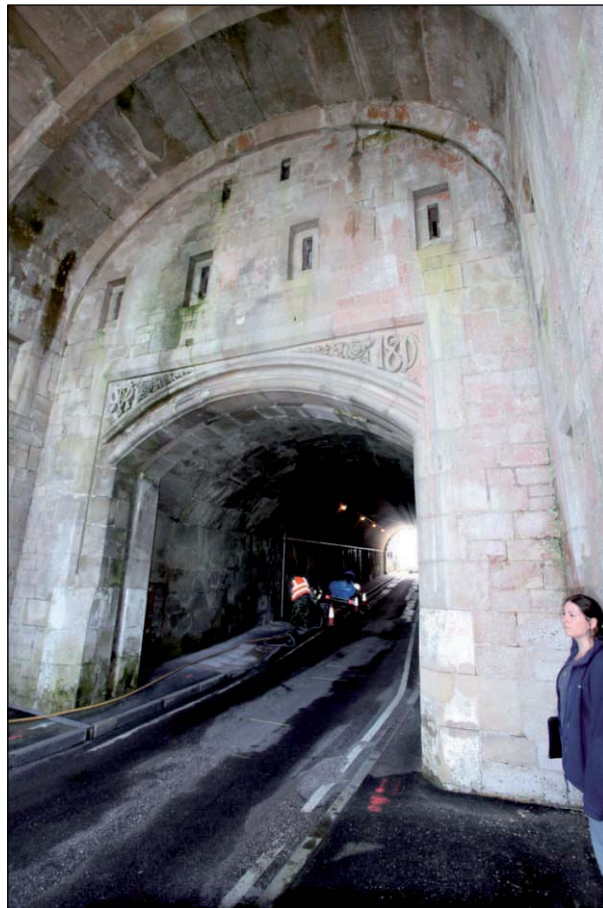


Plate 30: North entrance inner arch with Royal VR cipher and 1870 date in spandrels

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Plate 31: South casemates string course showing earlier concrete repair to top right of image



Plate 32: Roadside walling stone-faced and covered with protective netting

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