

**Contract No. FL/2011/01**

**Planning and Engineering Study on  
Development of Lok Ma Chau Loop**

**Archaeological Field Survey**

Final Report

**中港考古 研究室**

**HONG KONG INSTITUTE OF ARCHAEOLOGY**

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## Abstract

The Hong Kong Institute of Archaeology was commissioned by New Territories North and West Development Office of Civil Engineering and Development Department to conduct an Archaeological Field Survey in February and March 2012 under Contract No. FL/2011/01 for Planning and Engineering Study on Development of Lok Ma Chau Loop. The 2012 archaeological field survey in Lok Ma Chau Loop and surrounding areas has surface scanned areas of over 135 ha., drilled 66 auger holes and excavated 21 test pits in the Study Area along Border Road, at Ma Tso Lung, along Ma Tso Lung Road and along Ho Sheung Heung Road. As a result of the survey, the archaeological fieldwork has not identified any sign of archaeological potential in the surveyed areas.

## 摘要

受土木工程拓展署新界西及北拓展處委託，中港考古研究室於2012年2月及3月為落馬洲河套地區發展規劃及工程研究作考古田野調查，工程合同編號FL/2011/01。此次2012年考古調查在落馬洲河套及週邊地區展開，包括邊境道路沿線、馬草壟地區、馬草壟路沿線及河上鄉路沿線。考古田野調查尋察地面面積超過135公頃，鑽探了66個探孔並發掘了21個探方。此次調查在調查區域未發現任何考古遺存的蹟象。

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# **1 INTRODUCTION**

## **1.1 General Information**

- 1.1.1 The Hong Kong Institute of Archaeology (HKIA) was commissioned by New Territories North and West Development Office of Civil Engineering and Development Department to conduct an Archaeological Field Survey (the Survey) under Contract No. FL/2011/01 for Planning and Engineering Study on Development of Lok Ma Chau (LMC) Loop (the Study). This report presents the result of the field survey on archaeological potential in the Study Area .
- 1.1.2 Prior to the commencement of the Survey, Ove Arup & Partners Hong Ltd (Arup) had prepared a Tender Document, which specified the objective, scope and tentative locations of field works of the archaeological survey (the Tender). The archaeological fieldwork proposal specified in the Tender was submitted to and obtained approval from the Antiquities and Monuments Office (AMO).
- 1.1.3 Following the Tender, the HKIA applied for a Licence of Excavation and Search for Antiquities before carrying out the Survey. The Licence was issued by the AMO on 21 February 2012 (Licence No. 331) and the field work was carried out during February and March 2012.

## **1.2 Objective and Scope of the Survey**

- 1.2.1 The objective of the Survey is to identify the archaeological potential through field investigation within the Study Area which has previously not been adequately surveyed. The result of the field survey will provide supplementary information on the archaeological potential for the assessment of archaeological impact by Arup in the Environmental Impact Assessment study for the Development of Lok Ma Chau Loop.
- 1.2.2 According to the Tender, moderate archaeological potential of the survey area has been identified by a previous Heritage Baseline Desktop Study. Based on the identification, the scope of the Survey comprises Area A, Area B and a 300m assessment buffer. In addition, areas beyond the 300m buffer where infrastructure options are proposed are also included in the extent of the Survey. The proposed infrastructure options involve the eastern road alignment, western road alignment, watermain alignment and slip road alignment (Drawing 1).
- 1.2.3 The archaeological works required to be conducted in the Survey are composed of three steps: (1) surface scanning of areas which are approximately 135 ha and blue-color marked in Drawing 1; (2) drilling of 65 auger holes and (3) excavating of 22 test pits each measuring 1m x 1m in size. Due to site conditions, however, a total number of 66 auger tests and 21 test pit excavations have been undertaken in the field survey.
- 1.2.4 Of different portions of the Study Area, Area A and Area B are basically to be surveyed only with surface scanning; the area to the east of Lok Ma Chau Loop for proposed infrastructure options is to be surveyed with auger testing and test pit excavation. The area with auger testing and test pit excavation is divided into 16 sub-areas indicated by 16 figures coded from Figure 2.4 to Figure 2.19 shown in Drawing 2. The conducted archaeological works in each sub-area are marked in a separate drawing on 1:1000 scale and the 16 sub-areas are presented respectively in Drawing 3 to Drawing 18.

## **2 GEOGRAPHY AND GEOLOGY**

### **2.1 Geographic Setting**

2.1.1 The Study Area of the archaeological field survey for the Development of Lok Ma Chau Loop is located in the central northern border area of Hong Kong. The Lok Ma Chau Loop and its surrounding areas cover a series of local villages or locations including, counting from west to east and from north to south, Ha Wan Tsuen, Pan Uk Tsuen, Pak Shek Au, Ping Hang, Ma Tso Lung, Ma Tso Lung San Tsuen, Fung Kong Shan and Tsung Yuen (Drawing 1).

2.1.2 The topography of the majority of the Study Area is featured by lower hill slopes or hillocks covered with dense vegetation. In the Ma Tso Lung area, however, there are also relatively flat fields or low terraces covered with grass and bushes. The elevation of the Study Area varies from as low as +4 mPD in the Ma Tso Lung area to the highest point of around +80 mPD on the hills at Tsung Yuen.

### **2.2 Geology**

2.2.1 The solid geology of the Study Area mainly consists of three types of bedrock formed during the Palaeozoic: the metacglomerate rock of the San Tin Group, the metasandstone with metacglomerate and phyllite of Lok Ma Chau Formation and the metasandstone with phyllite and graphite schist.

2.2.2 Covering of bedrocks are alluvial and colluvial materials of coarse sand, sandy soil, loam, silt and gravel, which are dated to late Pleistocene and early Holocene. These material formed terraces, flood plains and valleys. In the lower Lok Ma Chau Loop and its vicinity, the surface is covered with dark marine mud formed during the Holocene period (Hong Kong Geological Survey, San Tin, Sheet 2, Solid and Superficial Geology, Series HGM20, Edition 1-1989, Geotechnical Control Office, Civil Engineering Services Department, Hong Kong).

## **3 METHODOLOGY**

### **3.1 Allocation of Archaeological Works**

3.1.1 The locations of the auger holes and test pits had been tentatively predetermined before the commencement of the field survey. The allocation of the proposed archaeological works was based on a consideration of several factors, involving previously identified archaeological potential, potential soil excavation work during the construction stage, the accessibility of sites and land ownership.

3.1.2 As mentioned above, moderate archaeological potential had been identified by a previous Heritage Baseline Desktop Study for the LMC Development on hill slopes or hillocks at some locations, e.g. Fung Kong Shan, Ma Tso Lung, Ping Hang and Pan Uk Tsuen. Consequently, a series of "work sites" on government land for auger holes and test pits were plotted primarily along the foot of hill slopes and hillocks within an "impact corridor" close to the alignment of the proposed infrastructure options.

3.1.3 In practice, the archaeological works of the Survey were generally conducted falling within the work sites on government land as a principle, unless it was absolutely impossible to execute the digging work within the boundary of the site. In some occasions, the position of a test pit was switched to another work site originally designated for an auger hole due to the surface condition of the site.

## **3.2 Methodology of Fieldwork**

- 3.2.1 Three fieldwork methods were applied during the Survey, comprising surface scan, auger testing and test pit excavation.
- 3.2.2 The surface scan was required to cover areas totaling approximately 135 ha. in the Study Area.
- 3.2.3 The total number of conducted auger tests is 66 and that of test pits is 21, each measuring 1m x 1m in size. The detailed results from the digging of the auger holes and test pits are recorded together in Table 1, including the area where the archaeological work is located, the position coordinates of the archaeological work, and the surface elevation and total digging depth of each work. In addition, Table 1 lists the soil characteristics and retrieved archaeological remains, if any, of each stratum revealed by the digging, and supplementary remarks on the setting and the nature of the deposits of each auger hole and test pit as well.
- 3.2.4 The work sites on government land for archaeological works had been coded in the Tender. For the sake of a clear presentation, these work sites are organized into four geographic areas in this report in terms of Border Road, Ma Tso Lung, Ma Tso Lung Road and Ho Sheung Heung Road. Each area covers 3 to 5 sub-areas, each of which is shown in a separate drawing.
- 3.2.5 The section profiles of the excavated test pits are illustrated in Drawing 19 to Drawing 25 respectively. The corresponding photographs of pit sections are displayed in Plate 1 to Plate 11.
- 3.2.6 During the fieldwork, the "context" system was used as the minimum unit of archaeological stratigraphy to record any recognizable deposit layers or archaeological features for both test pit excavation and auger testing.

## **4 RESULTS OF THE SURVEY**

### **4.1 Result of Surface Scan**

- 4.1.1 The effect of the surface scan is extremely restricted due to surface conditions. Of the required surface-scan areas, several locations are occupied by permanent structures, e.g. Lok Ma Chau Base of Hong Kong Police, Ma Tso Lung Village and Ma Tso Lung San Tsuen; at these occupied locations, the surface is mostly covered with cement or other permanent facilities (Drawing 1).
- 4.1.2 The Lok Ma Chau Loop, i.e. Area A of the Survey, is an isolated small island surrounded by the Shenzhen River in its north and an artificially made semi-circular water course in its south with both ends connecting to the Shenzhen River. Geologically, the bottom of the loop is formed of Holocene marine mud; the top soil of the loop comes from the digging of the water course and currently covered with dense vegetation of trees and bushes.
- 4.1.3 The other areas, except the relatively flat land at Ma Tso Lung south, are all hill slopes and hillocks; in these areas, the visibility of scanning is usually blocked by dense vegetation on the surface. The only area with exposed natural surface is the high hill slopes in the Tsung Yuen area (Drawing 17 and Drawing 18), but there are nothing but coarse silt and gravel on the surface.
- 4.1.4 In result, the surface scan in the Study Area has not identified any sign of archaeological potential.

## **4.2 Survey along Border Road**

- 4.2.1 The area along Border Road comprises three sub-areas named Border Road-1 to Border Road-3. In this area, totally 12 auger holes were drilled, consisting of 5a, 5b, 5d, 5e, 6a, 6b, 6d, 7a and 7d to 7g; three test pits were excavated, consisting of 5c, 5f and 6c. The locations of the archaeological works in this area are marked in Drawings 3 to 5; the strata revealed from the test pits are displayed in Drawing 19 and Plates 1 to 2:1.
- 4.2.2 The archaeological works along the northern side of Border Road are all distributed at the edge of hill slope. The auger tests in this area all quickly reached the regolith deposit of yellowish red clay mixed with gravel. On the relatively flat terraces, where the test pits were allocated, a modern layer was found between the surface layer and the regolith deposit (TP5c did not reach the regolith deposit due to the hardness of stone slabs of modern fill). Farther to the north of the road are the low flat fields of mud with high level of water table.
- 4.2.3 In result, the archaeological survey along Border Road has not identified any sign of archaeological potential.

## **4.3 Survey at Ma Tso Lung**

- 4.3.1 The area at Ma Tso Lung comprises four sub-areas named Ma Tso Lung-1 to Ma Tso Lung-4. In this area, totally 20 auger holes were drilled, consisting of 8c, 8e to 8j, 9a, 9c to 9e, 10b, 10f to 10g, 11a to 11d, 11f and 11g; six test pits were excavated, consisting of 8a, 8b, 9b, 10a, 10e and 11e. The locations of the archaeological works in this area are marked in Drawings 6 to 9; the strata revealed from the test pits are displayed in Drawings 20 to 21 and Plates 2:2 to 5:1.
- 4.3.2 Archaeological works in sub-areas Ma Tso Lung-1 to Ma Tso Lung-3 are allocated on the lower part of the hill slopes or the low terraces at hill foot; archaeological works in sub-area Ma Tso Lung-4 are located on flat fields or terraces of river valley. At some locations nearby ditch or water course, e.g. auger holes 10f and 10g, the tests reached water soaked sludge or sandy deposit; the other testing works all reached regolith deposit of weathered clay soon after digging through the surface layer.
- 4.3.3 In result, the archaeological survey in the Ma Tso Lung area has not identified any sign of archaeological potential.

## **4.4 Survey along Ma Tso Lung Road**

- 4.4.1 The area along Ma Tso Lung Road comprises five sub-areas named Ma Tso Lung Road-1 to Ma Tso Lung Road-5. In this area, totally 20 auger holes were drilled, consisting of 14b, 14d, 14e, 14g to 14i, 14k, 15b to 15e, 16a, 16d, 16f, 17a, 17b, 17e, 17f, 18d and 18f; nine pits were excavated, consisting of 14c, 14f, 14j, 15a, 16e, 16g, 17d, 18b and 18e. The locations of the archaeological works in this area are marked in Drawings 10 to 14; the strata revealed from the test pits are displayed in Drawings 22 to 24 and Plates 5:2 to 9.
- 4.4.2 The archaeological works in this area are scattered along hill foot and on relatively flat terraces. The results of the field investigation in this area are composed of two kinds, depending on their locations: the archaeological works allocated close to current existing roads and other constructed structures usually encountered hard modern fill layer(s) formed with concrete, mortar or gravel material; the archaeological works distributed on slopes or terraces that are away from roads or other facilities usually reached regolith deposit of weathered clay.
- 4.4.3 In result, the archaeological survey along Ma Tso Lung Road has not identified any sign of archaeological potential.



#### **4.5 Survey along Ho Sheung Heung Road**

- 4.5.1 The area along Ho Sheung Heung Road comprises four sub-areas named Ho Sheung Heung-1 to Ho Sheung Heung-4. In this area, totally 14 auger holes were drilled, consisting of 20b, 21a, 21b, 21e, 21f, 21i, 22a, 22c, 22d, 22f, 23a, 23c, 23e and 23f; three pits were excavated, consisting of 21d, 22e and 23d. The locations of the archaeological works in this area are marked in Drawings 15 to 18; the strata revealed from the test pits are displayed in Drawing 25 and Plates 10 to 11.
- 4.5.2 The archaeological works in sub-areas Ho Sheung Heung Road-1 and Ho Sheung Heung Road-2 are distributed on the edge of hill slopes along both sides of the road; the archaeological works in the other two sub-areas Ho Sheung Heung Road-3 and Ho Sheung Heung Road-4 are allocated on high-elevation hill slopes. These archaeological works all reached regolith deposit of weathered clay mixed with gravel.
- 4.5.3 The archaeological work 20b in sub-area Ho Sheung Heung Road-1 (Drawing 15) needs to be further explained. There is only one work site on government land in this sub-area and this site was originally assigned with a test pit for the Survey. However, this location is only a narrow strip facing a 3m-deep slope cut and flanked by concrete covered road and a storage place, therefore it is impossible to plot a test pit on this work site. Consequently, an auger hole was executed at this location instead.
- 4.5.4 In result, the archaeological survey along Ho Sheung Heung Road has not identified any sign of archaeological potential.

#### **5 CONCLUSION**

- 5.1.1 The 2012 archaeological field survey in Lok Ma Chau Loop and surrounding areas has surface scanned areas of over 135 ha., drilled 66 auger holes and excavated 21 test pits in the Study Area along Border Road, at Ma Tso Lung, along Ma Tso Lung Road and along Ho Sheung Heung Road. As a result of the survey, the archaeological fieldwork has not identified any sign of archaeological potential in the surveyed areas.

Table 1

## Auger Hole and Test Pit Record

Area	AH / TP No.	Coordinates	Elevation & Depth (m)	Context	Stratum Thickness (cm)	Soil Characteristics	Findings	Remarks
Border Road-1 (Drawing 3)	AH5a	842235N 827072E	E 6.70 D 0.45	C1	5	Light black surface soil		Roadside slope
				C2	30	Yellowish brown loose clay		
				C3	>10	Yellowish red clay with gravel		Regolith; stopped by rock
	AH5b	842239N 827120E	E 7.20 D 0.35	C1	15	Light black surface soil		Roadside, a proposed TP location but not suitable for a TP
				C2	>20	Yellowish red silt		Regolith; stopped by rock
	TP5c (1m x 1m)	842243N 827131E	E 7.20 D 0.74	C1	10 ~ 14	Light black surface soil		Small terrace at roadside; originally a proposed AH location outside border fence, so TP 5c was relocated to the other side of the road
				C2	>60	Grayish yellow clay with stone slabs		Modern fill; too hard to dig down; depth including drilled 40cm at the bottom
				C1	10	Light black surface soil		Roadside
	AH5d	842251N 827173E	E 7.20 D 0.50	C2	20	Yellowish gray clay with gravel		
				C3	>20	Yellowish red clay with gravel		Regolith; stopped by rock
	AH5e	842273N 827203E	E 7.50 D 0.40	C1	15	Light black surface soil		Roadside
				C2	>25	Yellowish red clay with weathered gravel		Regolith; stopped by rock
C1				4 ~ 9	Light black surface soil		Roadside slope	
TP5f (1m x 1m)	842295N 827222E	E 9.20 D 0.38	C2	8 ~ 12	Grayish yellow clay		A cable ditch cut down to C3 in western part of the pit	
			C3	>19	Yellowish red clay with gravel		Regolith	
			C1	10	Light black surface soil		Flat terrace at roadside close to police base	
Border Road-2 (Drawing 4)	AH6a	842358N 827281E	E 11.0 D 0.70	C2	30	Gray loose clay		
				C3	>30	Yellowish clay with rubbles		Regolith
				C1	5	Light black surface soil		
	AH6b	842394N 827319E	E 10.1 D 0.75	C2	40	Grayish yellow clay		
C3				>30	Yellowish red clay		Regolith	

Table 1

## Auger Hole and Test Pit Record

Area	AH / TP No.	Coordinates	Elevation & Depth (m)	Context	Stratum Thickness (cm)	Soil Characteristics	Findings	Remarks
Border Road-2 (Drawing 4)	TP6c (1m x 1m)	842419N 827329E	E 10.1	C1	14 ~ 22	Light black surface soil		Grass covered wasted field on flat terrace at roadside
			D 0.75	C2	39 ~ 49	Multiple mixed layers of modern fill with gravel		
				C3	> 7	Yellowish clay		Regolith
	AH6d	842435N 827363E	E 9.10	C1	10	Light black surface soil		Roadside; relocation of the proposed location from outside of the border fence
			D 0.70	C2	30	Yellowish brown clay		
				C3	>30	Yellowish red clay with gravel		Regolith
Border Road-3 (Drawing 5)	AH7a	842627N 827598E	E 4.20	C1	20	Black sludge		Flat wasted field at roadside; relocation of the proposed location from outside of the border fence
			D 0.60	C2	>40	Gray sludge soaked in water		Water soaked area
	AH7d	842716N 827752E	E 12.0	C1	15	Light black surface soil		On woods covered slope
			D 0.45	C2	>30	Grayish white silt with weathered limestone rubbles		Regolith
	AH7e	842695N 827751E	E 10.0	C1	25	Light black surface soil		On lower slope
			D 0.50	C2	>25	Yellowish red clay		Regolith
	AH7f	842710N 827773E	E 6.60	C1	25	Light black surface soil		Moved to the other side of road as the proposed location too close to pond
			D 0.50	C2	>25	Yellowish red clay		Regolith
	AH7g	842721N 827852E	E 6.20	C1	20	Light black surface soil		Roadside; relocation of the proposed location from outside of the border fence
D 0.45			C2	>25	Yellowish red clay with gravel		Regolith	

Table 1

## Auger Hole and Test Pit Record

Area	AH / TP No.	Coordinates	Elevation & Depth (m)	Context	Stratum Thickness (cm)	Soil Characteristics	Findings	Remarks
Ma Tso Lung-1 (Drawing 9)	TP8a (1m x 1m)	842712N 827893E	E 9.00	C1	27 ~ 35	Black surface humus soil		On steep slope covered with trees and bushes; originally proposed for an auger test
			D 0.73	C2	> 21	Yellowish weathered clay with gravel and boulders	Regolith	
	TP8b (1m x 1m)	842687N 827924E	E 5.50	C1	9 ~ 11	Black surface humus soil		On flat terrace at foot of hill; surface already leveled by drainage construction work nearby; originally proposed for an auger test
			D 0.39	C2	9 ~ 16	Yellowish gray clay		
				C3	> 9	Purplish red boulders in yellow clay matrix	Regolith	
	AH8c	842641N 827949E	E 5.50	C1	10	Light black surface soil		Hill foot and by now-filled pond; originally a test pit was proposed over the rocky cliff
			D 0.25	C2	>15	Yellowish red clay	Regolith	
	AH8e	842679N 827956E	E 5.50	C1	15	Light black surface soil		Between drainage and private park
			D 0.60	C2	25	Grayish yellow clay		
				C3	>20	Yellowish red clay	Regolith	
	AH8f	842651N 828022E	E 8.50	C1	10	Light black surface soil		On terrace with houses
			D 0.70	C2	40	Grayish yellow clay with modern garbage		
	AH8g	842605N 828059E	E 12.0	C3	>20	Yellowish clay with gravel		Regolith; stopped by rock
D 0.35			C1	5	Light black surface soil		On terrace edge over road in front of house	
AH8h	842606N 828082E	E 12.5	C2	>30	Yellowish red clay		Regolith	
		D 0.50	C1	10	Light black surface soil		On cement covered ground; originally proposed for a test pit excavation	
			C2	20	Grayish yellow clay			
AH8i	842589N 828091E	E 13.0	C3	>20	Yellowish red clay		Regolith	
		D 0.40	C1	10	Light black surface soil			
AH8j	842570N 828131E	E 11.0	C2	>30	Yellowish red clay		Regolith	
		D 0.40	C1	10	Light black surface soil		Roadside underneath house wall with planted flowers	
				C2	>30	Grayish yellow clay with gravel	Modern fill from road and house construction; stopped by rock	

Table 1

## Auger Hole and Test Pit Record

Area	AH / TP No.	Coordinates	Elevation & Depth (m)	Context	Stratum Thickness (cm)	Soil Characteristics	Findings	Remarks
Ma Tso Lung-2 (Drawing 7)	AH9a	842551N	E 6.80	C1	15	Black humus soil		By roadside and pond
		827879E	D 0.35	C2	>20	Yellowish red clay		Regolith
	TP9b (1m x 1m)	842483N	E 9.50	C1	8 ~ 12	Light black surface soil		On woods covered terrace
		827894E	D 0.61	C2	22 ~ 29	Yellowish gray clay		
				C3	> 19	Reddish yellow clay		Regolith
	AH9c	842467N	E 9.50	C1	10	Light black surface soil		
		827911E	D 0.55	C2	25	Grayish yellow clay		
				C3	>20	Reddish yellow clay		Regolith
	AH9d	842417N	E 9.00	C1	10	Black humus soil		On terrace edge over small path
		827939E	D 0.40	C2	>30	Yellowish red clay		Regolith
AH9e	842395N	E 6.50	C1	10	Light black surface soil		By small path on a terrace lower than that with AH9d	
	827955E	D 0.40	C2	>30	Yellowish red clay		Regolith	
			C1	0 ~ 6	Light black surface soil		Terrace edge at hill foot	
Ma Tso Lung-3 (Drawing 8)	TP10a (1m x 1m)	842372N	E 7.00	C2	85 ~ >106	Grayish yellow clay with modern garbage		Modern fill
		827959E	D 1.28	C3	> 29	Yellowish red clay		Regolith
	AH10b	842364N	E 7.50	C1	5	Light black surface soil		On terraced slope
		827963E	D 0.45	C2	>40	Yellowish red clay		Regolith
	TP10e (1m x 1m)	842247N	E 9.40	C1	13 ~ 18	Light black surface soil		Garden on flat terrace; originally proposed for an auger test
		827988E	D 0.33	C2	> 14	Yellowish red clay		Regolith
	AH10f	842220N	E 9.70	C1	20	Light black surface soil		Valley area between terraces; originally proposed for a test pit excavation
		827981E	D 1.50	C2	100	Gray clay with moisture		
				C3	>30	Grayish green sludge with fine sand		Water soaked ditch
	AH10g	842224N	E 6.70	C1	5	Light black surface soil		Terrace foot; location moved out from the fenced proposed location
828009E		D 0.60	C2	35	Yellowish gray clay with moisture			
			C3	>20	Gray sludge soaked in water		Water soaked area	

Table 1

## Auger Hole and Test Pit Record

Area	AH / TP No.	Coordinates	Elevation & Depth (m)	Context	Stratum Thickness (cm)	Soil Characteristics	Findings	Remarks
Ma Tso Lung-4 (Drawing 9)	AH11a	842179N 828009E	E 10.1	C1	10	Light black surface soil		Wasted field in flat valley
			D 0.80	C2	30	Yellowish gray fine clay		
				C3	>40	Yellowish red clay		Regolith
	AH11b	842157N 828008E	E 10.1	C1	10	Light black surface soil		Wasted field in flat valley
			D 0.80	C2	30	Yellowish gray fine clay		
				C3	>40	Yellowish red clay		Regolith
	AH11c	842136N 828032E	E 11.3	C1	10	Light black surface soil		Wasted field in flat valley
			D 1.00	C2	50	Yellowish gray fine clay		
				C3	>40	Yellowish red clay		Regolith
	AH11d	842101N 828027E	E 11.5	C1	10	Yellowish gray clay		Terraced orchard
			D 0.40	C2	>30	Yellowish red clay		Regolith
				C1	16 ~ 17	Light black surface soil		Terraced orchard
	TP11e (1m x 1m)	842080N 828041E	E 9.60	C1	16 ~ 17	Light black surface soil		Terraced orchard
			D 0.40	C2	>24	Yellowish red clay		Regolith
			C1	10	Yellowish gray surface soil		Terraced orchard	
AH11f	842054N 828019E	E 14.9	C1	10	Yellowish gray surface soil			
		D 0.60	C2	20	Light brown silt			
			C3	>30	Yellowish red clay		Regolith	
AH11g	842025N 828037E	E 14.9	C1	5	Light black surface soil		Terraced orchard	
		D 0.75	C2	40	Dark yellow clay			
			C3	>30	Yellowish red clay		Regolith	
AH14b	842577N 828215E	E 20.0	C1	5	Light black surface soil		Roadside terrace edge; originally proposed for a test pit excavation	
		D 0.50	C2	15	Yellowish gray clay			
			C3	20	Yellowish brown loose clay			
			C4	>10	Yellowish red clay with gravel		Regolith; stopped by rock	
TP14c (1m x 1m)	842596N 828230E	E 23.0	C1	9 ~ 11	Light black surface soil		On slope terrace; originally proposed for an auger test	
		D 0.76	C2	8 ~ 32	Yellowish gray silt		Modern fill with garbage	
			C3	16 ~ 26	Grayish yellow clay			
			C4	>33	Yellowish red clay		Regolith	
AH14d	842598N 828295E	E 22.6	C1	10	Light black surface soil		Terrace foot under road	
		D 0.55	C2	20	Yellowish gray silt		Modern fill	
			C3	>25	Yellowish red clay with gravel		Regolith; stopped by rock	

Table 1

## Auger Hole and Test Pit Record

Area	AH / TP No.	Coordinates	Elevation & Depth (m)	Context	Stratum Thickness (cm)	Soil Characteristics	Findings	Remarks
Ma Tso Lung Road-1 (Drawing 10)	AH14e	842633N 828330E	E 26.5 D 0.45	C1	5	Light black surface soil		Roadside, further southward block by fence
				C2	30	Yellowish gray silt with graves		Modern fill of road construction
				C3	>10	Yellowish brown silt with gravel		
	TP14f (1m x 1m)	842641N 828347E	E 27.0 D 0.52	C1	5 ~ 8	Light black surface soil		Roadside slope
				C2	12 ~ 21	Yellowish gray clay		
				C3	> 29	Yellowish red clay with gravel		
	AH14g	842648N 828378E	E 29.1 D 0.50	C1	5	Light black surface soil		Roadside slope
				C2	30	Gray silt		
				C3	>15	Yellowish red clay with gravel		
	AH14h	842633N 828396E	E 29.1 D 0.40	C1	15	Light black surface soil		Roadside
				C2	>25	Yellowish red clay with gravel		
	AH14i	842573N 828396E	E 24.2 D 0.40	C1	15	Yellowish gray silt		Roadside slope nearby ruined house
				C2	>25	Yellowish red silt		
				C1	17 ~ 21	Black surface soil		
	TP14j (1m x 1m)	842583N 828401E	E 26.0 D 0.77	C2	20 ~ 27	Grayish yellow silt with gravel		Regolith
				C3	> 26	Yellowish red clay with gravel		
	AH14k	842539N 828370E	E 22.5 D 1.00	C1	40	Yellowish gray clay		Roadside flat terrace
				C2	40	Brownish yellow clay		
				C3	>20	Yellowish red clay		

Table 1

## Auger Hole and Test Pit Record

Area	AH / TP No.	Coordinates	Elevation & Depth (m)	Context	Stratum Thickness (cm)	Soil Characteristics	Findings	Remarks
Ma Tso Lung Road -2 (Drawing 11)	TP15a (1m x 1m)	842443N	E 16.6	C1	7 ~ 10	Black humus soil		On wasted land
		828293E	D 0.40	C2	5 ~ 10	Gray loose fine clay		
				C3	> 21	Yellowish red clay		Regolith
	AH15b	842441N	E 21.7	C1	20	Black surface soil		In wasted field with dense vegetation
		828364E	D 0.80	C2	30	Light black loose silt		
				C3	>30	Yellowish brown fine clay		Regolith; stopped by rock
	AH15c	842415N 828363E	E 21.0 D 1.20	C1	25	Light black surface soil		Roadside wasted field
				C2	35	Light brown loose fine silt		
				C3	40	Yellowish brown silty clay		
				C4	>20	Yellowish red clay		Regolith
	AH15d	842401N 828380E	E 22.0 D 0.85	C1	15	Light black surface soil		At crossroads
				C2	20	Gray clay		
				C3	30	Light brown loose fine silt		Same as 15cC2
				C4	>20	Yellowish red clay		Regolith
	AH15e	842365N 828397E	E 22.0 D 1.00	C1	40	Yellowish gray clay		Roadside with banana trees
C2				>60	Yellowish red clay		Regolith	
Ma Tso Lung Road -3 (Drawing 12)	AH16a	842318N 828458E	E 25.0 D 0.55	C1	20	Light black surface soil		On terrace edge over ditch, relocation from proposed TP position inside a fenced area
				C2	20	Yellowish brown clay		
				C3	>15	Yellowish red clay		Regolith with gravel
	AH16d	842277N 828434E	E 21.0 D 0.60	C1	30	Grayish brown silt		Roadside corner
				C2	10	Yellowish brown silt		
				C3	>20	Yellowish red clay		Regolith
	TP16e (1m x 1m)	842219N 828438E	E 17.6 D 0.59	C1	4 ~ 6	Light black surface soil		
				C2	> 52	Grayish brown silt with cement and gravel		Deposit of old road; too hard to dig down; originally proposed for an auger test
				C1	5	Light black surface soil		Roadside flat terrace
	AH16f	842189N 828444E	E 19.2 D 0.60	C2	20	Yellowish brown silt		
				C3	>35	Yellowish red clay with gravel		Regolith
	TP16g (1m x 1m)	842199N 828462E	E 18.7 D 1.05	C1	6 ~ 9	Light black surface soil		Roadside area covered with fill; location slightly outside the proposed work site
C2				63 ~ 66	Modern fill with cement bar		Dug half pit because of the bar	
C3				> 31	Grayish yellow clay		Fill, auger drilling 20cm, stopped by rock	



Table 1

## Auger Hole and Test Pit Record

Area	AH / TP No.	Coordinates	Elevation & Depth (m)	Context	Stratum Thickness (cm)	Soil Characteristics	Findings	Remarks	
Ma Tso Lung Road-4 (Drawing 13)	AH17a	842160N	E 21.6	C1	10	Light black surface soil		Roadside terrace	
		828444E	D 0.90	C2	40	Light brown silty clay			
				C3	>40	Reddish brown clay		Regolith with gravel	
	AH17b	842119N	828429E	E 23.6	C1	5	Light black surface soil		Roadside terrace
				D 0.60	C2	15	Grayish brown silt		
				C3	20	Yellowish brown silty clay			
				C4	>20	Yellowish red clay		Regolith with gravel	
	TP17d (1m x 1m)	842074N	828363E	E 22.0	C1	4 ~ 5	Light black surface soil		Roadside terrace with fill to west
				D 1.46	C2	46 ~ 52	Black clay fill		
				C3	17 ~ >86	Yellowish red clay with rubbles		Modern fill deep down at northwestern corner	
	AH17e	842030N	828352E	E 19.4	C4	>9	Yellowish red clay		Regolith
				D 0.50	C1	10	Light black surface soil		Roadside terrace
				C2	20	Yellowish brown clay			
	AH17f	842008N	828299E	E 14.0	C3	>20	Yellowish red clay		Regolith with gravel
D 1.00				C1	20	Black humus soil		Water course under road nearby a manhole	
			C2	20	Grayish white sand				
TP18b (1m x 1m)	841938N	828282E	E 19.2	C3	>60	Light brown silty clay		Deposit with strong moisture	
			D 0.50	C1	> 49	Modern fill of rubbles		Roadside corner, too hard to dig down	
			C2	10	Light black surface soil		Roadside terrace		
AH18d	841852N	828337E	E 16.4	C1	10	Red silt		Modern fill	
			D 0.60	C2	30	Grayish yellow silty clay			
			C3	>10	Yellowish red clay		Regolith with gravel		
TP18e (1m x 1m)	841832N	828355E	E 18.2	C4	8 ~ 10	Light black surface soil		Terrace by road and ditch	
			D 1.40	C1	34 ~ 44	Yellowish gray silty clay with rust colored vines		Water soaked deposit	
			C2	49	Yellow clay		Regolith		
			C3	40	Yellowish red clay		Regolith, drilled depth		
AH18f	841807N	828342E	E 17.7	C4	10	Light black surface soil		Roadside corner surrounded by cement roads and deep ditch, no available place for testing	
			D 0.40	C1	>30	Grayish silt with gravel		Modern fill	

Table 1

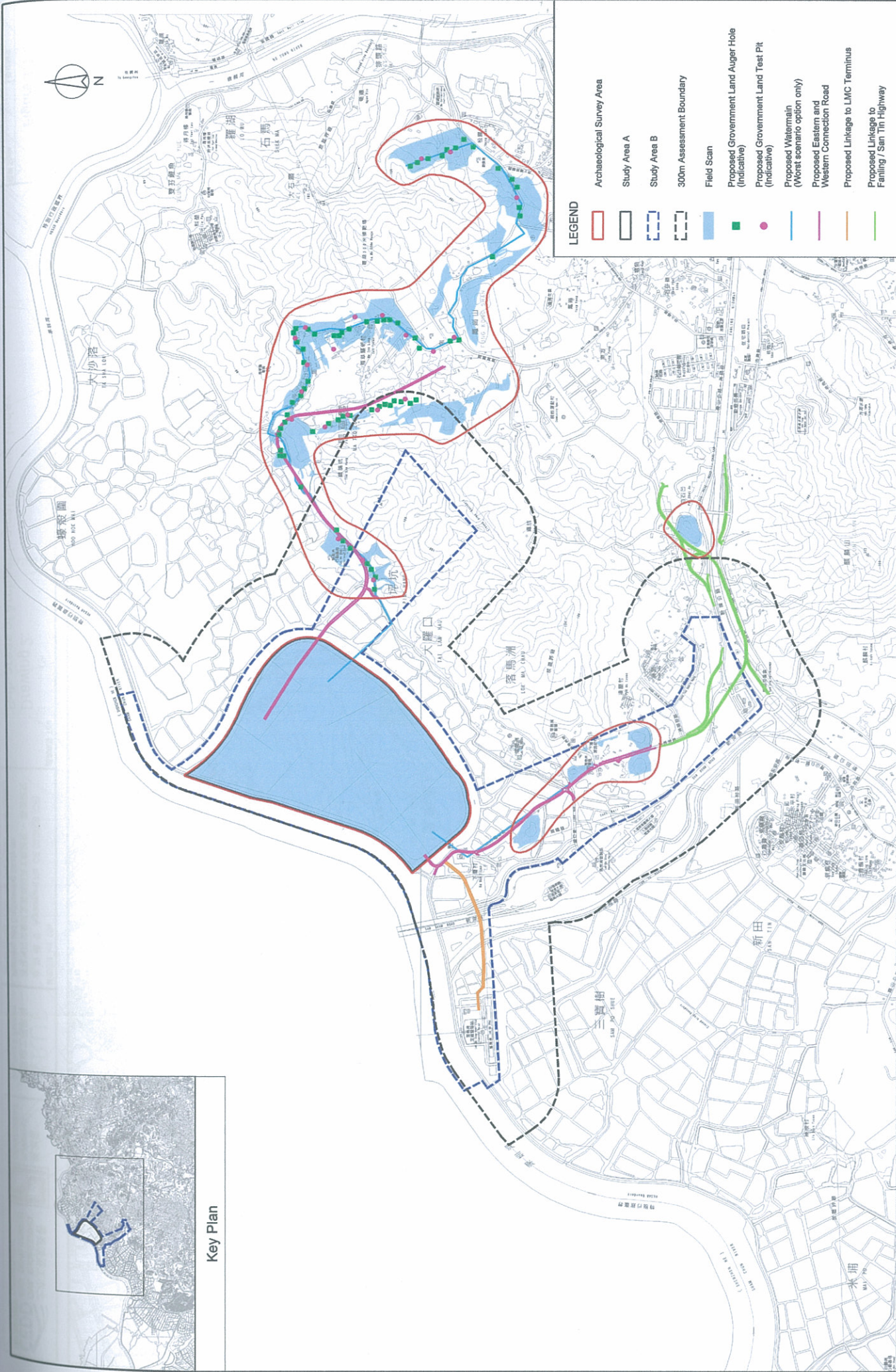
## Auger Hole and Test Pit Record

Area	AH / TP No.	Coordinates	Elevation & Depth (m)	Context	Stratum Thickness (cm)	Soil Characteristics	Findings	Remarks	
Ho Sheung Heung Road-1 and 2 (Drawing 15-16)	AH20b	841638N 828766E	E 23.0	C1	10	Light black surface soil		Roadside terrace edge and nearby fence; proposed test pit cannot be executed in the vicinity, so an auger test conducted instead	
			D 0.40	C2	>30	Grayish yellow silt with rocks			
	AH21a	841499N 828974E	E 28.9	C1	5	Light black surface soil		Roadside terrace with trees	
			D 0.50	C2	35	Yellow silt			
				C3	>10	Yellowish red clay with gravel			Regolith; stopped by rock
	AH21b	841503N 829016E	E 32.0	C1	5	Light black surface soil		Roadside terrace with trees	
			D 0.75	C2	40	Grayish yellow silt			
				C3	>30	Yellowish red clay with gravel			Regolith
	TP21d (1m x 1m)	841516N 829066E	E 31.0	C1	5 ~ 9	Light black surface soil		Roadside terrace foot	
			D 0.82	C2	24 ~ 37	Yellow and black silt			Modern fill
				C3	13 ~ 32	Yellowish brown clay			
				C4	> 13	Yellowish white soft silt			Regolith; weathered limestone debris
	AH21e	841518N 829120E	E 28.0	C1	10	Light black surface soil		Roadside at edge of fenced terrace	
			D 0.70	C2	40	Grayish yellow silt			
				C3	>20	Yellowish red clay with gravel			Regolith
	AH21f	841541N 829160E	E 22.0	C1	5	Gray surface soil		Roadside terrace	
			D 1.35	C2	30	Yellow silt			
				C3	>100	Yellowish red clay			Regolith
	AH21i	841607N 829216E	E 16.0	C1	10	Gray surface soil		Roadside terrace with trees	
			D 0.90	C2	40	Yellow silt			
			C3	>40	Yellowish red clay		Regolith		

Table 1

Auger Hole and Test Pit Record

Area	AH / TP No.	Coordinates	Elevation & Depth (m)	Context	Stratum Thickness (cm)	Soil Characteristics	Findings	Remarks
Ho Sheung Heung Road-3 (Drawing 17)	AH22a	841723N	E 14.8	C1	10	Light brown surface soil	Roadside terrace foot	
		829326E	D 0.35	C2	>25	Yellowish red clay with gravel	Regolith	
	AH22c	841784N	E 20.0	C1	10	Light black surface soil	Roadside terrace foot	
			D 0.50	C2	30	Yellow silt		
		829364E		C3	>10	Yellowish red clay with gravel	Regolith	
	AH22d	841826N	E 48.0	C1	10	Brown surface silt with rubbles	On exposed hill without vegetation cover	
			D 0.35	C2	>25	Yellowish red clay with gravel	Regolith	
	TP22e (1m x 1m)	841852N	E 54.0	C1	10 ~ 11	Light black surface silt with rubbles	On exposed hill without vegetation cover	
			D 0.33	C2	> 18	Yellowish red clay with gravel	Regolith	
	AH22f	841870N	E 54.0	C1	15	Light black surface silt with rubbles	On exposed hill without vegetation cover	
D 0.50			C2	>35	Yellowish red clay	Regolith		
AH23a	841894N	E 56.0	C1	15	Light brown silt	On hill slope covered with bush		
		D 0.40	C2	>25	Yellowish red clay with gravel	Regolith		
AH23c	841966N	E 65.0	C1	15	Light brown surface soil	On hill slope covered with bush		
		D 0.55	C2	>40	Yellowish red clay	Regolith		
TP23d (1m x 1m)	841998N	E 60.0	C1	12 ~ 18	Light black surface soil	On slope covered with dense woods		
		D 0.61	C2	14 ~ 24	Light brown silt			
			C3	> 24	Yellowish red clay with purple colored sandstone boulders	Regolith		
AH23e	842020N	E 65.0	C1	20	Light brown surface silt	On slope covered with dense woods		
		D 0.40	C2	>20	Yellowish red clay with gravel	Regolith; stopped by rock		
AH23f	842055N	E 75.0	C1	15	Light brown surface silt	On slope covered with dense woods		
		D 0.35	C2	>20	Yellowish red clay with gravel	Regolith; stopped by rock		
Ho Sheung Heung Road-4 (Drawing 18)								



**Drawing 1:**  
Archaeological Survey Area & Required Survey Works

研究項目 Job Title  
合約編號 Agreement No. CE 532008 (CE)  
落馬洲河套地區發展策劃及工程研究 - 前置研究  
Planning and Engineering Study on  
Development of Lok Ma Chau Loop - Investigation

**ARUP**  
奧雅納工程顧問  
Ove Arup & Partners  
Hong Kong Limited

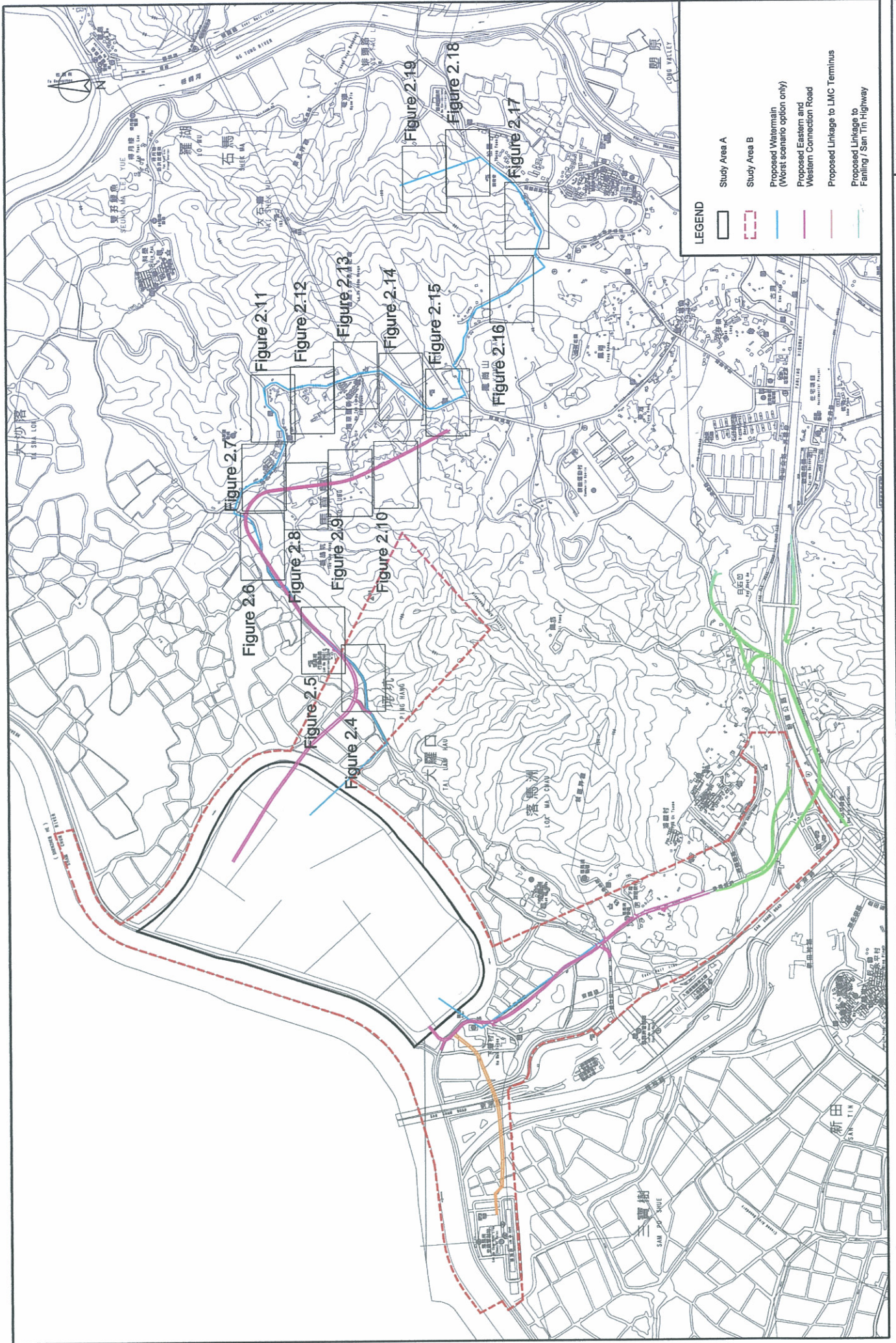
規劃署  
PLANNING  
DEPARTMENT

**CEDD**  
土木工程拓展署  
CIVIL ENGINEERING  
AND DEVELOPMENT  
DEPARTMENT

圖則編號 Figure No.

圖則比例尺  
Drawing Scale  
1:25000 ON A4

修訂編號  
Revision  
Rev.



圖則編號 Figure No. **Figure 2.3**

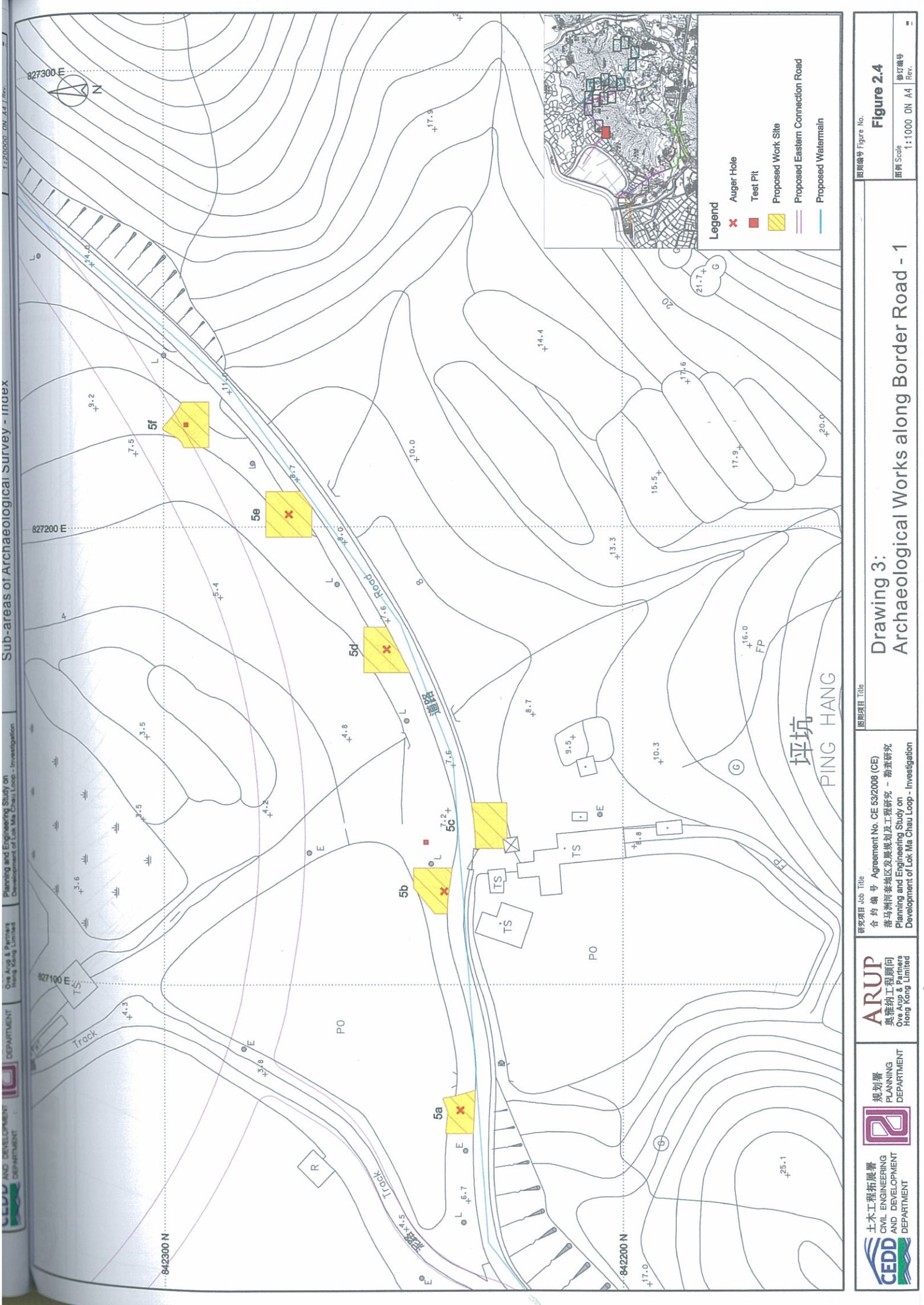
圖則項目 Title **Drawing 2:**

研究項目 Job Title  
合約編號 Agreement No. CE 53/2008 (CE)  
橫濱市及新界地區發展局及工程研究 - 撥款研究

ARUP  
高級岩土工程師

規劃署  
UR

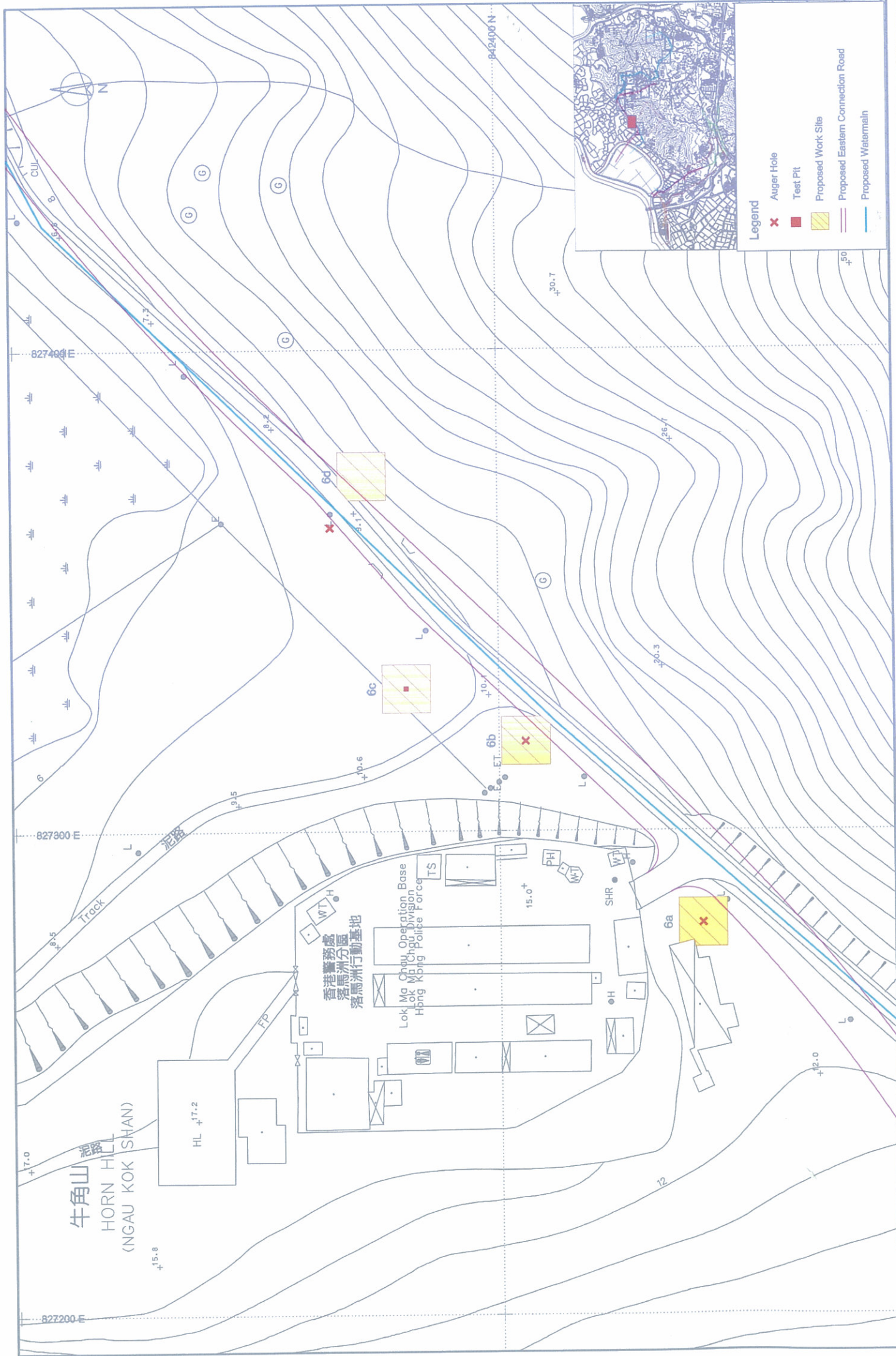
土木工程拓展署  
CIVIL ENGINEERING

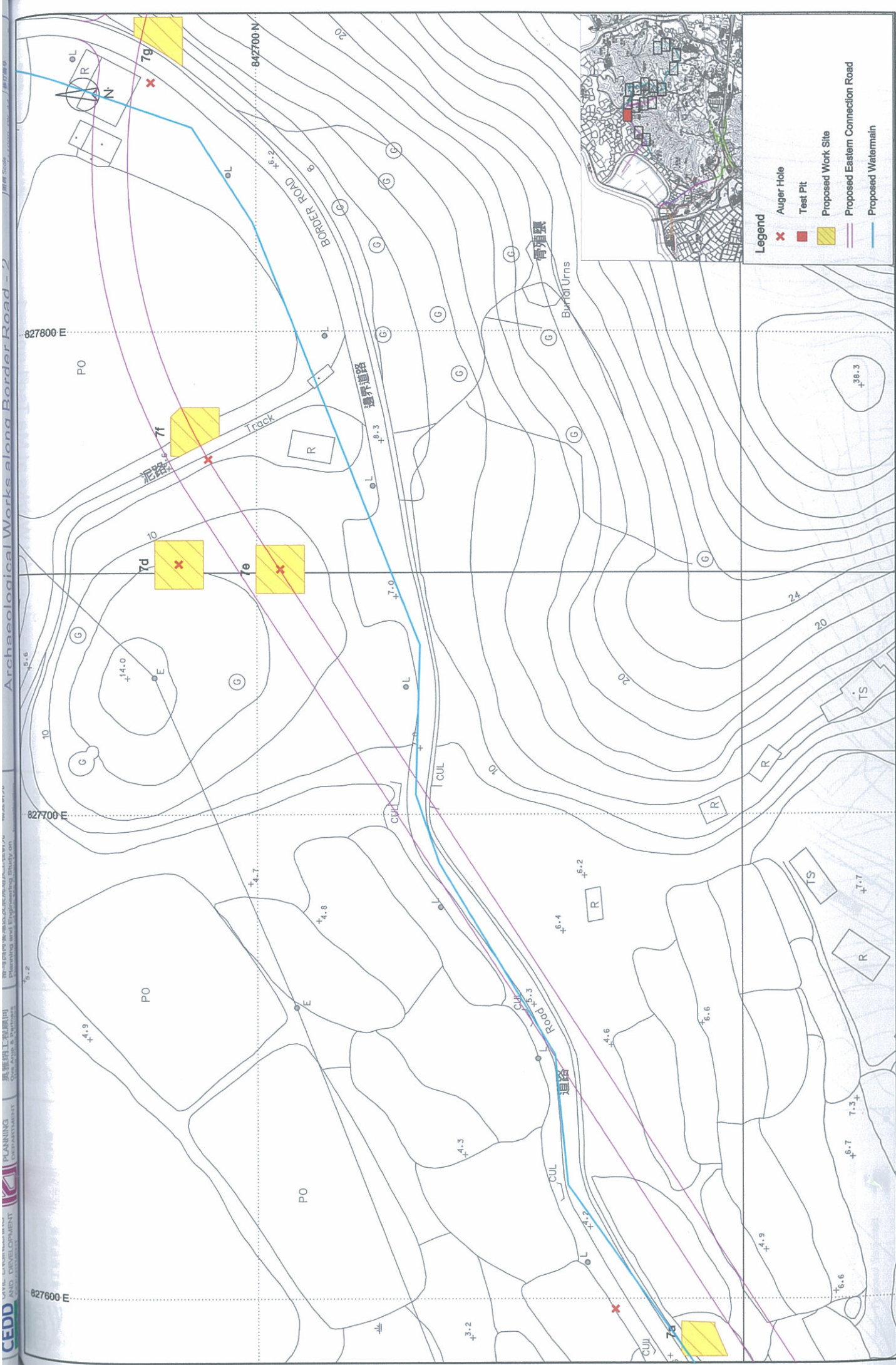


CEDD AND DEVELOPMENT DEPARTMENT  
 Ove Arup & Partners Hong Kong Limited  
 Planning and Engineering Study on Development of Lok Ma Chau Loop - Investigation  
 Sub-areas of Archaeological Survey - Index  
 1:20000 DN A4 / Rev.

			<b>Figure 2.4</b> 图例编号 Figure No.
土木拓展處 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	规划署 PLANNING DEPARTMENT	研究项目 Job Title 合约编号 Agreement No. CE 53/2008 (GE) 港马洲河套地区发展规划及工程研究 - 勘察研究 Planning and Engineering Study on Development of Lok Ma Chau Loop - Investigation	图例 Scale 1:1000 ON A4 修订编号 Rev.

**Drawing 3:**  
**Archaeological Works along Border Road - 1**

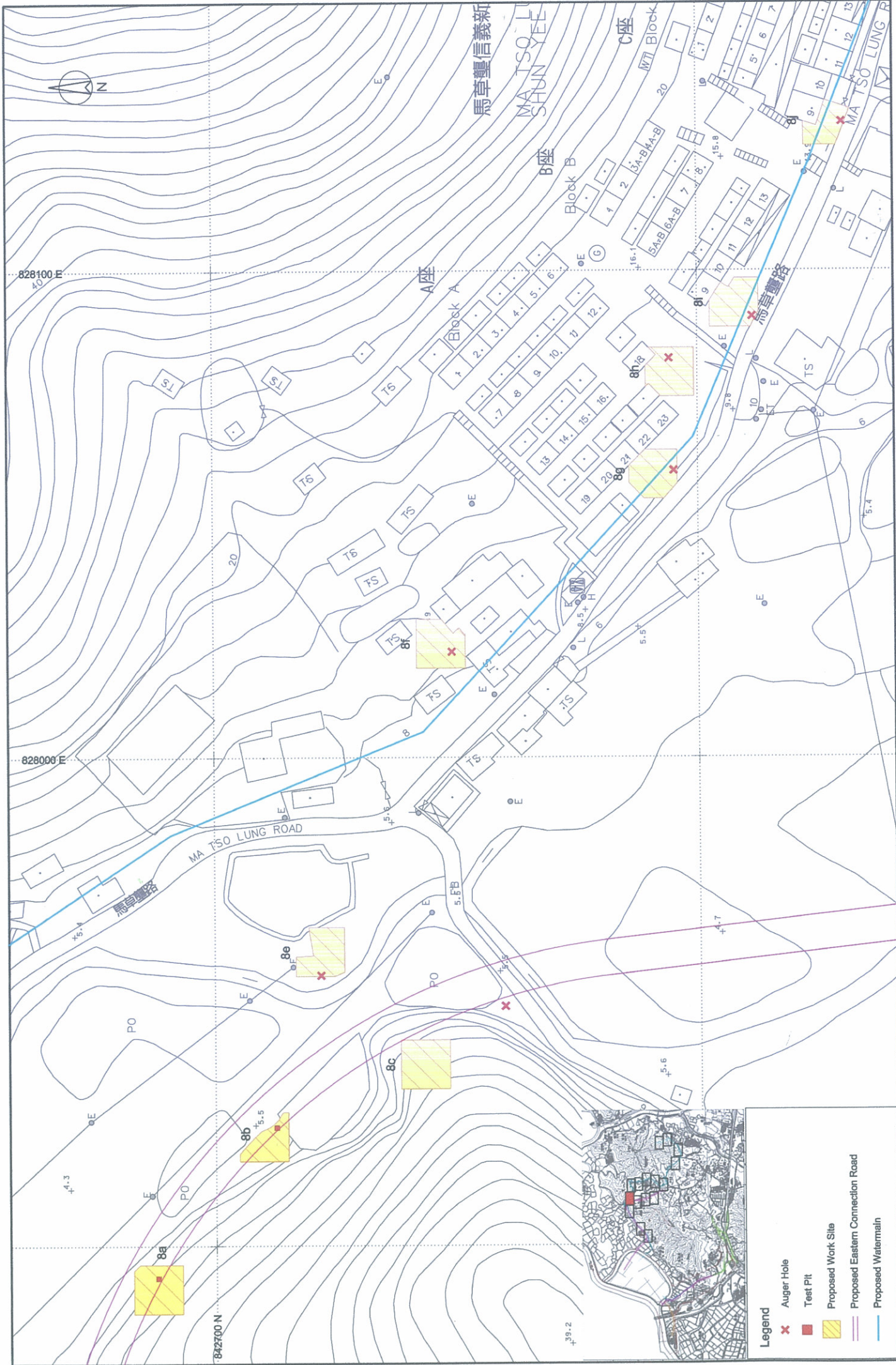


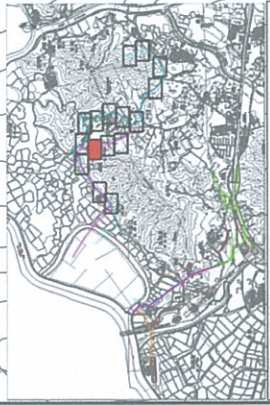
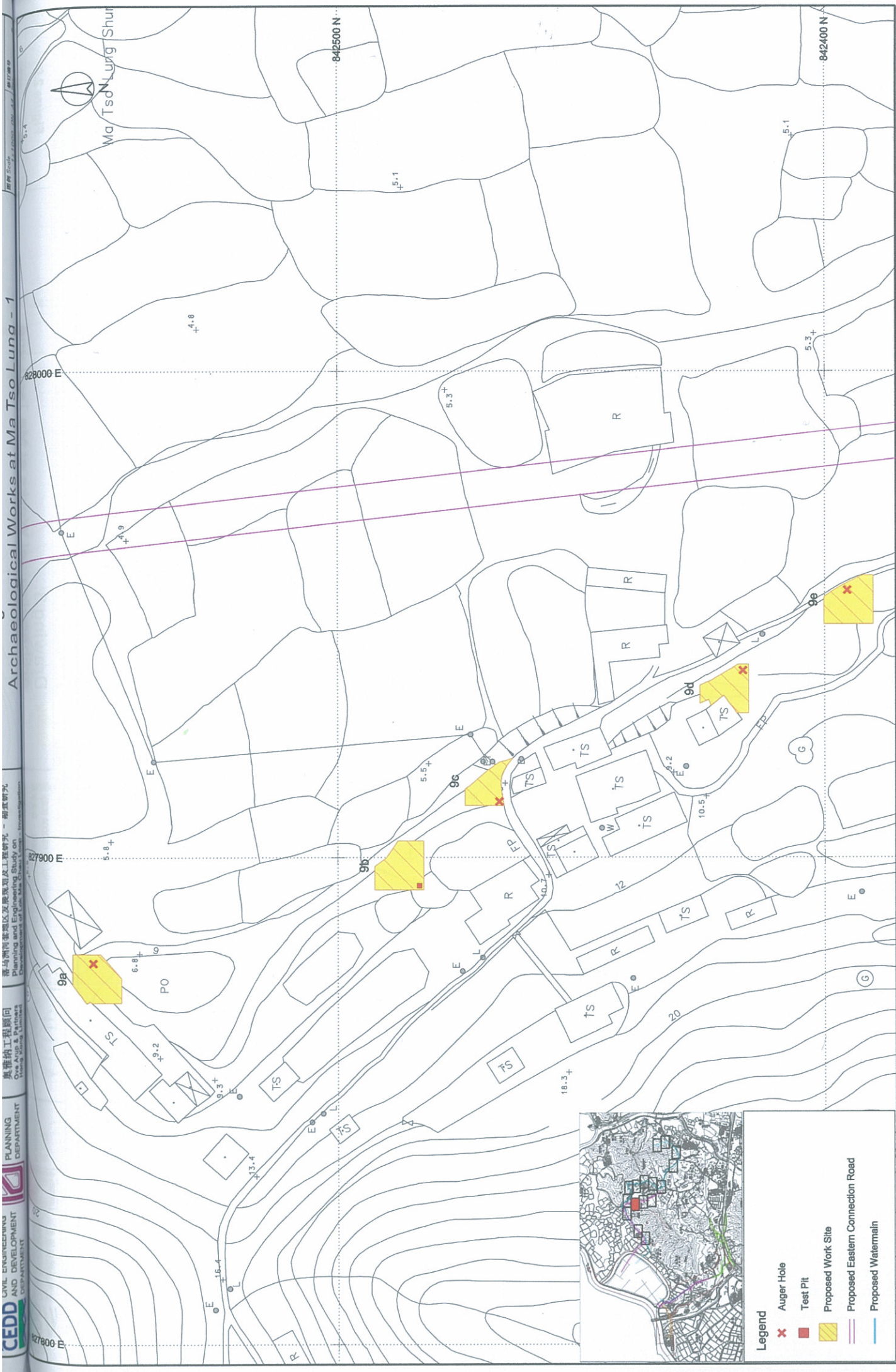


- Legend**
- X Auger Hole
  - Test Pit
  - Proposed Work Site
  - Proposed Eastern Connection Road
  - Proposed Watermain

<p>土庫工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT</p>	<p>ARUP 奧雅納工程顧問 AECOM &amp; ARUP Hong Kong Limited</p>	<p>規劃署 PLANNING DEPARTMENT</p>
<p>研究項目 Job Title 合約編號 Agreement No. CE 53/2008 (CE) 落馬洲河套地區發展規劃及工程研究 - 勘查研究 Planning and Engineering Study on Development of Lok Ma Chau Loop - Investigation</p>		
<p>圖則項目 Title <b>Drawing 5: Archaeological Works along Border Road - 3</b></p>		
<p>圖則編號 Figure No. <b>Figure 2.6</b></p>		
<p>圖則縮尺 Scale 1:1000 ON A4 Rev.</p>		

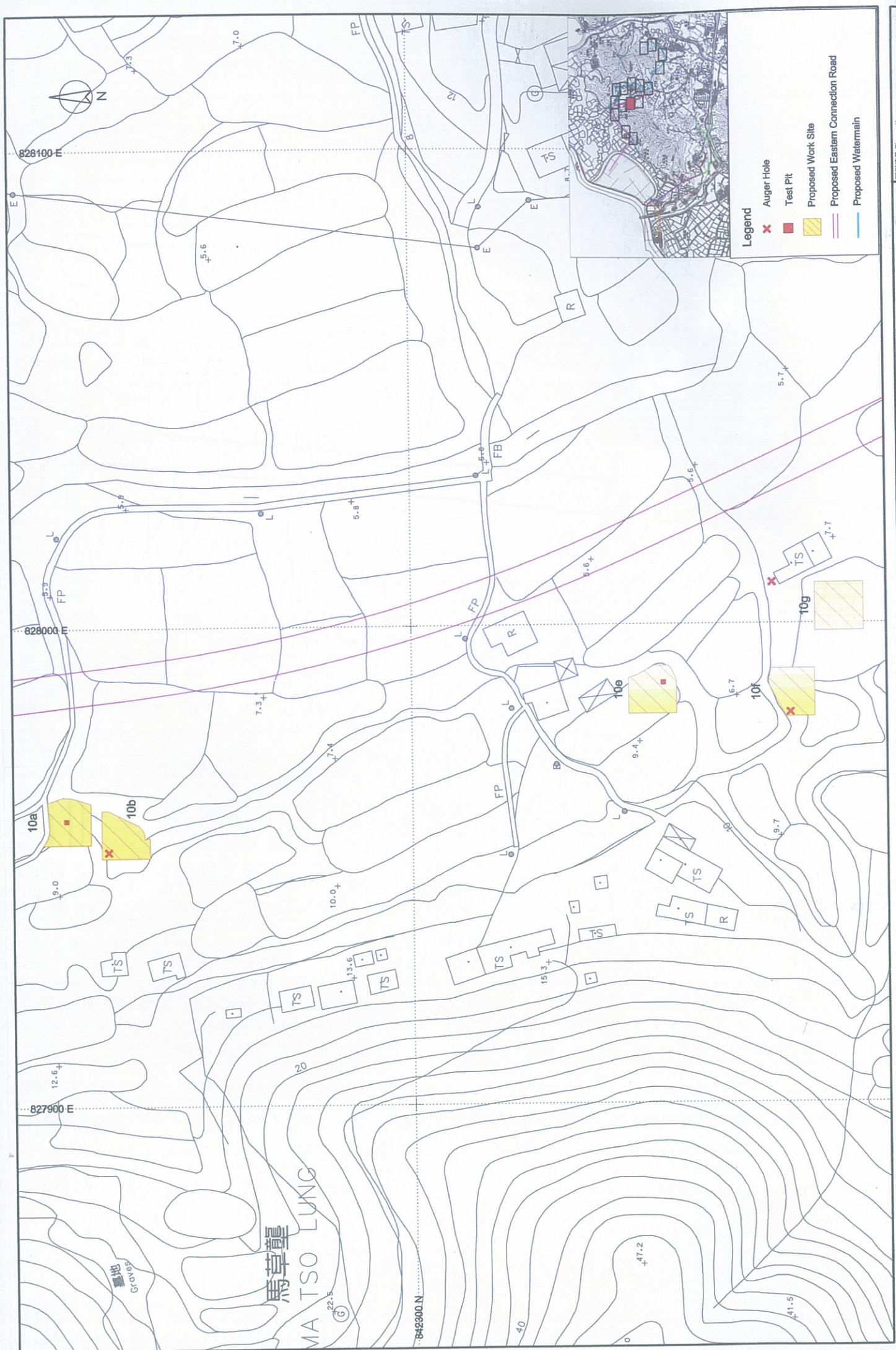






**Legend**

- X Auger Hole
- Test Pit
- Proposed Work Site
- Proposed Eastern Connection Road
- Proposed Watermain



- Legend**
- Auger Hole
  - Test Pit
  - Proposed Work Site
  - Proposed Eastern Connection Road
  - Proposed Watermain

圖則編號 Figure No. **Figure 2.9**

圖則項目 Title **Drawing 8:**

研究項目 Job Title  
 合約編號 Agreement No. CE 532008 (CE)



土木工程拓展署  
 規劃部

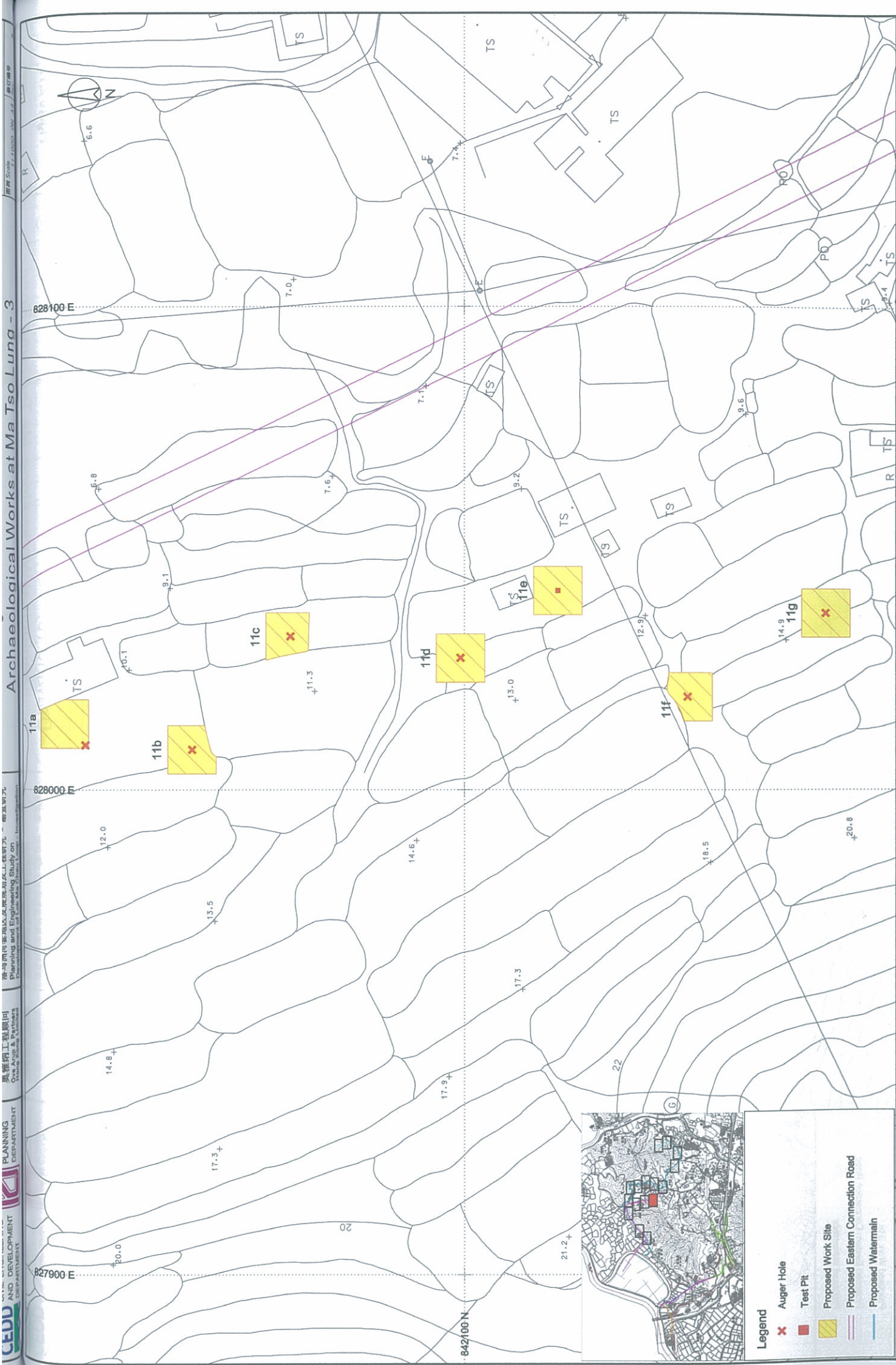


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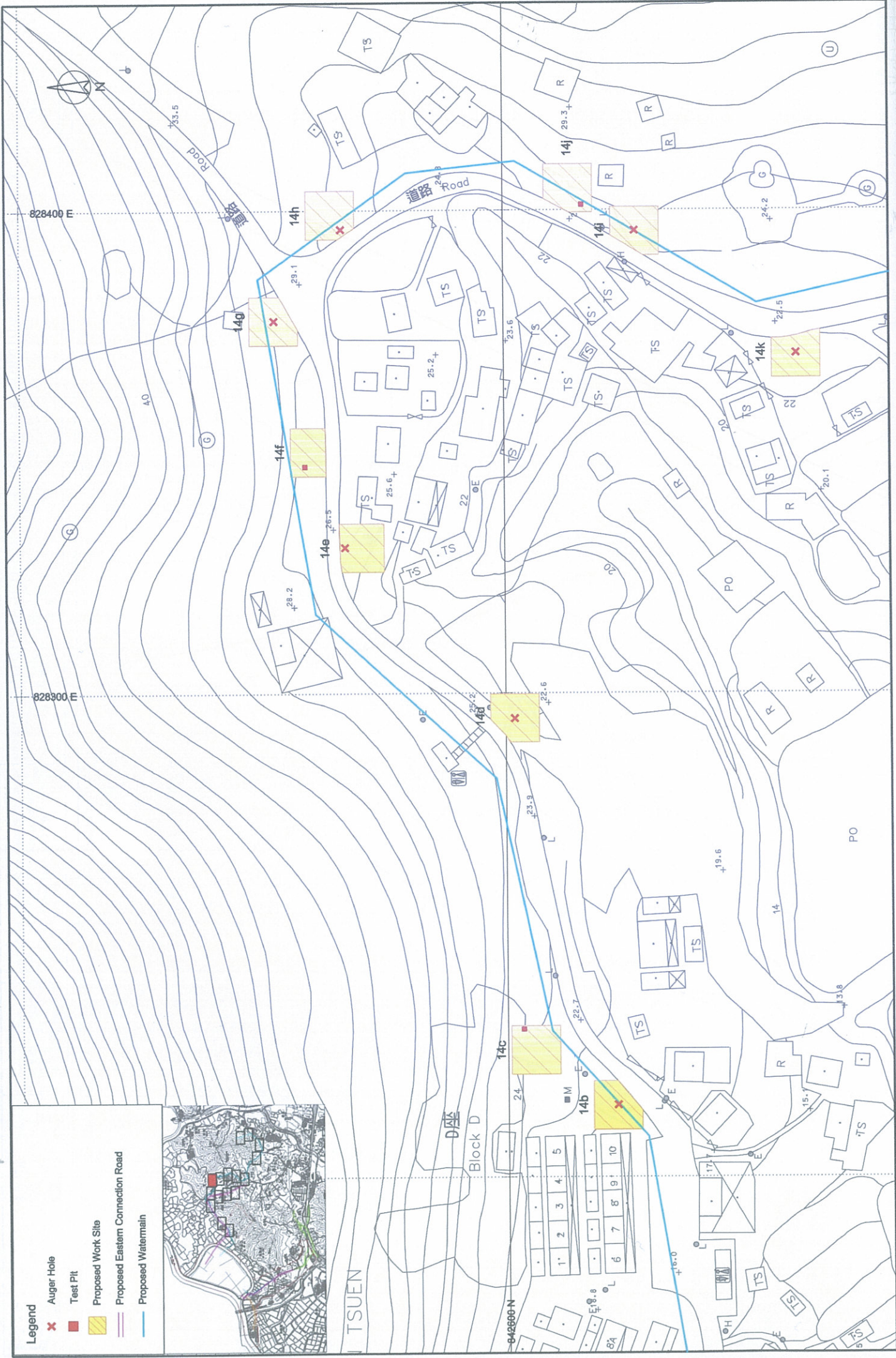
CEDD AND DEVELOPMENT DEPARTMENT  
 PLANNING AND ENGINEERING STUDY ON  
 DEVELOPMENT OF LOK NGA CHAU LOOP - INVESTIGATION  
 土庫工程拓展署  
 策劃及工程研究  
 發展洛加洲河地段 - 調查研究

Archaeological Works at Ma Tso Lung - 3  
 828100 E  
 828000 E  
 827900 E  
 842100 N  
 842200 N  
 842300 N  
 11a, 11b, 11c, 11d, 11e, 11f, 11g  
 14.8, 17.3, 20.0, 21.2, 17.9, 14.6, 17.3, 18.5, 20.8, 14.8, 13.5, 12.0, 9.1, 11.3, 13.0, 12.9, 14.9, 9.6, 7.6, 9.2, 7.4, 7.0, 6.6, 7.4, 9.4, 10.1, 22, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100



**Legend**

- ✗ Auger Hole
- Test Pit
- Proposed Work Site
- Proposed Eastern Connection Road
- Proposed Watermain



- Legend**
- X Auger Hole
  - Test Pit
  - ▨ Proposed Work Site
  - Proposed Eastern Connection Road
  - Proposed Watermain



圖則編號 Figure No. **Figure 2.11**

圖則項目 Title **Drawing 10:**

研究項目 Job Title  
 合約編號 Agreement No. CE 53/2008 (CE)  
 圖則編號 Figure No. 2.11






標頭欄

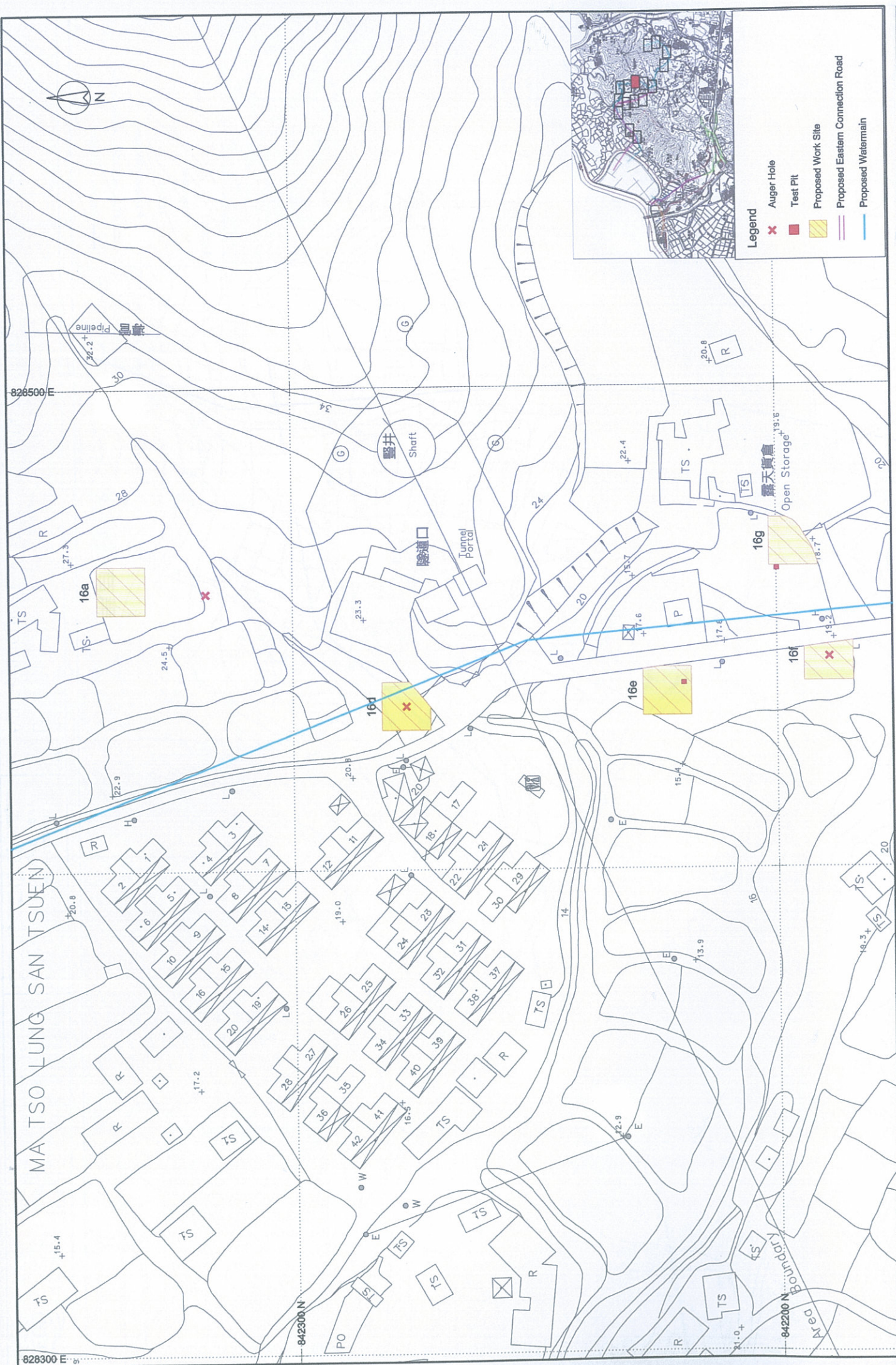
土木工程拓展署  
 CIVIL ENGINEERING



**Legend**

- ✗ Auger Hole
- Test Pit
- Proposed Work Site
- Proposed Eastern Connection Road
- Proposed Watermain

 <p>土木工程拓展署          CIVIL ENGINEERING          AND DEVELOPMENT          DEPARTMENT</p>	 <p>ARUP          奧雅納工程顧問          Ove Arup &amp; Partners          Hong Kong Limited</p>	<p>研究項目 Job Title                  合約編號 Agreement No. CE 532/008 (CE)                  落馬洲河套地區發展規劃及工程研究 - 勘察研究                  Planning and Engineering Study on                  Development of Lok Ma Chau Loop - Investigation</p>
 <p>規劃署                  PLANNING                  DEPARTMENT</p>	<p>圖則項目 Title                  Drawing 11:                  Archaeological Works along Ma Tso Lung Road - 2</p>	
<p>圖則編號 Figure No.                  Figure 2.12</p>		<p>圖則比例尺 Scale                  1:1000 ON A4 Rev.</p>



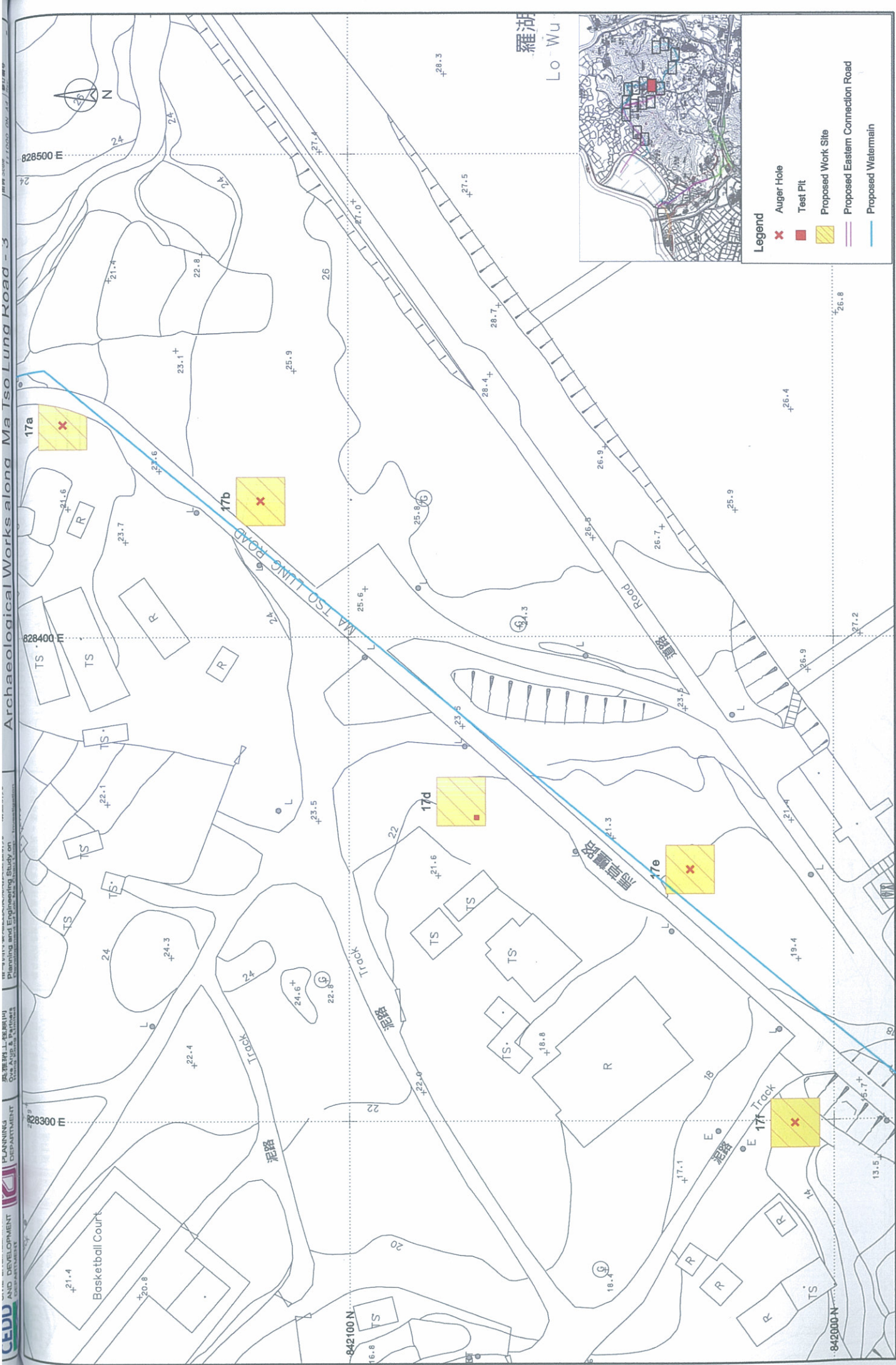
- Legend**
- X Auger Hole
  - Test Pit
  - Proposed Work Site
  - Proposed Eastern Connection Road
  - Proposed Watermain

Figure No. **Figure 2.13**

Figure Title **Drawing 12:**

研究項目 Job Title  
 合約編號 Agreement No. CE 53/2008 (CE)  
 項目名稱 Project Name 馬土龍山邨屋架及工程研究 - 勘察研究





<p>研究項目 Job Title          合約編號 Agreement No. CE 63/2006 (CE)          落馬洲河套地區發展規劃及工程研究 - 勘查研究          Planning and Engineering Study on          Development of Lok Ma Chau Loop - Investigation</p>	<p>圖則項目 Title  <b>Drawing 13:</b>  <b>Archaeological Works along Ma Tso Lung Road - 4</b></p>	<p>圖則編號 Figure No.  <b>Figure 2.14</b></p>
<p>研究機構  <b>ARUP</b>          奧雅納工程顧問          Overseas &amp; Partners          Hong Kong Limited</p>	<p>規劃署          PLANNING          DEPARTMENT</p>	<p>圖則比例尺 Scale          1:1000 ON A4   繪圖號數          2</p>
<p>土木工程師發展署          CIVIL ENGINEERING          AND DEVELOPMENT          DEPARTMENT</p>	<p>CEDD</p>	<p>CEDD          CIVIL ENGINEERING          AND DEVELOPMENT          DEPARTMENT</p>



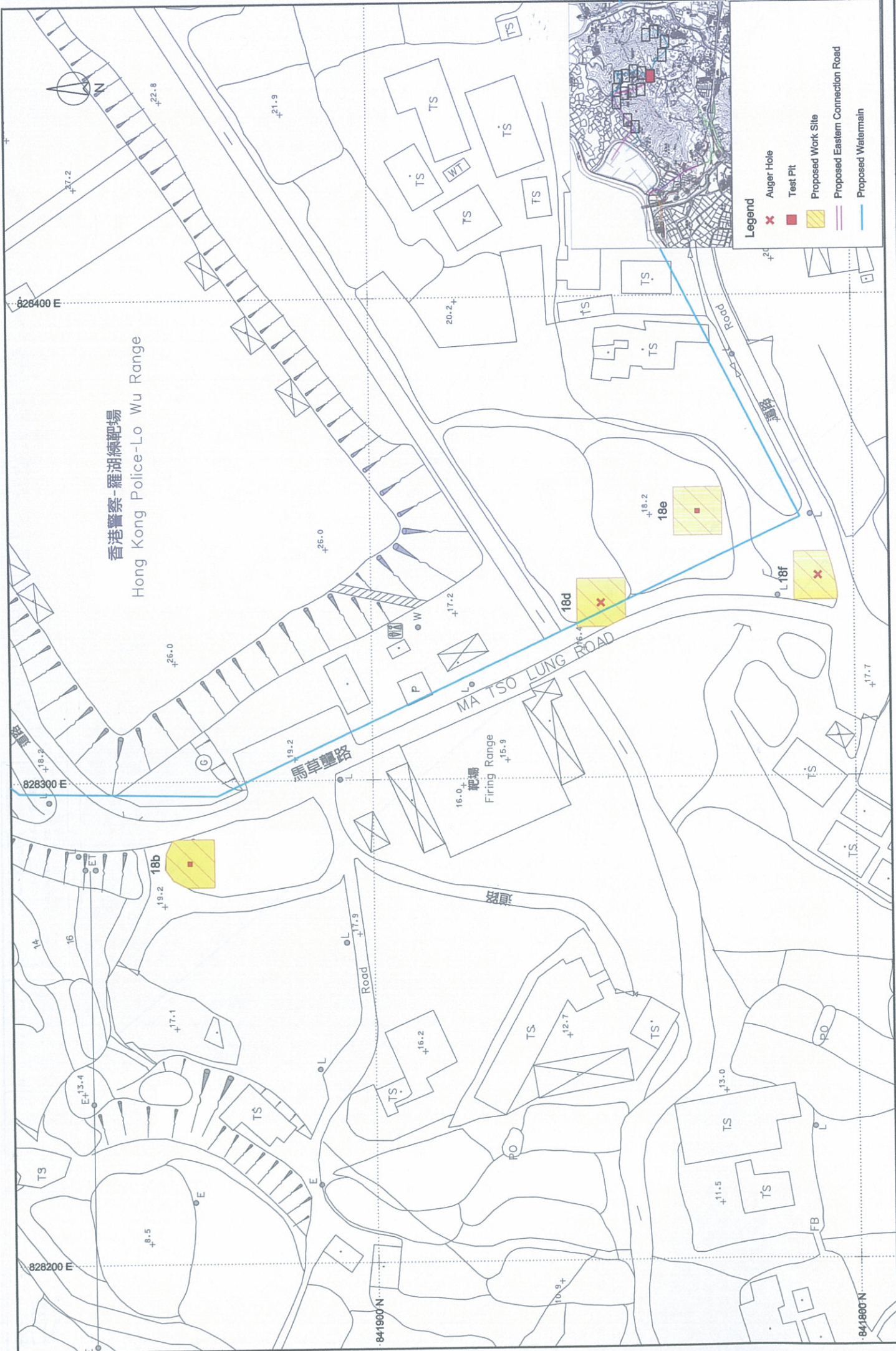


Figure 2.15

Figure No.

Figure 14:

Figure Title

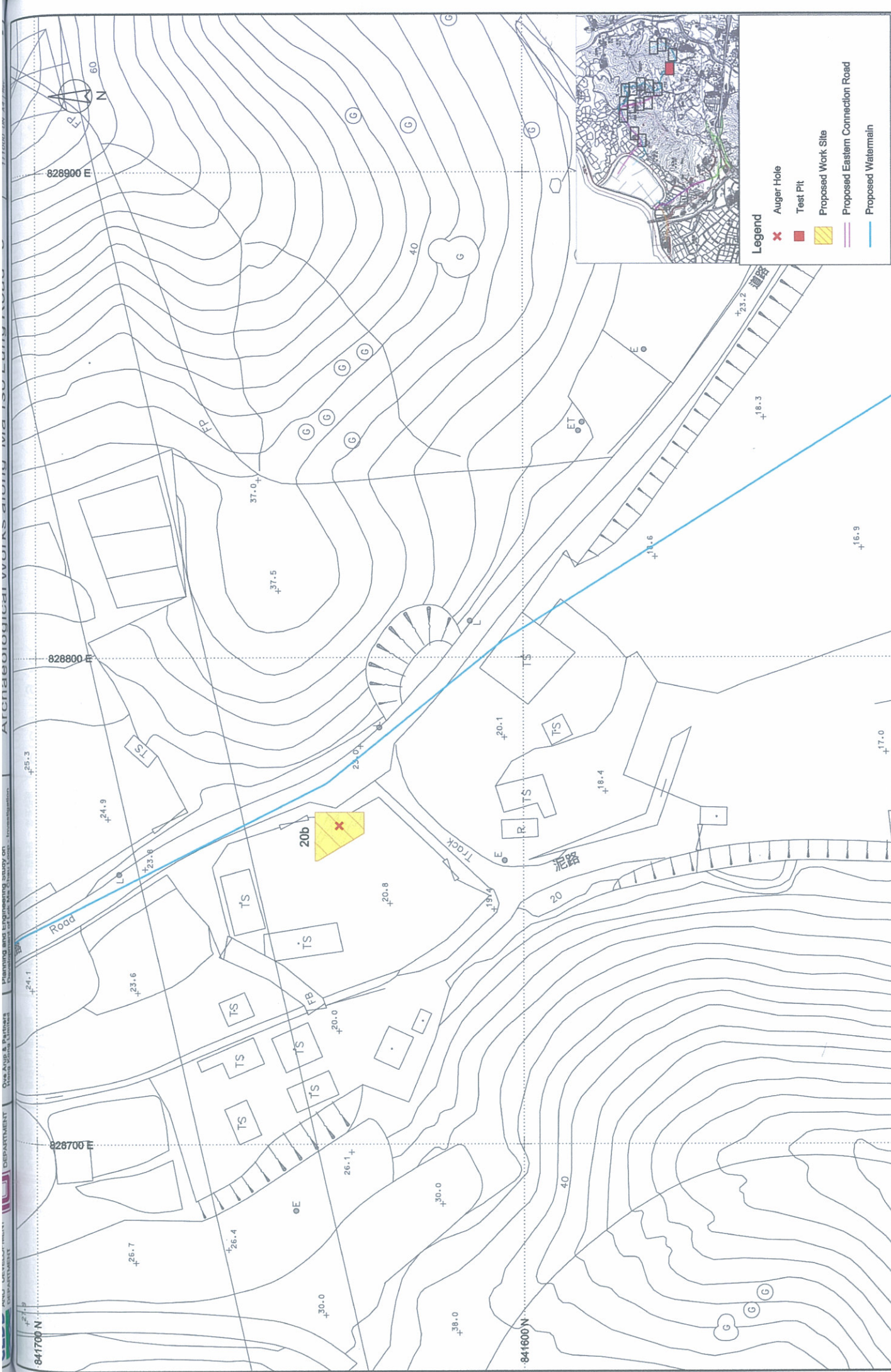
研究項目 Job Title  
 合約編號 Agreement No. CE 53/2008 (GE)  
 康文署康樂及文化事務處康樂及工程研究 - 物業研究

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 ARUP CONSULTANTS (HONG KONG) LIMITED


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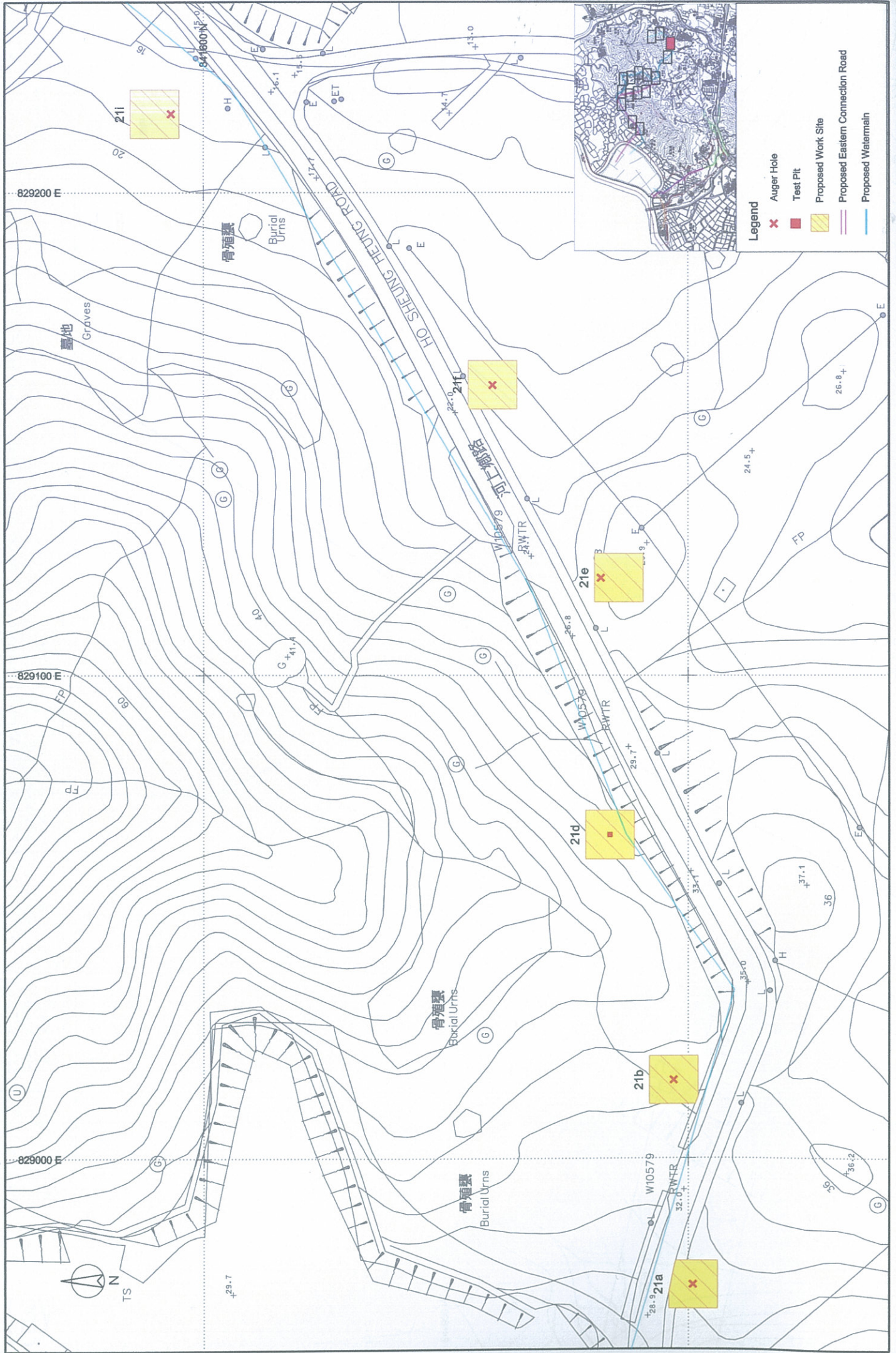
土木工程拓展署  
 CIVIL ENGINEERING  
 DEVELOPMENT AUTHORITY

844700 N



- Legend**
- ✗ Auger Hole
  - Test Pit
  - Proposed Work Site
  - Proposed Eastern Connection Road
  - Proposed Watermain

 <p>土木工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT</p>	 <p>ARUP 奧雅納工程顧問 Ove Arup &amp; Partners Hong Kong Limited</p>	<p>研究項目 Job Title 合約編號 Agreement No. CE 532008 (CE) 港馬洲河套地區發展規劃及工程研究 - 勘查研究 Planning and Engineering Study on Development of Lok Ma Chau Loop - Investigation</p>	<p>圖則項目 Title <b>Drawing 15:</b> <b>Archaeological Works along Ho Sheung Heung Road - 1</b></p>
<p>圖則編號 Figure No. <b>Figure 2.16</b></p>		<p>圖則比例 Scale 1:1000 ON A4 修訂編號 Rev. <span style="float: right;">-</span></p>	



- Legend**
- X Auger Hole
  - Test Pit
  - Proposed Work Site
  - Proposed Eastern Connection Road
  - Proposed Watermain

圖則編號 Figure No. **Figure 2.17**

圖則項目 Title **Drawing 16:**

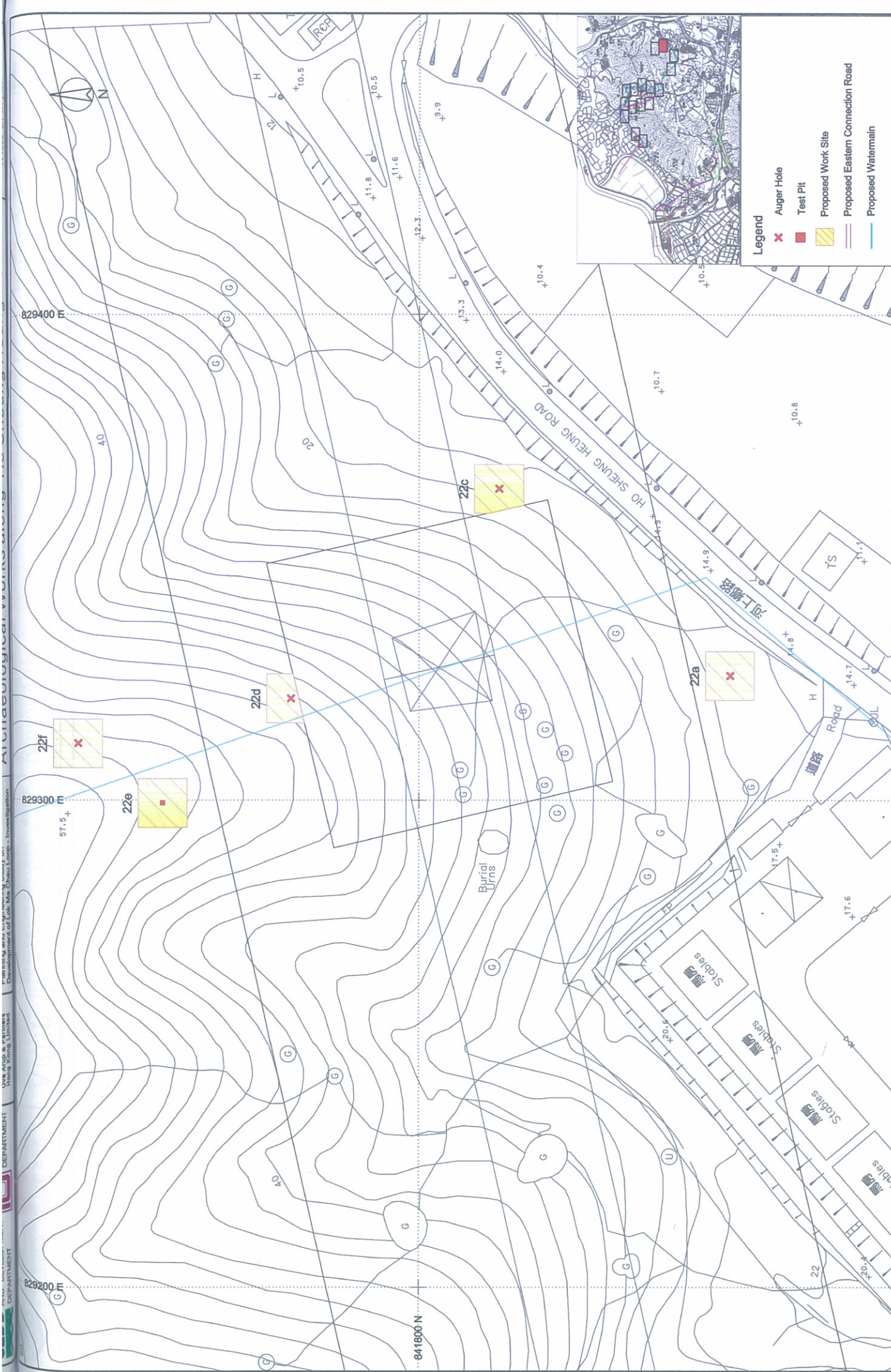
研究項目 Job Title  
 合約編號 Agreement No. CE 532008 (GE)  
 研究人員 Researcher

**ARUP**  
 CHINA ENGINEERING CONSULTANTS

**規划署**  
 PLANNING DEPARTMENT

土木工務拓展處  
 CIVIL ENGINEERING

82



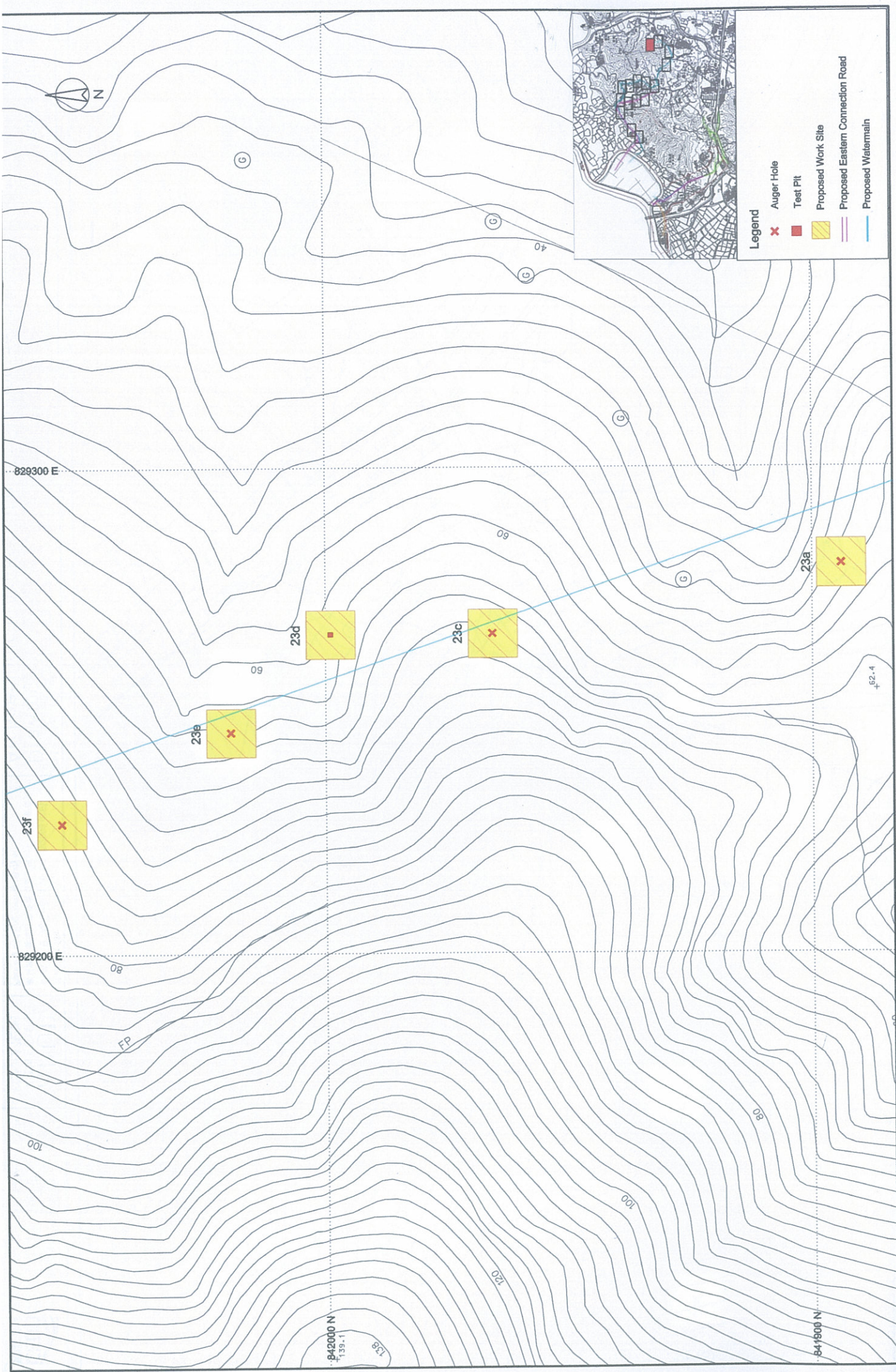
圖則項目 Title **Drawing 17: Archaeological Works along Ho Sheung Heung Road - 3**

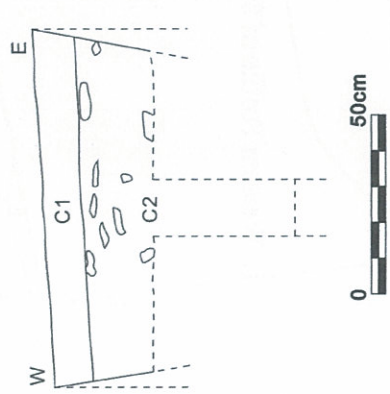
研究項目 Job Title  
 合約編號 Agreement No. CE 53/2008 (CE)  
 番禺州海寧地區發展規劃及工程研究 - 勘探研究  
 Planning and Engineering Study on  
 Development of Lok Ma Chau Loop - Investigation

**ARUP**  
 奧雅納工程顧問  
 Ove Arup & Partners  
 Hong Kong Limited

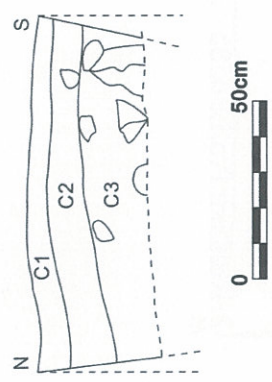
規劃部  
**PLANNING DEPARTMENT**

土木工程拓展署  
**CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT**  
**CEDD**

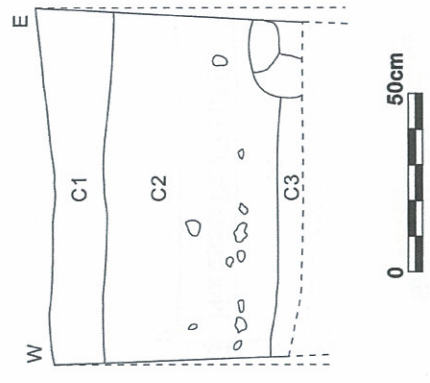




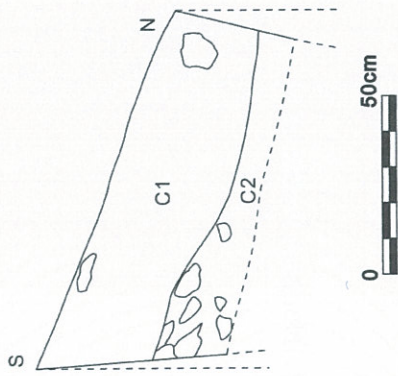
1. Northern Profile of 5c



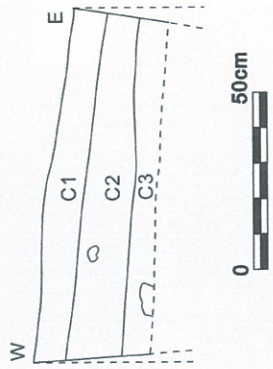
2. Eastern Profile of 5f



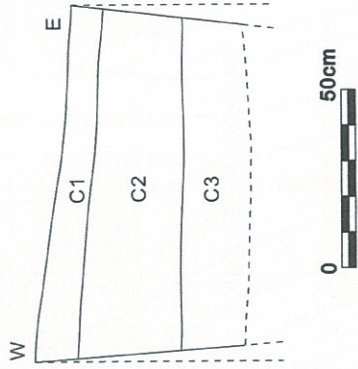
3. Northern Profile of 6c



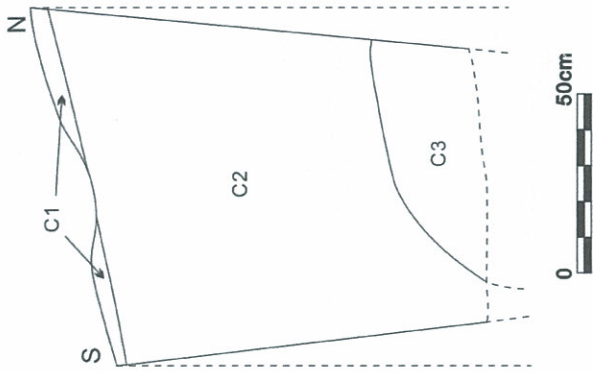
1. Western Profile of 8a



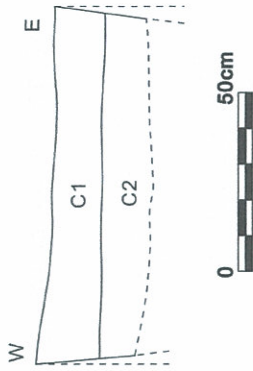
2. Northern Profile of 8b



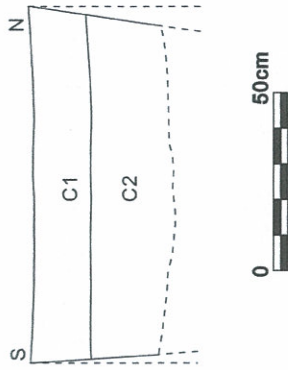
3. Northern Profile of 9b



1. Western Profile of 10a

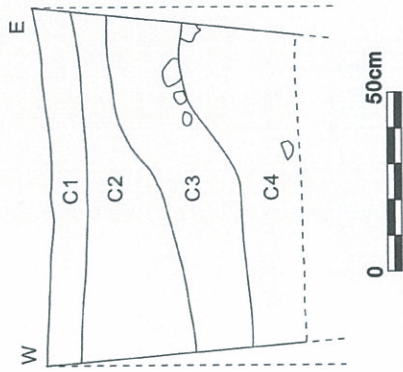


2. Northern Profile of 10e

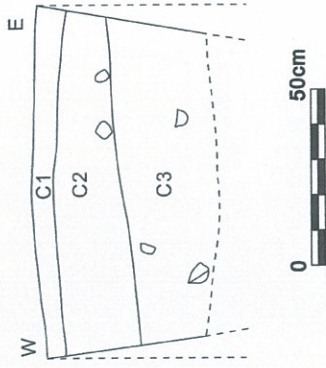


3. Northern Profile of 11e

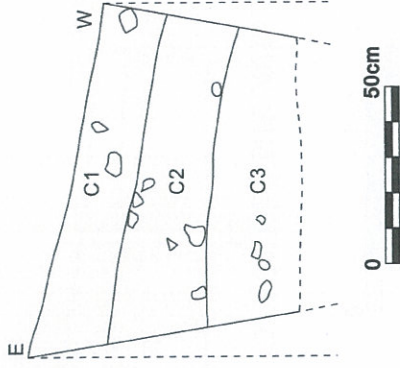




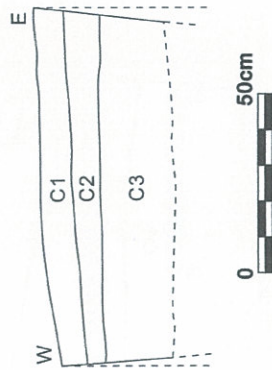
1. Northern Profile of 14c



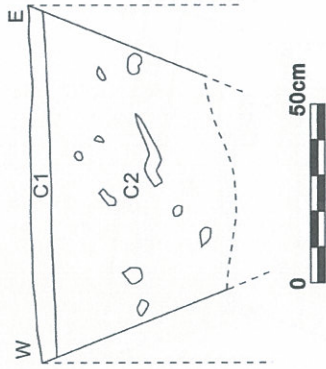
2. Northern Profile of 14f



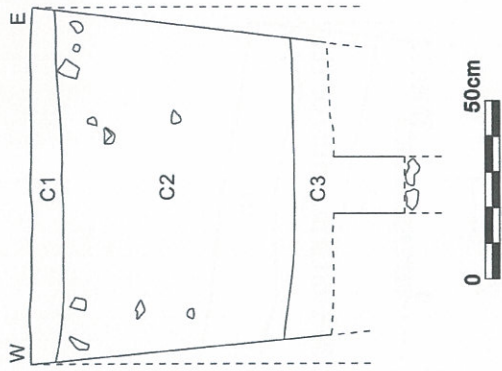
3. Southern Profile of 14j



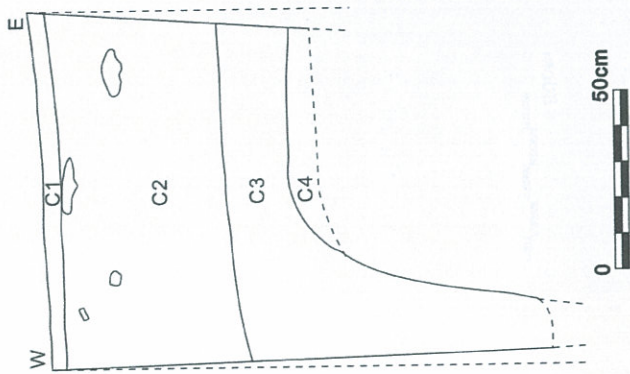
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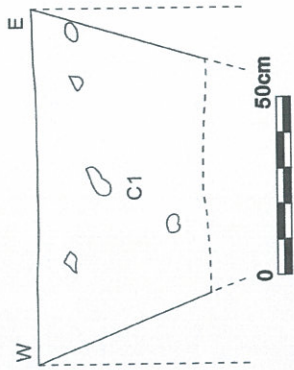
2. Northern Profile of 16e



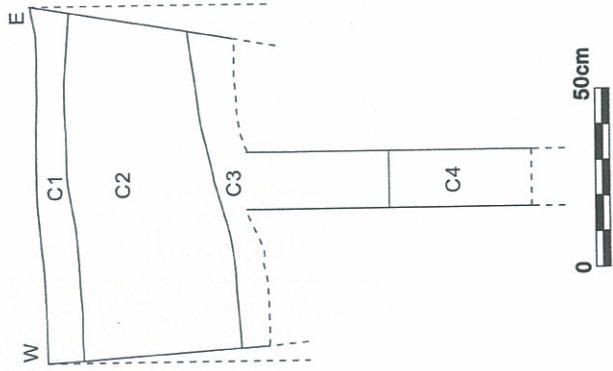
3. Northern Profile of 16g



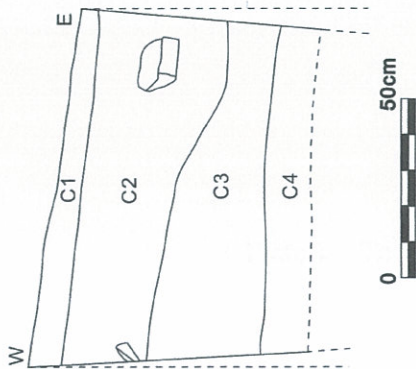
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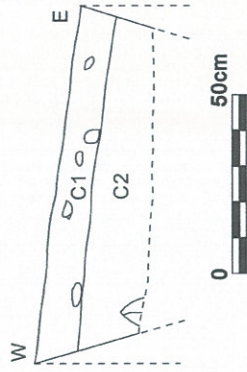
2. Northern Profile of 18b



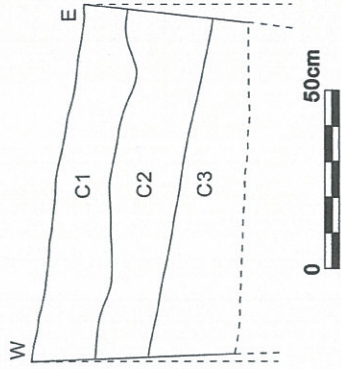
3. Northern Profile of 18e



1. Northern Profile of 21d



2. Northern Profile of 22e



3. Northern Profile of 23d



1. Northern Section of 5c



2. Eastern Section of 5f



1. Northern Section of 6c

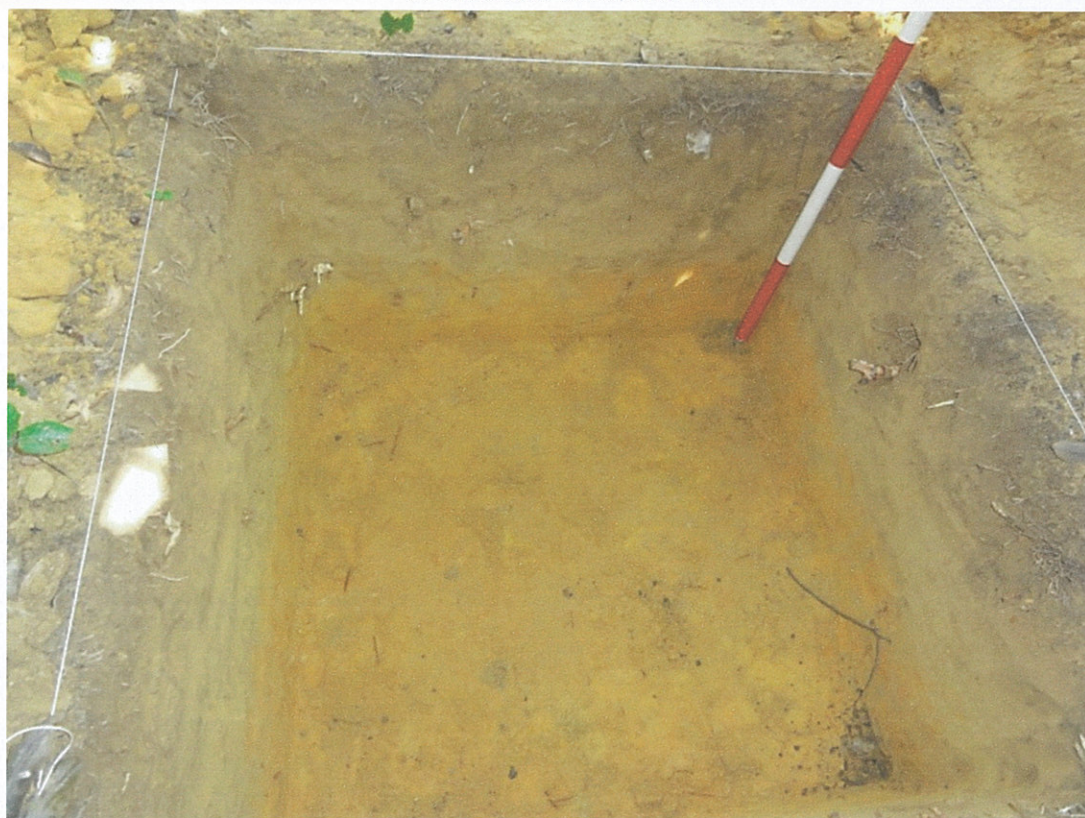


2. Western Section of 8a

Plate 2 Test Pits 6c and 8a



1. Northern Section of 8b



2. Northern Section of 9b



1. Western Section of 10a



2. Northern Section of 10e





1. Northern Section of 11e



2. Northern Section of 14c



1. Northern Section of 14f



2. Southern Section of 14j



1. Northern Section of 15a



2. Northern Section of 16e



1. Northern Section of 16g



2. Northern Section of 17d



1. Northern Section of 18b



2. Northern Section of 18e



1. Northern Section of 21d



2. Northern Section of 22e



1. Northern Section of 23d

覆函請寄交

Please address your reply to

並引用本署檔案編號  
and quote the following reference



古物古蹟辦事處  
ANTIQUITIES & MONUMENTS OFFICE

香港九龍尖沙咀彌敦道一百三十六號 136 Nathan Road, Tsim Sha Tsui, Kowloon, Hong Kong

電話 Tel No.: 2721 2015  
圖文傳真 Fax No.: 2721 6216

本處檔號 Our Ref.: ( ) in LCSD/CS/AMO 62-28/17  
來函檔號 Your Ref.:

21 February 2012

Mr WANG Wenjian  
Hong Kong Institute of Archaeology

Dear Mr WANG,

**Application for Licence to Conduct  
Archaeological Survey for Planning and Engineering Study on  
Development of Lok Ma Chau Loop**

With reference to your captioned application, I am pleased to enclose licence No. 331 together with the receipt for the prescribed fee for your retention.

Please be reminded that you shall comply with the provisions of the Antiquities and Monuments Ordinance (Cap. 53) regarding discovery and excavation of or search for antiquities and also the conditions set out in the licence. Please obtain the full version of the said Ordinance by accessing this website <http://www.legislation.gov.hk>.

You are also reminded to seek prior consent in writing from the land owners and/or lawful occupiers concerned should your proposed works happen to fall within private land. You are also required to approach the District Lands Officers/Highways Department for application for Excavation Permit or any written permission/approval required concerning the excavation to be carried out in Government lands. Moreover, please inform us of the schedule of your work **two weeks** prior to the commencement of the work so as to let us arrange site monitoring. Attached please find a copy of the **Guidelines for Archaeological Reports** and **Guidelines for Handling of Archaeological Finds and Archives** for your compliance. Please note that the above guidelines will be updated from time to time. You may wish to contact us to obtain the latest version of these guidelines after the completion of fieldwork.

Please kindly send **five** copies of the final archaeological survey report for our retention. To encourage archaeological research, researchers will view the archaeological reports inside the Reference Library of the Heritage Discovery Centre. Please note that



there are two alternative versions of reply slip for your selection, one for individual owner of copyright and the other for corporate owner of copyright (as attached). I should be most grateful if you could arrange the lawful copyright owner to sign on the reply slip and return it by post or by hand for our further arrangement.

Thank you for your kind attention.

Yours sincerely,

*Jeffer Mah*

(Jeffer MAK)  
for Executive Secretary  
Antiquities and Monuments Office

*Encl.*

FORM II

[ s.13 & reg.4 ]

Licence No. 331

**ANTIQUITIES AND MONUMENTS ORDINANCE  
(Chapter 53, Section 13)**

**LICENCE TO EXCAVATE AND SEARCH FOR ANTIQUITIES**

LICENCE is this day granted to Mr Wang Wenjian (1  
) as licensee, to excavate and search for antiquities for Planning and Engineering Study on Development of Lok Ma Chau Loop as described on the attached plan and edged in red.

THIS LICENCE is subject to the following conditions set out below -

1. This licence may be cancelled at any time at the discretion of the Authority.
2. This licence shall remain in force for 12 months from the date it is granted unless previously cancelled by the Authority.
3. The Authority may refuse to renew this licence or grant any further licence to the licensee.
4. The licensee shall obtain the consent in writing of the owner and any lawful occupier of the relevant area prior to commencing any excavation and search and shall upon reasonable demand produce evidence of such consent to the Authority.
5. A copy of this licence must be displayed or made available on the relevant area for reasonable inspection by the Authority, any member of the Antiquities Advisory Board, a designated person or any police officer on each occasion that the licensee is present and working in such area.
6. The ownership of every antiquity shall vest in the Government of the Hong Kong Special Administrative Region from the moment of discovery.
7. During the currency of this licence, the licensee shall keep the area in a tidy and clean condition to the satisfaction of the Authority.
8. Upon or before the determination of this licence the licensee shall, to the satisfaction of the Authority, restore the relevant area to the condition it would have been in had the licensee not commenced any excavation and search.

9. Within three months of the commencement of the excavation or search and at three monthly intervals thereafter, or at the conclusion of the excavation or search, whichever is the shorter period, the licensee shall furnish the Authority with -
- (a) a complete list of all discovered material, sufficiently descriptive to make it possible to identify each item, with identifying codes allocated to each item, such codes being legibly and indelibly written on the item or on a label securely attached to it; and
  - (b) a statement explaining the system of identifying codes, accompanied by such measured drawings, sections, written and visual (photographic and video) records and other information in full details as will provide a record of all archaeological/architectural remains and/or of the circumstances attending the discovery of each item, such as its position in the excavated and associated objects.
10. The licensee shall indemnify and keep indemnified the Authority for any damage or accident to any person, property or thing occurring as a consequence of an excavation and search made under this licence.
11. During the currency of this licence, the licensee shall be responsible for the safe custody of all discovered material which shall be deposited at a place to be designated by the Authority where it shall be made available for inspection at all reasonable times by the Authority or by persons designated by the Authority.
12. The Authority, or a person designated by him, may from time to time stipulate specific conditions for the safe custody of discovered material which appears to him to be of special importance.
13. No material discovered under this licence may be removed from the place designated under (11) above without the permission in writing of the Authority or a person designated by him.
14. The Authority may by notice in writing addressed to the licensee amend any condition of this licence or impose such additional conditions as the Authority considers desirable.
15. This licence is granted subject to the archaeological survey being conducted in accordance with the licensee's application dated 17 January 2012. The licensee shall furnish the Authority with the archaeological report in full details together with all field archives, laboratory records and discovered material within 3 years from the date of completion of all the excavation and search, notwithstanding the expiry of this licence. If the licensee is a representative of an organization as indicated in the application, the aforesaid archaeological report to be submitted by the licensee has to be duly signed with the authorized signature of the organization and sealed with the seal of the organization.

Signed

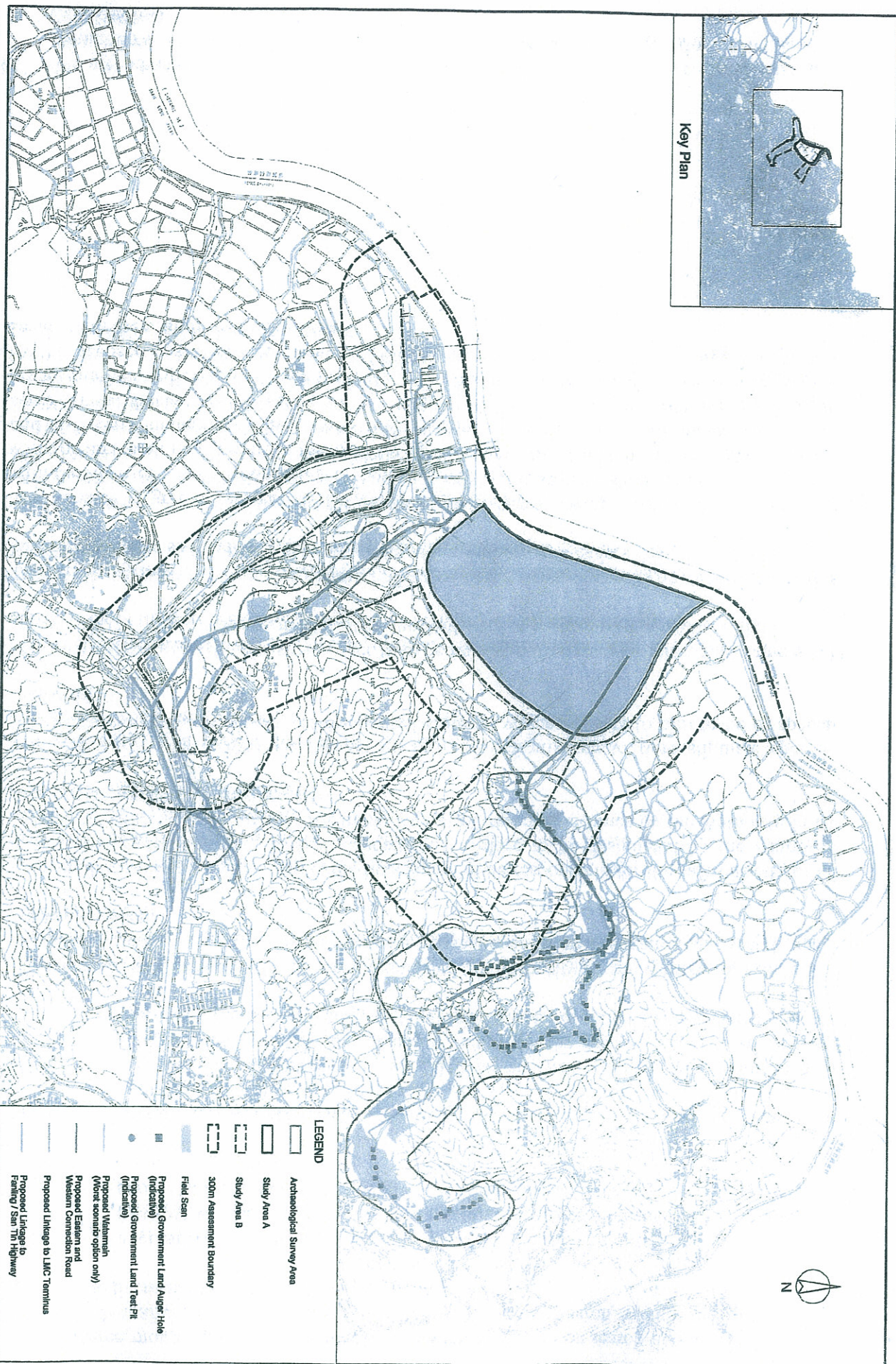
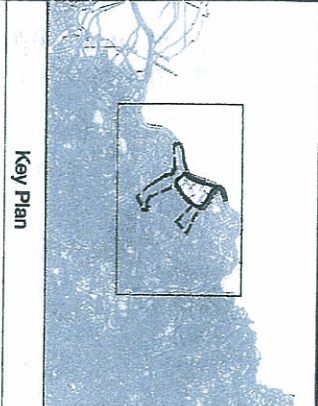
*Carrie Lam*

(Mrs Carrie Lam)  
(Secretary for Development)

Date

*15 Feb 2012*

(Note : You are advised to make yourself familiar with the provisions of the Antiquities and Monuments Ordinance, Chapter 53, and the Antiquities (Excavation and Search) Regulations.)



**LEGEND**

	Archaeological Survey Area
	Study Area A
	Study Area B
	300m Assessment Boundary
	Field Scan
	Proposed Government Land Auger Hole (indicative)
	Proposed Government Land Test Pit (indicative)
	Proposed Wetland (Waste scenario option only)
	Proposed Eastern and Western Connection Road
	Proposed Linkage to LMC Tramplus
	Proposed Linkage to Faculty / San Tin Highway

<p>土木工務發展部 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT</p> <p>規劃部 PLANNING DEPARTMENT</p>	<p>奧雅納工程顧問 One Arup &amp; Partners Hong Kong Limited</p> <p>Project Job Title 合約編號 Agreement No. CE 63/2008 (C5) 密勿洲發展地區發展輔助及工程研究 - 考古研究 Development of Lok Ma Chau Loop - Investigation</p>	<p>圖則編號 Figure No.</p> <p>Archaeological Survey Area for Planning and Engineering Study ON Development of Lok Ma Chau Loop</p> <p>圖則編號 Figure No.</p> <p>Appendix 2</p> <p>圖則編號 Figure No. Appendix 2</p> <p>圖則編號 Figure No. Appendix 2</p> <p>圖則編號 Figure No. Appendix 2</p>
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