

MTR Corporation Limited

HONG KONG SECTION OF GUANGZHOU –
SHENZHEN – HONG KONG EXPRESS RAIL LINK
(No. EP-349/2009)

Archaeological Action Plan

Verified by:	
Position:	<u>Independent Environmental Checker</u>
Date:	<u>23 July 2010</u>

MTR Corporation Limited

HONG KONG SECTION OF GUANGZHOU -
SHENZHEN - HONG KONG EXPRESS RAIL LINK
(No. EP-349/2009)

Archaeological Action Plan

Certified by:

Glenn Frommer

Position:

Environmental Team Leader

Date:

19 JUL 2010

Table of Content

	Page
1 INTRODUCTION.....	1
1.1 Background	1
1.2 Purpose of This AAP	1
1.3 Report Structure	1
2 OBJECTIVE AND SCOPE OF ARCHAEOLOGICAL ACTIONS	3
2.1 Objective	3
2.2 Areas of Archaeological Actions	3
2.3 Programme of Archaeological Actions	4
3 METHODOLOGY.....	5
3.1 Pre-Fieldwork Preparation	5
3.2 Personnel	5
3.3 Further Archaeological Investigation.....	5
3.4 Rescue Excavation	6
3.5 Watching Brief (Monitoring)	7
4 FIELD RECORDING.....	8
4.1 Stratification and Balks	8
4.2 Recording System.....	8
5 ARTEFACT PROCESSING & DATING	10
5.1 Artefact Processing, Dating and Discussion	10
5.2 Handover of the Artefacts and Archives	11
6 REPORTING	12
7 CONTINGENCY PLAN.....	14

List of Figures

C8016/C/XRL/ENS/M55/001	Location of Tai Kong Po Emergency Access Point
C8016/C/XRL/ENS/M55/002	Location of Shek Kong Stabling Sidings
C8016/C/XRL/ENS/M55/003	Proposed Grid system at Rescue Excavation Area
C8016/C/XRL/ENS/M55/004	Location of Tse Uk Tsuen Works Area

List of Appendix

Appendix A	Programme of Archaeological Actions
------------	-------------------------------------

1 INTRODUCTION

1.1 Background

- 1.1.1 The “Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link” Project (hereinafter known as “the Project”) covers a 26km long underground rail line on a dedicated track that runs from the terminus in West Kowloon to the boundary at Huanggang, where it connects with the Mainland section of Guangzhou-Shenzhen-Hong Kong Express Rail Link (XRL). The Project also comprises ventilation buildings, emergency access points, stabling sidings and maintenance facilities and an emergency rescue siding.
- 1.1.2 An Environmental Impact Assessment (EIA) study for the Project was conducted in accordance with the EIA Study Brief No. ESB-197/2008 (ESB). The EIA study concluded that the Project would be environmentally acceptable with the implementation of mitigation measures.
- 1.1.3 The EIA Report (Register No.: AEIA-143/2009) was approved on 28 September 2009 by the Director of Environmental Protection (DEP) under the Environmental Impact Assessment Ordinance (EIAO). Following the approval of the EIA Report, an environmental permit (EP) was granted on 16 October 2009 (EP No: EP-349/2009) for the construction and operation of the Project.
- 1.1.4 Pursuant to EP Condition 2.37, the Permit Holder, MTR Corporation Ltd (MTR), shall deposit with the Director an Archaeological Action Plan (AAP) agreed by the Antiquities and Monuments Office (AMO), no later than one month before the commencement of construction at the works area of Shek Kong Stabling Sidings (SSS), Tai Kong Po Emergency Access Point (TPP) or Tse Uk Tsuen (TUW).
- 1.1.5 AECOM Asia Co. Ltd has been commissioned by the MTR to prepare AAP for approval of AMO and EPD.

1.2 Purpose of This AAP

- 1.2.1 This AAP is prepared following the AMO's *Guidelines for Cultural Heritage Impact Assessment*, which is attached in Appendix C-1 of ESB, and the recommendations specified in the EIA Report. The AAP includes the details of the archaeological actions required to mitigate potential impact on archaeological deposits in SSS, TPP and TUW. The AAP includes the following items:
- a detailed plan for further archaeological investigation at inaccessible areas at SSS and TPP;
 - a detailed plan for rescue excavation at the southern portion of SSS; and
 - a contingency plan to address possible arrangement when significant archaeological findings are unearthed during the further archaeological investigation and rescue excavation; and
 - a detailed plan for Archaeological Watching Brief for the identification of any historical finds during the construction works at TUW.
- 1.2.2 This AAP will also form part of the application of a Licence to excavate and search for antiquities under *Antiquities and Monuments Ordinance* (Cap 53).

1.3 Report Structure

- 1.3.1 This AAP comprises the following sections:
- Section 1 presents the background information and purpose of AAP.
 - Section 2 describes the objectives and scope of the archaeological actions.
 - Section 3 presents the methodology of the archaeological actions.
 - Section 4 describes the details of field recording.

- Section 5 describes the details of artefact processing and dating.
- Section 6 describes the reporting requirements.
- Section 7 presents the contingency plan.

2 OBJECTIVE AND SCOPE OF ARCHAEOLOGICAL ACTIONS

2.1 Objective

- 2.1.1 The objectives of archaeological works for this Project are to examine and rescue the archaeological resource within the Project area through a programme of controlled, intrusive fieldwork with relevant research studies which examines, records and interprets archaeological deposits, features and structures and, as appropriate, retrieves artefacts, ecofacts and other remains, and to seek a better understanding of, to compile a lasting record of that resource, to analyse and interpret, and to disseminate the results.

2.2 Areas of Archaeological Actions

Further Archaeological Investigation

- 2.2.1 During the course of EIA, there were inaccessible areas, which had been disturbed by different land uses, such as pig and chicken farms, open storage yards, garages and village houses, for archaeological study. As such, the archaeological investigation of the EIA study was limited by the accessibility of the above-ground works areas and the archaeological potential within these inaccessible areas is uncertain yet. In order to confirm whether any archaeological remains exist in these inaccessible areas, a further archaeological investigation is therefore recommended in the following areas:

- inaccessible area in the northern section of SSS located near Shek Kong PLA Barrack;
- inaccessible area in the middle and southern section of SSS, which is being occupied by pig and chicken farms, open stage yards, factories etc; and
- inaccessible area in TPP, which is being occupied by pig and chicken farms and septic tanks.

- 2.2.2 Locations of further archaeological investigation are shown in **Figure Nos. C8016/C/XRL/ENS/M55/001 and 002**. It is estimated that a total of 18 test pits (1m x 1.5m) and a few auger holes, subject to the findings of field walking at the above-mentioned inaccessible areas, will be carried out in these potential areas.

- 2.2.3 In order to demarcate the boundary of rescue area, additional test pits or hand auger holes would be carried out during the investigation, subject to approval of access. The area of rescue excavation would be refined subject to the findings of additional test pits/auger holes in rescue excavation area.

Rescue Excavation

- 2.2.4 During the archaeological investigation conducted during the course of EIA, a cultural layer of Song to Ming dynasty (AD960-1644) was discovered in test pit TP4 and artefacts identified in surface at the southern portion of SSS (**Figure No. C8016/C/XRL/ENS/M55/003**), indicating that there were human activities in SSS at ancient periods. The indicative extent of an archaeological deposit area with a cultural layer at southern SSS was defined, and rescue excavation is recommended at this area, in which the archaeological remains could be preserved by detailed records.

- 2.2.5 The extent of rescue excavation is conservatively determined according to the distribution of artefact identified on surface of rescue area, where some roof tiles and Song ceramics were observed, during field walking and the findings of auger holes conducted in EIA stage. The area of rescue excavation is approximately 1,500m², subject to the findings of further archaeological investigation.

Watching Brief (Monitoring)

- 2.2.6 As a precautionary measure for the identification of any historical finds during the construction at TUW (**Figure No. C8016/C/XRL/ENS/M55/004**), which might have a potential for finds and remains of archaeological interest, watching brief will be conducted during soil excavation of construction shaft at TUW.

2.3 Programme of Archaeological Actions

- 2.3.1 The programme provided below and shown in Appendix A is based on an assumption that there would be suitable weather during archaeological actions. In addition, construction programme and land resumption process might be changed, and therefore notification will be sent to AMO two weeks before commencement of archaeological actions.

Further Archaeological Investigation

- 2.3.2 As the land resumption process at TPP and SSS would be conducted in different stages, it is anticipated that further archaeological investigation would commence at TPP first in around August/September 2010 and SSS in around December 2010 or earlier if land access is granted. Further investigation at TPP and SSS is estimated to be completed in 2 to 3 weeks and 5 to 6 weeks respectively.

Rescue Excavation

- 2.3.3 It is anticipated that the depth of archaeological deposits would be located between 0.3m and 1m⁽¹⁾. With an excavation rate of 100m² per week, rescue excavation at SSS would take approximately 15 to 17 weeks, subject to the findings of further investigation. The actual programme of rescue excavation would be subject to site conditions, extent of archaeological deposits, weather conditions, and any other practicalities. Sufficient time would be allowed for salvage all cultural remains affected. Rescue excavation would commence in January 2011 when land resumption is completed at the concerned area and the contractor is onboard.

Watching Brief

- 2.3.4 According to latest construction programme, soil excavation of construction shaft at TUW would commence in February 2011 and take about 3 months. As discussed above, archaeological deposits, if any, would be located between 0.3m and 1m, thus watching brief would be carried out regularly during the excavation between 0m and 1.7 m.

¹ The assumed depth of relic is based on the AIA Report of approved EIA Report and archaeological excavation conducted by Hong Kong Archaeological Society at Tsat Sing Kong in 2009.

3 METHODOLOGY

3.1 Pre-Fieldwork Preparation

- 3.1.1 Prior to the commencement of investigation and rescue excavation, a number of permits or approvals are required, including a *Licence to Search and Excavate Antiquities* in accordance with the *Antiquities and Monument Ordinance* and *Excavation Permit*, and checking of underground utilities will also be conducted.

3.2 Personnel

- 3.2.1 The further archaeological investigation, rescue excavation and watching brief would be led by a licensed archaeologist, Mr. Steven Ng, who has past experience in leading the archaeological investigation at TPP, SSS and Tsat Sing Kong Archaeological Site in 2008 to 2009. Mr. Ng will be assisted by professional staffs Mr. Patrick Lai and Ms. Kathy Chan, who both are experienced archaeologists. Two to four field assistants, who have bachelor degree in archaeology or equivalent (i.e. history, geology or geography, environmental science etc), will also be involved in the field works. Apart from provision of adequate professional staffs, adequate manual labours would be provided during further archaeological investigation and rescue excavation. Based on current programme, further archaeological investigation and rescue excavation would not be conducted simultaneously, and the proposed resources are therefore considered to be adequate. If necessary, additional archaeologist would be invited to assist rescue excavation.
- 3.2.2 Land surveyor team and AECOM's professional staffs would also be responsible for field measured drawings of archaeological remains and wall sections and set up grid system in the site.
- 3.2.3 Ceramic experts would be engaged during the course of excavation or post-excavation. A ceramic report would be prepared by experts and attached in the final Rescue Excavation Report.

3.3 Further Archaeological Investigation

Field Walking and Hand Augering

- 3.3.1 Field walk will be undertaken for surface collection in a systematic manner and covers the identified inaccessible areas in TPP and SSS in order to identify any archaeological deposits and their distribution density on the ground surface. Particular attention will be given to exposed areas such as riverbed cuts, erosion areas, terraces, etc.
- 3.3.2 The position of any special artefacts discovered, together with their extent, quantity and chronology will be recorded, marked on 1:1000 scale map and collected during the field scanning and form part of the archive. Topography, surface conditions and existing impacts will be observed during the field walking. Findings of the field walk will be assisted in refining the locations of test pits and auger holes.
- 3.3.3 The choice and quantity for the location of the auger holes would depend on various factors such as desk-based information, landforms, size of proposed site and field walking findings.
- 3.3.4 Based on previous study taken in EIA stage, an estimate of 54 auger holes would be carried out to verify the archaeological potential within the inaccessible areas. The location of each auger hole will be marked on a 1:500 or 1:1000 scale map. The findings of hand augering will be used to refine the locations of test pits.
- 3.3.5 The auger tool, which consists of a bucket, pole and handle, will be vertically drilled by hand into the surface. The depth of any material found will also be measured. The auger hole will be

abandoned when the water table, the end of the auger, or a rock surface is reached, or if the auger bucket fails to hold the soil.

Excavation of Test Pits

- 3.3.6 Hand digging of test pits would be carried out in order to determine the existence of archaeological deposits and their stratification. The location of test pit depends on various factors such as desktop information, landforms, superficial geology, field walking as well as hand augering's findings.
- 3.3.7 The test pits would be hand-excavated layer by layer. When a new layer is reached, excavation will generally stop to allow recording of the layer. The digging of test pits will terminate at sterile stratum. The excavation will continue until rock or decomposing rock or virgin soils are reached and no potential for archaeological soils or deposits exist. The size of test pit is normally in the size of 1m x 1.5m but may depend on on-site obstacles such as trees, narrow terraces or other factors.
- 3.3.8 Field records containing information regarding the physical location of the pit, its size and benchmark, artefacts and feature finds, as well as the surrounding weather conditions, soil description and measured depths would be recorded for each pit. Photographs would be taken, drawings and plans would be produced, and finds would be bagged, labelled and stored for transport. The location of the test pit (s) would be mapped on a 1:500 or 1:1000 scale map.
- 3.3.9 It is estimated that a minimum of 18 pit excavations would be carried out to verify the archaeological potential within the inaccessible areas of TPP and SSS and to establish the horizontal spread of archaeological deposits and vertical sequence of the deposit. Addition test pits or hand auger holes would be carried out during the investigation, subject to approval of site access, in order to demarcate the boundary of rescue area.
- 3.3.10 If there are significance finds discovered in the further archaeological investigation, the Contingency Plan as detailed in **Section 7** will be implemented accordingly.

3.4 Rescue Excavation

Excavation Method and Site Preparation

- 3.4.1 A square digging method is proposed for this rescue excavation to allow higher accuracy for recording the stratigraphy and archaeological remains. With adoption of this method, artefacts and features could also be easily measured and recorded in relation to the grid walls.
- 3.4.2 A 5m x 5m unit grid system or smaller grid such as 3m x 3m, subject to site conditions, will be adopted. The excavation would begin at the artefact concentrated area of rescue area (**Figure No. C8016/C/XRL/ENS/M55/003**). Approximately 10m from the rescue excavation area would be reserved and monitored to avoid missing any surviving archaeological deposits.
- 3.4.3 Land surveyor would set up the grid system in rescue excavation area prior to excavation. Excavation would be either by machine excavators for removal of surface concrete, filled soil and soil considered to have no archaeological potential or manual labourers under strict supervision by archaeologist. The depth of the concrete, filled soil and intact topsoil strata to be removed is estimated to be between surface and 1 m below existing ground surface.
- 3.4.4 The excavation would be conducted layer by layer. When a new layer is reached, excavation will generally stop to allow recording of the layer. Baulks (vertical cross-sections of the standing side of the excavation grid) would be allowed in each grid for recording subject to site condition. Baulks in width of 1m would be excavated after recording if considered to contain archaeological deposits. The Baulks would be excavated upon completion of grid excavation.

- 3.4.5 The excavated areas which require examination or recording would be cleaned using appropriate hand tools. All excavation of cultural layers would then be carried out by hand tools unless the use of machines is specifically requested by licensed archaeologist to remove certain layers or deposits. This work would, if required, be under strict supervision by archaeologist. The digging of archaeological remains would terminate at sterile stratum.
- 3.4.6 When excavation reach an area where the amount of ceramic and roof tile shreds found significantly reduced, further excavation for recovery of finds beyond that area might not be required. Adequate hand augering will be undertaken surrounding the excavated area to further demarcate the extent of the archaeological deposits. The augering results will therefore assist in defining the archaeological deposits area coverage and determine if the rescue excavation work could be stopped beyond the identified area. The decision of termination of rescue excavation would be agreed with AMO subject to the findings recovered.
- 3.4.7 On the contrary, if there are significance finds or high density of artefacts discovered at the edge of proposed rescue boundaries, the need of further rescue excavation will be reviewed and the Contingency Plan as detailed in **Section 7** will be implemented accordingly.

Safety and Dewatering

- 3.4.8 Depends on the site condition and the grids involved, elongated trench covering multiple connected grids may be excavated at the same time. The wall of the excavation would be kept between 30 degrees and 40 degrees for safety reason.
- 3.4.9 Safety measures would be properly in place and a temporary support system, if necessary, would be constructed to ensure grid slope safety. The archaeologist would liaise with the contractor to confirm that the temporary support system would not disturb any cultural remains in the course of the excavation.
- 3.4.10 As the possible final depth of the rescue excavation would be lowered than the mean groundwater table, dewatering will be carried out if necessary to provide dry condition for the excavation.

3.5 Watching Brief (Monitoring)

- 3.5.1 Watching brief (monitoring) is a formal programme of archaeological observation conducted during the construction phase of a development within specified areas where there is a possibility that an archaeological deposit may be disturbed or destroyed⁽²⁾. In case significant finds are identified, a focused small scale rescue excavation may be required.
- 3.5.2 Full and proper record and report standards of Watching Brief would follow AMO's *Guidelines for the Archaeological Watching Brief*.
- 3.5.3 The watching brief would be conducted by archaeologist during soil excavation work within the defined area (i.e. construction shaft) at TUW, subject to construction schedule. For the watching brief, archaeologist will separately apply the Licence to Excavate and Search for Antiquities before commencement of excavation works.
- 3.5.4 The archaeological watching brief comprises the following tasks:
- Soil excavation at defined area by machine that may contain archaeological deposits would be supervised by archaeologist;
 - Record the unearthed archaeological finds, if any; and
 - In case of significant finds are observed, the Contingency Plan as detailed in **Section 7** will be implemented accordingly.

⁽²⁾ Institute of Field Archaeologists (IFA) 2001 *Standard and Guidance for an Archaeological Watching Brief*.

4 FIELD RECORDING

4.1 Stratification and Balks

- 4.1.1 The stratum under test pit and rescue excavations will be defined by natural deposits in terms of soil colour, soil texture and evidence of human activities or cultural remains. Layers will be defined sequentially according to the natural stratum.
- 4.1.2 As balks are important for stratigraphy correlation, it is recommended that balks may be used to determine the stratification.

4.2 Recording System

Recording Procedure

- 4.2.1 The normal practice of field archaeology recording includes the following procedures:
- Identify deposit unit (stratum, cluster of artefact, feature), check the stratigraphic relationship with others and take deposit type and unit number;
 - Check the need for a photographic record or drawing record, take levels records and mark spot heights on drawings;
 - Keep records by writing on relevant recording sheets, describe deposit unit using agreed criteria;
 - Take finds to appropriate place and ensure conservation of finds prior to removal. Put finds label inside the storage bag or box;
 - Crosscheck deposit type and unit number and small finds with archaeologist; and
 - Store finds and field records at Site Office or off-site store room.

Site Coding

- 4.2.2 Prior to the commencement of fieldwork, the Central Archaeological Repository (CAR) of LCSD will be consulted for allocation of a standardized site code.

Recording Sheets and Field Archives

- 4.2.3 The recording sheets and archives, including all identified artefacts, ecofacts and structural remains would be treated and packaged in accordance with the *Guidelines for Handling Archaeological Finds and Archives* and *Guidelines for the Archaeological Watching Brief* established by AMO. AECOM established a set of recording sheets compliant with AMO's standards. The recording sheets to be used include but not limited to the following:
- Daily Field Record for investigation, rescue and watching brief;
 - Records of areas field scanned and results;
 - Auger Records: depth / soil descriptions / colour / material findings;
 - Test Pit / Grid Recording Sheet;
 - Feature Recording Sheet;
 - Finds per context and their quantities; and
 - Detailed finds records and quantification.

Visual Recording

- 4.2.4 Test pit and rescue grid wall sections of the soil stratification and plan of features will be drawn in scale of 1:20 or 1:50. Plan drawing is normally recorded in scale of 1:20, but detailed drawings for archaeological features will be drawn in scale 1:10. The following graphical data must be included:

- Section drawing(s) in scale of 1:20 or 1:50 of each test pit , grid and any other drawings of contexts or details;
 - 1:1000 maps showing the areas of surface scan;
 - 1:1000 maps showing the locations of auger holes; and
 - 1:500 or 1:1000 maps showing the locations of test pits certified by a qualified surveyor.
- 4.2.5 Digital photos of at least 4.0 mega pixel and colour film photos of excavated grid's soil profiles and plans, small find, cluster of find, features and each pit / grid / trench wall would be taken. Footage would also be taken to record digging process and important finds unearthed. Aerial photos will be taken before and in the course of the excavation.

Land Surveying

- 4.2.6 The positions and height levels of the test pits, grids, trench plan of archaeological feature, and wall section would be recorded according to the Hong Kong metric grid system. A team of qualified land surveyors would be employed to establish the grid system over the excavation areas and archaeological remains locations. The site benchmark would be tied to Hong Kong Principal Datum (mPD).

5 ARTEFACT PROCESSING & DATING

5.1 Artefact Processing, Dating and Discussion

- 5.1.1 The purpose of the artefacts processing is to understand the skills and techniques adopted by ancient people. The processing would be undertaken for pottery, stone, bone, wood and metal tools, and the methods discussed below would be considered.
- 5.1.2 All artefacts and ecofacts identified would be carefully washed, cleaned, labelled, registered, conserved and packaged following AMO's *Guidelines for Handling Archaeological Finds and Archives*. The conservation of organic artefacts such as wood, bone and metal etc., would be carried out.
- 5.1.3 Small or datable finds would be registered and illustrated appropriately through drawings and/or photographs. Representative artefacts with archaeological or cultural significance would be dated, photographed, drawn and assessed whenever possible.
- 5.1.4 The interpretation and discussion on the degree of significance of the artefacts, archaeological features, and stratification relationships would be conducted by comparison with relevant findings as well as based on the period, rarity, diversity, survival condition and in the context of Hong Kong and Guangdong Province.

Classification Analysis

- 5.1.5 The type of artefacts is based on classification of stylistic, morphological and technological attributes. Artefact functions, chronology and manufacturing technique would be assessed where possible.
- Stone – they would be classified into different types based on their morphologies in reference to the other stone artefacts found throughout Hong Kong. The lithic implements study includes manufacturing techniques and casting. Functional analysis would also be conducted. Lithic specialists would be consulted if necessary.
 - Ceramics – they would be categorised into pottery and porcelain according to their material composition and signature of manufacturing. Further sorting of these materials would be conducted if the unearthed archaeology is abundant enough to produce meaningful categories, and ceramic specialists would be consulted if necessary. Re-fitting of ceramics would be undertaken.
 - Metals – they would be categorised into metal type (e.g. iron, copper, bronze) whenever such identification is possible at macroscopic scale. Metal artefacts study includes manufacturing techniques and casting. Functional analysis would also be conducted. Metallurgy specialists would be consulted if necessary.
 - Bones – in the rare occasions that bones are found, macroscopic identification would be made to identify the family and body part of the individual bones. Zooarchaeologists would be consulted if necessary.
 - Wood – in the rare occasions that wooden materials are found, an initial assessment would be made to identify the function of the wood in the relevant archaeological context (e.g. post holes or some structures, wooden tools (part of), remains of natural vegetation).

Taphonomic Analysis

- 5.1.6 Site Formation: Studies and analysis of taphonomy would be conducted by our in-house geologist. The studies would include review of available geological data, comparison with neighbouring regions' geological stratification and on-site observation of sediments during excavation for interpretation of change of topography (landscape) and ancient environment of rescue excavation areas.
- 5.1.7 Paleo-environment: The geological (such as local geology and topography), historical (local history of settlement development) and archaeological (previous archaeological works)

information gathered during the pre-fieldwork preparation and during the archaeological survey would also be used to infer the taphonomic sequence.

Chronological Study and Dating

- 5.1.8 Artefact chronological sequence would be conducted in comparison with survey findings in other archaeological sites in Hong Kong and Guangdong Province.
- 5.1.9 Cross-Dating (also known as relative dating): The chronological dating for artefacts would be mainly adopted⁽³⁾. In addition to the cross-dating, two absolutely dating of thermoluminescence (TL) and radiocarbon would be carried subject to the suitable findings unearthed.
- 5.1.10 Thermoluminescence (TL) Dating: TL dating can be used on ceramics to derive an absolute date (after calibration) for the production date of pottery. TL dating will be conducted if required by the archaeologist to produce further information regarding the concerned ceramic materials.
- 5.1.11 Radiocarbon (RC) Dating: RC dating could be used on carbonaceous (carbon-rich) materials (such as wood) to derive an absolute date (after calibration) for the formation date of the material concerned by measuring the radioisotope carbon-14 (thus RC dating is also known as C14 dating). RC dating will be conducted if required by the archaeologist to produce further information regarding the concerned archaeological material.

Post Excavation Personnel and Report

- 5.1.12 The findings and discussions will be presented in the Draft Archaeological Survey and Rescue Excavation Report (Draft Report) and Final Report Archaeological Survey and Rescue Excavation Report (Final Report). The Draft and Final Reports would be prepared by licensed archaeologist, assisted by archaeologists and the graphic team.
- 5.1.13 Sufficient field assistants would be provided and supervised by the archaeologist for artefact processing. It is anticipated that approximately 20 to 24 weeks would be required for artefact processing, subject to the quantity of artefacts. Where necessary, experts and specialists would be consulted on the method of processing.

5.2 Handover of the Artefacts and Archives

- 5.2.1 According to *Section 10* of Antiquities and Monument Ordinance⁽⁴⁾, the artefacts ownership rests with the Hong Kong SAR Government, all identified movable and unmoveable artefacts, structural remains and field records, as well as field archives, will be handed over to AMO within 3 months after the acceptance of the reports of further archaeological investigation and rescue excavation.

⁽³⁾ Cross-dating refers to "Artefacts from an archaeological site are often dated by correlation with typologies of similar artefacts in the surrounding area. This method is based on the assumption that typologies evolved at the same area", from Whitehouse, R.D. ed 1983 Macmillan Dictionary of Archaeology, London: Macmillan Press."

⁽⁴⁾ *Section 10 (1) of Ordinance stipulate that* "Subject to this Ordinance, the ownership of every relic discovered in Hong Kong after the commencement of this Ordinance shall rest in the Government from the moment of discovery."

6 REPORTING

Monitoring and Progress Report

- 6.1.1 To facilitate AMO's monitoring on the archaeological works, including site inspections, field records and finds retrieved, etc. during field work stage, the field records would be well organised daily and made available on site for AMO's inspection during field work and post excavation stages.
- 6.1.2 A monthly progress report for rescue excavation and post excavation will be submitted to AMO within 15 working days after the end of the reporting month. Information would include the quantity of finds, significant archaeological finds, archaeological work progress and forecast, preliminary findings, as well as other significant archaeological / administrative measures on site and programme of research study.

Further Archaeological Investigation and Rescue Excavation

- 6.1.3 Reports of further archaeological investigation and rescue excavation will be prepared in accordance with the AMO's *Guidelines for Archaeological Reports*. As the investigation in TPP and SSS as well as rescue excavation in SSS would be conducted in different stages, separate Further Archaeological Investigation Reports and Rescue Excavation Report will be prepared to document the excavation and findings in each concerned areas.
- 6.1.4 The Reports containing the following elements will be submitted at the end of the field surveys:
- English and Chinese abstracts;
 - Description of the results of the desktop research, field walking, auger testing, test pitting and rescue excavation;
 - All of the significant finds described in **Section 5** above;
 - All the necessary photos, maps, drawings, survey information described in **Section 4** above,
 - Discussion of the findings;
 - Relevant experts' reports; and
 - Conclusion.
- 6.1.5 The Draft Reports will be submitted to AMO for review and comment. The Draft Reports will be finalised according to comments and 5 copies of Final Reports will be submitted to AMO after resolution of comments.
- 6.1.6 The Draft and Final Report would be prepared by licensed archaeologist, assisted by archaeologists and the graphic team. The durations of report preparation is anticipated to be approximately 20 weeks and 4 weeks for draft and final report respectively. Consent from Project Proponent has been sought for permitting AMO to make copies of the Final Report and make available the Report to the public.

Watching Brief (Monitoring)

- 6.1.7 The results of the watching brief will be presented in report form, following standards set by either common archaeological practice or AMO's *Guidelines for the Archaeological Watch Brief*, where appropriate. A Watching Brief (Monitoring) Report would include a non-technical summary, project background, geological information, archaeological and historical background, field methodology, finds assessment and conclusion.
- 6.1.8 The Draft Watching Brief (Monitoring) Report will be submitted to AMO for review and comment. The Draft Monitoring Report will be finalised according to comments and 5 copies of Final Monitoring Report will be submitted to AMO after resolution of comments.
- 6.1.9 The Draft and Final Watching Brief (Monitoring) Report would be prepared by licensed archaeologist, assisted by archaeologists and the graphic team. The durations of report

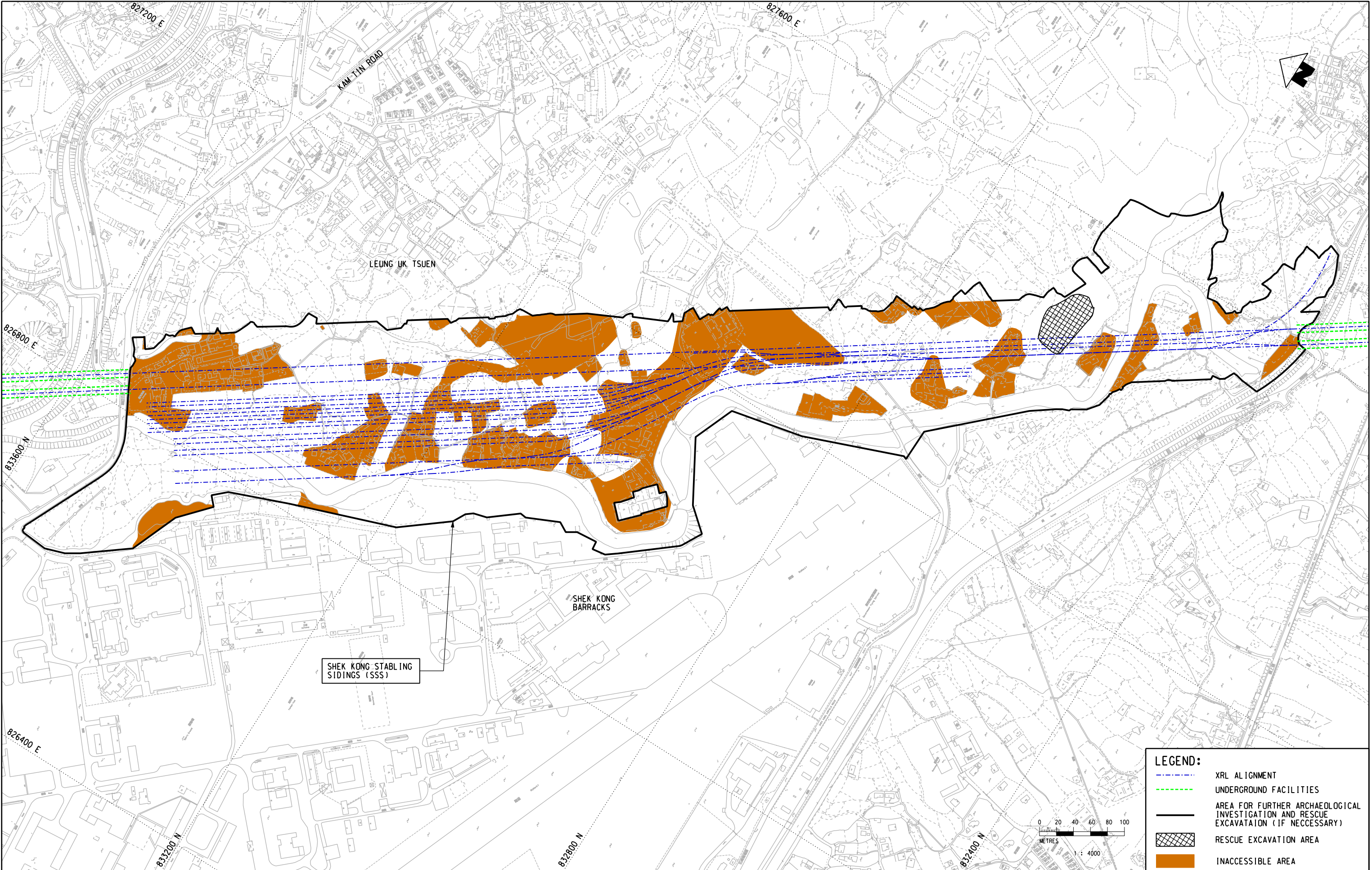
drafting is anticipated to be approximately 4 to 6 weeks and 3 weeks for draft and final report respectively.

7 CONTINGENCY PLAN

- 7.1.1 There would be possibility of discovering significant archaeological finds outside the boundaries defined in the EIA or within the project area in TPP and SSS during further archaeological investigation and rescue excavation and if significant find identified in watching brief. A contingency plan is therefore prepared to undertake appropriate reactive action, such as excavation of significant archaeological deposits unearthed.
- 7.1.2 The following procedures will be followed when significant finds are identified during archaeological actions:
- Inform the Project Proponent and AMO;
 - Conduct on-site joint visit / meeting with AMO and other relevant parties to determine appropriate mitigation measures;
 - If further rescue excavation is required, licensed archaeologist will prepare a Contingency Rescue Plan (CRP) to allow for the implementation of a rescue excavation to record and excavate any unexpected discoveries. The method to be adopted and necessary requirement will follow the rescue excavation work as described in this AAP; and;
 - Implement the agreed plan by the licensed archaeologist.

Figures

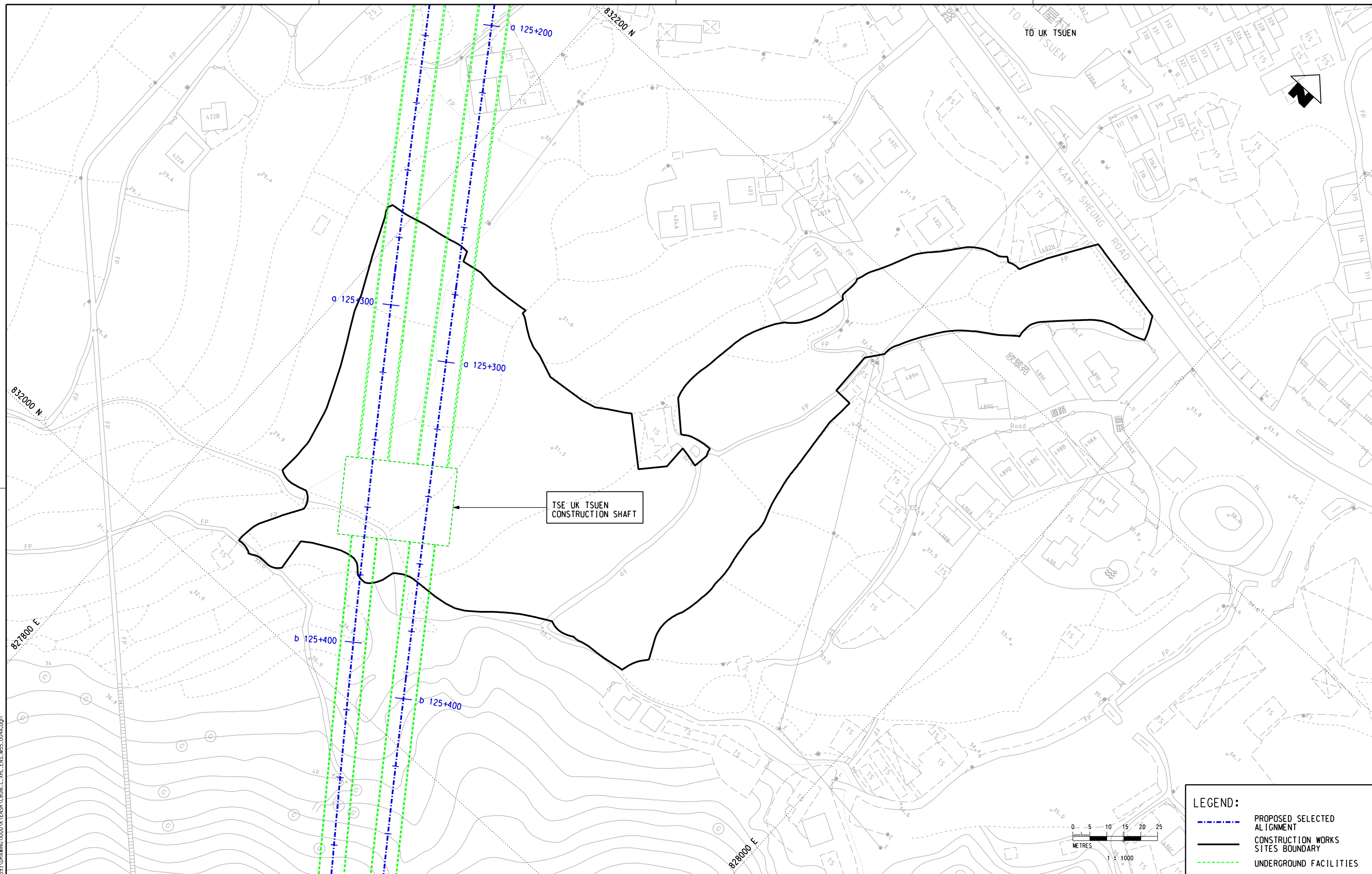
PLOT DRW: P:\usr\mtr\mtr\p\driver\windows\33\color\pht 200-7-20 17:09:25
MODELNAME: P:\usr\mtr\mtr\p\driver\windows\33\color\pht 200-7-20 17:09:25
FILENAME: P:\usr\mtr\mtr\p\driver\windows\33\color\pht 200-7-20 17:09:25



LEGEND:

- XRL ALIGNMENT
- UNDERGROUND FACILITIES
- AREA FOR FURTHER ARCHAEOLOGICAL INVESTIGATION AND RESCUE EXCAVATION (IF NECESSARY)
- RESCUE EXCAVATION AREA
- INACCESSIBLE AREA

										DRAWN		YJP												TITLE C8016 ENVIRONMENTAL TERM CONSULTANCY FOR XRL LOCATION OF SHEK KONG STABLING SIDINGS																
										DESIGNED		--																												
										CHECKED		--																												
										APPROVED		--																												
										DATE		19/APR/2010		ORIGINATOR 																										
										DO NOT SCALE DRAWINGS. ALL DIMENSIONS SHALL BE VERIFIED ON SITE. © MTR CORPORATION LIMITED 2008. COPYRIGHT IN RESPECT OF THIS DRAWING / DOCUMENT IS OWNED BY THE MTR CORPORATION LIMITED OF HONG KONG. NO REPRODUCTION OF THE DRAWING / DOCUMENT OR ANY PART BY WHATEVER MEANS IS PERMITTED WITHOUT THE PRIOR WRITTEN CONSENT OF THE MTR CORPORATION LIMITED.																														
REV	DESCRIPTION										BY	DATE	APPROVED	REV	DESCRIPTION										BY	DATE	APPROVED	CADD REF. C8016.C_XRL_ENS_M55_002A.dgn										SCALE 1 : 4000 (A3)	FIGURE NO. C8016/C/XRL/ENS/M55/002	REV. A



										DRAWN DESIGNED CHECKED APPROVED DATE		GXH TWF KCC PL 19/AUG./2008		 EXPRESS RAIL LINK ORIGINATOR 		TITLE C8016 ENVIRONMENTAL TERM CONSULTANCY FOR XRL LOCATION OF TSE UK TSUEN WORKS AREA					
										DO NOT SCALE DRAWINGS. ALL DIMENSIONS SHALL BE VERIFIED ON SITE. © MTR CORPORATION LIMITED 2008. COPYRIGHT IN RESPECT OF THIS DRAWING / DOCUMENT IS OWNED BY THE MTR CORPORATION LIMITED OF HONG KONG. NO REPRODUCTION OF THE DRAWING / DOCUMENT OR ANY PART THEREOF IS PERMITTED WITHOUT THE PRIOR WRITTEN CONSENT OF THE MTR CORPORATION LIMITED.				CADD REF. C8016_C_XRL_ENS_M55_004A.dgn		SCALE 1 : 1000 (A3)		FIGURE NO. C8016/C/XRL/ENS/M55/004		REV. A	
REV	DESCRIPTION				BY	DATE	APPROVED	REV	DESCRIPTION				BY	DATE	APPROVED						

Appendix A

Programme of Archaeological Actions

Tentative Programme for Archaeological Actions

[illegible]