Archaeological Watching Brief
for
South Island Line (East)
for MTR Corporation Ltd.

Final Watching Brief Report

ARCHAEOLOGICAL ASSESSMENTS LTD.
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Content List

Non-technical Summary

The EIA Report for South Island Line (East) SIL(E) (248137/51/F) (http://www.epd.gov.hk/eia/register/report/eiareport/eia_1852010/Index.html) identified 6 works areas of SIL(E) would require Archaeological Watching Brief (AWB), namely 901 (Harcourt Garden in Admiralty), 902 (Sites S7c, S7d, S7e and Site S7 in Wong Chuk Hang) and 903 (Site S10 in Wong Chuk Hang San Wai). The proposed line would affect areas associated with the 19th and early 20th century military development on Hong Kong Island or early settlements and activities on the Hong Kong Island southern alluvial plains. Following the EIA process where an AWB had been recommended as mitigation, a detailed proposal for AWB was submitted to AMO for review and approval prior to the construction phase and the archaeological potential at the sites was deemed very low (903), low (902) and moderate (901).

Under Consultancy Agreement No. C912B, MTR Corporation Ltd (MTR Corporation) commissioned Archaeological Assessments Limited to carry out Archaeological Watching Brief (AWB) works on the SIL(E) project. AWB commenced on June 2011 and was completed on 14 January 2013.

The monitoring at 901 indicated that the entire Harcourt Garden area had been previously levelled and only below original surface structural features remained. Within the Supplementary Emergency Entrance (SEE) shaft area, fragments of a well shaft and bottom were recorded. The well was constructed with cut granite blocks set in radial fashion onto a wooden beam foundation. Inside the well, a thin black organic cultural layer with mid to late 19th century finds was associated with the construction and use of the well. A construction debris layer most likely originated from the decommissioning of the military area in 1959 lay on top and finally the well shaft was filled with concrete.

A seawall fragment was recorded within the Admiralty Station box area. It too had been constructed with cut granite blocks. The seawall, which was a fragment only, had been severely damaged by previous developments, which had resulted in the destruction of the top rows and parts of the wall fragment. Historical records suggest a construction date around the middle of the 19th century and by 1902 the seawall had been incorporated into a new reclamation. The associated material findings support mid to late 19th century date.

The poor preservation condition of both features affected the integrity of the findings; not only in their physical appearance but also as part of a cultural landscape. Preservation by record was deemed appropriate.

There were no significant archaeological findings at 902 (Sites S7c, S7d, S7e and S7 in Wong Chuk Hang) and 903 (Site S10 in Wong Chuk Hang San Wai).

南港島綫(東段)之環境影響評估報告(環評報告) (248137/51/F) (http://www.epd.gov.hk/eia/register/ report/eiareport/eia_1852010/Index.html) 內指出該項目當中有六個工地須進行考古觀察，包括 901(金鐘夏慤花園工地)、902 (黃竹坑 S7c、S7d、S7e 及 S7 工地)和 903 (黃竹坑新圍 S10 工地)。該項目之走綫將途經一些與香港島十九至二十世紀初期之軍事發展有關或與香港島南部沖積平原之早期居住和活動有關的地方。環評報告建議在上述工地施工期間進行考古觀察作為緩解措施，而詳細之考古觀察建議書已於施工階段之前遞交予古物古蹟辦事處並已獲批。根據考古觀察建議書之評估，上述工地就考古方面的潛在價值為非常低(903)、低(902) 以及中等(901)。

港鐵公司委任考古通有限公司負責有關南港島綫(東段)之考古觀察工作 (合約編號 C912B) 。該考古觀察工作由 2011 年 6 月開始，並在 2013 年 1 月 14 日完成。

根據在金鐘夏慤花園工地進行的考古觀察工作顯示，整個夏慤花園工地在過去的發展時已被平整，只遺下原結構的地下殘餘部份。在金鐘站擴建部份日後的緊急出口之豎井範圍內發現了一個廢井的部份井身及底部。該廢井為圓形，由經切割的花崗岩砌成，置在木柱地基上。廢井內有一層薄薄的黑色有機文化層，文化層內發現了相信是十九世紀中葉到後期與該井建造時及使用期間有關的文物。文化層之上是一建築廢物層－它極可能是與 1959 年時軍事設施退役有關。在建築廢物層之上的井身在廢井被發現時已被混凝土填滿。

在金鐘車站擴建範圍內發現了一小段由經切割的花崗岩砌成的殘存海堤。該殘存海堤在過去的發展時已被嚴重破壞：其上部及部份牆身已被毀。據歷史文獻顯示，海堤的建築年份應該是十九世紀中期，而該海堤約在 1902 年已成為當時新填海的一部份。所發現的遺物亦與十九世紀中期的說法吻合。

由於兩個遺跡的保存狀況並不理想，其在自身外觀的完整性以致是作為文化景觀一部份的完整性均受到影響。因此，採取記錄作保存是恰當的方法。

在 902 (黃竹坑 S7c, S7d, S7e 及 S7 工地)以及 903 (黃竹坑新圍 S10 工地)均沒有重要的考古發現。

1. Introduction

The South Island Line (East) (SIL(E)) Project comprises a new medium-capacity partly underground and partly viaduct railway system with an approximate route length of 7km from Admiralty (ADM) to South Horizons (SOH), via three intermediate stations at Ocean Park (OCP), Wong Chuk Hang (WCH) and Lei Tung (LET). This alignment will connect the existing Island Line and future Shatin to Central Link alignments.

The SIL(E) is a Designated Project under the Environmental Impact Assessment Ordinance (EIAO). Environmental Impact Assessment (EIA) Report approval and an Environmental Permit (EP) are required for its construction and operation. The SIL(E) EIA report was submitted to Environmental Protection Department (EPD) in June 2010, and approved by EPD on 26 October 2010 subsequent to review by public and Advisory Council on the Environment (ACE).

The EIA Report for SIL(E) (248137/51/F) identified that the SIL(E) of the MTR Corporation would pass through some areas with the potential to produce archaeological remains associated with the 19th and early 20th century development of Hong Kong Island, earlier activity along the pre-reclamation coastline or early settlements and activities on the Hong Kong Island southern alluvial plains. Three works areas, namely 901 (Harcourt Garden), 902 (Sites S7c, S7d, S7e and Site S7) and 903 (Site S10) (FIGURES 1-3) were thus identified as requiring Archaeological Watching Brief (AWB), which will be conducted in accordance with the requirements as stipulated in the EIA Report and EM&A manual of SIL(E).

This report includes the background and results of the Archaeological Watching Brief Programme.

2. Aims of the Archaeological Watching Brief

The aim of the Watching Brief was to verify the potential of the areas of archaeological interest and preserve the archaeological information by record.

3. Historical, archaeological, geological and topographical background of the site

3.1 Historical Background

The project Study Area stretches from Admiralty to Nam Fung Portal over former coastal areas and early 19th and 20th century reclamations. The alignment tunnel opens to the south at Wong Chuk Hang. Wong Chuk Hang area has the potential to provide information on early historical village settlement from around the turn of the 19th century with a thriving local (incense) economy. While villages have since disappeared and limited information exists, archaeology may provide some clues. The alignment then turns west to Ap Lei Chau. The island of Ap Lei Chau has known extensive development which has destroyed its archaeological site and historical kilns and any potential for further sites.

1) Admiralty

From the time of the arrival of the British in Hong Kong in 1841, Admiralty was occupied by military and later military and navy. The area was developed as part of Hong Kong coastal defence line and included reclamation of the waterfront.
Some of the MTR Corporation works areas are located within former coastal area (beach deposits),

early reclamations (pre-1863 and 1902) and a former British military site known as Wellington Battery. FIGURE 4 show a series of historical maps of the area between 1842 and 1959 respectively (Empson 1992, Rollo 1991, WO 78/4/79 National Archives, UK).

Early reclamation and Seawalls

The settlement of Hong Kong by the British was based on a maritime economy and the importance of coastal plots for trade and industry were a necessity for the success of the Colony from its earliest days. It was recognised that the existing coastline was not sufficient for the desired purposes at an early stage and private lot owners began their own reclamations during the 1840's without any planning. This resulted in a situation of irregular lots and a disconnected coastline. The Colonial Government stepped in during the 1850's with the first planned reclamation in Hong Kong instigated by the then Governor Sir John Bowring, which was situated in the marshland north of Happy Valley. The government continued its attempts to control private reclamation through the construction of a praya and seawall along the north coast of Hong Kong island, which included the construction of a seawall in 1863 under the leadership of Governor Sir Hercules Robinson. The success of the governments control over reclamations was mixed and irregular and unplanned private reclamation continued on into the 1860's. The Colonial government encountered a lack of cooperation from not only private land owners but also from the Navy who did not want the coastal land in their possession to become a thoroughfare between the city of Victoria and Causeway Bay.

The ongoing nature of reclamation in Hong Kong throughout the Colonial Period meant that the construction of the seawalls was a continuous process, as the newly reclaimed land required new seawalls. The older seawalls were buried by the fill deposited for the new reclamations.

Wellington Battery and military area

The relationship between China and the British remained tense after the signing of the Treaty of Nanking which ended the first opium war and hostilities broke out once again in 1856 in the ensuing Second Opium War. As such, a military presence in Hong Kong was essential for the colonies survival from the start and defensive features such as batteries were established early on. The early batteries (1840's and 1850's) associated with Hong Kong Island included the Wellington and Murray Batteries both of which were located in the Central/ Admiralty area of modern Hong Kong and were designed to protect the colony from attack by sea. These batteries were situated along the coast as it existed at that time, although today reclamation has rendered their locations inland.
As early as 1842 (FIGURE 4.a) a 'Battery of 5 Guns' appears on maps at the site which was Harcourt Garden, but it is not until 1854 (FIGURE 4.d) that the battery is marked as Wellington Battery (named for Arthur Wellesly, Duke of Wellington 1769-1852). In general, it has to be pointed out that there are few mentions of Wellington Battery in historical accounts. Murray Battery, West Point and Possession Point Batteries seem to form the main line of protection in the early decades, while others such as Ouchterlony, Royal, Kellet Island and Wellington Battery get fewer mentions.

Some of the records mentioning the Wellington Battery include:

- An account of 1856 reported by Lieutenant Colonel Griffin, commander of the troops states that the battery counts nine 32 pounders, part of which faced east and others which commanded the anchorage.
- On 17-18 September 1857 Captain Bate of the HMS Actaeon witnessed the eclipse of the sun at the Battery (Latitude 22° 16' N and longitude 7hrs 36min 36sec E).
- The last account of the Wellington Battery in 1866 was an entry in the journal of Bandsman Davies of the 2nd Battalion the 20th regiment of Foot which stated that in front of D'Aguilar

Hospital was a battery of seven guns, although the Battery continues to appear on maps until 1889.

The navy according to memorandums in 1854 and in 1856 acquired additional space from the military which allows them to expand mainly to the west. It is possible that the proximity of the navy excluded Wellington Battery from playing a major role in the overall defence of the harbour as the dockyard would have been protected by ships off shore.

Hong Kong's defence was re-evaluated in the 1880's and Wellington Battery is no longer mentioned in the correspondence. By 1902 the military area at Admiralty had extended northwards and the Wellington Battery disappeared from the maps.

2) Wong Chuk Hang

There is one Declared Monument in the project study area, namely the Wong Chuk Hang Rock Carving. The rock carving is carved into a fine grained volcanic rock face and faces east. Although no archaeological deposits have been found to date in the vicinity of the rock carving, its presence indicates that this was an area where human activity took place in the past and that there is the potential for archaeological material associated with this activity to exist within the current project study area.

Part of the project study area at Wong Chuk Hang lies on alluvial deposits and has the potential to contain archaeological material associated with historical village settlement in the area. The current village of Wong Chuk Hang San Wai was settled approximately 150 years ago by members of the Chow and Cheung clans who were relocated from the original Wong Chuk Hang Village (also known as Little Hong Kong), which is believed to be at least 200 years old (Chow 1958). FIGURE 5 shows a map of the area in 1895 (Empson 1992) while FIGURE 6 shows an aerial photograph of the area in 1949 (Y1232; 8000'). The remains of the older village are situated on the hillside at the northern side of the Aberdeen Tunnel Road (Li 1955). It is also possible that an historical settlement associated with incense trade could be located in the project study area as the nearby Shek Pai Wan was a shipping centre for export of incense (Lu 1983).

3.2 Archaeological Background

There were no known sites of archaeological interest within the SIL(E) corridor. In addition, there had been only four previous archaeological investigations conducted in the vicinity of Wong Chuk Hang in the southern works area of the Project Study Area and none at Admiralty:

Planning and Development Study on Hong Kong Island South and Lamma Island Cultural Heritage Impact Assessment (AAL 2001)

The project study area for the Archaeological Impact Assessment included Wong Chuk Hang. Field testing was undertaken and an area of archaeological potential located east of the Aberdeen Tunnel was identified in woodland directly to the west of Wong Chuk Hang San Wai. The area consisted of abandoned agricultural land with moderate vegetation growth. Archaeological Watching Brief (Archaeological Monitoring) during construction phase of any proposed project was recommended in the report.

Archaeological Investigation at Wong Chuk Hang (AMO 2001)

Two hand-excavated test pits (located on the hillock) and three machine-excavated pits (located in

the car park area at the hillock's base) were conducted in 2001 as part of the LPG Filling Station project. The results of the two hand-excavated pits revealed a disturbed layer of less than 1m depth, followed by decomposed rocks. Original alluvial deposits underneath a layer of 3m deep fill were identified at the bottom of the three machine-excavated trenches, whereupon water table was also encountered. Only redeposited finds were retrieved from the car park area (AMO 2001).

Repositioning and Long Term Operation Plan of Ocean Park – Environmental Impact Assessment Study (Maunsell Aecom 2006)

An Archaeological Impact Assessment (AIA) was undertaken as part of the EIA study and areas of archaeological potential were identified at the north-western end of Ocean Park. Mitigation for the project included the undertaking of an Archaeological Survey.

Ocean Park Archaeological Survey for the Repositioning and Long Term Operation Plan of Ocean Park (Wang Fei /Horizon Asia Ltd. 2008)

Accordingly to AMO files, an archaeological investigation had been undertaken by Mr. Wang Fei within the footprints of the above cited project in areas of archaeological potential; however, no archaeological materials or cultural layers were identified.

3.3 Geological and topographical Background

The table below was compiled using the geological map, aerial photographs, and publish and unpublished materials (see references and bibliography) pertaining to existing impacts at the worksareas.

Works Site	Geology & Topography	Existing Impacts
Harcourt Garden (FIGURE1)	The southern part of the site is situated on pre-1863 reclamation; the north-western part of the site is also situated on early reclamation of 1902; whilst the north-eastern edge of the site is situated on more modern reclamations mapped by 1945 and 1964, respectively. (FIGURE 8)	The entire area has gone through profound changes in the past few decades: Queensway was straightened in the mid 1970s to meet traffic needs; before the construction of Harcourt Garden in the mid 1990s, the former Wellington Battery and the Admiralty Dock site was occupied by several structures (Figure 7 – 1986 map); Wellington Barracks and Victoria Barracks were later replaced by Pacific Place and other modern complexes. Four 19th-century cannons were recovered in a construction site located within the boundary of the former Victoria Barracks near the junction of Supreme Court Road and Justice Drive (Ming Pao 20.09.08). The existing modern disturbance consists of existing underground car park. Any archaeological deposits/ remains would have been severely disturbed by the construction of the car park.
Site 7c **Site 7d** **Site 7e** **South-west of Wong Chuk Hang Tsuen** (FIGURE 2)	The three works areas cover the alluvial flats at the base of the hill. (FIGURE 9)	The woodland area is situated in alluvial deposits. As seen in 1949 aerial photograph (Figure 6), the area was originally used for cultivation; some terracing had been conducted.

Site 7 And part of Site 7c **West of Wong Chuk Hang Tsuen** (FIGURE 2)	The works areas cover the lower slopes of the hill. The gradient is fairly steep and terracing can be seen. (FIGURE 9)	The terracing seems to have been conducted with view to construct temporary and basic residential structures. These are mapped on the 1957 topographical map (FIGURE 10).
Pier columns within Site S10 Wong Chuk Hang San Wai (FIGURE 3)	The pier columns are proposed in alluvial plains near the historical village of Wong Chuk Hang San Wai. (FIGURE 9)	The proposed Works Site S10 is situated on alluvial deposits. Field testing was undertaken in this area in 2000 as part of the AIA for the HKIS & LI Project. An area of archaeological potential was identified in the woodland area located immediately to the west of Wong Chuk Hang San Wai (AAL 2001). No existing underground utilities are known in the woodland area. Remainder of the area is located on slopes, major roads and carriageways.

4. Methodology

4.1 Introduction

Archaeological Watching Brief is a form of mitigation which is required when engineering works impact on areas that have been assessed as having some degree of archaeological potential and where conventional testing methods are deemed insufficient. The range of archaeological resources that require monitoring includes both historical and prehistoric material and features.

The Watching Brief process entails the observation of the engineering works by qualified archaeologists in order to identify any archaeological material or features revealed during the excavation phase of the works schedule. Upon identification of such material or features the archaeologists will require immediate access to the excavation area for recording of the material/features *in situ*, artefact/ecofacts retrieval and sample collection.

A Watching Brief serves two basic purposes: firstly, that the archaeological resources are adequately recorded and recovered and secondly, that appropriate measures are taken on site to create a minimum of delays to the engineering schedule.

4.2 Watching Brief Personnel and Licence Requirements

Watching Brief was undertaken by a qualified archaeologist, Julie Van Den Bergh who applied for licences (No. 317 and 335) under the Antiquities and Monuments Ordinance (Cap. 53) from the Antiquity Authority before the commencement of archaeological fieldwork.

Each licence is valid for a period of 12 months and, given the 2 year duration of the project, it was necessary to renew the licence. In order to facilitate such licence renewal, the archaeologist provided as part of the licence renewal application a progress report.

The archaeologist was supported on-site by labourers and MTR Corporation's surveying team when appropriate.

4.3 Site Clearance Works

The process of archaeological watching brief in each area commenced when demolition and clearance of all current surface obstructions had been completed. The engineer/contractor's representative advised the archaeologist when the latter stage was reached to ensure that the archaeologist can make an initial inspection of the cleared site.

Initial site visits were undertaken as follows:

- To Harcourt Garden (901) on 15 June 2011;
- To Sites 7, 7c, 7d and 7e (902) on 31 May 2011; and
- To Site 10, Pier 4 and 5 (903) on 2 June 2011.

No archaeological materials, features or deposits were noted during the initial site visits

4.4 Watching Brief Monitoring Frequencies

The monitoring frequency proposed for the six works sites was based on an assessment of their archaeological potential in terms of topography and geology, known archaeological resources, site history, and likely degree of previous impacts. By assessing these criteria, three levels of archaeological potential were identified:

- Very Low: required only occasional monitoring after the initial site visit – a minimum of one half day monitoring visit per two weeks of groundworks in layers with archaeological potential – equivalent to a 5% monitoring sample
- Low: required regular monitoring after the initial site visit – a minimum of one half day monitoring visit per week of groundworks in layers with archaeological potential – equivalent to a 10% monitoring sample
- Moderate: required frequent monitoring after the initial site visit – a minimum of two half day monitoring visits per week of groundworks in layers with archaeological potential – equivalent to a 20% monitoring sample

Desktop research identified the following individual potential for each site:

Moderate archaeological potential

- Harcourt Garden works area is located on the site of the former Wellington Battery on the original coastline within Victoria Harbour. The site was formerly occupied by the Colonial British Navy since 1841 and continued to remain in military hands until 1959. The area was then handed over to Government and turned into a garden in 1986. The site has known severe disturbance which affects the archaeological potential.

Low archaeological potential

- Site 7, 7c, 7d and 7e lie on alluvial lands and lower hill slopes on the south of Hong Kong Island; the minimal known impacts of the area and the proximity of 'little' Hong Kong or the original Wong Chuk Hang village and the Wong Chuk Hang rock carving are indicative of some archaeological potential.

Very low archaeological potential

- Site S10 includes two pier locations and lies to the west of Wong Chuk Hang San Wai. The degree of disturbance by the road construction and landscaping would have affected the archaeological area of interest.

The archaeological potential, monitoring frequency/samples, dates and works monitored are summarised in the following table; the sites are presented ranking moderate to very low archaeological potential:

Works Sites monitored	Archaeological Potential	Monitoring Frequency	% Monitoring Sample	Works Monitored	Dates of AWB visits
901	Moderate	2 x 0.5 day visits per week	20%	· Site formation · Cut and cover excavation of station box · SEE shaft excavation	<u>2011</u> 11, 14, 20 July 3, 29 August 6, 8, 12, 14, 20, 23, 27, 30 September 22, 25 November 8 December <u>2012</u> 20 January 10, 11, 13, 14, 20-24, 27 February 2 March 24 May 21, 28 June 4, 17, 20, 31 July 3, 9, 15, 22, 29 August 5, 11, 21, 24-28 September 4-6, 8, 12, 15, 16, 18, 19 October 12, 18-22, 24, 27, 29-31 December <u>2013</u> 3, 9, 10, 11, 14 January
902 Sites 7, 7c, 7d and 7e	Low	1 x 0.5 day visit per week	10%	<u>Portal area:</u> · Utility Works · Excavation <u>Elevated Portion:</u> · Minor Excavation works · Pile construction	<u>2011</u> 31 May 29 June 5, 12, 20, 25 July <u>2012</u> 10, 17 January 1, 20 February 28 March 13 April 10, 11 May

Works Sites monitored	Archaeological Potential	Monitoring Frequency	% Monitoring Sample	Works Monitored	Dates of AWB visits
903 Site S10 Piers B4 and 5	Very Low	1 x 0.5 day visit per 2 weeks	5%	· Utilities Diversion at Pier B5 & B6 · Pile construction of Pier B3 to B6 · ELS for Pier B3 to B6	2011 2, 7, 8, 20, 22 June 27, 29 October 2012 1, 3, 13, 20 February

4.5 Monitoring and retrieval methodology

The AWB used the table shown below as guideline to respond to various categories of archaeological material and features that are most likely to occur in local contexts.

Categories of Archaeological Materials	Retrieval Procedures
1-Human Burial Skeletal remains Items associated with human burial, i.e. grave goods	**Full Recording & Recovery of Human Remains & Associated Artefacts & Ecofacts** ▪ Complete recording by photography, drawing, written description ▪ Full measurement of burial and surrounding matrix ▪ Retrieval of human remains and associated artefacts & ecofacts ▪ Retrieval of surrounding soil for further analysis
2-Intact Features Structural/architectural remains Undisturbed contexts, e.g. hearth, midden, habitation area, assemblages of artefacts and/or environmental material	**Full Recording of Archaeological Features & Recovery of Artefacts/Ecofacts** ▪ Recording and measurement of salient features by photography, drawing and written description ▪ Retrieval of artefacts & ecofacts ▪ Retrieval of samples from the surrounding matrix
3-Intact Artefacts Complete objects, e.g. pottery, metal objects, stone and bone tools. The objects are complete but isolated and are not part of assemblage of feature	**Recovery of Artefacts & Record of Matrix** ▪ Retrieval of objects ▪ Recording by written description and photography ▪ Sampling of surrounding matrix
4-Isolated & Fragmentary Material Pottery sherds, non-human bone, other artefact fragments (e.g. metal, tile, glass). There are no complete objects, the material is isolated and fragmentary in nature	**Recovery of Archaeological Material & Recording as Appropriate** ▪ Retrieval of fragmentary artefacts & ecofacts ▪ Recording by written description and photography, as appropriate ▪ Sampling of surrounding matrix
5-Deposits with Archaeological Potential Soil deposits which exhibit characteristics associated with archaeological remains in Hong Kong	**Sampling of Deposit** ▪ Recording of soils by photography and written description ▪ Collection of soil samples from deposits displaying archaeological potential

Within the SIL(E) Archaeological Watching Brief programme categories 2 and 4 applied, although the seawall and well were not 'intact' features in the strictest sense; it was decided that the recommended retrieval procedure for this category i.e. recording and measurement of salient features by photography, drawing and written description, retrieval of artefacts and ecofacts, and retrieval of samples from the surrounding matrix where appropriate, was suitable.

4.6 Recording forms for Watching Brief

Standardised forms as well as additional written, graphic, electronic and photographic records as appropriate were compiled for each AWB visit and any archaeological material identified during the Watching Brief and these will be part of the archives handed over to AMO at the end of the project.

5. Results

5.1 901

The site measures roughly 180 by 110 metres (FIGURE 1) and prior to site formation Harcourt Garden occupied the site. The site had known some severe disturbance from previous developments including electric substation, MTR Corporation's Island Line and Tsuen Wan Line, and two underground carparks. These limited the areas of archaeological interest, in addition, only two works namely the construction of the Admiralty station box and Supplementary Emergency Entrance (SEE) shaft required deep excavation. While the AWB concentrated on these two deep excavations, regular visits ensured that an adequate understanding of the remainder of the site was gained. The results are presented below divided into the three areas: overall, SEE shaft and Station box. For detailed information on the archaeological findings of the well remnant in the SEE shaft and seawall fragment in the Station box please see Appendices B and C, respectively.

Overall

Site formation works included excavation of the entire site down to 4.5mPD. AWB covering most areas of the site indicated that the upper layer consisted of an artificial fill layer which was uniform over the site and thus can be interpreted as part of the Harcourt Garden construction. The fill soil included very small fragments of stone, red and blue bricks but no other archaeological materials. A few cut granite blocks were noted to the south of the substation building (PLATE 1; FIGURE 1c). They did not appear in any meaningful order and may have been deposited as part of the artificial fill deposit as they were found stratigraphically on top of an underground cavern part of the substation. While in the right location to suggest they form part of the seawall later found in the station box, they were found within a fill layer.

SEE shaft (FIGURE 1c)

The excavation works quickly yielded some cut granite blocks. The blocks however, did not appear in any obvious structural order. After cleaning of top of area where blocks came into view, a concrete pile surrounded by granite blocks emerged. The granite blocks were arranged in a radial pattern, it seemed, around the pile (PLATE 2). At this point no associated archaeological material provided clue to the function or age of the findings, while the granite blocks appeared potentially of an older age, the concrete pile did not.

The top of the feature was recorded and surveyed (FIGURE 11) after cleaning, and removal of the blocks was video-ed. Water which appeared around 1.2mPD was the first confirmation that the

structure may be a well. Shortly after the concrete 'pile' came out, the well structure became obvious and AMO was informed.

The top of the structure was cleaned and recorded, and the inside of the well excavated by hand. The eastern half of soils was first removed (PLATE 3) and after recording of the section (FIGURE 12) the remainder (PLATE 4).

The stratigraphy inside the well showed two cultural layers on top of the bottom of the well: an intentional infill with building debris and a mix of early to second half of 20th century materials overlay a late 19th (to early 20th century?) thin black organic layer (Context 105, FIGURE 12) with few finds (see Appendix A).

The finds of the debris layer (Context 104, FIGURE 12) indicate that this may have been the result of a single event, i.e. clearance of the site in 1959. The results from the black organic cultural layer which is associated with the use of the well, suggest that the well would have been closed off by the early 1900's. The earliest finds date to 1863 and provide an ante-quem date.

The bottom of the well consisted of wooden beams cut squarish onto which the granite blocks had been laid (PLATE 4, FIGURE 12). Natural soils surrounded the well, and artificial fill and the concrete pipe lay on top of it.

After finishing the recording of the inside of the well, the structure was removed by machine and the process was video-ed.

Once the structure was identified as a well, it became clear that the top of the well had been previously demolished by a modern pipe set in concrete (PLATE 5). The findings thus consisted of a granite block well shaft, its wooden foundation, two cultural layers with artefacts and soils inside sealed by concrete infill recorded between 3.10m and -0.15mPD (hand excavation around the wooden foundation).

No further archaeological finds, structural or other were recorded within the SEE shaft.

Station box

The excavations for the extension of Admiralty Station cover a large area along the west to centre of the works area (FIGURE 1c). The appearance of cut granite blocks announced the presence of a seawall which turned out to be heavily damaged. The top of the uncovered seawall fragment did not survive previous development phases and the fragment had been truncated by the electric substation in the east and former Admiralty Station Entrance E. The seawall fragment had two off-sets: at eastern end divergence to the north and near the west end divergence to the southwest (PLATE 6a-e). These correspond with old maps showing seawall (design) along the military waterfront (FIGURE 4).

The results of the AWB provided a glimpse of construction method of early Hong Kong stone seawalls. The preserved height of the fragment reached 4.20mPD (FIGURE 13). Eight rows of granite blocks were recorded for the seawall fragment totalling a preserved height of maximum 3.20m. The thickness of the seawall fragment was measured around 3 metres in width at the preserved top (FIGURE 14(a)). The results show however that the wall was smaller at lower courses and was fortified by buttresses at the rear set into the decomposing rock (PLATE 6f; FIGURE 14(b)). The inner blocks were of varying sizes and placed almost like a puzzle which was particular noticeable at the wall deviation to the north, i.e. near the seawall fragment's eastern end (FIGURE 14(b)). More regular patterns were noted for the straight wall sections. No artefacts were found between the seawall blocks, in comparison with foundation blocks, see below.

The façade stones, i.e. the north facing side of the seawall, are more finely pointed and a mortar or concrete grouting closed up the seals (PLATE 7). Samples were taken of the grouting, but ongoing

maintenance would have been needed due to the salt spray deterioration.

A number of features associated with the seawall fragment were also recorded: drains, run-off channel and landing stone:

- A stone drain later set into concrete (PLATE 8) was located within row '2-3'. A circle had been cut out in four stone blocks and later set in concrete. The top of the stone circle had been broken to allow a ceramic pipe (PLATE 8 and 9c-d) later addition in row '4'. No archaeological materials were collected from the inside of the pipes. At the same location on top of the seawall fragment crushed fragments of another ceramic pipe were also recorded (PLATE 9a-b).
- The run-off channel was located at row '7' (PLATE 10). It had been spared out of the granite block and was found slightly protruding out of the seawall. The channel continued to the rear of the wall but was not found connecting to anything.
- A 'landing' stone was found at the base of the seawall (PLATE 11). It is an irregular polished granite block with two dowel holes. Landing stone may be a misnomer as it is presumed that the stone would have been used for maintenance of the wall rather than embarking and disembarking vessels. Associated with the landing stone were protruding stones in the wall which may have been used to climb up or down.

The seawall foundation (FIGURE 13) was minimal and consisted mainly of three and in parts of only 2 rows (PLATE 12). A *pierre perdue* foundation had been expected following late 19th century public seawall foundation designs, however, the seawall foundation recovered in front of the military area was laid onto stable well weathered rock deposits. The condition of the seawall foundation was found heavily deteriorated: the blocks underneath the drain were replaced by concrete and a large natural rock (PLATE 8, top right) and a section near the western off-set had been damaged by former Admiralty Station Entrance 'E' (PLATE 13). The excavation of the foundation under the current works permanent slab proved very dangerous as the exposed cuts were deep and unstable (PLATE 12g). The foundations were recorded and surveyed as far as possible and removal of blocks was video-ed.

The stratigraphy surrounding the seawall consists of several fill layers, a cultural soil which formed to the north of the wall and natural deposits. The following west facing section sketch shows the positions of the seawall, foundation and surrounding soils with contexts, where appropriate:

The material finds collected mainly from the sands accumulated in front of the seawall, but also within the foundation stones were remarkable uniform and included mainly village ware, dark green glass, European pottery, and red tile fragments (see Appendix B). 29 numbers of granite blocks of the seawall fragment has been salvaged for future interpretation (See Appendix D).

No other archaeological features dated to pre-1950 were recorded within the station box works area.

5.2 902

902 (covering four works areas: Site 7, 7c, 7d and 7e) (FIGURE 2) is divided along the two major topographical differences, i.e. lower hill slopes and alluvial flat plains. The monitoring area measured around 300 by 60 metres, of which a quarter on the hill slope and remainder flat area. The area had been abandoned for a while and was covered in trees and shrub on the hill slope and sparse grasses and trees on the flat (PLATE 14a and b). The central flat area however, did not carry a lot of vegetation (PLATE 14a).

Lower hill slopes (Site 7 and 7c) (FIGURE 2)

The hill slopes had been terraced and fairly recent ruins were noticed during the initial site inspection. Archaeological material such as pottery was recorded amongst modern rubbish and construction debris. The pottery as an assemblage can be dated to the second half of the 20th century. Only some surface material was collected for reference (see Appendix C; FIGURE 2-AREA A).

During the excavations, it quickly became clear that the recent cultural layer was subsoil deep (PLATE 14d). No older buried cultural layers were present and well weathered debris flow and sterile hill soils were recorded under the modern ruins.

There was no evidence that early inhabitants used the area for agricultural or other activities.

Alluvial flat plains (Site7c-e) (FIGURE 2)

Excavations within the flat area were relatively shallow at the start of the AWB programme with relocation of trees and site formation. The shallow soil profiles indicated that the site was previously levelled and the upper layer was artificial. Further existing impact which had not been identifiable at desk-based stage was recorded in form of sheet piling at the base of the foot hills (PLATE 15).

The pile cap excavations were conducted to a deeper level (around 2-2.5m) and provided an opportunity to study lower stratigraphy. The stratigraphy showed thin dark topsoil overlain a subsoil and decomposing alluvial plain. A fluvial/alluvial deposit with some artefacts was noted at a pile cap excavation on the flat (north of Site 7d, see FIGURE 2-AREA B, PLATE 16). The context contained few modern pottery sherds and it is assumed that these are run-off material from the ruins at the lower hill slope (see Appendix C).

There was no evidence that early inhabitants used the area for agricultural or other activities.

5.3 903 (FIGURE 3)

Overall

Both pier areas are located in alluvial plain area in close proximity to the (late) Qing dynasty village of Wong Chuk Hang San Wai. The construction of the pier included utility diversion, piling and pile cap excavation around the concrete pile. The utility diversion works did not exceed fill layers and thus the only excavation of interest consisted of the pile cap excavations.

Pier B4

During the construction phase the exact location of Pier B4 (FIGURE 3) proved to affect an artificially raised area located immediately adjacent to a sparse woodland area to the west of the village. The pile cap excavations impacted around 2m of original soil deposit (PLATE 17). The soil consisted of well weathered alluvial sterile sands.

No archaeological material or deposits were noticed.

Pier B5

Pier B5 (FIGURE 3) was located within a traffic island and the area had recently been dug by water services department. The stratigraphy consisted of fill deposit overlaying well weathered alluvial soils. The alluvium was noted during the pile cap excavations at a depth of approximately 1.5-2 metres below the surface (PLATE 18).

No archaeological material or deposits were noticed.

6. Conclusion

6.1 901

Two archaeological features were recorded within the site: a seawall fragment and a well remnant.

Seawall Fragment
The condition of the uncovered seawall fragment, totalling 41.7m in length, was poor: the top had been completely removed, and parts of the rear and wall had been severely damaged by previous development projects.

The seawall fragment corresponds to 19th century maps which show a continuous seawall fronting the military area at Admiralty; in particular with reference to the 1845 map which marks the location of a seawall with bends similar to the archaeological record and written description: *seawall-average depth of highwater at 2ft.* in front of the '6 gun battery' at the site which later will become the Wellington Battery.

Seawalls were a necessary and ubiquitous form of structure in Hong Kong due to both the nature of the settlement (a sea focussed trading colony) and the long history of reclamation both during Colonial times and today. The architectural style of the seawall would be described as utilitarian and the building methods were relatively standardised to meet the local conditions, as they would periodically be exposed to severe weather events such as typhoons. The seawalls of Hong Kong, both historical and modern, reflect the longstanding maritime focus of the place. They do not have any particular association with historical events, personages or engineering innovations. Throughout the years of reclamation history of Hong Kong, seawalls have served their purpose and then been covered by subsequent extensions of the coast. The uncovered seawall fragment would have been incorporated into a new reclamation by 1902.

The seawall fragment at Harcourt Garden provided a chance for increasing the knowledge base on early seawall construction in Hong Kong. The fragment retains a high level of authenticity as it shows few modifications to its original structure but the integrity of the seawall, both in its length (truncated), height (top sheared off) and attributes (function, use, i.e. part of cultural landscape) has been severely affected by previous development projects and affects the significance of the findings. 29 numbers of granite blocks of the seawall fragment has been salvaged for future interpretation (See Appendix D).

Well remnant

The top of the well had already been removed during a previous development and the remainder of the shaft, recorded for a maximum height of 3.2m, had been filled with construction debris and concrete. The inner diameter of the well measured 1.6m. Archaeological evidence shows that the well had been in use for short time and in general, wells in early colonial Hong Kong were replaced by piped water by 1890's. The construction of the well is functional and has no architectural embellishments. The artefacts excavated from inside the well are interesting but of no exceptional value. Again the information gleaned from the excavation of the well remnant adds to the overall picture of early colonial development and provides a common testimonial.

The monitoring results indicated that within the 901 works area the site had been levelled and the original surface level removed. This was reinforced by the two archaeological features which had their upper structures missing.

No other archaeological findings were noted during the AWB. The archaeological finds and archives will be handed over to AMO after the AWB report has been completed and accepted by the AMO.

6.2 902

Monitoring showed that the hillside had been terraced most likely in the second half of the 20th century. No evidence for older settlement or presence was recorded. The flat alluvial area had been partially filled and evidence for previous development in the form of sheet piling was noticed. Under the artificial fill lay sterile alluvial soils.

No significant archaeological material, deposits or features were present at 902. The archaeological finds and archives will be handed over to AMO after the AWB report has been completed and accepted by the AMO.

6.3 903

Monitoring of the two pier areas showed that the discrete area had been previously severely disturbed by landscaping and artificial filling. Sterile well weathered alluvial soils underlay the artificial fill and disturbed areas.

No archaeological material, deposits or features were present at 903. The archaeological archive will be handed over to AMO after the AWB report has been completed and accepted by the AMO.

7. Recommendation

The archaeological watching brief programme has shown that this is a successful mitigation recommendation for major developments within urban areas and with potential for buried structural remains. The results whilst not of major historical importance add to the understanding of early reclamation in Hong Kong and the construction method shows the high quality/level of workmanship used in the construction of the early seawalls.

Further reclamations/seawall sections may still be preserved along the north of Hong Kong Island although intensive development would have adversely impacted large sections. The discovery of the well remnant showed that pockets of archaeological deposits of interest still exist amidst major urban development and that through a programme of Watching Brief valuable additions to our understanding of Hong Kong's urban development can be gained.

Although no archaeological deposits were noted at 902, the unobtrusive nature of the Watching Brief programme was well suited to assess the potential for archaeological deposits while allowing the construction works to continue. The Desk-based review for 903 had failed to indicate the disturbed nature of these two very discrete areas. The watching brief programme for these two areas however, were conducted without delay to the contractor and add to the understanding of the development of the area.

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9. Archaeological team

Julie Van Den Bergh Licence holder
Ellen Cameron

Supported by Construction Management and Surveyor Teams of MTR Corporation, and contractors and sub-contractors' labourers as required.

10. Copyright and dissemination

[Submitted separately to AMO]

11. Supporting illustration

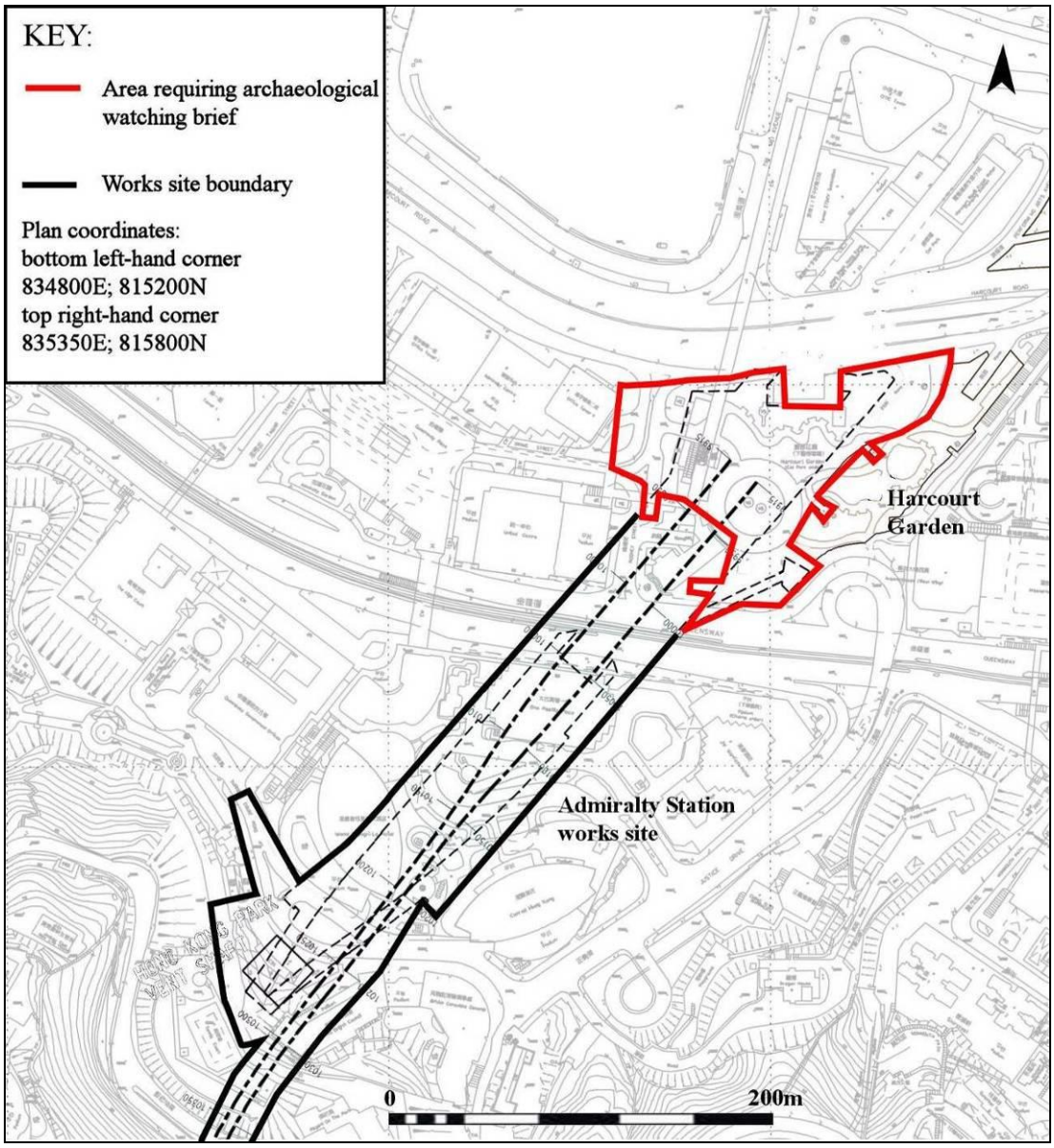


Figure 1a General map of Works area 901 (Harcourt Garden)

Figure 1b Harcourt Garden and areas of existing impacts marked with thick red line (MTR Corporation's Island Line and Tsuen Wan Line and the Electric substation), thin red line (underground carparks) and aqua blue line marks the cooling mains for the shopping malls in the vicinity. The seawall fragment is marked in yellow. Please note that in addition to the marked impacts archaeological evidence shows that Harcourt Garden surface level was cut down to a maximum of 4mPD. Current view shows the area around the seawall at around 2.5mPD.

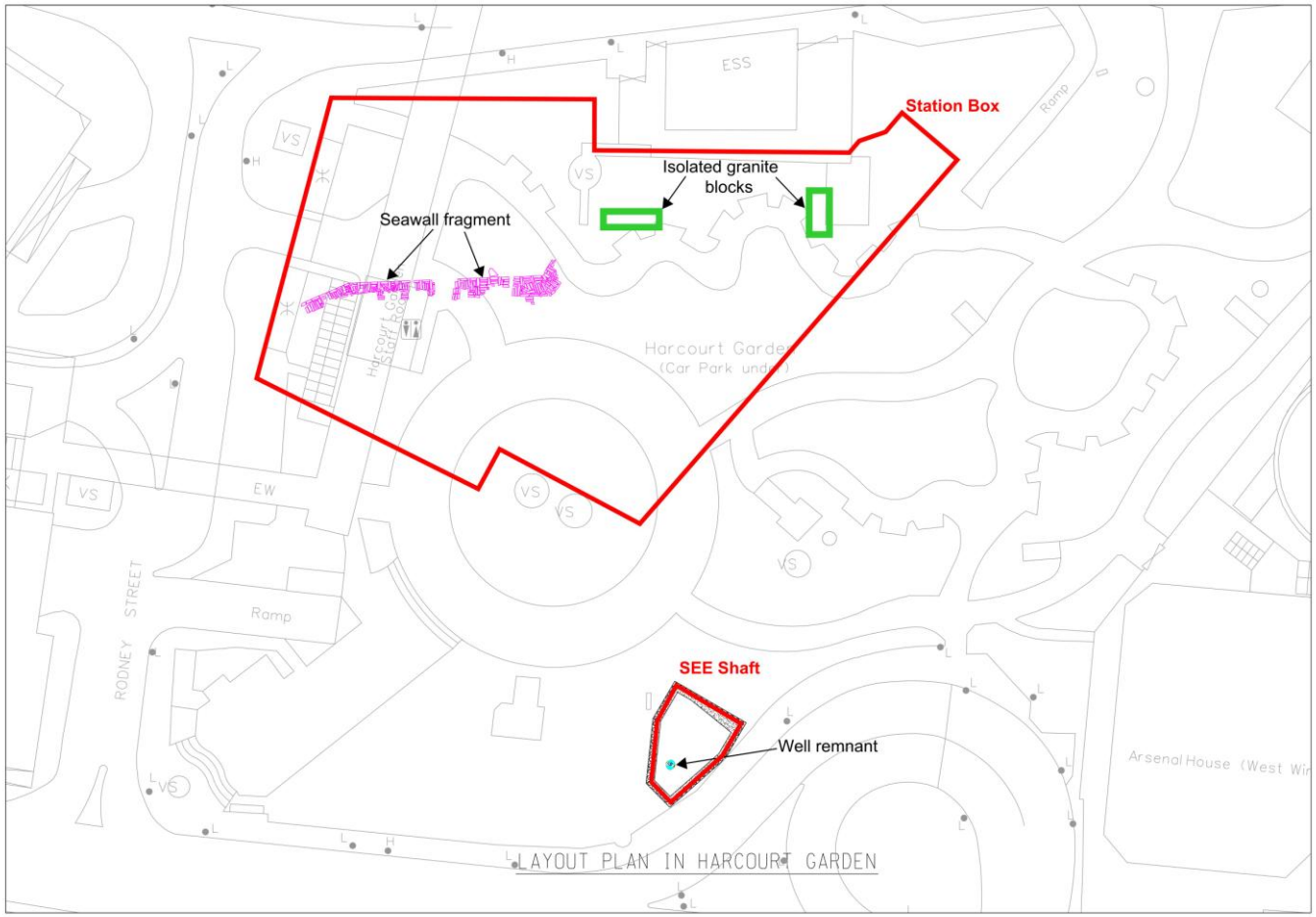


Figure 1c Map showing the location of the seawall fragment in the Station box, well remnant in the SEE shaft and the isolated granite blocks found within the artificial fill south of the electric substation building

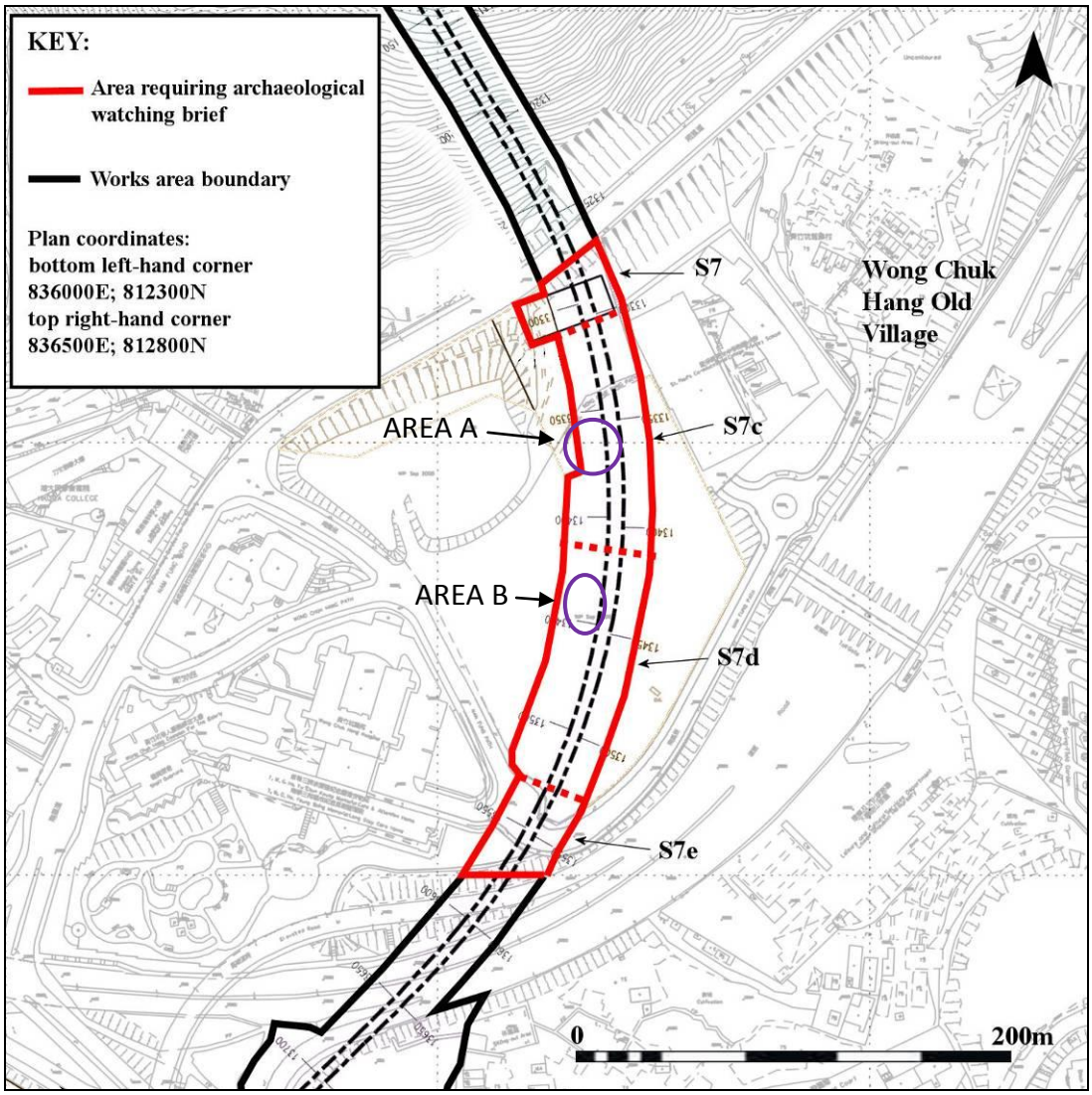


Figure 2 Work area 902 (S7c, S7d, S7e and Site S7); purple circle indicate areas of archaeological material findings recorded during AWB visits

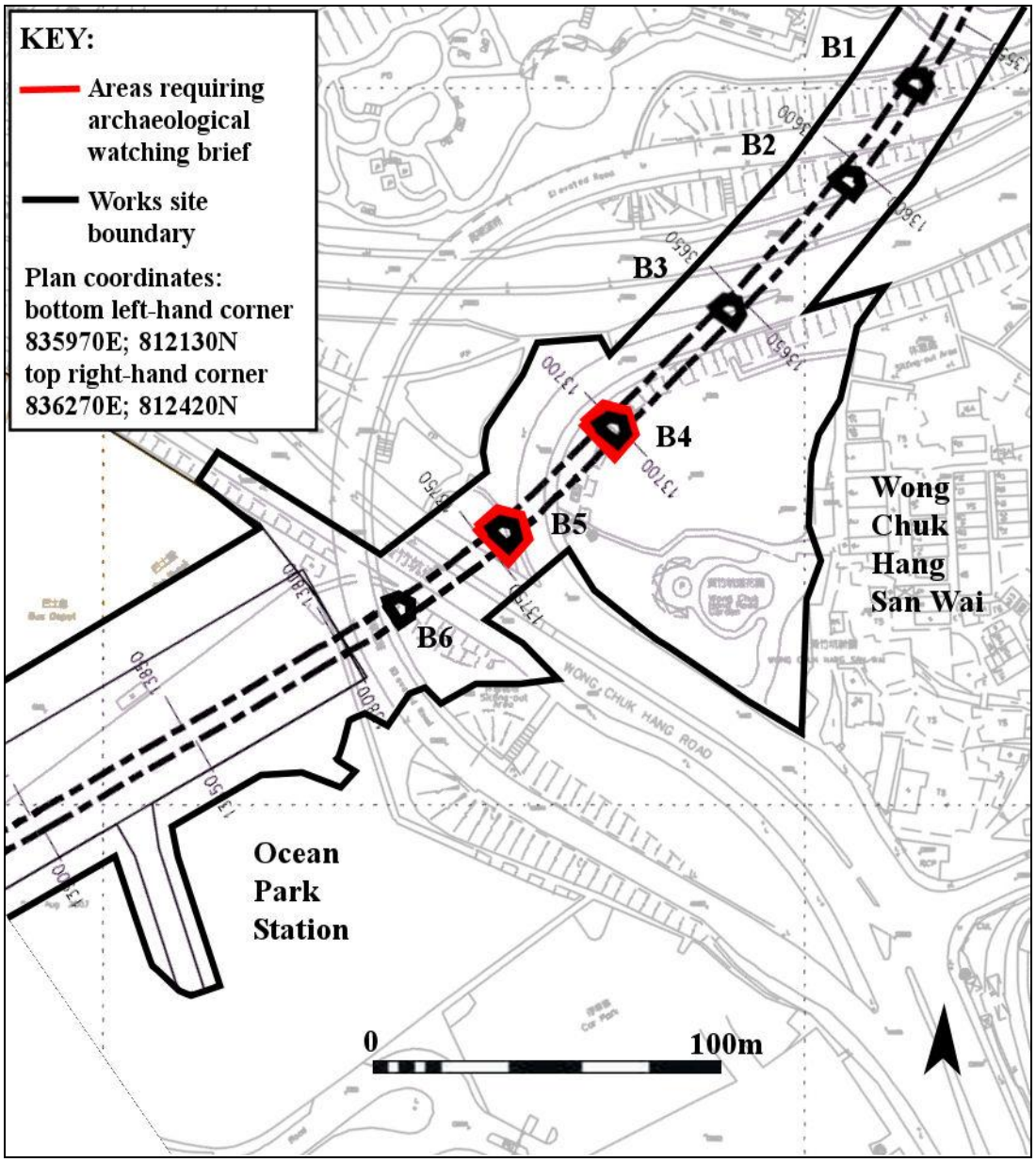


Figure 3 Work area 903 (Site S10)

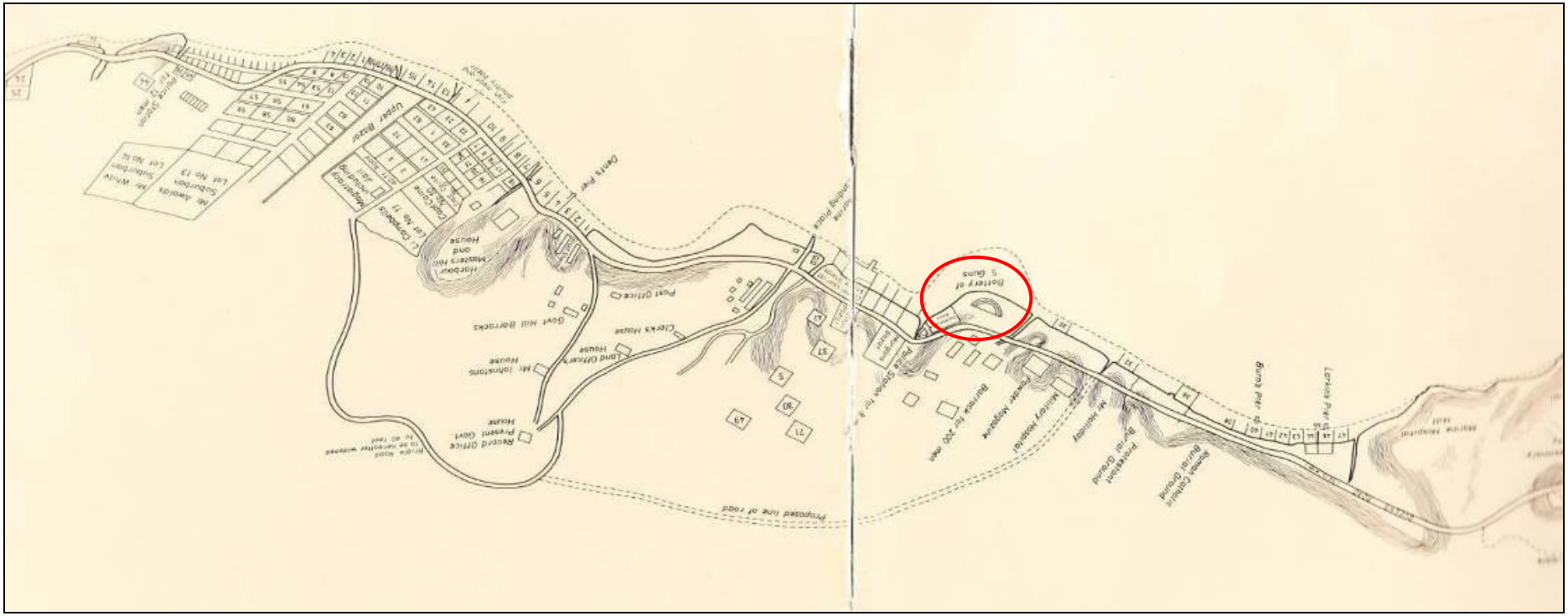


Figure 4a Historical map of the Harcourt Garden/Admiralty area of 1842 (Empson 1992; pp. 160-161)

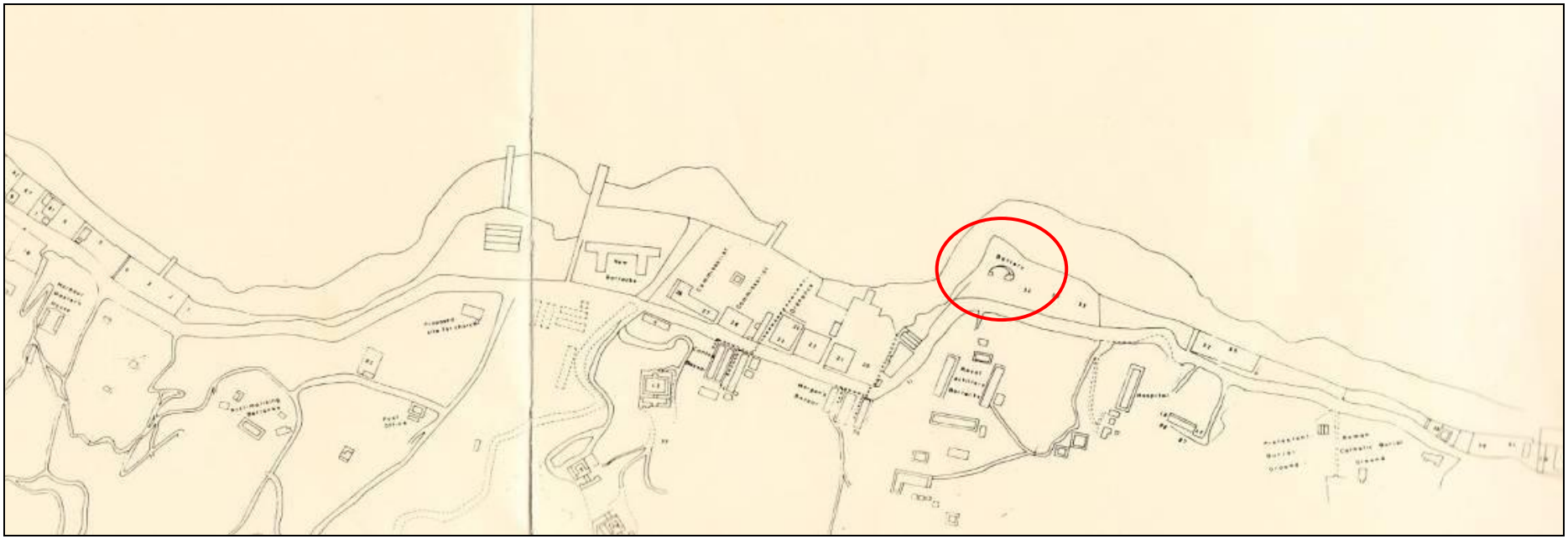


Figure 4b Historical map of the Harcourt Garden/Admiralty area of 1843 (Empson 1992; pp. 160-161)

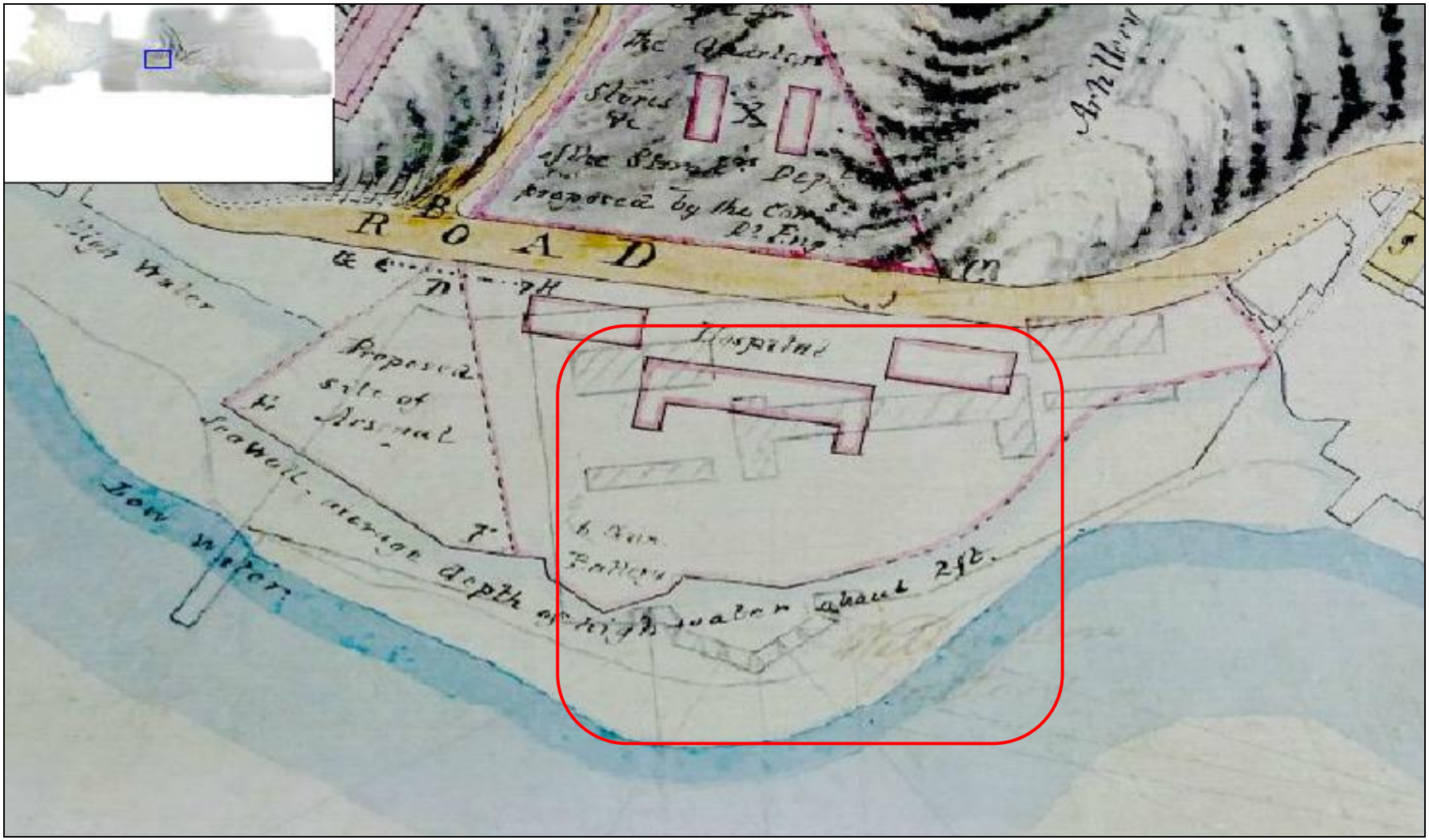


Figure 4c Historical map of the Harcourt Garden/Admiralty area of 1845 (WO 78/4/79 National Archives, UK) http://gwulo.com/1845_map_hong_kong

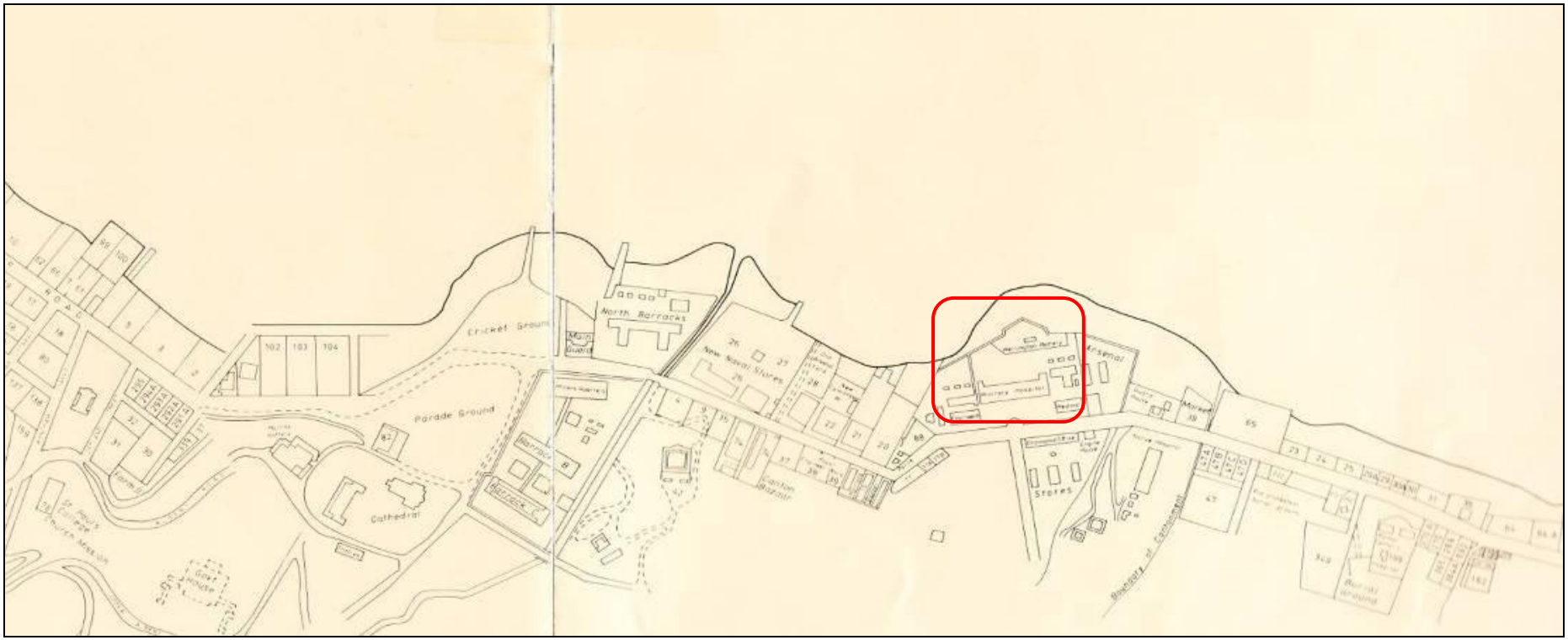


Figure 4d Historical map of the Harcourt Garden/Admiralty area of 1854 (Empson 1992; pp.160-161)

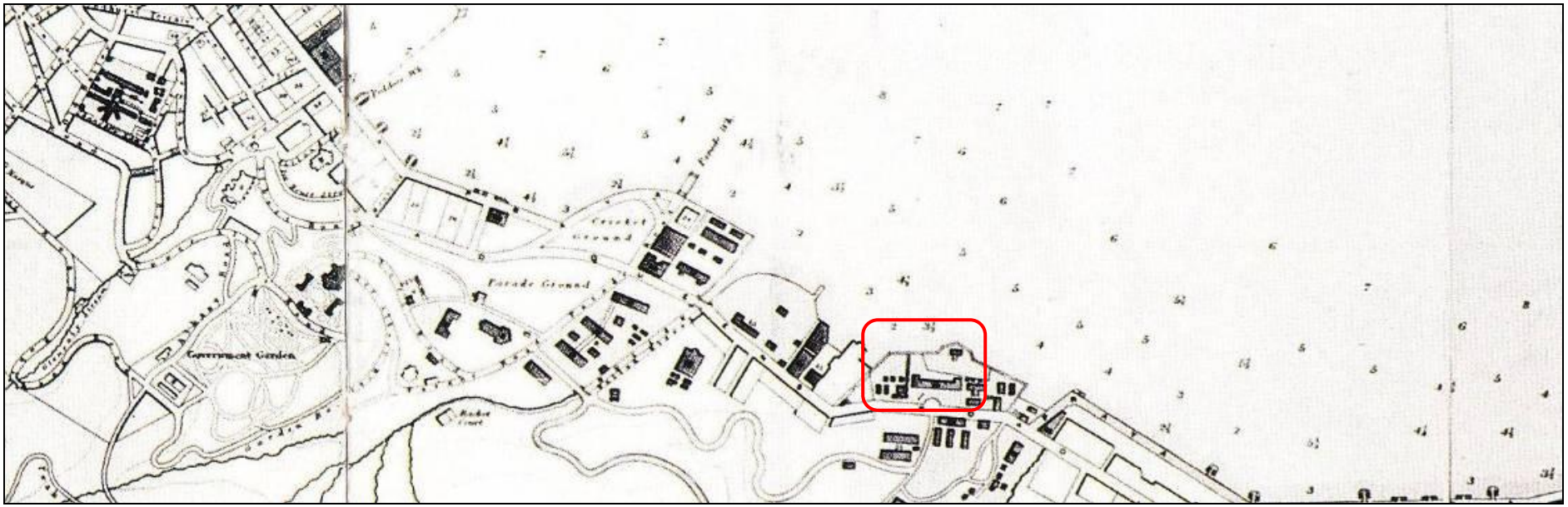


Figure 4e Historical map of the Harcourt Garden/Admiralty area of 1863 (Empson 1992; pp.132-133)

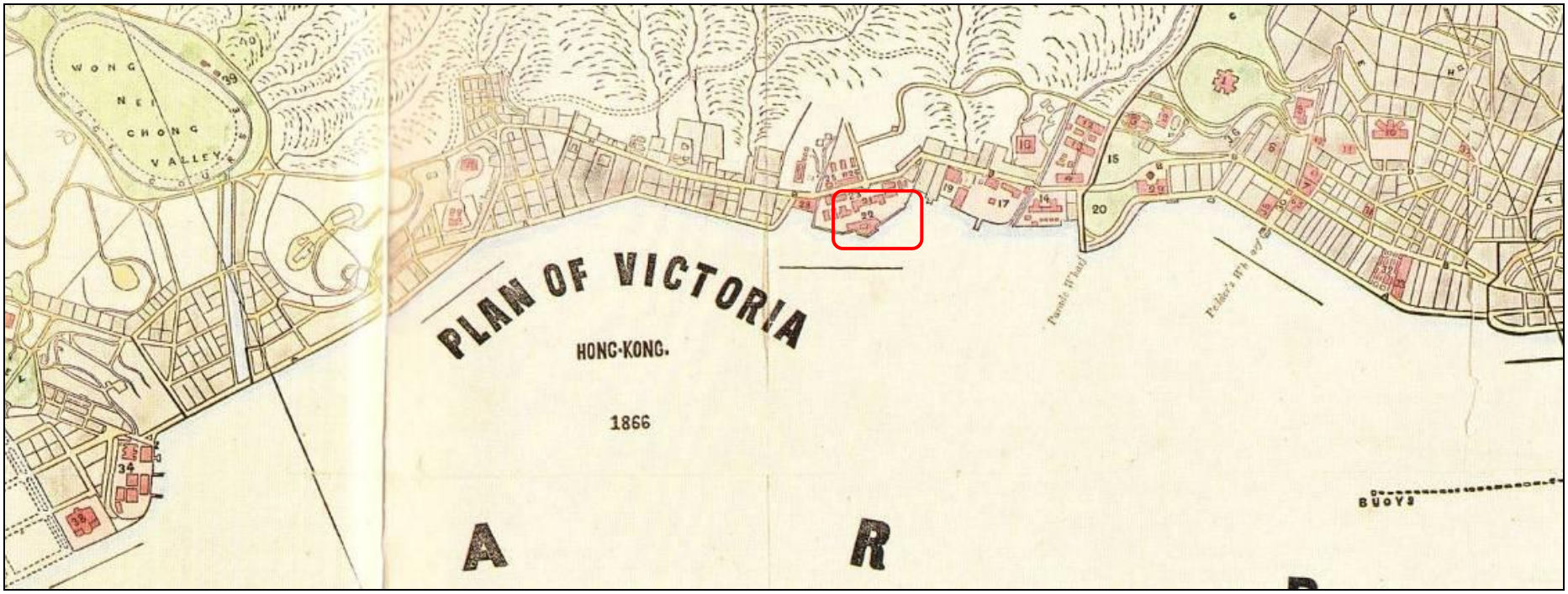


Figure 4f Historical map of the Harcourt Garden/Admiralty area of 1866 (Empson 1992; pp.48-49)

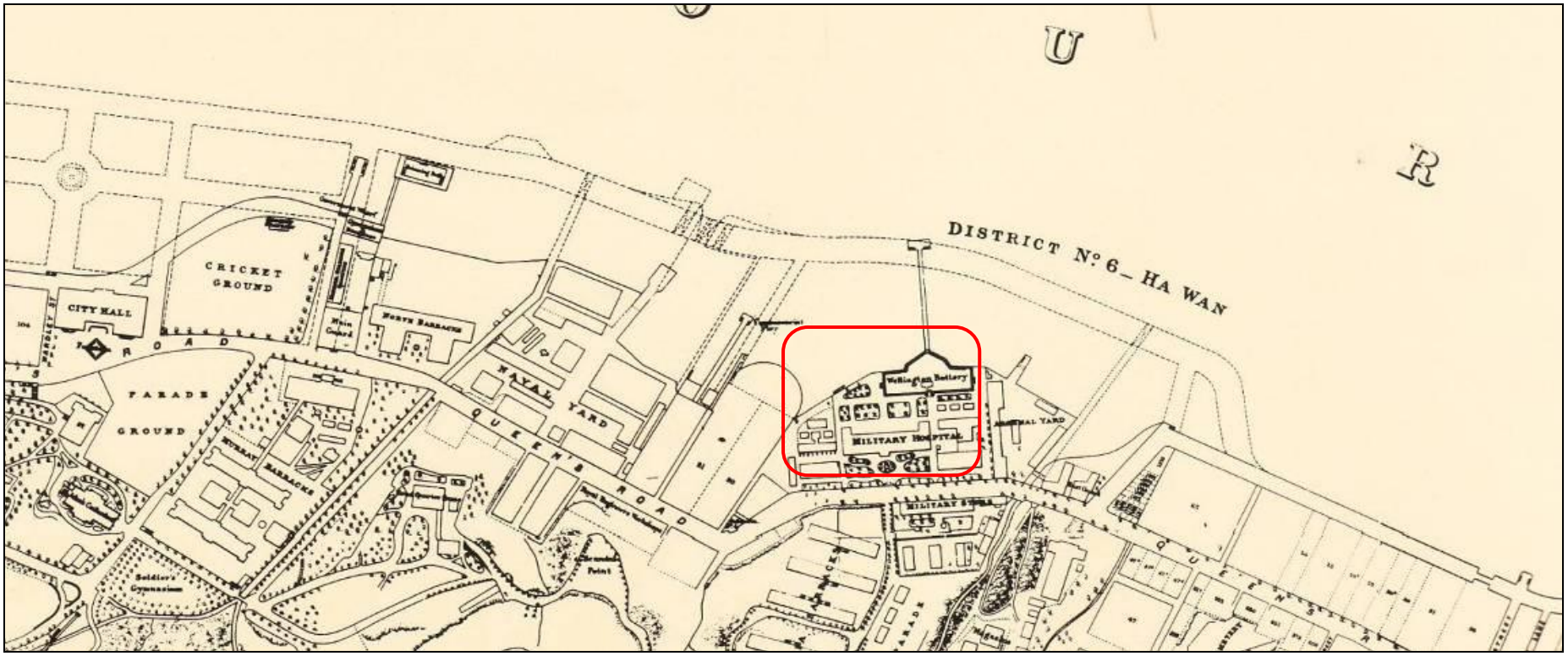


Figure 4g Historical map of the Harcourt Garden/Admiralty area of 1889 (Empson 1992; pp.162-163)

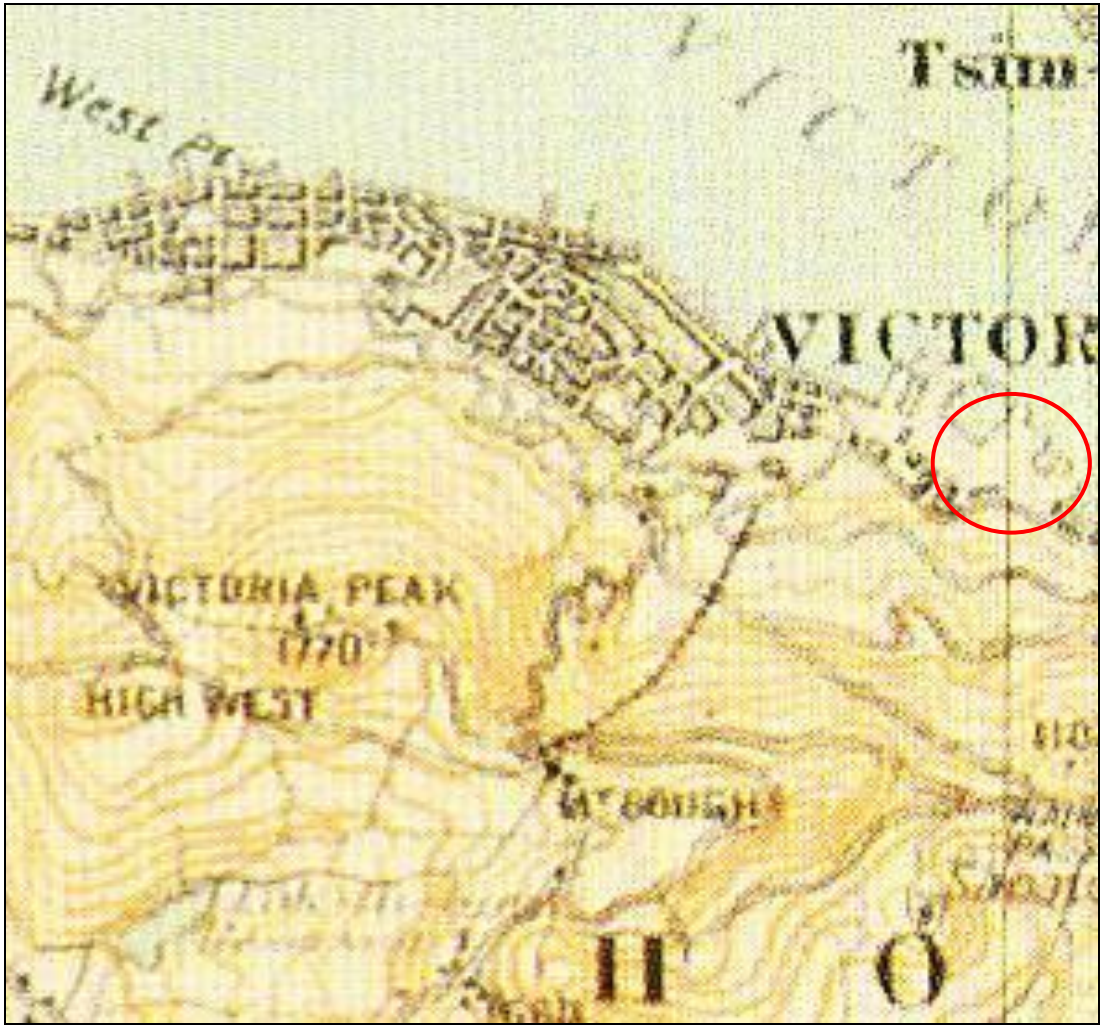


Figure 4h Historical map of the Harcourt Garden/Admiralty area of 1905 (Empson1992;pp.140)

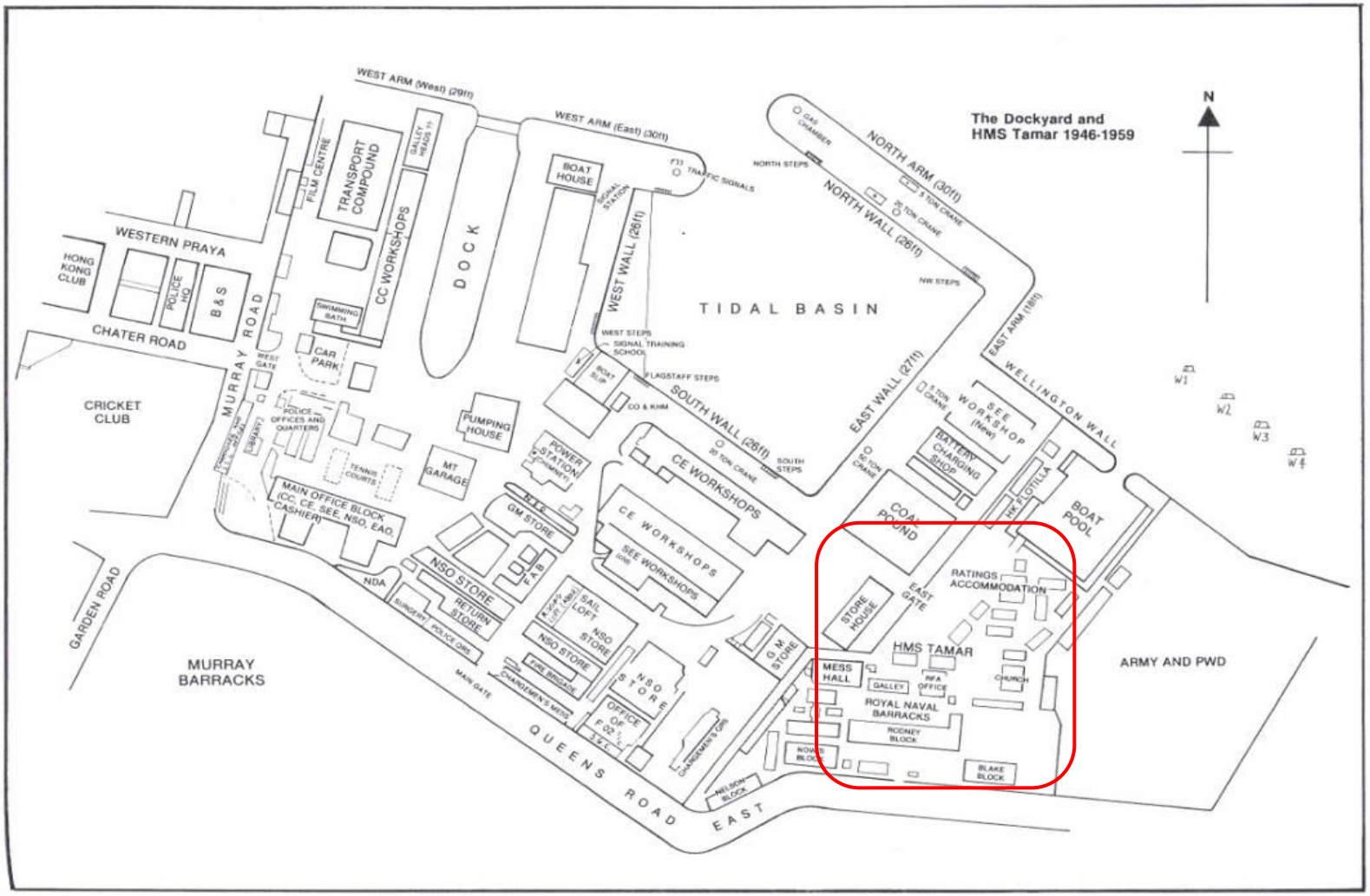


Figure 4i Historical map of the Harcourt Garden/Admiralty area between 1946-1959 (Rolo 1992)

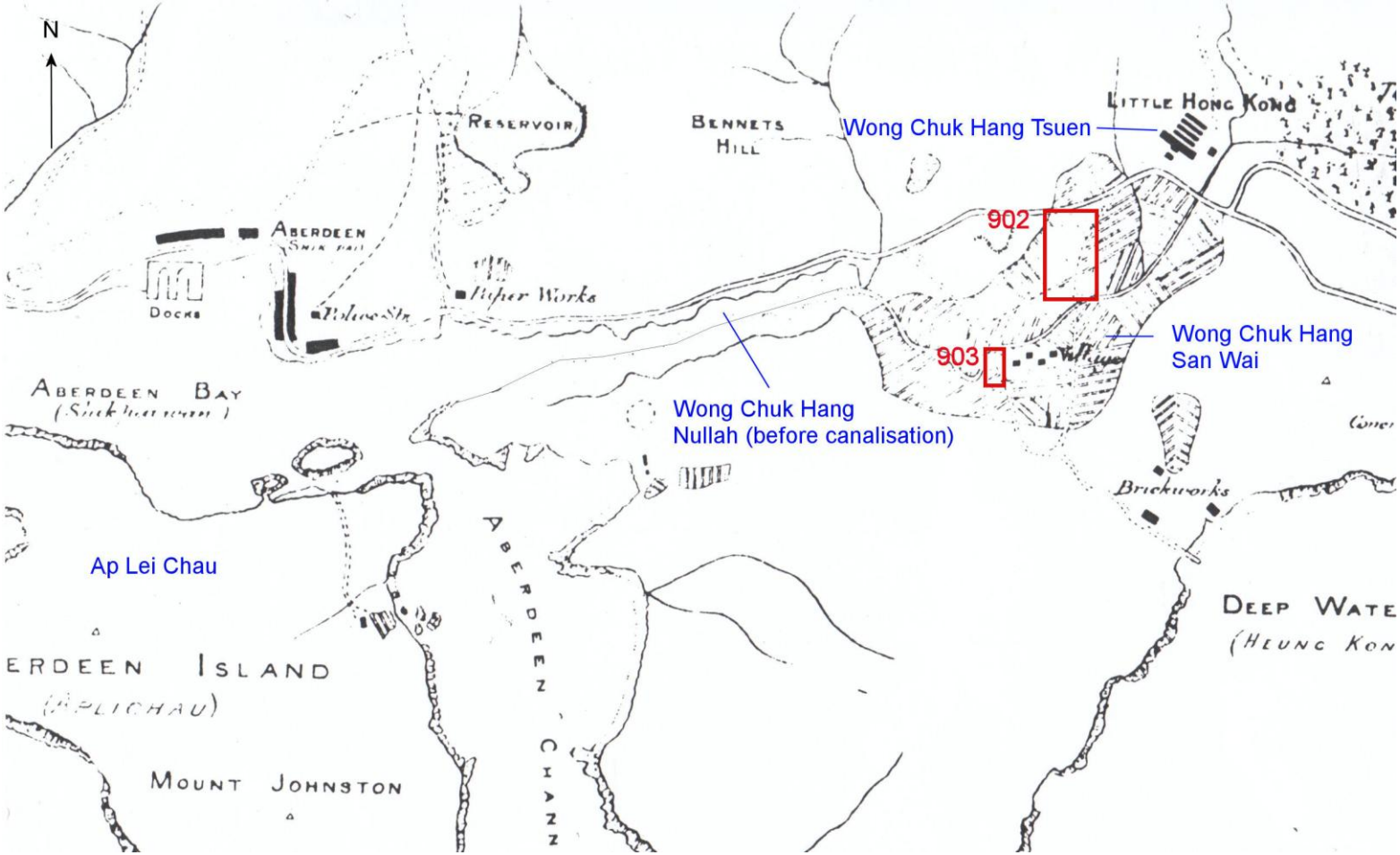


Figure 5 1895 map of the Wong Chuk Hang area (Empson 1992;pp.136)

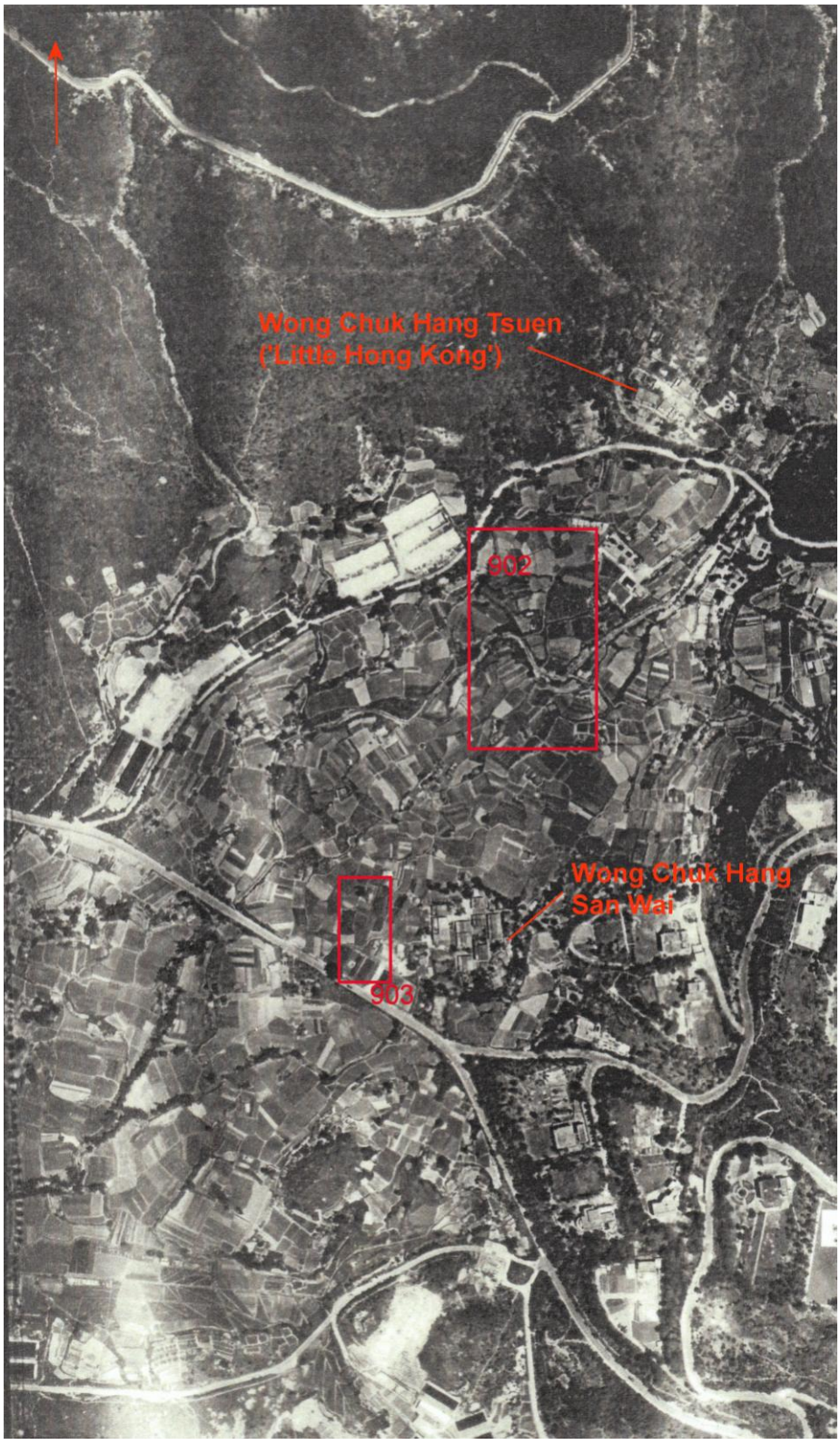


Figure 6 Aerial photograph of the Wong Chuk Hang area in 1949 (Y1232; 8000')

Figure 7 1986 map showing former Wellington Battery and the Admiralty Dock site before Harcourt Garden; Harcourt Garden outlined by red

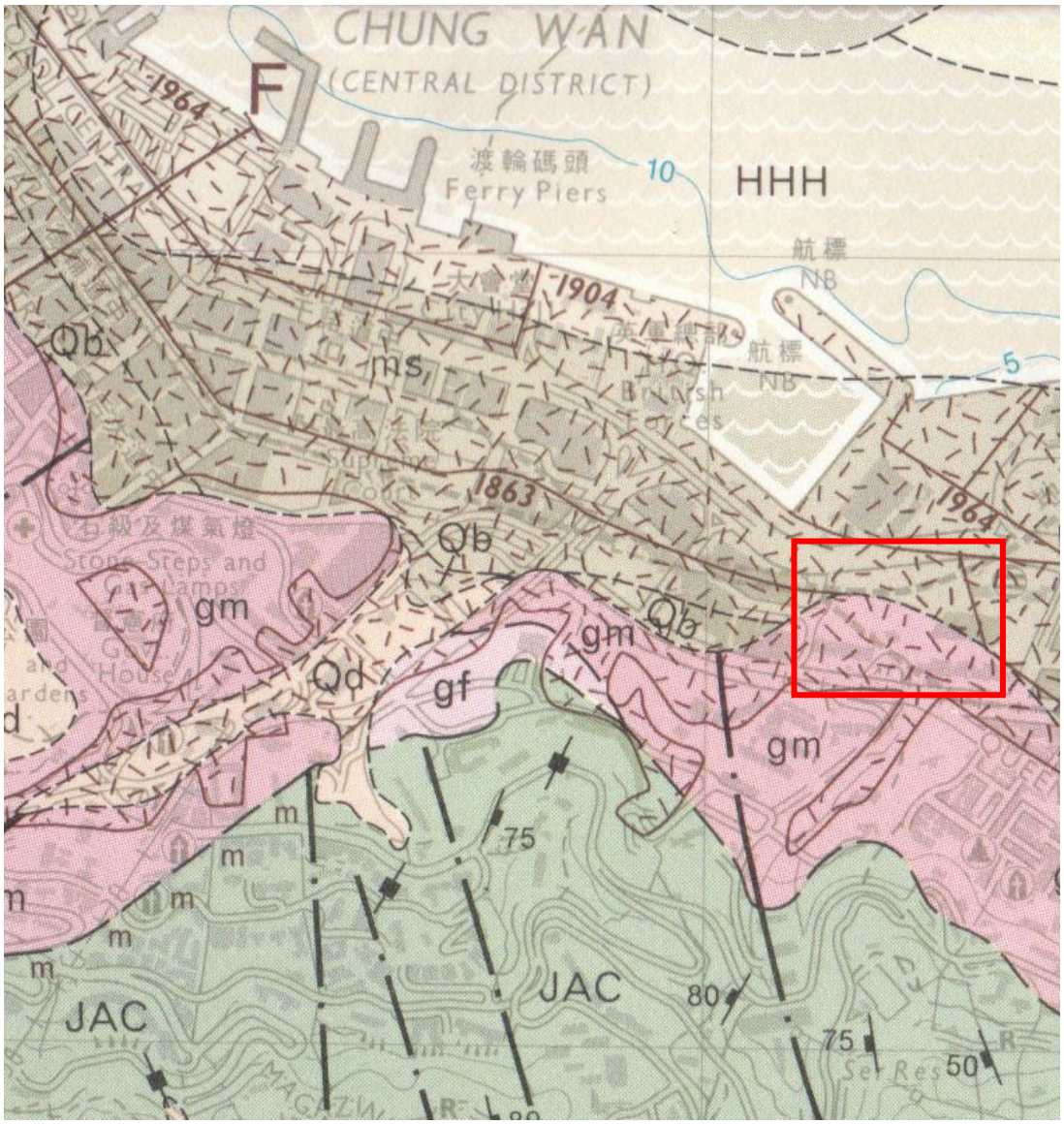


Figure 8 Geological map showing Harcourt Garden area within red rectangular (Hong Kong Geological Survey: Hong Kong and Kowloon Sheet 11, 1986)

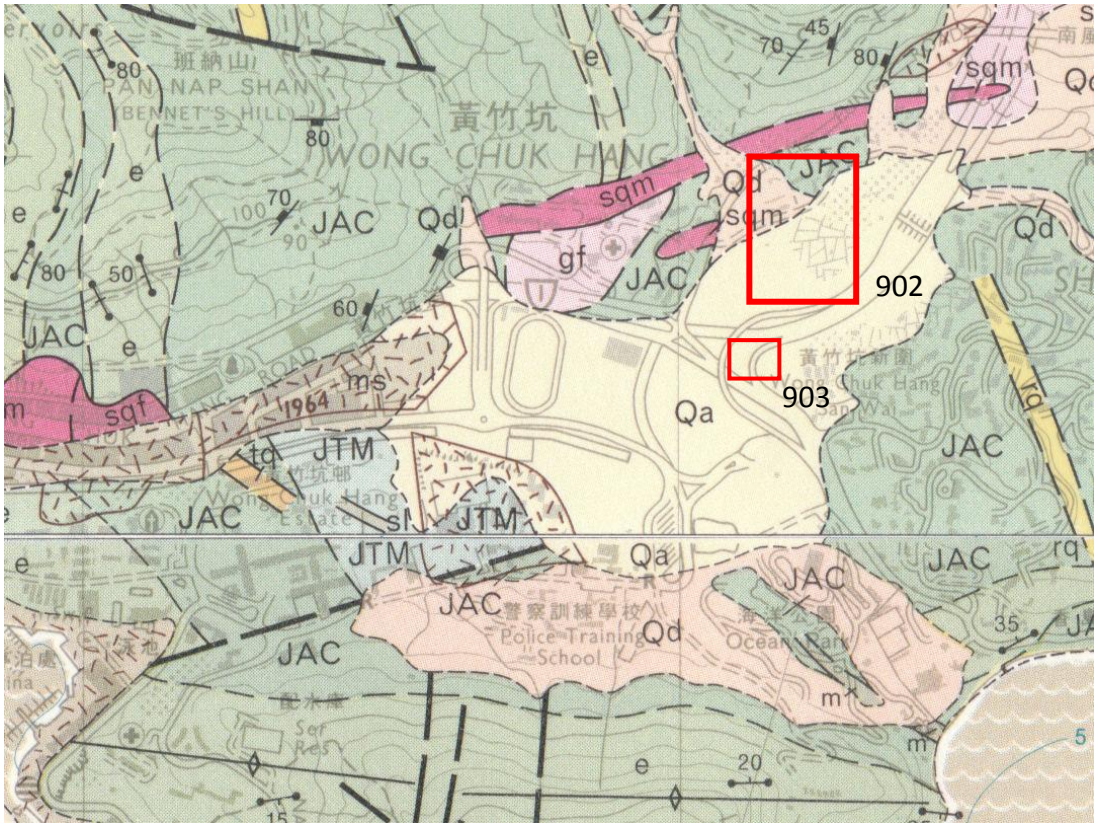


Figure 9 Geological map showing the 902 and 903 workareas at Wong Chuk Hang (Hong Kong Geological Survey: Hong Kong and Kowloon Sheet 11, 1986)

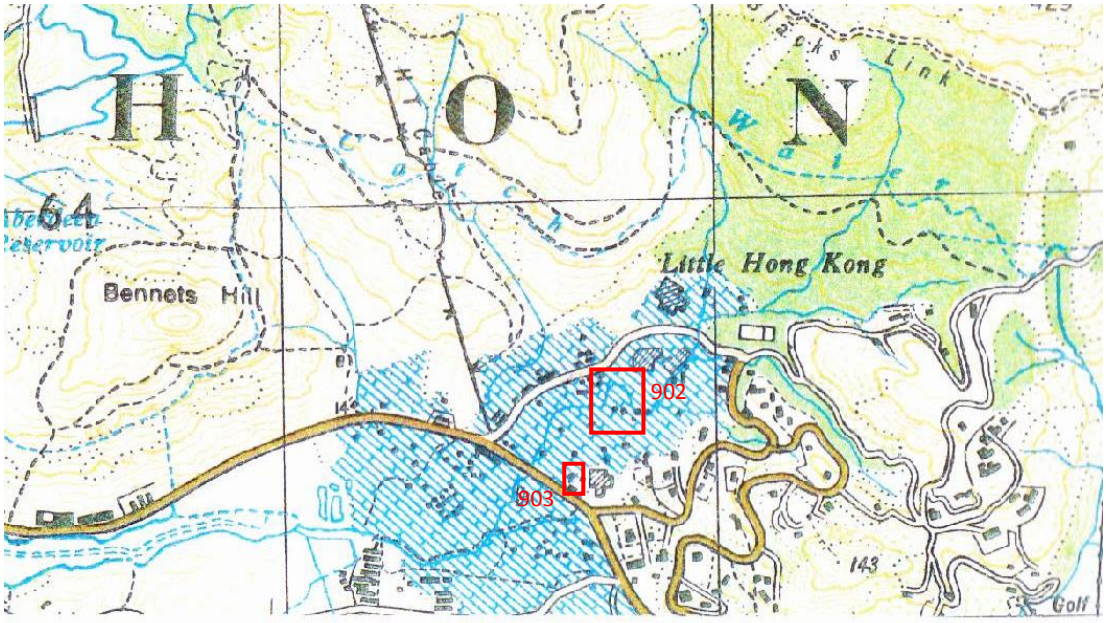


Figure 10 1957 topographical map of Wong Chuk Hang area ; note the structures mapped within 902 works area

Plate 1a A few cut granite blocks noted within fill layer to the south of the substation building

Plate 1b A few cut granite blocks noted within fill layer to the south of the substation building

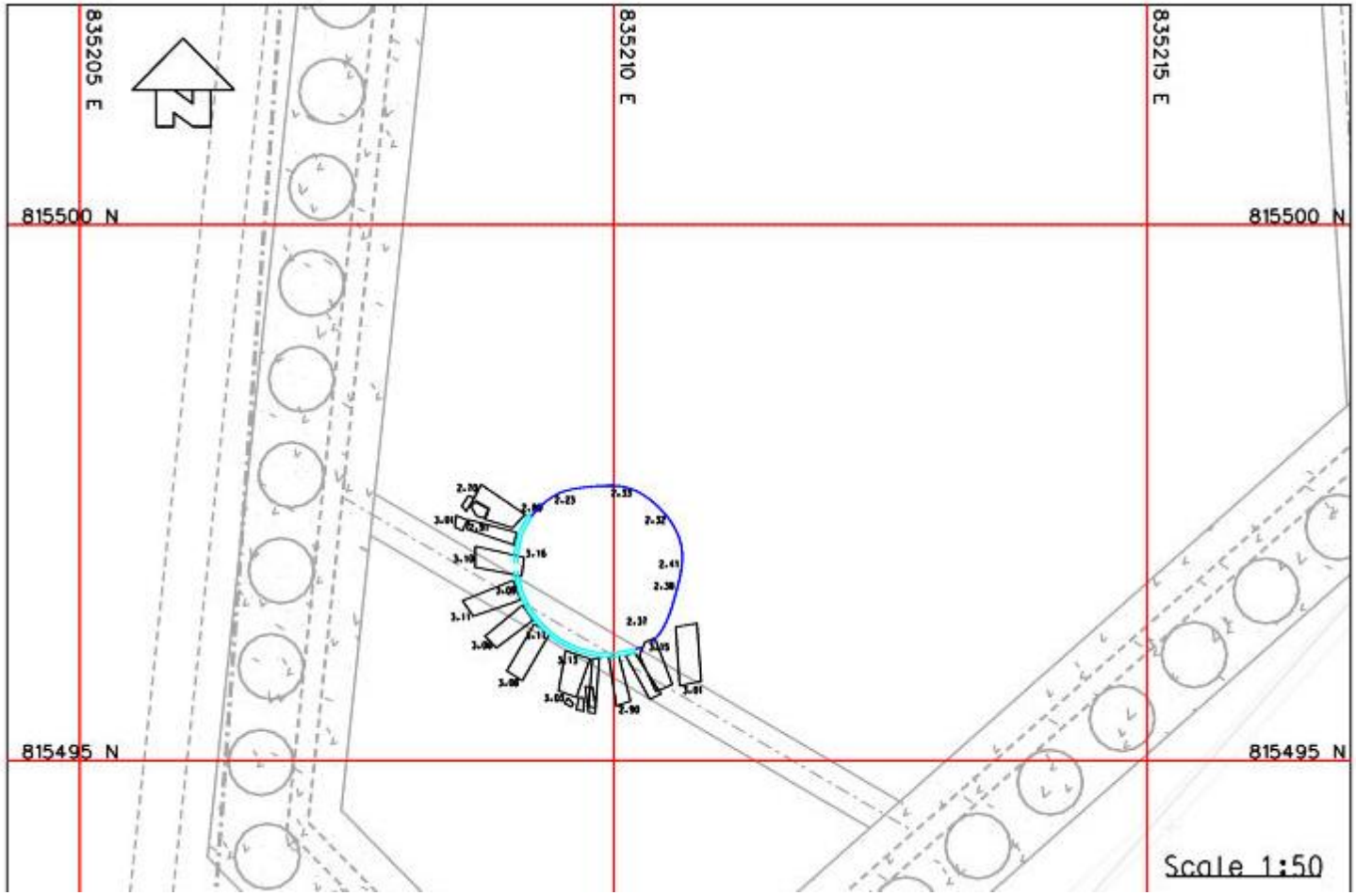


Figure 11a Drawing of top of well shaft (901-RISC-SUR-000675A) (drawing at 75%)

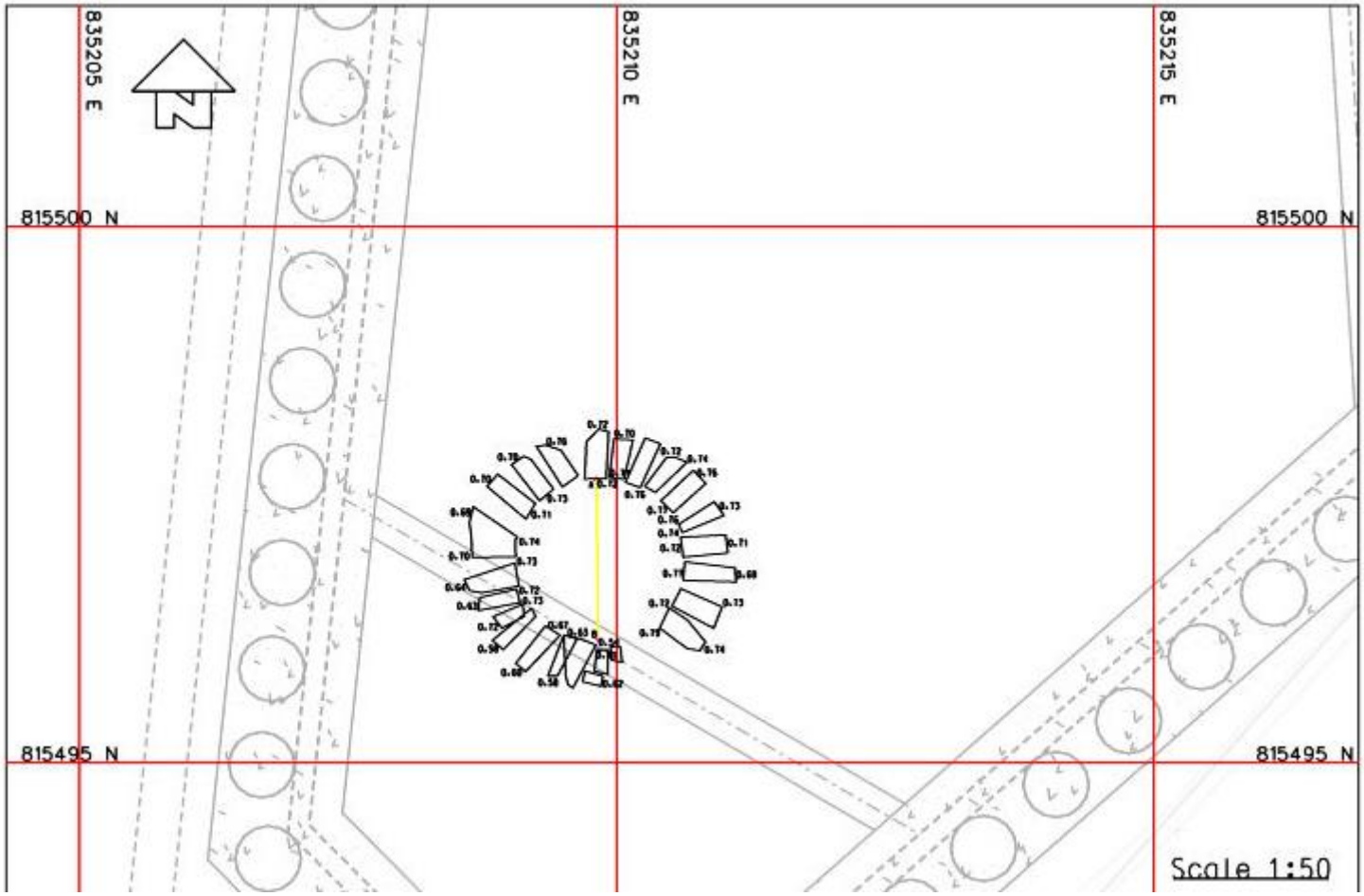


Figure 11b Drawing of well shaft after removal of concrete infill (901-RISC-SUR-000705A) (drawing at 75%); yellow line within the shaft indicates the location of recorded profile during excavation see Plate 3c and Figure 12.

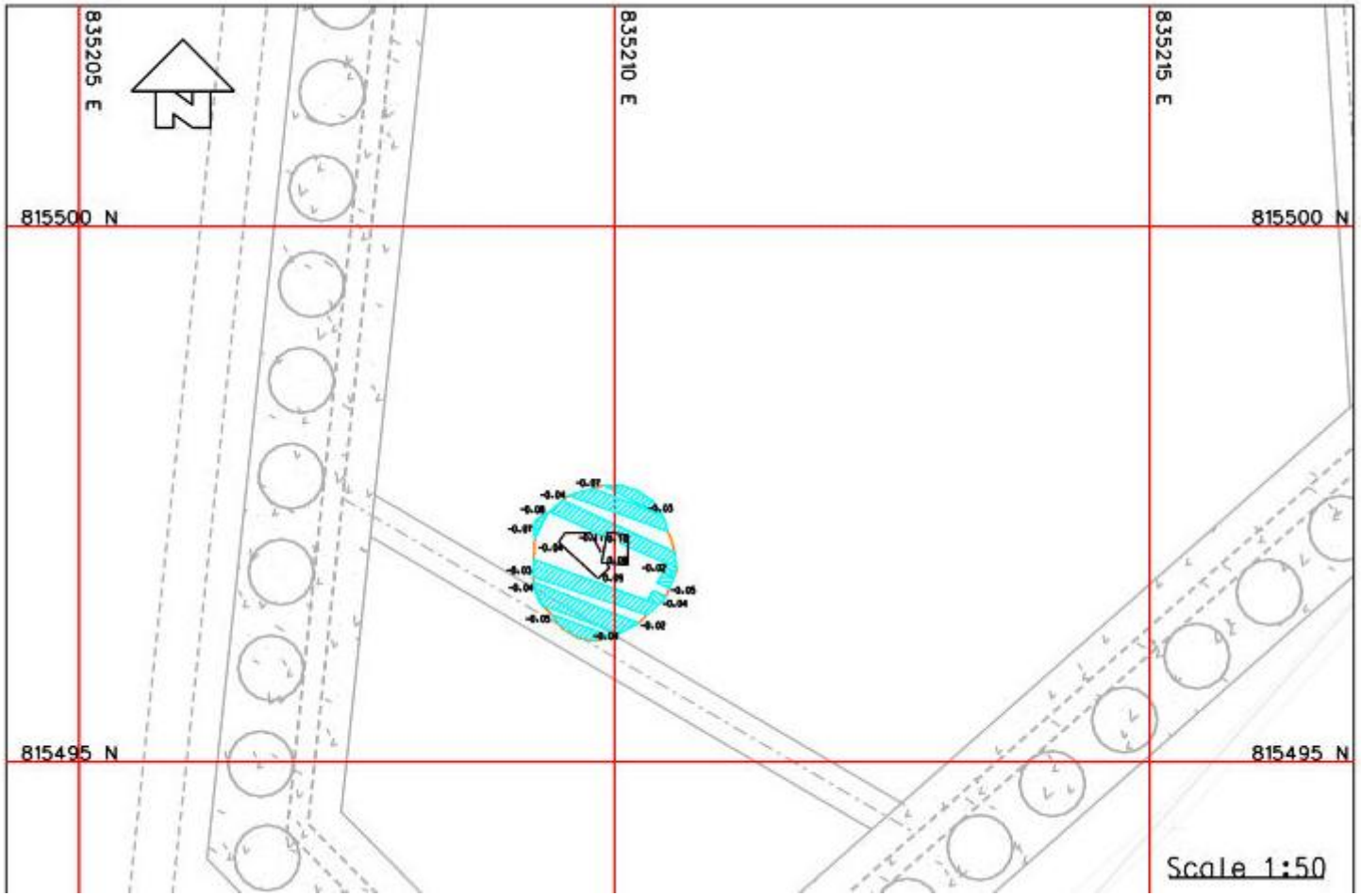


Figure 11c Drawing of bottom of well (901-RISC-SUR-000723A) (drawing at 75%)

Plate 2a 'Pile' (context 102) and radial granite blocks (context 101) recorded in SEE Shaft; notice water collecting around feature

Plate 2b Well feature as first recorded; oblique view looking west

Plate 3a Ongoing excavation of the inside of the well; looking west

Plate 3b View of eastern excavated part inside the well; looking east

Plate 3cView of East facing section with debris layer (co.104) and top of black organic cultural layer (co.105)


Plate 3d View of groundplan of eastern excavated section inside the well with iron sheet ‘circles’ and granite block sitting on the wooden beams

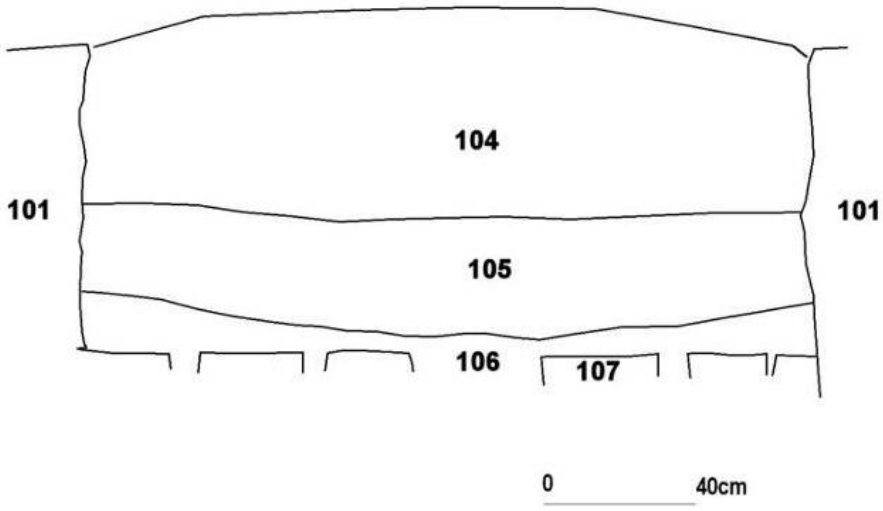


Figure 12 Section drawing of inside well stratigraphy (East facing section)

Plate 4a Inside of the well structure (context 101) with wooden beam bottom, context 107 and last of soil context 106

Plate 4b Groundplan view of bottom of well with context 106 on top and around the wooden beams

Plate 4c Detail view of wooden beam (co.107) and end of hand excavation, i.e. the sterile grey sands (co.108).

Plate 5 Modern concrete pipe noticed within SEE Shaft and which cut top of well shaft

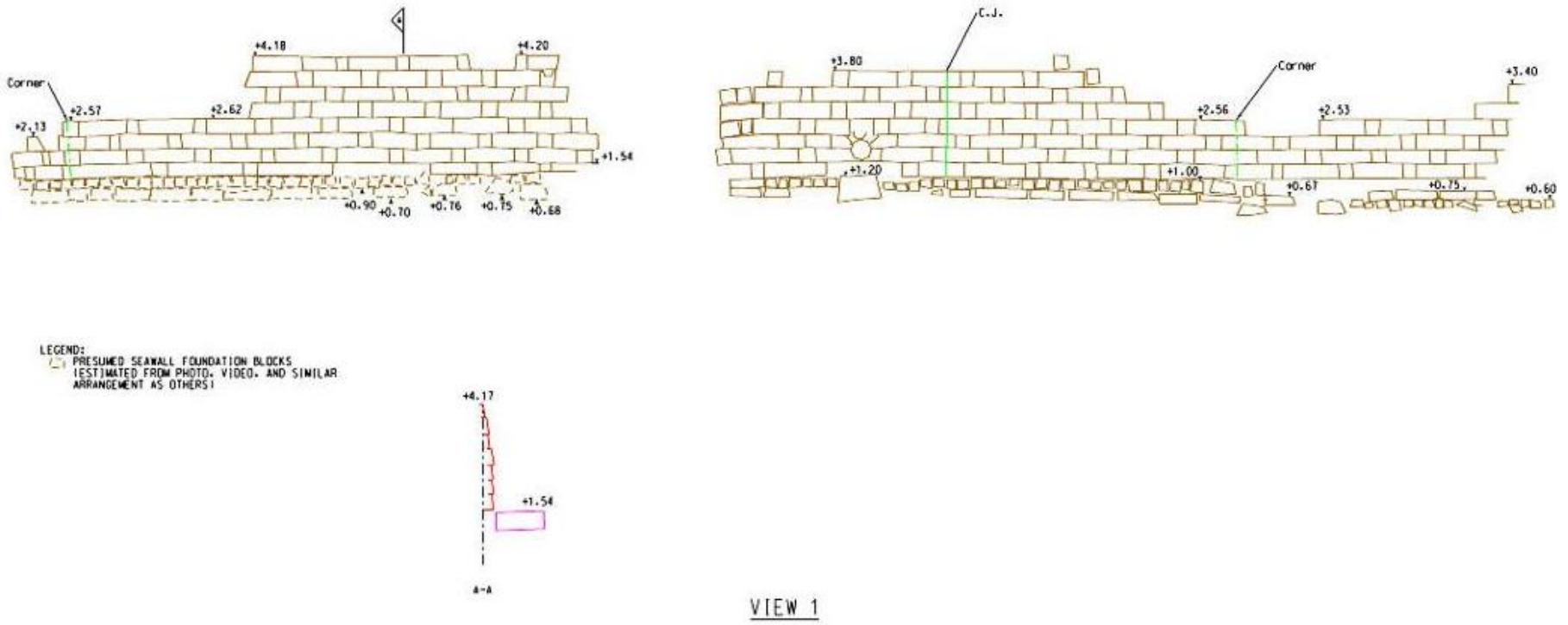


Figure 13 Surveyors drawing of the North facing elevation of seawall fragment and foundation. (901_C_ADM_SUR_C80_004C); green line is location of cross section shown below.

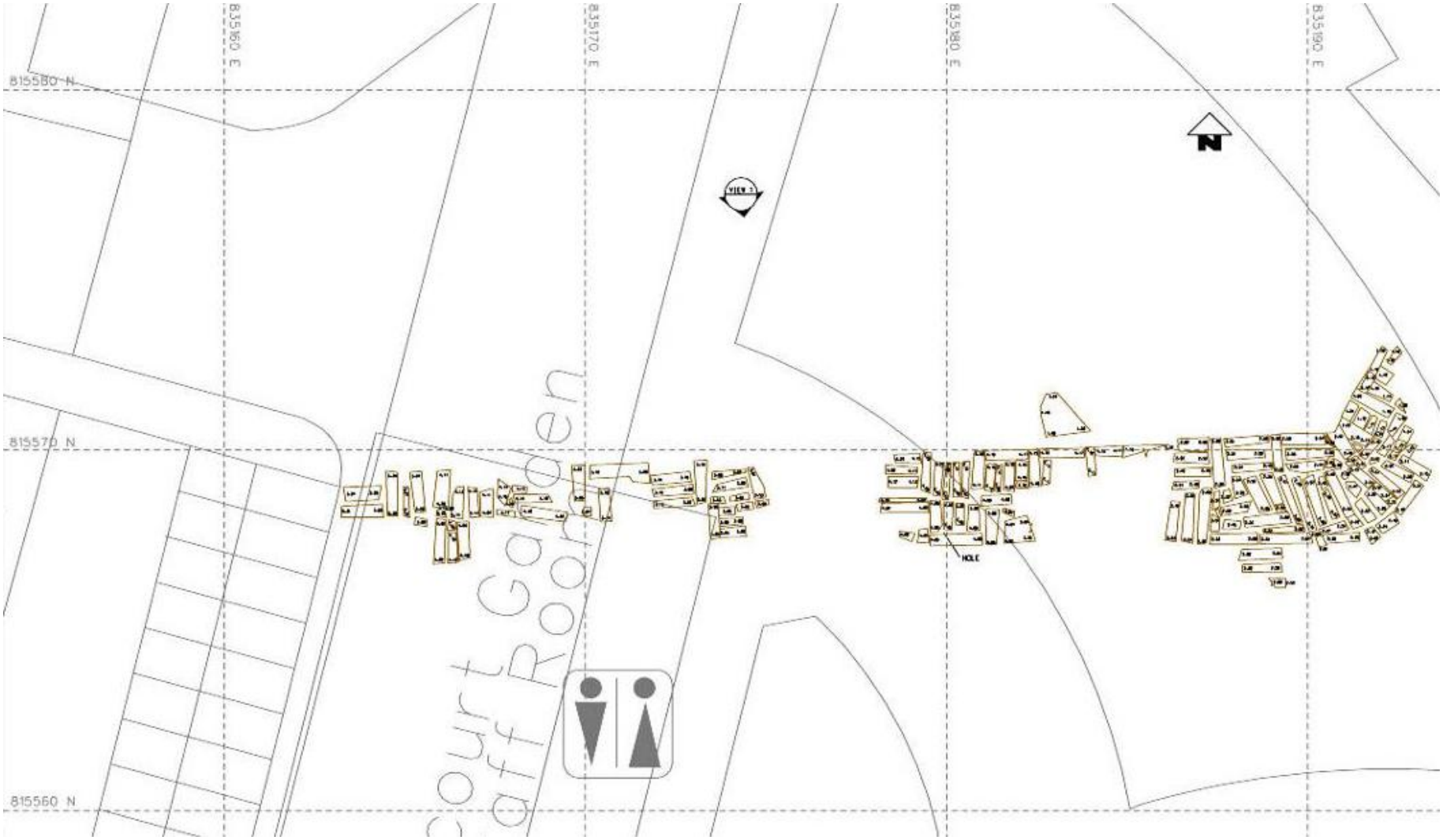


Figure 14a Surveyor drawing of the groundplan of the seawall showing the highest surviving levels901_C_ADM_SUR_C80_005B

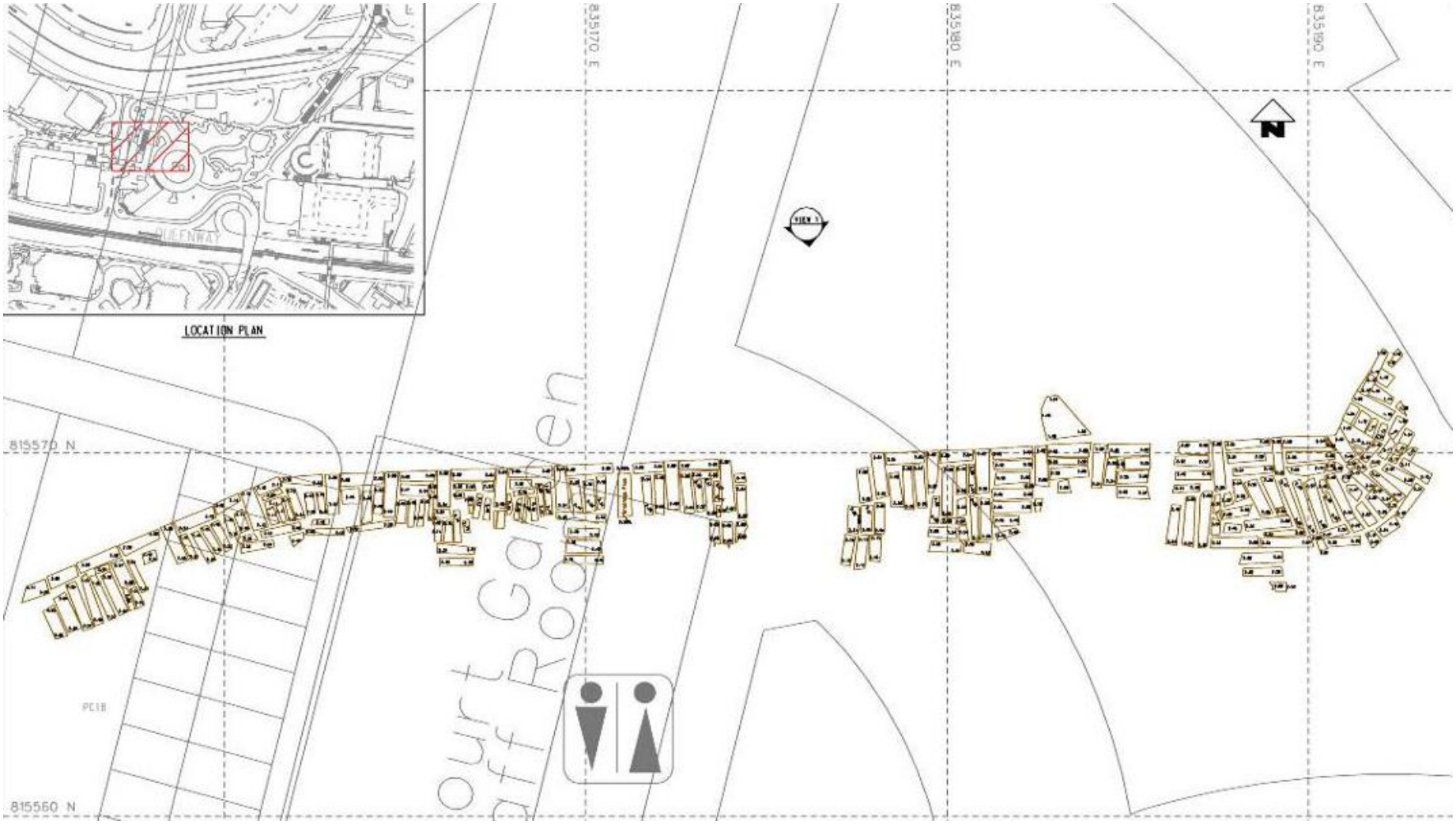


Figure 14b Surveyor drawing of the groundplan of the seawall at Row ‘4’901_C_ADM_SUR_C80_003B

Figure 14c Surveyor drawing of the top of the foundation – Part ‘A’901_C_ADM_SUR_C80_006B

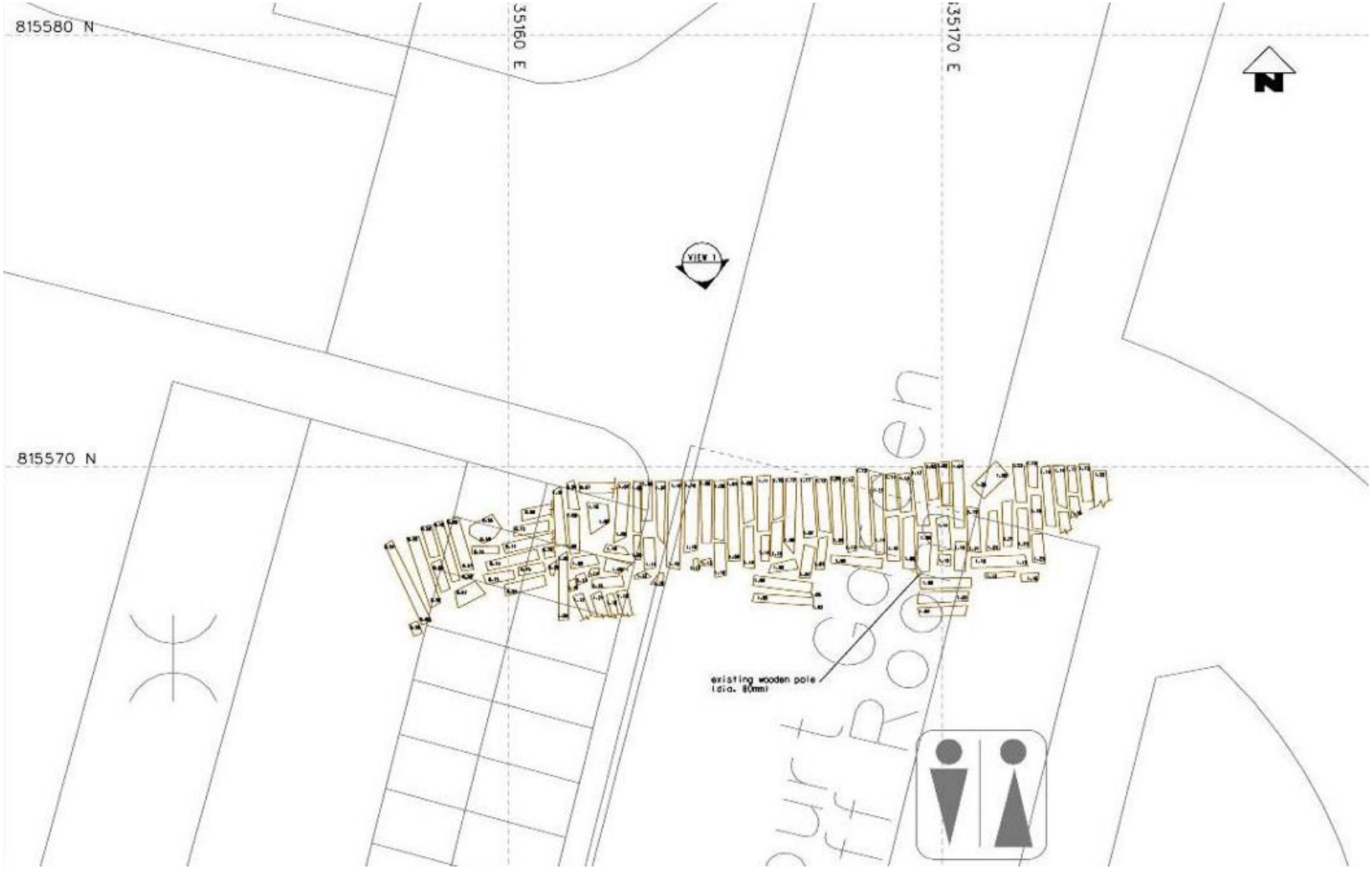


Figure 14d Surveyor drawing of the top of the foundation – Part 'B'.901_C_ADM_SUR_C80_007B

Plate 6a View of the seawall fragment: bend at eastern end

Plate 6b View of the seawall fragment: bend at western end

Plate 6c View of the seawall fragment: bend at eastern end frontal view; notice sheetpile for electric substation in background

Plate 6d View of the seawall fragment: view of seawall to west; concrete structure on the right of photo is MTRC's entrance 'E'

Plate 6 e View of the seawall fragment: top view of row '4' towards east

Plate 6f View of the seawall fragment: detail view of buttress backing the south of the seawall

Plate 7 Sealing of cracks between dressed granite façade blocks

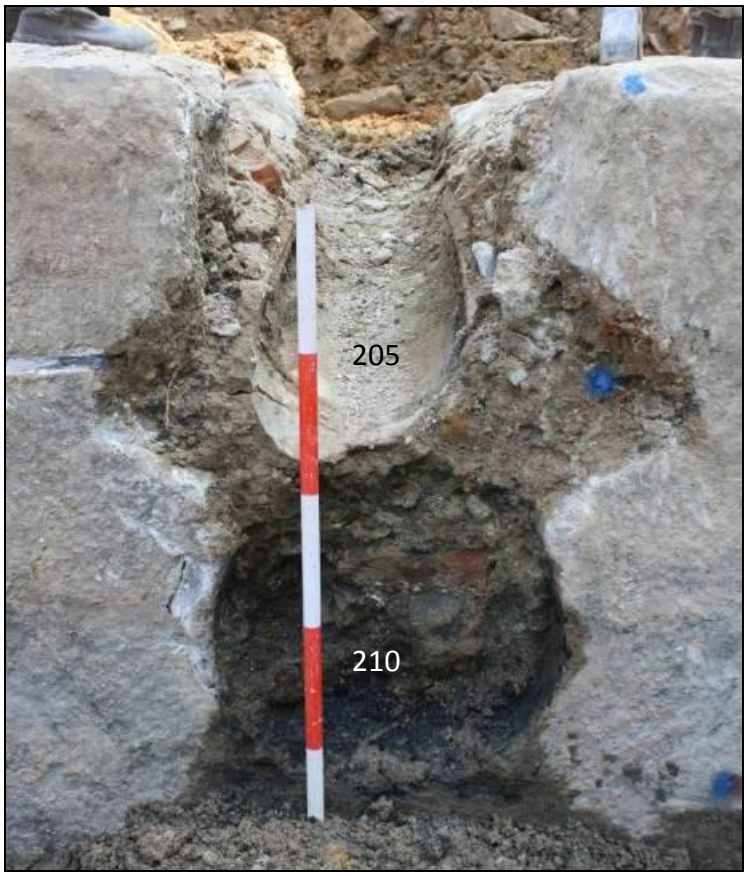


Plate 8a Stone drain, context 210 with later addition ceramic drain, context 205 recorded around row '2-3'

Plate 8b Bottom of stone drain with replaced concrete foundation and natural stone

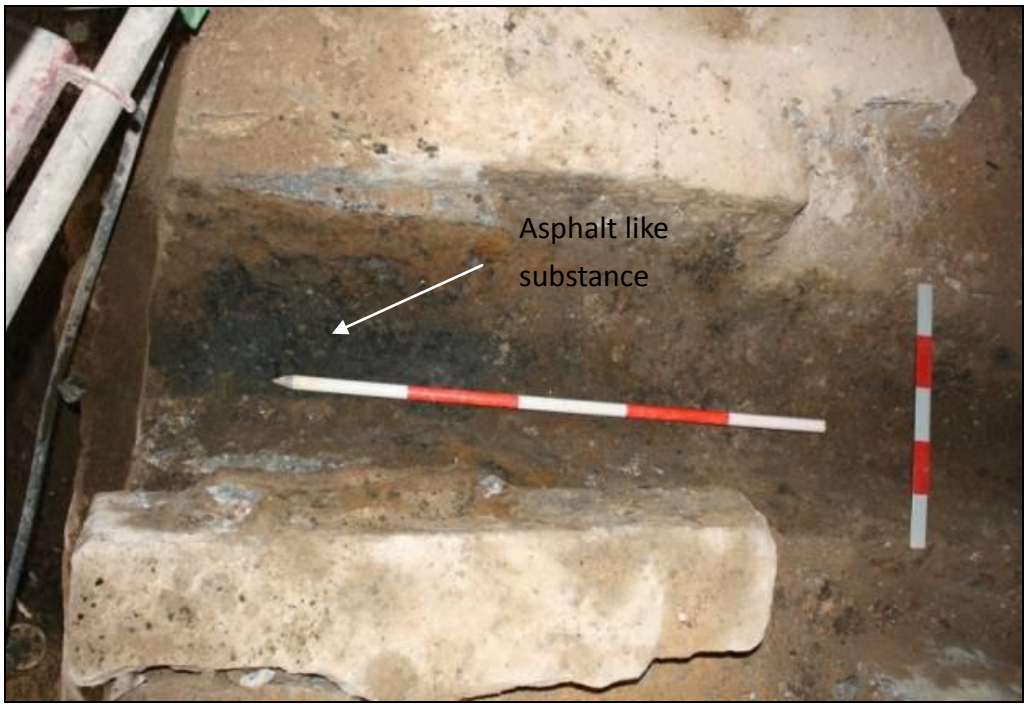


Plate 8c Inside of stone drain, notice black asphalt substance inside

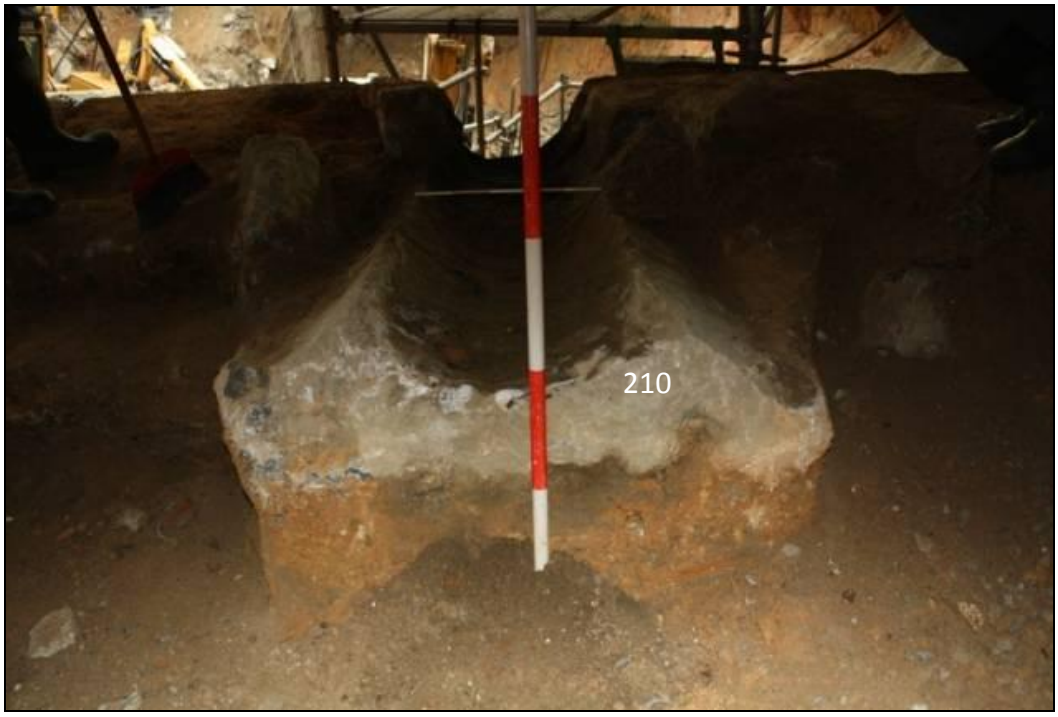


Plate 8d Rear of stone drain set onto soils, context 208

Plate 9a Northern part of ceramic drain context 204 (located above ceramic drain context 205 and stone drain, context 210)

Plate 9b Southern end of ceramic drain context 204

Plate 9cCeramic drain, context 205; north facing section

Plate 10 Stone run-off channel at row ‘7’; north facing section

Plate 11a Landing stone in front of the seawall

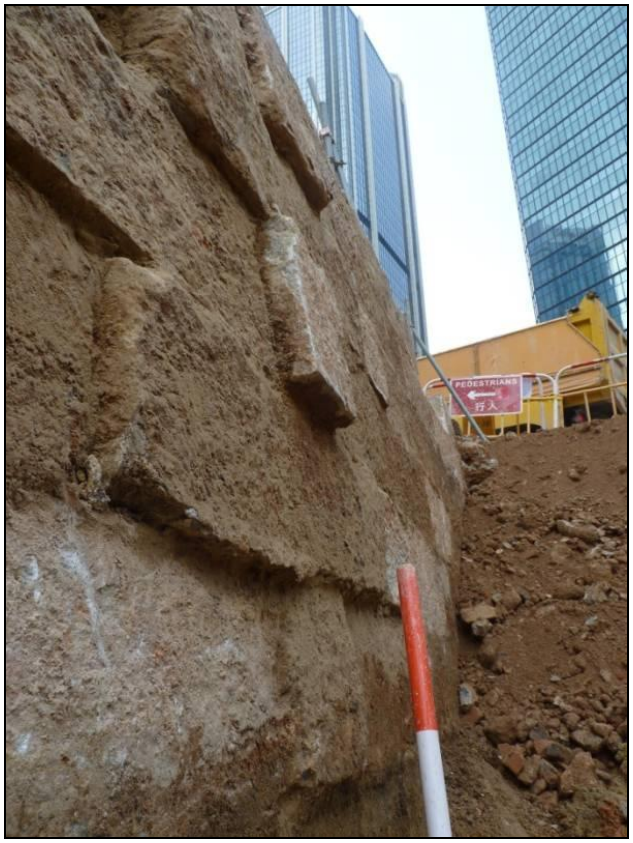


Plate 11b 'Steps' in the seawall above the landing stone

Plate 11c Landing stone immediately in front of the seawall; notice the 'lewis' holes against the seawall and thickness of stone

Plate 11d Detail of the 'lewis' holes

Plate 12a Seawall foundation: view of the western part, Part 'A' of the foundation (Context 206); looking southeast

Plate 12b Seawall foundation: cleaning of top of foundation Part 'B' (context 206); some blocks span the width of the foundation

Plate 12c Seawall foundation (context 206): use of natural stones in foundation

Plate 12d Seawall foundation: missing foundation blocks near and under stone drain, context 210

Plate 12e Seawall foundation: view of top of foundation looking west, notice buttress at rear

Plate 12f Seawall foundation: wooden post noticed at rear of foundation near buttress

Plate 12g Seawall foundation: foundation of Area C location under permanent slab

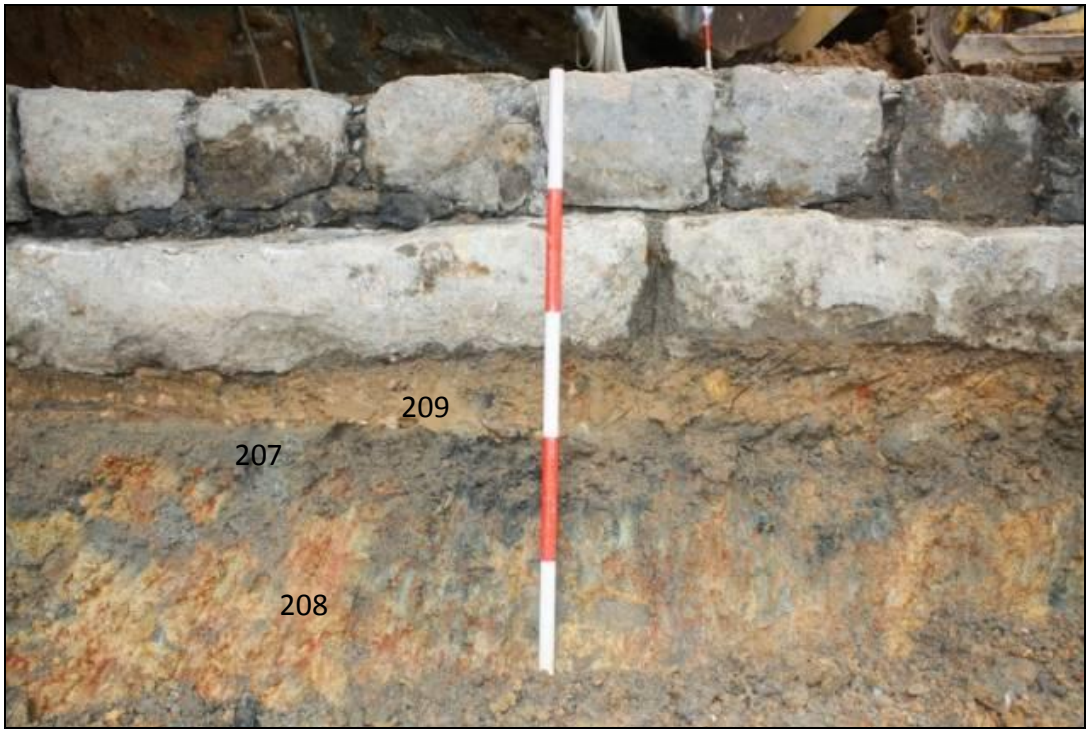


Plate 12h Seawall foundation: two foundation rows and stratigraphy below: sterile orangy layer, co.209 over a grey sandy layer,co. 207 and both sitting on a sterile natural soil, co.208

Plate 12i Seawall foundation: deteriorated grouting used at foundation

Plate 12j Seawall foundation: a simple bond

Plate 12k Seawall foundation: rear of foundation notice blocks on well weathered soil/rock, context 208.

Plate 13a Damaged seawall foundation: metal brace and sheet piling associated with former Admiralty Station Entrance ‘E’ which disturbed the foundation at the western end

Plate 13b Damaged seawall foundation: disturbance near the divergence at western end, note rubbish and large natural rock at point of turning

Plate 14a View of initial AWB visit to 902; view of flat area, looking south

Plate 14b View of initial AWB visit to 902; view of hill slope, looking northeast

Plate 14c View during AWB visits to 902: construction of access road exposed the terracing

Plate 14d View during AWB visits to 902: cutting through the terrace

Plate 15 Sheet piling of previous development at base of hill slope

Plate 16 Area of finds: fill layers overlaying alluvial/fluvial deposit with lots of rounded and semi rounded cobbles.

Plate 17a View of pile cap excavations at Site 10, Pier B4, looking west

Plate 17b View of pile cap excavations at Site 10, Pier B4, looking north-northwest

Plate 18a View of pile cap excavation area and soils at Site 10, Pier B5

Plate 18b View of pile cap excavation area and soils at Site 10, Pier B5; looking north

12. Supporting data in appendices

Appendix A: 901- Well remnant

INTRODUCTION

A summary of the findings within the SEE shaft have been presented in the main text. It is the objective of this appendix to provide further details of the Archaeological Watching Brief result. The Well remnant was recorded over a period between 10 February 2012 and 2 March 2012. Its interpretation however, did not become clear until 23 February 2012 when the concrete infill was removed.

The well was uncovered partially by mechanical digger and partially through hand excavation. The MTR Corporation's surveying team prepared the drawings and photographs and descriptions were compiled by the archaeologist on site.

THE RESULTS

1 Stratigraphy

The stratigraphy outside the structure was uniform and consisted of a single context of orangy brown well weathered natural soils (PLATE 2a) which were waterlogged around 1.20mPD.

The inside of the structure had been filled with concrete from the top to a depth of 0.75mPD (PLATE 2b). The soil deposit inside the well below the concrete infilling was excavated by hand and consisted of three basic layers: context 104: a modern building debris layer of approximate 50cm thickness overlay context 105: a very black organic cultural (10-20cm) deposit with archaeological materials (PLATE 3c). This black layer lay on top of context 106: light grey sterile very clayey gravelly soils (PLATE 4b). This grey layer covered the bottom of the well which consisted of squarish cut wooden beams. Underneath the wooden beams, natural sand gravel and gley soils were noted.

A total of eight contexts were recorded during the excavation and recording of the historical well. The first three contexts 101, 102 and 103 are part of the structure and are described in Section 2 below.

<u>The structural contexts are:</u>

Context 101: Context 101 consists of the granite blocks forming the structure of the well. The well shaft was measured between -0.05mPD and 3.10mPD.

Context 102: Context 102 was assigned to the concrete infilling recorded from the top around 3.10mPD to 0.75mPD.

Context 103: Context 103 is the mortar on the inside of the well also recorded between 3.10mPD and 0.75mPD.

The recorded soils (PLATE 3 and FIGURE 12) are:

Context 104: Context 104 is a building debris layer recorded below the concrete infill with an approximate thickness of 0.5m. The layer contained mainly red roof tiles, red and blue brick fragment, mortar, and concrete fragments, but also some small finds such as pottery, glass and wood (see Section 3 Artefacts below).

The top of the layer was recorded between 0.54 and 0.72 mPD.

It is known that the site was cleared of its buildings in 1959. The reports include that the debris was used to fill in the dock and may also been partially used to fill in the well. The archaeological material is largely undiagnostic and/or wide ranging, the overall assemblages fit with the demilitarisation and clearance date of the site.

Context 105: Context 105 consists of a black organic cultural layer with an approximate thickness of 0.2m. The finds are presented below in Section 3 with photographs.

This layer contained a number of artefacts which may be interpreted as lost during the use or construction of the well. Amongst the finds four coins were recovered: 2 Chinese coins (unidentified due to poor condition) and 2 British Hong Kong coins. The HK bronze coins, one cent and one mil, are dated 1863 and are among the first coins minted for the Territory. The thin layer also contained a number of perishable materials such as leather, wood, seeds and a coconut bowl, which preserved due to the wet condition of the soil within the well.

The shallow depth of the cultural layer suggests that the well had not been in use for a long period of time. It is possible that due to saltwater contamination the well was abandoned and closed off until the site was cleared and the structure was closed permanently.

Context 106: Context 106 was light grey clayey layer with an approximate thickness of 0.15m which covered the wooden beams at the bottom of the well. With the exception of one pottery and one glass fragment the context was sterile, while two metal rings and a heavy iron chisel had sunk on top of the wooden beams but are presumed to belong to stratigraphical higher layers.

Context 107: Wooden beams at bottom of well formed the lowest part of the structure at -0.08 to -0.03mPD. The six beams were young tree trunks which had been roughly shaped into square beams (PLATE 4 and FIGURE 11). The six beams had been laid into the pit before the cut stones were brought in. The wooden beams were positioned leaving a gap in the centre of the bottom circle. Within the gap cut granite blocks were recorded on smaller stones and bricks.

Context 108: Context 108 is a sandy gravel light grey, beige layer recorded below the beams. It is a natural layer discoloured due to accumulation of the water (PLATE 4c-d). No archaeological material was recorded within this layer.

2 Physical attributes of the well

The well itself was constructed with cut granite blocks which were placed in radial design and with the gaps filled in with rock shims and blue and red brick fragments. The upper part of the well was lined with a thick mortar layer. This mortar however, stopped around the same level as the concrete in-filling, after which the rock was left naked. The inner diameter of the well measured 1.6m and the outside diameter between 2.5 and 2.6m.

The granite blocks: The blocks were of varying sizes but ranging around 60cm in length, 13 to 23cm in thickness and 21 to 23cm in width. Dole marks were noted on some of the blocks, but the blocks carried no other features. All blocks were cut roughly and while largely rectangular mainly irregular in measurement. The blocks were laid down in a radial fashion with the inner surface of the well consisting of end stones touching on the sides to form a smooth inner circle (FIGURE 11, PLATE 4a). The gaps between the dressed stones were filled with shims of granite and other stones.

Examples of granite blocks used in the well construction

The mortar: The mortar was applied to the inner structure of the well. The mortar was made up of 3 layers, of which the inner 'layer' was pinkish while the outer layers were white. The mortar seemed to have been applied in a single event and there were no signs of maintenance. The thickness of the mortar ranged between 2 to 4cm. Samples were taken but have not been analysed.

Detail of mortar on the inside of the well

View of the mortar lining the granite blocks of the well

The wet mortar had been pushed into the cracks between the cut stones (PLATE 2a) and smoothened on the inside of the well. It can be presumed that it was utilized to seal the well and prevent contamination. The mortar did not continue to the bottom of the well but ended at approximately 0.7m from the bottom of the well which coincided with the end of the concrete infill (co.102) mentioned below. It assumed that this level was the original waterlevel mark.

The concrete infill: The concrete infill appeared first as a concrete pile surrounded by granite blocks. The pile was smooth on the outside and solid. The diameter of the pile was 1.85m and the infill was recorded between 3.10 and 0.75mPD. Near the bottom of the infill some textile cloth was included in the concrete (see below top). A sample was taken; the concrete is modern (second half 20th century) and no other materials were noted within the concrete. Near what turned out to be the bottom of the concrete infill 'edges' were noted (see below bottom); it is assumed that some concrete was allowed to harden before the rest of the shaft was filled in one event.

Some textile noted within the concrete infill

Edges noted within the concrete infill near the bottom of the ‘plug’

The well: The well was recorded between 3.10mPD and -0.10mPD and had an inner diameter of 1.6m and outer diameter around 2.5m. The original top of the well was cut by a concrete pipe (PLATE 5) and the shaft was surrounded by sterile natural soils. No debris of the top of the well was noted.

3 Artefacts

The artefacts were collected inside the well from contexts 104, 105 and 106.

Context 104

Alongside building debris, including concrete, bricks, tiles and mortar a few identifiable artefacts were recovered. These include:

Plate A.1 A wooden foldable rule with measurements in inches and cms; undetermined in age likely to date pre-WWII

Plate A.2 Front Inscription:
R.G.A
Mineral Water Factory

Plate A.3 Back Inscription:
The NIAGARA BOTTLE
BARNETT & FOSTER
MAKERS
LONDON'N

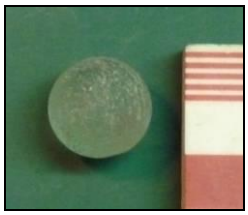


Plate A.4 Bottle's glass marble

A glass codd bottle. The bottle has inscriptions on the front and back and is possible No. 65433 Niagara bottle patent which suggests the bottle dates to the late 19th century.
The bottle's neck is broken and the fragment is in 2 pieces.

Codd bottles were invented during the second half of the 19th century. The bottles were mould blown and allowed to cool after which a marble (see below) was dropped in the pinched neck of the bottle and finally the top welded on.

The Codd bottle gave its name to a well-known English phrase 'Coddswallop'.

Plate A.5 A rifle cartridge, preserved to a maximum height of 5.7cm and likely dated to WWII. This artefact is the only testimony found of WWII at Admiralty.

Plate A.6 Some glass fragments, including 2 fragment of a bottle bottom of clear glass preserved to a height of 3.3cm and with a diameter of 6.4cm and 2 clear window fragments and one dark green, also window? Fragment.

Plate A.7 Two unidentifiable wooden fragments with possible worked side(s)?.

Plate A.8 And finally few pottery sherds, including a small porcelain bowl fragment (photo on right), a porcelain coffee cup with part handle fragment, ten other porcelain fragments (4 rim, 3 body and 3 toilet part fragments), one provincial porcelain rim with blue glaze motive and two village ware sherds (1 rim and 1 body)

Context 105

Plate A.9 Two Chinese coins, unidentified


Plate A.10a-b Two British Hong Kong coins (shown both sides) One mil (left) and one cent (right) dated 1863. The coins are part of the first mint of Hong Kong and are deemed rare.


Plate A.11a-b Knife handle with the engraving 'ALDERSHAW' (left) on one side and 'E R' (right) on the other


Plate A.12a-b A regiment uniform button with the inscription 'VR' and the trademark Herbert & Co on the top and London below on the reverse. Herbert and Co. were known as the army clothier, accoutrement and cap makers. This particular button was issued to Royal Engineer Department, Officer and O/R's between 1837-1855.


Left: rear of buckle Right: front of buckle

Plate A.13a-b Plain belt buckle in two parts with an attached black leather fragment; further black leather fragments were collected from the same context (see below)

Plate A.14 Black leather fragments; most likely part of the belt clasp above

Plate A.15 Three worked wood fragments, unidentified

Plate A.16 Bottom; broken; dark brown glass; height 9.3, diameter 7.6cm, around 3.5cm inside foot

Plate A.17a-c Complete glass bottle of dark green glass; height 30cm; diameter 6.4cm and 3.3; around 6cm inside foot; no inscriptions. The bottle has a 'champagne' style shape although they contained beer or wine. It is a mouth-blown bottle produced with a mould and most likely dates to late 19th to early 20th century.

Plate A.18 Neck; broken; clear glass green tinge; height 3.7cm, diametre 2.6cm

Plate A.19 Bottom; broken; green glass; height 19.5cm, diameter 4.6cm; machine made?

Plate A.20 Neck; broken; dark brown glass; height 11.1cm, diameter 2.9cm

Plate A.21 Two clear (window glass), one dark brown and two dark green glass fragments.

Plate A.22 Clay pipe fragment

Plate A.23 Nine bowl fragments made of coconut

Plate A.24a-d Rope, made of twisting three strands with knots

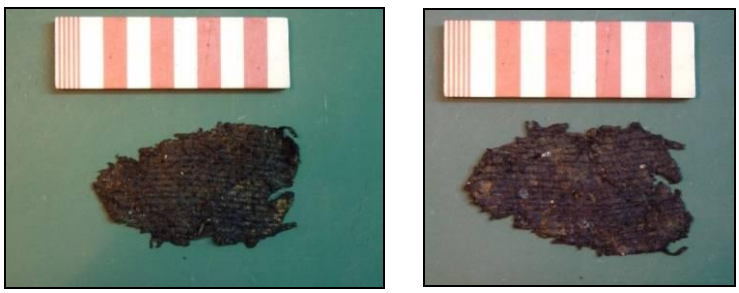


Plate A.25a-b Textile; weave of more like a bag/sack than clothing 2mm strands; possibly black in colour?; (Photograph of front and back)

Plate A.26a-b Cork stopper; undetermined date;

25mm height x 16-18mm diameter;

popular until 1920's.

Plate A.27 Thin cork (?) circular token, very fragmentary

Plate A.28 (L) two bone fragments; possible mammal; unworked; (R) two seed/nut: almond? and w
(Below) Rock oyster shell fragment

Plate A.29 Two wooden fragments; one with a nail

Plate A.30 Top part of wooden post

Plate A.31a-c Unknown object; lead?; circular with part sheared off and leather around raised centre; 6.5 diametre and 5.7 at end where part is lobbed off; about 3cm in height

Plate A.32 Three bitumen (?) fragments; coarse quartz; irregular shape

Plate A.33 Bullet cartridge; height of 5.5cm

Plate A.34 Small copper nail

Plate A.35 Thin sheets and thin wire of iron; heavily corroded; unidentified; possible can fragments?

Plate A.36 Three bolts; one with square top; corroded and heavy; newish?

Plate A.37 Part of iron nail

Plate A.38 Circular metal fragment with hole

Plate A.39 Part of blade?

Plate A.40 Metal sheeting

Plate A.41 Hook at end of blade

Plate A.42 Circular sheet fragment and
circular fragment with plywood and possible clay holding it in place?

Plate A.43 Circular sheet fragments

All parts of right sheet below.

Plate A.44a-bTwo circular sheet with diameter of 20cms and height of 6cms; unknown use; sheet possibly only 4mm thick

Plate A.45 Large chisel

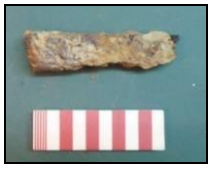


Plate A.46 Circular socketed handle tapering into blade?

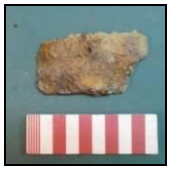


Plate A.47 Metal bar with rock attached

Plate A.48 A village ware spout and brown glazed handle fragment; A village ware brown blazed opium? Pot fragment' two brown glazed village ware body sherds; three provincial porcelain crackle glaze thick walls body fragments; one possible plate and one with crackle glaze rim sherd and two blue under glaze glazed provincial porcelain body sherds and one porcelain bowl base sherd.

Context 106

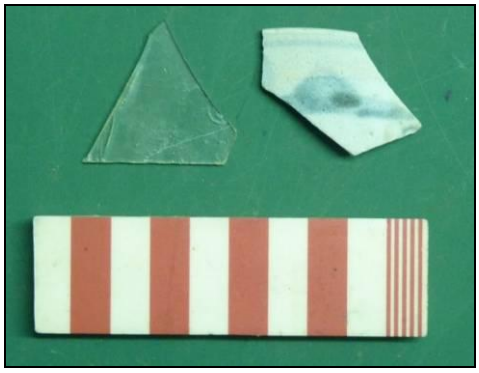


Plate A.49 A clear glass flat fragment and a provincial porcelain rim fragment

4 Historical Background

The well shaft is also part of the military/naval area at what is now Admiralty. The well does not appear on any map, but due to the findings within the well it is estimated that the well was constructed during the middle to second half of the 19th century when the area was occupied by the military.

Initially in 1841, water supply was obtained from hill side streams and in 1851 five wells were sunk to augment the (public) water supply. The location of these wells is unknown. Piped water from reservoirs to the city commenced in 1863 but it was not until 1892 a more

comprehensive and reliable water distribution system was in place (Guilford 1998).

The role of the well at Harcourt Garden within the city's or military water system development is unknown but the cultural deposit within the well remnant was very shallow which suggests that the original well was used for a short period in time. Two coins dated to 1863 provide some suggestion of timing as do the button with a date between 1837 to 1855 and a number of glass bottles dating to the end of the 19th/early 20th centuries. On top of this cultural deposit was a layer of construction debris believed to date from the decommissioning of the military site in 1959 sealing the older cultural deposit below.

5 Summary and Discussion

The shaft and bottom of a well, recorded for a maximum height of 3.2m, was found during the archaeological watching brief programme. The diameter of the top of the well measured 1.6m on the inside and between 2.5 and 2.6m on the outside. The well remnant is an isolated find which is found unconnected; most likely because the other contemporary structures had been removed during previous urban development. The impacts removed the top of the well and thus only the shaft and bottom remained. Based on the recovered finds and depth of cultural strata it can be surmised that the well was in operation for a relatively short time after which it was abandoned and most likely closed off. The shaft had been filled with construction debris and concrete. Archaeological evidence shows that the well had been in use for short time and in general, wells in early colonial Hong Kong were replaced by piped water by 1890's.

The construction of a well is functional and has no architectural embellishments. The artefacts excavated from inside the well remnant are interesting but of no exceptional value. Again the information gleaned from the excavation of the well remnant adds to the overall picture of early colonial development and provides a common testimonial.

The well remnant was exposed in sections as the excavations went down; partly because of the construction sequence but also because of safety concerns which the loose granite blocks posed. The well remnant has been recorded by photograph, drawing and written description in line with the AWB methodology. The well shaft remnant and bottom were completely removed.

Appendix B: 901- Seawall fragment

INTRODUCTION

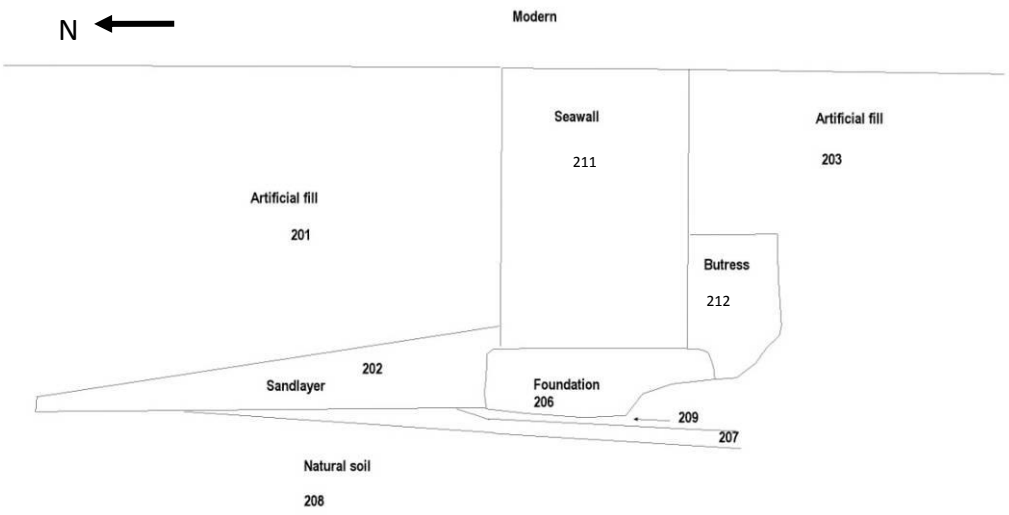
A summary of the seawall fragment findings within the Station box have been presented in the main text. It is the objective of this appendix to provide further details of the seawall fragment findings noted during the Archaeological Watching Brief. The seawall fragment was recorded over a period between 25 September 2012 and 14 January 2013.

The seawall was uncovered by mechanical digger and cleaned by hand. The MTR Corporation's surveying team prepared the drawings and photographs and descriptions were compiled by the archaeologist on site.

THE RESULTS

1- Stratigraphy

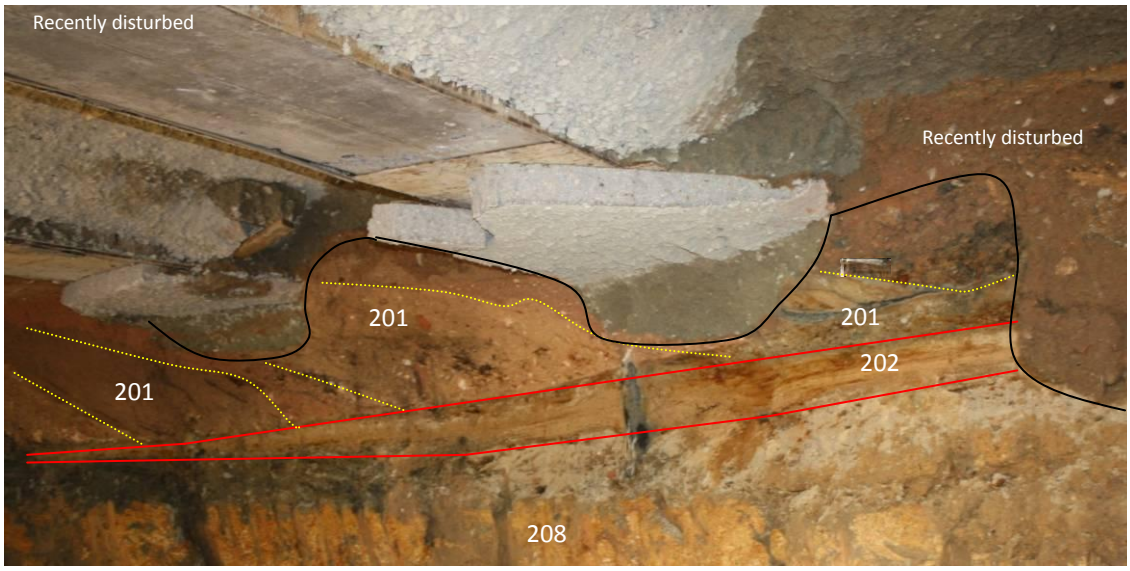
Twelve contexts were recorded as part of the stratigraphy around or associated with the seawall and its foundation. Six were soil deposits and three structural (204-206). Contexts 201, 202 and 203 are the only deposits which contained artefacts.



Stratigraphical connections in section.

<u>The recorded soil layers are:</u>

***Context 201*:** Context 201 is an artificial fill layer to north of seawall. It is close to the seawall mainly an orangey clayey soil, but within the expose stratigraphy to the north distinct deposit events could be distinguished (see photographs below).



Photograph of deposits under permanent slab in front to the seawall/foundation; yellow dotted lines indicate depositional events of 1902 fill, context 201. The grey and blackish area under 202 is natural soil (208 normally orangy in colour) stained through leaching.

Some of the deposits could be interpreted as building debris. The fill is part of the 1902 reclamation; it is not known where the fill material had been sourced. The finds, including bricks, tiles, glass and pottery, while common and largely undiagnostic, support a late 19th century date.

Context 201 was recorded to the north of the seawall around 4.20mPD (top of the surviving seawall) and 1.20mPD (bottom of row '1').

***Context 202*:** Context 202 is a sand layer to north of wall. The sand deposit is grey (light to dark grey) in colour and wet. The layer measures around 40cm in front of the wall and did not continue on the south side of the foundation/seawall. The sand layer tapered off towards the north and disappeared around 5 metres to the north. The finds, mainly glass, tiles and pottery are similar to the artefacts in the well and belong to the second half to late 19th century (see Section 3 below). Some of the finds were found abraded, most likely due to wave action in front of the seawall. The stratigraphy shows that the layer formed around the top of the foundation and after it was built.

Context 202 was recorded to the north of the seawall between 1.30mPD and 0.60mPD; the deposit tapered towards the north and disappeared around 5 metres north of the wall.

The finds include village ware, provincial porcelains, early colonial porcelains, few shells and some architectural elements such as tiles, stone window grill and drain pipe fragment; the

artefacts (see Section 3 below) which occur throughout the layer can be dated to late Qing/early colonial period. No artefacts of an older date were present in the sand layer.

It is mainly smaller tile and glass fragments which have eroded edges; possibly as they were more susceptible to wave action. It is opined that the sand layer started forming after the seawall was constructed when wave action deposited sand in front (no sand at rear of wall). The seawall was functional for a maximum of 50-60 years, in which around 60cm of sand was deposited. A homogenous assemblage is found throughout the layer.

Context 203**:** Context 203 is the artificial fill layer to south of seawall. The soils to the south look natural with the exception of the odd finds and it is presumed that excavated soils were used to fill the area to the south.

Context 203 was recorded to the south of the seawall between 4.20mPD (top of the surviving seawall) and to varying degree depending on the level of the natural soils and rock deposits to the rear of the seawall.

Context 207**:** (PLATE 12h and k) Context 207 is a gravel layer first noted in the area near the stone drain (context 210). It consists of a dark grey wet gravel sandy soil with cobbles and an organic smell; no archaeological materials were included. It continued under the cut granite foundation blocks and replaces the lowest granite foundation row noted further west.

Context 207 was recorded at depths around 0.60mPD.

Context 208**:** (PLATE 12h and k) Context 208 is the decomposing rock and debris flow deposit unto which the seawall foundation was constructed. Context 208 ascends to the south. There was no archaeological material within this context.

Context 209**:** (PLATE 12h and k) Context 209 was first noted underneath the drain's foundation (Context 210), and is positioned between the base of the stone foundation and the gravel layer underneath, context 207. It is a thin orangey relatively natural looking soil. It does not contain any archaeological materials.

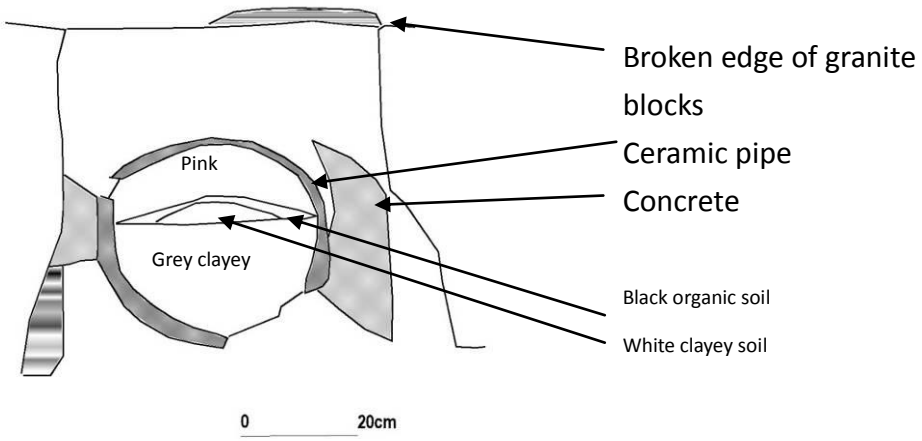
<u>The structural contexts are:</u>

Context 204: Context 204 is a crushed ceramic drainpipe noted on the top of the seawall fragment (PLATE 9a-b). The pipe was only recorded on top of the seawall and had no associated features or soils. A sample of the pipe was retained.

The crushed ceramic pipe was recorded at an elevation around 3.90mPD.

Context 205**:** Context 205 is a ceramic drainpipe (PLATE 9c) found on top of context 210 (PLATE 8a), a stone drain pipe mentioned below. The pipe was located within the seawall and was intact when found. It had a diameter of 50cm. The inside had a series of soils but

no artefacts (FIGURE 13).



The ceramic drain, Context 205 was recorded around 2.60mPD.

Context 210**:** Context 210 is the stone drainpipe which may have been an original feature of the seawall. The stone circular drain however had been set into concrete and its foundation consisted of a large natural stone in lieu of the cut granite blocks used elsewhere (PLATE 8).

Context 206**:** Context 206 was given to the seawall foundation (PLATE 12). In between the granite blocks and on top of the foundation materials including glass, tile and pottery fragments were found (see Section 3 below). It is assumed that the foundation was given time to settle and the opportunity for discarded objects to find their way in between was created. In addition, typhoons may have affected the condition of the foundation although no conclusive evidence was noted.

Contexts 211 and 212 were assigned to the seawall and its buttresses respectively.

The top of the foundation was recorded around 1.10mPD and bottom between 0.40 and 0.70mPD.

2- Physical attributes of the seawall

<u>Seawall</u>

The seawall (fragment) was constructed with rectangular granite ashlars ranging from 1.05m (3ft 5inch) to 1.2m (4ft) (stretchers) in length and 0.36m in height and width (headers). The lowest part of the seawall, 'row 1' has stretchers measuring 1.8m (6ft) in length.

The seawall fragment façade consisted of dressed granite with concrete/mortar sealing for the joints (PLATE 7). During the partial demolition of the seawall fragment mortar was noted between the façade blocks, in particular at the lower courses. Sealing of the joints would have prevented seawater from seeping through and weakening the seawalls. Regular

maintenance would have been undertaken to prevent the seawall from collapsing overtime. Samples of concrete/mortar joints were taken.

Plain masonry with a Flemish bonding type[1] was used to construct the seawall. The Flemish bonding type was most likely used not only for its aesthetically pleasing decorative pattern but also for its strong cohesion. The vertical wall had a very slight inward slant (FIGURE 13), but the capping of the seawall had already been removed. The top of the seawall fragment was destroyed by previous development projects and so there is no information regarding the finishing of the seawall on the top. Old Hong Kong photographs show rounded thin capstones covering the seawall of the Central Praya ca. 1860's (Hacker Arthur 1997. page 21; see p.99 below); it is assumed that a similar finishing was used.

The inner of the seawall is constructed with rectangular granite blocks of varying sizes and the spaces are filled with shims. The blocks are not set along a specific pattern but are used as pieces of a puzzle and fill the interior of the seawall fragment (FIGURE 14).

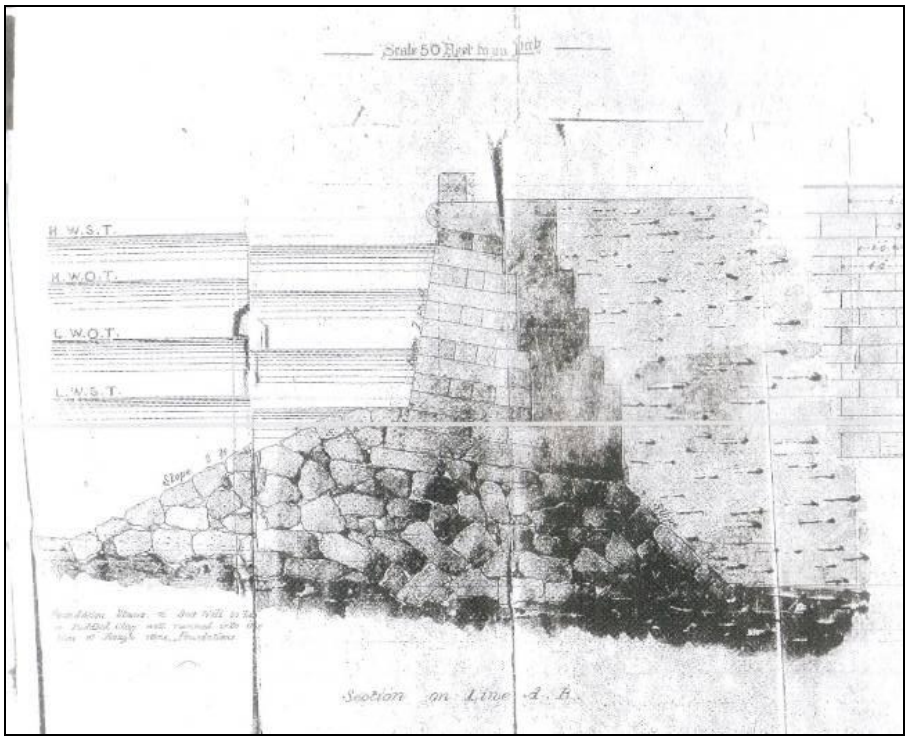
The rear of the seawall fragment was found damaged in numerous places and it was harder to obtain a clear picture. At the higher courses ('row 5' and above[2]) the seawall fragment span at the western end was about 3 metres and for the most part of the seawall the rear consisted of an 'irregular' backing (PLATE 6) perhaps dictated by the contour of the descending rock and weathered rock/soil deposits. In general the seawall fragment was smaller at lower courses spanning about 2 metres with regular buttresses fortifying the lower seawall fragment at the rear (PLATE 6).

A wooden stake was noted to the rear of the reconstructed drain area (PLATE 12f). The post is located between the reconstructed part and an original buttress foundation. It measured around 8cm in diameter and had been hammered into decomposing soil. The stake was retained.

Comparison with seawall model of the time (Co.129, see below) shows some parallels whereby the main wall stretcher blocks measure 4ft. Similar but not entirely the same are the lowest row in the recovered seawall fragment and second lowest on drawing measure 6ft stretchers, and the fact that both seawalls use the Flemish bond style (but headers are smaller size in the excavated fragment). The seawall fragment however, has no evidence for a 3ft and 6ft row upper structure as it had already been previously demolished by previous development projects.

[1] Flemish bonding type consists of rows of alternating header and stretchers.

[2] The seawall counted maximum 8 courses; the rows are counted from the lowest level at the bottom of the wall 'row 1' up to 'row 8'.



19th century seawall design (Co.129)

Detail of 1860's photograph of Central Praya, Hong Kong showing the rounded capstones of the seawall (Hacker Arthur 1997. page 21)

Landing stone

A rather large flat stone was recorded at the lowest dressed granite row to the north of the seawall fragment (PLATE 11a and c). It consisted of a polished granite block of an irregular shape with two 'lewis cuttings' (PLATE 11d). The seawall fragment in front of the landing stone had two ashlars slightly sticking out of the seawall fragment (PLATE 11a-b). These two formed 'steps' up to the top of the seawall fragment. Then stone is interpreted as a 'landing' stone; it is however, not envisioned that the stone was a main landing option, but was rather used as a platform for ongoing maintenance of the seawall.

Drainpipe

A crushed brown glazed ceramic pipe (context 204) was noted on the top of the surviving seawall fragment. It had been set in concrete (PLATE 9a-b). Samples of the pipe have been retained.

Sewage outlet(s)

A circular outlet (context 210) was recorded at level of 'row 2' and part of 'row 3' (PLATE 8a). A circular outlet had been cut in granite. The hole measured around 85m in diameter. It is assumed that the drain broke and was reinforced with concrete during which part of the foundation stones were removed and replaced by a large natural stone capped by concrete (PLATE 8b). During another (?) modification the top of the old sewage stone drain was cut (PLATE 8a) and a grey glazed ceramic pipe (context 205) was placed on top of the old stone drain (PLATE 9c-d).

Water run-off channel

A single run-off channel cut out in the granite at 'row 7' was also recorded. The channel continued inside the seawall fragment but no formal inlet was noticed (PLATE 10).

Foundation

The recording of the foundation was divided into three foundation areas A, B and C which was based on the level of recording possible due to site conditions. A *pierre perdue* foundation had been expected as this type of foundation was not only cheaper and easier to built it would also have been suited for the relatively sheltered Victoria Harbour and was illustrated in early Hong Kong public seawall design (Co 129). This proved to wrong and the foundation consisted mainly of weather rock. The result of the AWB showed that no more than 3 rows of cut granite blocks were used.

Overall for the foundation, the sizes of the granite blocks used in the foundation are longer than those recorded in the seawall. This is consistent with the seawall design of the 19th century which similarly shows longer blocks used at the top of foundation. The bonding type

differs from the Flemish bond used on top. It consists of a simple English bond which is alternate layers of stretchers or headers only.

Area A: between the destruction of the seawall at its most western end and the western wall sett-off (FIGURE 14c)

Area A foundation was regular in its construction and consisted mainly of 3 rows[3], two headers and one row of stretchers in between (FIGURE 13). The foundation stones within Area A, unlike the seawall proper, lacked mortar between the blocks and finds including pottery and glass was found in between the cracks (Context 206, see Section 3 below). The rear of the foundation had been set into decomposing rock/soil and no more than 2 rows were recorded at the rear (PLATE 12k).

Area B: From the western wall divergence east (FIGURE 14d)

At Area 'B' the buttresses at the rear, first noted in the seawall, continued into the foundation. The foundation was largely two rows in height and swopped header and stretcher position after the bend in the wall. Unlike at area 'A', mortar/concrete grouting (very badly degraded) was noted between blocks (PLATE 12i) although here too pottery, tile and glass fragments were lodged between the blocks.

Between the repaired stone drain and the buttress a wooden stake was noted and recorded (PLATE 12f). It is not clear why there was a wooden stake but it is suggested that the stake was used to set out the seawall.

Area C: East of Area 'B' recorded under the permanent slab. Due to unsafe conditions, it was not possible to survey the foundation under the slab (PLATE 12g). Photographs and video footage was taken of the exposed and removal of the foundation as far as possible.

<u>Disturbed and damaged areas</u>

The archaeological evidence showed that the top recorded layer ('row 8') in the eastern section was partially covered with concrete (see below) and a section in the western section had been cut further and its top layer 'row 7' was covered with chunam (see below). In addition, the ceramic drain pipe (context 204) was positioned on the top of row '7' near the chunam.

[3] The top row of the foundation had accidentally been removed during the removal of the seawall proper. The drawing and a few blocks indicated a row of headers was removed.

Area of concrete on top of surviving seawall fragment

Area of chunam within the black circle

In addition to some smaller impacts which damaged the various part of the surviving seawall, a plunge column sunk as part of the current project dissected the wall fragment in two (see below left, plunge column in front of photo on left), another recently built plunge column damaged the rear of the wall (see same photo below left, plunge column in background of the photo on right), and thick rebar foundations part of the MTR Entrance 'E' (see below bottom right) affected the rear of the wall at its western end.

The damage to the seawall on the east was by the electric substation (see below left) and the former Admiralty Station Entrance 'E' truncated the western end (see below right).

Destruction around the alignment deviation caused by the former Admiralty Station Entrance "E" had not affected the seawall but did affect the foundation. Blocks were missing and a natural rock found on the outside was on top of plastic (PLATE 13b).

The foundation area below the stone drain has been reported on above.

3- Artefacts

This section presents the artefact recovered during the AWB programme within the Station box. The photographs are organized by bags they were collected and processed.

Context 201

Very few finds were recovered from the artificial fill layer to the north of the seawall; they include some provincial porcelain and a single village ware sherd. The area was excavated by mechanical digger.

Plate A.50 Provincial porcelain: two rims, one base and one full profile; one village ware body sherd

Plate A.51 One porcelain base and two provincial porcelain rims

Plate A.52 One village ware rim and one Shiwan shallow dish ? full profile fragment

Context 202

Context 202 consists of the sands accumulated at the base of the seawall. The sands included numerous finds such as pottery, tile fragments, architectural elements and glass. Some of the finds were severely abraded and it is assumed that they underwent tidal wave action.

Most of the finds were located and collected close to the seawall and foundation during the cleaning of the facade.

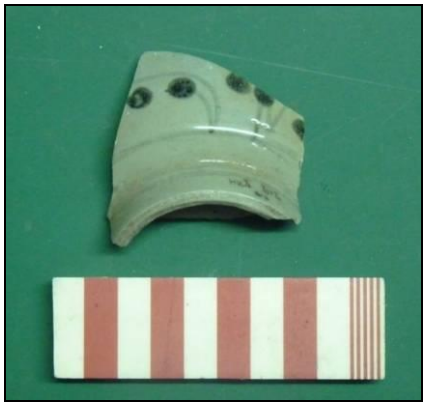


Plate A.53 Provincial porcelain bowl base fragment

Plate A.54 Provincial porcelain bowl full profile and one rim fragment, one toilet porcelain fragment, four white crackle glaze European porcelain fragments of which one body, one base and one rim and

Plate A.55a-b A strange shaped porcelain fragment; photos from both sides

Plate A.56 One village ware lid and one body sherd; three provincial porcelain rim sherds and one spoon fragment; one clear glass bottle neck with cork inside

Plate A.57 One village ware body sherd and one yellow glass fragment with inscription 'D'

Plate A.58 Two base and three body village ware sherds, one provincial porcelain rim sherd and two glass fragments

Plate A.59 One base, one rim and four body village ware sherds, one glazed possibly European village ware and one abraded possibly porcelain sherds

Plate A.60 Two porcelain rim European sherds; one abraded brown glazed body sherd and one rice grinder body sherd

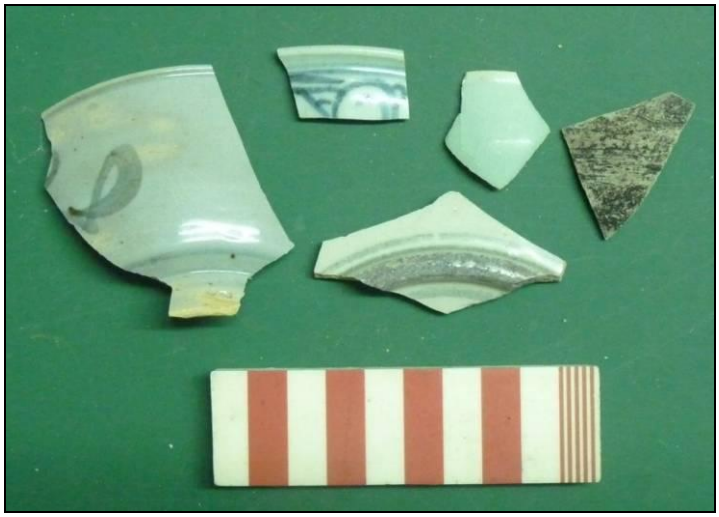


Plate A.61 One rim, one base and one full profile provincial porcelain; one celadon rim and one village ware body sherd

Plate A.62 Four tile fragments, a porcelain rim sherd; provincial porcelain: a rim and one decorative body sherd; four village ware body sherds; four glass of which two dark green, one light green and one clear; one black worked stone (similar find in context 206)

Plate A.63 Dark green glass and one brown glass; one tile fragment; three village ware body sherds; provincial porcelain rim sherd; one white crackle porcelain sherd

Plate A.64 One white glaze crackle rim sherd

Plate A.65 Five dark green glass fragments of which one bottom piece

Plate A.66 Two village ware body sherds and one dark green glass fragment

Plate A.67 Five village ware body and one rim sherd; one dark green bottle bottom fragment; two tile fragments and one porcelain decorative body fragment

Plate A.68 One dark green bottle bottom (2 pieces), two neck fragments, eight body fragments; one brown, one light green and one yellowish brown glass fragment

Plate A.69a-b Four dark green bottle bottom fragment of which one with inscriptions: 'N & Co' and '1837'.
N & Co. refers to Nuttall & Company, St. Helens, Lancashire, England, who used N & Co. mark until 1913.

Plate A.70 Two clear pane glass

Plate A.71 Fourty-four pieces of dark green curved glass; ten pieces of dark green flat glass (one with inscription 'RS')

Plate A.72 Ten light green and brown glass fragments and one bottle neck;

Plate A.73 Four clear glass fragment of which two base fragment; eight further light green glass and one opaque yellow glass fragment

Plate A.74 Two village ware sherds and one pipe fragment

Plate A.75 One village ware handle and body fragment; three provincial porcelain base and one rim sherds; one spoon fragment and one Shiwan sherd

Plate A.76 Provincial porcelain: eight rim; two base and six body sherds; seven abraded fragments

Plate A.77 One window grille fragment; two tile fragments and one glazed drain pipe fragment

Plate A.78 Thirty brown glazed village ware body sherds;

Plate A.79 Two rice grind body fragments; and ten village ware body sherds

Plate A.80 Village ware: ten base sherds; fifteen fragments (of which 2 pieces fit)

Plate A.81 Four handle fragments; one inner lip; two spouts and one lid knob

Plate A.82 One piece of slag

Plate A.83 Nine white crackle glazed rim, seven body and two base sherds; three provincial porcelain body sherds; one glazed lid; two rim crackle glaze and one base with blue line deco; and one greenish grey printed deco; one edge piece with blue stars and three blue deco body fragments; one brown glaze rim fragment and one body sherd with fine brown glazed deco and one porcelain fragment

Context 203

Context 203 is the artificial fill to the south of the seawall. It included very few pottery finds. The area was excavated by mechanical digger.

Plate A.84 A provincial porcelain rim sherd

Plate A.85 A village ware body sherd with shoulder

Plate A.86 A provincial porcelain bowl full profile fragment, two porcelain base fragments and one blue and white decorative tile fragment (European?)

Context 206

Context 206 includes finds collected in between, on top and within missing seawall foundation blocks. The finds were collected during the cleaning by hand and machine removal of the foundation.

Plate A.87 Five tile fragments of which 3 abraded, three village ware sherd of which one body with shoulder, a base and a rim with patina, six provincial porcelain fragments of which two base, three rim and one body sherds.

Plate A.88 Seven glass bottle fragments of which three bottle bases, one green flat blown glass fragment

Plate A.89 Three tile fragments, one black stone fragment worked on 3 sides;

Plate A.90 Provincial porcelain: nine base fragments (11 pieces), five body and two rim sherds; five European looking porcelain, including three body fragment

and one base and one modern looking porcelain body sherd.

Plate A. 91 Village ware: eleven body sherds, three rims and three base fragments and a spout/handle (?) fragment.

Plate A.92 Two pieces of same European pottery rim sherd

Plate A.93 One dark green glass fragment and one rim European pottery sherd

Plate A.94 On top of the foundation, a red brick fragment

Plate A.95 On top of the foundation: two village ware rim sherds, one base and ten body fragments

Plate A.96 One tile and one green glass fragment, one celadon and one porcelain rim sherd

Plate A.97a-b One pipe fragment with faint inscription: GLASGO…' on one side and '…WHITE' on the other Glasgow in 19th century was the most important British centre for exporting pipes.

The pipe was made by factory of William White sometime between 1805 and 1955; production was most prolific between 1875 and 1885.

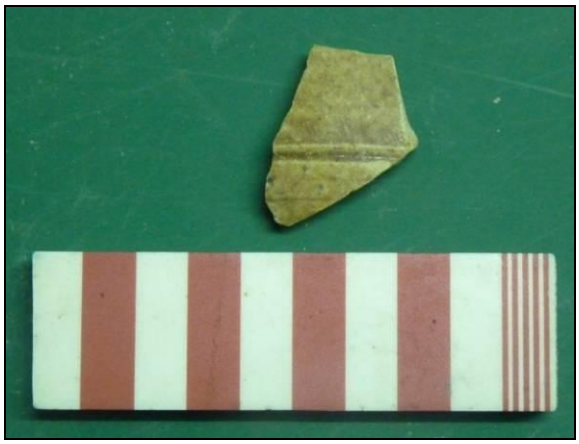


Plate A.98 Brown glazed village ware sherd; European?

Plate A.99 Two green glass and two tile fragments

Plate A.100 Sixteen dark green glass, two light green and one clear glass fragments

Plate A.101Collected from profile under permanent slab: two tile fragments, village ware: one lid, one rim and one base fragment, four body sherds; a porcelain crackle glazed body sherd; three provincial porcelain rim sherds and one body sherd

Plate A.102 Excavated from missing foundation block near western divergence: three (provincial) porcelain sherds: one base and two body of which one with crackle glaze; village ware: five body sherds of which one very abraded; one cockle shell fragment and four dark and one light green glass fragments

Plate A.103 Twenty-four dark green glass and ten lighter green glass fragments

Plate A.104 Two abraded tile fragments, three provincial porcelain rim sherds, two crackle glaze porcelain rim fragments;

Plate A.105 19 glazed village ware sherds

Plate A.106 Village ware: 6 unglazed body sherds; 4 unglazed and 5 glazed rim sherds and one unglazed base sherd

4- Historical Background

4.1 The Establishment of the Colony of Hong Kong

The formal possession of Hong Kong Island by the British took place at Possession Point on 26 January 1841. One of the reasons for the choice of Hong Kong Island was its excellent harbour and the use of Hong Kong as a trading port was established from the earliest days. The ceding of Hong Kong to the British was a result of disagreements between the Chinese and British regarding the opium trade. The British trade to China in opium dated back at least to the early 19th century when it was monopolised by the British East India Company. In 1834 reforms in England allowed private entrepreneurs to also become involved in the trade and the monopoly of the East India Company ended. The trade however, flourished and increasingly became a social and health disaster in China. In fact, the medicinal use of opium

had existed in China for many centuries and the trade was at first tolerated by the Chinese Authorities, who also benefited through trade equalisation from increased tea exports. But soon the mass importation of opium by the British led to an unacceptably high level of addiction in the Chinese population and the Chinese authorities attempted to take measures to stem the trade and prevent further spread of the addiction and the devastating social implications.

In 1839 the Chinese Government officially attempted to stop or at least control the flow of opium and the Governor of Canton at that time, Lin Xezu demanded that all opium held in the British warehouses be handed over to the Chinese authorities and that the sale of opium be banned, with the penalty for breaking the ban being death. He also shut off the channel to Canton, preventing the British traders from fleeing the city. The British merchants were convinced to hand over their opium stores with the promise that they would be compensated by the British Government. However, the trade in opium was seen by many in England as unethical and there was a strong feeling that the trade should be stopped. In this light the British Government could not justify paying the opium merchants for their losses out of the public coffers. What ensued was the first opium war (1839-1842) in which China ceded Hong Kong in perpetuity to the British and Hong Kong became a Crown Colony.

4.2 Coastal defence

The relationship between China and the British remained tense after the signing of the Treaty of Nanking which ended the first opium war and hostilities broke out once again in 1856 in the ensuing Second Opium War. As such, a military presence in Hong Kong was essential for the colonies survival from the start and defensive features such as batteries were established early on. The early batteries (1840's and 1850's) associated with Hong Kong Island included the Wellington and Murray Batteries both of which were located in the Central/ Admiralty area of modern Hong Kong and were designed to protect the colony from attack by sea. These batteries were situated along the coast as it existed at that time, although today reclamation has rendered their locations inland.

As early as 1842 (FIGURE 4.a) a 'Battery of 5 Guns' appears on maps at the site which was Harcourt Garden, but it is not until 1854 (FIGURE 4.c) that the battery is marked as Wellington Battery (named for Arthur Wellesly, Duke of Wellington 1769-1852). In general, it has to be pointed out that there are few mentions of Wellington Battery in historical accounts. Murray Battery, West Point and Possession Point Batteries seem to form the main line of protection in the early decades, while others such as Ouchterlony, Royal, Kellet Island and Wellington Battery get fewer mentions.

Some of the records mentioning the Wellington Battery include:

- An account of 1856 reported by Lieutenant Colonel Griffin, commander of the troops states that the battery counts nine 32 pounders, part of which faced east and others which commanded the anchorage.
- On 17-18 September 1857 Captain Bate of the HMS Actaeon witnessed the eclipse of the sun at the Battery (Latitude 22° 16' N and longitude 7hrs 36min 36sec E).
- The last account of the Wellington Battery in 1866 was an entry in the journal of Bandsman Davies of the 2nd Battalion the 20th regiment of Foot which stated that in front of D'Aguilar Hospital was a battery of seven guns, although the Battery continues to appear on maps until 1901.

The described components of the Wellington Battery only include the guns. Old maps dated to 1854, 1863, 1866 and 1889 (FIGURE 4) show a building more or less in the centre of the battery area (but not exactly the same location on each map). Maps until 1866 also show a wall surrounding the Battery which is of a smaller dimension in the south where it does not 'overlap' with the seawall. Only on the 1889 map (FIGURE 4.f) the Battery boundary is more defined than the seawall. The building and the southern wall are the only exclusive battery 'attributes' marked on the maps.

The navy according to memorandums in 1854 and in 1856 acquired additional space from the military which allows them to expand mainly to the west. It is possible that the proximity of the navy excluded Wellington Battery from playing a major role in the overall defense of the harbor as the dockyard would have been protected by ships off shore.

Hong Kong's defense was re-evaluated in the 1880's and Wellington Battery is not mentioned in the re-organisation. Two decades later the military area at Admiralty was extended northwards and the Wellington Battery disappears from the maps.

4.3 Reclamations and Seawalls

The first land sale in Hong Kong took place on 14 June 1841 and first official plan for a praya was instigated in 1842 by Sir Henry Pottinger, the first Governor of the Colony. The regulations and rights of the landowners and crown were clearly spelled out from these early days and in was noted in Government Notification No. 53 of the Government Gazette that '*The reclaiming of land beyond the high water mark must be deemed an infringement on the royalties of her majesty (and it is therefore positively prohibited) by any private persons.*' The private lot holders, however, were believed to have sometimes taken matters of construction of seawalls and piers into their own hands, rather than wait for the government to begin construction. A number of cases of between the government and private individuals

concerning the extent of their lots were undertaken over the latter decades of the 19th Century. A quote from the 1850's concerning the construction of the early seawalls stated that "from the recollections of a Mr. Edgar that seawalls were constructed prior to the issuance of leases, but these were in general within the limits of land measured off in the land sales" (Government Notice No. 50).

The government did eventually engage in a large scale praya reclamation project in 1855. The praya was proposed to run from Possession Point to the Parade Ground and the details proposed in the associated minutes as presented by the Colonial Secretary Mr. W.T. Mercer 17th November 1855) were as follows;

'I would propose a praya either straight or curvilinear, as the surveyor general may decide, commencing from the small promontory or bend about halfway up the parade ground sweep, where the old middle store pier used to stand, to the place where the new battery is proposed near Mr. Murrow's at Possession Point, or even to West Point if necessary'.

The proposal also included the construction of public and private piers, railings, houses or walls at the front of each marine lot (for provision of privacy) and then a 45 foot wide praya and seawall.

There was also a proposal for reclamation and the construction of a praya by the land officer for "A space of land to be reclaimed from the sea in front of Government Hill to form a public landing place, with an esplanade or public walk; a Praya to be carried out in front of all the buildings, both eastward to the Point, the property of Messrs. Jardine & Co. and westward as far as Navy Bay, or four miles between the two extremities. The land thus reclaimed to form a number of marine lots, a public roadway close to the sea, of fifty feet in width to be on the left of the Praya and the space between that and the houses to be the private property of the possessors of the Lots assisting in carrying out the plan paying a proportion of the expenses and for whatever land they gained of course charged at the same rate as the rent for the rest of the Lots".

It should be noted that these proposals were for works on land controlled by the Colonial Government and this did not include land controlled by the Military Authorities. The military land in Victoria was situated in the middle of the settlement along the north coast of Hong Kong island. As the Colony grew and prospered the military land created a gap between the eastern and western districts. The Colonial Government attempted to address the situation through proposals for reclamation and praya construction on the military lands and a notice in the Government gazette of 25 May 1875 stated;

"In accordance with the request of the Governor Sir Arthur Kennedy we have enquired into certain proposals regarding the reconstruction of the Praya that were destroyed by the late typhoon, - the reclamation of additional ground along the sea frontage of specified districts – and the building of a seawall and roadway in front of property held by the Naval and Military Authorities, so as to connect Praya east with Praya Central by one continuous structure. We were also instructed to report on the style of work to be adopted in rebuilding or repairing the praya wall".

The Government's attempts to create the link through works on the military land was not fruitful for many years and ongoing negotiations which left the government authorities more and more frustrated continued on until the reclamation was finally realised in 1905 (FIGURE 4h).

The next step in the construction of a new praya was commenced in 1887 with the proposal for the Praya Reclamation Scheme, which was to be officially recognised as the Praya Reclamation Ordinance of 1889 (FIGURE 4.f). It was stated early on that the War Office and Naval land separating the eastern and western parts of Victoria were a hindrance both to the economic development of the colony as well as a health concern. Evidence of the lack of progress was noted in the report of the Surveyor general 1887 which stated:

"*A project known as the Praya Junction (which would provide nine acres of new land) was proposed, but difficulties regarding who would be responsible for covering the costs of construction as well as who would benefit from the use of the new land hindered the commencement of the project*".

The 'who' referred to whether the Colony would be responsible for the costs or if the Military would pay from their coffers. The attitude of the War Department was further noted with some consternation by the colonial government in a report on the scheme by the surveyor general as follows:

"*what is not easy to understand is that the War Office should not have appreciated the advantage of cooperating in a scheme which enables it to become possessed of building land to the extent of nine acres fitted for barrack sites and bearing a market value of over one million and a half dollars, a sum to be easily obtained should the military department ever wish to realize. I say nothing of the advantage to the arsenal for the landing and embarking of military stores, or of the sanitary boon which the conversion of the present noxious mud foreshore along the cantonments into a healthy sea frontage would prove to the garrison*."

Completion of the scheme did not however bring an end to the negotiations on use as the Report of the Director of Public Works (1904) which stated that **"**The negotiations mentioned in last year's report were brought to a satisfactory issue apart from those relating to the boundary between the proposed scheme and the naval and military properties."

It was 1902 when the War Department laid the foundation (memorial) stone of the reclamation at the military/naval area at Admiralty. By this time half the work of dredging the floating basin, one third of the excavation for the graving dock and four fifths of the foundation works for the 39 ½ acres extension had been completed. Underneath the 'memorial' stone in a glass container a copy of the China Mail and Hongkong Daily Press of 1902, six coins and a plan showing the plans of the dockyard extension were recovered in 1959 when the dry dockyard was being filled in as part of the decommissioning of the site.

During WWII the naval dockyard had been bombed and shelled and Commander F.W. Crowther recalled how about 230 shells fell in the dockyard in little over an hour at the onset of the invasion (Harland 1986, p.35). The dockyard surrendered with the rest of Hong Kong on December 25 1941. After the war normality soon returned to the dockyard and there were no major changes to site until the announcement of the closure of the dockyard on November 28 1957. The 'Wellington Battery' area while in use by the Navy was owned by the military. The Hong Kong Government in 1959 paid 24 million Hong Kong dollars to the War Department for the release of the land.

The Harcourt Garden was constructed in the middle of the 1990's and was named after Admiral Harcourt who arrived with the British fleet in August 1945 to accept the Japanese surrender and was the de facto governor of Hong Kong from September 1945 to June 1946.

4.4 Wells and water supply in Early Colonial Hong Kong

Initially when the British arrived in 1841, water supply was obtained from hill side streams and in 1851 five wells were sunk to augment the (public) water supply. The location of these wells is unknown. Piped water from reservoirs to the city commenced in 1863 but it was not until 1892 a more comprehensive and reliable water distribution system was in place (Guilford 1998).

5- Summary and discussion

The seawall fragment was ultimately recorded, in sections, up to a total length of 41.70 metres and a maximum height of eight granite rows which equals 3 metres. In some places the broken condition of the seawall fragment did not allow for full exposure of the seawall

height as loose blocks posed a safety concern for staff recording the seawall fragment. Originally the seawall would have stood higher as currently it only reached 4.20mPD. The archaeological evidence showed that the top recorded layer was partially covered with concrete and or chunam which may indicate some reuse of the top. There was no evidence for capstones or any features residing on the top of the seawall fragment. Comparison with seawalls dating to the middle to second half of the 19th century, the seawall fragment would have been capped by a capstone and low wall however, no evidence for any of this was found at the Harcourt Garden site.

It is thought that the site may have known several major refurbishing phases starting with the second reclamation which was completed by 1902. At that time the seawall would have been incorporated into the fill and became part of the inside area. Further major impacts would have occurred during the decommissioning of the site in 1959, intermittent use and construction of Harcourt Garden.

The recorded seawall fragment is part of a seawall which originally continued to the east and fronted the Wellington Battery and extended to the west to the Naval area. The east of the seawall was destroyed during the construction of the electric substation some 30 years ago and it is assumed that the Wellington Battery would have been largely destroyed at the same time. The west of the seawall was truncated by the existing Admiralty station, and in particular by former Admiralty Station Entrance 'E'.

The seawall fragment forms part of a seawall which fronted the military area in central Victoria Harbour and was constructed as part of the early military development at the waterfront. The condition of the foreshore is reported in numerous 19thc. government reports and was portrayed as unhealthy with large accumulation of effluent and rubbish. Building a seawall could also allow ships to sidle up, although there is no evidence that such an argument was appropriate for the military frontage as transport between receiving ships and the island were handled by public landing places, such as Pedder Wharf and no evidence for proper landing area was recorded during the AWB. In addition the water depth in front of the military area is shallow.

The seawall fragment which was found fronts the northwest of the Wellington Battery and continues to the west. The relationship between the seawall (fragment) and the Battery is unclear. There is however, no reason to believe that they are intrinsically linked as the wall extends beyond the Battery and was planned as a separate feature as indicated on the 1845 map "Plan of Victoria, Hong Kong". There was no evidence to suggest that the findings were part of a military structure including gun emplacement(s) (to carry the guns mentioned by Lieutenant Colonel Griffin reported nine 32 pounders and Bandsman Davies); the military aspect of the seawall consists of its location. The seawall would have provided a clean, tidy shore and not necessarily a landing place as the foreshore was relatively shallow as can be seen on the 1845 map (FIGURE 4).

The artefacts excavated associated with the wall are of no particular significance. They are part of daily life in the second half of the 19th century and consist mainly of roof tiles, bottle glass, and pottery fragments.

The well shaft fragment belongs to the early colonial military development of the area. The top of the well had been previously demolished and the well was found isolated. The material findings while interesting are of low significance. They provide a date for the well between the middle of 19th c. to early 20th c.

No older cultural phase could be distinguished and definitely nothing pre-colonial.

Appendix C: 902- artefacts

The following artefacts were collected during the AWB:

On surface of hill slopes (Sites S7 and 7c) from area with ruins dated to second half 20th century

One body and one base village ware sherd; one provincial porcelain base and one rim sherd; one tile and one wall mortar fragment

On the flat alluvial area within Site 7d north end during pile cap excavation; collected from alluvial deposit

Two village ware base, two body and one rim sherd; one provincial porcelain rim sherd

Appendix D: Catalogue of the salvaged blocks

#	Height	Width	Length	Remarks
1	27cm	39cm	113cm	Façade stretcher; with concrete grouting and mortar around rim
				
				
2	36cm	35cm	116cm	Façade stretcher
				
3	33cm	39cm	108cm	Façade stretcher
				

#	Height	Width	Length	Remarks
4	31cm	36cm	113cm	Façade stretcher
				
5	34cm	35cm	127cm	Façade stretcher; mortar on long side
				
				
6	37cm	43cm	124cm	Façade header; dowel holes
				

#	Height	Width	Length	Remarks
7	30cm	35cm	110cm	Façade stretcher
				
8	25cm	26cm	116cm	Interior block
				
9	25cm	36cm	113cm	Façade stretcher
				
10	34cm	35cm	120cm	Façade header; with concrete grouting
				

#	Height	Width	Length	Remarks
11	25cm	34cm	110cm	Façade stretcher OR Interior block
				
12	40cm	36cm	113cm	Façade stretcher; mortar around front edge
				
				
13	32cm	34cm	123cm	Façade stretcher
				

#	Height	Width	Length	Remarks
14	26cm	35cm	116cm	Façade stretcher
				
15	39cm	36cm	122cm	Façade stretcher; mortar on side
				
16	34cm	33cm	123cm	Façade stretcher
				

#	Height	Width	Length	Remarks
17	29cm	36cm	115cm	Façade stretcher
				
18	33cm	40cm	128cm	Façade stretcher; with concrete grouting and mortar around the rim
				
19	46cm	33cm	118cm	Façade stretcher
				

#	Height	Width	Length	Remarks
20	33cm	35cm	109cm	Façade header
				
21	40cm	40cm	126cm	Façade stretcher
				
22	30cm	34cm	124cm	Façade stretcher
				

#	Height	Width	Length	Remarks
23	44cm	35cm	126cm	Façade stretcher; with concrete grouting
				
24	146cm in length; maximum width 127cm and minimum of 44cm; height 43 to 45cm.			Landing stone with 'lewis holes'; polished granite with some broken parts (not recent)
				
				

#	Height	Width	Length	Remarks
25	20cm	27cm	144cm	Inner foundation row 1; header row with some dole marks
				
26	20cm	29 cm	106cm	Inner foundation with dole marks; stretcher and one slanted angle
				
27	22cm	30 cm	119 cm	Inner foundation; stretcher rounded shape with concrete?
				

#	Height	Width	Length	Remarks
				
28	15cm	28 cm	176cm	Inner foundation; stretcher extra long with dole marks
				
29	36cm	36cm	202cm	Inner foundation; header from row 2
				

Appendix E: Collected Samples

Well remnant

#	Context	Description	Remarks
1	102	Textile collected from inside the concrete pile	
2	102	Concrete of 'pile'	One fragment
3	103	Mortar lining inside of well	2 pieces; one flat side
4	103	Mortar lining inside of well	1 piece

Seawall Fragment

#	Context	Description	Remarks
5	204	Ceramic drainpipe found on top of the seawall; brown glazed	Three fragments, including connection to other pipe and some concrete attached
6	205	Ceramic drain pipe; grey glazed	One fragment
7	205	Concrete holding ceramic drain in place	Three fragments
8	205	Asphalt like fragment supporting ceramic drain	One fragment
9	205	Concrete holding ceramic drain in place	One fragment
10	seawall	Grouting from row '4'	One fragment
11	seawall	Grouting from row '1'	
12	seawall	Small fragment of granite block #29	
13	Seawall	Mortar between blocks	Taken from front of blocks
14	foundation	Grouting from top row of foundation	
15	seawall	Material holding wires in place	
16	Wooden post	Soil collected from around the post	

Appendix F: Find bag list

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bag#	context	material	surface treatment	type	vessel form	diametre	EVE	count	weight grms	date/phase	remarks
1	301	POP	GL	RI	BL	6	25	1	33	second half 20th c.	surface finds
1	301	POP	GL	BA	BL	12	12.5	1	13	second half 20th c.	
1	301	HCW	GL	BA		10	42.5	1	140	second half 20th c.	
1	301	HCW	GL	BO				1	6	second half 20th c.	
1	301	CMB		TL				1	10	second half 20th c.	
1	301	CMB		M				1	17	second half 20th c.	
2	302	POP	GL	RI	BL	14	7.5	1	5	second half 20th c.	
2	302	HCW	GL	RI				1	5	second half 20th c.	
2	302	HCW		BA	N/A			1	16	second half 20th c.	
2	302	HCW	GL	BA		16	15	1	37	second half 20th c.	
2	302	HCW	GL	BO				2	11	second half 20th c.	

901 well remnant

bag#	context	material	surface treatment	type	vessel form	diametre	EVE	count	weight grms	date/phase	remarks
3	104	WOD	PA	OB				7	6	pre-WW II	wooden foldable ruler; very fragile
4	104	GLA		OB	BT			3	587	late 19th c.	bottle in two pieces and one marble
5	104	CUA		CA				1	11	WW II?	badly corroded
6	104	GLA		OB	BT			2	163		
6	104	GLA		OB	WW			3	11		two clear and one green fragment
7	104	WOD		OB				2	40		unidentifiable
8	104	POR		BA	BL	4	80	1	21	modern	
9	104	POR		RI		8	12.5	4	52	modern	

9	104	POR		BO					3	15	modern	one fragment with handle, ie coffee cup
9	104	POR		BA		N/A			1	4	modern	
9	104	POR	GL	RI			18	5	1	4		blue deco inside rim
9	104	HCW	GL	RI			22	7.5	1	37		
9	104	HCW	GL	BO					1	35		
9	104	POR		OB					3	92	modern	
10	105	CUA		CO					2	6	Qing dynasty	heavily corroded
11	105	CUA		CO					2	7	1863	one mil and one cent
12	105	WOD		OB					1	45	mid-late 19th c.	knife handle
13	105	CUA		BU					1	2	1837-1855	regimental button
14	105	CUA		BF	BU				2	13		belt buckle with leather fragment
15	105	LEA		OB					15	9		leather fragments
16	105	WOD		OB					3	55		unidentified wooden parts
17	105	GLA		OB	BT				1	421		dark green bottle base
17	105	GLA		OB	BT				1	1337		complete dark green bottle
17	105	GLA		OB	BT				1	38		clear glass neck
17	105	GLA		OB	BT				1	432		green glass bottle without neck
17	105	GLA		OB	BT				1	96		dark green neck
17	105	GLA		OB	WW				2	8		clear glass
17	105	GLA		OB	BT				3	22		brown glass
18	105	FCL		OB	PI				1	4		pipe stem fragment
19	105	COC		OB	BL				9	60		coconut bowl fragments
20	105	ROP		OB					1	20		
21	105	TEX		OB					1	7		coarse woven fragment of textile
22	105	COR		OB					1	2		bottle cork
23	105	COR		OB					1	2		token in cork; fragmentary

24	105	BON				2	6	possible mammal	
24	105	NUT				1	5	seed/nut, possibly almond and walnut	
24	105	SHE				1	5	oyster	
25	105	WOD		OB		2	60	unidentified wooden fragments one with nail	
26	105	WOD		OB		1	415	top part wooden post	
27	105	LEA		OB		1	474	Unknown object with some leather attached	
28	105	BIT				3	271		
29	105	MET		CA		1	9		
30	105	CUA		NA		1	1	nail	
31	105	MET		OB		7	25	possibly can?	
32	105	MET		OB		3	792	bolts	
33	105	MET		OB	NA	1	13		
33	105	MET		OB		1	21		
33	105	MET		OB		1	58		
33	105	MET		OB		1	75		
33	105	MET		OB		1	137		
33	105	MET		OB		1	648	metal with rock attached	
33	105	MET		OB		1	61		
33	105	MET		OB		1	308		
34	105	MET		OB		3	543	sheet parts	
35	105	MET		OB		1	1124	part of bag 34	
36	105	MET		OB		1	2100		
37	105	MET		OB		1	1725	chisel	
38	105	HCW	GL	HA		1	28		1
38	105	HCW		SP		1	8		
38	105	HCW	GL	BO		2	3		

38	105	HCW	GL	BA			4	25	1	4		opium pot
38	105	POP		RI					1	8		
38	105	POP		BO					2	12		
38	105	POR	CG	BO					3	35		
38	105	POR		BO					1	3		
38	105	POR	CG	RI		N/A			I	6		
39	106	POP		RI	BL	N/A			1	6		
39	106	GLA		WW					1	4		

901 Seawall fragment

bag#	context	material	surface treatment	type	vessel form	diametre	EVE	count	weight grms	date/phase	remarks
40	201										
40	201										
40	201										
40	201										
40	201										
41	201	POR		BA		12	25	1	87		
41	201	POP		RI	BL	14	20	1	30	modern	
41	201	POP		RI	CU	4	17.5	1	3		
42	201	HCW		RI	JR	16	25	1	93		
42	201	HCW		RI	DS	14	12.5	1	40	Late Qing	Shiwan ware
43	202	POP		BA	BL	7	25	1	40	Mid-Late 19th	
44	202	POR		BA		10	30	1	37	Mid-Late 19th	
44	202	POR		BO				3	126	Mid-Late 19th	

44	202	POR		BO				1	18		toilet part
44	202	POP		RI	BL		24	7.5	1	14	Mid-Late 19th	
44	202	POP		BA	BL		8	30	1	68	Mid-Late 19th	full profile
45	202	GLA		OB	BT				1	62	Mid-Late 19th	neck with cork
45	202	POP		RI	BL		16	10	1	16	Mid-Late 19th	
45	202	POP		RI	BL		18	7.5	1	6	Mid-Late 19th	
45	202	POP		RI	BL	N/A			1	1	Mid-Late 19th	
45	202	POP		RI	SN				1	3	Mid-Late 19th	
45	202	HCW		LI			10	75	1	49	Mid-Late 19th	
45	202	HCW	GL	BA		N/A			1	4	Mid-Late 19th	
46	202	HCW	GL	BO					1	55	Mid-Late 19th	
46	202	GLA		OB	BT				1	3	Mid-Late 19th	yellow glass with'D'
47	202	HCW		BA	BS		15	25	1	105	Mid-Late 19th	ricegrinder
47	202	HCW	GL	BA			12	12.5	1	8	Mid-Late 19th	
47	202	HCW	GL	BO					3	25	Mid-Late 19th	
47	202	POP		RI		N/A			1	6	Mid-Late 19th	
47	202	GLA		OB	BT				2	35	Mid-Late 19th	dark green glass
48	202	HCW		BA	BS		26	12.5	1	98	Mid-Late 19th	
48	202	HCW		BA	BS		14	12.5	1	42	Mid-Late 19th	
48	202	HCW		BO					3	11	Mid-Late 19th	
48	202	HCW	GL	BO					1	34	Mid-Late 19th	
48	202	HCW		RI			10	15	1	6	Mid-Late 19th	
48	202	POR		BO					1	4	Mid-Late 19th	very abraded
49	202	POR	CG	RI			24	17.5	1	114	Mid-Late 19th	
49	202	POR	CG	RI		N/A			1	18	Mid-Late 19th	
49	202	HCW	GL	BO					1	34	Mid-Late 19th	

49	202	HCW		BA			18	15	1	81	Mid-Late 19th	ricegrinder
50	202	POP		RI	CU	N/A			1	4	Mid-Late 19th	
50	202	POP		RI	BL		14	7.5	1	4	Mid-Late 19th	
50	202	POP		RI	BL		14	10	1	26	Mid-Late 19th	
50	202	POP		BA			4	12.5	1	15	Mid-Late 19th	
50	202	HCW	GL	BO					1	3	Mid-Late 19th	
51	202	CBM		TL					4	164	Mid-Late 19th	
51	202	POP		RI					1	1	Mid-Late 19th	
51	202	POP		BO					1	10	Mid-Late 19th	
51	202	POR		RI					1	13	Mid-Late 19th	
51	202	HCM	GL	BO					2	13	Mid-Late 19th	
51	202	HCM		BO					1	17	Mid-Late 19th	
51	202	HCM	GL	BA			12	15	1	19	Mid-Late 19th	
51	202	GLA		OB	BT				4	37	Mid-Late 19th	
51	202	STO		OB					1	15	Mid-Late 19th	
52	202	CBM		TL					1	19	Mid-Late 19th	
52	202	HCM	GL	BO					3	10	Mid-Late 19th	
52	202	POP		RI		N/A			1	1	Mid-Late 19th	
52	202	POR	CG	RI			10	13	1	15	Mid-Late 19th	
52	202	GLA		OB	BT				4	71	Mid-Late 19th	three dark green and one yellow
53	202	POR	CG	RI		N/A			1	8	Mid-Late 19th	
54	202	GLA		OB	BT				5	196	Mid-Late 19th	dark green glass and one base
55	202	HCM		BO					2	12	Mid-Late 19th	
55	202	GLA		OB	BT				1	10	Mid-Late 19th	
56	202	CBM		TL					2	34	Mid-Late 19th	
56	202	POR		BO					1	16	Mid-Late 19th	scenery motive

56	202	GLA		OB	BT			1	100	Mid-Late 19th	base
56	202	HCM	GL	BO				6	34	Mid-Late 19th	
56	202	HCM	GL	RI		22	17.5	1	51	Mid-Late 19th	outside glaze of rim peeling
57	202	GLA		OB	BT			15	313	Mid-Late 19th	2 necks and 2 base rest body
58	202	GLA		OB	BT			4	447	Mid-Late 19th	dark green bases
58	202	GLA		OB	BT			1	8	Mid-Late 19th	dark green neck frag
58	202	GLA		OB	BT			4	130	Mid-Late 19th	clear glass base frags
58	202	GLA		OB	BT			19	205	Mid-Late 19th	green glass
58	202	GLA		OB	BT			44	429	Mid-Late 19th	
58	202	GLA		OB	BT			10	108	Mid-Late 19th	flat glass; one with inscription 'RS'
58	202	GLA		OB	WW			2	2	Mid-Late 19th	clear glass
59	202	HCM		BO				2	44	Mid-Late 19th	
59	202	FCL		PI				1	4	Mid-Late 19th	stem frag
60	202	POP		BA		5	45	1	27	Mid-Late 19th	
60	202	POP		BA		6	80	1	69	Mid-Late 19th	
60	202	POP		RI		24	5	1	5	Mid-Late 19th	
60	202	POP		SN				2	20	Mid-Late 19th	
60	202	POP		BO				1	11	Mid-Late 19th	shiwan sherd
60	202	HCM	GL	BO				1	10	Mid-Late 19th	
60	202	HCM		HA				1	34	Mid-Late 19th	
61	202	POP		BO				13	44	Mid-Late 19th	
61	202	POP		BA	N/A			2	18	Mid-Late 19th	
61	202	POP		RI	N/A			2	8	Mid-Late 19th	
61	202	POP		RI		14	7.5	1	8	Mid-Late 19th	
61	202	POP		RI		14	7.5	1	6	Mid-Late 19th	
61	202	POP		RI		16	6	1	5	Mid-Late 19th	

61	202	POP		RI		20	10	1	16	Mid-Late 19th	
61	202	POP		RI		14	7.5	1	2	Mid-Late 19th	
61	202	POP		RI		20	12.5	1	21	Mid-Late 19th	
61	202	POR		BO				5	48	Mid-Late 19th	all decorated
61	202	POR		RI		36	5	1	15	Mid-Late 19th	
61	202	POR		RI		20	5	1	5	Mid-Late 19th	
61	202	POR		RI		24	7.5	1	24	Mid-Late 19th	
61	202	POR		BA		6	25	1	16	Mid-Late 19th	
61	202	POR		LI		10	50	1	87	Mid-Late 19th	
61	202	HCM		RI		16	10	1	7	Mid-Late 19th	
61	202	HCM		RI		13	7.5	1	6	Mid-Late 19th	
61	202	HCM		RI		36	8	1	63	Mid-Late 19th	ricegrinder
61	202	HCM		RI		18	5	1	5	Mid-Late 19th	
61	202	HCM		RI		22	8	1	17	Mid-Late 19th	
61	202	HCM		RI		22	5	1	6	Mid-Late 19th	
61	202	HCM		RI	N/A			1	6	Mid-Late 19th	
61	202	HCM		RI	N/A			1	2	Mid-Late 19th	
61	202	HCM	GL	RI		11	20	1	29	Mid-Late 19th	
61	202	HCM	GL	RI		14	10	1	15	Mid-Late 19th	
61	202	HCM	GL	RI		14	17	1	35	Mid-Late 19th	
61	202	HCM	GL	RI		12	7	1	6	Mid-Late 19th	
61	202	HCM	GL	RI		14	7.5	1	4	Mid-Late 19th	
61	202	HCM	GL	RI		10	7.5	1	3	Mid-Late 19th	
61	202	HCM	GL	RI		16	5	1	6	Mid-Late 19th	
61	202	HCM	GL	BO				30	208	Mid-Late 19th	
61	202	HCM		HA				4	47	Mid-Late 19th	

61	202	HCM		SP				2	48	Mid-Late 19th	
61	202	HCM		LI				1	35	Mid-Late 19th	
61	202	HCM	GL	BA	N/A			1	4	Mid-Late 19th	ricegrinder
61	202	HCM		BA		25	15	1	122	Mid-Late 19th	
61	202	HCM		BA		12	7.5	1	45	Mid-Late 19th	
61	202	HCM	GL	BA		18	15	1	33	Mid-Late 19th	
61	202	HCM	GL	BA		32	7.5	1	85	Mid-Late 19th	
61	202	HCM	GL	BA		14	10	1	21	Mid-Late 19th	
61	202	HCM	GL	BA		24	7.5	1	46	Mid-Late 19th	
61	202	HCM		BA		16	10	1	14	Mid-Late 19th	
61	202	HCM	GL	BA		14	6	1	3	Mid-Late 19th	
61	202	HCM	GL	BA		11	7.5	1	4	Mid-Late 19th	
61	202	POR	GL	BO				2	17	Mid-Late 19th	European?
61	202	POR	GL	RI		12	10	1	25	Mid-Late 19th	
61	202	HCM		BO		14	13	12	76	Mid-Late 19th	
61	202	POR	CG	BO		16	10	8	77	Mid-Late 19th	
61	202	POR	CG	BA		14	7.5	1	27	Mid-Late 19th	
61	202	POR	CG	RI		18	11	1	72	Mid-Late 19th	
61	202	POR	CG	RI		16	7.5	1	55	Mid-Late 19th	
61	202	POR	CG	RI		16	7.5	1	17	Mid-Late 19th	
61	202	POR	CG	RI		16	7.5	1	11	Mid-Late 19th	
61	202	POR	CG	RI		16	2.5	1	7	Mid-Late 19th	
61	202	POR	CG	RI	N/A			1	18	Mid-Late 19th	
61	202	CBM		TL				2	52	Mid-Late 19th	
61	202	CBM		DP				1	91	Mid-Late 19th	
61	202	CBM		WG				1	157	Mid-Late 19th	

61	202	SLA						1	58	Mid-Late 19th	
61	202	GLA		OB	BT			1	3	Mid-Late 19th	
62	202	HCM	GL	RI		50	20	1	333	Mid-Late 19th	
62	202	HCM		BO				1	25	Mid-Late 19th	ricegrinder
62	202	HCM	GL	BO				2	10	Mid-Late 19th	
62	202	CBM		TL				1	48	Mid-Late 19th	
63	203	POP		RI		18	6	1	11	Mid-Late 19th	
64	203	HCM	GL	BO				1	12	Mid-Late 19th	with shoulder applique
65	203	POP		BA		8	12.5	1	25	Mid-Late 19th	full profile
65	203	POR		BA		10	30	1	89	Mid-Late 19th	
65	203	POR		BA		10	22	1	24	Mid-Late 19th	
65	203	CBM		TL				1	43	Mid-Late 19th	blue deco tile frag
66	206	CBM		TL				5	73	Mid-Late 19th	
66	206	HCM		BO				1	12	Mid-Late 19th	
66	206	HCM		BA		8	15	1	23	Mid-Late 19th	
66	206	HCM		RI		24	7.5	1	20	Mid-Late 19th	
66	206	POP		BA	BL	7	100	1	125	Mid-Late 19th	
66	206	POP		BA	BL	6	20	1	37	Mid-Late 19th	
66	206	POP		RI	BL	18	7.5	1	10	Mid-Late 19th	
66	206	POP		RI	BL	16	7.5	1	9	Mid-Late 19th	
66	206	POP		RI	BL	10	7.5	1	3	Mid-Late 19th	
66	206	POP		BO	BL			1	16	Mid-Late 19th	
67	206	GLA		OB	BT			7	408	Mid-Late 19th	3 BASE FRAG
67	206	GLA		OB	WW			1	21	Mid-Late 19th	
68	206	CBM		TL				3	113	Mid-Late 19th	
68	206	STO						1	8	Mid-Late 19th	

68	206	POR	PG	RI		N/A			1	29	Mid-Late 19th	
68	206	POR		RI			18	7	1	20	Mid-Late 19th	
68	206	POR	CG	BA			8	12.5	1	5	Mid-Late 19th	
68	206	POR		BO					3	22	Mid-Late 19th	
68	206	POP		BA	BL		7	12.5	1	19	Mid-Late 19th	
68	206	POP		BA	BL		8	25	1	34	Mid-Late 19th	
68	206	POP		BA	BL		9	100	1	140	Mid-Late 19th	
68	206	POP		BA	BL		8	25	1	17	Mid-Late 19th	
68	206	POP		BA	BL		7	15	1	58	Mid-Late 19th	
68	206	POP		BA	BL		7	50	1	53	Mid-Late 19th	
68	206	POP		BA	BL	N/A			5	65	Mid-Late 19th	
68	206	POP		RI	BL		12	5	1	3	Mid-Late 19th	
68	206	POP		RI	BL		16	2.5	1	5	Mid-Late 19th	
68	206	POP		BO					5	30	Mid-Late 19th	
68	206	HCM		RI			13	10	1	6	Mid-Late 19th	
68	206	HCM		RI		N/A			1	25	Mid-Late 19th	
68	206	HCM		RI			13	10	1	9	Mid-Late 19th	
68	206	HCM		BO					2	7	Mid-Late 19th	
68	206	HCM		HA					1	6	Mid-Late 19th	
68	206	HCM	GL	BA			8	12.5	1	19	Mid-Late 19th	
68	206	HCM	GL	BA			8	10	1	9	Mid-Late 19th	
68	206	HCM	GL	BO					10	52	Mid-Late 19th	
69	206	POR		BO	PL				1	35	Mid-Late 19th	fragment of below
69	206	POR	PG	RI	PL		24	12.5	1	21	Mid-Late 19th	european
70	206	POR	PG	RI		N/A			1	9	Mid-Late 19th	european
70	206	GLA		OB	BT				1	27	Mid-Late 19th	

71	206	CBM		BR				1	285	Mid-Late 19th	
72	206	CBM		TL				1	20	Mid-Late 19th	
72	206	FCL		PI				1	5	Late 19th c	stem fragment
72	206	POR	CG	RI		8	10	1	4	Mid-Late 19th	
72	206	POP		BO				1	8	Mid-Late 19th	
72	206	GLA		OB				1	2	Mid-Late 19th	
72	206	HCM		RI		26	2.5	1	34	Mid-Late 19th	
72	206	HCM		RI	N/A			1	5	Mid-Late 19th	
72	206	HCM		RI		12	5	1	2	Mid-Late 19th	
72	206	HCM		BO				1	7	Mid-Late 19th	
72	206	HCM		BA		10	10	1	5	Mid-Late 19th	
72	206	HCM	GL	BO				9	103	Mid-Late 19th	
73	206	HCM	GL	BO				1	9	Mid-Late 19th	
74	206	CBM		TL				2	73	Mid-Late 19th	
74	206	GLA		OB	BT			2	17	Mid-Late 19th	dark green bottle glass
75	206	GLA		OB	BT			18	150	Mid-Late 19th	dark green with exception of two light green frag
75	206	GLA		OB	WW			1	5	Mid-Late 19th	
76	206	CBM		TL				2	87	Mid-Late 19th	
76	206	POP		RI		12	4	1	4	Mid-Late 19th	
76	206	POP		RI		22	3	1	5	Mid-Late 19th	
76	206	POP		RI		14	5	1	13	Mid-Late 19th	
76	206	POR	CG	BO				1	15	Mid-Late 19th	
76	206	POP		BO				2	3	Mid-Late 19th	
76	206	HCM		RI	N/A			1	12	Mid-Late 19th	
76	206	HCM	GL	LI		9	25	1	13	Mid-Late 19th	

76	206	HCM	GL	BA			16	7.5	1	42	Mid-Late 19th	
76	206	HCM	GL	BO					3	12	Mid-Late 19th	
76	206	HCM		BO					1	2	Mid-Late 19th	
77	206	POP		BO					1	8	Mid-Late 19th	
77	206	POR	CG	BO					1	16	Mid-Late 19th	
77	206	POR	CG	BA			14	10	1	19	Mid-Late 19th	
77	206	HCM		BO					4	59	Mid-Late 19th	
77	206	HCM		RI			12	5	1	6	Mid-Late 19th	
77	206	GLA		OB	BT				5	44	Mid-Late 19th	one light green rest dark green
77	206	SHE							1	4	Mid-Late 19th	
78	206	GLA		OB	BT				34	365	Mid-Late 19th	ten light green rest dark green bottle frags
79	206	CBM		TL					2	76	Mid-Late 19th	
79	206	POP		RI		N/A			1	7	Mid-Late 19th	
79	206	POP		RI			14	5	1	3	Mid-Late 19th	
79	206	POP		RI		N/A			1	3	Mid-Late 19th	
79	206	POR		RI			22	10	1	30	Mid-Late 19th	
79	206	POR		RI			20	9	1	26	Mid-Late 19th	
79	206	HCM		RI			24	12.5	1	45	Mid-Late 19th	rice grinder frag
79	206	HCM		RI			16	7.5	1	7	Mid-Late 19th	
79	206	HCM		RI			16	5	1	4	Mid-Late 19th	
79	206	HCM		RI			8	12.5	1	7	Mid-Late 19th	Shiwan
79	206	HCM	GL	RI			10	3	1	5	Mid-Late 19th	
79	206	HCM	GL	RI			14	5	1	3	Mid-Late 19th	
79	206	HCM	GL	RI			18	6	1	16	Mid-Late 19th	
79	206	HCM	GL	RI			9	8	1	4	Mid-Late 19th	
79	206	HCM	GL	RI			16	3	1	6	Mid-Late 19th	

79	206	HCM	GL	BA	16	7.5	1	8	Mid-Late 19th	
79	206	HCM		BO			6	36	Mid-Late 19th	2 rice grinder frags
79	206	HCM	GL	BO			19	157	Mid-Late 19th	

CODE

Category	**Material**	**TYPE**	**FORM**	**SURFACE TREATMENT**
CBM =ceramic building materials		TL = tile BR = brick DP=drain pipe WG=window grille M=mortar		
FCL = fired clay		OB = object	PI = pipe	
MET = metal	CUA = Copper Alloy	CO = coin BF = belt fitting BU= button NA=nail CA=Cartridge	BU = buckle SE = strap-end DE = decoration	
	IRO = iron LEA = lead	KN = knife OB = object NL = nail OB = object		

Category	Material	TYPE	FORM	SURFACE TREATMENT
POT = pottery	POC = porcelain/proto porcelain (celadon) POQ = porcelain/proto porcelain (Qianbai) POR= porcelain (including European, crackle glaze and polychrome) POP = provincial porcelain (including B&W such as Wun Yiu) POK = proto porcelain (crackle glaze) POU = proto porcelain (unclassified, unknown, unsure) PCF = prehistoric coarse fabric	BO = body HA = handle BA = base RI = rim VL = vessel SP = spout LI = Lid	BS = basin JR = jar CU = cup SN=spoon TS = textile smoother DS=dish PL=plate	CG=crackle glaze PG=printed deco GL = glazed SL = slipped
STO = stone	QUA = quartz NON = non-identifiable	FK = flake TO = Tool OR = Ornament	SR = slit ring	CH = chipped PO = polished
WOD=wooden COC = coconut COR = cork GLA = glass PUM = pumice SHE=shell BON = bone ROP=rope TEX=textile LEA = leather SLA = slag		OB=Object	RG = Ring BT = Bottle WW = Window	PA=painted

Email from AMO dated 10 Jul 2013:		
	Non-technical Summary (English Version)	
1.	In paragraph 1, please check whether "902 (S7c, S7d, S7e and Site S7 in Wong Chuk Hang)" should read "902 (Sites S7c, S7d, S7e and S7 in Wong Chuk Hang)".	Noted. Corresponding paragraph have been revised.
2.	Please revise the last paragraph as "There were no significant archaeological findings at 902 (Sites S7c, S7d, S7e and S7 in Wong Chuk Hang) and 903 (Site S10 in Wong Chuk Hang San Wai)".	Noted. Corresponding paragraph have been revised.
	Non-technical Summary (Chinese Version)	
3.	In paragraph 1, please check whether "…十九至二十世紀…" should read "…十九至二十世紀初期…".	Noted. Corresponding paragraph have been revised.
4.	Please revise paragraph 5 to read "由於兩個遺跡的保存狀況並不理想，其在自身外觀的完整性以致是作為文化景觀一部份的完整性均受到影響。因此，採取記錄作保存是恰當的方法。"	Noted. Corresponding paragraph have been revised.
5.	Please revise the last paragraph as "在 902 (黃竹坑 S7c, S7d, S7e 及 S7 工地) 以及 903 (黃竹坑新圍 S10 工地) 均沒有重要的考古發現。".	Noted. Corresponding paragraph have been revised.
	Main text and Supporting Illustrations	
6.	In paragraph 3 under Introduction on page 5, please check whether "902 (S7c, S7d, S7e and Site S7)" should read "902 (Sites S7c, S7d, S7e and S7)". Please also revise the last sentence to read "Three works areas...which will be conducted in accordance with the requirements ~~of the Antiquities Authority and~~ as stipulated in the EIA Report and EM&A Manual of SIL(E)."	Noted. Corresponding paragraph have been revised.
7.	Figure 4, please indicate the location of Harcourt Garden on each historical map for easy reference. Also, please enlarge the historical map for better viewing.	Noted. Figures have been enlarged and location of Harcourt Garden added.
8.	Figures 5 and 6, please indicate the locations of the works sites 902 and 903 on the 1895 map and 1949 aerial photo for easy reference.	Noted. Locations have been added.
9.	Figure 7, please indicate the location of Harcourt Garden on the 1986 map.	Noted. Location have been added.
10.	Section 3.2, please supplement the result of the archaeological investigation in Wong Chuk Hang conducted by AMO in 2001.	Noted. Results of investigation have been added.
11.	Section 3.3, please supplement 1957 topographical map as mentioned in the third column of “Site 7 and part of Site 7c”. Please also supplement geological maps overlain with the relevant works sites for easy reference.	Noted. 1957 map and geology maps have been added.
12.	Please supplement a floor plan showing the boundary of the SEE shaft and Station Box as well as the location where the cut granite blocks, the well and the seawall foundation were found as mentioned in Section	Noted. Figure showing boundary of the SEE shaft and Station Box and locations of isolated cut granite blocks,

	5.1.	the well and the seawall foundation have been added.
13.	Please check whether Plate 6 should also be referred in the text on page 14.	Noted. Plate 6 reference has been added as appropriate.
14.	Please supplement the context number of the seawall and the buttress as well as the north-direction in the sketch showing on page 15.	Noted. Context numbers and north direction have been added.
15.	In paragraph 1 under subheading “Alluvial flat plains” on page 16, please check whether “relocation of threes” should read as “relocation of trees”.	Noted. Corresponding paragraph have been revised.
16.	Section 5.2, please provide a plan indicating the approximate location of archaeological materials recorded in Site 7 and 7c, sheet piling and pile cap excavation in Site 7c-e for easy reference.	Noted. Locations of finds have been added.
17.	In paragraph 1 under subheading “Well remnant” on page 17, please supplement the diameter of the well.	Noted. Diameter measurements of the well shaft remnant have been added.
18.	Section 6.2, please revise paragraph 2 on page 18 to read "No significant material, deposits or features were present at 902...".	Noted. Corresponding paragraph have been revised.
19.	Section 8, item 2 under "Books and Articles", please clarify whether the book title should read "Little Hong Kong - Wong Chuk Hang".	Noted. Corresponding paragraph have been revised.
20.	In section 11 - Supporting illustration, please enlarge all figures and photos as well as place the caption under each figure and plate rather under a group of figures and plates to make it more readable.	Noted. Figures and photos have been enlarged and caption placed underneath.
21.	Figure 8, please elaborate the meaning of "yellow line shows line of excavation" as stated in the caption.	Noted. Corresponding paragraph have been revised.
22.	Plate 3 and Figure 9, please provide the long title of the abbreviation "EFS".	Noted. Corresponding paragraph have been revised.
23.	Plate 11, please check whether the caption should read "Landing stone and area; bottom right shows the 'lewis' holes".	Noted. Plate caption have checked and updated accordingly.
	Appendix A	
24.	Since this report should present a full record of the archaeological watching brief for all identified works sites covering the entire AWB period, appending the progress report is not needed.	Noted. Appendix A have been deleted.
	Appendix B	
25.	Please supplement the diameter (both inner and outer) of the top of the well as found in the summary and discussion on page 75.	Noted. Well shaft remnant diameter measurements have been added.
26.	Section 1, please indicate context 106 in plate 4b as mentioned in paragraph 2 on page 59.	Noted. Context 106 has been added to plate 4b.
27.	Please provide caption for photos on pages 61, 62 and 63 for illustration.	Noted. Captions have been added.
28.	Please put the caption under each artefact photo instead of at its right hand side to make it more readable. Please also number the artefact photos.	Noted. Captions have been placed underneath plate and plates have been numbered.
	Appendix C	
29.	Please supplement the context number of the seawall and the buttress as well as the north-direction in the sketch showing on page 77.	Noted. Context number have been added.
30.	In paragraph 1 on page 77, please check whether ten contexts instead of nine contexts were recorded as Contexts 201 to 210 were described from page 77 to page 80.	Noted. Number of contexts have been checked.

31.	Please check whether the context numbers indicated in the photo on page 77 is in stratigraphic order. Please also consider simplifying the photo or supplement another drawing (3 dimension?) to make it more easy to understand.	Noted. Photograph context lines were off position and have been placed correctly to represent the stratigraphic sequence of the fill to the north of the seawall fragment.
32.	In paragraph 1 of subheading “Context 202” on page 78, please check whether “The finds, mainly glass, tiles and pottery are similar to the artefacts in 202 and the well …” should read as “The finds, mainly glass, tiles and pottery are similar to the artefacts in the well …”.	Noted. Corresponding paragraph have been revised.
33.	In paragraph 2 of subheading “Context 203” on page 78, please check whether “… to the north of the seawall …” should read as “… to the south of the seawall…”	Noted. Corresponding paragraph have been revised.
34.	Please supplement a photo showing all contexts described from page 77 to page 80, if possible, or a photo showing the contexts which were not illustrated in the photo on page 77.	Noted. Context number have been added to plates to illustrate contexts.
35.	Please clarify whether any context number was allocated to the seawall and the buttress.	Noted. Contexts have been added.
36.	In paragraph 1 of subheading “Context 205” on page 79, please refine the first sentence as well as the sketch to make them more easy to understand.	Noted. Corresponding paragraph have been revised.
37.	Please supplement a photo showing the rounded thin capstones covering the seawall of the West Praya mentioned in paragraph 2 of Heading “Physical attributes of the seawall” on page 80.	Noted. Photo have been added accordingly.
38.	Please supplement a photo showing the foundation at Area C mentioned on page 83.	Noted. Photo reference have been added.
39.	Pages 82 and 83, please use Area A and Area B consistently instead of using Part A, Part B and Area A, Area B concurrently to avoid confusion.	Noted. Corresponding paragraph have been revised.
40.	Page 84, please clarify whether the black circle indicated in the photo at top right is referred to the ceramic drain pipe (context 204).	Noted. Text has been checked as plate refers to chunam.
41.	In paragraph 1 on page 84, both the plunge column of the current project and another recently built plunge column are referred to “see below left”. Please check; Besides, please clarify which photo is referred to the thick rebar foundations part of the MTR Entrance ‘E’ (see below bottom left).	Noted. Plate refs have been checked.
42.	Please place the caption under each artefact photo instead of at its right hand side to make it more readable. Please also number the artefact photos.	Noted. Captions have been placed underneath plate and plates have been numbered.
43.	Page 88, please check whether the caption for the upper photo “on clear glass …” should read as “one clear glass …”.	Noted. Corresponding paragraph have been revised.
44.	Page 90, the tile fragments shown in the upper photo were not mentioned in the caption. Besides, please check whether the caption for the middle photo was correct.	Noted. Caption have been checked.
45.	Page 92, 54 pieces of glass was found in the middle right photo. Besides, no caption for the middle left photo.	Noted. Captions have been checked.
46.	Page 93, two pieces of artefacts shown in the bottom photo were not mentioned in the caption.	Noted. Captions have been checked.
47.	Page 96, the quantity of the artefacts shown in the upper photo is not same as the caption.	Noted. Captions have been checked.

48.	Page 99, the quantity of the artefacts shown in the upper photo is not same as the caption.	Noted. Captions have been checked.
49.	Page 100, the quantity of the artefacts shown in the middle photo is not same as the caption.	Noted. Captions have been checked.
50.	Page 102, the quantity of the artefacts shown in the upper photo is not same as the caption.	Noted. Captions have been checked.
51.	Page 103, the quantity of the artefacts shown in the upper photo is not same as the caption.	Noted. Captions have been checked.
52.	Please recheck all artefact photos with their captions.	Noted. Captions and artefacts have been checked.
53.	In paragraph 2 on page 109, please check whether "19 c." should read as "19th c."	Noted. Corresponding paragraph have been revised.
54.	In paragraph 3 on page 109, please check whether Figure 5 is wrongly referred.	Noted. Figure reference has been checked.
	Appendix D	
55.	Page 110, please check whether "Site 7 and 7c" should be added to the sentence on top of the upper photo. Besides, please check whether "On the flat within Site 7d…" in the sentence on top of the lower photo should read as "On the flat alluvial area within 7d…".	Noted. Corresponding paragraph have been revised.

I refer to your submission of revised draft final AWB report for the SIL(E) dated 1.8.2013. We would like to provide further comments on the said report for your checking and amendment as follows:

Further AMO comments received by email on 2nd September 2013	**Responses**
First paragraph of Section 3.2 on page 5, "… there had been only three previous …" should read as "… there had been only four previous …"	Noted, text will be amended.
Context 205 on page 96, Plate 9d mentioned cannot be found in the report. Besides, please check whether the diameter of the pipe should be 50cm instead of 50m.	Noted, plate reference will be checked and pipe measurement will be adjusted.
Second paragraph on page 98 states that Old Hong Kong photographs show rounded thin capstones covering the seawall of the West Praya ca. 1860's (City of Victoria 1994. p.22). Please check and advise whether the photo on page 99 is used for illustration as the photo caption is "Detail of 1860's photograph of Central Praya, Hong Kong showing the rounded capstones of the seawall (Hacker Arthur 1997. page 21)".	Noted, photo reference and text will be checked.
The quantity of artifacts shown in Plate A. 62 on page 108 is not same as the caption. Please check and revise.	Noted, caption will be checked and revised.
The quantity of artifacts shown in Plate A. 76 on page 112 is not same as the caption. Please check and revise.	Noted, caption will be checked and revised.
The quantity of artifacts shown in Plate A. 83 on page 115 is not same as the caption. Please check and revise.	Noted, caption will be checked and revised.